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**Cultural production and politics of the digital games industry: The case of independent game production**

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**PhD in Sociology**

**The University of Edinburgh**

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## **Declaration**

In accordance with University regulations, I hereby declare that:

1. This thesis has been composed solely by myself;
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Orlando Guevara-Villalobos

## Abstract

This thesis sheds light on the social relationships, work practices and identities that shape the small scale sector of independent game production. Harnessing elements of the Production of Culture and Cultural Industries/Work perspectives, it aims to clarify the specifics of independent game production and its relationship with the large-scale sector of the industry. Drawing on a multi-sided ethnography, the thesis captures gamework practices, motivations, ideas and conventions deployed in a diverse range of online and physical spaces where independent developers interact. Given the complex relationships and messiness found in the industry, the results of the thesis initially clarify general aspects, characterising both the corporate structure of the games industry and its independent sector. It then examines the cultures that inform independent work as well as emergent ‘indie’ praxes. After a historical review of the digital games industry, the thesis addresses how the corporate structure of the industry has created a viable game producing field, with a highly rationalised but not unproblematic process of game production. The independent sector is then analysed in relation to this material culture. The thesis discusses the technologic affordances, structural relationships, market approach and organisational forms supporting the production of independent games. It also examines the motivations, ethics and general culture informing independent developers work, as well as the emergence of *independent networked scenes* as social spaces where creative, organisational, technical and cultural aspects of independent game production are shaped.

The analysis of empirical evidence reveals how the uneven struggle to control or access the means for game production, distribution and reproduction, in both retail and digital distribution business models, shapes the material conditions of the small scale sector game production. The thesis highlights the relationship between production, independent developers’ preferences, and their identity as ‘indies’ as central in understanding how this novel sector of the games industry is being structured. By understanding both the structure and informal practices of independent production, this research offers novel insights in this under-researched area, insights that reveal the intricacies of processes of social change and cultural diversification within the digital games industry as a whole.

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## Abbreviations

AAA: Big budget games, with high fidelity visuals and cutting edge technology.

ACTA: Anti-Counterfeiting Trade Agreement

AI: Artificial Intelligence

AIR: Association for Internet Researchers

CCP: Creative Collaborative Practice

DD: Digital Distribution

DLC: Downloadable Content

DRM: Digital Rights Management

EA: Electronic Arts

ESA: The Entertainment Software Association

FDL: Four Door Lemon

FPS: First Person Shooter

FS: Flexible Specialisation

FS/OSS: Free Software/Open Source

GDC: Game Developers Conference

GDP: Gross Domestic Product

GPN: Global Production Network

HD: High Definition

HR: Human Resources

IGDA: International Game Developers Association

IGF: Independent Games Festival

IHB: Indie Humble Bundle

IP: Intellectual Property

IT/ICT: Information and communication technology industries

MMORPG: Massive Multiplayer Role Playing Game

MSE: Multi Sited Ethnography

MSN: The Microsoft Network

NES: Nintendo Entertainment System

NESTA: National Endowment for Science, Technology and the Arts

NPC: Non-player Character  
OECD: Organisation for Economic Cooperation and Development  
OS: Operative System  
PC: Personal Computer  
PIPA: Protect IP Act  
PR: Public Relations  
PS: PlayStation  
PSN: PlayStation Network  
PTR: Public Test Region  
QA/Q&A: Quality Assurance  
RPG: Role Playing Game  
RTS: Real Time Strategy  
SDK: Software Development Kit  
SET: software, engineering and technology industries  
SOPA: Stop Online Piracy Act  
TIGA: The International Game Development Association  
TIGSource: The Independent Gaming Source  
XBLA: Xbox Live Arcade  
XBLIG: Xbox Live Indie Games

## Introduction

Within the vast range of cultural and digital media industries present in leading and emergent capitalist economies, few industries have experienced economic expansion and increasing sociocultural significance as the digital games industry. Its success, worth £48.7 billion in 2011,<sup>1</sup> diverges from the economic problems faced by the global music industry and the struggles of the film box office (Adolph, 2011). In the UK alone, the video game sector generates £2 billion in global sales, contributing £1 billion to GDP. In addition, the sector has contributed to the creation of a local and international market that encompasses up to 321.1 million people in the United States and main European markets (New Zoo, 2012; NPD, 2012).

As gaming and digital game culture has expanded and diversified, the second half of the 2000s have witnessed the growing emergence of a small-scale independent sector composed of micro-studios, start-ups and individual developers, enabled by digital distribution technologies, open platforms and mobile market explosion. This sector has been portrayed as a niche for aesthetic innovation, artistic expression and political activism (Wilson, 2006). Titles such as *Braid* (2008), *World of Goo* (2008) and the more niche-oriented *VVVVVV* (2010) or *The Binding of Isaac* (2011), have been both critically acclaimed and economically rewarded by their customers. At the centre of these initiatives lies the more political pursuit to create digital games according to developers' own creative decisions, widening the scope of autonomy for content creation while ensuring the means to keep their business afloat. Within this sector, the commitment to artistically expand and develop the medium is also strong.<sup>2</sup> And here, the independent game sector has thrived: local indie scenes, specialised media and web sources, documentaries, showcase events and award

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<sup>1</sup> This figure is broken down into US \$44.7bn in software, US \$17.8bn in hardware, and US \$11.9bn in online gaming.

<sup>2</sup> It is important to remember that game design as art is a recent construction, becoming more widely validated by the growing acceptance of this form of leisure. In fact, Kirkpatrick (2011) locates the origins of the aesthetic understanding of games during the mid-1980s, when the concept of gameplay was coined by developers and trade press.

ceremonies are part of the social world that has been built around independent games.

Alongside the economic impact, the culture and sociality around digital play has thrived as markets have expanded and time spent playing games has increased – at a particularly fast pace - in wealthy Western countries and emergent economies. From the thriving digital life on the Web to the variety of international events organised (expos, Blizzcons, international tournaments, etc.), the forms of sociality spanning from the games' use reveal the creation of complex organisations and the establishment of practices in order to live by and preserve 'gaming culture'. In response to the growing interest and concern about the impact of gaming on society, a multi-disciplinary field of study has thrived, finding particular strength since its emergence at the turn of the century. With studies from the diverse disciplines of social sciences, computer sciences and the fledgling field of 'ludology', the academic foci on gaming result from its growing significance as a cultural practice.

This thesis is designed to contribute sociologically to the body of knowledge on digital games, and at the same time explore how they can broaden our understanding of the social production of culture and work autonomy in late capitalism. It addresses the sector of independent digital game production, its on-going process of consolidation since the second half of the 2000s, and its 'location' within the context of large-scale and corporate actors in the global digital games industry. In this manner, I seek to show how independent gamework is framed and enacted, the conditions by which it is structured and the work practices that it informs.

In 2006, Jason Wilson made an invitation to study the emerging independent game initiatives, after considering their small scale and refreshingly innovative content. To this invitation has followed the significant works of Bowen, Deuze et al. (2009); Kempainen (2009) and Van Best (2010), contributing to the understanding of varied elements underpinning independent game production, design strategies and culture.<sup>3</sup> Likewise, I am to consider and expand on those works, by providing a more

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<sup>3</sup> A summary of their contributions will be addressed in the following chapter.

complete picture of the independent game sector, addressing the material constraints, emerging trajectories and cultures shaping the process of independent production.

Within social studies of culture industries, the independent production of culture has often been framed – with certain exceptions and mostly within the sphere of fine arts - as either an autonomous world with its own rules and laws (Bowie, 2003; Geuss, 2005) or an alternative and oppositional form of media radically different in aesthetics and ethics to the capitalist ‘mainstream’ or large scale production (Bourdieu, 1996; Atton, 2002; Adorno, 1997; Hamilton, 2009). Sometimes, the cultural sector identified as independent has actually been supporting or collaborating major corporate actors (Frith, 1981, 1988). In addition, recent poststructuralist-inspired accounts stress the ideological function of autonomy as a seductive illusion, strengthening the influence of major corporate interests, disempowering independent workers (Knights & McCabe, 2003; McRobbie, 2002a, 2002b) and at the same time promoting a romanticised version of capitalist entrepreneurialism (Negus, 1992). Even the subject of autonomy may vary in the cultural industries; for instance, sometimes aesthetic freedoms are stressed, while at other times the focus is on the freedom to exercise one’s profession (Hesmondhalgh & Baker, 2011).

The study of the independent production of culture has normally found its identity in the way the relationship between art and capital is configured and contested. In the case of ‘indie development’, its actions and demands need to be understood not only in the context of media or cultural production, but also as part of a digital game industry whose products embody the ideal example of new capitalistic forms of production, culture and sociality (Kline et al, 2003). This ‘new economy’ has been powered by information and communication technologies, global market relations, the ‘culturalisation’ of labour and the work conditions associated with these changes. The assessment of these conditions will give us an idea of how autonomy in the digital games industry is understood, as well as its common practices, its pressures and the extent of its political struggle.

The above concerns suggest that a sociological study of digital games production is crucial in providing the scope and tools to grasp the complex networks of

relationships and circumstances that configure the global digital games industry and its local manifestations. In addition, the current industry context provides a timely opportunity to analyse general issues about cultural work and capitalist production in our digitally mediated times; it is a subject to which the scholarship on culture and media industries should pay more attention, especially as the unmatched economic performance of games in the media sector is a correlate of the significance of gameplay in social life. In addition, the emergence and consolidation of the independent game sector in recent years provide us with a unique opportunity to analyse the sociotechnical and cultural conditions of social change in digitally mediated cultural industries.

In the following sections I aim to expand more on my research subject. Section i will address the meaning that I ascribe to digital games, while section ii will focus on the digital games industry as a contemporary cultural industry. Section iii will address in more detail how autonomy is being discussed in the academic literature, thus completing the general context of my research concerns. This discussion will lead into my research problem statement and questions in iv, and the theoretical principles that inform my study in section v. Section vi will detail the overarching structure of my thesis, and I will finish with section vii, which is meant to demark and explain the limitations of this work.

### **i. What is a digital game?**

It is not my desire to address here the ontological discussion about games and their features, which can be traced back to Huizinga's *Homo Ludens: a study of the play element in culture* (1955) and Caillois' *Man Play and Games* (1961), continuing with Sutton-Smith (1997), Frasca (1999), Salen & Zimmerman (2003) and Juul (2003, 2007) amongst others. Neither will I examine the debates on the demarcation of digital games as media objects. The definition that I provide here is merely a heuristic one that primarily allows us to understand the architecture and content of digital games as a culturally produced artefact. Digital games provide a symbolic and relatively stable rule-bounded form of interaction, located in digitally generated



environments, and generate specific ludic experiences in those engaged with them through the act of play.<sup>4</sup>

The potential of games as a medium has been given greater emphasis since the commercialisation of digital technologies, enabling the creation of visual, audio and textual representations through codes that are translated into ones and zeros. As Kerr (2006a) notes here, the term ‘video game’ is unsuitable due to its overemphasis on the visual representation of the medium; this has led both Juul (2003) and Kerr to highlight the cross-media nature of digital games and their computational nature. Although digital games are a dominant form of games in general, their rules can be deployed and enjoyed in other formats (TV games, card games, board games), each of them adding possibilities and constraints to the form. Furthermore, digital games by themselves are cross-media artefacts that offer textual, audio-visual and ludic representations, structured and materialised through computer simulation.

The coining of ‘digital games’ as a term has three important implications. First of all, it raises basic questions about the technical knowledge and work practices entailed in the process of game development. Secondly, it highlights the prominent role of digital technologies as both the material infrastructure and tools upon which games are developed and assembled. Last but not least, when harnessed sociologically, it suggests a powerful connection between the digitalisation of games, organisational features and labour process in game production and commercialisation, in addition to the concept of techno-identities or *technicities* (Dovey & Kennedy, 2006) informing game design and aesthetics.

## **ii. New economy, cultural industries and digital games**

The first consideration that must be made when analysing the digital games industry is its connection to the global economic landscape. Scholars studying economic change in the last thirty years have argued about the emergence of a *new economy*, featuring new flexible forms of accumulation and their relations to labour processes,

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<sup>4</sup> The ‘ludic experience’ of a game brings us deep into the aesthetics of play. Nonetheless, the vast scope of this area of enquiry leaves it out of this research. It is sufficient to say that fun and entertainment can be experienced in many different ways, and that games are the spatial, temporal and normative contexts where these experiences take place.

labour markets, products and consumption (Harvey, 1990). The claims about this process of capitalist change by its advocates have been summarised by Healey (2002: 87) as an interconnection between three main changes, namely the deepened process of economic globalisation, the increased role of information technologies in sustaining global economic activities and the increasing importance of skills necessary to sustain the constant innovation promoted by global capitalism.

During the 1980s, analysts pointed out the emergence of flexible-specialisation (FS) (Piore & Sable, 1984) featuring craft and skilled work which was long thought to have disappeared after mass production was introduced in the early 20<sup>th</sup> century. This FS is seen in the proliferation of small subcontractors and independent companies forming local and global clusters of production, such as the IT sector.<sup>5</sup>

Along with the rise and development of the software and high-tech industries, as well as the exploitation of economies of scale and the intensification of global competition, the emergence of soft forms of management, which promoted individualistic and entrepreneurial cultures, became the new labour management of the latest capitalist phase. Inspired originally by bohemian cultures within the San Francisco and New York's cutting-edge industry, and pushed forward by Reagan and Thatcher in their respective countries during the 1980s,<sup>6</sup> the new 'creative' impulse promoted by economic gurus was best described by Ross (2003: 8-9) as "...a work culture that embraced openness, cooperation, and self-management", inheriting the "scorn for the work rules, hierarchies and rituals of corporate organisation [...] for stifling initiative and creativity and for stunting the appetite of employees for opportunity and meaningful self-application." Furthermore, this new culture informed the process of labour market deregulation, promoting an ideology of self-entrepreneurialism among cultural workers that provided them with subjective

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<sup>5</sup> This is particularly seen in Christopherson & Stomper's (1986) study about Hollywood as a process of vertical disintegration in industries. Their explanation actually misses the differential of power within actors in the network of production, however, failing to take into account the concentration of economic power of global corporations, which in the case of the digital games industry can be seen in the constant corporate outsourcing of production and control of distribution channels.

<sup>6</sup> Hesmondhalgh & Pratt (2005) offer an interesting account of the context in which the cultural industries became subject to social policy during the 1980s. In addition, Garnham (2005) provides a basic understanding of how economic language and scope was introduced in cultural policies by Reagan and Thatcher.

grounds to embrace or justify short term contracts, freelancing, and risky labour conditions.

As part of the ‘new economy’, economic activities that involve the production of symbolic goods – film, music, editorial, and digital games industries, denominated as ‘cultural industries’ - have experienced a new economic boost, as the ability to communicate information and culture through digital means requires a new sociotechnical dimension to creativity that has been embraced in modern capitalist societies. These industries’ contribution to the new economy has been significant. According to Miller (2002: 94), by the turn of the century, intellectual property (IP) was worth \$360 billion a year in the United States alone. Additionally, the influence of the ‘IP’ industries has expanded, leading economies through government agendas and political advocates, and promoting job generation in creative industries in order to regenerate de-industrialised urban hubs and local economies (Hesmondhalgh & Pratt, 2005).

The case of digital games epitomises this new fusion between new technologies, capitalism and culture. Its structure as a cultural industry reflects its similarities to others, and it features a modified version of Garnham’s (2000: 51-52) editorial model. This model is characterised by the management of highly skilled creative labour and market uncertainty. As Kerr (2002: 6-7) has argued, the digital games industry is composed of game developers and platform manufacturers/publishers. High costs of production, marketing and distribution have led to a financial structure where publishing companies and subsidiaries invest in game projects in exchange for IP ownership. In addition, the short market lifespan of digital games as cultural products has led publishers to rely on a constant flow of new content and the rationalisation of production.<sup>7</sup> As competition increases, publishers accumulate a catalogue that addresses different game genres, market segments, and economies of scale in order to manage risks and profits. Similar to the film industry, these circumstances have led to a push towards the licensing of content, vertical integration in global media-conglomerates and the production of mass-audience or ‘AAA’

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<sup>7</sup> For the *nature* of cultural commodities and workers, see Ryan (1990: 37-60). A more practical and perhaps conceptually balanced account can be found in Garnham (2005: 19).

games as a way to deal with losses on other fronts. Technology-wise, the digital games industry normally relies on proprietary hardware and software, immediately fencing in access to the market due to licensing rights. When using open platforms such as personal computers (PC), they actually enter into a deeper relationship with other technology sectors via the development of applications that can serve these other areas.

In this context, little is known about game developers' concept of themselves as creative or cultural workers, and how they exercise autonomy. So far, most of the studies on digital games have been developed along particular academic lines. Early studies have been carried out by media scholars and the growing field of Game Studies (Aarseth, 1997; Juul, 1999, 2005; McGonigal, 2003; Salen & Zimmerman, 2003). They have stressed the nature of games, their mechanics, their meaning as a text, and the social and psychological outcomes of digital play. Recently, a new scope of enquiry has emerged from the study of the cultures of digital game production, with important empirical works and still-fledgling theoretical texts (Kline et al., 2003; Kerr, 2006a; Johns, 2006; Dovey & Kennedy, 2006; Dyer-Whiterford & Peuter, 2005, 2009). These have mainly focused on the features of the chain of production, examining the complex structures of the large companies involved in this process. In addition, they have flagged up concerns about the existing conditions of labour and worker disempowerment in the industry. Nevertheless, with the exception of Bowen & Deuze (2009), neither the emergence of myriad small but flourishing artisanal studios nor the groups of solitary developers advocating an "independent way" to make games have captured much academic interest.

### **iii. Autonomy in the digital games industry**

The 'cultural industry' – as coined by the Frankfurt School - is a term that seeks to highlight the main contradiction between arts and capitalist production. The foundational aura of originality present in art objects is undermined by the market relations that rule the production and circulation of such objects. The capital/labour tension is represented in the cultural sphere by the artist's fight for 'creative freedom' against the forces of rationalisation and standardisation of society pushed by modern

patrons. As Hauser (1962: 50) argues, modern art is the result of this struggle, a struggle whose principles are still in motion in the contemporary cultural sphere of production.

As with the film and music industries, the independent games sector has been located as relatively oppositional to the trends found in the large scale sector of the games industry. It is considered that this opposition has come about in an attempt to ensure artistry and innovation within the industry, and also as a result of the struggle to keep the distinctive process of indie development alive (Sinclair, 2005; Stuart, 2012). Nonetheless, as is commonly seen in the online world, those who make statements about autonomy in the industry do not actually aim to analyse the economic and social context regulating the process of independent game production. In order to make up for this, my research will frame autonomy not as it appears in the industry discourse, but instead as a sociological category within cultural work. To begin with, I consider autonomy as a category bound to a series of material possibilities and constraints present in the games industry. This universe of possibilities is seen not only as a product of the rules by which industry actors play (i.e. independents, digital distributors, publishers) but also as a set of actions informed by ethics and other life concerns. As I aim to show in this research, the production and success of independent games is shaped by the content, access and contractual regulations imposed by institutional channels and actors in the network of production (digital distribution owners, publishers, cultural industry events), as well as distinctive and diverse forms of production practices, sociality and ethics within professional communities of independent developers.

#### **iv. Research questions**

Summarising the issues at stake so far, I can identify two concerns that justify this research. Firstly, there is a general gap in the empirical knowledge of the still emerging independent game industry, the work and material constraints behind the production of independent games and the subjectivities driving this production. Furthermore, the notion of independence suggests differences from dominant forms of cultural production, although, as mentioned before, the channels available to independent developers entail a process of negotiation with digital distributors, publishers, etc. In this sense, the nature of the relationship between independent and

large-scale productions of digital games has not been sufficiently discussed in the academic research. This last concern requires the researcher to take a step back from the analysis in order to capture the general picture of the digital games industry. I address these concerns in the following questions:

1. How is the production of digital games orchestrated in the large-scale sector of the digital games industry?
2. How is the production of independent digital games arranged and carried out?
  - 2.1 What is an independent game, how and where is it produced, by whom and according to what motivations?
  - 2.2 What sort of technical, financial and logistical needs do independent game developers have to meet in order to develop, advertise and distribute their games?
3. To what extent are the culture and production of independent digital games autonomous or dependent on larger corporations in the digital game industry?

These questions represent an important step in introducing new evidence to the academic discussion about the structural features and meaning of autonomy in the cultural industries. In addition, given the still emergent condition of the independent games sector, I expect that this research will contribute to the understanding of its origins and the conditions that make it possible.

#### **v. Theoretical underpinnings**

My theoretical approach is rooted in the notion that digital games are socially constructed objects. The desire to understand the elements shaping the production of independent digital games and the relationship between the independent sector and the rest of the industry led me to borrow a series of tools from cultural and political economic approaches to the production of cultural artefacts. In particular, I rely on the body of knowledge known as the Production of Culture Perspective (Peterson & Anand, 2004), informed by academic debates about work in the cultural industries, specifically the notion of cultural work put forward by Banks (2010).

The Production of Culture approach (from now on PoC) originated in sociology departments in the USA in the 1970s and 1980s. It covers a range of work associated with sociologists like Howard Becker and Richard A. Peterson, dedicated to understanding media and arts.<sup>8</sup> The PoC approach is centrally concerned with how ‘... the content of culture is influenced by the *miliuex* in which it is created, distributed, evaluated, taught and preserved’ (Peterson, 1994: 165).<sup>9</sup> As outlined by Peterson (1982, 2004), the PoC perspective identifies six interrelated aspects that shape the cultural artefacts:

1. Technology: understood as tools for both work and communication. The deployment, new uses and improvements of technology are elements that can de-stabilise the way cultural objects are created.
2. Law and Regulation: PoC scholars emphasise the formal rules that shape the direction of creative fields, as well as the ways they are harnessed by actors to gain and consolidate power. State regulations, through cultural policies and legal frameworks (censorship, anti-trust laws, copyright laws, etc.), shape the general norms regulating production as well aesthetic possibilities of cultural products. But as Peterson states (1982: 145), ‘the various parties involved in the production process regularly lobby for or against particular laws and regulations. They also work to have statutes strictly enforced or ignored as it fits their own financial interests.’
3. Industry Structure: the identification of arrangements and procedures among industry actors provides an opportunity to comprehend the complexity and social mediation that occurs within cultural industries. The configuration of these relationships shows the institutional context within which cultural work is shaped, as well as playing an important role in regulating resources and setting trends in game production.

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<sup>8</sup> Important contributions to this perspective were provided by Alexander (2003), Becker (1982), Crane (1992), and Hirsh (1972).

<sup>9</sup> An acknowledged concept of culture from the PoC perspective is present in Peterson, 1979. Nevertheless, I prefer the use of culture as presented by Du Gay, as it interlocks three important spheres: ‘the means of changing the ways people conceive of and relate to the work they perform... the economic processes and the forms of organization...[and] “culturalization” of economic life.’ (1998: 6, 7).

4. Organisational Structure: Peterson defines this feature as the strategies used to coordinate the production of cultural goods or services (1982). It implies a collective endeavour by different types of cultural workers via organisations. The needs derived from different organisational cultures shape the process of cultural production.
5. Occupational Careers: organisational cultures, production practices, and hence cultural products can be shaped by the way that cultural workers' careers are organised. Furthermore, differences in the way they conceive their occupations (and themselves within the context of these occupations) inform developers' decisions and practices. As Peterson states (1982), this aspect has proved important in studies exploring the diversity among, or differences between, competing forms of cultural production.
6. Market Structure: according to PoC scholars, market structures and marketing are mostly social constructions of audiences or consumers, whose status as such depends on whether their tastes and 'needs' are targeted by cultural producers (Peterson, 1982). This rather passive perspective of the consumer is mildly attenuated by cultural dynamics within markets, where reputation and connections between them regulate cultural production (Peterson & Anand, 2004: 318).

These features can be seen as interrelated *milieus* shaping the production of cultural products, with emphasis on how popular materials are 'examined within the context of the social structural environment in which the production activities and the products are situated' (Sanders, 1982: 66). The rich and varied scholarship spans areas such as music (DiMaggio, 1982; Kealy, 1982; Peterson, 1997), painting (White & White, 1965; Crane, 1992), and drama (Griswold, 1986). For instance, in his seminal work on country music, Peterson (1997) provides a socio-historical (1920s-1950s) account of the process of institutionalisation of this genre. His work shows how country music was constantly shaped through the organisation of production, new communication technologies (radio, records, hard-surface roads), changing generations of performers and audiences' changing tastes. Furthermore, it follows the



social construction of the changing values and meanings of authenticity that have given substance to the genre (Battani & Hall, 2000).

In short, PoC provides a framework to capture independent games as a product of their own production organisations, namely digital distributors, platform holders, game developers, publishers, and other institutions that review and evaluate the cultural value of independent games. In addition, PoC enables the possibility to explore freely the specific sociotechnical regulations regarding retail and digital distribution platforms and markets, as well as the organisational/occupational forms and developer-player involvement in the process of independent production. These series of regulations, restrictions and potentials constitute the material conditions within which independent game production takes place.

#### *Beyond the Production of Culture Perspective*

Despite its importance and influence, PoC is not without its challenges and shortcomings. The body of knowledge from Science and Technology Studies, Game Studies and more importantly, the debates on cultural work helped me to analyse and interpret my findings.

PoC's static and vertical vision of cultural consumption seems to follow old-fashioned mass media models rather than the more current developments in digitally mediated markets and cultural goods. To supplement these limitations, contributions from the field of Science and Technology Studies enabled me to link some aspects of the production with the technological nature of digital games. Although PoC sometimes takes into account the 'desires' of the audience, it usually assigns them a passive role and an indirect and limited influence on artworks and the creative process (Peterson, 1983; Aleksander: 2003). Scholars in Science and Technology Studies, on the other hand, have stressed the role played by users in the process of design and the continuous improvement of technologies (Akrich & Latour, 1992; Akrich 1995) as these products allow user modification. In addition, as they are empowered by new developments in the production and distribution of user-generated-content on the web, it is important to look at how independent developers frame and harness their players in the process of game development.

Besides the challenges posed by new media objects, the analytic approach of PoC presents some heuristic limitations due to its descriptive and organisational emphasis. First of all, PoC falls short of providing a flexible and dynamic account of social change, emphasising only gradual changes and unplanned growth. Although social change might sometimes feature slow progressions, the principle of ‘creative destruction’ promoted and leveraged by current governments and cutting edge industries worldwide (Pongratz, 2010) suggest that change has become commonplace in the sphere of cultural production. In addition, PoC is unable to capture a still-emerging independent sector in a very fluid industry. Second, as Peterson (1976) himself noted, the analysis of the conditions of social change is undermined by the ambiguous role of power, conflict and resistance in the PoC framework. It is actually not very clear how the PoC perspective would address the political dynamics that mobilise subjectivities, legitimise trends, and capture the struggle implied by the notion of autonomy in cultural industries.<sup>10</sup>

In response to the above concerns, I found the cultural industries perspective and the academic debate on cultural work particularly useful, focusing both on the critical link between culture and capitalism in contemporary societies. Coined first by Adorno in 1944, the culture industry approach seeks to understand the processes through which capitalist industries attempt to produce culture, pointing towards the standardisation and mass distribution of cultural products as opposed to the pursuit for originality and uniqueness of the artwork. Later on, political economic analyses (Murdock & Golding, 1973; Negus, 1992, 1998; Hesmondhalgh, 1995) of media have strengthened the perspective by addressing the different forms through which cultural industries achieved and maintain their grip on the production of culture. These contributions have fuelled further analyses on the nature of work in the cultural sector, particularly after the cultural turn of late capitalism. Here, the debates about cultural work have become useful to this research, since it focuses analysis on the worker’s agency and *ethos*. Creative work has been critically defined by a series of autonomist Marxists, including the likes of Lazzarato (1996) and Hardt & Negri

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<sup>10</sup> In this sense, Peterson and Anand (2004) acknowledge several scholars’ recommendation to combine PoC with other theoretical perspectives when addressing issues of power and domination (namely Wolff, 1999; DiMaggio, 2000; Hesmondhalgh, 2007; and Schudson, 2002).

(2000; 2004) and also scholars such as Hochschild (1983) and more recently Banks (2006; 2007; 2010).<sup>11</sup> I decided – at the risk of eclecticism - to bear these notions of creative labour in mind and then observe the ways in which my research led me through my assessment.<sup>12</sup>

The former group of scholars represent an Autonomist Marxist contribution to labour in the ‘new economy’, termed by them as ‘immaterial labour’ or ‘labour that produces an immaterial good, such as a service, a cultural product, knowledge, or communication’ (Hardt & Negri, 2000: 290). This concept interlocks with the concept of *affective labour* which refers to the importance of subjective interaction at work, as well as the attachment, communication and construction of emotions through work. In Hardt and Negri’s analysis of cultural work, they observe a general trend towards the ‘*precarisation*’ of productive lives, a concept that defines every condition of ‘flexible exploitation’ in contemporary capitalism: outsourcing, temporary employment, subcontracting, freelancing and self-employment (Gill & Pratt, 2007).

Criticisms of immaterial labour have warned of its ideological implications and analytical inadequacy. Hesmondhalgh and Baker (2008, 2001) have expressed doubts over the revolutionary character of creative workers, as well as the over-emphasis on workers’ experience of *precarity*. Likewise, Gill and Pratt (2008) highlight the commitment of ‘immaterial labour’ scholars to addressing real and well-rooted problems in contemporary cultural work, although they are unsatisfied by the scholarship’s conceptual ambiguity, hollowness and simplicity. Still, the affective notion of immaterial labour suggests a wide range of subjective connections between the creative worker and his/her world.

Nonetheless, the concept of ‘*cultural work*’ suggested by Banks (2010) offers a straightforward connection to the cultural industries. Banks defines cultural work as an ‘artistically-inclined labour’, and as an intrinsically autonomous one, to the extent

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<sup>11</sup> Although Hochschild is considered a major scholar in the debate, her concept of emotional labour is deployed more as a technology of the self at work than as a relationship that builds and strengthens bonds within both work and the workplace environment.

<sup>12</sup> Definitions of creative/cultural work entailed in more positive academic accounts (Florida, 2002; Leadbeater & Oakley, 1998) will not be discussed here, although they will be addressed further on.

that it serves both ‘a foundational normative principle for the artistic, creative or aesthetic practices that underpin cultural work, but is also a structural precondition for effective capitalist cultural production.’ More politically neutral than Lazzarato’s notion of work, it implies a broader view of autonomy based on the ‘capacity of individuals (and also institutions and organisations) to exercise discretion or apply freedom of choice’ (Banks, 2010: 252). Rooted in the cultural industries approach, his notion brings forth critical approaches to cultures such as Adorno (1991), Ryan (1992) and the autonomist Marxists, with the moral aspects of economic life (Sayer, 2000). Indeed, the study of the material conditions shaping this freedom, as well as the forms it takes in the independent game development sector, constitute the scope of this research.

The issue at stake with Banks’ concept is the impossibility of defining the broader and immediate social context where the relationship between art and commerce takes place. The emphasis on creators’ artistic views and life experience, the professional conditions of cultural workers and the strategies that they follow are some of the dimensions that can be tracked through the notion of cultural work. In this sense, cultural work as such provided a more dynamic analysis to understand the organisational features of independent work, which in the PoC fashion tend to overemphasise the structural and formal procedures of a capitalist organisation. In addition, this cross between theories allowed me to integrate the internal power dynamics structuring the games industry as part of the main narrative.

Last but not least, the growing literature in the multidisciplinary field of Game Studies offers important perspectives that enrich both PoC and cultural labour spheres of knowledge. Although the scholarship has featured a more multidisciplinary focus on digital games, the body of knowledge developed under the umbrella Game Studies since the early 2000s (Aarseth, 2001) has contributed greatly to this research, with key concepts and reflections that help to understand the technical process and aesthetics behind digital games.

Academic discussions that inspired the field, such as Aarseth’s (1997) or Juul’s (1999, 2003) focus on the distinctiveness of the game medium in relation to Murray’s (1997) attempt to approach games as a form of storytelling (*cyber drama*),

have provided a means to understand the ontology of games. Likewise, conceptual tools that have developed throughout the last decade, such as game mechanics, gameplay and player experience (Juul, 2005; Mayra, 2008; Sicart, 2008; Jarvinen, 2008), have offered key insights into the analysis of the way digital games work. Furthermore, the emergence of a body of literature focused on game culture (Taylor, 2006; Dovey & Kennedy, 2006; Corneliussen & Rettberg, 2008), production and labour (Kerr, 2002, 2006a; Kline et al., 2003; Johns, 2006; O'Donnell, 2009; Kerr & Cawley, 2011) not only indicates the cultural and economic influence of digital games upon contemporary capitalism but also provides the base of knowledge upon which this thesis builds.

In sum, besides the different bodies of knowledge addressing key subjects in the context of cultural production, the notions of cultural work and autonomy provide a more dynamic approach to the PoC perspective, allowing us to focus on developers' agency, reflexivity, and the manageability of their work. It enhances my theoretical scope by opening it up to the politics that are played out in the process of game development, and their impact in terms of accessing the market, the creative process, the end product and the success of developers. It offers a good framework to help us understand the sociality of gamework beyond the technical game development process. At the same time, it is important to emphasise the social aspect of game production, where games are not simply objects to address but products of the social work carried out by a series of actors and institutions. When combined with PoC's broader dimensions, it becomes possible to locate and understand the structural constraints involved in the production of digital games, the practices emerged to deal with the material conditions of game production, promotion and distribution, as well as the elements that give sense to independent work.

This positioning as 'in-between theories', presents some implications in the way the analysis was undertaken and the presentation itself of my findings. Given my interest in the politics of the industry and the overly broad regulative framework provided by Peterson, I decided to look at power and regulation in the context of relationships amongst industry actors, as they do not only contribute to shape the structural, organisational and aesthetic dimensions of the industry, but also inform the culture of

independent developers. In this sense, the contractual relationships and impositions on intellectual property and cultural work are discussed throughout the main chapters, instead of dedicating a section solely to them. Additionally, as I will address later in section *vii*, broader issues related to external regulations and policies affecting the games industry will not constitute a subject of analysis, given the diversity of subjects to address and the extensiveness it would entail for this research.

#### **vi. Structure of the thesis**

The present section introduces the context of my thesis. I have not only stated the importance of academically assessing the fledgling subject of autonomy in one of the most economically successful cultural industries of the last decade, but have also introduced the general context within which the digital games industry is located. In addition, I have introduced some definitions that demark the field of cultural production, games and independence. This has led me to a series of research questions and theoretical perspectives that suit my research interests.

This research thesis consists of two parts and nine chapters. The first part introduces the subject, literature review and methodological strategy of the study. The second part constitutes the main body of the thesis and its conclusions. The main argument following my main chapters is presented as follows: rather than a unified and coordinated sector, I will address independent production as a collection of varied entrepreneurial and artistic initiatives, commercially possible due to the success of digital distribution markets and the creative cooperative work *ethos* informing this field of production, but experiencing different degrees of integration and autonomy within the general industry. In labelling them a “collection of varied initiatives”, I suggest how the professional ethics, culture and experience of indie developers professionally inform their work, contributing to the clarification of the different motivations behind independent work, attitudes and work choices framed as independent initiatives.

Throughout the chapters, I will explore the material constraints that shape the process of independent game development. Here I will argue that the relative autonomy in the sector is shaped by the interaction between digital distribution owners,

independent developers and publishing branches. Since digital distributors own the access to independents' markets, and publishers normally provide the means of financing projects, the form and content of the independent products released to the market depend on the aesthetic, economic and strategic regulations resulting from these relationships. In this context, a few independent publishing initiatives have emerged in recent years, designed as financial (i.e. The Indie Fund) and distribution actors (The Indie Humble Bundle) that seek to address the realities and creative visions of independent developers in a less restrictive fashion than traditional corporate publishers. Given the variety of platforms and actors in the industry, independent developers engage in a variety of commercial strategies that are influenced by their economic and social status as well as their goals. The interesting correlate of this process is shown by the alternative and usually novel forms of sociality of the indie developers who struggle to afford their projects. While some independent studios and developers engage with the industry as specialists, others have focused on building a strong fan-base around their projects on the web. Additionally, a growing trend amongst indies is the organisation of local artisanal scenes and virtual networks within which the meaning and practice of independent game development is constructed and enacted.<sup>13</sup> In this way, independent developers attempt to tackle technical, economic, business and motivational/emotional difficulties derived from their cultural work.

Chapter 1 develops the academic themes introduced here, with a review of relevant literature on (independent) digital games production. I will engage critically with academic accounts of conventions and structures regulating the development, marketing and distribution of digital games. Following this will be a detailed examination of issues of labour and subjectivity in the games industry, with the chapter engaging lastly with the idea of synergies between consumers and producers as an important force in shaping digital games. Here, I will pinpoint certain

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<sup>13</sup> The concept of scene has gained academic currency through the study of informal and small-scale music production, its performance and reception, in contrast with the forms adopted by corporate sectors of the music industry (Straw, 1991; Shank, 1994; Bennett, 2004; Bennett & Peterson, 2004; Kruse, 2010). I decided to bring this term into the analysis of independent game production, given the increasing cultural awareness and organisation within hobbyists, indie developers and other game enthusiasts, and their complex (trans) local and online networks. I will come back to this subject in Chapter 7.

limitations in some of these understandings, and argue for the need to expand on the subject of corporate game production and to map out the different meanings, work practices and present structures that have shaped the ability to create independent games.

Chapter 2 addresses in detail the research methods and strategies deployed during the fieldwork. I will start with my methodological approach, discussing the basic tenets of qualitative multi-sited ethnography and its suitability for the study of networked, on/offline, geographically variable practices of game production. I will then move onto the methodological steps taken during the research process, critically assessing the way that I deployed my research methods (semi-structured interviews, documentary analysis of the trade press and interviews with organisations, news, reports, companies' corporate reports, and participant observation). Here, I will also discuss my sampling techniques for each data collection method. In particular, I will emphasise the contingencies and problems of researching and dealing with my potential participants, and outline the circumstances that fed into my methodological reflections and which shaped my final methodological approach and its reach.

Chapter 3 introduces the subject of digital games from a historical perspective. This is achieved by relying on historical accounts of the industry so far, in addition to information from trade press and internet archives. In the chapter, I will provide a linear and comprehensive account of the process of consolidation of the games industry from its beginning as a lab curiosity onwards, pointing out shifts in occupational trends, corporate appropriation, means of production, technological changes and the general politics of the industry. Throughout the narrative, I will signpost important moments that can be brought into the analysis of both the large and the small-scale production of digital games.

Chapter 4 engages with the large-scale sector of the digital games industry, building upon both the existing literature in the field and the results of my research fieldwork. Here I will address features related to technology, industry, organisational and market structure, as well as the way that professional identity permeates cultural work. More specifically, I will contextualise the way in which technology is deployed in the industry, and the conventions underpinning their constant change.



Next, I will analyse the corporate structure of the industry, specifying actors' functions and relationships. Furthermore, I will explore the organisational features and concerns of game production, addressing the highly rationalised and specialised process of game development and the concerns emerging from their dynamics. I will also address the forms in which markets come into play in the process game production, both during the early stages when projects are 'pitched' and the later stages of the process of production. Lastly, I will explore the professional identity of game developers, flagging up the tension between the work *ethos* sought by developers and the constraints resulting from the contractual commitments between game studios and publishers.

The analysis of the independent game sector and its connections to the larger industry are explored in the remaining chapters: 5, 6 and 7. They are the product of my data analysis, which included semi-structured interviews, content analysis of developers' weblogs, trade press news and participant unstructured observation. In Chapter 5, I will start by addressing changes in the relations of production within the industry through digital distribution and new entertainment platforms. Furthermore, I will look into the organisation of independent gamework, defining different ways of collaboration and partnerships between independents, as well as clustering initiatives. In a section dedicated to the ways that independent developers interact in the market, I will focus on 'indie' experiences of building market awareness and a player fan-base. Additionally, I will address new publishing and distribution initiatives - such as the Humble Indie Game Bundle and the Indie Fund – which offer alternative funding schemes for independent studios as well as more creative autonomy. I will finish this chapter by addressing the technologies often used by independents and how they are harnessed. I will first address technical regulations in DD channels limiting the size of games, moving on to observe how developers harness open source and free software initiatives in order to build the digital infrastructure that underpins their games.

Chapter 6 is two-fold; it approaches the motivations and stories behind independent developers so as to later analyse the particular meanings of independence that inform their actions. Here, I will show that indie identity is built upon a series of disparate

and diverse concerns about how the creative and labour process of game development is carried out in the larger industry. I will continue by explaining how artistic, entrepreneurial and moral worldviews inform independents' aesthetic views, identifying as in Banks (2006) the existence of morally progressive ideas and rationalities informing developers work. Finally, I will introduce the professional pressures on independent developers, and the general cultural practices with which they comply in order to meet the financial and professional needs of their work and increase their own industry-market awareness.

Chapter 7 takes an in-depth look into the cultures behind the production of independent games, addressing overlapping forms of work and 'non-work'. This has led me to rethink the idea of the workplace and the traditional distinctions between productive and non-productive work, public and private spheres, workmates and friends. Here I will highlight the growing trend among aesthetic and experimentally-driven independents to mobilise their work through different social settings. Furthermore, I will explain why some independent initiatives form clusters or local networked scenes addressing the practice of production and social values (creative development, learning, business, social bonding). These spaces are deemed to provide an opportunity to deal with the design-knowledge-affective intensive nature of their work as well as the structural pressures of industry.

Chapter 8 provides a final discussion summarising the main conclusions of the previous chapters. Here, I will articulate the different aspects studied throughout the thesis, summarising the large-scale sector and then offering a global perspective of the inside dynamics of the independent games sector as a cultural industry. I will revisit the issue of autonomy in the games industry, pointing out the challenges faced by new independent and corporate actors in fostering initiatives to address independents' economic and financial issues. The chapter will close with three reflections: first, I will look at autonomy as an experiential concept, explaining how academic accounts emphasise different modalities of autonomy relative to the social position from where they are practiced and constructed; secondly, I will address future research lines that will strengthen our understanding of digital games as a

cultural industry; and thirdly, I will close this thesis with a reference to the challenges of PoC in the study of modern *liquid* industries.

In summary, this thesis was designed to address two issues: the features of the potentially authentic nature of independent game production, and the relationships between independent initiatives and the corporate industry actors working on a global scale. As I will show, the results are rather uneven. As developers transit through the different distribution channels, platforms and publishers, they face different contractual conditions, creative possibilities and compromises. Independent developers' attitude towards this is quite varied, depending on the organisational and financial constraints experienced, as well as developers' motivations and moral views. Here, my findings highlight interesting practices that construct the virtual and physical boundaries of these trans-local networked scenes.

With this contribution, I hope to provide a better understanding of the independent sector of the games industry, its challenges and potentials. Likewise, I hope that the specificities of independent game development will enrich the discussion on autonomy and cultural work in the cultural industries, by providing a multi-layered picture of the material constraints, directions and subjectivity of independent work.

#### **vii. What this work is not about**

As with any study attempting to comprehend the general dynamics of an industry, certain details and interesting areas of enquiry have been left out, due to the space needed to address their complexity and/or because of limitations entailed in my theoretical decisions.

An important subject relating to the content of games – and addressed by Kerr (2006b) - is censorship and the media debate about the psychosocial impact of games on players. This is a powerful regulative aspect of the industry that can even modify the content of games after their release date, an interesting subject that I cannot address properly due to lack of space.<sup>14</sup>

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<sup>14</sup> Grand Theft Auto's sex mini game was the example examined by Kerr. But the issue goes beyond the moral shock that violence and sex might cause in some sectors of society. For instance, the recent

Another key aspect often addressed by the sociology of culture relates to the field of cultural policy. The role of the state in promoting cultural work, providing economic incentives and tackling professional challenges has been raised in other media contexts (Pratt, 2005; García Canclini, 2005). It has also attracted academic attention, for instance after the changes in cultural policy carried out by the new UK Labour government in the 1990s. The complexity and hybridity of cultural institutions and their scope of governance is a delicate subject, with which this research will not engage.

In relation to the above, although some parts of my analysis would have benefited from a more spatially-oriented approach to trends such as local and regional clustering through ICTs and cultural events, the strong relationship between clustering and the institutional context through cultural policies (Frith, 1993; Hartley, 2005) would, I believe, have entailed addressing both aspects in equal detail, which this research could not afford. As this research will show, the ability of game developers to organise their work/play practices through online and face-to-face practices has spanned a network of relations of production and kinship with their local, trans-local and virtual correlates. Nonetheless, this research focuses more on the productive function of these relationships, leaving unattended the complexity and depth of these cultural worlds and the interactions between developers, fans and hobbyists.

Furthermore, an important limitation – pointed out by critics of PoC - of this research results from the difficulties in conciliating cultural practices, economic structures and the textual meaning of their products (Eyerman & Ring 1998). A more focused analysis, tailoring the actual content and the decisions behind it with the politics, aesthetics and identities played out in the field, is needed here. Still, this research is intended to set some bases in order to pursue further research in the future.

Finally, the focus of this research follows a more comprehensive logic, looking at the practices shaping autonomy in the sector and the subjectivities behind those. This comes at the expense of a thicker analysis of the '*indie ethos*' and the social

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furore around the ending of Mass Effect 3 raises important questions about both the logistical ease of modifying original content and the artistic ethics of the field.

construction of '*indieness*', following the practices, stories and portrayals of independents in economic and social roles – developers, (independent) industry trade press, governmental agencies, videogame associations, etc. As the subject of independent documentaries and literature, the indie game sector displays strong signs of cultural distinctiveness. However, the present thesis instead hopes to draw attention within the multidisciplinary fields of Game Studies and Cultural Production, by focusing on the process of independent gamework and its complexity.

# Chapter 1

## Literature Review

The present chapter deals with the current academic understandings of digital games as cultural productions. I discuss the varied academic contributions to the field of digital games. These traditions are likely to focus on general structural conditions of the industry, the digital game labour process and the links between production and consumption in games production. They offer a varied range of interpretations, from functionalistic accounts and symbolic-interactionist accounts to neo-marxist ones. Here, I argue that thorough attention has been paid to major game production at the expense of the sector of small scale production - self-called independent production, which has become one of the key features of the changing games industry landscape. A particular tension 'encoded' in the final product will underlie the general discussion, namely the instances where gamework becomes a space of struggle and contradiction between corporate market rationality and the pleasures derived from it; in short, gamework politics and their shaping of the final product.

The literature presented in the following lines has been collected by an iterative search process. First of all, I identified the main sources of digital game production literature, such as cultural and game studies journals, digital games research associations and university networks. I also undertook intensive searches via university libraries and Google scholar. Once obtained, I proceeded by tracking down the network of references in each text, identifying academic traditions and other original research carried out in the field. Amongst the results, I highlight the diverse corpus developed within the fields of Business and Management Studies, History, Media Studies, the Political Economy of Culture, Cultural Production Perspectives, Science and Technology Studies. In addition, I address the diversity of perspectives within scholarship, encompassing business oriented, structural, interactionist and cultural accounts with different degrees of critical thinking.

## **1.1 Digital games as culturally produced goods**

Digital game production has been a subject of enquiry approached from two very different perspectives. As an industry heavily based on knowledge and information, there has been a big effort by both trade press and organisations to provide an understanding of economic, organisational, technological, and market trends of the industry; it has become a common practice among actors such as *Develop Online* or *Game Developer* magazine to provide insights into the problems of the industry, and even carry out their own surveys in relation to salary and labour themes, or explore issues such as violence and gender representations in digital games. This literature will not be addressed as it constitutes part of the material used for this research. They provide relevant accounts of the internal practices, goals and ideas that mobilise the industry, but they still need first to be identified, organised and methodically assessed. Their function within this research is that one of complementing through validation, contrast, or addition the information gathered through other research techniques.<sup>15</sup> Thus following lines will engage with more academic material, focusing on the politics of game production, and the tensions that mobilise the industry.

### **1.1.1 Industry structure and political dynamics**

Although still fledging in numbers, social research in the last decade has produced important contributions for the understanding of the games industry and its internal dynamics. Besides very descriptive and early accounts of the industry actors and roles (Wolff, 2001; Newman, 2004), contributions have questioned the historical integration of the industry and the dynamics of power flowing across the actors involved.

Albeit coming from studies varying in scope and theoretical perspectives, research on the structure and politics of the industry have shown similar results to the historical experiences of the cultural industries (Murdock & Golding, 1971; Negus, 1992). Contributions by Cornford et al. (2000), Kerr (2003, 2006a), Kline et al. (2003), Dovey & Kennedy (2006), Deuze (2007), Deuze et al. (2007) or Johns

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<sup>15</sup> This will be addressed later on in section 2.3.1.4.

(2007), have characterised the digital games industry as highly concentrated as well as vertically integrated, with global corporate actors performing through the different layers and market segments of global media industry. Deuze pictures the industry as an *hourglass* structure, constituted by big game publishers and platform holders at the top and a myriad of small development studios, publishers at the bottom. These corporate actors act as gatekeepers of the industry, owning the means of production and distribution, while regulating and appropriating the creative inputs from development companies. For Cornford et al. (2000: 88), this oligopolistic structure is possible given the typical portfolio model established by cultural industries in general, a large list of products where a small quantity of hits “covers the losses from a majority of misses”. Kerr goes further in the analysis of the industry, identifying different levels of global consolidation, including vertical, horizontal and diagonal integration of large companies by acquiring smaller publishers, development studios, owning or securing distribution networks (2006: 150).

Furthermore, scholars have framed corporate concentration through the short but convoluted history of the industry, examining its institutional progression from an ‘artisanal’ to corporate professional form (Kerr, 2006a: 151). Most of these accounts have come from industry journalists, insiders and media scholars (Sheff, 1993; Herz, 1997; Kent, 2001; Kirriemuir, 2006; Donovan, 2010). Although these contributions offer thoughtful and critical reflections, as well as thick descriptions and testimonial material from industry leading personalities, most accounts are framed in chronological, commercial and technologically deterministic terms, lacking sociological assessment.<sup>16</sup> In contrast, Haddon (1988a, 1988b, 1993) has shown how this process is historically nuanced in form and pace, exemplified in the American and British market. While the American games industry offered a strong entrepreneurial spirit and was backed by the high tech industry, the UK games industry was mostly based on hobbyist cultures that rapidly converted into a cottage industry run by young developers in their bedrooms.

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<sup>16</sup> Historical works on digital games cannot be reduced to solely industry and commercial accounts. Other scholars like Burnham (2003) offer an wide aesthetic review through game images, Mäyrä (2008) focuses on digital games as aesthetic artifacts, addressing the history of digital games aesthetics and the digital medium, while Loguicide & Barton (2009) offer an indepth look into a series of games that impacted the history of the medium by their original aesthetics, narratives, and critical or commercial success.



In one of the early critical attempts to understand videogames sociologically, Haddon includes the first analyses on gender and the sociality of videogames, through the study of the arcade culture during the 1980s. Seemingly, the more recent analysis by Izushi & Aoyama (2006) expands on the subject and introduces Japan in the equation, where the industry was initially backed up by corporate sponsorships in arcades, toys and consumer electronic industries, strengthened also by the strong ties with the comic and animated film sectors. Expanding on the industrial logic of the industry, Campbell-Kelly (2003) emphasizes the intersections between software and digital game industries, pointing at similar corporate acquisition and expansion practices, and stressing on the changing strategies that have shaped the politics of the industry.

Works by Brookley and Deuze suggest how the digital games industry has been shaped by the existence of corporate strategies to harness intellectual property and labour across digital media, becoming source and receptacle for cross/trans-media production. Media conglomerates are now strengthening the trends towards product licensing, giving access to a set story, set characters, and film actors, comics or games with well-established fan bases (Brookley, 2010). Beyond that, the overlap of media work skills (Deuze: 2007: 112) are enabling companies from different industries to harness the occupational pools from other industries. For instance, Brookley explains how the film and games industry are using unionised and non-unionised writers for game plots, or film stars working as voice actors and/or providing their image to impersonate game characters.

One of the best efforts to generate a critical understanding of the industry has been the work of Kline et al. (2003), *Digital play: the interaction of technology, culture and markets*. Drawing on media theorists such as Marshall McLuhan, and neo-Marxist readings on post-fordism and political economy, these scholars state that the success of the digital games industry has been achieved through the articulation of three overlapping circuits within capitalist production: technology, marketing and culture. Each circuit represents a particular historical way to address and harness digital games and players throughout the cycle of production and consumption – for instance, what a player perceives as a game, a marketer frames as a commodity,

while a programmer sees as code and a digital system. Thus, according to the authors, Nintendo set the foundations of the modern industry by closing the loop between the three circuits, highlighted through their corporate strategies: locking-up the access to their console market; control over technology, labour process, manufacturing and distribution; and saturation of youth culture through a variety of media products and services (Kline et al, 2003: 226). The successful strategy carried out by Nintendo did not only revive the industry, but also created a favourable atmosphere to attract big capitals and actors. As we witnessed in 1990, a corporate oligopoly of few media conglomerates emerged, with strategies leading towards the “consolidation and concentration of ownership”, favouring “promotionalisation and standardisation of game content” (Kline et al, 2003: 180). Nonetheless, according to the authors, the way these circuits are played out in the capitalist mode of production comes with a series of internal paradoxes that potentially undermines the economic potential of the industry and its corporate legitimacy. Business strategies based on proprietary closed technologies, creative conservatism and player commodification are claimed by Kline et al to be the main problems that have strengthened the vertical consolidation of the industry while worsening the conditions for game studios, crippled innovation and reinforced cultural stereotypes.

All in all, the generalist character of Kline et al.’s work and their broad explanatory perspective has its shortcomings. Their account provides a good reflection of the games industry as the ideal form of production and consumption in contemporary capitalism. Nonetheless, the heavy focus on the corporate production leaves aside the acknowledged but barely mentioned existence of a ‘decentralised artisanal’ enterprise from the software industry, contesting forms of production as well as subversive game play. The study provides a gloomy perspective of the pre-digital distribution era, but still leaves room for new possibilities that would depend on the historical resolution of the industry’s paradoxes and blatant contradictions. All in all, this work predates the hype of digital distribution and its commercial harnessing by independent developers. Expanding on the organisation and politics of game development, Johns’ seminal research (2006) provides a detailed understanding of the global networks of game production and the fluctuating power relationships amongst industry actors. Although descriptive accounts can be found in Kline et al.

(2003) and Kerr (2006a), Johns grasps more vividly the complexity of these networks through a Global Production Networks (GPN) framework. This framework focuses on how the “institutional and social fabric” underpinning an economic activity is being transformed by global flows of capital, labour and power relations, at the same time these flows are also transformed as “they locate in place specific-domains” (Henderson et al., 2002: 438). The study reveals how hardware manufacturers have developed their global sourcing strategies for their consoles, with relatively stable networks that change according to the conditions offered by different regions around the world. To sum it up, the low cost of components and assembly in Asian countries (especially China and Taiwan) have converted these places into hubs for console manufacture, while R&D and design stays within their home countries divisions.<sup>17</sup>

Johns’ analysis of the creative process of game development ratifies the corporate stratification of the industry seen in Kline et al (2003) and Kerr’s (2006a) work. This is strengthened by her focus on the power relations between console manufacturers, publishers and developers. Here, the industry is led by the console manufacturers, global conglomerates that provide access to the platform markets. They generate most of their revenues by licensing their platforms to independent publishers and developers, while contractually exerting influence on the technical, creative, promotional and manufacturing processes of game productions. Publishers that align themselves to the guidelines proposed by manufacturers have the possibility to be part of the privileged, working publishing deals with them. Both manufacturers and a small set of corporate publishers control most of the game production pipeline by owning the social and technical means of production and distribution. Additionally, these actors increase their size and scope through horizontal and vertical integration as a strategy to capture maximum value (Kerr, 2006a: 172). In this context, independent development studios are left to bear most of the risks and uncertainties. In order to obtain the financial means, marketing expertise and distribution capabilities of publishers, game studios are contractually bound to transfer ownership

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<sup>17</sup> In a more recent spatial analysis of the games industry, Kerr & Cawley (2011) combine a political economy and GNP analysis to see local manifestations of these software networks in Ireland, showing how game companies and publishers seek to outsource customer and localisation services to the ‘global periphery’ of game production.

and control over game pricing of their games to publishers, at the time they are subject to project cancellations without legal responsibility from their counterparts. Nevertheless, this flow of power has periods of disruption, particularly during the console generational change. Here, developers and publishers get better deals as console manufacturers are in need of new content to release with their new consoles.<sup>18</sup> In addition, the introduction of digital distribution via Internet was seen by Johns as a new innovation that could eventually empower developers in the PC market.

### **1.1.2 Market variants to the industry**

Another set of literatures have explored with interesting results a series of economic behaviours of the games industry and markets. Works by Williams (2003) and Alvisi (2006) have shed light on the relationship of game platforms, games portfolios, and their economic life cycles.

Williams has identified three major segments of the industry with their own features. A console segment features as the mainstream of games, with a consolidated oligopoly owned by Microsoft, Nintendo and Sony, features high levels of hardware and software control, high profits and heavy competition. Alvisi has expanded on this sector by examining the delicate economics of the industry. As the games market is created by consoles sales, platform holders need to subsidise the introduction of consoles by selling them at cost; the bigger the installed base the bigger the digital games market is. Profits would come from licensing and development kits included in the price of games. Platform holders' competitive advantage would be assessed by the processing and graphic power of their consoles, but also by the diversity of game titles harnessing that power.<sup>19</sup> Moreover, Alvisi describes two more market segments. One of them is the handheld segment, constituted by mobile gaming platforms that at time were mostly led by Nintendo. Lastly, there is the much smaller

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<sup>18</sup> A typical example of this will be seen in Chapter 2, as part of the early strategies carried out by Nintendo in order to persuade important game studios. Still, most of the examples and information are based on the context of retail business models and emergent platform holders. Given the consolidation of a corporate triumvirate (Microsoft, Nintendo, Sony) in the past ten years, it will be interesting to see how this disruption in the flow of power will shape negotiations on the next platform generation.

<sup>19</sup> As Johns (2006) added later on, platform holders' marketing helps to differentiate their consoles, by assigning symbolic value such as "the console for hardcore gamers" or "the console for all the family."

market of PC games, a low-risk/low-profit margin segment –in comparison to the other two- also characterised for its open hardware architecture. Free of proprietary restrictions, the PC games industry is also free from platform licensing fees, so that companies can develop their own tools, and their low cost of production enable the release of more titles than the former two segments.

In her study of the business and culture of digital games, Kerr (2006a & 2006b) completes a picture of the aforementioned landscape, showing a diversity of economic factors, with varied levels of risk, profitmaking, innovation and organisational features. This synthesis of the market structure follows four economic and industrial dimensions: market concentration, the establishment of a revenue model, hardware openness and projects team sizes. These indicators provide a rich variety of market segments -four in total- with their own subdivisions, where the technological and industry relationships enable different organisational cultures, development cycles and revenue models. Valuable for this thesis is Kerr's identification of those segments where the minor participation of corporate actors through proprietary technologies, and low costs and small scale of production allow numerous actors without the constraints encountered in the high risk/budget sectors. These segments harness inexpensive platforms like mobile phones, online games or small scaled PC games, using unimaginably less manpower than in the console segment, and managing in many cases smaller development cycles.

All in all, these characteristics of the market are subject to constant change or re-arrangement. The fast pace of the industry and the construction of digital distribution channels have changed some of the features of the segments described. Their insightful information needs to be updated, and the emerging industry dynamics addressed.

## **1.2 Independent digital game production**

Within the growing body of work in digital game production, very few contributions have focused their efforts on small scale or independent game production. In the major works seen so far, small scale development has been barely discussed as a function of major scale production. This apparent neglect is not unexpected, since the

core of digital game production had undergone an intensive process of corporatisation, with big actors locking-up access to the market through control of financing, intellectual property and distribution, reducing chances to reach retail shop shelves.

Kerr (2002) has captured the difficulty for small companies to thrive, since the industry had been successful in transforming the process of production, circulation and consumption of games into a tightly controlled pipeline. Third-party developers interviewed by her expressed the woes of relinquishing ownership and creative control for financing and access to markets, while always being at risk of a project shutdown.

Although small scale and independent enterprises almost extinguished as commercial products in the 1990s,<sup>20</sup> it was not until the mid-2000s that it came back from the shadows as new forms of distribution broke the corporate grip established by the big hardware manufacturers and publishers (Pratchett, 2005). Since then, some contributions from the industry and academic fields have tried to make sense of or shape indie development/games' meaning and role in the media landscape.

Within the industry press and blogosphere, independent development has been addressed as projects financed by means outside the classic publishing retail model (MacDonald, 2005; Rosen, 2009; Gnade, 2010; Gilbert, 2012). Using mostly self-financing, indie developers are supposed to gain their creative freedom and ownership while harnessing digital distribution channels offered through Internet for different game platforms. The low budgets managed in independent projects have brought in the portrayal of indie as a space of game innovation. This status as a space

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<sup>20</sup> Evidently, this depends on what we mean by independent development. As the product of the industry own success and politics, independent companies specialised in game production and publishing emerged to provide with content expanding platform markets. 'Independent' companies and developers as 'craft artisans' or bedroom coders have survived as hobbyists or as 'fringe cybercultures' after Nintendo, Sega and Sony set up the directions of the industry. Some, such as Edmund MacMillen in the USA or Introversion in the UK, struggled with their self-funded projects much before Internet penetration and speed would be harnessed to distribute digital games. It is within this process of struggle, between the creative vision of a team or a person and the experienced constrains/possibilities of the industry, where the 'indie' label as a cultural category and self-defining feature of developers started to make sense.

of innovation has attracted the interest of corporate sectors of the high-tech industry, addressing independents as a market to harness and cater.

Furthermore, indie developers have tended to focus on a varied range of ethical commitments based on their own understanding of autonomy, being perhaps ‘passion for games’ and freedom to explore personal creative lines the most common ways to do it (MacDonald, 2005). Others have elaborated what their freedom means in terms of the labour process, where to be an indie – alongside passion vs. economic returns - means to be in charge of the project’s direction and most of the technical work (Rosen, 2009). All in all, accounts of independence within the industry share the alleged innovative character of indie games development, a burning passion for game design, creative freedom (Grill, 2008), and sometimes even a counter-cultural anti-corporate feeling (Keith, 2012; Dutton, 2012).

In the academic field, contributions by Bowen & Deuze (2009), Kemppainen (2008, 2009) and van Best (2010) have approached independent development from very different angles. Drawing upon Jenkins’ (2006) concept of participatory culture, van Best analyses independent development as an intimate process of communication between player and designer. He places indie developers in between media corporations and regular end-users, since participatory cultures are extensions of current cultural industries. They are ‘lead users’ (von Hippel, 2005), as the most creatively prolific of users, opening the opportunity to find commercial success with their creations. Here, van Best differentiates indie developers from their more generic breed as they use *abusive game design*<sup>21</sup> where unfriendly gameplay stands as a resource to decipher developers’ motivations and engage intellectually with players. The analysis shares with Deuze and Bowen the vision of independent games as a product of the direct developer/producer/consumer relationship, an organisation of media that enables wider participation of actors. Nonetheless, van Best’s contribution lacks in the analysis of structural conditions shaping independent game development.

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<sup>21</sup> Abusive game design stands for a design strategy that makes games “intentionally very hard to play, visually confusing, socially awkward or even psychically painful” (van Best, 2010: 11-12). It is indeed a very ‘indie’ approach, since it breaks the conventions of developers as market-pleasers and players as mindless ‘comfort seekers’. This constant negation of game conventions comes close to Adorno’s (1997: 227) vision of art as social critique by “merely existing”, at the time it treats players as a more active and reflexive audience.

Indies are mostly defined by their aesthetic approach and engagement with players, but their status as a cultural extension of the industry remains as just a generalisation, concealing the dialectic between small scale and large scale game production. Even so, considering indies as participatory cultures demarks narrowly the scope by which independent development should be defined, leaving unaddressed most professionals who decided to go indie without having strong connexions to participatory cultures. At the end, van Best claims the dichotomy between indie and mainstream to be false, leaving unquestioned the ideological foundations of the distinction and concealing the sense of chaos and diversity within the field of independent game production. Its notion of independence, although useful, it is too narrow to understand the conditions of its realisation as part of the games industry.

In a cultural and media driven approach, Kemppainen aims to extract some features of independent development, the identity of 'indies', and their games' aesthetic dimensions. He draws on Merrit's (2000) categories of film production to dissect game development into three segments: completely independent, semi-independent and non-independent producers, based on the nature of their financing and commercial aims. The first ones usually develop their games without publishing and distribution deals made in advance; these developers often release their games free of charge, are normally constituted by hobbyists and use digital distribution channels. The second group resembles Kerr's second and even third party studios, companies not owned by big corporations but likely to work close with them via publishing deals. The third group would be constituted the 'big-4-owned' studios (Microsoft, Nintendo, Sony and EA). Kemppainen (2009) goes on to establish the aesthetic features of independent games, as well as exploring the identity of independent developers. There he identifies different mechanics and themes (retro, episodic releases, political themes) common in independent games. More importantly, Kemppainen tackles the issue of independence as a structural condition, extrinsic to developers' agency. Here, he claims that although some developers can fit into the (semi) independent category, their games are not so 'indie-spirited', for they seek mainly to mimic other indies and saturate the market with old formulas. Kemppainen thus turns independence into a project led by developers who share certain cultural affinities, mostly linked with hacker ethics and a continuous desire to innovate.



Despite the analytical weaknesses present in his categories (indies have strong bonds with hobby culture, but they are not simply hobbyists; there is no reason why an indie could not seek a good deal with a publisher while developing the game) Kemppainen sheds some light on the political, economic, aesthetical and identity dimensions present in independent development. Nevertheless, his analysis – as well as van Best's - overlooks the political economical and ideological dimensions of the relationship between art and commerce in game development, where the coupling between art and entrepreneurialism has both haunted and marvelled scholars and developers.

A study that has managed to offer a compact but rich account of independent game development from a production of culture perspective has been delivered by Bowen & Deuze (2009). In their work *The Independent Production of Culture: A Digital Games Case Study* they address indie development as a new form of production within the general industry, describing a series of technological, political, organisational, identity and market features, while questioning its authenticity as an autonomous culture of production. The study provides important insights about the labour conditions of gamework. In this sense, their scope is much wider, comprehensive and consistent to the works of Kemppainen and van Best. They rely on the PoC perspective to bring a de-romanticised picture of independent game production, suggesting a dual process that consists broadly in the diversification of game production via cheap technologies and distribution, and the swift corporate re-arrangement towards digital distribution markets that provide to some independent studios a commercially viable but creatively compromising option. In spite of this, their structural analysis also comes at the cost of a less fluid dynamics between large scale and more independent sectors, the diversity of the spectrum of independence, and developers' active engagement in shaping the scope of independence. Bowen and Deuze's contributions will be present in different passages of this research, given some similarities in the structure and framework of both works. Indeed, throughout the chapters, I will discuss, expand and/or nuance Bowen and Deuze's study.

### **1.3 Labour, subjectivity and exploitation in digital games**

The rampant growth of the digital game industry and its arrival during the last quarter of the 20<sup>th</sup> century has made it a subject of enquiry as an ideal-type of capitalist enterprise and commodity of the last decades (Kline et al., 2003). Research in the area has focused on the relations of production between industry actors, as well as the occupational structure of the process of game development, encompassing the labour process (Kline et al., 2003; Kerr, 2006a) as well as the sexual and professional division of labour (Haynes, 2004; Prescott & Bogg, 2011). Complementing this structural approach, some scholars have also tried to understand the nature of work in game development, the subjectivities that sustain it, as well as the risks and social costs of game development (Dyer-Whitford & Peuter, 2005, 2009; Schumacher, 2006; O'Donnell, 2009). Lastly, an important set of literatures have focused on the active involvement of players in the process of generating value in games. User generated content has been harnessed by several game companies as a form to add more economic and symbolic value to game titles, while constraining the use and scope of players contributions as modders or fan labourers (Banks, 2005, 2009; Banks & Deuze, 2008; Banks & Humphrey, 2008; Nieborg & Van der Graff, 2008; Postigo, 2003, 2007, 2010; Sotamaa, 2007; Yee, 2005). In the following section, I will address in more detail these three varied bodies of knowledge that link the process of production and consumption, as well as the occupational conditions characterising work in the industry.

### **1.3.1 The labour process of game production**

The process of game production has been a major concern in industry and social policy reports. Scholars have been interested in the different stages of production and the occupational structure that holds the labour process (Kline et al., 2003; Kerr, 2006a). Although accounts of the stages vary in detail, scope and emphasis<sup>22</sup>, all of them outline the very basic process of game production. Here, I lean on Kerr's graphic representation given its stress on the circularity in interconnectedness of the process.

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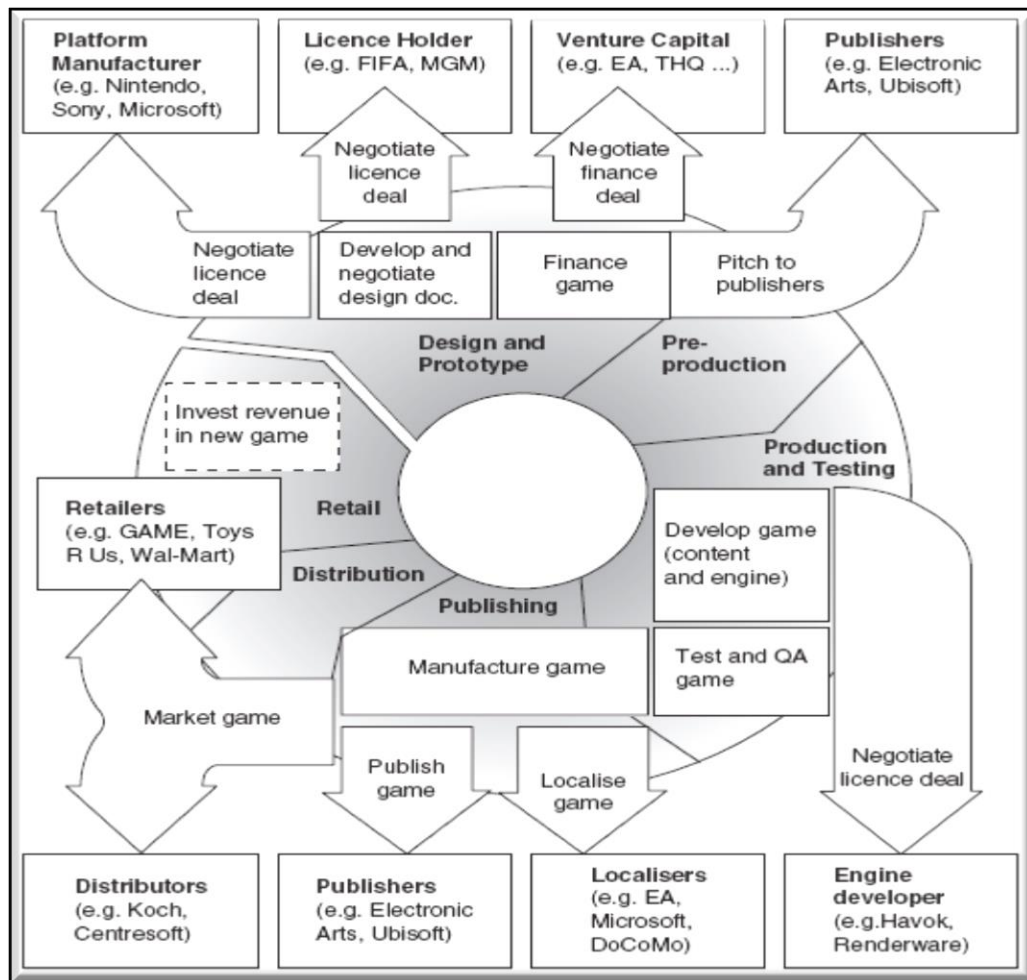
<sup>22</sup> See Kerr (2006a), Johns (2006) and Egenfeldt-Nielsen et al. (2008).

Occupational studies have shown how game development has followed a historical process of the technical specialisation of tasks horizontally integrated into teams, while hierarchically integrated by competences (Kline et al. 2003, Kerr, 2006a; Egenfeldt-Nielsen et al., 2008). The team project might vary according to the game's concept and features. Still, it is conventionally constituted by media artists and software engineers who work on the game's art and graphic design, audio and music, programming, game design and production.<sup>23</sup> Interestingly, as Haynes (2004) and Prescott and Bogg (2011) argue, the digital games industry is mostly a young and male-dominated industry, with more than 80% of male professionals occupying the most creative tasks, while women are more often found in executive or managerial roles, and as art/graphic designers. This makes the games workplace a masculine environment, but also affects the content itself of games which tend to be full of male-centred stereotypes (Williams et al, 2009).

**Diagram 1.1**  
The digital game production cycle

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<sup>23</sup> Game producer is a position normally acquired by professional managers or very experienced developers with managerial skills.



Source: Kerr (2006a: 86)

Digital game production is a labour and design intensive process, normally lasting between one to more than two years, depending on the scope of the game. It starts with a more conceptual design phase, where developers figure out the kind of game concept they want to develop further. This phase involves building a game prototype based on a rudimentary version of the game's aesthetics. In addition, developers write a design document specifying all the technical requirements (hardware and software), as well as the game's description, market study, budget and timetable. The prototype can be a submission of a game concept determined by a publisher or be the product of developers' creative vision. Pre-production, production and testing are phases that follow once there is some agreement on the game project. Here, game developers (graphic designers, programmers, sound engineers) work together with the producer in order to fulfil a series of milestones by delivering updated versions of

the game to the publishers. Through the Alpha and Beta milestones, developers are immersed in a series of tasks including programming AIs, creating graphic and sound assets, designing levels, coding game instructions, gameplay testing and debugging. At the same time, publishers' marketing teams unfold their Public Relations and media strategies in order to create market awareness and expectations.

The labour process in game making entails more important riddles to be solved by the team members. Achieving a successful game experience –the experience of the game events unfolded via player-computer interaction– entails a strong coordination of different skills and professionals involved in the process of development.<sup>24</sup> The organisation and coherent deployment of the game rules, narratives and game space needs constant communication between game designers, art designers and programmers. To get it right, developers also need constant testing where players are brought into the scene. Big companies like EA and Ubisoft have specialised centres where the game experience is studied and rationalised in models that help to organise the 'text' of games, which in turn are fed into development teams (Kline et al. 2003).

More importantly, work on a game project normally extends beyond the Alpha, Beta and Gold phases, as commercialisation strategies to increase the market scope of games has led to their regional localisation (translation, visuals, script) and the need to replicate the game on several platforms (Kerr, 2006a). Other strategies designed to extend the shelf life of the game and increase its value suggest the continuation of the labour process after the game release. Although it changes according to the genre and financial support for the project, the performance of the digital game at home is tracked through feedback reports from consumers. This extends the process of game development into a post-production phase where developers fix bugs and add game features through updates. Unfortunately, how modularity in digital games is being used to extend the shelf life of a product has not been deeply explored. Studies in this area could shed light on the negotiable nature of game content, and the extension of the productive process beyond release date.

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<sup>24</sup> The object of game development can be basically defined as the design and delivery of gameplay experience. Gameplay experience is the unique result of the cybernetic interaction between player and game. This is the Holy Grail of game development and a key subject in the field of Game Studies, seeking to understand and find models to create meaningful experiences. See Emri & Mäyrä (2005) as example.

Within these processes of development, management scholars have looked into how game organisations manage developers' creativity while keeping the process strongly rationalised. Zackariasson et al. (2006: 427) have explored the *know-hows* underpinning creative work in game development, namely the “the technical skills of programming and designing the game and the *phronetic*<sup>25</sup> skills providing the more subtle insights into the actual game-playing experience.” In their view, creativity depends on the presence of these skillsets, as well as the ability of organisations to capture successfully players' feedback and developers' commitment. Focusing more critically on the constraints shaping creativity at work, Tschang (2007) has shown how creativity comes to be negotiated between the capitalistic interests pursued by publishers and financiers, consumer's taste, and developers' artistic drive. He identifies a series of strategies to foster creativity in at least three different levels: the corporate publisher, the firm and the project. Here, publishers try to innovate by seeking independent studios to work on specific projects, or they hire well-known developers while preserving their creative space (Tschang, 2007: 997). At a studio level, game developers can work on their new projects, working on titles that can offer some incremental innovation based on the major content/gameplay innovation of their previous titles. Their new IP would then start changing according to publishers' demands, and consumer feedback, giving form to the final product. All in all, this balancing has been one of the more important sources of conflict, especially when the sources of funding and market connexions/expertise are concentrated in the hands of a few major game publishers. In this regard, a series of critical studies coming from neo-Marxist traditions have highlighted the political side of gamework, and how this balancing often favours publishers' interests and the mass-market, and reduce the creative or professional autonomy of game developers. Literature on this subject will be discussed further in the next section.

### **1.3.2 Labour subjectivity and exploitation**

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<sup>25</sup> By phronesis, the authors understand the knowledge about what gamers consider fun and intriguing. It becomes a sort of knowledge appealing to developers as both consumers and an integral part of the gaming culture.

An important field of scholarship in understanding games as cultural artefacts is that related to the nature of professional identity and labour practices at the workplace. The nature of work in game development has been analysed from different stand points, offering an important account of the motives, ideas and issues permeating developers' willingness to work in the industry and their welfare. Here, the works of Dyer-Witheford & Peuter (2005, 2009), O'Donnell (2009), Ruggill et al. (2004), Schumacher (2006) and Deuze et al. (2007) all offer a key understanding of 'gamework'.

Borrowing their conceptual framework from Media and Film studies, Ruggill et al. (2004: 298-99) coined the term gamework, following Kuntzel's 'film-work' to talk about all tasks involved in the production of digital games, entailing specific knowledge about:

“1) digital instructions that mediate interactions among players, rule sets, and developers' proffered multi-sensory play scenarios; (2) the storage and processing components within which these instructions are executed; (3) the documentation and packaging that sell and explain the game play; and (4) the player(s).”

In addition, gamework refers to developers' awareness of the general process of production, distribution and consumption, leading the authors to unravel a series of cultural features of game development. They start by pointing out the anonymity of authorship, where games become a product of a company without properly acknowledging the creative vision of their authors. Only few developers manage to achieve fame on the basis of critical and commercial acclaim for their games, such as Peter Molyneux, Sid Meyer or Shigeru Miyamoto. Furthermore, gamework seems to be located between actors and practices, interconnecting production with consumption, arts and criticism. Here, players and developers are tied to gamework through play, either as the product of playful labour or 'hard work' at deciphering and learning games mechanics, but also at creating game cultures. Ruggil et al.'s study also introduces gamework as a creative process where games are considered works of art. This opens up questions about the aesthetic dimension of games and raises issues about the mainstreaming of games as entertainment and subject to textual analysis.

Less concerned with gamework as a social-aesthetic experience, Dyer-Witford & Peuter (2005) offer a neo-Marxist analysis of labour practices at the workplace and their meaning. Here gamework is analysed as immaterial labour, a work “including scientific know how, high-tech proficiency, cultural creativity, human sociability, and cooperative interactivity”, which blurs the boundaries between work and play. As immaterial labour, gamework entails the joint venture of creative skills and digital application of specialised knowledge across occupational boundaries. According to the authors, game developers experience their work as creative, cooperative and playful. Here, game development is seen as an outlet to express individual creativity, where autonomy and flexibility are key features. Moreover, teamwork facilitates solidarity and cooperation amongst developers, given the variety of disciplines in every team. All this happens within an *ethos* where the boundaries of work as play are not clear-cut, which Dyer-Witford & Peuter (2005) consider central to mobilise games’ immaterial labour. The idea of work as play has been an idea that has developed since the beginnings of the game industry. The idea of working as if it was playing embodies a series of perks and promises: “flexible hours, lax dress code, free food, fitness facilities, parties, and funky interior design; and it also encompasses a host of intangible qualities, from ‘rebelliousness’ to twisted humour to self-expression.”

Nonetheless, the same meanings and experiences of gamework can easily be turned into exploitative conditions. For Dyer-Witford & Peuter, autonomy, flexibility and the cool corporate culture actually become a smokescreen behind which corporate rationalisation and work expropriation takes place. The economic structure of the industry pushes game studios to strongly rationalise their tasks and time, forcing studios to adopt exhausting timetables at critical moments, sometimes almost doubling the hours of work per week. Flexibility easily turns into self-regulation/exploitation, as developers sense of ‘ownership’ makes them accountable for what happens in the part they work on. Here, ownership is just symbolic since contract clauses establish the appropriation of developers’ ideas by the company. In addition, as independent or third party studios are being acquired by big publishers, the sensation of instability and exploitation increases as corporate practices like studio re-structuration, sudden project cancelations and studio shut down are



common in the field. The ‘work as play’ ethos is manipulated beyond these practices, being also used to attract young players as low-paid QA testers or to expropriate user generated content. Furthermore, after analysing employment lawsuits in USA, Schumacher (2006: 151) found out that in some cases “the methods for extracting the value of [this] knowledge mirrors closely monitored standardised work processes of the assembly line.” In sum, the market-driven logic behind AAA games basically works to deny the pleasures that the digital games industry boasts about.

Dyer-Witthford & Peuter articulate these features of corporate gamework as strategies of global capitalism to extract value out of and exploit the labour of workers. Here, gamework embodies the contradictions of the capitalist Empire<sup>26</sup>. In it, workers become a cognitive labour force, their minds the “machine of production, generating profit for those who have purchased their thinking power” (2009:37). In this context, game development serves simply the call of great capital and the military complex upon which it relies. Similar observations have been pointed out by Deuze et al. (2009), who identifies issues of labour outsourcing in low tax and low income countries, and the managerial pressures justified by high risk investments. In the same line of argument, Lugo & Losada (2002) point out with the example of Latin America, a region contributing to the industry with low-paid jobs in game and console manufacture, leaving the creative process of game development within the core capitalist hubs of production.

Although their vision of the industry emphasises the corporate grip of the industry and its connections to the political and economic power of global capitalism, some scholars suggest that we should not overlook emergent cultures of production and identities, since they offer bottom-up solutions to Empire (Dyer-Witthford & Coleman, 2007; Dyer-Witthford & Peuter, 2009). Thus, the independent production of game culture, acts of contestation within established games of Empire, emergent critical content within AAA game production, political activism through games and challenges to the intellectual property system are all examples of self-organised and anti-establishment cultures that show alternative directions to the game industry.

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<sup>26</sup> As it shows obvious, Dyer-Witthford & Peuter grab inspiration from the autonomist Marxist critique to liberal post-fordism, particularly the works of Lazzarato (1996) and Hardt & Negri (2004).

More recent developments in the field have relied on the consolidated contribution of Science and Technology Studies and New Media Studies through the work of Cassey O'Donnell (2009). He coins the term creative collaborative practice (CCP) to explain the distinctive features of work in the *New Economy*. CCP is a cultural category that seeks to learn about the ability, necessity or/and pleasure of understanding and playing with those technical, conceptual and social aspects of gamework. Thus, CCP gamework is motivated by the need to understand how digital games work and the pleasure derived from them. As the object of desire, gamework and its features become joyful practices, which O'Donnell comes to define as instrumental work/play, and experimental work/play practices and spaces. The first feature addresses the process of realising and working on a digital game concept given the technological, economic and social means available. The second defines labour, social practices and a body of knowledge rooted in developers' experiences as human beings, providing the means for powerful work/play experiences through constant experimentation or trial and error. It should be noted that these two dimensions of CCP are fostered and structured through networks or communities of interest in game developments. Thus, instrumental work/play's narrow scope as labour rationalisation becomes a corporate policy within the general logic of game development. In stark contrast, experimental work/play represents practices more akin to the cultural ethos of developers and software engineers, fostered by spaces where occupational kinship, collaboration and openness are normal values. These definitions allow O'Donnell to explain in greater detail the specificities, pleasures and dilemmas of game development. According to him, the dual nature of gamework as CCP entails an act of balancing both practices and finding an equilibrium where both work together. Capital and creativity, corporate secretism and shared knowledge are needed for a thriving and fulfilling industry.

As we have seen, understanding the nature and conditions of digital games labour has become a key area of study within the social sciences. Important contributions have been delivered from a variety of disciplines, emphasising features of work in the game's industry, the social sources of gamework's pleasure and the external forces trying to control it through a capitalist culture of production based on the expropriation/imposition of ideas, privatisation of knowledge, and tight control over

the process of game production. Although the level of criticism and detail vary between Marxist and more regulationist approaches to the industry, the stress on the creative nature of gamework, its binding with playful attitudes and the sociality of them offer a crucial meeting point. Still, analysis has centred mostly on the production of high-budget games, within the boundaries of firms and corporations. How much does gamework differ in the independent game sector? Is everything reducible to ‘gamework’ or are there other practices independent developers need to engage with? How do independent developers frame and tackle the labour risks experienced in the general games industry? And are they really free of those constraints? Hopefully, the present research can provide some answers to those questions.

#### **1.4 Players matter: consumption as cultures of production**

Amongst the wide range of studies featuring game cultures, a particular branch has explored the synergies between players’ cultures and game production through the commodification of user generated content. Revolving around the lines of labour and its forms in post-Fordism-informed industries, a key area informing digital game production research has covered the ways by which players –as active consumers– are harnessed to extract value from their cultural practices.<sup>27</sup> Research in the field has not only stated the importance of players’ feedback during the process of game development (Kerr, 2006a), even more it has shown how players add symbolic and economic value to digital games (Kücklich, 2005; Nieborg & Van der Graff, 2008; Yee, 2005; Postigo, 2003, 2004, 2007, 2010; Sotamaa, 2007; Kow, 2010; Kow & Nardi, 2012), while mitigating the contradictions of games as cultural commodities (Ryan, 1992: 50-58).

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<sup>27</sup> An important body of work has been developed in relation to digital games economies and the interstices between play and work. Certain games such as MMORPGs offer virtual worlds whose items could be traded by real money on Ebay and other portals (Castronova, 2005). As Yee (2005) shows, the seriousness of play is taken by players and the tasks performed in these games are closer to work conditions than play itself. In the context of current games, these conditions can be reversed so play is transformed into labour. The demand for powerful weapons, in-game currency and high-level characters in these games has led working practices such as *real money trade* (Lee & Lin, 2011) or Gold Farming, most of them constituting sweatshops established in developing countries where young people’s work is to play (Heeks, 2008).

Only two main works have addressed how players are brought into the process of game production, although the evidence is overwhelming. Kline et al. (2003: 202) frame players' involvement as a reverse dimension of the "work as play" ethic, where play transforms into work. Engaging players during and after the process of game production is framed as a feedback strategy in order to maximise the game play experience, since deficient game play normally results in low sales. This is done by gathering players in places where they can be observed and their experience evaluated. A second form identified to capture players' knowledge into game development is through testing. Here, PR and HR departments appeal to the enthusiastic and playful ethos of games to recruit players as casual testers. Their role is to 'break the game' or find errors that could affect the game play experience. As these authors argue, relying on casual testers as part-time flexible labour –without payment of benefits- has become the perfect strategy to improve their games without incurring heavy costs.<sup>28</sup> The above goes hand in hand with data mining from players' communities or community management as marketing strategies to improve the game experience of existing titles or gather information for future ones.

Another front of the games industry has been developed by New Media and Game Studies scholars, focusing on game modifications –especially for PC games- carried out by some players once the game has been released. Well known as game mods or add-ons (Postigo, 2007), they are mostly the product of game-fans and hobbyist leisure. Modding has become possible since digital technologies opened up possibilities for decentralisation and diversification by actually enabling consumers to participate in the production and distribution of media (Nieborg & Van der Graaf, 2008: 178). This participation has offered an important edge to game developers, always willing to find forms for added value to games and extend products' shelf life. In other words, from a political economy perspective, modding can be framed as another strategy to cope with the risks of the digital games market by outsourcing innovation to consumers –along with [cross] licensing and sequels (Sotamaa; 2007).

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<sup>28</sup> Nonetheless, as it happens with Kline et al.'s study, most of these strategies are common just in large companies. As Kerr (2002) has argued, third party developers usually rely on other I-methodologies or friends to perform these tasks.

Research on modders has thrown up interesting results in terms of the subjectivities of modders and their entanglement with corporate interests. Since the early 1990s, many game studios have released tools and devkits along with their games so players can edit maps and customise players' skins, create partial or full modification of games. This practice was extended with MMORPG games, with the development of player interface modifications, in order to offer a more customised game experience to players. In this sense, modders are players who invest their time in creating these mods for other players to use. Their motivations have been widely covered by Postigo (2003, 2007), who provides multiple insights into the developer-modder relationship. On the one hand, game modders seem to be driven by a sense of both ownership and "community they derive from the experience" (Postigo, 2003: 599). In other words, the rewards sought by many modders are mainly symbolic: acknowledgement of their contribution to the game experience by both the community of players and the game developers, who sometimes even adopt mod features into the original game. On the other hand, modders commodify their work as mods and become part of the game's 'portfolio'. Specially working on total conversion mods such as *Counter Strike* (1999), modders are highly skilled and collectively organised programmers who have interiorised the industrial logic and labour practices of game making (Dovey & Kennedy; 2007; Nieborg & Van der Graaf; 2008).

But more than a self-organised practice, scholars prefer to see it as the result of bottom-up cultural manifestations and top-down industry practices. Game studios and publishers create legal figures and release partially proprietary technologies to users, while fostering modding through competitions, online communities and a service infrastructure. The latter includes an official community website, technical services, and so on. Sotamaa (2005, 2007) provides an account of companies' marketing strategies through modding. Contests for best consumer-created logos, slogans, maps and mods can be seen in every big company, with considerable prizes for the best mod teams. Their interaction also reinforces companies' rules about modding, while giving direction to the mod community. The benefits obtained by companies transcend the economic by building a base of loyal fans of the brand and

even companies' products. Kücklich (2005) has analysed these benefits, and they are summarised by Sotamaa (2007) in the following way:

'When commercialising popular mods, companies do not have to create the brand from scratch since masses of players already recognise the game. This pre-existing fame can be compared to benefits gained from licencing. Popular mods extend the crucial shelf-life of the original product. In the long run, mods can also increase customer loyalty. Furthermore, mods can serve as an important source of innovation that actually reduces game developers' R&D and marketing costs. Finally, since the mod projects produce highly trained experts modding community can be used as a recruiting pool.'

The undeniable benefits of harnessing modding practices have led scholars to closely analyse the nature of modders' labour and its contradictions. Drawing on autonomist Marxist contributions to the critique of post-fordism, modding has been conceptualised as a form of work embodying the flexibility, informality and precariousness of contemporary capitalist labour, as it has been described previously. The 'contribution' of the games industry to contemporary capitalism in this sense is a step further from Adorno's (1991) commodification of leisure as an extension of the productive process, or the commodification of consumers by marketing practices. This practice, embodied in the term 'playbor' (Kücklich, 2005, 2009), suggests to us how modding is becoming the quintessence of work exploitation, merging the idea play and fun with an unpaid and informal labour process.

Following Terranova's 'social factory' and 'free labour' framework, scholars interpret modding as a way for game companies to outsource labour to society, fostering the exchange of value through symbolic rewards. For instance, Postigo (2003, 2007) critical contributions offer an overview of how much value modders add to games in terms of labour output, which can be seen as potential costs not incurred by game companies. He calculated a total savings of \$520.000 a year for 10-person mod team. Moreover, the costs of producing the 39 largest mods available in 2004 could have gone up to \$30.4 million just in salaries, if companies were to pay modders. Furthermore, game companies appropriate modders' labour through license agreements. As mods are developed using the proprietary technologies, their creations become part of the company's intellectual property, constraining modders to generate revenue from mods while enabling companies to fully commercialise

them according to their potential (Nieborg & Van der Graff, 2008).<sup>29</sup> In a later contribution, Postigo (2010) shows a new synthesis between modders' participatory culture, the hybrid amateur-professional nature of their work, and developers corporate interests. Given the professional aspirations of many modders, Epic Games released its Unreal Engine 3 and Development Kit for free without the need to purchase Unreal Tournament 3. In this case, a small door is opened to modders to transform their work into original creations for commercial release.

Debates about the commodification of players' labour seem to have reached some consensus among scholars. Although – like Postigo - they can see participatory principles within the production and post-release phases fostered by the digital games industry and actively exerted by consumers, they point out the contradictions derived from the corporate appropriation of culture and actors general consent. Other scholars (Banks, 2005; Banks & Humphrey, 2008; Banks & Deuze, 2009) have even considered the possibility of an ongoing configuration of labour relationships under the form of social markets, or spaces where the contribution of fan labour in a game project is negotiated, in an attempt to align the cultural with the economic. The importance of this scholarship reveals how production in digital games can be framed as a differentiated but fluid practice potentially linking every possible actor within the economic cycle. Production is here a meta-concept to understand the labour practices happening in both the making and consuming of digital games. It goes a step further from Marx's (1980) observation about consumption as part of the productive process, as players do not simply construct meaning, but also contribute to the processes of both game development and post-release stages.

## **1.5 Conclusion**

The present chapter has dealt with relevant scholarship associated with the social study of digital game production. Concerns about the organisational, labour and economic principles and processes underpinning game production, its connections

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<sup>29</sup> The above does not mean that some modders have not earned any income from their work, or have been awarded by game companies; some game companies have tried after all to keep modding communities happy. The problem arises with their informal condition and legal disadvantage, which makes them completely vulnerable to changes in corporate policies and interests. An example of this can be seen in Kow's (2010) rich account of the conflict between World of Warcraft modders and Blizzard policy changes.

with the sphere of consumption, and the role of identity and technology in the process have led to important contributions to the academic field. Some scholars have explored the relations of power that mobilise the industry and their effects on the creative process of game development. The contributions addressed cover diverse disciplinary perspectives and theoretical frameworks, from historic accounts of the industry to political economic, gender and cultural approaches to gamework and their structural constraints. Yet, these analyses have focused mostly on the large scale sector of digital game production, providing in many cases a standardised view of an industry controlled by hardware manufacturers and publishers, and the gamework associated with mass-market oriented games. A few studies have provided important understandings of the independent game sector by contributing to a more diverse and vibrant picture of the industry. But these contributions have either focused on the industry's structural constraints or the general culture of independent games. In this sense, issues around the sectors' role within the main games industry, their material conditions of existence, and the more or less divergent paths informing their multiple 'locations' within the industry, will not only contribute with a complementary analysis of the field, but also shed light on the way game labour and its products are framed as cultural phenomena.



## Chapter 2

### Research Design

This chapter will address my methodological strategy. Here, I will provide the epistemological reflections derived from my research questions and theoretical underpinnings, setting up the justification for my ethnographic approach and methods of data collection. In addition, I will explain how my approach unfolded throughout the fieldwork, offering hints of the obstacles that emerged and explaining how I tackled them.

The chapter is divided into four main sections, addressing different dimensions of my research fieldwork. The first section reintroduces the research questions, establishing, in addition to my objectives and insights, the nature of the information required to answer my questions. A second section will address the rationale behind my multi-sited ethnographic approach. The third section will deal in greater detail with my fieldwork process. There, I will address my data collection methods and explain why and how they were deployed, as well as how I tackled their limitations and the foreseen and unforeseen obstacles that I faced. A fourth section will show the main insights that led my data analysis, and I will close with a small section addressing the ethical issues with which I had to deal.

#### 2.1 Research questions

The overarching aim of this research is to understand the emergence, production and meaning of independent digital games in the general context of contemporary global capitalism. To understand this process, I set up a series of leading questions that formed the heart of my research:

1. How is the production of digital games orchestrated and carried out in the large-scale sector of the digital games industry?
2. How is the production of independent digital games arranged and carried out?

- 2.1 What is an independent game, how and where is it produced, by whom and according to what motivations?
- 2.2 What sort of technical, financial and logistical needs do independent game developers have to meet in order to develop, advertise and distribute their games?
3. To what extent are the culture and production of independent digital games autonomous or dependent on larger corporations in the digital game industry?

Informed by my theoretical underpinnings, my research questions were aimed at exploring the connections between industry commercial relationships, work organisation, technology and the professional identity of game workers that constitute digital games. The intertwining between large and small-scale sectors suggests it would be better to view these questions as an interrelated unity. On the one hand, we have corporate actors mediating and structuring the process of production both on the large and small scales. On the other, a collection of disparate and unevenly systematised initiatives by self-defined independent developers, seeking to create digital games due to allegedly different motivations and practices from those in the industry. The underlying concern is: how much does independent work differ organisationally and ideologically from that found in the large-scale sector, and why?

In order to understand the process of independent game production, I thought it useful first to analyse the structural relations and circumstances within the industry that make possible and even trigger new forms of game production; these constitute the essence of Question 1. The question was set up to explore the current patterns of digital game production by platform holders, publishers and those game studios engaged in the exploitation of digital games on a global scale. As we have seen in the previous chapter, these economic actors have managed to create and shape the institutionalised forms of game production in the context of global capitalism. Furthermore, as they have expanded their operations to digital distribution services, their influence on the process of independent game production has become undeniable. Seemingly, as independent developers reflect on the industry's state of

affairs, the happenings in its large-scale sector have become one of the correlates that inform their actions.

Furthermore, as independent development has become a viable enterprise in the last few years, it is fair to ask ourselves about the structural changes and actors that have enabled this kind of work. Question 2 is not only about how cultural work in the context of digital distribution has ‘rebooted’ the economics and labour process of game development, but also about how game developers deploy a series of practices as *cultural entrepreneurs* that ensure them a degree of success within the industry.

As mentioned before, the historic roots of the digital games industry suggest a strong connection between independent and ‘mainstream’. This relationship can be observed not only in the level of participation of multiple actors within the process of production, promotion and distribution, but also in the organisation of the labour process as carried out by independents. As digital distribution services expand, capturing value from distributed content has become a commercial strategy – a very profitable one - for corporate industry actors. In this sense, it is important to understand the economic and social implications of this reconfiguration for independent work. At the same time, developers’ agency is crucial for understanding how autonomy is framed and enacted in the games industry. How do independent developers behave under the regulations and politics of the industry? What is the meaning of independent work for them, and how much does it inform their ethics and practices? As Question 3 posits, the interplay between independent and corporate, small and large-scale entails different layers of analysis, pointing to a method that allows me to capture mobile subjectivities as well as institutionalised work practices, organisational forms, industrial understandings and business practices. Although the general rationale will be explained in the following sections, table 2.1 offers a summary of my research questions in addition to the objectives and data collection methods used to answer them.

**Table 2.1.**  
**Research questions and methods**

Research Questions	Objectives	Research methods
1. How are the global networks of game production structured?	To analyse the industry relationships, organisational cultures, market constraints, use of technology and professional identities that shape digital game production on a large scale.	Semi-structured interviews with developers.  Documentary analysis of trade press news and interviews, corporate communications and reports.  Unstructured observation of conferences and industry events.
2. How is the production of independent digital games arranged and carried out?	To analyse the industry relationships, organisational cultures, market constraints, use of technology and professional identities that shape digital game production on a small scale.	Semi-structured interviews with indie developers.  Documentary analysis of trade press news and interviews, and indie developers' blogs.  Unstructured observation of independent game conferences and events.
3. To what extent are the culture and production of independent digital games either autonomous from or dependent on larger corporations in the digital game industry?	To determine the texture of the financial, organisational and political relationships between independent game developers and other sectors of the digital games industry.	Semi-structured interviews with indie developers.  Documentary analysis of trade press news and interviews, and indie developers' blogs.  Unstructured observation of independent game conferences and events.

## **2.2 About the ethnographic approach to this research**

Within the research field of cultural production and generally in social sciences, a strong scholarship has been developed around the longstanding tradition of ethnographic research. This methodological perspective comprises an umbrella of methods, encompassing different forms of observation, interviews, field notes, secondary data analyses and even quantitative sources (Whitehead, 2005) that are logically or pragmatically deployed according to the research project in question (Schatzman, L., & Strauss, 1973). Ethnographically-oriented studies have generated important understandings about the social settings in which cultural workers live and work (Grazian, 2004). This perspective has been useful for identifying not only how individuals' practices and beliefs shape cultural work, but also how corporate cultures, as well as artistic and commercial interests, shape organisational strategies and work practices within the cultural industries (Peterson, 1978; Negus, 1992, 1999).

At first glance, the focus of my research on the social practices, contexts and ideas that shape the process of independent gamework suggests the ethnographic approach as a useful 'construct' by which to capture them. Nonetheless, as the social nature of digital game production revealed itself as a spatially fragmented object, highly mediated by digital environments and translocal actors and sometimes difficult to access, the notion of place and long-term involvement as normally understood in ethnography became hard to conciliate with my research. This led me to frame my research within the more suitable multi-sited ethnographic perspective (MSE), given its suitability for tracking down independent production through a series of settings and locales.

Owing a great deal to the fields of Media Studies and Culture (Feld, 1994; Marcus, 1996 & 2009; Farnsworth & Austrin, 2010; Holmes & Marcus, 2004) and Science and Technology Studies (Latour, 1988; Escobar et al., 1993; Hine, 2008), the MSE entails the deployment of ethnographic techniques in different 'localities' as a way of tracing processes and practices within the context of globalisation, post-Fordism,

time-space compression and transnationalism (Marcus, 1996: 98). As stated by Falzon (2009: 1): '[T]he essence of multi-sited research is to follow people, connections, associations and relationships across space (because they are substantially continuous but spatially non-contiguous)'. This entails at least three main tenets: the socially-constructed nature of the space (being digital, physical, local, translocal, regional, etc); the location of contemporary societies within larger wholes; and the way that the constant mobility of people, objects, ideas, etc. makes the whole possible (Falzon, 2009: 5).

Building upon the aforementioned tradition, my research methodology thus tried to track down the network of transnational/local/digital spaces where the economic processes and subjectivities behind digital game development are located. The MSE method was borrowed and deployed through a series of triangulated data collection techniques, giving me the flexibility to follow game workers and examine their work practices, organisational boundaries and subjectivities through different localities. These offline and online settings involved not only the discontinuous spaces where their work – either a whole game project or a part of it - was carried out, but also spaces where marketing strategies, public relationships and knowledge-sharing took place. Here, MSE proved helpful in locating and analysing symbolic spaces of resistance against, or adaptation to, corporate capitalist cultures of game development. In addition, I borrowed and triangulated a series of techniques to gather information from game workers about both themselves and other developers, as well as information about the global digital games industry and its structure.

As a methodological decision, I decided to focus mostly on game developers. This was because I was aiming to understand the digital games industry as a creative or cultural industry, and developers are usually seen as the creative/cultural and technical workforce. As such, their identity becomes a powerful force that leads the creative aspects of the game, and the digital medium is seen both as a creative tool and a symbolic space where these techno-identities are deployed and shaped. Following this focus, I managed to capture the key driving features and pressures of game making. At the same time, I could capture the varied practices and beliefs that give shape to the notions of authenticity in independent game production, without

overlooking its connections with, and dependence on, the large-scale sector of the industry.

For these reasons, I deployed a series of qualitative methods of data collection in order to access a series of emerging scenarios and information sources. Through these sources, I was able to gather insights about the processes of game development, learning processes that inform developers' work, and the deploying of business as well as marketing strategies. The scenarios were: developers' meet-ups, weblogs, companies' websites, online interviews, conferences and trade press news. Sometimes, interviews with developers led me to other companies or developers who had worked with them on previous projects. This gave me an opportunity to understand the nature of game development networks. In addition, by examining reports from trade industry organisations, state agencies, press news and annual reports, I was able to understand the institutional trends and labour conditions within the games industry as a whole.

MSE has not been without criticism in the academic field, especially from more traditional anthropologists and ethnographers. The intermittent and short-time presence in the 'multi-sited' field that MSE draws upon (Horst, 2009) suggests concerns about how to achieve the main steps of ethnographic work, such as going native and the 'lack' of depth or thick descriptions (Marcus, 1996). The first criticism is related to not being familiar with the languages spoken in different sites of the field (Horst, 2009: 125). Nevertheless, in my case I would like to reframe this problem within the field of social knowledge: a native's language implies a common understanding of their world that is not easily accessible to the researcher. In this sense, the language used by game developers is an embodiment of their knowledge and implies the need to understand the field's jargon in order to access their universe of meaning; this affects not only the quality of the information and the interviews, but also the potential rapport between researcher and informant. At the beginning of the research, this process was very difficult since my understanding of the English language was still in need of improvement at that point – although it improved considerably along the way. Here I relied strongly on constant questions about the meaning of certain words, events or connections that are seen as a 'must know' for

many developers. In addition, throughout my research, the good friendship and guidance of two independent developers was essential in contacting potential participants, as well as in understanding the field of production throughout our discussions regarding my research, insights and thoughts. These ‘key informants’ aided me in making my visits to the places where my research took place go as smoothly as possible. Interacting with them in informal contexts, as well as discussing game development subjects and industry events with them, offered me plenty of ideas for engaging effectively with my research participants and their worlds. In addition, they informed the research by helping me to clarify certain actions and motivations that came up in the interviews, allowing me to address them better in later interviews.

As stated before, a second concern points to how MSE addresses the depth and thick descriptions that have previously characterised ethnographic research (Marcus, 1996; Falzon, 2009: 7-8). In this regard, although thick descriptions do mean depth, the latter does not necessarily result from ethnography’s commitment to the former, which can be achieved through long periods on one site. Such a statement could easily lead one to think that other methods of social research suffer from their lack of ‘depth’. Rather, depth can be achieved through the analysis of information from a multi-sited space(s) which is constructed around a social practice, as in the case of independent game production. I circumvented the aforementioned problem by analysing and contrasting first-hand and second-hand observations from the actors within the industry field, taking the notes gathered through online documentary research methods and unstructured observation and feeding them into the interviews. I made sure to talk with my informants about these ideas, which helped greatly in mapping out the different meanings that inform and justify the independent production of games.

In sum, given the mobility and flexibility of [independent] game production and the specific social settings underpinning it, my research methodology and results profited greatly from using a multi-sited ethnographic perspective. This perspective helped me to think about and gather information from multiple sources in a series of face-to-face or computer-mediated environments or localities. These sources were essentially



collected, sorted and analysed through a series of common techniques in PoC and cultural industries research (Peterson and Berger, 1975; Sanders, 1982; Bowen & Deuze, 2009), namely semi-structured interviews, documentary research via a series of important documents and virtual places (trade press, industry reports, weblogs) and unstructured observation with different levels of participation. The following section will explain in detail how I approached these scenarios and information sources, the difficulties faced and the way I tried to tackle them.

### **2.3 Conducting fieldwork**

In this section, I will narrate the fieldwork process. Although explaining the process entails a certain chronological order, much of the thinking and deployment of methods overlapped across time, from December 2009 to February 2011. This being clarified, my aim here is first to explain how I conducted my fieldwork, explaining the obstacles and how I tackled them. Secondly, I will address how I identified my sources of information, the methods for data collection I deployed and how I achieved this in the context of the obstacles flagged up during my fieldwork.

At the beginning, I proposed to carry out my research as a set of case studies from which I would identify further actors from that specific production network. I tried then to locate and negotiate access to at least one independent and one larger company, asking for clearance to interview game developers, access internal information about the company and carry out observation exercises on working practices. During that period, I would negotiate access to other actors working closely with those companies in the process of game production.

Nonetheless, the dynamics of the industry itself posed a series of both circumstantial and cultural obstacles that demanded changes in my approach to the field. First of all, corporate culture in the digital games industry has led to very secretive projects and closed working environments. Industry secrecy is fuelled by the big economic investments in game projects, with companies focusing on protecting their intellectual property and adhering to strict project deadlines. For instance, when I was able to meet some developers from Rockstar North during my time in Edinburgh, they refused to be interviewed – although they were happy to chat

informally - due to the restrictive clauses in their work contract, which prevented them from disclosing any information about work within the studio. These obstacles, added to with my initial language limitations and incipient practical knowledge about the industry, made it impossible to gain access to companies focused on AAA games. Meanwhile, in the case of independent game studios, there were two main obstacles that made it hard to engage with their organisations. Firstly, few formally-constituted indie studios were willing to grant me interviews and casual visits to their workplace or to help me contact other studios, as they preferred to avoid any possible long-term commitment to allowing me to carry out observation exercises in their studios. Not even my offer to work as an intern persuaded them to let me take a closer look at daily life in their workplaces; they claimed that time was too short and their schedules too busy to introduce someone to 'their ways of doing things'. In addition, many other participants turned out to be running their own ventures individually, making the proposal to work closely with them a bit difficult. Still, their informality granted me access to other work [related] practices that mixed sociality with work.

Given these obstacles, I was forced to change my approach, focusing more on interviews with independent developers and relying on a greater volume of written material about gamework in the large-scale sector. I proceeded by mapping out industry relationships at large, using corporate reports and news about the leading companies of the industry as well as press articles and secondary interviews with important industry personalities. However, independent developers were more accessible, willing to give their time for interviews and follow-ups. In addition, as many of them turned out to be experienced developers who had worked previously in both minor and bigger studios, their insights proved important for understanding both sides of the digital games industry. Moreover, following my informants led me to attend a series of self-organised events, conferences and online spaces that constituted important locales where game development and its culture is addressed and deployed. The techniques and settings where they were deployed, as well as their links to my research subject, will be explained in the following lines.

### **2.3.1 Deploying methodological techniques and collecting data**

The variety of information and the channels used by developers to express their ideas openly challenged the approach to my research. This challenge became even more problematic due to the restricted access to workplaces and interviewees. In addition, developers' heavy reliance on information technologies for professional and social interaction became an important dimension to consider. For this reason, I relied on several tools and procedures to map out developers' work practices, industry knowledge and perceptions about independent development and major industries. In other words, I followed a method matrix that would help me to capture the professional networked life world of independent developers as cultural workers (Ursell, 2000; McRobbie, 2002a; Neff et al., 2005). Independent developers have their own websites and blogs where their knowledge is published in the form of blog entries, photographs and videos; these are exchanged and challenged, and also provide a portal to express and discuss ideas about autonomy and the games industry. In addition to these primary sources, as an industry heavily based on knowledge and networking practices, the digital games industry features a thriving formal and informal journalistic culture, composed of both heavyweight digital news portals and professional (or more informal) weblogs. These secondary sources provide not only a sense of the general direction of the larger digital games industry, but also interviews with developers and secondary accounts of their work, games and relations with other actors of the industry. This led me to use both primary and secondary sources of information (from developers and about developers) via a series of methods, the rationale and deployment of which I will explain below.

In sum, a series of techniques at individual and group level were used to ensure a multidimensional approach to [independent] game production: namely, interviews and documentary reviews from several online settings. Focusing on selected independent developers, I collected their personal accounts via semi-structured interviews and also through a documentary review of their corporate/personal weblogs, company websites and specialised trade press interviews. In the context of independent game production, I relied on both documentary reviews from a selection of independent developers' blogs and also interviews and articles about the sector by

the specialised industry press. Synergy between these sources of documentary analysis proved crucial for keeping track of the latest developments and changing trends of a fast-moving and flexible industry. In addition, unstructured observation became an important tool for expanding on this area. In focusing on the larger industry, I relied on interviews with indie developers who had previous experience in large companies. Lastly, I carried out a documentary review of annual corporate reports, interviews and articles from the digital games trade press, plus an unstructured observation exercise in conferences and local indie events.<sup>30</sup>

### **2.3.1.1 Semi-structured interviews**

My decision to carry out semi-structured interviews was informed by a set of well-established reasons based on the contexts in which my research fits. The qualitative research interview it is understood to work best in research focusing on the meaning of particular phenomena to the participants and the perceptions of processes within a social unit (Kvale & Brinkmann, 2009) – this may include a workgroup, department or a whole organisation. This kind of research also works best when exploring individual historical accounts or experiences of phenomena that have driven social change (Cassel & Simon, 1994). As part of the affordances of this technique, I managed to focus on a variety of topics related to the use of technology at work, organisation of production, work practices, professional identity, developer-consumer relationships and accounts of the industry. This flexibility also helped me address these subjects without constraining developers' willingness and capability to answer as openly and personally as possible. In addition, it gave me the flexibility to explore ideas that arose during the interview or to stick to the questions where possible (Kvale & Brinkmann 2009: 130).

My interviews took place between December 2009 and February 2011. Here, the challenge was to find opportunities to interview independent developers with busy schedules, and many sessions were arranged up to two months in advance as a result. Nevertheless, this provided an opportunity to plan the interviews in a more detailed fashion, triangulating the other methods to gather as much information from the

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<sup>30</sup> A list of these events can be found in table 2.4

interviewees via weblogs and trade journal articles and interviews as possible. This gave me an important edge when it came to understanding, comparing and discussing developers' accounts of their work during the sessions.

The interview guide was designed to address the following points: 1. the interviewees and their companies, 2. interviewees' accounts of their work/play practices and experiences, 3. participation and roles in the design, production, marketing and distribution process, 4. interviewees' perspectives of the digital games industry, 5. participants' perception of their work as independents.<sup>31</sup> All of these themes were derived from the five features proposed by the Production of Culture Perspective and my concerns about the conditions of work in cultural industries. Although the interview guidelines were well-structured and provided an effective direction to the interviews, they also provided open-ended questions to give interviewees the freedom to tailor their own answers.

The open, flexible and iterative format I sought from the interviews enabled an interesting interaction with informants. During the discussions, developers were encouraged to explain their work-in-progress where possible, technical issues they had been experiencing and how those issues were tackled. At this point, some of them were even keen to show me, on their laptops, the kind of obstacles they had to overcome. This allowed me as a non-technical expert to understand the characteristics of their work better, the way that they share it with others and the language used between them. This interaction became much smoother as the research progressed; I also gained a familiarity with the knowledge and common practices of the industry.

The interviews took place either at work or places akin to work for developers; I discovered that many indie developers use particular public spaces like restaurants and cafes as additional workplaces. During the interviews, I asked about their experiences and work methods, turning afterwards to questions that encouraged

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<sup>31</sup> The only exception was Jamie Sefton. He is the head of Game Republic, a networking organisation under the flag of Screen Yorkshire. He coordinates a series of business, knowledge exchange and social activities and events for their members. I wanted to include him giving accounts of his work in the industry, as well as his general perception of the industry and the position of the companies he helps and works for within it.

developers to confront common understandings of the games industry and the production process. This allowed me to move on from work and life experiences related to their assessments of, or position within, the industry, capturing the expert context that informs both subjectivity and action. For instance, after I had expressed my concerns, a developer told me how his perception of the major industry changed after meeting several developers whose work in major companies was both exciting and fulfilling, leading him to reflect on categories like good indie and bad mainstream, and how the precarious balance between income, budget and work can degenerate into the exploitative conditions often seen within the industry.

Furthermore, after the end of the interviews, I asked participants to iterate on our conversation via email, in case I needed to corroborate, expand on or fill in any gaps in information noticed after a first analysis of the interview. Developers agreed to continue the conversation, further strengthening the material provided during the face-to-face sessions.

Finally, although I suggested carrying out the interview face-to-face, some developers declined due to their busy schedules. Nevertheless, they suggested alternative forms of interview, via asynchronous methods like email or using Skype video conferencing. Both variants were suitable, since both the participants and I used these functionalities on a daily basis. Email-based interviews particularly suited participants due to their flexibility, allowing interviewees to answer when they considered it convenient, and also helping me both to avoid investing time on travelling (Bawton & Cowton, 2002) and to involve contacts from outside the UK. Video-conferenced interviews were also effective as the tools ensured good communication, flow and spontaneity during the session (Chen & Hinton 1999; Mann & Steward, 2000). Nonetheless, I had to reframe the questions of my interview guide for the email interviews, so they could be correctly understood by participants.<sup>32</sup> In addition, I left issues related to procedures and reply times open to negotiation with developers. All developers – with one exception who preferred a more fluid correspondence via email - agreed straightforwardly to complete the main

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<sup>32</sup> Prior to sending the interview guide, we agreed that it would be completed at once instead of doing it by instalments. Although this might have caused motivational problems and no answers given the length of the guide, developers did feel comfortable with it.

guide within two weeks. Thus, we settled on a deadline according to participants' circumstances, and reminders were sent on three occasions. Fortunately, from all the interviewees who agreed to an email interview, only one did not return the interview guide completed.

### **2.3.1.2 Sampling, Access and Recruiting Research Participants**

The process of sampling followed a twofold strategy that arose according to the changing context of my fieldwork. Given the problems with accessing whole companies, I decided to follow purposive sampling strategies for game developers working mainly in the UK (Marshall, 1996; Onwuegbuzie & Collins, 2007). In order to guarantee the most faithful picture of game production and gamework in the industry, I used, as a selection criteria, the occupational backgrounds and (if applicable) ranks of developers within studios. I then proceeded by listing, as far as possible, all the studios considered - by both their developers and industry third parties - independent or 'indie' in Scotland and then in England.

Complementary to this purposive sampling, I opted to expand the list of possible interviewees by following a chain referral or 'snowball' approach (Becker, 1970; Biernacki & Dan Waldorf, 1981). This helped me to tackle the methodological and practical issues of my research. First, it allowed me to track more efficiently the professional affiliations of game developers, expanding the networks of production and increasing the probabilities of finding cultural affinities within them. For instance, after our interview, Chris Chapman became the gatekeeper that eased my access to Simon Barrat and Andrew Crashaw; their studios had been involved in common projects previously and they kept up a strong working friendship. Secondly, this approach improved my chances of finding more research participants and overcoming the frequent refusals, since interviewees' mediation gave more weight to my requests. As a result, 24 developers agreed to participate, contributing with a total of 25 interviews. A list of respondents who accepted the invitation to participate can be seen in table 2.2.

More specifically, most of the interviewees are located in the UK, concentrated in Cambridge, Edinburgh and region of Yorkshire. Their ages are quite varied, with one

interviewee with an age between 20 and 24, ten interviewees ranging between 25 and 29 years old, five interviewees between 30 and 34, five interviewees between 35 and 39, two interviewees between 40 and 44, and one interviewee over 45. Although some of the studios employed women, their functions were more related to support in testing and art related aspects of the game.<sup>33</sup> Unfortunately, I was not granted access to interview them for this study, which had to conform to only one woman in the sample. This does not mean that female developers are not in the independent sector. Nonetheless, at the time the fieldwork took place I came across mostly with university students at game jams, whose participation at the time had more to do with their university curriculum rather than developing their own personal or commercial projects.

**Table 2.2**  
**List of Potential Participants**

Name	Company	Position	Location	Result
Philip Touchais		Developer	Edinburgh	1 pilot interview
Athanasios Teocharidis	Red Dot Games	Owner, lead programmer	Edinburgh	2 interviews (1 pilot interview)
Chris Chapman	Black Company Studios	Co-owner, programmer	Edinburgh	1 interview
Andrew Crashaw	Tuna Technologies	Creative director	Sheffield	1 interview
Simon Barrat	Four Door Lemon	Owner, lead programmer	Bradford	1 interview
Philip Jones	Four Door Lemon	Lead programmer	Bradford	1 interview
Charlie Knight	Charlie Games	Owner	Norwich	1 email interview
Robert Fearon	Bagful of Wrong	Owner	Liverpool	1 interview
Ben Bradley	Ben Games	Owner	Sheffield	1 interview
Charles Cecil	Revolution Software	Owner, lead director and game designer	York	1 interview
Jamie Sefton	Game Republic	Director	Leeds	1 interview
Robin Lacey	Beatnik Games	CEO, co-owner	London	1 interview
Kaworu Nagisa	Sadmoons	Owner	Edinburgh	1 interview
Dave Evans*	Hybrid Mind	Owner	New Hampshire/ Cambridge*	1 email interview
Sophie Houlden	Sophie Houlden Games	Owner	Manchester/ Cambridge	1 email interview
Hayden Scot-Baron	StarFruit	Owner	Cambridge	1 interview
Terry Cavanagh	DistractionWare	Owner	Cambridge	1 interview

<sup>33</sup> At the moment of clearing the ages of interviewees, four of them showed some concern about it. We agreed I would locate their ages between ranges to avoid any confidentiality issues.

\* Dave Evans and Jonas Kyratzes are indie developers based outside the UK. The reason I included them as part of the research was their strong connection (via collaboration projects) and online community relationship with developers at Cambridge



Stephen Labelle	Increpare	Owner	Dundee/ Cambridge	1 interview
Chris Delay	Introversion	Creative director, programmer	Cambridge	1 interview
Trevor Fountain	Blazing Griffin	Co-owner, lead programmer & design	Edinburgh	1 interview
Stephen Hewitt	Blazing Griffin	Lead game designer	Edinburgh	1 interview
Richard Brooksby	Otterly Games	CEO, co-owner	Cambridge	1 interview
Jonas Kyratzes		Owner	Frankfurt/ Cambridge	
Lee Hickey	Games Faction	Co-owner	Sheffield	1 email interview

I started contacting interviewees first through email, explaining my research and asking for their participation. As was likely to happen, especially in the case of formal studios, I had to re-contact developers after a week of no response. Whenever participation was secured, I proceeded by asking the interviewees for potential participants both within their studios and their production network, keeping in mind my current occupational preferences. Within the studios that agreed to participate, it was hard to get access to several employees at the same time. I was, most of the time, able to interview the studios' CEOs and leading programmers –chosen by the CEOs - whose backgrounds were in computer sciences. This explains why programmers and high-ranking developers account for a larger proportion than developers with art backgrounds and lower ranks. This was partially mitigated by the fact that most of the independent studios are formed by less than four developers, and in many cases just one. In addition, the sample contains a strong gender bias, with only one female independent developer in the list. Although I tried to interview more female informants, I did not manage to find them during the course of my fieldwork, suggesting that the independent game sector is male-dominated. Although I attempted to triangulate with other methods in order to overcome the aforementioned weaknesses, such limitations should be counted as important biases in my data collection process.

### 2.3.1.3 Documentary research of Weblog Analysis

As representatives of a technologically-embedded generation, digital game developers use various media to 'talk' about their world views, life experiences and

discuss their work with fans, friends and colleagues. In addition, their interest in game development often results in accounts, opinions and analyses of current trends and events in the industry. Most take the form of weblogs, online spaces where developers can share personal accounts of their daily life and interests. Known as ‘blogs’, all of my participants maintained a personal or/and company one (most just had one blog for both personal and public matters). Most importantly, many independent developers were connected to their peers’ blogs, creating blog networks where they shared their perspectives about the industry and gamework. The easy and unobtrusive access, as well as the wealth of information contained in these blogs (Hookway, 2008; Snee, 2008) – personal accounts of the industry, opinions of the meaning of their work and profession, technical knowledge, business and industry information, industry-related experiences like conferences, work/free time spaces - made this source of information vital for understanding developers’ professional culture, expertise and priorities, as well as their reading of the industry.

From the above, I could deduce my criteria for selecting weblogs. First, it was a complementary and legitimate source of information about my participants, justifying a convenience sampling (Li & Walejko, 2008: 283). Secondly, as the ‘blogosphere’ has become a channel through which culture is presented, developers’ affiliations to other blogs were important for understanding the *ethos* of major and independent game development. Given these conditions, I also applied a snowball-like or *network* approach to sampling, selecting blogs from recommendations and references given by my interviewees (Li & Walejko, 2008: 288).

Thus, before and after the interviews, I continued to check developers’ business or ‘corporate’ blogs. Once selected, I counted and tagged all the entries by subject, and collected relevant information to feed into the interviews. In addition, I chose the most representative of developers’ entries for further content analysis using NVIVO 8. The process carried on by tracking developers’ affiliations and contributions to other developers’ blogs. This led me to ‘friend blogs’, for instance, one was an interesting collective initiative by game and app developers using iPhone or iPad platforms. The ‘idevblogaday’ is a blog aggregator that extracts and organises entries from other blogs into one sole ‘metablog’ constituted by contributions from several

developers. Moreover, this blog aggregator served as inspiration for the ‘altdevblogaday’, a collective blog for independent developers who want to share their experience of the industry. The nature of the Internet became obvious here, as contributions came from different locations throughout the world. Still, I found this network initiative and other blogs to be crucial sources of information, as many of my participants were active readers and contributors. Although most of the entries were not written by the research participants, I used them in this research, as they constituted part of the collective digital space of my participants. In other words, blogs not only connected developers and contributed to their networking initiatives, but had also become a legitimate space for social interaction. I counted and classified blog entries, selected the richest entries in content and repeated the same procedure with the personal blogs of the contributors. Finally, I subscribed to all the selected blogs via RSS feeds, receiving constant updates throughout my research. In total, 30 blogs – two of them collective blogs - were taken into account for this research. The list of blogs is as follows:

**Table 2.3**  
**List of blogs sampled**

Developer	Company	URL
Studio	Introversion	<a href="http://www.introversion.co.uk/blog/index.php">http://www.introversion.co.uk/blog/index.php</a>
Terry Cavanagh	Distractionware	<a href="http://distractionware.com/blog/">http://distractionware.com/blog/</a>
Studio	Four Door Lemon	<a href="http://www.fourdoorlemon.com/">http://www.fourdoorlemon.com/</a>
Studio	Tuna Technologies	<a href="http://www.tunahq.com/">http://www.tunahq.com/</a>
Sophie Houlden	Sophie Houlden Games	<a href="http://www.sophiehoulden.com/">http://www.sophiehoulden.com/</a>
Robert Fearon	Bagful of Wrong	<a href="http://www.merseyremakes.co.uk/gibber/2011/07/i-am-a-moron/">http://www.merseyremakes.co.uk/gibber/2011/07/i-am-a-moron/</a>
Jonas Kyratzes	Jonas Kyratzes	<a href="http://www.jonas-kyratzes.net/">http://www.jonas-kyratzes.net/</a>
Studio	Otterly Games	<a href="http://otterly.com/">http://otterly.com/</a>
Ben Bradley	Ben Bradley Games	<a href="http://www.benbradley.com/blog/?cat=8">http://www.benbradley.com/blog/?cat=8</a>
Hayden Scott-Baron	Starfruit Games	<a href="http://starfruitgames.com/blog/">http://starfruitgames.com/blog/</a>
Dave Evans	Hybrid Mind	<a href="http://hybridmind.com/">http://hybridmind.com/</a>
Edmund McMillen	Team Meat	<a href="http://edmundm.com/">http://edmundm.com/</a>
Markus Persson	Mojang	<a href="http://notch.tumblr.com/">http://notch.tumblr.com/</a>
Alastair Aitcheson	Alastair Aitcheson Games	<a href="http://aitchesongames.blogspot.co.uk/">http://aitchesongames.blogspot.co.uk/</a>
Studio	Tale of Tales	<a href="http://tale-of-tales.com/blog/">http://tale-of-tales.com/blog/</a>
Studio	Rizer Games	<a href="http://rizergames.com/blog/">http://rizergames.com/blog/</a>
Ray Merkler	Hindraces to Progress	<a href="http://www.hindrances.com/what-is-htp/">http://www.hindrances.com/what-is-htp/</a>
Cliff Harris	Positech	<a href="http://positech.co.uk/cliffsblog/">http://positech.co.uk/cliffsblog/</a>
Markus Nigrin	The Pocket Cyclone	<a href="http://pocketcyclone.com/">http://pocketcyclone.com/</a>

Mattias Gustavsson		<a href="http://mattiasgustavsson.com/Blog/">http://mattiasgustavsson.com/Blog/</a>
Ron Gilbert	HotHeadGames	<a href="http://grumpygamer.com/main">http://grumpygamer.com/main</a>
Owen Goss	Streaming Colour	<a href="http://www.streamingcolour.com/blog/">http://www.streamingcolour.com/blog/</a>
Jeff Tunel	Spotkin	<a href="http://makeitbigingames.com/2007/09/how-to-pitch-your-game/">http://makeitbigingames.com/2007/09/how-to-pitch-your-game/</a>
Jeff Vogel	Spider Web Software	<a href="http://jeff-vogel.blogspot.co.uk/">http://jeff-vogel.blogspot.co.uk/</a>
Studio	Idevblogaday <sup>34</sup>	<a href="http://idevblogaday.com/">http://idevblogaday.com/</a>
Studio	#Altdevblogaday	<a href="http://www.altdevblogaday.com/">http://www.altdevblogaday.com/</a>
Ster Hoarth	Chick'n'Stu	<a href="http://chicknstu.wordpress.com/">http://chicknstu.wordpress.com/</a>
Studio	Wolfire Games	<a href="http://www.wolfire.com/">http://www.wolfire.com/</a>
Chris Chapman	Black Company Studios	<a href="http://blackcompanystudios.co.uk/blog/">http://blackcompanystudios.co.uk/blog/</a>
Juuso Hietalahti	Polycount Productions	<a href="http://www.gameproducer.net/">http://www.gameproducer.net/</a>

It is important to note that, according to the concerns addressed by Snee (2008) about blog research, I decided to attribute authorship to all blog entries, given the format and quantity of well-elaborated written reflections from developers about the industry. It is also important to state that I did not ask permission to use these quotations, given the 'public' nature of the blogs and their intention of sharing knowledge and offering advice to others as well as publicising their work.

In sum, weblogs perfectly fitted my methodological strategy, adding new and complementary information about participants' worldviews, work practices and technical knowledge. In addition, this information is presented in a rich variety of audio-visual, textual and graphic formats. As a technique, blog analysis entered into a synergic relationship with the other methods. Blogs and interviews complemented each other, offering a richer profile from participants. At the same time, looking at a sample of developers' blogosphere allowed me to gain more insights about the 'general feeling' of the group. Weblogs were also helpful in gathering other sorts of information that will be considered in the following section.

#### **2.3.1.4 Documentary research of trade press information and corporate/institutional reports**

In addition to using weblogs to provide digital extensions of developers' lives, I used a variety of secondary online-public-documental sources during my research; the rich

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<sup>34</sup> The idevblogaday shows some format differences to the altdevblogaday. While the former constitutes more of a 'ring' of blogs aggregated by a single website, the latter is a blog in itself where developers write directly about their experiences. As a consequence, the idevblogaday provided a link to its collaborators' blogs, in contrast to the altdevblogaday, which was a source in itself.

amount of information contained within them (Bailey, 1994) allowed me to harness the fluidity allowed by multi-sited ethnography. The collection of information from these sources corresponded to the ease and inexpensiveness of the process (Fetterman, 1998: 57). More importantly, the information aided me in comparing, contextualising and validating the information gathered via other techniques (Steward & Kamins, 1993: 5). In this sense, it enabled me to observe the economic, organisational and commercial features and strategies of the different corporate and independent actors involved in the process of production, in addition to common themes and concerns about the industry and its outputs.

During the initial stages of my fieldwork, it became clear that I needed to gather information about game studios, publishers and hardware manufacturers. Formal information showing the structure of the companies, their mission, services and commercial strategies was important for ascertaining the purposes of their organisations and how they presented themselves to the outside world (Fetterman, 1998: 58). This information could be found on the companies' websites and, in the case of the larger companies, their public annual reports. The composition of the companies, participation in the market, decisions taken during the year about their outcomes and strategies for the short and medium term offered an ideological framework for comprehending key information found in press news, editorials and interviews. Here, I proceeded by mapping participants' websites (including blogs), selecting the leading companies in the industry (Microsoft, Nintendo, Sony, EA, Activision-Blizzard and Take-Two Interactive) and reviewing their corporate websites and annual reports. Unfortunately, the quality of this information varied according to the companies, as some indie developers did not offer much systematic and formal information on their websites. It was impossible, for instance, to gather economic data from many of them, and this became a drawback in cases when they declined to share such information.

Moreover, rich sources of information were provided not only by companies' corporate websites, but also through a multiplicity of actors, such as the trade industry press (i.e. Develop Online, Gamesindustry.biz, Gamasutra, IGN, GameSpot, etc.) and trade organisations (i.e. TIGA, ESA, IGDA). Here, I set out to identify the

sources and type of information contained, as well as determining how to search for it. Due to my interest in the way the games industry behaves, I had been an assiduous reader of this sort of media for some time before I decided to carry out this research. I proceeded to identify useful information by my own knowledge in the field and word of mouth from trade news websites, as well as specialised magazines and popular press-oriented weblogs.<sup>35</sup> The criteria for selecting the press posts varied according to the quality of information within the posts and from their titles. Some of those press posts were formal communications from the leading companies in the global games industry, the archives of which I reviewed systematically from 2005 onwards (much of the research on digital games was done before that point). Search engines were used to find articles, combining a series of keywords informed by the research subject and themes arising from my fieldwork. I thus proceeded by looking at trade press information, from which I collected news regarding the production politics of the industry at micro, meso and macro levels, information about companies and developers and the process of game development. Many blogs and press news websites gave direct links to related articles and previous events that were relevant for tracing important stories. In addition, I reviewed specialised press interviews addressing the aforementioned themes, enabling me to keep track of both my interviewees' performance in the industry and perspectives from other game industry representatives. This synergy between weblogs and press articles provided sufficient information about the new trends and events that have configured the large and small-scale sectors as this research has progressed - for instance, consolidation of corporate media companies (e.g. Time Warner) within the industry, concentration and synergies of intellectual property between digital games and music production, and the emergence and consolidation of initiatives to fund and market indie games such as the Indie Humble Bundle or the new 'indie publishers', have all constituted significant processes set in action during the course of this research.

In order to effectively process this information, I needed to tackle some important issues commonly seen in documentary research (Mogalakwe, 2008: 51). First, I made sure to cross-check information – accounts of events, data, and references -

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<sup>35</sup> This second way of using weblogs is becoming widely accepted, given its credited role as open-access, participatory journalism (MacDougal, 2005).

from press news and investigative journalism with other websites, giving authenticity and representativeness to the sources and the information selected. Furthermore, when it came to trade press interviews in particular, I adopted an interpretative approach to the information: avoiding taking assertions at face value, taking into account the contexts within which the interviews were produced (MacDonald, 2001), working with those whose Q&A provided quality and depth, and staying aware of the marketing purposes of many of them. Finally, I tried not to take judgemental comments and accounts of events for granted. Instead, I addressed them as contesting interpretations – some of them addressing industry trends - that formed an attempt to legitimate one version over the other. This involves sorting out the ‘information credibility’ dilemma that often haunts more naturalistic works on documentary research.<sup>36</sup>

### **2.3.1.5 Unstructured participant observation**

As part of the interview process, I found myself visiting not only the workplaces, but a variety of natural scenarios where developers tended to meet and work. Venues like conferences and ‘indie jams’ or ‘indie meet-ups’ became a common space for me to meet with my research participants. Given the opportunity, I decided to keep a diary with notes on the very different topics of conversation, afterthoughts, and observed interactions. In addition, I decided to record conference tracks focused on organisational, cultural and social themes around game production.<sup>37</sup> This decision made sense to me, since knowledge-based industries tend to generate spaces for (in)formally sharing and generating cutting-edge knowledge about technical, organisational, design and business subjects, thus setting up industry trends.

Thus, participant observation became an important ethnographic technique for collecting and producing information through my informal interactions with developers in different venues. I dealt with participants’ attributes and their relations, the setting, the purpose of their interaction and the behaviours experienced in the process (Selltiz et al., 1964). This strategy enabled me to see how developers

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<sup>36</sup> See Mogalakwe, 2008; Scott, 1990.

<sup>37</sup> In this regard, the increasing online availability of conference talks and programmes - such as the Independent Games Summit at the Game Developers’ Conference - provided relevant information about the state of affairs in the independent sector and the forces behind its structuration.

interacted with their peers, providing more depth to the semi-structured interviews and granting new perspectives for the analysis of developers' identity and work. In addition, I was able to collect information about organisational and business trends emerging in the fields of both corporate and independent production. It was also important to observe developers in a social dimension other than work, and meet-ups, game jams and conferences became an adequate space for grasping this atmosphere. The venues where I carried out these observations can be seen in the following table.

**Table 2.4**  
**Venues for unstructured observation**

Event	Date	Location	Time
State of Independence Conference	08/04/2010	York	10 hours
Develop Conference	13-15/07/2010	Brighton	3 days
World of Love 2 Conference	28/01/2010	London	8 hours
Scottish Game Jam 2010	30/01/2010		6 hours
Scottish Game Jam 2011	28/01/2011		10 hours
Indie Meet-up	24/08/2010	Cambridge	6 hours
Indie Meet-up	31/08/2010	Cambridge	6 hours
Indie Meet-up	07/08/2010	Cambridge	6 hours
Ludum Dare Game Jam	18/12/2010	Cambridge	6 hours

Given my 'new face' in those spaces, as well as the fact that my knowledge of game development was not enough to pass as a 'native', the most reasonable decision was to participate overtly as a researcher 'interested in the field'. This decision did not result in negative consequences most of the time, as the academic background and links of many participants made them more sensitive towards my work, enabling me to interact and ask questions more freely during my fieldwork. Independent local events have a tendency to be 'academy open'; many of the participants are still university students and there is a strong focus on learning in these social circles. Conversely, industry conferences proved a more difficult setting in which to interact as a 'non-native', given the very strong tendency towards networking and business-seeking strategies deployed in this context. Here, I avoided talking about my research unless asked. When I was asked, I tried to explain it in more pragmatic terms,



drawing on subjects addressed during keynotes and talks focused on organisational cultures and commercial strategies. For instance, there were interesting moments of rapport with developers after I connected my research with keynotes on Bioware Studios' cultures or the tracks on marketing at Develop Brighton 2010, leading them to talk about the values and general culture of their own studios. In sum, finding ways to present myself as a researcher while still participating, interacting and 'blending in' with developers helped to generate an ethnographic 'dialogue' between others and myself.

### *A variation of Participant Observation: Playing games?*

As technology, organisation and identity lead to a special independent product, playing designers' games can become an important research strategy in the field and a tool to enhance the understanding between meaning, production and game content. How can we understand the specificity of independent games if we do not engage with the product and talk with its producers? Game scholars and social scientists (Kerr, 2002; Konzack, 2002; Aarseth, 2003) have stated the importance of engaging with digital games as they provide raw material for the interpretation and understanding of cognitive and aesthetic forms.

In this regard, framing myself as a consumer of digital games gave me three important advantages. First of all, it was a key moment prior to interviews or during observations, building both a common understanding and proximity with developers, and helped me to find empirical ways to frame my questions and concerns during conversations. Secondly, it allowed me to experience developers' 'minds' through their game design views and content. Thirdly, by acquiring games, I became part of mailing lists, thus gaining first-hand observations of developers' approach to their players. Unfortunately, it was impossible to utilise this approach with all my interviewees, as the specific platforms used by some developers impeded me from playing them. Still, in retrospective, I feel the advantages of understanding developers' approach to their games and their customers are undeniable.

## **2.4 Data management and analysis through NViVO 8**

The data analysis process started from the first interviews onward, although it was intensified once I finished all of them and collected most of the documentary sources. All the non-textual data was transcribed so it could be easily manipulated through the NViVO software package, except for some graphic and audio-visual material collected throughout the fieldwork. This data was analysed using NViVO's special tools for adding codes and comments on time segments of videos and directly coding and commenting on photographs. NViVO proved very useful and fast, given its facility to code and sort data immediately, thus skipping the procedure of indexing data. It also allows the analyst to view everything easily when editing, visualise the hierarchy of codes created from the data, search for pieces of text and keep a full registry of the codes and data without compromising the integrity of the textual source. Furthermore, NViVO's flexibility enables more creative ways to code and proceed, allowing other forms of analysis beyond its intended use as a software package for Grounded Theory Analysis.

The data analysis strategy was carried out by following the principles of Ritchie & Lewis (2009) and then making some procedural variations according to my theoretical perspective, in addition to personal decisions that helped the process of making inferences and associations to flow smoother.

Once all my data was transcribed and/or imported into NViVO, I proceeded to organise it so as to facilitate both analytic and comprehensive movements within the data. First, I decided to treat the different sources as distinct, so I could see the kind of information and codes deriving from each of them. Additionally, I tried to keep a consolidated database where I could access the information from and about every informant easily, so I could see and compare the consolidated categories within the informants' context.

Afterwards, I proceeded to create a first analytical hierarchy. Five main themes were created following the PoC (Technology, Industry Structure, Organisational Structure, Occupational Careers, Market Structure), establishing a basic hierarchy from which I could start managing my data. From there, I went through half of my interviews,

coding and sorting the information within the main themes as possible, trying to get a first conceptual framework. In addition, I used a separate theme for codes that I could not locate either because of the data's level of abstraction or because it did not fit with my framework the first time round.

The process at the end became pretty much standard, coding, sorting and sifting all the information. Both during and after the process I kept checking the categories and the tagged content, trying to find ways to refine them, change them and check the validity of their dimensions – if they had any significant ones. Likewise, after the main body of data was coded, I went through all the information, establishing links between categories through NViVO memos. Then I began triangulating data between the different sources to see how the information related to each other, revealing interesting relationships of subordination and complicity among certain codes. At the end, merging the different databases was quite smooth, with codes overlapping, accommodating or comprising others, with a few loose categories that were discarded. Once I managed to create an acceptable map of all the categories, their dimensions and relationships, I played around with them, trying to rearrange or refine them even further.

In total, 163 Tree Codes were created, meaning main themes, categories, subcategories and links between them. The resultant map rendered the basic structure of the thesis and the themes to address in my final report. Nonetheless, before I started writing, I sketched basic descriptions of the main themes derived from my conceptual framework, later rehearsing possible explanations when needed. Here, it was a great help to visualise all the sources - and their codes - by informant, in order to check their coherence. Basically, I kept cross-checking the codes from one informant with the codes or dimensions from others. Besides imagining the differences in the categories between informants and how analytically meaningful they really were, this helped me to test my descriptions and explanations against informants' experience.

These were the procedures I used during my analysis. It is important to mention the constant coming and going between categories' descriptions, their comprehension

and their sources. I feel that this process of making sense of data, of thinking-noticing-thinking-changing, gave satisfactory results in my research.

## **2.5 Ethical considerations**

My research fully respected the ethical codes of the School of Social and Political Sciences at the University of Edinburgh and the British Sociological Association. I offered participants the use of informed consent and confidentiality as a way to guarantee their professional safety and minimise any disturbance that their statements might render within their business environment. Nonetheless, all the participants keenly offered full disclosure of their names and statements through verbal consent. In addition, I agreed to provide summaries of those chapters or papers where their names have been mentioned, so they could see how the information was handled; this proved a good strategy for avoiding misinterpretations and strengthening the relationship between researcher and participants.

Furthermore, as I explained above, I gave attribution to weblogs used throughout this research. Following the ethical issues addressed by the Association for Internet Researchers (AOIR, 2012), the weblogs used are publicly available, designed to inform both the occupational community and customers about developers' work. Many of them have a respected position within the industry, and their blogs are part of open initiatives to share their knowledge and experiences of gamework and the industry.

Information from participant observation techniques was handled in a slightly different fashion. Given the expressed consent by my interview participants, information gathered from them during the observation process can be identified. However, accounts from other developers gleaned during conferences and other local events have been protected, given my fuzzy position as both attendant and researcher during my conversations and encounters with them.

## Chapter 3

### **Digital Play industrialised: a brief history of the digital games industry**

This chapter aims to situate the digital games industry within historical context. It chronologically follows a multi-threaded story of complex local and global processes and shifts in the shape and control of the means of digital game production, promotion and distribution. In addition, this account of the industry serves the purpose of showing how digital game production and its outputs have become ever more specialised, rationalised and diverse as markets have consolidated and high-tech developments have been made over time. These processes have unfolded as part of the uneven commercial battle for profits by corporate actors and the diverse productive practices spanning the pleasures of digital work/play. This historical background will give us more material with which to comprehend a later analysis of the large-scale sector of the industry. More importantly, it shows a series of cultural and industry trends in the computer and console markets, which have had an impact on the way that independent game production is framed and carried out.

The information and data underpinning this chapter come from varied sources. Specifically, the historical works of Herz (1997), Sheff (1999), Kent (2001) and Donovan (2010) helped me to build a wide picture of the industry's historical moments, some of them providing highly detailed – although excessively testimonial - information about certain events. In addition, other academic works have proved important, such as Haddon's (1988a, 1988b, 1993) early accounts of the computer game industry and Campbell-Kelly's (2003) voyage across the software industry. Other sources have been collected from published interviews, first-hand accounts and analyses by trade press journalists such as IGN, Gamasutra and GameSpot. In addition, VGchartz.com became an invaluable online source for collecting economic data on the digital games industry, given their detailed information about game hardware and software sales across the years.

The sources upon which I have relied present an important epistemological limitation. Journalistic historical accounts have focused very much on the commercial or aesthetic narratives of key actors and sometimes on the public ‘facade’ of the industry, often providing commercial and technologically deterministic accounts of the industry as well as highly detailed information and thick descriptions. Unfortunately these have not left much room for analysis. Those descriptive narratives are broadly present here, contributing to the linear way in which this text has been written. Nonetheless, when possible, I will present information from other sectors of the industry, attempting to give a glimpse of its complexity and many different origins, directions and fluctuations.

The need to comprehend the current configuration of the games industry has led me to focus more on the post-crash years during the second half of the 1980s. In a first section I will swiftly review the structure and directions of the industry that led to the market crash in 1983. Here, I show how the crisis occurred due to a series of issues mainly related to the unregulated commercial exploitation of digital games as cultural commodities, and at the same time show how games became one of the iconic cultural manifestations of the period in certain western societies. I will also address the origins of the PC games industry, as it became an influential node in shaping the technical, aesthetic and cultural aspects of digital game production. A second section will emphasise the post-crash years of the industry and how changes in the market regulations by Nintendo during the mid-1980s transformed the company into a global brand. During those years, the growing complexity of digital games due to new creative horizons and better software led to the first of many levels of professional specialisation of the industry, due in part to the convergence of music, motion picture and game design. The last two sections will provide greater detail of the commercial dynamics of the last 20 years, and how Microsoft, Sony and Nintendo managed to establish the current trends of the industry. Specifically, I will address the intensification of corporate investments, the expansion of market operations worldwide, and the proliferation of Internet and mobile platforms that have harnessed the emergent digital distribution channels. Through this process, it will be shown that the global games industry has succeeded, via the development of high graphic quality games and a series of well-established genres, in appealing to

many different mass markets and becoming part of the daily living-room activities of people around the world.

### **3.1 The foundations of the modern industry I: The console industry before the crisis of 1983**

If we were to highlight one thing about the decade that witnessed the emergence of the digital games industry, it would be its economically uncoordinated and technologically volatile aspects. It was not until the introduction of games powered by microprocessors in 1975 that the aesthetic and commercial potential of digital games became possible and the foundations of the modern industry were established. Since then, the digital games industry has undergone a series of cultural, economic, organisational and technological transformations, the elements of which allow us to comprehend the structure, politics and cultures at stake within it.

The early years of the industry were mostly shaped by the leading position of Atari as a platform manufacturer, publisher, and in-house developer of games for console and coin-op markets. Despite competition from Coleco, Fairchild, Magnavox, Mattel and RCA, Atari had managed to attain more than 75% of the market share by 1981, accounting for two-thirds of Warner's profits that year (Sutton, Eisenhardt & Jucker, 1986).

Atari's predominant position in the market was achieved via a series of important tenets. Due to the early success of *PONG!* (1972), *Space Race* (1973), *Break Out* (1976) and other titles, Atari had built a strong reputation as the industry founder and leader. The business skills of its president Nolan Bushnell, a tendency towards the delivery of quality game experiences and the egalitarian and flexible management characteristics of the company are considered some of the successful elements behind the brand. Following its acquisition and financial back-up by Warner Communications, Atari would lead the technological change by releasing the VCS 2600 in 1977, as part of the first generation of consoles featuring microprocessors and code-programmed games.

Along with the first generation of modern consoles, the early form of the 'razor and blade' business model was introduced. Atari's strategy was to sell the consoles at a

loss, making their profits out of game cartridges instead; these were sold at \$30 while costing only \$10 to manufacture.<sup>38</sup> This strategy, combined with the licensing and porting of successful titles such as *Space Invaders* (1978) from arcades to the VCS, boosted Atari's revenues from both game and console sales (Donovan, 2010; Montfort & Bogost, 2009). By 1980, Atari had become the most profitable division of Warner Communications, with a gross income of US \$415 million dollars (Wardrip-Fruin & Montfort, 2003).

Led by the corporate weight of Atari, between 1979 and 1981 the US home console market experienced a leap from three to eight million, doubling to 16 million in 1982. During that year, game sales accounted for \$1.5 billion in the US, and reached \$3.8 billion worldwide, Japan being the second biggest consumer (Campbell-Kelly, 2003; Haddon, 1988a). Given this economic landscape, it is hard to tell where the industry went wrong just one year later. According to a series of sources, the answer to this lies in the problems that emerged from the growing and unsustainable competition in the market, as well as the poor quality control and originality of games at the time (Mella, 1983; Demaria & Wilson, 2003; Kent, 2001; Donovan, 2010).<sup>39</sup>

The first reason bears crucial weight from our perspective, given its significance in terms of labour and industry structure. The excess of game titles for Atari's consoles was underpinned by the loss of control over the production process and the proliferation of third-party companies developing games for their consoles. These events, led by the newly formed Activision, were the unexpected results of internal conflicts between Atari's developers and their management that went back to the early acquisition of Atari by Warner Communications. The new culture, which was based on a vertical approach to game management, as well as the denial of royalties

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<sup>38</sup> According to Campbell-Kelly (2003), this privileged position would put Atari in a better position to control the production of games in general. Since programming codes were proprietary knowledge, Atari would not disclose them to competitors, as they were the only game developer for their console. In addition, the costly development system of writing and testing software, as well as the significant manufacturing investment in mass producing cartridges, would deter any third party from developing games.

<sup>39</sup> Not all the reasons for the crash were located inside the industry. At the time, consumption worldwide was contracting due to the economic recession, while computers and other new forms of entertainment like the VCR, Betamax and tape recorders were expanding.



to developers, caused the resignation of the four most successful developers at Atari.<sup>40</sup>

These events led to the creation of Activision, the first third-party company to develop games for Atari. The creative approach of the company focused on gameplay quality and graphic artistry, contributing top hits such as *Kaboom!* (1980) and the adventure game *Pitfall!* (1981). In addition, crediting developers and the system of royalties became an important form of symbolic and economic reward for them. Even more consequential was their technical and legal battle against Atari. Activision not only possessed the knowledge to engineer cartridges for Atari's consoles, but also legally won the rights to develop games for Atari against the payment of royalty fees. Once the console market opened up to third-party development, it became over-flooded by small developers publishing titles for Atari's consoles. By 1983, there were sixty game development companies when two years before there had only been five (Demaria & Wilson, 2003).

The second of the reasons addressed relates to Warner/Atari's approach to game production. Despite the economic and cultural success of *Pac Man* (1980, Namco), *Ms Pac-Man* (1981, Midway) and *Donkey Kong* (1981, Nintendo) for arcades and consoles, Atari's market had become a space for churning out poor-quality games or copies of games by Activision-inspired companies eager to get a share of the market. Furthermore, Atari, which was now completely focused on marketing and sales while stripped of what made it creatively successful, contributed to the same trend. As one of its executives said back in 1982, 'I can put horseshit in a cartridge and sell a million of them.' (Cassidy, 2002)

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<sup>40</sup> The grudge between Warner's management and Atari's staff goes back to before Bushnell's resignation at the end of 1978. Although Bushnell left after the poor sales performance of the VCS-2600 during the previous Christmas season, strong clashes had already occurred. These conflicts revolved around Warner's hierarchical management, who were negative about designing a new generation of consoles, as well as the decision to release the Atari 800 computer as a closed system and prosecute any third-party developer. The tension between staff and management worsened to the point that developers were referred to as 'high-strung prima donnas' by their new CEO Ray Cassar. Nonetheless, the straw that broke the camel's back came when Cassar refused to accept developers' demands for sale royalties after they realised their games were generating 60% – accounting for \$60 million - of Atari's income from game revenues. (Kent, 2001; Donovan, 2010)

By the end of 1983, the market was saturated with derivative or simply low-quality games, generating scepticism within consumer lines. Atari's major flops, such as the console versions of *Pac Man* (1982) and *E.T.* (1983), contributed greatly to this landscape. In addition, a poor Christmas performance led retailers to cut prices by half or even two-thirds in order to get rid of their stock, undermining sales for new and full-priced titles (Campbell-Kelly, 2003).

Lack of control over digital game offerings in the console market, along with the undifferentiated and deliberately low quality of the games, seem to be the reasons behind the fall of Atari's leadership and the collapse of western markets. Against this backdrop, Nintendo would come to redefine the structure of production in the industry during the following years. However, before jumping to this subject, I want to address a second historical precedent of the modern industry and its independent sector, relating to the creative and labour trends developed in the computer games market.

### **3.2 The foundations of the modern industry II: Personal computing as a serious hobby**

While downplayed by the economic success of arcades and home consoles, computer games have been an inspirational source for the industry, as PCs were the tool used for both creating and playing them. This branch of the industry grew considerably during the 1980s, following government and public interest in widening the base of PC users and the manufacture of new computer models at affordable prices. But the PC would prove to provide a different experience to that of consoles and arcade games. Its implications as an open platform had a tangible impact, as it extended the exploration of the game medium to hobbyists and game enthusiasts (Haddon, 1988b; 1993; Haddon & Skinner, 1991). These cultural activities spanning from the use of the PC would have an impact on the *ethos* of work/fun that has inspired some contemporary independent game companies.<sup>41</sup>

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<sup>41</sup> Obviously, the work/fun culture can be traced back to the first digital games in the 1960s. The *ethos* within the academic-military complex has been depicted as a highly creative environment. This academic culture not only enabled the creation of the first digital games, but also their distribution.

From the late 1970s onwards, the development of the computer as a domestic game medium was made possible after a new generation of personal computers was released by Apple, Commodore and Tandy. Although some of them were marketed as workstations, the fascination for PCs created a small but committed market of computer hobbyists and game enthusiasts.<sup>42</sup> With the growth of personal computers, a generation of young bedroom coders, computer professionals and computer hobby subcultures emerged across the US and Europe (Donovan, 2010; Haddon, 1988b, 1993).

The technological affinity between games and PCs could be seen in the lack of barriers to entry. Developers did not need special systems to write their games nor proprietary secrets to unlock them, while the costs and risks of manufacture were minimal (Campbell-Kelly, 2003). The strong youth-based market privileged the use of computers as gaming systems rather than workstations, and their providers were nobody other than the same teenagers who spent hours ‘playing around’. Very soon, the demand for games would allow many to become part-time developers, selling their games via mail order and using cheap cassette technology as storage. In addition, hobbyists’ specialised magazines would turn into a space where games could be reviewed and promoted; game codes were even published so that so other hobbyists could program them too, adding a new dimension to the activity (Haddon, 1988a: 70).

This small-scale model would grow considerably during the first half of the 1980s, providing synergies between computer games and publishing industries.<sup>43</sup> By 1983, UK developers started forming (or being enrolled by) new venture companies trying to capitalise on the new video game market. Large publishing, record and home video firms owned these companies, shaping the industry accordingly with their other media ventures. This was facilitated by similar patterns in the global computer entertainment industry with other media industries. For instance, US market leaders like Sierra Online and Broderbund each offered between 50 or 60 games, mostly

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<sup>42</sup> Several generations and PC versions were released during these years. I will not focus on them in this section, privileging instead the market and creative features of computer game creations.

<sup>43</sup> Although data from the UK is not available, in the United States computer market sales between 1980 and 1983 grew from \$393 million to \$1.9 billion, surpassing console sales revenues. Seemingly, entertainment software skyrocketed from \$18 million to \$405 million.

ephemeral titles produced by lone authors on a royalty-based system (Campbell-Kelly, 2003).

At the time, computer games constituted a space for exploration and artistic expression. Alongside companies such as Sierra Online and Activision, Electronic Arts' approach to games depicted a style focused on narrative, artistic development. Its founder, Trip Hawkins, conceived the company as a developer, publisher and distributor of its own multi-platform games, although it focused on computer games during its first years. Their developers were marketed and managed as art or film directors, a vision present in the game packaging, which, with its box art, graphic design and emblazoned authors' names, was designed to resemble rock albums. In Hawkins' terms, developers as creative workers entailed a different culture and methodology than developers as software engineers; they shaped the organisation of game development by employing producers, video layout artists, sound and music directors, as well as providing royalties and stock shares to developers (Campbell-Kelly, 2003: 283; EDGE, 2012). Moreover, programmers would leverage their knowledge in order to create tools or applications for development, giving shape for the first time to the artist's workstation (Cifaldi & Flemming, 2007; Game Sauce, 2009). On the commercial front, EA invested in original titles and, more importantly, a series of sports franchises tied to sports leagues and featuring celebrated players. This approach would pay off with the release of critical hits such as the sports game *One on One: Dr. J vs Larry Bird* (1983), the thematic chess game *Archon* (1983) and *M.U.L.E.* (1983).

As we can conclude, the computer game creative culture was very different from that of the console and arcade industry. The low costs of making a game invited regular people and low-risk investors to experiment with the medium, opening a diversity of initiatives from which many innovations would arise. This would allow the computer market sector to thrive amidst the crash of the coin-up and console ones.

### **3.3 The shaping of the modern industry (1985-1994)**

In the years to come, the games industry would experience a general refurbishment, as new sociotechnical regulations on game production and technology ensured

market stabilisation. New actors introduced new trends not only in game development and technology, but also in marketing and aesthetics. In this section, I would like to emphasise the dynamics in the computer and console markets as key spaces for understanding these changes. First, I will address key industry developments resulting from the PC games market and its synergies with entertainment industries. I will then focus on the console market after the crisis, and how the experience of the Japanese industry brought the stability needed for recovery and later global expansion. Lastly, it is important to bear in mind the context in which this expansion took place, as capitalist reforms of international markets facilitated the conditions of this growth.

### **3.3.1 A thriving computer game culture**

Although the US game market crash affected all the sectors of the industry, computer games thrived against the backdrop of the expanding PC market and the open architecture of gaming technologies.<sup>44</sup> This meant much less economic risk for game developers, who also had the flexibility to create and experiment with software tools. This included establishing new trends in software, game development and aesthetics.

The computer games industry at the time was quite varied, with a wide range of bedroom coders and third parties, as well as a series of emergent publishers. Electronic Arts consolidated itself as a main publisher after building and capitalising on its own distribution network, financing projects for third parties, opening a new branch for European operation, and later on developing games for consoles (Campbell-Kelly, 2003: 284). Sierra Online became a leading publisher with the success of their adventure titles (*King's Quest*, 1984; *Leisure Suit Larry*, 1987; *Space Quest*, 1986; etc.), to the point of starting a series of acquisitions during the early 1990s (Cornford et al., 2000). Moreover, in an early example of cross-media synergies, George Lucas founded Lucasfilm Games as an attempt to deliver tie-ins

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<sup>44</sup> See Campbell-Kelly (2003)

from the Star Wars and Indiana Jones films while fostering games as a potential artistic medium.<sup>45</sup>

In addition to strong competition and increasing vertical integration, the process of game production would experience important changes by the end of the 1980s. The creative and technical process of game development was becoming more time-consuming as companies started catering for a market of players looking for hard challenges and complex mechanics. The complexity sought for this hardcore sector of the market, and the high standards followed by the leading companies, triggered a process of game production specialisation. Trip Hawkins' artistic approach to game development marketing and management contributed to the creation of a professional atmosphere, while raising the entry barriers to the industry. Thus, lone developers without financial backup would be easily absorbed by growing studios, while publishers and studios themselves started dealing with development teams that, between the programmers, graphic artists and musicians/sound engineers, featured tens of developers. A more financially-driven and labour-intensive industry would mark the end of the bedroom coders and a more rationalised division of tasks.

By the early 1990s, the computer industry landscape had changed considerably. IBM PC compatibles dominated 80% of the market worldwide, most of them run on Microsoft's MS-DOS or Windows OS (Reimer, 2006). Computer game development was seen as a space where innovation could thrive, given the growing expertise and game cultures in academic and hobbyist circles. For instance, current trends in game development, game aesthetics and business models can be traced back to these years, particularly the ideas practised by John Carmack and John Romero, founders of Id Software and developers of the Doom series. Firstly, the studio programmed the first 3-D engine suitable for games. The new engine unleashed the exploration of new game mechanics. As a result, John Romero designed the first generation of first-person shooters, with titles like *Wolfenstein 3D* (1991) and *Doom* (1993), setting up their aesthetics and lack of narrative as dominant trends that still pervade games in current times. Secondly, Id shook the industry by opening its 3-D engine up to

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<sup>45</sup> The company would prove even more prolific with their original IP, becoming the leading studio in the adventure genre during the 1990s.

licensing, creating a new path for revenue in the games industry that evolved into the current middleware industry<sup>46</sup>. Thirdly, after improving the 3-D mechanics and texture rendering with *Doom*, Id went a step beyond, and against the common norms of the time, by releasing a series of editing tools. Thus, *Doom* fans could create their own maps and add their own modifications to the game, giving birth to the culture of modding. Id's influence on the industry could be felt for years. The economic success of *Doom* and its large fanbase transformed John Romero into the 'rock star' of computer games. It opened the market up to new actors and professionals (such as 3-D programmers), adding greater complexity to game development. It strengthened its synergy with the hardware industry, expanding the components market (3-D graphic cards, sound cards, mice, etc.), and transforming PCs into entertainment stations. In addition, it buried other emerging trends such as the full-motion cinematic games and character digitalisation techniques present in games like Microprose's *Rex Nebular* (1992), Sierra's *Police Quest 4* (1993), and Origins' *Wing Commander 3: the Heart of the Tiger* (1994).

Along with Id Software, computer games as a medium were maturing beyond the contribution of one or two main actors. The advent of the multimedia generation – sound, 3-D graphics and CD storage, with its 'ethic, aesthetic, and audience appeal' (Kline et al, 2003: 143), would be enriched by the iconic *Myst* (1993), a puzzle game featuring astonishing landscapes and an immersive environment. Along with games like *The 7<sup>th</sup> Guest* (1993), digital games started to be acknowledged in some circles as an artistic medium (Smith, 2002). The increased complexity of digital games and their success would legitimate the development of multimedia technology, turning it into the cutting-edge tool of the industry.

### **3.3.2 Reviving the console market, setting up new trajectories**

At the time that the video game market was imploding in the US, the Japanese games industry was being strengthened by a completely different approach to game production and distribution. In stark contrast to the previous cases, Japanese platform manufacturers managed to reduce market risks by controlling the flow of creative

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<sup>46</sup> By middleware I mean the computer software providing the infrastructure upon which the game code renders the game experience.

input into their markets (Campbell-Kelly, 2003). Strict control of the creative and technical labour process, inventories and manufacturing were the strategies used by Nintendo to provide techno-legal console lock-ins. This created a ‘pipeline with checkpoints’ from which revenues would be gathered. At this point, as the global markets expanded due to Nintendo’s influence, the dynamics between the company and its competitors, both in platforms and game development, would continue to shape the general organisational and cultural aspects of the industry.

Nintendo, originally a centenary cards game company, entered the digital game market after many decades in the toy industry, and broke into the game scene as the distributor of Magnavox Odyssey for Japan in 1974. It then started to release occasional coin-op games and to experiment in the home entertainment sector. It was not until the early 1980s that Nintendo skyrocketed to prominence as the leading video game and console manufacturer. Succeeding in the handheld sector with electronic game watches and the *Donkey Kong* franchise, Nintendo invested heavily in the creation of a console that could easily surpass the graphic quality and memory storage of their games. As a result, in 1983, they released the Famicom console to Japanese and other Asian markets. The console was revolutionary, not only for the quality of the games but for the introduction of the gamepad, a new style of controller that featured an extra button to allow for more complex game mechanics.

Following the collapse of the US industry and its international operations, Nintendo absorbed the competition in Japan, taking 90% of the Asian market. Beyond circumstances at the time, Nintendo’s success relied on strict regulations that secured complete control over the network of production, without the need to expand the company. After some tweaking, the closed business model was carried on unchanged. First of all, the Famicom featured special circuitry that would reject non-Nintendo games, but the code of which could be modified inside the console<sup>47</sup>. This strategy enabled Nintendo to have control not only over the licensees, but also over the genre, content and quality assurance of games themselves. Nintendo legitimised this process with its ‘Nintendo Seal of Quality’, guaranteeing content quality and no

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<sup>47</sup> Cassey O’Donnell (2011) provides a thorough account of the legal, economic and political dimensions of the 10NES chip.



gameplay glitches. Secondly, ensuring its power as a gatekeeper of its own market, Nintendo produced some of its games in-house, but also provided a few selected companies with licenses to create exclusive games for its consoles. At first they enrolled six companies (Bandai, Capcom, Hudson, Konami, Namco, Taito), adding more licensees as the market kept growing, and thus accounting for sixty licensees by 1990 (Sheff, 1999). When it came to game development, Nintendo exerted a tight control over creative decision-making and the process of production. It decided which genres would go into the market, setting high quality assurance standards while forbidding developers from releasing titles for other manufacturers (Jörnmark et al., 2005). Thirdly, Nintendo held the rights to manufacture the games, charging its licensees twice the original costs of manufacturing; orders would be a minimum of 10000 cartridges, payable immediately in cash. Fourthly, as the market expanded along with the number of licensees, Nintendo decided to limit the number of games released per company per year. Even though this strategy was criticised, it was mostly by those developers excluded by Nintendo, as licensees were benefiting from unimaginable profits and hence living in fear of Nintendo's right to revoke their licenses. Lastly, Nintendo reshaped the notion of branding and marketing by strengthening customer service and developing media projects (TV series, films, game shows, fan magazines) related to their products and culture. As a brand, Nintendo managed to expand market demographics, attracting the attention of new actors to the industry, especially game development studios.

These strategies were deployed and refined under Nintendo's expanding market operations. In 1985, the company launched the Nintendo Entertainment System (NES) in North America, including the famous *Super Mario Bros* (1985), a Shigeru Miyamoto title that would become a global cultural symbol and Nintendo's distinctive brand. From that moment on, Nintendo executives worked on different levels to retain customers' and investors' confidence in digital games. They ran aggressive marketing campaign in malls and fairs, and offered solid guarantees and return conditions for retailers. They also successfully approached Wall Street in order to validate the financial status of Nintendo and viability of its business. Soon enough, Nintendo would gain the trust of big retail chain customers, reactivating the interest in digital games once more. Thus, the US market was revitalised in a single

year and Nintendo expanded operations to Europe, selling 1.8 million consoles in 1986, 5.4 million in 1987, and 9.3 million more in 1988, the year when Nintendo's global revenues through consoles and games reached \$1.7 billion. During these years, Nintendo strengthened their position in the market with legendary titles such as *Dragon Quest* (1986), *Final Fantasy* (1987) and Miyamoto's *The Legend of Zelda* (1986) and *Super Mario Bros 3* (1988). In addition, Nintendo would leverage its position and enhance its pervasiveness by licensing the rights to produce toys, merchandising, TV shows and films based on their games.

For a few years, Nintendo prevailed over the attempts by its competitors, Atari and SEGA Enterprises, although the latter did manage to weaken the monopoly established by Nintendo by loosening up its tight proprietary control on the market.<sup>48</sup> Still, Nintendo exerted its hegemony with high-quality games, pervasive franchising and a market of 62 million NES (Carroll, 2005). By 1988, the company successfully revived the handheld market in that same year with the Game Boy, selling up to 25 million units within three years. In that same year, *Super Mario Bros 3* broke records, selling 17 million copies worldwide, equal to \$550 million. In 1991, the company brought out the Super NES, equalling the SEGA Genesis in technological power. In addition, the strict licensing policies of Nintendo allowed them to keep the forced royalties of third-party development companies, and shrank the possibilities of designing games for other consoles - at least until the end of 1990, when Nintendo decided to relax its contractual policies, after they were in the centre of the polemic during anti-trust lawsuits in the US against Atari and Sega (Campbell-Kelly, 2003).

The early 1990s witnessed a fierce war between SEGA and Nintendo and a whole technological revolution. By the end of 1992, Nintendo was still in the lead, with 70% of the US market and 90% of Japan's. Nevertheless, SEGA's superior technology, wide selection of licensees, large game catalogue and strong marketing managed, temporarily, to steal the lead in both the US and European markets, with titles such as *Sonic The Hedgehog* (1991) - SEGA's response to the Mario franchise -

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<sup>48</sup> SEGA not only attacked Nintendo with its technologically superior Mega Drive and very direct advertising style ('SEGA does what Nintendon't' or 'Welcome to the Next Generation'), but also made use of new licensing conditions that enabled them to sign many of the companies disgruntled by Nintendo's policies, such as Electronic Arts.

and the polemic *Mortal Kombat* (1992), which featured digitised images of real actors, high dosages of violence and the introduction of highly skilled and gory fatalities. Nonetheless, a series of technological and market flops left the company in a dire financial situation, a situation that worsened as Sony and Microsoft stepped later into the industry.

During these years, new attempts to diversify the industry came with Atari and Panasonic's respective Jaguar and 3DO platforms, both released in 1993, with no success for the former and only moderate success for the latter. Atari's Jaguar featured an apparently technologically superior 64-bit platform, but it was quite difficult to program, which resulted in a small library of games with poor visual quality. In 1996, Atari disappeared from the console battlefield and merged with JT Storage, a hard disk producer. The 3DO experienced the same failure, although it featured high processing power and a CD-ROM storage device. In addition, the product – like the Jaguar - was not strongly marketed, which contrasted with the aggressive marketing and brand loyalty that was a feature of both Nintendo and SEGA.

### **3.4. Corporate dreams: conquering the living room (1995-2001)**

By 1996, the industry accounted for revenues of more than \$3 billion just in the US, while the Asian and European market kept growing steadily. In contrast to the 1980s, the industry was now a mature business, with clear risks and expectations (Mäyrä, 2008). During the following years, the industry experienced a reaccommodation as Sony entered the console market, along with other varied corporations. Financially backed up, the digital games industry invested heavily in marketing and technological capability as it started exploiting economies of scale (Cornford et al., 2000).<sup>49</sup>

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<sup>49</sup> Soon enough, game companies were acquired by umbrella conglomerates under the label of 'media and entertainment', who invested more resources into creating state-of-the-art digital games. CUC International, a consumer services conglomerate, started to diversify operations by acquiring Blizzard Entertainment, Sierra Online, Papyrus and Impressions amongst others, companies later acquired by the now Vivendi SA. Electronic Arts also started an acquisition frenzy; this was followed by other publishers like Acclaim, Take-Two and a renovated Activision also seeing their businesses skyrocket due to multimillion-dollar budgets, a trend that not many development studios could follow. Given the

Beyond the corporate expansion, this period witnessed emergent trends that marked the path to the modern games industry in terms of aesthetics and software. As I will also address, the computer hardware and software industries continued to innovate and generate the basic IT infrastructure of the present video games industry.

### **3.4.1 The rise of Sony and the fall of SEGA**

As the competition between Nintendo and SEGA continued to feed the market, the games industry experienced an expansion of corporate presence as well as the deepening of its vertical integration. This expansion found its most significant correlate in Sony's arrival in the console market. The release of their PlayStation in 1994 was the result of both several years of work and an internal grudge against Nintendo (Kent, 2001). From the mid-1980s onward, Sony Corporation had sought a way to unify the entertainment market through a multipurpose system capable of playing audio and video, but later on digital games were added to the equation, following a failed business partnership with Nintendo aimed to the design of a CD-ROM unit for the SNES. Thus, Sony released the PlayStation a few weeks after SEGA's Saturn, utilising an aggressive marketing campaign. The console featured state-of-the-art 3-D graphics and a CD-ROM drive, and, for the first time in the industry, a marketing budget of \$2 billion.<sup>50</sup>

Although the competition was fierce in 1995, Sony's marketing pace would soon outmatch a financially weak SEGA. The success of Sony's PlayStation came about due to very different stances. Sony proved to be a more approachable licensor by offering better deals than Nintendo and SEGA. Not only did it allow game companies to develop as many games as they wanted<sup>51</sup>, its fees (\$10) were also much lower than any other platform holder in the industry. In addition, Sony developed a

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high costs of developing games, the newly acquired or expanded publishers strengthened their ability to finance projects for smaller studios in return for IP ownership. Game development became a riskier endeavour, justifying the introduction of middle management in order to optimise the process of game development through deeper rationalisation and standardisation of tasks.

<sup>50</sup> The CD-ROM was key to Sony's success against Nintendo. In addition to the low manufacturing costs of games on CD, the capability to deliver games continuously to stores would reduce the risk of forecasting game demand. Lastly, the storage capacity of CD-ROM would allow the inclusion of full-motion video and high quality orchestral music, expanding the possibilities of the medium.

<sup>51</sup> Interestingly, Sony's new policy did not have the effect of flooding the market. It is probable that raising costs and production cycles would actually have deterred developers from releasing too many titles a year.

series of software development kits for their licensees while offering a reliable technical service. This strategy helped Sony to strike good publishing deals and offer a better game catalogue than SEGA's. The most well-known case was Square's decision to break its ten-year relationship with Nintendo in order to start developing for Sony. This decision was based on the fact that the CD-ROM and 3-D capabilities of the PlayStation would expand the artistic horizons for Square's latest project, *Final Fantasy 7* (1996). Moreover, Sony expanded the appeal of digital games to an older market. At that moment in time, it was important not only to keep appealing to the teenage and young adult market, but also to provide content for the Atari generation. Sony appealed to otherwise poorly-explored survival horror games, with classic hits such as the *Resident Evil* (1996) and *Silent Hill* (1999) series. Lastly, Sony had the upper hand in the price war: the PlayStation was \$100 cheaper (\$399) than SEGA's Saturn, its closest technological competitor at the time.

By 1995, Sony had already capitalised on the highly innovative media and game experience offered by the PlayStation. It stripped Nintendo from its dominant position in Japan, while seizing 65.2% of the US market. Nintendo tried to even the situation with its new Nintendo 64 in 1996, but failed to regain the prominent position it had held from the late 1980s onward. In addition, the company retained its cartridge technology to avoid game piracy and counterfeiting, which proved too expensive to compete against the CD (Buchanan, 2008a). Unlike its competitors, Nintendo still had to invest resources in inventory management and pay the high costs of manufacturing. Games like *Super Mario 64* (1996) first debuted at \$60, but later in 1996 the price went up to \$80, which was very expensive in comparison to Sony's \$40 games (Buchanan, 2008b). By the time both consoles were taken off the shelves, the PlayStation already counted 102 million units worldwide, the Nintendo 64 only 32.9 million units (Alexander, 2010). Unexpectedly, even for Sony's executives, the PlayStation became their biggest product, accounting for 40% of Sony Electronics revenues.

Still, Nintendo did retain its relevance by focusing on the handheld market. Sony's decision to ignore this market left Nintendo alone with an economically diminished SEGA. The mass success of *Pokémon* (1996), a multimedia brand that swept the

board with TV ratings, box office and toys sales, became the main economic dynamo behind the Game Boy, surpassing SEGA's Game Gear and Nomad in 1995. By the end of 1998, SEGA had been wiped out of this market segment, which was now wholly within Nintendo's hands (Williams, 2002). Nintendo's dominion passed uncontested for several years, until Sony finally introduced a handheld, the PlayStation Portable (PSP), in 2004.

The race for the top of the games industry would take SEGA as its next victim. The company could not match Sony's ubiquitous presence in the media, and its revenues collapsed as soon as Nintendo released the Nintendo 64. SEGA attempted one last stand, with the release of their Dreamcast console; it lost the marketing battle once again, pulled out of the console market in 2001, and revamped itself as a games publisher from then on.

### **3.4.2 Setting new horizons**

The 1990s was a decade of disruptive technologies that widened the scope for more socially-complex game experiences and audio-visual exploration of the medium. The CD-ROM was embraced by the digital games industry due to its storage capacities, while software-hardware industry synergy maintained the trend towards multimedia entertainment, pushing the limits in graphics, audio and processor speed, especially in the computer arena.

As a gaming platform, the computer's weakness lies in its multipurpose functions. While consoles dedicate all their hardware resources to gaming, computers' Operative Systems (OS) consume many of these resources in the use of other applications and programs. This means that computers need to be continually upgraded in order to cope with ever-growing software exigencies. 3-D Graphic cards, sound cards, enhanced RAM and larger hard drives were part of the upgrading of these systems. The varied needs of modern computing and gaming led to the release of the OS Microsoft Windows 95, as well as applications such as DirectX, which would help to manage the growing processing power of the PC.<sup>52</sup> The development

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<sup>52</sup> Microsoft did not stop at providing a gaming platform for the PC. The company later created Microsoft Studios, a division in charge of developing and publishing digital games especially for PC.

of DirectX, a program consisting of a collection of 3-D multimedia functions and other tasks, made games much easier to develop, and in just one year, the first entirely 3-D games began to appear, such as *Tomb Raider* (1996), a game that combined adventure exploration with shooter sequences. Having made these advances, computer games remained cutting-edge throughout the decade.

Furthermore, during the second half of the decade, the industry found different ways of harnessing the newborn Internet with a series of services and game experiments. The web enabled companies to offer game updates and fix patches on a regular basis, changing or improving game features after release. In addition, it enhanced the multiplayer capabilities of PCs, which were normally limited to single-player campaigns. Soon enough, game companies ‘plugged-in’ gaming servers, where players could connect with each other to form a completely new experience of games such as the FPSs *Quake 2* (1997) and *Half-Life* (1998) and the RTS *Starcraft: BroodWar* (1998). The web gave a new dimension to hardcore gaming and multiplayer features, making it more accessible to players. Soon, it was playing host to international leagues and tournaments, some of them inspiring private initiatives in order to foster high-skill games as sports, organising leagues, competitions and cyber-Olympics, especially in the US and South Korea.

From the Internet, a new successful game style was also born, the MMORPG (Massive Multiplayer Online Role Playing Game). MMORPGs are games installed in servers that can be accessed through the game copy purchased by players. Once players are connected, the server synchronises while the computer renders all players’ avatars within the limits of a computer-simulated world. Although the origins of the genre go back to the days of ARPANET and text-based games in the 1970s, it was not until the widespread use of the Internet and new graphic processing that online roleplaying games took their modern shape. Titles such as *Ultima Online* (1997) and *EverQuest* (1999) gathered hundreds of thousands of players in their servers, but it was only when Blizzard stepped forward with *World of Warcraft* (2004) that the MMORPG became a global economic and cultural phenomenon, with

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The studio released several titles a year, including its classic *Flight Simulator* derivatives, a series of sports games and its hit series *Age of Empires* (1997). By the end of the 1990s, the company had already started the design and development of its first console.

millions of players on the server at the same time, and a new experience offered only through the PC.

The computer game front retained its innovative edge due to its open architecture, although contradictions could also be seen. Only those with bargaining or economic power were in a position to enjoy prime shelf space at retailing. Corporate-owned publishers became even more important than before, using aggressive and sometimes creatively toxic acquirement strategies. They centralised IP ownership in the industry and diversified their revenue streams by releasing titles on different platforms. In many instances, publishers such as EA modified the artistic core of their organisational policies, centralising the provision of software tools as well as the creative direction of the companies (Schiesel, 2008). Profitability in the short term led the creative process, with publishers picking new game formats and licensing game franchises as common commercial formulas. For instance, LucasArts started focusing mostly on licensing and creating game spin-offs from their main film franchises, grabbing at whatever the popular game genres were at the time. Computer game companies also underwent a similar process of production and managerial standardisation to the console industry. As stated at the time by Archer MacLean, a British developer from the time of bedroom coders:

‘You can no longer compete at the top end of games unless you have 2/3/4 programmers and 2/3/4 graphics people too. I don't necessarily think you need all this talent overkill, but the big publishers won't consider anything less anymore. They are also becoming ridiculously corporate and bureaucratic and expect developers to work like a clockwork production line facility and being a slave to a schedule set in stone denies much of the old innovation and creative spontaneity which founded this industry.’ (Hague, 2002)

Thus, millions of dollars invested in game projects came at the price of middle management taking over the decision-making process, constraining creative decisions with economic ones. Although the console market was twice as large as the computer-based industry, a sector generating \$5.7 billion a year by 1999 was not going to be taken lightly. (OECD, 2005)

### **3.5 Beyond the limits: The world as a player**

The turn of the century arrived, and with it a strengthened and growing games industry. Following a small impasse in 2000 due to the dotcom crisis, the industry



accelerated at rates not seen since Nintendo's golden age. The following decade witnessed an industry of \$16.8 billion becoming a juggernaut of \$55 billion, surpassing both the music industry and the box office (Simon, 2011). The 2000s was a decade of trend consolidation, featuring corporate acquisitions, the geographical, demographic and media expansion of the digital games market, the use of middle management, and a specialisation influenced by both the growing middleware industry and the complexity of gamework. Three important trends are worth highlighting from the recent history of digital games. The first is the diversification of game outlets, either as web-based platforms or mobile technology, and their colonisation by game developers. The second is the formation of a more or less stable corporate trinity, where Microsoft, Nintendo and Sony compete hand to hand with their platforms and publishing machinery. Third and last is the redefinition of game consoles as convergent media platforms.

### **3.5.1 Three can survive the game**

Since the beginnings of the games industry, the platform market has been structured by a leading actor that concentrates most of the market share, dominating over smaller companies with modest or no success. Seemingly, the risk and volatility of the industry has been pinpointed by changes to, and disappearances of, both leading and non-leading actors after a few years. It would take game executives and entrepreneurs until the 2000s to realise that, following Nintendo and Sony's takeover, the platform market could be held together solely by global corporations with the capacity to invest billion-dollar budgets into R&D, marketing and building a manufacturing and distribution network worldwide. It happened to Atari, with its consecutive failures to retake the market; it happened to Panasonic with its 3DO; and it would happen again to SEGA.

The early 2000s featured much industry renovation, as the sixth generation of consoles became the market standard. In the autumn of 2000, Sony released the PlayStation 2, which proved to be a total success in the market. The console was able to play DVDs and featured improved 3-D and audio-rendering capacity. In just fifteen months, Sony had sold 10 million consoles; ten years later the PS2 had become the bestselling console in history, with 150 million units sold worldwide

(Sony, 2011). The console was launched with a portfolio of 29 titles, featuring RPG, racing, sports and FPS games. Nevertheless, Sony waited to shake the markets – and induce moral panics - until 2001, with its multimillion-selling *Grand Theft Auto 3* (2001) and *Metal Gear Solid 2* (2001). The former was a sandbox violent thriller that sold 15 million copies around the globe, while the latter was a stealth action game with a strong driving narrative that sold around 7 million units. At this point, Sony consolidated its position as an industry-leading actor.

In 2001, Nintendo released the GameCube, its response to the PS2. This new console followed the 3-D-animated but unrealistic graphic rendering of Nintendo's previous platforms, as part of a conscious decision to oppose the trend towards photorealistic scenarios. It also entailed a big change for Nintendo, replacing cartridges with miniDVD technology. Nonetheless, the GameCube failed to reclaim the market share lost by Nintendo to Sony; it accounted for around 15% of the platform market, with 21 million consoles sold. Not even the console's bestselling games, *Super Smash Bros. Melee* (2001), *Mario Kart: Double Dash* (2003) or *The Legend of Zelda: the wind maker* (2002), all top-rated games, could beat Sony's eight-digit game sales.

Nintendo also experienced a hit in the handheld market. In late 2004, the company released its new handheld device, the Nintendo DS. The platform was part of a renovated and, in the mid-term, successful strategy to catch a wider audience with fun games instead of complex ones. The release coincided with Sony's new venture, the PlayStation Portable. Sony had decided to compete against Nintendo in the handheld market, designing a multimedia mobile platform that could play music and videos, access the Internet, and of course play games. As a result, in a matter of months, Sony took over 43% of the handheld market, ending Nintendo's uncontested hegemony (Carroll, 2005). In the short term, Nintendo resented the hit; nonetheless, the company succeeded in expanding the market's demographics and keeping sales consistent over time. In keeping with the policy that fun games do not need HD graphics, the DS managed to regain the lead with a bigger portfolio of games, better portability and battery life, totalling 40.3 million DS units sold by 2007 (Baker, 2007).

In the meantime, Microsoft jumped into the platform market with a new console concept: the XBOX. It was clear to the biggest software corporation in the world that the digital games industry was the flagship in the emergence of digital entertainment (Takahashi, 2006). By the end of the 1990s, Microsoft had attempted unsuccessfully to buy Nintendo and SEGA, before starting on the design and development of their own console. Alongside this process, Microsoft began to acquire game studios such as Bungie in 2000, restructured Microsoft Studios into Microsoft Game Studios (a retail and online publishing division) and prepared manufacturing plants in Mexico and Hungary (Zito, 2001).

Upon its release, the XBOX created a notable impact on the console market, although not enough to pose a threat to Sony. XBOX architecture was based on PCs; in fact, it was a low-end desktop computer squeezed into a bulky black box. The console featured CD/DVD playback and, for the first time, an internal hard drive, which was originally seen as a plus. In addition, Microsoft established the trend of online gaming with its XBOX Live service, enabling multiplayer options amongst XBOX owners. At this point, Microsoft had to face a series of problems resulting from its own decisions and its competitors' good performance. First, the PC-like architecture and the size of the hard drive led Microsoft to cut costs by simplifying the design. Secondly, Microsoft could not match Sony's constant release of prime titles. However, the XBOX's prime title *Halo: Combat Evolved* (2001) became an instantly successful franchise, with the spin-off *Halo 2* (2004) becoming the XBOX's bestselling game with eight million units sold. Other titles such as *Fable* (2004) would also become great hits. Nevertheless, Sony and Nintendo continued to rely on their old brands, delivering new *Final Fantasy*, *Resident Evil*, *Grand Turismo*, *Mario* and *Zelda* titles.

In the end, Microsoft managed to survive the first half of the 2000s thanks to its multibillion-dollar budget and consistent market position. Manufacturing the XBOX resulted in a loss of more than \$3 billion for Microsoft. Still, fuelled by Windows' global dominion over the workplace, Microsoft's losses did not threaten it financially. By the end of its production run, the XBOX had sold around 24 million

units worldwide (Microsoft, 2006), relegating Nintendo to third place in the platform market.

Those enjoying the benefits of the competition between platform holders were, most likely, game publishers. Long gone were the days of Nintendo's tight grip on game studios and publishers. Now they were in a better position to negotiate with competing platform holders. Although Nintendo, Sony and Microsoft did try to push for exclusive titles, there were always a wide range of multi-platform games created, becoming legendary as they nurtured publishers' bank accounts. Activision's *Call of Duty* series would become one of the bestselling franchises throughout the decade; EA's cross-licensing deals would add *Harry Potter* to their multimillion selling sports franchises; and Ubisoft would continue its ascending career within the industry with *Tom Clancy's Ghost Recon*, *Prince of Persia* and the *Myst* series.

### **3.5.2 Rearranging the neighbourhood: a new balance of power**

The intense competition between platform holders and their aging consoles opened a new chapter for the console market. Innovative gameplay, more processing power and even stronger marketing brought a new balance of power to the industry. The main actors expanded their production, service and commercial operations throughout Asia, Latin America and their emergent economies.

By 2005, a game market worth \$27.67 billion (Anderson, 2008) was reaching a state of saturation. The time for a new episode of the console wars had come and the three hardware platforms were about to release their new game systems. Microsoft kicked in first with the XBOX 360, officially launched in a record 36 countries around the world. The console was a powerful iteration of its predecessor, aimed to be a pervasive digital entertainment system, harnessing a now fully expanded Internet to provide access to digital TV, radio, online gaming and film, music and game marketplaces. Microsoft not only improved the processing power and storage but also tweaked the console and controller design and the dashboard unit interface, resulting in an elegant product that would look good in any living room and a software design that would appeal to every family member. Furthermore, Microsoft opened the door to the casual game market by giving space to a new breed of

independent game studios in the XBOX Live Marketplace. In addition, the console featured a line-up of 21 games at launch, featuring a series of sport games as well as the blockbusters *Call of Duty 2*, *Dead or Alive 4*, *Quake 4*, and *Elder Scrolls 4: Oblivion*.

In 2006, Sony and Nintendo released their respective consoles. Sony's approach was similar to Microsoft's, enhancing processing power and graphic quality but leaving other potential uses of the platform rather underdeveloped. As a result, the platform carried some edge at the expense of a more cross/transmedia experience. At launch, the console offered 30 titles, including the highly expected *Need for Speed Carbon* and *Call of Duty 3* along with the usual set of sports games.

Nevertheless, all eyes were turned towards Nintendo's new console, the Wii. Following a generational change in the direction of the company, Nintendo sought a new approach to business and game interactivity. As a result, with the Wii, Nintendo introduced a disruptive concept of gaming embodied in its controllers and processing capabilities. As expressed by the new CEO, Satoru Iwata, at the GDC 2006, the Nintendo Wii was aimed at expanding the game market beyond the traditionally-catered hardcore gamers (Bloodworth. 2006). The new concept was an attempt to bring children and their relatives together, as a new form of family leisure. At the centre of this was the 'Wiimote', a motion-based controller capable of reading players' movements. The new concept sought to mimic real life movements, adding dynamism to gameplay, whether playing tennis, bowling, jumping, driving or aiming. In sum, the Wii reconceptualised the way that people played games. The other core principle related to the fun factor; Nintendo continued to develop fun games rather than photorealistic and complex ones, embodied by the fact that the Wii had less processing power than its rivals. As a result, the console cost much less to manufacture than the XBOX and PS3, beating both consoles in the pricing and profit stakes.

During the following years, Nintendo capitalised on its disruptive technology in order to climb back to the top of the games industry, although this time in a much more level market, with Microsoft and Sony shortening the distance as their consoles experienced a better sales performance in the long term. Although Microsoft started

first in the race, a global memory chip shortage prevented them from meeting the demand for XBOX 360s during 2006. By the time the Wii and PS3 were launched, Microsoft had sold around six million consoles; however, in just one year, the XBOX 360 was surpassed by rampant sales of the Wii, while the PS3 was left behind due to lower sale growth than the XBOX 360. By 2008, Nintendo's strategy had proven successful. Its Wii had sold more than 50 million consoles, seizing 43% of the market, ahead of the XBOX 360 (34%) and the PS3 (24%).

Nintendo also retained the lead in software sales during the second half of the 2000s. In contrast to the GameCube-era experience, Nintendo's games outsold those of their competitors. *Wii Sports* (2006) became their top-selling title, enjoying the number-one sales position between 2007 and 2009, followed by *Mario Kart Wii* (2008), *Wii Fit* (2007) and *New Super Mario Bros Wii* (2009), not counting the sky-high sales from the Nintendo DS. These games broke the barrier of 10 million copies sold during their first year, something that no game for the XBOX 360 or PS3 could achieve at the time, and by 2009 Nintendo had sold a total of 716 million game units, far ahead of the 360 million copies sold by Microsoft and the 290.5 million sold by Sony (PlayStation University, 2010).

Still, many successful titles were released for the other consoles, some of them showing a high level of sophistication and in some cases gameplay innovation. The exclusives *Halo 3* (2007), *Gears of War 2* (2007) and *Fable 2* (2008) boosted Microsoft's revenues, while *Gran Turismo 5* (2006), *Metal Gear Solid 4: guns of the patriots* (2006), *Little Big Planet* (2007) and *Uncharted 2* (2009) achieved the same for Sony. Furthermore, both consoles were heavily boosted by titles released by the main independent publishers: EA, Activision, Ubisoft and Take-Two. Their cross-platform and high definition games gave an advantage to Sony and Microsoft, with franchises that rivalled Nintendo's game sales, such as Take-Two's *Grand Theft Auto 4* (2008) and *Bioshock* (2008), Activision's *Call of Duty MW 1 & 2* (2008, 2009), and Ubisoft's *Assassin's Creed 2* (2009), most of them selling over ten million copies.

In 2010, Microsoft and Sony attempted to replicate Nintendo's technology with varied success. While Sony introduced its PS Move controller, Microsoft released the

innovative Kinect, a console add-on that used body motion as game input. This move gave the two companies an advantage over Nintendo, with their more versatile and powerful consoles. As a result, both consoles started to shorten the distance of the Wii, sales of which started to decelerate year by year.

At the time of writing, in 2012, Nintendo has retained its domination of the market, with 95 million consoles sold and a 42% share of the platform market; it is chased by the XBOX 360 and its Kinect device with 65 million consoles and 29.3% of the market share, while Sony covers the remaining 27.9% of the market with 61.9 million PS3s sold.<sup>53</sup> Both Sony and Microsoft have also managed to introduce multimillion-dollar hits, exemplified by the consumer madness surrounding *Call of Duty: MW3* (2011), which sold more than 20 million copies in six months.

The deceleration of the Wii's sales has triggered the R&D process once more. During the GDC 2011, Nintendo announced that its successor, the Wii U, was in an advanced stage of development. Later in the year, rumours were heard about Microsoft's next console, the XBOX 720, and Sony's PlayStation 4, the details of which have not been disclosed. The seventh generation of consoles have aged slower than their predecessors, but the cycle seems to be coming to an end.

Up to now, the games industry has managed to grow exponentially, even to the extent of avoiding the economic crisis that has gripped the world since 2007. This does not mean that the industry was crisis-resilient. The riskier environment led the main publishers to stick with games targeted at mass markets, implementing conservative formulas in order to make profits, and deterring and even shutting down projects at the first sign of risk. Although this will be subject to further analysis in the next chapter, it is worth mentioning here that these strategies hit third-party studios, small developers and loss-making first-party studios the hardest, while the main actors remained as profitable as ever. Nonetheless, the crisis has still affected Sony and Nintendo's profits, with Sony suffering the worst. The revaluation of the yen towards the weakened dollar has signified a reduction in total profits. Nonetheless, Sony's thin spread over a variety of electronics for different markets, and a hacking

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<sup>53</sup> Source: VGChartz Total Hardware Sold, updated to September 2012.

incident in 2011 that compromised subscribers' private information within the PlayStation Network, have halved its performance as a company (Timmer, 2009).

### **3.5.3 Media convergence and the diversification of game production and consumption**

Far from the grudges and clashes of those who dominated the game industry, and before Nintendo released the Wii, the cultural change resulting from the expansion of the Internet completely redefined the social character of digital games. Using the PC as a platform, the Internet enhanced communication between consumers and developers while nurturing a new type of player: the casual player. But PCs were not the only 'looking glass' through which the Internet could be harnessed for gaming purposes. The technological convergence amongst communication technologies also changed the production and consumption of games, through the arrival of smartphones.

In contrast to the rest of the games industry, the 2000s were grim times for PC gamers and developers. Technically, consoles had achieved a better performance than average PC specs, thus becoming a more stable technology in which to program. In addition, the high profits made when developing for Sony and Nintendo, as well as the phantom of piracy, meant that game companies shied away from making – or even seeking funding for - PC versions of their games. To make things even more difficult, Microsoft's priorities changed with their XBOX venture and they ended up neglecting the computer game market (Sinclair & Thorsen, 2006).

Nevertheless, companies continued to deliver important titles, given both the strong hardcore PC gaming tradition and the particular suitability of keyboard and mouse to comply with fluid game mechanics in some game genres. Real Time Strategy Games could be considered native to PC, while FPSs and some RPGs such as *Baldur's Gate* (1998) featured mechanics easier to manage in the PC interface. Still, PC game developers kept following the multiplayer trend, harnessing the Internet to feature more online options. This was capitalised on during the mid-2000s thanks to the proliferation in broadband connections, resulting in Blizzard's MMORPG *World of Warcraft* (2004), a 2005-2006 bestselling game with more than ten million subscriptions around the world (Alexander, 2008). Soon enough, the MMORPG



genre would thrive on PC, with the renovated sci-fi *Eve Online* (2003), *Guild Wars* (2005), *Dungeons & Dragons Online: Storm Reach* (2006), *Rift* (2011) and *Star Wars: The Old Republic* (2011) each featuring several million subscribers or constant players.

But the combination of PC and Internet also brought a new phenomenon to the gaming world, featuring myriad low-budget games that used the web-based multimedia platform Adobe Flash for rendering. This technology allowed the development and embedding of games into webpages, triggering new ways of delivering them. First, simple games were offered by multimedia portals such as Yahoo! or MSN, along with video, news and email services, appealing as casual entertainment. As a result, games such as Popcap's *Bejeweled* (2001) were hosted on several web platforms starting with MSN Games, a success that would be ported to other platforms many years later. Secondly, community and business-driven web platforms emerged in order to provide sites where people could play *in situ* or download these games, such as Newgrounds or Big Fish Games, which started the era of digital distribution. Years later, web-based games received a further boost as they became embedded in social networks, for instance Facebook's *Farmville* (2009). Mainly played via PC or mobile platforms, these games are used by millions of people who enjoy the sociality that can be nurtured through them.

Although the Internet provided a space for computer games to thrive again, its capabilities were to be harnessed even further. A new front for game business was opened with the introduction of smartphones by Apple in 2007. With its iPhone, Apple introduced a digital marketplace where consumers could purchase or just download 'apps' featuring a variety of content, some of them being games. Soon enough, the smartphone market exploded, with mobile phones powered by Google's Android OS, Microsoft's Windows Phone 7, or Apple's iPad, also providing 'app' stores where developers could submit their games.

These new markets have been powered by an explosion of small studios, solo developers and even hobbyists who have found unimaginably easier and cheaper platforms on which to release their game projects. Developing games for web platforms, using websites to distribute one's games, or appealing to the smartphone

market have widened the possibilities for game developers. Most of these developers are independent from traditional publishing ties -many are born out of the economic downturn, which has made it easier for them to experiment with the aesthetics, gameplay and narrative features of digital games, although not all of them are able or willing to do this.

The impact of this multi-platform convergence has been felt in the general games industry. On the PC front, global game revenues have increased from \$13 billion in 2008 to \$18 billion in 2010, with 80% of the sales being made through digital distribution (Anthony, 2011). Seemingly, the handheld industry has been shaken by the rampant growth in smartphone gaming. In 2009, in the US alone, 70% of the handheld market was owned by Nintendo, while iOS & Android based games outstripped Sony by seizing a further 19%. One year later, Nintendo's influence was reduced to 57%, while iOS and Android's share increased to 34%, leaving Sony with only 9% (Peterson, 2011).

### **3.6 Afterword: A journey through play and power...**

Across decades, digital games have succeeded in becoming an established form of leisure and sociality. Within the economic and financial sectors, they overcame the label of 'fad' to become a profitable driving force within the global entertainment industry. As an expressive medium, digital gaming overcame criticism of itself as shallow entertainment lacking aesthetic qualities, and now it contests the notion of games as a new form of art. As a form of interaction, digital games have passed from a stigmatised practice for misfits to a widely accepted one across ages (Williams, 2010). The change of the term *gaming* from its negative connotation with gambling to the act of playing digital games shows - besides its historical roots - a change in the collective perception of digital games.

The richness and complexity of the digital games industry makes it difficult to address, even after selecting the subject's material and leaving behind many of its countless aspects. Keeping this in mind, the present chapter has attempted to provide some key narratives in order to understand the structural genesis of the industry, focusing on the main actors involved, how their interactions under certain conditions

have shaped the rules of the market, and how these rules have been somewhat subverted. Atari's case against toy and semiconductors industries ventures has shown us how besides capital investment, the understanding of games as a medium and a creative process was important to the company's early success. Nintendo's case has shown how a trusting relationship among the chain of value, as well as the blessing of financial institutions, is vital for an industry to take off, especially after a crash.

As we have seen in the cases of most of the main actors, the ability to subvert and shape the regulations within the network of production (manufacturing, distribution channels, marketing) has been a key element for understanding the change of power balances between the industry actors. Nintendo's strategies to avoid counterfeiting, lock in its console market, and regain the trust of financial institutions are further key examples. Seemingly, reassessments of game production regulations by SEGA and Sony helped them to capitalise on the growing discontent with Nintendo due to their better licensing deals. In addition, Nintendo's marketing strategy is regarded as one of the best played out, having created a loyal base of consumers through TV series, films, advice phone lines and Nintendo World stalls in retail and department stores around the world.

I must also emphasise another element of contingency in shaping the market: that of achieving the right timing. The collapse of the American console companies left Nintendo's Famicom completely unmatched in Japan, offering the perfect conditions to thrive and shape the industry without much opposition. Conversely, the delayed release of Microsoft's XBOX put the software giant in a tough position, operating with heavy losses throughout the console's lifetime. This, finally, can give us an idea of the commercial dynamics of the corporate industry. A financially weak, symbolically diminished, and technologically inferior Atari crashed due to Nintendo's 'world order'. Panasonic's 3DO not only appeared in the middle of SEGA and Nintendo's console war, but also had a minimal marketing budget in comparison to the two then-giants. Something similar happened to the financially weaker SEGA, which could not rival the publishing deals offered by Sony, and it was practically crushed by Sony's and Nintendo's multimillion-dollar marketing budgets, even though their consoles were technologically even. Only a corporation

like Microsoft could become a level rival, as its financial power meant it could afford to operate at a loss for many years.

The above underlines the interesting rite of passage of digital games as a capitalist creative industry. After becoming a promising business during the 1970s, a series of strong companies started to harness their expertise through their alleged association with the games industry. Semiconductor companies such as Fairchild, toy corporations such as Coleco or Mattel and media giants such as Warner Communications invested heavily in their game ventures. Atari's Nolan Bushnell knew that even when they achieved the knowledge and skills to create games, he had to sell his company in order to finance its R&D division. This play between corporate capital and small industries had important consequences in terms of industry outputs and work culture. First, big investments in digital games led to complex software architecture and technologically advanced platforms, which made the process of game making much more expensive in return for a bigger profit margin. Secondly, the corporate work culture of the owner company had a strong effect on the process of game development. The egalitarian and flexible work culture promoted by Bushnell was buried following Warner's acquisition of Atari. Efficiency and clockwork development became the top values that regulated the creative process, while proven formulas for securing profits undermined the creation of new content. This tension between corporate and individual work cultures is one of the industry's most palpable conflicts, present throughout its history and fuelling subversive forms of game development and professional identities.

Furthermore, as a capitalist enterprise, the games industry could not survive without its constant expansion. Even though the technological cycle has given the industry the chance to continuously restart itself, it was through its market expansion that it became a dominant form of entertainment. Along with the diversification of game content (aesthetics, gameplay) and the air of familiarity promoted by well-established brands, technological convergence has facilitated this expansion. Nowadays, games can be easily accessed through mobile phones at the bus stop, or through the web at the office, allowing people who do not identify as gamers access to small games that

do not compromise their personalities and activities; meanwhile, new forms of social gameplay have buried the conception of the isolated player in his bedroom.

Unfortunately, this chapter could not address certain markets of the industry with even a minimum of depth, or indeed certain other important actors. Although mentioned, the game hobbyist culture was not properly discussed, nor was its connection with the independent game sector. In addition, the connection between player cultures and the games industry was not mentioned at all throughout this historical excursus, though I aim to correct both shortcomings in Chapter 5. Nevertheless, other important subjects fell short or were not addressed at all, and suggest important fields of enquiry in the future: one is the demise of the arcade industry, predated by the games industry itself; another is a more thorough historical account of game genres and aesthetics, a subject that would deserve a chapter to itself. Lastly, a subject normally neglected but key indeed to understanding the mass spread and emotional connection with digital games is its synergy with other related industries. There is a growing awareness of the cross-media features embedded in the structure of digital games, as well as the leverage of intellectual property across cultural industries. Yet the emergence and connection of game journalism, trade publications and events surrounding the industry, and the function of those professionals as analysts, prophets, evangelists and hence the consciousness of the industry, is a subject still to be explored in future historical accounts.

The above historical backdrop has provided a suitable context to understand the actors, strategies, social processes and circumstances that have mediated the shaping of the contemporary digital games industry. The overarching narratives show how the dominant trends of the large-scale sector of the industry have been constructed, pointing to sociotechnical and economic regulations, professional development and aesthetics to which I will refer back in the following chapters. Additionally, it provides a solid landscape of the politics that inspire the work of many of the independent game developers, as well as their cultural roots. These subjects I will address in detail in the following chapters.

## Chapter 4

### Developing digital games in the larger industry

The aim of the following chapter is to provide the general context of digital game production in the large-scale sector of the games industry. As a programmatic objective, I aim to present social and economic drivers behind digital game technology, industry structure, organisation of work and market performance, and how they are fed or played out in the process of game production. It is by looking at the broader scope that we can see the conditions of possibility for indie game development, comprehend the industry conventions and politics that indies take positions for and against, and understand the structural dependencies of the independent and corporate sectors.

This chapter will expand on the literature review by building upon the contributions provided by Kerr (2006a), Johns (2006) and Deuze et al (2007) in particular. The chapter is the product of a dialogue between the existing literature on the field and the information collected through semi-structured interviews and the analysis of trade press news, blogs and corporate reports from major publishers and hardware manufacturers.

The argument will take the form of a descriptive narrative of the industry, first giving a broad explanation of how digital games work as a design-intensive and highly rationalised cultural industry and pointing out the pressures on the creative process that result from major companies' commercial strategies. The main narrative lines followed in different sections aim to shed light on five specific aspects. First, the increasingly complex technology involved in games is seen not as a natural process but as having been developed in order to make games with a wide market appeal, contributing to the process of specialisation in gamework and at the same time reinforcing main actors' position as financial backers. The second aspect is the way in which the industry hierarchy is reinforced by the concentration of financial, marketing and distribution means around a series of corporate actors involved in the

process of game production. In securing access to these social resources, actors have ensured a strong leverage when negotiating contracts with content developers. Thirdly, some organisational features of gamework are addressed, stressing the division of tasks, the rationalisation of gamework and the resulting implications for the distribution of creativity across the occupational structure. The fourth issue is the market-driven nature of the games industry, and the ways in which the player, either as a potential consumer during the ‘pitching’ stage of a project or an active collaborator, is inserted into the process of game making. These commercial strategies are not only designed to predict consumers’ tastes; they are also considered a new way to increase value and extend the shelf life of a game through players’ input during both the development and post-release phases. Lastly, the fifth and final section points out the way that gamework is legitimated by game developers, as well as the features of the corporate work/play *ethos* of the games industry. Here, I explore not only the meanings attached to gamework, but also how both work practices and its cultural *milieu* promote an occupational structure more ‘suitable’ for young men.

#### **4.1 Contextualising technology in the digital game industry**

The field of technology entails interesting challenges and impacts on game production. Technology as sociality (Mackenzie, 2006) is embedded in every single dimension of game development and is deployed for specific purposes throughout organisational structures, labour practices and marketplaces. Digital game development is characterised by a process of constant innovation, driven by a highly competitive market and creative conventions where tools and computer technology are characterised by their short lifespan, both in software and hardware. This trend – reified amongst techno enthusiasts as Moore’s Law - is important to flag up, as its implications for the volume and organisation of games make it key to understanding the games industry and its indie correlate.

When culture is produced, an interesting dialectic takes place between technology and its users. Creators find that their creativity is enabled by the capabilities of their tools and ‘raw’ materials. Nevertheless, these same capabilities can easily become a creative straightjacket to the most experimental, as the available materials and

techniques do not fit into their artistic vision. The inherent tension of this relationship triggers an unending process of subverting the use of tools and materials, either creating new conceptual approaches or designing new and improved tools. When culture is industrialised, this process is much more complex; the relations between capital, labour and markets play a dominant role in defining the creative lines that are worked towards, influencing as well as pushing forward the development or adoption of technologies.

In the digital games industry, creative conventions and technologies are joined in a strong synergy, fed by the market and intricate economic patterns as well as the creative interests pursued by developers, publishers and hardware manufacturers. This synergic relationship has been called ‘upgrade culture’ by Dovey & Kennedy (2006: 52), indicating a process of constant de-stabilisation of hardware and software infrastructure, encouraging the aforementioned development and adoption of new technologies.

As has been noted by several scholars (Wolf, 2001; Kline et al. 2003; Newman, 2004; Dovey & Kennedy, 2006), digital games are technologically constrained by the limitations of memory, speed and – I would add - tools. From the creative stages to the end of a game project, developers engage in constant ‘dialogue’ with the technical specifications of the platforms at which the game is aimed, as they set the technical constraints within which the creative process takes place. The amount of data that a DVD-ROM can store and the speed at which a console can load maps, levels and textures triggers a creative process that aims to defy those limitations, with a varied degree of success. This process is clear from the words of Mark Rubin, executive producer of *Call of Duty: Modern Warfare 3* (2011), in an interview for the Guardian:

‘The levels are bigger than anything we've tried before... I mean we're barely fitting on the disc – we're within a few kilobytes. It's kind of scary. For a while we were way over, we thought we were never going to make it fit. Mostly it's been about cutting back on art assets. Let's say, at one stage we had 15 different types of potted plants in the game – well, now we have 12! One of the biggest things we did was roll our own compression algorithm. We saved 180MB just by taking the textures we had and compressing them through that. Finally it was enough to get us on the disc.’ (Stuart, 2011)



But at the heart of this discussion lies the question of the reasons behind the constant development and adoption of new technologies in the form of consoles, computers, game engines and development tools. This can be better understood as a process of alignment that is either voluntary or coercive, whereby developers and publishers negotiate and align their creative vision to the economic interests of hardware manufacturers and publishers.

During the early years of the games industry, technological change was likely to be triggered by a mismatch between developers' creative vision and hardware software capabilities. In the words of Hironobo Sakaguchi, creator of the *Final Fantasy* series:

‘Initially, the process was completely different from what we do now. Currently, we write the story completely and work from the story line... When we first started Final Fantasy I [...] we had to deal with the hardware first. By doing so, we would come up with the graphics on the screen and figure it out, based on the limitations and capabilities of the hardware, how big the world was going to be and how many locations I could have.’ (cited in Kent, 2001; 541)

The above quotation not only shows – again - the limitations of software, but also gives a reason for game developers' quest for better technologies: their creative vision can be realised more accurately. Almost ten years after the development of *Final Fantasy I* (1987) for the NES (Nintendo Entertainment System), Square Soft (Hironobo Sakaguchi's company) broke a close partnership with Nintendo in order to develop *Final Fantasy VII* (1997) for Sony's PlayStation (Kent, 2001; Reparaz, 2008). Hironobo Sakaguchi explained how CD-ROM storage capabilities and the processor power of the PlayStation enabled him to increase the artistic quality of his games, characterised by epic cinematics, complex story-telling and heavy artwork.

Even though the upgrade culture has been shown to be creatively driven, the practices that promote it are not played out in the sphere of creative design. As Dovey & Kennedy state, the demands and business plans of chip manufacturers are also at stake here.<sup>54</sup> More specifically, the strong competition among platform holders has been a major driver behind technological change. Thus, within the

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<sup>54</sup> This is particularly true in the case of computer games. Since the 1990s, game studios and publishers have developed game engines according to the specifications of future graphic cards. In turn, companies like Nvidia and ATI have designed state of the art graphic cards that are handed to other companies, defining the hardware standards for those engines.

console wars, creative constraints can be used discursively as a way to persuade successful developers to adopt the new consoles.

Nevertheless, encrypted within the increasingly powerful game engines and hardware is a series of judgements about aesthetic and gameplay conventions. The digital games industry seems to follow the motto ‘make it real, make it big’, as it has been a proven formula for market success. This formula has several dimensions, as realistic games can feature either photo-realism (highly detailed worlds), representational realism (using representations of real life or historical events), or a consistent and believable realism, where ‘the physics and the look of the [game] world are internally consistent’ (Dovey & Kennedy, 2006).

This explains common trends such as the transition from 2D AAA games to 3D ones. The market success of 3D-rendered games during the 1990s led Nintendo and SEGA, in particular, to invest in consoles with better support of 3D rendering. By the early 2000s, the main platform holders, along with publishers, were basically privileging game studios working under those creative principles. Thus, conforming to specific aesthetics became the trade-off for project financing and market access.

The quest for realism in games has thus had a strong impact on software architecture. The need to render more believable NPCs (non-playing characters) and *diegetic* worlds – as a product of either an autonomous or a heteronomous creative vision - has led to the development of more specialised and powerful engines. In the past, a game like ‘Super Mario’ was basically programmed from scratch. With the advent of ‘Doom’, developers devised a new way to develop games without focusing overly on low level programming, through the use of game engines (Simpson, 2002). Nowadays, a game like the FPS *Bioshock* (2007) features one or more game engines, such as the Unreal Engine, to load the basic functions of the game, render the game world, and control the behaviour of NPCs, and the Havok engine to control the physics and malleability of the environment experienced by the player.

Working with game engines was keenly embraced by the industry of the time. Their modular nature helped with the customisation and improvements that games needed. Importantly, the fact that most of the coding was already done allowed a greater

focus on game design. Still, the pressure to make games even more realistic resulted in a push for the development of better game engines and a constant expectation for faster processors and better graphic-rendering technologies. Industry-wise, game engines presented a new ground for business opportunities, giving birth to the middleware cluster of the industry. Organisationally, the possibilities unleashed by the development of these technologies pushed the size of project teams up, especially in animation, art and programming divisions, which meant that project budgets skyrocketed. In addition to all this, a process of work specialisation was triggered, strengthening the distinction between more creative forms of work and more mechanical ones (i.e. creative directors vs. graphic designers in charge of rendering textures).

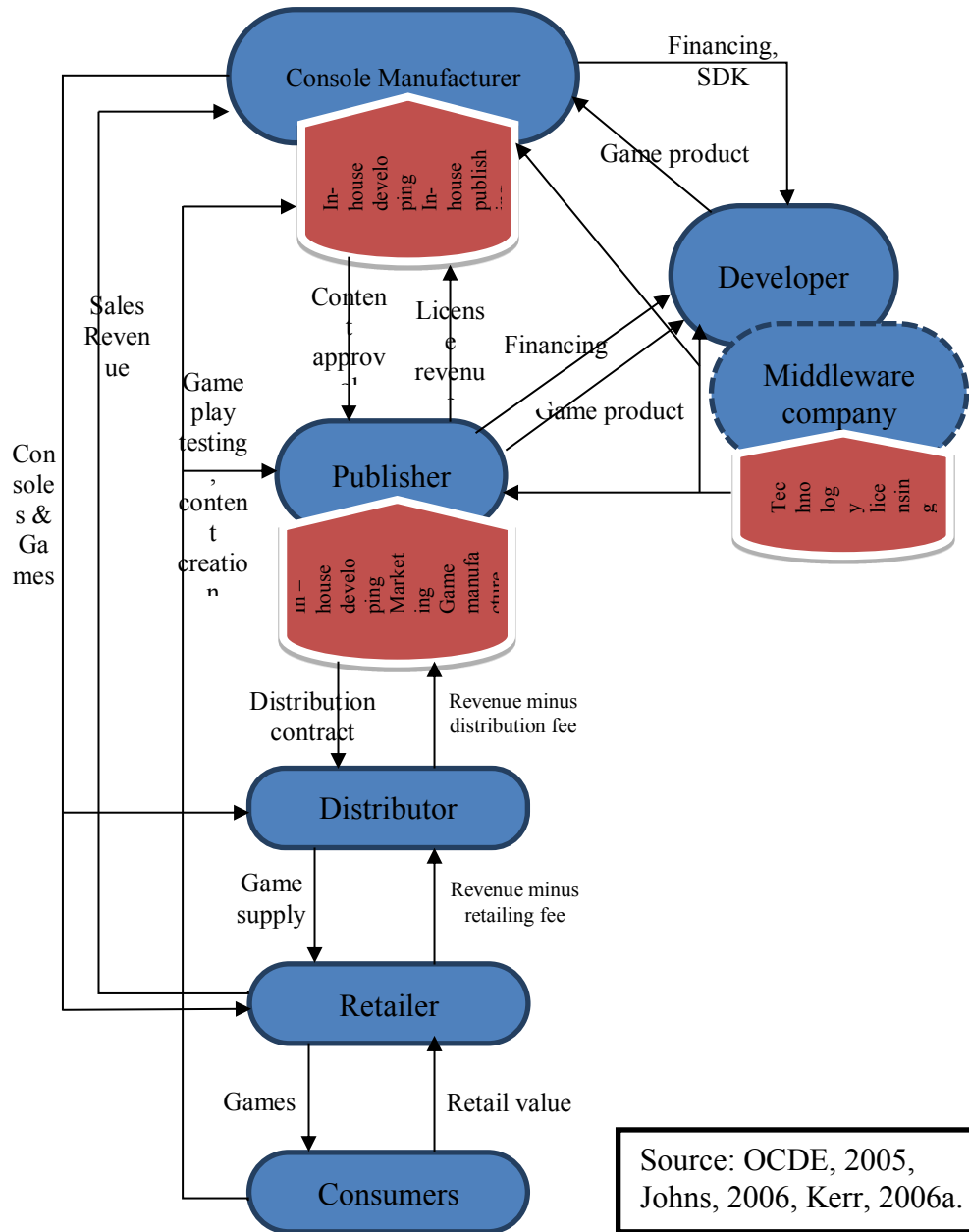
#### **4.2 Structure and distribution of power within the industry**

Digital games as a global cultural industry can be functionally dissected as a series of actors performing certain roles throughout its economic cycle. From production to consumption, a network composed of capital investors, hardware and software suppliers, distributors, marketers, retailers and symbol creators is knitted together by complex relations in the aim to deliver digital games for mass market consumption, a structure that I plan to address in the first section.

Nevertheless, from the actors' perspective, the industry follows a configuration that is related more to the interaction of mass market success and high capital investment, stratifying the industry according to companies' degrees of influence within the economic cycle.

As diagram 4.1 shows, the network of game production is structured into a series of interdependent segments. In order to produce a digital game, hardware manufacturers, game developers and publishers offer each other a series of specialised key services.

**Diagram 4.1**  
**Industry Network Relationships (retail model)**



#### 4.2.1 Hardware Manufacturers

Hardware manufacturers or platform holders are the firms that develop, manufacture, market and sell the platforms on which games are played. As the work of Kerr (2006a) has shown, economic and technical issues make it possible to identify different segments of the platform market, each of which has an impact on the organisation of game development. They are divided into the console/handheld, personal computer, Massively Multiplayer Online Games, mobile and digital television markets. Each of these platform markets requires particular considerations of their structure, revenue model, hardware openness and production process, although it is not my aim to develop them here. I will focus later on the markets that have become more successful, namely the console/handheld segment.

The strategies to ensure revenue in this market start with the development of the platforms themselves. Platform holders rely on the development of proprietary, closed and non-compatible technological systems (Kerr, 2006b), which become the first checkpoint for every game project. Historically, this has enabled them to carry out a ‘razor and blades’ (Kline et al, 2003) or ‘loss leader’ (Alvisi et al, 2003) strategy, where platforms are sold at a loss, but ensure investment returns through royalty fees from game sales and ownership over proprietary networks for online distribution.<sup>55</sup> Another strategy used by platform holders is to develop and monetise proprietary Software Development Kits (SDKs) for their own consoles.

The abovementioned ways of capturing value can place manufacturers in a very comfortable position in relation to their collaborators/competitors, namely publishers and developers. Control over royalties and online distribution channels are not subject to negotiation, which leaves them the right to change the fee structure for royalties and the use of their proprietary online markets. Moreover, licensing agreements between manufacturers and publishers ensures control of the latter by the former through quality assurance, meaning that games have to be approved by hardware manufacturers before being produced and shipped (EA, 2011).

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<sup>55</sup> Although this revenue model is still present in the industry, Microsoft and Nintendo have found ways around it through global outsourcing, a strategy that I will discuss later in this chapter.

### 4.2.2 Publishers

As project budgets have skyrocketed and competition has toughened, the role of publishers is indisputable within the industry. To different extents, publishing houses can develop, market, publish and distribute game software for any potential game platform. Moreover, through aggressive expansion and commercial deals, a first tier of corporate publishers has become incredibly influential by holding the biggest monopoly – after hardware manufacturers - on the financial capital, connections and deals that enable smooth publishing through the production process.

Guided by market projections, publishers operate within a portfolio of desirable game genres, a list of game conventions that can potentially become massive hits. Furthermore, they try to achieve their goals through several business strategies, namely the development, acquisition and licensing of their own intellectual property and agreements with second or third-party companies (EA: 2011).<sup>56</sup> Publishers have a series of first party studios in charge of developing their game franchises, which, according to their market performance, may result in sequels to the game, as in the case of Electronic Arts' *Mass Effect* and *Dragon Age* series. As it happens with TV production companies, publishers also commission games based on licensed IPs (Shah & Haigh, 2005; Kerr, 2006a) from either gaming or other entertainment industries, such as EA's *Madden NFL* and *FIFA* sport games,<sup>57</sup> the *Harry Potter* game series, or toy games utilising the intellectual property of Hasbro. Finally, publishers can acquire the rights to publish and distribute games developed by third-party studios. Such is the case with the *Crysis* series, a successful game concept developed by the Crytek studio but funded, marketed and distributed by EA.

Publishers' ability to finance games, and their centrality within the networks of production, give leverage to their position in negotiations with developers on four fronts: legal, creative, economic and labour-wise. It is a common practice among

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<sup>56</sup> This does not mean that they do not derive value from other activities. Besides merchandising, in-game advertising, and licensing, publishers have created cross-licensing deals in order to use games as platforms for music distribution (Tessler, 2008).

<sup>57</sup> The forms of licencing behind these games work at different layers. For instance, EA needs to pay licence fees to use the trademarks of the respective sports associations. Image rights have posed a different story, being currently contested through legal means by sportspeople and their unions (Kaplan, 2012; Jockey, 2012; Farrey, 2012).

publishers to claim ownership of a game idea in exchange for project financing, relegating developers' labour to 'work made for hire' (Bucaglia et al., 2007: 2). In doing this, they often acquire the right to change, dispose, price or reassign game content according to their market strategies. As an example, in 2010, Activision discontinued the development of the nearly finished *True Crime: Hong Kong* due to escalating production costs and strong competition in the sandbox games market (Grant, 2011). In addition, publishers' favourable positions enable them to negotiate control over the process of production, by allotting in-house producers and managers to projects. Through this strategy, publishers are able to impose strict milestones, while subjecting developers to their constant feedback.

#### **4.2.3 Game developers**

Digital game developers are the professionals who carry out the process of game production. They can be considered the 'artists' in charge of creating the game mechanics, the game narrative, the visual representation, and programming or assembling the software architecture needed to render the game world in the platform. Development studios can comprise both large and small teams of professionals, often from different career profiles but all with skills in programming and digital media.

Building her analysis upon Cornford et al.'s contribution (2000), Kerr (2006a: 64) suggests to divide game studios in three different types. First-party developers are studios fully integrated and managed by publishing companies. Second-party developers are studios that are tied most of the times to a single publisher by equity, retainers and output deals, developing a game according to concepts proposed by the same publisher. Finally, third-party developers are independent studios that develop their own projects in order to sell them to a publisher.

Professionals within the game studios are, most of the time, game enthusiasts who seek to enjoy their work as much as possible, and are hence very committed to the job. Nonetheless, high standards in the digital games market have caused a great degree of specialisation in the process of game development, consequently increasing project budgets and production time cycles. It also leads to a more difficult process

for start-ups, as an expensive investment in facilities and equipment is necessarily followed by the creation of software tools to develop their own games (MarketLine, 2010). Thus, game studios often experience financial problems in trying to sustain their projects. Hence, following the initial investment, they later rely on royalties and revenue from previous releases.

Within the console/handheld and PC markets in particular, development of AAA games is almost exclusive to first and second-party studios. Third-party developers struggle to pitch their projects successfully, only managing most of the time to strike deals for games for handheld devices (and, currently, other markets such as internet and mobile based games). These latter markets have become a solid ground for new independent studios to thrive, a point I will address in later chapters.

The most uncertain conditions are experienced by third-party developers. As Johns (2006) shows, they are usually unable to gain any extra value from their work as it is often appropriated by their publishers. Their situation is precarious, as they have to trade the ownership of their own work for the capital that allows them to complete their project. Nevertheless, some developers manage to gain bargaining power under certain circumstances. This is common when developers' or studios' games prove to be market hits, allowing them to demand better labour and ownership conditions, as well as more creative autonomy. Although most of the time companies take the credit for a hit, sometimes developers behind a creative concept become critically acclaimed. Industry legends or 'super-developers' (Kerr, 2006a) such as Shigeru Miyamoto, Sid Meyer, John Romero and Peter Molyneux possess a rare bargaining power in creative and financial terms. In addition, as the console market has a short life cycle, developers have a circumstantial advantage due to hardware manufacturers needing to find content for their new consoles.

#### **4.2.4 Middleware and game services**

The high specialisation and fragmentation of the industry has led to the establishment of a series of companies and freelancers, providing services, assets and direct labour for the process of game making.



Middleware companies develop and license their software to game developers, as well as providing technical support. As pointed out by an OCDE (2005) report, these suppliers are usually small to medium-size high technology firms, focused on R&D and providing solutions for a whole range of software-dependent industries. Interestingly, many game companies have tried to diversify their sources of revenue by developing, licensing or using their in-house tools and assets for contracted work. The aforementioned Crytek is an example of this, as their 3-D engine (CryENGINE) is also used by applications for the fields of architecture, simulation and learning (Crytek, n.d.). Other small studios and freelancers often pitch their expertise and basic development tools in order to work on short term projects with other game studios.

#### **4.2.5 Distributors and retailers**

Once a digital game is fully developed and manufactured, publishers and developers ship their games to other regions worldwide. Distributors are the companies in charge of transporting the game copies to retail shops. Historically, distribution functions have been arranged by publishers, some of them specialising in different geographical areas due to connections with their own network of retail centres. Retailers are the last link between developers/publishers and consumers. They price, prioritise and present the games in their displays. Although their role might sound unimportant, publishers actually negotiate with some retailers (especially big supply chains such as Walmart) in order to secure bargain prices, shelf space and in-store marketing.

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As a profit driven enterprise, the digital games industry is an interconnected niche whose market potential has attracted the interest of software and entertainment conglomerates, while motivating main industry actors to expand their operations through acquisitions and (cross) media partnerships. As a result, a ‘complex professional’ network (Hesmondhalgh: 2007a) of a few corporations and a scattering of small companies working as suppliers has arisen within the games industry. It follows an hourglass structure (Deuze et al., 2007) with a handful of hardware

manufacturers and multinational publishers at the top end, and the diverse network of (also hierarchised) middleware companies, development studios and freelancers at the bottom.

Through mergers and acquisitions (M&As), the biggest actors have shaped the relationship of ownership and control within the industry (Cornford et al., 2000). Thus, these companies capture more value by controlling the chain of production (Johns, 2006), which also means control over the creative process of game development. Here, creative work is carefully harnessed in order to fulfil companies' financial goals and shareholders' economic interests, following commercially successful genres and themes.

In addition, buyers at these companies expand their portfolio as they take over acquired companies' assets, namely technology, IP and even professional expertise. This not only ensures their presence in other game genre markets, but also buys them a big enough workforce to continue their participation in these markets. Lastly, companies' (especially conglomerates') investments in different media fronts are made possible by using creative content from different industries as a way to create IP synergy, in turn benefiting their respective subsidiaries.

These trends have been highlighted by Kerr (2006a) and Johns (2006) respectively, as both hardware manufacturers and top publishers have pushed the industry towards a vertical, horizontal and diagonal integration, expanding their operations up and down the production process while buying out competitors. These ventures are often financed by corporate actors in other sectors of the global economy, seeking to become involved in the production of cultural goods, their distribution and the production of hardware that delivers those goods (Morley & Robins, 1995). In the following sections, I will expand more on the impacts of this vertical structure on the organisation of work and the market scope of digital game production.

### **4.3 Organisational structures**

In the study of the organisational structures of the industry, at least three interesting threads of enquiry are worth highlighting. One is the analysis of game projects as the

product of a complex network of teams and companies in different geographical locations, the aesthetic impacts in terms of game content, and the political-economic reasons behind these types of organisations. A second thread revolves around the way in which the game production process (development, promotion and distribution) is organised. A third thread addresses, on a smaller scope, how work dynamics function across the organisational structure. In this section I aim to focus on this last thread, partly because discussing either of the others would require a whole separate chapter, and also because the experience of the corporate form and the culture of game studios are seemingly better mobilised within the independent game culture.

The organisation of gamework within a studio varies according to the market scope aimed for by the studio. It is well known that in addition to external market pressures, it is projects' technical and creative specifications that shape the way they are organised, their size and how they deal with the organisational tension between rational organisation of work and creativity. For now, it will suffice to say that within first and second-party studios, their need to address mass markets has led to increased team sizes, unending R&D and hence spiralling project budgets. As I will describe in the first section, the aforementioned process leads to the compartmentalisation of game development into a few overarching task sections, from which it follows an extreme technical rationalisation of work. Focusing on the resultant hierarchy, the second section will analyse how the flow of work takes place, unfolding the internal politics of gamework and the stratification of creative input.

#### **4.3.1 Work organisation and functions**

The creative process of game making, although the result of cooperation between different companies (publisher, hardware manufacturer, middleware company), mainly takes place inside development studios. Nevertheless, each actor is represented within the process of production via the organisation – as Ryan (1992) has already noted for other cultural industries – of labour into project teams, where the creative input is hierarchised according to the positions held by workers.

The structuration of gamework follows a hierarchical structure comprising professional expertise, managerial skills and unskilled work. As has been widely addressed in previous research (Newman, 2004; Johns, 2006; Kerr, 2006a), the process of game development is organised into six main areas: programming, art, audio, game design, producing and quality assurance. Each area is broken down according to the different tasks carried out by its members. For instance, programming entails writing the code and assembling the game assets, working with the game engine and developing the AI of the game. Each of these subsections is managed by team leaders who, in turn, account for their work to the lead developer (designer, artist, and programmer) of their area.

The creative process happens within the first four areas, each of them requiring specific roles and professions. For instance, software engineers and computer scientists are in charge of developing and working with the game engine, building tools for art and game designers and writing AI code. Graphic designers, on the other hand, work on character design, in-game art, textures and animations. And musicians work on sound effects and playback music. Producers are the general *creative managers* (Hesmondhalgh, 2007a) in charge of the whole production process: scheduling, budgeting and hiring resources while monitoring all the development areas from technology to design and content creation (Kerr, 2006a).

As graphic and storytelling realism push up game standards in the digital games market, the introduction of new technologies and features in order to fulfil market expectations has also led to increased team sizes. Specialisation in the process of development and other media synergies has led to horizontal extension and the breaking down of more tasks, creating new areas and divisions. Additionally, the separation between creative conceptualisation and implementation of work is becoming more pronounced in major development studios. For instance, for *Mass Effect 2* (2010), Bioware incorporated a writing division for storytelling purposes, and hired more than sixty voice actors. Also, directors were assigned to each area - Art Director, Art & Animation Director, Audio Director, Director of Design and Director of Programming among others - leaving team leaders as implementation managers.

The organisational chart of gamework would not be complete without accounting for other areas that inform the creative process but are not normally labelled as 'creative'. Firstly, Kline et al. (2003) have covered in depth the key role of marketing in the process of game making. A marketing section is assigned by publishers to every single game project. This section is in charge of PR, coordinates with creative directors and lead designers to come up with marketing strategies, and collects game feedback from players through different methods such as on-line engagement (surveys, discussion groups) and beta testing (which entails the incorporation of players' feedback into the development process).<sup>58</sup> Secondly, the process of production also involves the continuous use of Quality Assurance services to detect and correct minor errors or system failures, often called bugs. This practice is considered critical within the development cycle, as game glitches can spoil games' playability and fun factor (Ress & Fryer, 2003). It consists of playing the game with the sole purpose of finding these bugs. Game testers are led by a Lead Tester, the person in charge of the bug list, who makes sure that testing guidelines and deadlines are met and who communicates the results to the lead developers. This work is considered one of the most mechanical parts of the development process. Employees are normally teenagers or hard-core players. Some of them use Q&A work to get into the industry, as the experience is helpful when applying for positions in level design, marketing, or production.

#### **4.3.2 Decision making and work dynamics**

It is worth noting the current division of tasks between development teams in game studios and the resulting work dynamics. This is of particular importance, as it enables us to explore how the work actually gets done and how creative autonomy is managed and distributed within studios.

The technical reason why game projects follow a team structure is quite simple: digital games involve a fine intertwining of digital and graphic/audio features. As code comprises the very infrastructure upon which the game and its experiencing is built, the work done by developers in different divisions greatly affect the way a

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<sup>58</sup> Players' role in the process of development will be discussed further in the next section.

game is perceived and experienced, meaning that a constant feedback process among team areas and divisions is necessary. As expressed by Steven Lavelle and Ben Bradley, indie developers with experience in the games industry:

‘[If as a designer] I want to add a new monster to my game, ok I would ask the modeller to do a 3-D mesh of the monster, he would pass that 3-D mesh to somebody who was doing art and normal mapping, and he would pass it to an animator, and then he would pass it to a coder, who will write all the scripts and stuff and pull it in.’ (S. Lavelle, interview, August 21, 2010)

‘The whole team does have to work together. There is a lot of work to do with tools with everyone really. If I had AI, the artist needs to put information into the track to know where the corners are, and I actually need to make a very simple version of track which the player doesn’t see but the computer would analyse. So they have to do work with me and the same for other ones as well, especially for things like graphics’ (B. Bradley, interview, April 23, 2010)

As we can see, gamework flows across deeply interdependent team divisions. In addition, to a great extent, the hierarchical structure of teams controls the direction of this flow, as work in progress or technical issues are reported to team leaders, the people in charge of the general progress of divisions:

‘Sometimes I go and ask a programmer about a feature and he says that this needs to be signed by the lead programmer or the producer and stuff like that, so we have to go through the channels and make sure that that issue of the game was highlighted.’ (Dock, interview, August 31, 2010)

This introduces three underlying issues relating to work dynamics within studios. First of all, creative input tends to be monopolised by team leaders (Deuze, 2007) and the producer – both of whom, in fact, represent publishers’ interests. Both parties are tasked with producing the game vision agreed upon between developers and the publisher, which is embodied in the game design document. Although team leaders can offer suggestions on how to improve gameplay and artistic vision, the last word rests with the producer or other representatives of the publisher. This subjects any creative input or changes to criteria related to budget, time, market and the question of whether the product is ‘good enough to ship’.

So, what about the work done by most of the senior and junior artists, programmers and animators? Their work is determined by the specialised needs of the game vision. As has been noted by experienced developers, these creative workers largely perform as what Hesmondhalgh calls *technical workers* (2007a: 64). They do not

take part in developing the game vision, instead implementing it through the skills for which they have been hired.<sup>59</sup> Although this does not mean that developers are completely unable to add their own touch to their work, their options tend to be radically narrowed and mechanised, a situation opposed by developers who want to climb to higher positions in the industry:

‘working in a company that was getting bigger all the time, it became quite uncomfortable for me because the roles within the big company were becoming increasingly specialised, so you start off as an artist, and then you become a character artist, and then you specialised in the textures of the characters, or in their heads... And it was becoming increasingly obvious that whereas the areas which I was taking interest were getting broader, the areas that were presented to me as a possibility were narrower, and after a couple of years in the line I was getting quite uncomfortable’ (Dock, interview, August 31, 2010)

‘One of things you find in the larger companies is that they expect you to be super specialised in being really really brilliant at doing one thing. I mean, I have had David Braven at Frontier, another local company, advising a room of students that they should be super specialised, become expert shader programmers. My brother you know, he works in the games industry. He is employee contractor and they just make tanks, they study tanks, they eat tanks and they live tanks. And it is a super specialised job and the industry is big enough to support these people and it is like in a movie, where you have the guy who makes the skins and the shades or whatever, so you can be the one guy who does that and make a living’ (R. Brooskby, interview, August 24, 2010)

Secondly, a common source of conflict between producers (and hence publishers) and developers takes place at an experiential level. As game development is constrained by publishers’ instrumental criteria, executive decisions to scrap game projects are extremely frustrating for developers, as the investment of affective labour on projects is very high. The impact tends to be felt harder by large independent or second-party studios acquired by first-party or independent publishers, as shown by Kuchera’s account of the corporate influence on studios’ daily work life:

‘Black Box was enjoying success and at that point had over 100 employees. The studio seemed on the cusp of great things and the major publishers took notice. EA purchased the company. "The culture was not destroyed overnight, but the place went from a frat house to an obvious place of cold business," Hume said. Many people left the company and new employees were brought over from EA. Hume felt like "a cog in the machine" and grew so disillusioned by the job he quit suddenly one day, without anything to fall back on... "[E]ven the best of the best AAA studios are not safe these days. A lot of games get cancelled now, or don't make the expected income," Hume explained. "When this happens, 100 or so friends are shown the door, despite how much they have done in the past."' (Kuchera, 2011)

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<sup>59</sup> As I noted before with regard to ‘Mass Effect 2’, the level of specialisation has reached the point of creating directors for each division, redefining team leaders as managers of the implementation process.

Finally, but by no means least importantly, strict work practice arises from the advantaged position of publishers in the process of game making. The contractual relationship between publishers and developers specifies advance payments against meeting milestones, as well as deadlines, due to both sales and licensed media events (Dyer-Witthford & Peuter, 2009). This leads to the implementation of ‘*crunch time*’, meaning a critical increment of work hours in order to keep up with the schedule and release dates. Work time is extended over time and throughout the day, with employees working from fifty-five up to more than a hundred hours a week, for a period of between two weeks and two months. In my interview with Ben Bradley, he mentioned working more than fifty-five hours a week for two months, with only two days off during that time. His experience is far from isolated. A survey report by the IGDA (2004) shows that the practice is omnipresent in every project, with only 2.4% of respondents reporting no crunch time experiences at work. In addition, the report shows that developers experiencing crunch time are likely to work between sixty-five and eighty hours per week, and that this overtime often goes unpaid.<sup>60</sup> Although developer trade organisations (IGDA, TIGA) warn about the threat that crunch time poses to developers’ wellbeing, their disempowered condition (Miller & Leger, 2003) means that there has been no articulated response from the industry to regulate the practice. Although planning and managing the creative process within time constraints is difficult, the pressure to deliver the final game version before the stipulated release date (especially when scheduled for summer or winter) and avoid higher production costs means that crunch time has become increasingly prevalent in the industry.

#### **4.4 Building markets**

As in any other industry, executives running digital games companies follow the call of the ‘market’. This metaphysical entity can be understood as ‘the audience as it is identified and conceptualised by financial decision-makers’ (Peterson, 1983: 146).

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<sup>60</sup> A thorough account of crunch time can be read in Dyer-Witthford & Peuter (2009). In this work, both scholars discuss how companies benefit from lax labour legislation on the part of country or state, and address one of the most advertised cases, known as ‘EA Spouse’. Lately, trade industry magazines such as *Develop* and *GamesIndustry.biz* have extensively covered the debate on crunch time, in which smaller companies and the IGDA clash constantly with major game studios and publishers about whether crunch time is an exploitative practice (Crossley, 2011a, 2011b, 2011c, 2011d) or the consequence of ambitious and motivated developers (Elliot, 2009a; Cifaldi, 2009).



Audiences' tastes are ascertained by companies, who design strategies to capture a share of the market as well as expanding its boundaries. Market segmentation, promotional strategies and the connections between production and consumption have been addressed previously in studies by Kline et al. (2003), Alvisi (2006), Kerr (2006b) and Deuze et al. (2007). Nonetheless, there is no clear account about how players come into play in the process of pre-development. In addition, the process of game production has spanned diverse forms to harness players later on in the process of production that deserve more careful attention.

As I have already addressed, the games industry is an oligopoly based around three main platform manufacturers and at least three independent publishers who own or hire game studios to carry out the process of game making. I have argued that the distribution of work and capital amongst these actors shapes the degree of creative independence for game developers, influencing the content and style of games produced in order to achieve mass market success. In this section, I turn to look at how market rationale informs the process of game development, suggesting how publishers and platform holders privilege some genres and content over others, as their commercial readings help to define the kind of content that they will develop in the future. It is clear that the profiling of players according to taste, play frequency and demographics has become an important factor not only in publishers' portfolio priorities, but in those of developers too. Then, I move on to consider how the complexity of the game experience and the need to 'get it right' has led to the further incorporation of players' input in the later stages of game development and post-release, in order to improve the general appeal of the game.

#### **4.4.1 Development as a function of sociotechnical market relations**

Like any capitalist enterprise, the profit-seeking and risk-averse rationale of the games industry places emphasis on meeting market demands. Consumer surveys and industry reports serve to provide an account of the games market, enabling publishers to carefully define their investment strategy. The maximisation of profit, the appeal to major markets and the avoidance of risks govern the conditions under which publishers decide whether or not to fund projects. These aspects can be seen when we examine the way that developers pitch projects to publishers. As David

Wightman (NESTA, 2009: 104), ex-CEO of Creative Edge, suggests to developers: ‘you need to make sure your product is aligned with the market and the opportunity for financial return is credible, otherwise you go hungry.’

Project pitching involves developers attempting to persuade publishers to invest their money into a game idea. Developers’ accounts, from both online and printed sources (Powell, 2005; Bartlett, 2005; Dallman, 2007; Davis, 2010) are clear about what to present and how to present it; they aim to generate the impression of a capable and reliable team, as well as displaying a competent knowledge about the games market and how it can be exploited.

Within the documentation presented by developers to publishers in advance of pitching a game project, three broad subjects are worth highlighting: the market overview of the game concept, the project outline and the technical design document. First, the game concept (features, mechanics, narrative) needs to be checked against the platform’s technical features and internal competition. Game mechanics and content are constrained by the platform’s capabilities, meaning that a game has to meet the platform’s specifications and provide a pleasant experience when played via the platform’s controllers. Furthermore, publishers’ key concern is whether the game will appeal to the market. Here, developers need to show off their knowledge about the games market, addressing the player profiles at which the game content is aimed, their representation within the market, their distribution across game platforms and whether or not to localise the game.<sup>61</sup> Moreover, an assessment of market competition and the product competitive advantage is common during the pitching. Besides a differentiated – not necessarily original – set of narrative and game features, the technical design document is also important, as state of the art

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<sup>61</sup> Compelling textual analyses of the digital games industry from Kline et al. (2003) and Jones (2008) have addressed the ways in which consoles are marketed, the strategies used to persuade consumers, and the development of games as a response to their core markets. For instance, Microsoft designed the XBOX as a ‘sexy’ black box to appeal to hardcore and older players – this symbolic status also transferred to the XBOX 360. Meanwhile, Nintendo marketed the Wii as a friendlier console, appealing to younger, casual players both female and male. The differences in game content can be seen in their rated games. From the total number of games published by the Wii, just 2% are rated as Mature (+17), while 61.61% are rated as Everyone. In contrast, 19.3% of the XBOX’s games and 19.5% of the XBOX 360’s games are rated as Mature, while 37.1% and 22.54%, respectively, are rated as Everyone. These differences between platform consumers are among the issues that publishers take into consideration.

technology (graphic techniques, game engines) can position the game ahead of other projects in development. Finally, the symbolic status and trust between publisher and developer has a bearing on project negotiation; a higher level of trust reduces publishers' aversion to invest in riskier game projects. In-house development studios are granted certain degrees of trust in terms of projects' market success, while successful third-party studios – such as Crytek - will find the process smoother, as many of them have strong fanbases, hence reducing publishers' uncertainty.

It can be observed that the projects which fulfil publishers' expectations are those that provide a positive profit balance when project budget and market risk are assessed against one another. Even privileged super developers and studios need to show how the costs of technology, salaries, marketing, Q&A, localisation, outsourcing and overheads will be surpassed by the game's performance in the market, as well as proving that the studio has the skills and manpower to lead a game project to market success.

The above reasons mean that publishers only fund a very limited set of projects, according to the historical performance and changing markets of certain game genres, narratives and aesthetics in the market. Most publishers shy away from investing in novel game content. Thus, game developers are pushed to conform to publishers' creative vision, which - as is widely known - tends towards licensing media brands from comics, films and other successful game titles (Kerr, 2006a; Kline et al. 2003; Potanin, 2010).

#### **4.4.2 The producer-consumer coupling: players as co-producers**

Ascertaining game consumers' tastes and habits is not the only way by which markets utilise players to shape game content. The quest to improve players' engagement has led to development practices in which play and work, production and consumption are tightly interlinked. These strategies are deployed during the process of development through gameplay testing, and also after the game has been released, in the form of either players' feedback or user generated content. As I addressed in Chapter 1, adding value to games through player modding has become a common strategy for improving games' market performance and creating brand

royalty, while ensuring that modders remain ‘visitors in the media landscape’ (Postigo, 2010). In the following, I want to pay more attention to how players are harnessed as co-producers during the process of game development.<sup>62</sup>

Among well-established game studios, the practice of gameplay testing has become widespread. It differs from beta testing – although beta versions are sometimes used - as its primary goal is not to find bugs but to refine game mechanics and fun factor. Strategies vary according to target markets, but it is common to categorise and harness the community of game fans or potential consumers in order to gather early feedback on game mechanics.

These strategies can involve in-house play-testing and often take place following the completion of a major milestone.<sup>63</sup> Sometimes, the process can be wholly designed and carried out in online environments. Computer game companies such as Blizzard Entertainment make massive calls for play-testing worldwide. Prior to the release of its latest RTS blockbuster *Starcraft 2: Wings of Liberty* (2011), Blizzard launched a beta version in order to gather player feedback, polish game mechanics and fix remaining bugs. According to the *Starcraft 2* Beta Test License Agreement, players had to create a profile in Blizzard’s Battle.net server, providing their computer specifications and game preferences. Once testers had been chosen according to the above criteria, they could download the beta version of the game via Blizzard’s server. In addition, testers agreed ‘to provide Blizzard with comments, suggestions and impressions of the Game by using the in-program mechanisms provided to supply feedback and bug reports, the Game Beta Test internal website and forums.’ (BlizzBlues, 2010). This user testing process was considered crucial for Blizzard developers, helping them to create a balance and simplify some gameplay features

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<sup>62</sup> Although my focus is on the process of game development, it is clear how, as part of community management, game studios and publishers foster participation through the creation of fan-based products as a way to reinforce brand royalty. Through competitions and governance, official game community sites promote different kinds of fan-art such as pictures, comics, short videos, machinima etc. In later releases, games such as *StarCraft 2* (2011) are feeding community interaction, events and fan-art competitions – in addition to their professional competition events - into the game’s menu interface. This is a key strategy for Blizzard, as it allows fans to make and submit their work to the official community site, while the studio or publisher retains the unconditional rights to commercialise and exploit this fan-art.

<sup>63</sup> More information on this can be seen in *Unfinished man*, 2011, or EIDOS Montreal, NA.

for the multiplayer mode, considered the strongest asset for players (Battle.net, 2010).<sup>64</sup>

This process is extended to the post-release stage, where technical support gathers feedback from consumers in order to improve the game experience or to fix bugs that have slipped through the beta testing stage. This creates a constant process of reshaping game experience. Blizzard has implemented a strategy called Public Test Region, which has been widely used in games like *World of Warcraft* (2004) and *Starcraft 2*.<sup>65</sup> It entails constant feedback-gathering as a starting point for further changes in the multiplayer gameplay. These changes comprise character/race balance, new game features, services and the fixing of bugs. Once the changes have been encrypted into a patch, it becomes available for the players registered in the PTR.

As we can see, addressing markets in the games industry goes beyond the prediction of potential consumers when developers pitch projects to publishers - although the latter still have the last word in the process of development. Once publishers decide to fund a digital game, development and marketing mechanisms for engaging players are put into practice in order to find a balance between game content with consumers' expectations.<sup>66</sup> In addition, mechanisms for game testing suggest a fuzzy relationship between free labour and play in games development. Player engagement and agreement to terms suggests a strong identification with digital games, leading us to look at the processes behind them.

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<sup>64</sup> Although it is highly praised for the compelling narrative of its single player campaign and its fast-paced mechanics, the *Starcraft* franchise's success relies on its marketing and design concept as an e-sport.

<sup>65</sup> Taylor (2007) provides an in-depth account of user-producer relations and the shaping of the MMORPG *EverQuest* (1999). Although it was a source of artistic tension, both the publisher (Sony) and developers of *EverQuest* designed ways to gather and incorporate players' feedback into game design by inviting them to game summits and fairs.

<sup>66</sup> A tangible exception on the way consumers are harnessed in the process of production can be seen in Banks (2005, 2009), Banks & Humphrey (2009) and Banks & Deuze (2009). In their case of study, a fan network was harnessed to directly work on art and level design aspects of a game project. Their work suggests the possibility of outsourcing labour to game communities as long as fan interests and developers' converge, entailing a constant negotiation of rewards and commitments.

In the above section I have addressed some features of the digital games market, exploring the connections between players as consumers and the process of game development. Here, I showed how consumer preferences are traditionally categorised through market research data, helping to reduce economic uncertainty and narrowing down the creative possibilities for game development. In addition, consumers have been involved in the process, adding a greater level of certainty to the process of production, and bringing a different means of value to the game itself. So far, I have addressed a series of social actors and processes that structure the work of game developers. In the next section, I will further explore the ideas and practices that motivate developers to work in the games industry, how much they are willing to give for their work, and how the dynamic between developers' affective attachment to their work and the alleged work culture in big game studios become the motivational sources of their independent enterprises.

#### **4.5 Work and culture in game development**

In cultural industries, a key 'location' of game production occurs in game developers' own accounts of their work. The identity of creators becomes a creative pool from which ideas and symbols emerge and are eventually 'imprinted' onto the game content. In addition, the ways in which creators collectively structure their own career system influences the nature of the work. This leads us to ask how game developers' identity is framed, what sort of forces lead this structuration and what kind of ideas and values drive developers to take part in the industry. These questions will be addressed by exploring shared ideas about work as play, as well as contemporary forms of management that tie developers from different professional backgrounds together. These ideas portray a vision of creative workers that legitimates work practices and also influences the extent to which developers' creative vision is achieved.

Although unevenly distributed within the professional landscape of game development, it is argued by industry advocates that an inherent passion for games is needed to become a game developer: (Ashton, 2009; Consalvo, 2008). As we have seen throughout this chapter, entrance to the industry is granted and regulated by both professional and informal expertise, whether one is a graduate in fine arts with

skills in IT or a self-taught artist. No explicit technical expertise is required for some posts (e.g. QA tester), while a potential career in game design or production can be ‘unlocked’ by gaming experience alone.<sup>67</sup> Although travelling different paths, game workers, whatever their background, tend to share a common *ethos* of gaming and an enjoyment of their work.

Early studies in the field have already pointed out cultural sources within the digital games industry (Haddon, 1988; Herz, 1997; Kline et al., 2003) that have shaped what Dovey & Kennedy call a dominant ‘techno-identity’ or *technicity*, providing “a role model for a preferred ideal subject, highly technologically competent and skilled in creative production” (2006: 78). Experience as a player is a major motivational force to pursue a career as a game developer. This ‘call’ follows a pattern starting in early life. Playing games and learning programming or computer skills are a common ludic practice during developers’ childhood and teenage years (Wimmer & Sitnikova, 2011; Dovey & Kennedy, 2006). Here, developers’ biographies intersect with each other due to an important connection between gamework and a particular conception of fun, a notion that re-emerges in daily work and interactions as cognitive coordinates within workplace culture.

As some scholars have noted, the features of gamework are equalled with playfulness when interpreted by developers. Peuter & Dyer-Whiteford (2005) found that developers characterise their work as creative,<sup>68</sup> cooperative and playful. In general terms, developers – and in fact most workers in the cultural industries - celebrate their work as non-mechanised, and as an activity full of intellectual challenges that allows developers to approach their work creatively and autonomously, in both

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<sup>67</sup> Although this is an argument usually put forward by the industry, it has become hard to sustain. Given the trends in outsourcing, QA testers now have less opportunities to rise through the hierarchy. QA testing holds no social significance, as the work is separate from the workplace where the creative process takes place. Even in game studios that host their own QA test divisions, workplace divisions lead to minimal or no interaction between the top ranked developers and the lower echelons of a company.

<sup>68</sup> As a self-defining feature of game developers, the concept of creativity has been deployed since the early years of Activision and Sierra on-line. It has informed strategies (royalties, authorship, graphic art and marketing) copied from the music industry, like the ones introduced by the Trip Hawkins at Electronic Arts in the early 1980s (Kent, 2001; Donovan, 2009). Currently, as we will see in the following chapters, it has informed claims and strategies seeking for work autonomy in the process of production.

design and technical terms.<sup>69</sup> From a design perspective, the generation of concepts and ideas for games is self-explanatory. Interestingly - especially among programmers - the approach to a problem is often decided on by the developer himself, or in collaboration with other colleagues:

‘It’s also about game decisions. It is quite easy to think about big game design, but when you design a game there’s a lot of small things like a camera behind a person, how does it move? How does it feel? It’s quite a subtle thing to get right, so you can try to change the code in some ways, and that’s a creative aspect to do programming.’ (Ben Bradley, interview, April 23, 2010)

Thus, the ludic aspect of work for game developers means that they see problems as puzzles to solve. In this regard, O’Donnell (2009) suggests that this instrumental way of viewing work/play is just one side of the coin, part of a larger ‘system’, an *experimental interactive system*, that feeds the playful nature of gamework (what Peuter & Dyer-Whiteford [2005] call cooperative sociality). This pleasure experienced through gamework relates to the creative freedom, autonomy and flexibility felt by developers. In small companies, this can be experienced through a relatively flat organisational structure, facilitating interaction and cooperation amongst the different studio divisions. Bigger companies engineer an atmosphere reminiscent of both a workplace and a funhouse, portrayed as a social space for creative workers to enjoy and strengthen bonds. Access to snacks and drinks is company policy, as along with flexible working hours. For instance, Infinity Ward studio, the company in charge of the blockbuster series *Call of Duty*, is depicted in this fashion by a journalist:

Back at Infinity Ward, Rubin takes us further into the complex. There's a games room complete with MAME cabinets and several foosball tables... There's also a gym, which brilliantly provides the only access to the smoking balcony – "it's the walk of shame," says Rubin. Around the corner there's an office that's been converted into a mini-apartment for one of the artists. Apparently, he just wasn't leaving work that often – so now he sort of lives here.

Then we're into the cafeteria, which haphazardly doubles as the main meeting room. The walls are decorated with Pac-Man ghosts, the cupboards stuffed with boxes of chocolate bars. There is a sizeable drinks cabinet, which, among the gallons of hard liquor, boasts a huge bottle of Baileys. (Stuart, 2011b)

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<sup>69</sup> When interviewing developers, the phrase ‘it depends on the project’ is often heard. In their view, every project tends to be different and has ‘its own needs.’



Interestingly, work environment and portrayals of gamework converge with other cultural industries in the New Economy. For instance, the aforementioned features and work practices are similar to the dot.com industries, which were also subject to a counter-cultural “non-corporate” discourse (Ross, 2003). Moreover, Neff et al.’s (2005: 310) description of the media and fashion industries shows there is a notion of ‘cool industries’ and work as play, where young workers share ‘relatively unstructured workplaces, an absence of management norms, a high level of cultural capital required for entry into the labour market, and a demand for the affective commitment.’ Interestingly, these scholars note an increased trend towards labour risk, and exploitative practices where work takes place even after office hours.

In the case of the games industry, the notions celebrated by executives and developers can also turn ‘into a digitized iron cage and convert a dream job to a nightmare’ (Peuter & Dyer-Whiteford, 2009: 56). The blurring between work and play can be easily turned against developers. Participation in fairs, networking events, interviews and commitments that result from their work as developers tend to be very common within the industry, sometimes even clashing with crunch periods.<sup>70</sup> Furthermore, the sense of ‘ownership’ (Neff et al., 2005; Peuter & Dyer-Whiteford, 2005) can become a double-edged sword, as it means that the responsibility for a certain piece of the project falls on the individual developer. Combined with flexible working hours, autonomy becomes a self-regulation policy that leads to work exploitation:

Hours here [Infinity Ward], like everywhere else in the games industry, are erratic and long. The basic shift is 10am to 7pm, though it's a while since anyone was doing that. Rubin says he usually arrives at 8.30am and, for the last month, has been regularly leaving at 4am. Certainly, there are staff around throughout the night – hence, the three massive refrigerator units filled with energy drinks. (On the plus side, the studio is visited weekly by a masseur, who sets up a table, lights some scented candles and provides a few moments respite from the crunch madness.) (Stuart, 2011b)

The example of Infinity Ward sheds light on the actual use of those work features considered perks. Fitness facilities, games and drinks are part of a home-like environment designed to help developers to endure long hours of work.

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<sup>70</sup> For the Scottish Game Jam 2010, two developers from Real Time Worlds were appointed part of the jury that assessed the projects. During the weekend, the developers commented that it was their first weekend outside the studio for a month, and it would be the last one for another two months, as the release for their game APB was getting close.

Lastly, it is important to keep in mind how current work practices in the industry, as well as the *ethos* of work/play, have encouraged the construction of a young and male-centred development workforce (Haines, 2004; Deuze et al. 2007).<sup>71</sup> Constant burnout and crunch time takes its toll on older generations of game developers, as reported by Gourdin (2005). Furthermore, as Prescott & Bogg (2011: 207) have found, the industry is ‘concentrating individuals in particular occupations, making some occupations either “men’s” or “women’s” work’, as well as concentrating them ‘in the lower echelons of an organisation’. Game industry surveys show similar findings in this respect; Gourdin (2005) reported for 2004 just an 11.5% of women within the industry work force, while Game Developer (2011) shows a 9.14% of women representation in the industry. Slight differences are presented in the UK, where Skillset reported in 2002 a 17% of women within the industry, figure that has been significantly reduced to 12% in 2006 and just to 4% of the workforce -from approximately more than nine thousand direct workers- in 2009. Still, independently of the differences between countries and the validity/accuracy of the information, it is clear that women are completely underrepresented in the digital games industry.

In occupational terms, the different surveys carried out during the 2000s offer a similar conclusion: the small role women actually have played in shaping the content of digital games, due to horizontal –“concentrating individuals in particular occupations, making some occupations either ‘men’s’ or ‘women’s’ work” (Precott & Bogg, 2011, 207)- and vertical gender segregation –“concentrating individuals in the lower echelons of an organisation” (Ibidem). The former segmentation has been noted earlier by Haines (2004), although the Game Developer Salary Survey shows updated figures of a changing landscape. Women are more likely to work as producers (26.56%) and non-developmental roles (21.87%) -marketing, business, executive, but within development, they often work as part of art and animation teams (17.18%). In addition, besides QA salary differences are substantially different between genders, where men can earn much more in average.<sup>72</sup> This goes along with

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<sup>71</sup> The games industry follows the sexual division of labour of the communication technology, science, engineering and technology sectors, as it can be considered a ‘sister’ to these sectors (Thewlis et al., 2004).

<sup>72</sup> Nevertheless, the study does not clarify whether these differences are a result of recent enrolment in the industry, a vertical division of labour where women do not have access to lead positions, or clear

the findings in Prescott and Bogg's study, where female representation in developmental roles have been improving in recent years, especially in art (14.5%) and game design (13.7%), besides production (12.8%) and executive roles (12.6%). Still, areas like engineering (3.5%) and coding (5.7%) showed very low women participation. Seemingly, the same study showed an improvement in the vertical distribution of female game work in the career ladder. Within their sample, 25% of female workers were managers, 24% were middle level and 18% were senior, while junior developers accounted for 15%. Interestingly, only 8.1% of workers were in lead positions, which turn out to be usual posts of those who design and carry the creative vision of a game project, or at least the ones able to negotiate the game content with publishers.<sup>73</sup>

These more structural features of the game development workforce have an important effect on the content of digital games, where the over-representation and increased relevance of male, white and adult characters has been pointed out in the past (Heintz-Knowles et al., 2001; Williams et al., 2009). Even when other developers try to push the gender boundary, corporate actors appeal to the logic of 'what is best for the markets' to promote male-centric aesthetics. As mentioned by developer Jean Max-Morin from Dontnod Entertainment:

“We had some that said, 'Well, we don't want to publish it because that's not going to succeed. You can't have a female character in games. It has to be a male character, simple as that.’” (Prell, 2013)

Fuelled by corporate lines, the process itself can be seen as the cycle of reproduction of this male, young, and-white-centred industry, as the embodiment of developers' identities in games attract more young males to the playerbase: ‘Those males grow

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salary discrimination. If we were to include Prescott and Bogg's (2011) study (although not recommendable, given the differences in their sampling and data collection methods), the third option would be the most certain.

<sup>73</sup> A more recent survey carried out by Game Developers Magazine in 2013 has confirmed the persistent gulf between female/male wages and the division of labour within the industry (Handrahan, 2013)

up and are more likely to become game makers than women, perpetuating the role of males in game creation, etc.’ (Williams et al. 2009: 829-30)<sup>74</sup>

In conclusion, the notion of work as play is a powerful idea that has roots in countercultural cyber-cultures (Kent, 2001), where playfulness was tightly knitted with notions of collaboration, experimentation and hacking. These notions are seemingly harnessed by many game companies - especially first-party studios - but are turned into managerial principles that serve to keep developers working and to enforce tight schedules and milestones. The extension of long working hours over time shortens the career of game developers in the industry, which, in the case of female developers, adds to the professionally difficult and sometimes unfriendly work environment. The extent of work/play ethics can also be seen in the interconnections between consumption and production. Work as play has been harnessed through the concept of *working by playing*, where consumers become free labour for game companies or workers for the micro-economies of certain games, as has been addressed in section 3.3.

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This chapter has provided a description of the key important aspects of the large scale sector of the digital games industry. In looking at these aspects, I have characterised the actors involved in the process of production and their position in the industry. I have addressed some sociotechnical aspects related to the technological infrastructure of games, as well as the way that it is driven by the aesthetic conventions fostered in the industry, due to their chance of commercial success on a mass scale. The vertical integration of the industry, based on the control and means of game production (platform-IP ownership, financial means, development process), constitutes the basis for those aesthetic conventions (classic genres, high-fidelity graphics, characters and narratives), which is reinforced by

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<sup>74</sup> The cultural roots of this aspect of the industry have been pointed out in previous research (Haddon, 1988b, 1993). The concentration of game production on male hands shaped the kind of themes, aesthetics and even the interest associated to playing. Along with this trend, games as a form of sociality gained a much important currency amongst young males, who soon became legitimated as players-consumers both in marketing strategies of publishers, and in the intimacy of family relationships.

corporate actors.<sup>75</sup> Furthermore, we have seen how the success-upon-sales rationale plays a role from early in the pitching of a game project, and how consumer fans later come into the process of development as gameplay testers. Within this complex organisational and occupational structure, the work/play ethics of game development suggest interesting work dynamics, especially as the rationalisation of creative work and management mobilises pressures within the process of game development. Here, although the sociality of gamework stresses a playful, flexible and cooperative style of work, the constant crunch time and a male centred environment results in older and female developers finding it difficult to enter the industry or stay there for long. These aspects of the industry are key to understanding both the structural connections and reasons motivating the independent production of digital games. And from this dynamic, the specificity of indie production can be extracted. In the following chapter, I aim to describe this sector in detail, looking at the ways in which it is being structured and how it is formed from a complex collection of initiatives by corporate and independent actors within the industry.

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<sup>75</sup> Nonetheless, their influence has not necessarily translated into complete creative stagnation, as premade formulas are balanced with riskier projects mostly through deals with independent or third-party companies. The implications partially coincide with Peterson's analysis (2004) of the oligopolic structure within the cultural industries, where competitiveness leads to a diversity of products, while - in our case - allowing mainly incremental innovations to existing conventions (Tschang, 2007).

## Chapter 5

### The independent production of digital games

In the following chapter I will turn to address the independent game sector and the social aspects underpinning its process of production. Following the dimensions of the PoC suggested by Peterson & Anand (2004) –industry and organisational structures, market structure and technology, I describe a series of regulations and processes shaping the conditions under which independent games are developed, promoted and distributed. The sociality of independent production lead me to address games not just as a product of developers work, but also as the diverse relations of production –labour, sociotechnical, institutional- between actors that shape their conditions of possibility. These uneven relationships between independent and corporate actors at different levels of the network of production will be addressed in more detail in this chapter.

Specifically, the first section will engage with the industrial and sociotechnical arrangements constituting the digital distribution (from here on “DD”) model. In its current state, DD has entailed the re-accommodation of costs, labour process and risks associated with game production, opening up new possibilities and constraints on independent development. I will argue that this is due to three interrelated social processes. Firstly, independent developers have successfully harnessed the Internet as a tool for distribution and work/play sociality. In addition, the commercialisation of DD services from and for corporate platforms has enabled developers to seek alternative forms of funding and work, while assuming control over the creative process, approach to markets, pricing systems and their own work schedules. It has also improved their chances of negotiating better deals with emerging ‘independent’ publishers and corporate branches. This later process entails an important risk for independents, as the ownership of digital marketplaces and the push towards graphic quality standards increases production risks and improves the leverage of digital distributors, especially Microsoft, Sony, Apple and Valve.

In the second section, I will explore the organisational forms independent studios and developers tend to engage with. The capital/labour relation of independent gamework suggests the harnessing of organised groups of specialists, fostered by the larger industry, while flexible-specialisation is centred – as in other entertainment industries – ‘around processes of reintegration and globalisation’ (Aksoy & Robins, 1992: 19). Despite the possibilities sketched out here, independent game development has not been immune to the precarious conditions and work organisation often found in other creative industries (McRobbie, 2002a & 2002b; Hesmondalgh, 2007a & 2007b; Ross, 2003 & 2009). I will explore how this work is localised through strategic networks of independent studios and developers, contracting each other as specialists depending on their projects. Additionally, I will discuss other forms of collaboration within small scale indie projects, as they arise from the cultural dynamics deployed within their densely interconnected game communities and artisanal networked scenes.

The third section analyses a two-folded strategy by independent developers to create a player base for their products. I will address how developers engage in cultural events and deploy personal marketing strategies in order to promote themselves and gain status. Here, some cultural actors and events such as the trade press and awards festivals play an important role in validating independents’ work. Additionally, the use of online ‘word-of-mouth’, which involves showing off projects and providing updates, helps to test the projects’ commercial viability. These internal practices fit into the general feedback loop between players and developers, where creating awareness in the developer/player social worlds is framed as essential to the building of an early fanbase.

In a final section, I will address the politics of the technological infrastructure of digital games, showing how independents rely more on the use of shareware, freeware and/or their own tools and engines to build their projects. The new market standards have not only allowed the commercialisation of tools with licences accessible to independents, but also the ability to purchase ‘outdated’ engines at low cost. Even more important are the ‘moral markets’, where assets and works are mobilised under open licences or alternative forms of pricing.

In sum, the following lines of argument address how changes witnessed within the industrial, organisational, market and technological spheres have established the conditions under which independent games are produced. They also address how such conditions redefine the scope of independent development, its possibilities and dilemmas.

### **5.1 Industry restructuring through Digital Distribution: the possibility of independent game production**

In Chapter 3, I explained how the greater industry is structured in a way that integrates a series of actors into what is often called the retail model. This model has ensured the provision of means to develop, publish, and place game boxes in retail stores through channels managed by hardware manufacturers and publishers. In this context, digital distribution and the economic model (known as the “long tail”) it promotes has become a way to bypass traditional corporate channels, avoiding the economic, creative and technical constraints and risks discussed above. According to Chris Anderson (2006), this is due to three basic forces driven by the digitalisation of media: cheaper tools of production, lower costs of consumption, and connectivity between supply and demand. In this context, this section looks at how digital distribution through the Internet has become an outlet for maximising these new conditions. I will first address the economic implications behind DD and what they mean in terms of autonomous gamework, access to potential markets/audiences and challenges to independent game production. Lastly, I will address how corporate actors have also adapted to DD through the creation of private markets for their hardware platforms, diversifying their sources of revenue while re-accommodating their roles and influence within the industry.

#### **5.1.1 The digital turn**

At the end of 2004, Valve Corporation released its Steam service on the Internet, an online platform for buying and downloading digital games for the PC. It was followed by Microsoft’s XBLA in 2005 and Apple’s App Store in 2008, establishing a new era of digitally distributed games. Although these services are the most well-known within the games industry, they were by no means the first to harness the



Internet to those ends. Their strategy was an acknowledgement of cultural life on the web and an attempt to profit from it.

Since the early 2000s, users have been harnessing increasingly faster broadband connections and Internet penetration in order to create and share content on the web.<sup>76</sup> Internet cultures thrived during these years, with communities springing up where both game developers and hobbyists could experiment with and release personal game projects made during their free time, to reach a specific audience. These practices paved the way for the emergence of DD channels, virtual platforms such as Flash and later on, virtual marketplaces for game platforms. Examples of this can be traced back to New Grounds in the 1990s, a flash virtual platform where people could share their flash games, movies and music for free. It later became a portal for publishing demos and small versions of games in order to market the full versions (New Grounds, n.d.).<sup>77</sup>

Since then, developers have published their games independently from their own webpages, using services such as PayPal to handle sales. But at the same time, most of them prefer either to negotiate directly with other virtual marketplaces or to go through independent publishers, which can place their games onto different game portals in return for a small percentage of the revenue. The structural implications of this model will be discussed further in the next section.

### **5.1.2 Changing the structure: new and old actors**

Perhaps the most tangible economic advantage for independent developers relates to the distribution of their sales revenue. As I discussed in Chapter 3, under the retail system, game developers can expect royalties of 7% per game sold against development costs, which means that they cannot expect much profit if they have not returned on the investment put in by publishers during the process of development. As table 5.1 shows, DD channels enable developers to negotiate directly with digital

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<sup>76</sup> According to the World Bank, access to the Internet increased 265% between the years 2000-2005 in the UK, reaching more than 41 million people (World Bank Development Indicators, 2011).

<sup>77</sup> The developers behind this initiative would later gain critical acclaim with their independent studio The Behemoth.

distributors and thus attain up to 70% of the game revenue.<sup>78</sup> This is obviously preferable; as Charles Cecil expresses, ‘why would we want to go down the route of giving away 93.5% of the revenue when actually we can keep 70% of it? Does it make any sense?’ (Cecil, C, interview, July 15, 2010) Furthermore, when developers build a solid community of fans through their websites, direct downloads result in almost 100% of revenue going direct to the developers.

**Table 5.1**  
**Revenue share breakdown in Retail and Digital Distribution Models**

Company	Boxed game in a Retail Model (Publisher funded)	Digitally Distributed game (Self-funded)
Retailer	£10	
Format Holder	£3	
Publisher	£5.6	
Developers	£1.4	£2.8
DD Channel		£1.2
Total cost	£20	£4
Source: Charles Cecil, interview, July 15, 2010.		

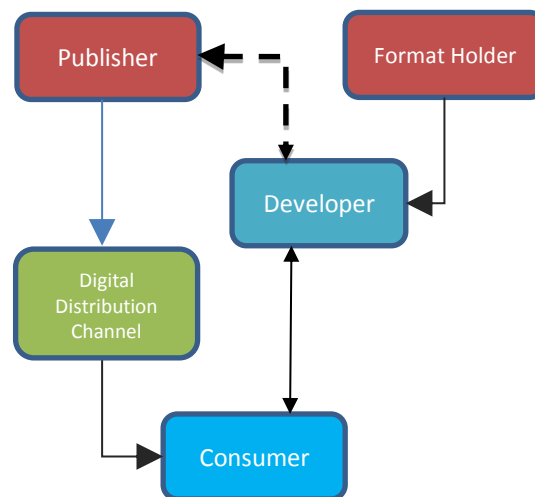
Moreover, this grants developers the ability to create games without ‘heavy’ technical specifications, partly because the processing and storage limitations of mobile platforms have balanced out the relationship between costs of production and profit. The restricted capacity of mobile platforms, the low budgets of developers, the small size of teams and the cheaper or even free development tools establish the conditions for creating smaller games, the production costs of which can sometimes be paid for with living expenses. This contrasts with the incommensurably higher costs that independent developers face when acting as third-party companies.

As for the industry, diagram 5.1 provides a visual explanation of how the relations between actors have changed. This has given birth to complementary structures connected to the larger industry, reconfiguring the role of certain actors, their influence upon each other, and the new shortcuts for consumers.

**Diagram 5.1**

<sup>78</sup> Revenue shares vary depending on the platform or DD channel used. While the App Store negotiates deals at 70%-30%, Steam does so at 60%-40%.

## Independent Games Industry Structure under digital distribution



Perhaps the most important and obvious consequence of DD has been the decreasing relevance of the traditional processes of physical reproduction, distribution and sale within the network. The chain of intermediaries has basically been reduced to developers, publishers and digital distribution channels, bypassing publishers and platform holders in some cases, and distributors and retailers in all cases;<sup>79</sup> the latter are experiencing problems due to the fact that an increasing number of games developed under traditional structures are now also being published through DD channels.

The weakening of the physical chain of distribution is also a result of the emergence of web-based ‘retailers’ from which consumers are able to download content. At a glance, developers are seemingly able to reach their audience directly through their own websites. Nevertheless, gaining an audience is still an issue, as the World Wide Web is growing exponentially, resulting in a need to filter and aggregate content in order to make it easier to find (Anderson, 2006). Indie developers can partially tackle this by linking their websites to their community networks, though this can still be problematic if the network has low public exposure. Hence, specialised and highly marketed DD channels or platforms such as Valve, Direct2Drive and GamersGate have broken into the industry in order to offer a wide variety of game catalogues for

<sup>79</sup> Widely covered by the media, cases like the UK retail shop GAME show the ‘creative destruction’ behind DD. Garrat (2012) provides a clear explanation of the source of GAME’s financial problems.

PCs. Format holders (console manufacturers) have thus harnessed DD channels in order to create their own corporate distribution pipelines, such as Apple's AppStore, Microsoft's XBOX Live Arcade., Nintendo's WiiWare and Sony's PlayStation Network (PSN).

With regard to publishers, the emergence of independent game development and DD has introduced some changes to composition and function within the industry. Low costs and therefore risks have allowed small independent publishers such as Blitz-1UP, Zoo Games, and the Indie Humble Bundle (IHB) to emerge.<sup>80</sup> The services vary among companies; the most comprehensive are the ones that provide limited funding, PR, development management, and bug testing services, as well as product placement within digital distribution channels. These new publishers are advertised as *indie labels*, which claim 'to strive for minimal influence on the developers they represent, and generally aim to avoid the commercial approach of major publishers' (Blitz 1UP, n.d.)<sup>81</sup> Some, such as IHB, even offer porting services, a pay-as-you-want sales model and the ability to keep games free from digital rights management (DRM) as part of their commitment to keeping access to games open.

As Lee Hickey from Games Faction states, the indie labels' approach can be more rewarding, as they offer better deals than corporate publishers:

'With 1-UP, we'd already negotiated quite a few deals with different digital distributors, including Steam, and we'd done one retail deal (in Russia) on our own. As it turned out, they ended up negotiating one further retail deal (and another in the pipeline) and several further DD deals. It ended up easier to let them handle it because they have a better negotiating position (multiple titles to place). The deal we struck was for them to take 10% commission on any revenue originating from any deal they set up.' (Hickey L., interview, April 4, 2011)

Corporate publishers, meanwhile, have diversified their operations, creating 'independent' publishing branches in order to capture a share of the market, or

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<sup>80</sup> Interestingly, a few independent publishers have hatched from successfully independent game studios, and in turn have created small publishing divisions to help other independently funded companies. Identified with ideas of industry openness, their origins have given them legitimacy over other publishers, as in the case of the IHB, a start-up by Wolfire Games. Meanwhile, the critically acclaimed Swedish studio Mojang started in 2011 as a project to co-publish games from other independent developers (Brown, 2011; French, 2011). And the recent initiative, funded through crowdsourcing, to release the open-source console Ouya has raised expectations in the independent sector (Orland, 2012). Its success could strengthen developers' relative autonomy.

<sup>81</sup> In 2011, Blitz Studios closed the 1-UP publishing programme to focus on the construction of their digital distribution platform 'IndieCity' as an independent alternative to Steam (Freeman, 2011; Blitz Game Studios, 2011).

establishing their own DD channels, as EA did with the acquisition of the independent publisher Chillingo, and later by introducing their own Origin platform for digital distribution. These divisions specialise in working closely with the platforms that are fashionable among indie developers. They handle marketing and provide funding in return for a share of the revenue, as financial capital can be still a problem for developers:

‘We had pretty much finished Inkvaders but because of our financial issues surrounding Project Aftermath, we were very short of money. In fact, we really needed a bit of cash to finish it off (living expenses, buying some sound, music etc.). We approached them and they loved the game. [Chillingo] offered to pay us a reasonable advance for a 30% share of revenue. In hindsight, that is a very high figure, but at the time it made sense.’ (Hickey L., interview, April 5, 2011)

In the above quotation, we can see how the traditional politics of game production are changing within the context of digitally distributed content. Although self-publishing has become a feasible strategy, and is considered the ideal situation for indie developers, financial problems, audience reach and (sometimes) lack of expertise in the process of production can create conditions from which new dependencies emerge. I will address this in the following section.

### **5.1.3 Renegotiating power within the industry?**

So far, I have suggested how the independent sector has coalesced around the construction and harnessing of digital distribution channels. Financial capital aside, developers have found more suitable opportunities for self-publishing by dealing directly with their audiences to some extent, and negotiating distribution deals with different DD channels, thus ensuring higher profits. In addition, by assuming total or partial responsibility for the funding of their games, developers have to some extent inverted the politics of control and ownership exerted by publishers, as they are now able to keep their IP as well as a higher sales share.

This new context has also turned out to be quite lucrative for publishers, and even more so for console manufacturers. As Kline et al (2003) state, corporate oligopolies have historically controlled the gateway to publishing, creating a bottleneck impossible to bypass: ‘if the publisher then controls the route into retail, then if you go in through that route, where did you go? There is nowhere to go’ (Cecil, Charles,

interview, July 15, 2010). DD opened up a space for developers to self-publish via certain channels. Nevertheless, the big media conglomerates have found ways to redirect consumers to their own DD platforms by creating and walling off console marketplaces, extending their ownership throughout the chain of production, and complying with the publisher-developer formula in order to ensure mass market success/profitability.

#### **5.1.3.1 The new old publisher-developer model.**

Far from affecting the traditional forms of control exerted by publishers, DD has provided a space where they can expand their area of influence. For instance, although the Steam platform allows self-publishing, it also works closely with bigger publishers and major development companies, and has thus become another market where publishers can attain a major share of revenue, as they can publish their own AAA games via these markets. As long as the capital/labour gap keeps the level of risk firmly on the side of developers, publishers are still empowered to influence the process of game development. As for indie developers, DD marketplaces have become a profitable enterprise for publishers, who can use porting strategies to expand their online catalogue.

Another example is the online marketplace provided for XBOX 360, which was conceived as an opportunity for Microsoft to make more profit. XBOX Live Arcade (XBLA) was first advertised as a platform to which publishers could port their successful game titles. By porting, publishers are able to create revenue from old titles at a low cost, by making them available to new consumers. Microsoft's strategy was to persuade publishers by offering a deal of 70-30% of the revenue from ported games, or 40-60% if a publisher licensed the game to an MS in-house studio to carry out the work (Casamassina, 2006).

Furthermore, XBLA policies do not allow self-publishing; developers must be backed up by a publisher or well-known developer in order to place their games on the platform (Elliot, 2009b). There is concern on the part of developers about the arbitrary decisions taken by Microsoft, as they can be left in a fragile position if their games are dumped or if their marketing agreements suffer last minute changes. Two

examples are revealing in this respect. First, after working for more than two years on their project, Tuna Tech-Squashy Software's *Cletus Clay* release for XBLA was cancelled, as Microsoft decided it did not fit in with the console's catalogue (Amsel, 2010), and so the studio was downsized from a team of nine to just two. The second example is from Edmund Mcmillen and Tommy Refenes' Team Meat at GDC 2011. Microsoft representatives had agreed to grant Team Meat an exclusive release week for their game *Super Meat Boy*, as well as the top place in the Spotlight feed on the XBOX dashboard. At the last minute, Microsoft decided to release another game the same week, and so *Super Meat Boy* was only given minor exposure on the XBOX dashboard:

'It finally went up half way through our launch day. It was the number four spot; it wasn't number one. The 'spooktacular sale', which was a whole bunch of other games that already came out – that was the number one slot... An ad for a Mazda 3 was the number two slot – because you all go on Xbox to figure out what car you want, right? We were number four and we stayed number four the entire week.' (Dutton, 2011)

The discontent of developers is furthered by exclusivity policies, as they can take away indies' control over their titles, as explained by one interviewee:

'I would like to make some console games, but the means by which you have to do them are very restricted. Being independent becomes increasingly tenuous. A good example is the exclusivity contract you have to sign. The vast majority of the XBOX live indie are stuck in that platform for 24 months or 3 years. It's good, because you might sell something, you might not and they don't guarantee you money upfront. So you get stranded and you cannot make a decision about your product, and that drives me mad. So it is not that great, and that also might imply that you should build a bigger company and I don't want to sacrifice what I have now.' (Dock, interview, August 31, 2010)

### **5.1.3.2 Apple: The platform is the message**

Another case worth noting is Apple and its DD platforms iTunes and App Store. Apple's platforms, iPhone and iPad, are considered to be two of the oasis that have boosted both indie game production and networks of developers specialising in iOS work. As in the case of XBLA, PSN and Wiiware, Apple owns the means of distribution. However, its scope of work is quite different, as self-publishing is encouraged and so theoretically any game submitted by a developer has a high probability of being published. In addition, the costs of producing a game for Apple's platforms are lower than any others, as the technical requirements make these games easier to develop.

The reason behind this can be understood as a reversal of the “razor and blades” pricing model, which was adopted by console manufacturers right from the beginning of the games industry. Unlike Sony, and until recently Microsoft and Nintendo, Apple’s platforms are sold for between two and three times their manufacturing costs,<sup>82</sup> meaning they are not compelled to enforce tough creative control (or trust in publishers’ ability to make profitable games) over the development of the applications sold in the App Store. Apple products have a wide range of uses; playing games is just one of the activities that can be done with an iPhone or iPad.

Certainly, developers such as Martyn Brown and Charles Cecil see this as a ‘win-win’ situation (Elliot, 2009b; Elliot, 2010). However, Apple’s interest in using the App Store to increase its sales might have proven counterproductive for developers in general, especially due to the standardisation of its marketplace. In 2009, Apple changed its marketplace featuring system, and as Mark Nigrin (2010) argues:

‘From featuring something like two new games per week they changed to featuring a ton of games, apps and more in many, at times confusing, categories and subcategories... Getting featured in the old system safely brought you into the Top 20 or higher. One of the last Indies I remember benefitting from that was Imangi with *Harbor Master* in May, they had a great game boosted by an almost exclusive feature and boom. Getting featured in the old system was HUGE. These days, the impact of getting featured is significantly lower.’

At the same time, developers are constantly dealing with Apple’s ‘sudden changes in their policies’, meaning that games can be removed from the App Store, and apps can be rejected without explanation (T. Fountain, personal communication, January 24, 2011).<sup>83</sup>

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<sup>82</sup> The cost of manufacturing a 4GB iPhone 3G was estimated at \$250 in 2007, around 50% less than the retail price at an Apple retail store (Block, 2007). By 2008, Apple had secured a reduction of iPhone manufacturing costs, down to the \$100 range (Block, 2008). As for a 16GB iPad with WiFi, manufacturing costs can be up to \$306.60, 52% of the retail price. These figures contrast with Microsoft’s XBOX 360, for which (until 2007) the cost of producing a unit was \$525, 31% more than the retail price (\$399). Microsoft managed to reduce production costs down to \$323.30 per unit (Shilov, 2005; Chen & Hwang, 2007). However, Sony had not yet managed to reduce the cost of the PlayStation 3, which still costs \$840.35 per unit to manufacture, 40% more than the actual retail price (Chen & Hwang, 2007).

<sup>83</sup> In a fundamental study carried out on iPhone and Android developers, Bergvall-Kåreborn et al. (2012) give clever accounts of developers’ irritation at the lack of transparency in Apple’s certification process. Additionally, Chen (2009) and Sorrel (2009) have addressed cases of apps failing due to problems with their content.



In sum, by keeping their virtual marketplace well fenced, Apple has the power to make unilateral decisions that affect developers, such as halting or rejecting applications without feedback, demanding retail exclusivity, and controlling game distribution (Bergvall-Kåreborn et al, 2010). Even so, given the global expansion of Apple's products and hence the potential consumer market reached through the App Store, developers still consider it worthwhile to invest their creativity in developing games for these platforms:

'I do believe in the possibilities of Digital Distribution and the App Store. Take my game "Dark Orbit", it started selling around \$35 a day, then it dropped to \$15, and when I started to market it a bit more it stabilised at \$30 a day for the last couple of months.' (T. Fountain, interview, March 27, 2011)

At the end, the evidence suggests that Apple is promoting the App Store as a personal platform that, though expensive, allows unlimited content to be purchased. This could be understood as an optimised version of the "razor and blades" model, where the myriad of apps (blades) available indicates the range of activities available to you if you purchase a highly trusted platform (razor). Apple, in return, ensures revenues through a highly profitable platform and outsourcing the production of 'app' outputs to third parties.

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In conclusion, the process of utilising Digital Distribution has led to major changes in the industry of digital games, opening unconventional channels through which developers can reach potential markets. It has also given them a less economically risky route for developing games independently, bypassing traditional 'checkpoints' within the process of game production.

Alongside these possibilities for independent development, the grand media conglomerates have created exclusive virtual marketplaces, seizing control of the means of distribution and hence replicating to some extent the vertical integration of the retail model, as well as retaining control over what can be published. In fact, corporate interests under DD still point towards what Kline et al. called the 'promotionalization and standardization of game content' (Kline et al, 2003: 179). In this new context, although creative control through ownership has been relatively

weakened, it has found a new expression through DD ownership. Attracted by the promises of DD, many independent developers attempt to publish their projects via these corporate owned marketplaces, but they face a series of obstacles along the way, from tough technical requirements to arbitrary decisions made by the marketplace owners.

As a result of this fragile empowerment of developers, the real losers of the industry are dedicated game retailers. As the console market opens its doors to DD of AAA games and Steam increases its storage capacity in order to host more AAA PC games, retailers are experiencing a heavy drop in their sales of PC games. Even though their efforts are being redirected at opening their digital delivery service, Steam still owns 80% of the DD market worldwide, and their already consolidated deals with publishers are impeding retailers' access to it.

## **5.2 'Organisation...Who cares about it?'**

In this section, I aim to describe some important processes shaping the conditions of flexibility within the digital games industry. Firstly, I describe how in the large scale sector independent studios have come to engage with outsourcing labour trends as a form to finance their own projects.<sup>84</sup> I then address how, tied up by the structural dependencies of the independent sector, game developers engage with organisational strategies to either deal with these conditions or bypass them in order to regain more creative autonomy.

As the possibility for self-publishing emerged with DD channels, the internal organisation of game studios has tended to change radically according to the source of developers' financial and cultural capital, as well as their functional integration into the industry network of production. Again, the constant tension between financial capital and creative control is what nurtures developers' collaboration with publishers and big studios, although in a different way here. As part of their transition from third-parties to independent developers, game studios have experienced a transformation in their revenue system, as a result of outsourcing

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<sup>84</sup> This establishes the structural conditions for companies to become more flexible, transforming their internal structure in order to cope with changing industry, technical, and market conditions, while also providing an organisational model for start-ups.

trends on the part of big companies, flexibility imposed by changing market conditions, cross-industry skills and the quest to reduce companies' overheads.

In this context, harnessing and switching to digital distribution channels has been the countermeasure of an increasing precariousness within the larger industry. At the same time developers deploy different strategies to keep up with their own projects. The bigger companies struggle to balance their work as outsourcers, actively engaging in work networks with other independent companies, as they seek the means to finance their own projects. One-man studios tend to engage with partnerships and collaborative projects, although they also tend to outsource certain elements of their games using informal connections with other cultural workers.

### **5.2.1 Fragmentation and flexibilisation in the industry**

A known capability of modern industries is that of separating and relocating stages of production from industrial centres to dispersed low-wage areas around the globe (Nash, 1983: viii). In the case of the technology industry, this process started by simply concentrating the mental labour at the core, while outsourcing product manufacture and offshoring administrative tasks to the peripheral countries of capitalist production (Keller, 1983). As Kline et al (2003) show, since its beginnings, the digital games industry has complied with this trend on at least three fronts - console, peripherals and game manufacturing - while keeping R&D and the creative side of development 'in-house'. Yet by the turn of the century, outsourcing trends that relied on the high specialisation of labour in the games industry reached skilled workers within the process of software production (TIGA, 2009).

Industry publications can shed some light on the subject. A report published in 2006 by Screen Digest estimated that 60% of game companies were outsourcing projects to service providers, mainly in Eastern Europe and Asia. The trend was closely followed for a number of years, and by 2008, within the UK alone, 83% of game companies were outsourcing at least one business process, the most common being artwork, animation and programming (TIGA, 2009), although porting, localisation services, QA and testing services were also often outsourced (Tholons, 2009). Moreover, heavyweights of the industry started transferring art and programming

work to new branches in China and India. Epic Games China, Ubisoft in Ukraine, and Summo Digital in India are amongst the most renowned cases.

The reasons for this trend towards outsourcing have several dimensions, most of them stemming from the economic downturn in 2008. First of all, the high variability of game development according to platform and project requirements makes it impossible for companies to afford the costs associated with overheads (Andrew Crashaw, interview, February 12, 2010; Charles Cecil, interview, July 15, 2010).<sup>85</sup> The high specialisation of gamework conflicts with the required flexibility of the market and technical requirements, reducing opportunities within the market. Secondly, game standards continue to cause development costs to spiral, which encourages work outsourcing to low-wage areas as a counteracting measure (TIGA, 2009). Thirdly, lower budgets and tighter schedules have affected studios' capacity to cope with milestones, making the outsourcing of gamework either locally or overseas an even more attractive option. Some managerial strategies even involve extending the work period to 24 hours, with branches or contracted companies thus becoming an extension of the central offices (Carvalho, 2009). Lastly, cross-platform and regional expansion in games have made porting and localisation practices even more important, with many of them being assigned to companies overseas.

The rampaging economic growth of the industry, even in times of crisis, suggests that the global industry's strategies of outsourcing and offshoring have been successful. Nonetheless, casualties have included workers suffering redundancies across the industry, as well as small third-party studios, some of which have stopped making games and instead become outsourcers, and some of which have simply disappeared.

Thus, development fragmentation, understood as the compartmentalisation and reallocation of gamework to different geographical locations as part of off-shore or outsourcing practices, has indirectly set many developers along the path of self-publishing. Whether freelancers or micro studios, a sector of the industry has

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<sup>85</sup> The cross-media construction of game projects represents a real obstacle for developers. Quite often, changing from one project to another requires a different composition of game professionals for a short period of time.

developed a dual organisational structure in order to capture revenue and finance their own games for DD. As such, flexible division of labour and development through networks of indie developers have become common organisational strategies for independent production.

### **5.2.2 Flexible organisation or just being independent?**

As a result of the aforementioned process, the organisation of labour within studios tends to follow the demands of modern industries identified by Kallinikos as “contingent (local and functional adaptable), mobile and reversible (temporary) patterns of behaviour” (2004: 24), meaning an organisation willing to perform multiple functions, thus eliminating job demarcation and fostering on-the-job training and contract based work (Strangleman & Warren, 2008).

Interestingly, those features of modern organisations match up to an extent with the principles held by independent developers, explaining in part developers’ willingness to accept risks as part of the ‘game’. Notions such as creative control and work as play have led to a recomposition of the labour process, and also to a potential concentration of gamework in the hands of developers, resulting in micro studios with multi-skilled developers. As two interviewees commented:

‘At one point, Tuna had the chance to become bigger. Alex and Mark who formed the company and myself we just realised that getting bigger wasn’t fun for us as people. We would take more serious responsibilities like managing cash flows, looking after people, making sure they get paid, they can feed their families and it became about running business...rather than being making games we would be managing the teams that make games.’ (Crashaw A., interview, February 12, 2010)

‘...the thing about working in a big games company as a programmer –which is what my source skill is, you get really in pigeon holes, you see men in one area of expertise, and that becomes your specialisation. It is like a character animation or something, working on character animation technology or path finding or something. That becomes your area and you cannot just do that for years to an end. It is very much on narrowing what you do, whereas the great thing of being an indie game developer is that you work on everything, from the very top to the very bottom. You work on all the programming, you work on all the art side, all the visuals, the AI, path finding, everything, the audio system. You even work on the business, the production and the press and the PR and the promotion of the game. Basically the whole process of making a game from top to bottom, that’s really good, it is really good fun and it is really satisfying to work on that.’ (Delay, C., interview, August 27, 2010)

It is in this confluence between what Bourdieu (1996) calls ‘autonomous’ and ‘heteronomous’ structuring nuances, economic rationality and culturally informed

decisions that the organisation of independent labour takes place.<sup>86</sup> Small size seems an obvious outcome of being independent, as creative work is concentrated in the hands of self-managed developers, but it is also the only option for other developers in the larger industry, as the high specialisation of the industry pushes them towards a minimum overhead. Concerned about their financial future, some independents form small-sized teams and offer their services according to specific competencies, as relying on contracted work as outsourcers gives them a source of revenue for making their games.

As an example, Four Door Lemon Ltd, an independent game studio and specialist contractor based in Bradford, had employed around twenty professionals back in 2008: ‘...and that was a lot of artists, mostly they were local people that [were] working with us, producing artwork content and audio concept’ (Barrat S., interview, March 3, 2010). Nevertheless, loss of investments and lack of projects led them to reduce their staff down to seven people in 2009. Ever since, the FDL staff have relied heavily on licensing their game engine and working as programmers for other companies. Other employees are hired on short-term contracts, depending on project requirements. Interestingly, many of these short-term subcontractors are actually former employees of the same company, now working as freelancers.

This granular flexibility can also be seen at Games Faction in Sheffield, a company composed of two independent developers whose business model is based on contracted work. In contrast with FDL, Games Faction keeps the development of their games in-house, but have nonetheless formed a link of very fine-grained chains of production as outsourcers, hiring and being hired by other companies:

‘Most of the work we do at the moment is bespoke iPad applications for marketing/advertising agencies. It leverages the technology we have built and relies on all the little skills and tricks we've developed over the years working in games (lots of shaders and runtime effects). We have also done contract work focussing on building web applications (server backends) for social systems hosted on Google App Engine (written in Python), some PHP/Actionscript work, helping out building a bespoke OpenGL engine with another iPhone developer, consulting, developing an iPhone client for a social video company, designing,

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<sup>86</sup> As DiMaggio states, economic behaviour and hence organisation is also culturally shaped by ‘how actors define their interests, by constraining their efforts on their own behalf, or by shaping a group’s capacity to mobilize or its goal in mobilizing’ (DiMaggio 1994: 28). In independent game development, profitability (although not neglected by independents) is certainly attenuated by developers’ understanding of what it means to be independent.

building, rigging and animating a series of 3D characters for a national advertising campaign and several others.’ (Hickey L., interview, April 4, 2011)

Within studios, developers commit to a fluid discussion of their projects, providing equal opportunities for everyone to influence the creative process. However, when it comes to the division of tasks, developers create their own work boundaries where technical limitations are considered, as well as ability to deal with different types of work. As Garreth and Richard from Otterly Games state in an interview:

- Richard: ‘[Task division] is not so strong. Garreth writes most of the lines of code. But partly he does it because we don’t have any source control and if someone else touches the code we can’t merge it properly. Well, it is kind of annoying, I would lay off dabbling with that part because the merge problem would be a bit of a pain...but anyway that’s kind of how it works...’
- Garreth: ‘Also, even if we are not committing to specialising, it makes more sense actually to dissolve the work in basic principles because of the difficulties switching for how to go from programming to marketing.’
- Richard: ‘Yeah yeah yeah, exactly, I find it quite difficult to manage thinking on end-users and the whole project and then, digging into code, I don’t know, it is quite difficult. Takes me like a week switching from one task to another one.’ (Brooksby, R., interview, August 24, 2010)

Interestingly, the building of skillsets has become a delicate matter among independent companies. Building upon their highly specialised knowledge, developers feel the need to develop managerial, business and creative skills in order to go about their daily work. As Andrew Crashaw states:

‘hard skills are the things that you learn at school, but there are some other things that you learn from experience like how passionate you are, how many avenues you explore innovatively in your thinking, and I find that really interesting... So, we get a lot of people that use maths and Maya, but they haven’t got any artistic talented vision, and how to deliver this concept through technology.’ (Crashaw A., interview, February 12, 2010)

These skills are especially important as they provide developers with adaptability, allowing them to perform different roles according to the changing conditions of their work as outsourcers and independent developers.

In sum, within the organisation of independent companies, we can see an interesting dialectic between cultural production and capital. Developers work as a highly specialised labour force, and their profits are reinvested in the production of independent games. By harnessing the opportunities of the digital hype within highly specialised media industries, some developers have found a way to reintegrate and

control the process of designing, developing and publishing games, even while inheriting the precarious conditions of flexible labour. The balance between their roles as indie developers and outsourcing workers can result in the drawback of creativity burnout from working on others' projects. Seemingly, the revenues they obtain as specialists tend to exhibit self-exploitative strategies in order to meet deadlines and accumulate enough capital to reinvest in game production. I will return to this subject in Chapter 6.

### 5.2.3 Networked development and collaboration

The fragmentation of game development and the preference for small or one-man teams has an obvious outcome, namely the formation of game development networks, the full potential of which will be analysed in Chapter 7. Here, I want to explain how independent developers rely on contacts and friendships in order to devolve sections of game development and form business and cultural networks based

trust. These networks mobilise labour of resource development possess strategies, skills and technology of interest (Gardner, 1990). Information flows among developers can change cultural content between networks is nurtured, creative share.

As I stated in the previous chapter, the outcome of specialisation in game development. Most according to specialisation policies and rehiring the workers is carried out by both big and small development companies. From this, it becomes clear that of interconnected small companies who provide services for each other. In this way, the companies are able to adhere to their own conventions and project specifications.

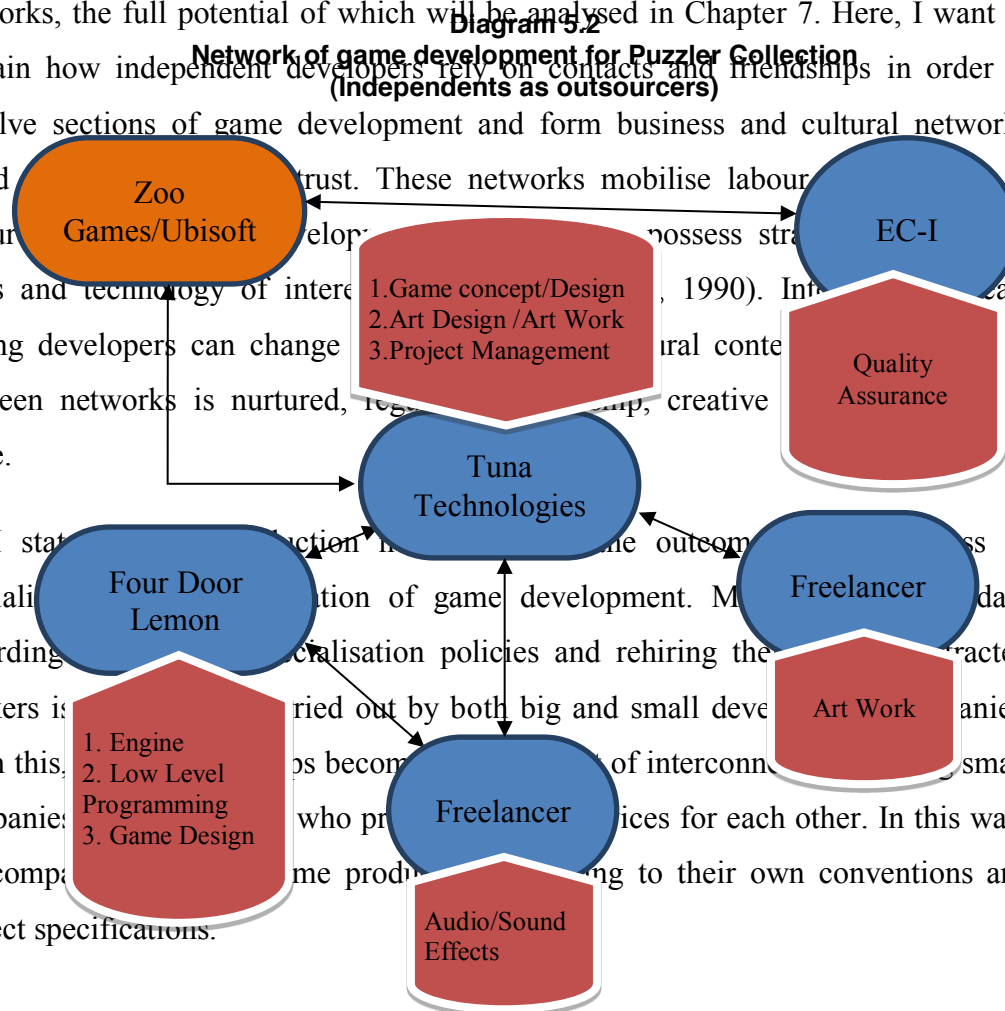




Diagram 5.2 gives us an example of how a small project can end up requiring the endeavour of several developers, providing both occupational and experiential expertise. Important to note is Tuna's role as the contractor of Four Door Lemon and other freelancers. The responsibility of the project lies with them as the administrators of the money granted to them by publishers. This involves liaising with publishers on project management, and specialist work in art and design. Four Door Lemon provide the *know-how*, the game design skill, and technical support for their Lemon engine, which means they are largely in charge of the programming side of the project. The other two freelancers contribute their expertise as artists to specific parts of the project. Interestingly, although sometimes both musicians and graphic artists provide customised work for these projects, their usual practice is to sell the rights to use their art concepts or musical pieces in the games.

Outsourcing is mostly used for relatively big projects in the context of third-party development. When developing their own games, some developers prefer to avoid outsourcing work, unless the project requires special skills beyond their field of expertise. Nevertheless, in the process of game development, the content and the nature of interactions can change dramatically.

Partnerships are another form of interaction among independents, more common between solo developers than companies. Unlike outsourced work, developers work together throughout the entire development process, usually dividing tasks according to each developer's competencies, while still providing each other with mutual and constant feedback. Revenue-wise, because they are both responsible for the game concept and work, the developers each earn an equal split of any revenue from the monetisation of their game:

'I typically work where the amount of time put into the game by all parties will be compensated in the equivalent percentage of the money made from the game. It is also possible to have people work for contract flat fee amounts as well instead of a revenue share.' (Evans D., Interview, February 9, 2011)

However, amongst the developers who have formed informal communities of game development, there is a paradigmatic form of relationship that stems from the culture of sharing. Indie collaboration relies on an explicit consent amongst indie developers

to use each other's work; this can entail giving away technical assets as freeware, helping out with work, sharing experiences or giving advice about issues related to game development. Global networks of free software developers have created myriad assets (Python, Open GL, Physics/AI engines, code bases) that can be downloaded on the Internet. On a local level, developers share information, *know-how*, moral support and (sometimes) code. These forms of cooperation will be addressed in more detail in Chapter 7.

As some of these relationships might suggest, the reasons for cooperation, albeit suggesting calculation in terms of access to certain labour and knowledge in the most traditional fashion described by rational choice theorists, may also rely on a certain *substantive rationality* (Elster, 2000; Biggart & Delbridge, 2003), where expectations are constituted but also regulated by a sense of common good.<sup>87</sup>

Interestingly, some digital game networks have also provided a form of solidarity or at least a neutral space where inter-institutional cooperation is enabled amongst independent outsourcers, big studios and academia. This not only counteracts the corporate secretism and predatory environment of the industry, but also strengthens the sense of common good amongst studios based on their economic and creative struggles and even their local/national interests. For instance, Charles Cecil comments about the network he founded in Yorkshire along with other developers:

‘[At Game Republic] we have a lot of small developers trying to do similar things. So, you know about Tuna, they are small developers trying to create their own IP, and then you got Martyn Brown who is very experienced in creating and managing his own IP. There is actually quite few companies trying to do this at the same time. It’s an obvious statement that we are not competing with each other, but we are competing with these companies in Japan or America, and the chances of us getting a contract, or stealing contracts from somebody else in other regions, it is very very low...our competition is international, not internal.’ (Cecil, C., interview, July 15, 2010)

These networks organise meetings, game jams, conferences and networking events on a regular basis. Here, developers get to know each other and build trust by sharing their personal experiences and work capabilities and matching themselves to other developers’ interests. Interestingly, through their constant interaction at informal

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<sup>87</sup> In a similar way, Polanyi (1968) addresses the reciprocal exchange based on the goodwill or the principles within a group among different types of economic action.

events, developers build the shared cognitive, motivational and affective bases that lead towards the different forms of collaboration mentioned above (Buchan, 2009).

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The aforementioned processes have resulted in new ways of organisation for a large sector of independent game producers, especially when carried out by companies whose financial resources make them dependent on the creative industrial complex. Although it is hard to determine, it is possible –as McRobbie (2002a) argues- that independents’ work as specialists is at least a risk factor that potentially undermines their third-party role within the mainstream industry (especially in the traditional hubs of game production), while also making it difficult to find alternative ways to achieve market exposure as ‘indies’.

The configuration of game development networks, amongst other things, has entailed new forms of work division and a structure of resource transaction and labour in order to cope with changing technological and market conditions. That said, some networks are formed exclusively by indie developers. I will address this later on, as *artisanal networks* can go beyond the simple transaction of resources and indeed provide basic organisational settings and an attachment to gamework in more informal environments. Those networks, though precarious, are a response to certain practices of development in the games industry. They also emphasise a culture of sharing and community acknowledgement over the profitable side of the industry. These developers and their culture will be properly introduced in Chapter 6, and developed further in Chapter 7.

### **5.3 Addressing independent markets: Attracting players and building niches**

So far, the type of actors involved in the organisation of independent game development indicates a growing trend towards the coordination of economic activities through networks, allowing flexibility and singularity in their outputs, while also dealing with precarious forms of cultural work. This is complemented by the emergence of individual autonomous actors in design, production, distribution and consumption, joining or helping to create artisanal networks in order to carry out their projects. Furthermore, these interactions are regulated by the structure of the

industry, DD markets and independents' relative autonomy, all of which affect pricing and the revenue shares of game developers.

Nonetheless, as the market expands and more developers and publishers publish titles through DD, independent developers deploy different strategies to address or attract potential players. In this section, I will extend the main thread by addressing two particular ways by which developers gain market, while also carving their own market niches. The section also deals with the process of market construction and recognition/validation of independent developers, as well as their role in the promotion of their own game titles. First, I will address how independent developers can gain status, market awareness and potential customers through their relationships within game development communities, institutionalised channels of industry validation such as the Independent Games Festival and acknowledged independent publishing actors. Secondly, I will move onto developers' approach to players in the process of game development and promotion, addressing this as a more direct and meaningful dialogue from which game modifications can occur. It is important to note that this is not a substitute for more traditional forms of marketing and press relationship, but does constitute a cultural specificity of the independent game sector.

### **5.3.1 Cultural dynamics of niche carving**

In the process of building a fanbase and creating market awareness, important channels and strategies have been developed within the industry in order to mobilise independent developers' names and projects. Here, I want to stress two aspects of promotion within the independent sector. First, I will address the dynamics between developers, trade press and cultural events as a promotional aspect in the independent game sector, contrasting it with McRobbie's (1998, 1999) identification of missing economic capital with cultural and social capital. Secondly, I will stress developers' use of networks and online communities of developers/players to create awareness and test the market potential for their projects.

Marketing in the independent sector has long been a source of dissatisfaction for many developers, either due to a self-confessed lack of expertise or the small funds with which they run their projects. In addition to paying for better placement and

promotion on the part of DD channels, they normally engage with game bloggers and the trade industry press, hoping for interviews, game reviews and online interaction, especially in places focusing on indie games.<sup>88</sup>

‘I have to make a lot of marketing and talk to the press. Because what I have heard from the people, to be successful as an independent developer you have to put 50% of your time and money into marketing.’ (Bradley B., Interview, April 23, 2010)

Although practices vary, paying for game reviews or appealing to a journalist’s affinity with a game might result in better leverage when negotiating with publishers or distributors, as it means developers can provide quotes and scores of their games, a practice that can also boost sales (Gillen, 2011):

‘It’s funny, isn’t it? After my name showed up in The Guardian’s blog, I got some new people interested in my work, including you.’ (Nagisa, K, interview, July 31, 2010)

Nonetheless, within the *ethos* of the industry, the social engagement of developers with showcase events (Eurogamer Expo), conferences (World of Love) and independent festivals (Independent Games Festival) unfolds certain dynamics that help developers to obtain market exposure while also building a name within the spheres of production and consumption. Similar to film festivals, game competitions and events provide spaces for public validation and market exposure, empowering independent developers as well as opening opportunities for game publishing and funding. The role of major game and trade press industries is essential, as they play a major part in financially backing and organising these events. For instance, the Independent Games Festival (IGF) is a subsidiary brand owned by CMP Game Group, producer of the Game Developers Conference and owner of Game Developer Magazine and Gamasutra.com. The festival is framed as the Sundance Festival of the games industry, aimed to foster innovation in the industry. For developers, success in this arena means major media exposure, acknowledgment of their artistry, and the possibility of finding favourable publishing deals for different platforms. Amongst my interviewees, finalists Terry Cavanagh, Dock and Chris Delay have managed to carve themselves an ‘indie’ label, with a moderate presence at Q&As and interviews as well as keynote speeches at independent events. As pointed out by Phil Fish,

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<sup>88</sup> In fact, media coverage played a role in this research, as I contacted many of my interviewees after reading press articles about them in one of the UK’s most important newspapers.

creator of *Fez* (2012) and two-time award winner, an event like the IGF is one of the few paths to a career in the industry and the chance to stay an independent developer:

‘Entering festivals and maybe winning awards is one of the best things I can do to promote the game. We don’t really have any budget for promotion and PR, no big stunt. We have to do everything ourselves... but it's my job to promote that game as hard as I fucking can. I can't sit on my ass and tell myself that it's enough and that I should stop here. I'm going to pimp this as hard as I can. I owe it to the last 5 years of our lives.’ (Fish, 2011)

Another channel harnessed by developers, from which they can gain promotional benefits and more, is the diffusion of their work via independent portals or online communities aimed at independent developers and players. There, developers seek cooperation and advice while sharing ideas about aesthetics, gameplay and technology. While these spaces are mainly used to gather feedback from the community of developers, they also provide another way to promote the game and keep potential players informed of the production process. For instance, successful indie titles like *Fez* (2012) have been discussed widely among key independent game communities, such as TIGsource.com. On this forum, developer Phil Fish posted videos and game screenshots to threads, commenting on the aesthetics and work-in-progress of the project, while answering members’ requests, suggestions and criticisms. A thread of 167 pages from 2007 to 2012 thoroughly documents this process, from which a small sample can be observed in textbox 5.1. During those years, Phil Fish continued to update the community with work-in-progress and links to press interviews, following the entire journey of *Fez* from debugging to XBLA certification.

These independent portals also act as testing grounds to assess the market potential for independent projects. For instance, *Super Meat Boy* (2010) is the latest indie hit developed by Meat Team and one of their developers, Edmund McMillen, has been making indie games since the late 1990s. The game was previously released as a free Flash version on New Grounds, an entertainment Flash community of artists, developers and musicians run by the developers of another indie company, The Behemoth. After it gained around eight million plays, Microsoft offered to port the game to XBLA (Meunier, 2009).

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As we can see, there are particular strategies to which independent game developers resort in order to promote and market their games. Projects (and developers themselves) are promoted through several channels, sometimes achieving market exposure and increasing their chances of commercial success. Additionally, in the process of carving a niche in the market, developers engage in a more direct relationship with players, fostering a fanbase that contributes to the process of development and also reinforcing a sense of loyalty. I will address this subject in the next section.

### 5.3.2 Developer-player relationships: building intimacy

Another dimension of markets concerns the way that indie developers address their players. Their sociotechnical relationship starts in the process of design itself, and spans several points during the post-release stage. Similarly to Kerr's findings about third-party developers (2002; 2006a), indies do not rely on market research, instead making their own assumptions and strategies in order to establish and maintain their connection with players.<sup>89</sup> This point is crucial, as independents often consider a large part of their audience to be unknown. Hence, as Jonas Kyratzes argues, 'I cannot predict what people will like and what they won't; my business is to make the game as good as I can'.

In a similar process to the scripting of technological objects, developers construct representations of their players and account for these representations in their design choices (Akrich, 1995: 168). As with major companies, I-Methodologies (Potanin, 2010), based on developers' own representations of the world, are common in the independent sector. In terms of design, the gameplay tends to be guided by developers' own perceptions of fun and other personal approaches to games. Many indie games favour particular aesthetics in games, which either relate to the

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<sup>89</sup> Adequate textual analysis of indie games could provide a great understanding of the worldviews prevalent in the independent sector. Nonetheless, such a study falls beyond the reach of this thesis.

subcultures and shared experiences of their early days as players or appeal to their own tastes, which they incorporate into their game development:

‘...the main way I do it is to think myself as the player, because I am making a game I want to play as if another person would have made it. So if I make a game and I enjoy it, people that are interested in the same kind of games would like to play mine.’ (Bradley B., interview, April 23, 2010)

However, because some developers try to appeal to larger audiences or to exert a certain level of criticism, thinking as the player becomes more imperative on an empathic level, and developers sometimes reflect on their own judgements about players, often in gendered, and stereotypical ways:<sup>90</sup>

‘I am trying to avoid these kinds of distinctions, because actually when you do that you end up with something incredibly awful, where you state clearly that girls like this and that is just embarrassing. On the other hand, girls actually like stuff about cooking and baking, but they don’t like it being presented as this is what you are principally interested in and this is what I think of you, but if for example there was a baking component on that project over the title, they might have interest in that. It might sound like a stereotype but is actually truth. I was talking with a female friend once and she said “if you ever make a bread making RPG, please let me know, I would really want to help you with the art work.” So that is really fine, and the main thing is a set up a lot of character designs stuff, and all the female characters that have to go, I take care to make sure they aren’t either oversexed or undersexed.’ (Dock, interview, August 31, 2010)

Nonetheless, players’ perspectives are often addressed during further stages of development. Here, developers rely on mailing lists containing customers’ contact details, and use them to communicate their new projects and game updates. They also include links to their new prototypes, inviting players to test them and provide them with feedback. As Charles Cecil comments, this connection is important for independent developers, as it helps them to build an intimate relationship with their players:

‘...you know, a publisher’s job is to make as much money as possible for them to show it to the shareholders at the end of every financial year. Ours is quite different, our objective is to build a direct relationship to our community. Obviously we want to monetise it, we need to make money but we take our relationship with our consumers much more seriously than publishers. So, you know we all answer every sort of queries people send, and I answer even the difficult ones, and I am very happy to. What people really like is this instead of having this person who really does not know the answers; they know, they send us an email and they

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<sup>90</sup> Approaches to game design can vary from developer to developer. Van Best (2010) imputes to independents the use of more subversive approaches to games, such as abusive game design, a strategy based on reducing players’ comfort through uncomfortable mechanics and texts. Collaborative sex rhythm game *Dark Room Sex Game* by the Copenhagen Games Collective has become a paradigmatic example of this. Developer Anna Anthropy has even gained her own reputation through games dealing with sado-masochism and lesbian-oriented themes.



receive an answer from someone who really knows the answers. Obviously you get lots of emails, even for *Broken Sword* games. And instead of buzz them off, you can actually give them something meaningful, and it doesn't come from a template, we write every time, so the answers are tailored.' (Cecil, C., interview, July 15, 2010)

The last quotation also references the post-game feedback process, another dimension where the developer-player relationship grows intimate. Post-game feedback is a key opportunity for community-building. Players address worst-case-scenario technical problems encountered while playing the game. This feedback helps developers to fix the game via updates, while also providing a formative experience for future games: 'I think about the players constantly, taking into account what I've learned about my existing players and the feedback I've received for previous games' (Knight C., interview, May 18, 2010).

Textbox 5.2.  
Relationship between developer and player: asking for feedback

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More importantly, post-game feedback is an interesting phase of negotiation where players and developers engage with each other in a process of exchange of ideas, thus improving the game experience. As Trevor Fountain states:

‘...the last day I got an email from this guy about *Distant Star*, and he said “hey man, I really love your game, but it would be great if it had some kind of feature to select ships from all the planets.” I thought it was something very cool, so I added that feature, and some days later I got another email from the same guy... “oh man, you actually did it, that’s awesome!”. It’s, it’s so nice! It is quite amazing when someone acknowledges your work!’ (Fountain T., interview, March 27, 2011)

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In conclusion, indie developers, although sometimes wary about highly rationalised approach to markets, look forward to their games being played and their artistry recognised by consumers. Gaining prestige in the sector not only opens publishing deals up to developers, but also helps them to promote their games and gain media attention and market exposure. As we saw, this can be achieved through cultural dynamics involving press media and industry spaces created to award innovation. Furthermore, some game projects and their developers gain attention within independent communities and networks, or free-to-play portals. As they participate in these networks, they can achieve renown as their projects are validated by the communities of players/developers. It is fair to reflect on the possibilities entailed in this interpretation. The market of symbolic status is restricted not only by the rules behind acts of status attribution such as award events, but by the structural difficulties discouraging those independent specialists properly engaged as contractors. It is possible to deduce, thusly, that of the developers willing to follow these paths, the more outsourced or freelance work they do the less time/space they have to seek strategies of public recognition, and the more they are obliged to resort to traditional forms of marketing and publishing.

Throughout the different stages of development, marketing and post-release, a constant feedback loop is claimed to strengthen developers’ bonds with players. This

suggests that game making has become a process of negotiation between players and developers, where artistic vision is subject to changes in order to improve game experience.

#### **5.4 'I am the controller': technology at work**

As I addressed in Chapter 3, technology is less a structuring social agent than a cultural artefact subject to politics, markets and work. But as social shaping theorists argue, technical choices derived from this broad social arena favour certain outcomes in the ways technology is implemented in everyday life (MacKenzie & Wajcman, 1999; Williams & Edge, 1996). In terms of the games industry, the difference between an AAA blockbuster and an indie game basically lies in the ways technology is politically deployed, as a result of market and organisational structures as well as labour and cultural struggles.

Following these lines, in this section I aim to give a descriptive account of how the economics of the mainstream industry stratify access to the technological means to develop indie games, and also how independent cultures on the web can provide developers with all the assets needed to make their games. Furthermore, I will address how indie developers unravel the technical potentialities of digital work in order to improve both labour process and the games themselves, in keeping with their financial and manpower limitations. Some of these topics have been addressed in the previous chapters and my task here is to explain how the cultural, economic and political dynamics that I have already identified unfold technical constraints and the use of technologies by indie developers.

As the term 'digital game' suggests, indie games are also the product of design and knowledge-intensive labour via means of digital technologies. In Chapter 1, we saw how in gamework, software and hardware power must be considered as they provide the infrastructure that will render the environment in which the game experience takes place. In the case of independent development, the means to build or access these tools are limited by developers' low-budgets and limited resources. Nonetheless, these are seen as some of the creative constraints at play in the game

making process, fostering a ‘dialogue’ between the technological resources available and the creative vision of developers. As Chris Delay argues:

‘when you are an indie you kind of have to find ways to still make a game but without all the artists, without all the programmers and the huge teams. In *Darwinia*, take for example, Darwinians ‘look’ and ‘feel’ (their design as 2D sprites), as well as their world. They all convey this sort of digital world with pixel-like beings as the theme and storyline of the game suggests... It very much started as a limitation, we didn’t have the modelling and all the 3-D so we used simple sprites, but working within those limitations ended up where all the creativity came from, because you find very creative voice around your limitations. I think it encourages indies to be more experimental.’ (Delay, C., interview, August 28, 2010)

The interesting aspect of these technological constraints can be found by looking at three factors within game production, namely the managing of DD channels, the political economy of middleware, and the cultural organisation of independent developers. Here, it is possible to see what Williams and Edge (1996) call ‘choices’, especially in regard to the actions taken by developers when framed in relation to main technological trends within the larger industry (known as “negotiability”).

#### **5.4.1 Managing technology**

Independent developers’ heavy reliance on DD channels, platform, storage, and download capabilities is certainly not the only important issue, but it can be perceived as an element that shapes the very form and content of games. As Bowen and Deuze argue (2009: 280-81), reducing size in order to maintain accessibility implies that ‘the assets to promote realism, such as graphics and audio, are devalued, as they are generally the largest type of files in the product’. This prevents developers from following (in the rare case they want to follow) the photorealism or hi-definition sought in most AAA games. It leads instead towards an exploration of alternative aesthetics and a strong focus on gameplay experience.

Furthermore, platform capabilities also control the initial conditions under which games are developed. For instance, Microsoft established a cap size of 50MB per game when the XBLA service was first opened, contrasting with Sony’s PSN which has no game size limits (Brightman, 2009). At first, this measure complied with both the limited and expensive storage options available for the first versions of the XBOX 360, also keeping broadband connections in mind. It was also Microsoft’s ambition to capture the casual games market with XBLA, as the segment was mostly

dominated by Apple and Nintendo. According to the XBLA general manager, Greg Cannesa, and the XBLA portfolio manager, David Edery:

‘By keeping the file size small for Xbox Live Arcade games, gamers can put one or more games on a memory unit and easily bring those games to a friend's house to share and play...Small file sizes also mean fast download times, making it possible to download and begin playing any Xbox Live Arcade game within one or two minutes.’ (Sinclair, 2007)

‘We don't want the size limit to hit the roof because we think there's some value in promoting small pick and play experiences that don't cost \$20 million, it's good for the ecosystem.’ (Geddes, 2008)

It was argued that these limitations would challenge creativity, fostering technical and gameplay innovation. For instance, *RoboBlitz* (2006), a game developed by the independent Naked Sky Studio, introduced procedural generation technology for rendering animations, which means that instead of creating and storing content in the game, the content would be created from a set of instructions just before being played;<sup>91</sup> this allowed the game to be published under the 50MB limit in XBLA. As for gameplay creativity, Chris Early, the manager of Casual Games division for XBLA, states that:

‘If you take a look at current games like *Roboblitz* and *Small Arms*, it's clear that our developers deliver amazing game experiences within a compact size limit. Our focus is on continuing to provide developers with an environment that allows for the creation of cost-efficient games and that nurtures an artistic and creative approach to game development.’ (Kohler, 2007)

Interestingly, Microsoft lifted size caps later on, first to 250MB, then to 350MB, and finally to 2GB.<sup>92</sup> The reason behind these changes was not just technical but corresponded with the rich dynamics within the industry. As has been well documented in the industry media (Sinclair, 2007; Purchase, 2009; Stellmack, 2009; Meza, 2009), it was publishers who put Microsoft under pressure to increase the size level, as certain games with good market projections could not fit within the limitation. These games included *Castlevania: Symphony of the Night* (2007), published by Konami, *Shadow Complex* (2009), published by EIDOS, and *Red Alert 3* (2008), published by Microsoft itself.

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<sup>91</sup> Information about *RoboBlitz* and procedural generated content can be found in Mitchel (2006a, 2006b).

<sup>92</sup> Microsoft explained that 2GB was actually the technical limit for XBLA, given the structure of the file system. Ironically, the media industry reported that *Red Alert 3* was just above that limit.

Unfortunately, I cannot address in more detail how these dynamics change from platform to platform. Still, by addressing Microsoft's policies behind DD file caps, we can observe how DD channels' capacity for environment design established the initial limits for game development. It is not the environments themselves that limit the scope of game development, but rather the regulative tools shaped by the different actors of the games industry. As for the impact of technology limitations on game development, it is fair to say that they also trigger the creative process of developing alternative ways to make games and increase the graphic and artistic quality of indie games.

Bowen and Deuze's suggestion gives us an insight about the technological limitations affecting the quality of independent games. Nonetheless although it is evident that technology has set the parameters of that which can be experienced, these parameters change according to commercial strategies and –as I will argue in the following lines- the constant creation of digital technologies to deal with the needs of the industry.

#### **5.4.2 Indie production and the politics of software architecture**

At the current time, the complexity and specialisation found in games make them impossible to create from scratch. The emergence of highly specialised middleware services shows how well-established this trend is in the games industry. Particle effects, engines, and other development tools can either be part of high-tech specialised companies, or in-house assets developed and owned by these companies. As I have shown earlier with the FDL case, these technologies can be licensed to other companies in order to power their games, making significant reductions to development times and companies' overheads.

For independent developers, it is clear that high software standards are unaffordable; nonetheless, economic cost is not the only reason why indies avoid using, for instance, Unreal Engine 3 or Havok Physics. As explained by Akrich & Latour (1992: 208), technologies are designed with a series of assumptions about their target

users. To them, designers inscribe ‘specific tastes, competences, motives, aspirations, political prejudices’, predetermining the uses of those technologies to specific social environments. This also applies to middleware industries, as they have followed the main trends dictated by the larger industry’s standards, and taken the organisational models fostered by big companies for granted. Stephen Lavelle’s words are quite significant in this regard:

‘...for bigger engines like the Unreal Engine, it is very obviously made for teams of people to work on. You can do stuff by yourself but I mean it is not really easy to shrink that in pipeline and take control of features. You need lots of people... it may be like “I want to add a new monster to my game”, ok I would ask the modeller to do a 3-D mesh of the monster, he would pass that 3-D mesh to somebody who was doing textures and normal mapping, and he would pass it to an animator, and then he would pass it to a coder, who will write all the scripts and stuff and pull it in.’ (Lavelle S., interview, August 21, 2010)

These tools are designed to carry out more complex tasks according to market demands, but not to speed up the process of game development. As a result, small indie studios or developers would not think to license such tools. This can also be seen from a political perspective, as these technologies privilege aesthetics and forms of gameplay that are not primordial or unchallenging from an independent standpoint.

In sum, economic and sociotechnical constraints, as well as creative approaches, deter indies from using certain development tools. This leads us to address how they access and develop the technologies needed for their projects, which will be the subject of the next section.

#### **5.4.3 Finding the indie way across technology divides: New technology markets and free/open source initiatives**

The relationship between independent development and technology follows a similar trajectory to the one seen in the larger industry. In addition to common licenses for art design software, developers themselves develop in-house tools and the software architecture that will form a base for their future projects:

‘...we’ve developed our own technology over the years. It was initially a D3D engine for Project Aftermath, and over the last year or so, we’ve converted it to an OpenGL engine targeting PC, Mac and iOS. We plan on expanding to Android shortly. It’s mostly C/C++ with a lot of Lua for the game parts.’ (Hickey L., interview, April 4, 2011)

‘We’re working on 9 projects currently, 5 of which are ours, and are fairly similar in the code being used behind them’ (Barrat S., interview, June 20, 2011)

Although most of these technologies tend to be for internal use, some independent studios have a heavy core of programmers with the knowledge and technical means to compile their tools in SDKs (Software Development Kits) that can be later commoditised (Bowen & Deuze, 2009), forming part of their business model. That is the case with FDL, whose programmers have developed the Lemon Engine and its SDK, powering games like *Little Britain* (2007), *Puzzler Collection* (2008), and their own latest creations:

‘The engine I think was produced as a rival to the Unreal engine, more a sort of budget model, but a lot cheaper. So yes, we wanted to sell it to other developers, but we moved from that and used the engine for our own projects and work for hire projects. Also if we are making tools for artists to import/export models from whatever program they are using, we use the engine to develop these tools as well.’ (Jones, P, interview, April 13, 2010)

FDL’s aim to develop and license out their engine indicates an important change in platform and game markets. The explosion of casual game markets (an umbrella for new game genres) and the diversification of game platforms (DD and mobile)<sup>93</sup> during the second half of the 2000s triggered the exploration of new and more cost-effective technologies for those platforms, thus bootstrapping the middleware industry (Meloni, 2009). Ironically, this trend has been boosted by the economic downturn in 2008, a turning point for the game industry as a whole.

Despite the collapse of several game companies, staff cuts and lack of investment in the major industry, sale revenues kept growing during 2008-2009. According to Schumacher (2010), during this period new platforms attracted independent developers due to the expansion of casual and social gaming markets, and hence became the target markets of middleware companies. In a series of interviews with middleware executives, Schumacher shows how companies have started to provide cross-platform solutions, offering applications for DD channels and smartphones. As she puts it:

‘In October 2009, Unity announced that it would release the previous version of its engine for free. Shortly thereafter, Unreal announced the Unreal Development Kit (UDK). This

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<sup>93</sup> XBLA’s initial file size policies and Nintendo Wii’s focus on gameplay, in particular, fostered the exploration of new game content without relying heavily on the classic AAA blockbuster logic.



version of the Unreal Engine 3 is free until the developer makes over \$5,000 on the game, at which point a 25% royalty applies.’ (Schumacher, 2010)<sup>94</sup>

This diversification of the game software market has resulted in countless affordable technology solutions for indie developers. An example is Robert Fearon, who uses Game Maker, a game development tool, the latest version of which costs \$40 and, advantageously, does not require programming skills. The reason for using this software he states is that: ‘it enables me to work in a scatty style, which is me; and therefore the code it comes up with is very nice [laughs]’ (Fearon, R., interview, May 18, 2010). As a result, hobbyists and other game fans have been targeted as potential indie developers, creating potential opportunities for game making and profit. Fearon continues:

‘It is my fair belief that there is probably a tool out there for every mindset, of course you have to be bloody patient to find that tool. My wife found a tool that fits her mindset, because of the way she compartmentalised information she found it so useful and now she does amazing things with it.’ (Ibid.)

Despite the middleware market expansion, independent developers rely heavily on tools and assets created within participatory software cultures on the web, which are spaces created for building and sharing technology, assets and knowledge. An example of this is the community of developers organised around Python, a programming language with support for game development. This programming language is developed by the Python Foundation (<http://www.python.org/>), a non-profit organisation, using a community-based development model. Its license allows free distribution, including for commercial use.

Likewise, Pygame (<http://www.pygame.org>) is a set of cross-platform modules dedicated to game development written in Python and managed by a community of software developers. It is released under GNU Lesser Public License, enabling

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<sup>94</sup> Interestingly, Epic’s decision to release the UE3 (Unreal Engine 3) capitalises upon the strong mod community organised around the company. As Postigo (2010) demonstrates, this decision creates a potential developer base out of modder cultures. This base ‘contribute[s] content to a proprietary market system which derives value from the production’, as it becomes ‘a base [Epic] can use to develop valuable derivative works which it can license and gain profit.’ This case results from a general trend in the middleware market, which is the release of free cut-down versions of their products (as hooks) and the creation of communities of software users. Both strategies serve to generate product identity and improve communication channels among middleware and game developers, facilitating software learning and innovation. Even Microsoft and Apple have released their SDKs free of charge, only charging a membership fee of \$99.

redistribution and content modification. Like Flash, it is a very common language for prototype games, and is widely used by developers such as Trevor Fountain and Lee Hickey. Like Python, Pygame is a socialised pool of software technology and knowledge, providing support, assets and libraries for game development. It offers full portability to every single OS (Windows, MacOS, Linux, etc.), and modular development, enabling developers to use, for example, sound and graphic libraries created by other programmers. Furthermore, Pygame's community webpage provides a portal for game developers to find links to a variety of resources (music, textures, sounds) for their projects.

In sum, indie developers have a wide range of options for their game projects, many of them affordable or freely available and this suits indies' low budgets. The importance of this free and affordable software technology is that it allows developers to create their own software framework against time cost.

Whether provided by new markets or by Free Software/Open Source (FS/OSS) initiatives, software availability in game development opens up the scope of game creativity. It enables non-programmers to experiment in the field, while also providing myriad possible solutions to creative problems (for indies, technology usually acts as a tool to solve these problems). Still, issues can arise, as developers find themselves dealing with constant changes in technology, triggering an unending process of learning and self-updating. In addition, as technology development takes place within scattered global networks joined through virtual communities, developers face the challenge of finding, becoming a part of and contributing to those networks. This learning process will be part of the topic addressed in Chapter 6.

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The present chapter has engaged with the structuration of the independent game sector and how industrial, organisational, market and sociotechnical processes have contributed to its shaping. The analysis has pointed out how the sector is being structured through both bottom-up and top-down processes, fuelled by the struggle to

obtain the financial, technical and social means to develop games independently and access DD markets.

Industrial relationships reflect how ownership of DD hardware/software platforms by corporate actors plays a key role in structuring the sector. Through the regulation of the technical aspects of digital distribution, contractual commitments and the access they provide to game markets, these corporate actors shape the conditions under which independent development takes place, although the public nature of the Internet also enables indie developers to obtain full revenues through direct distribution.

Although the new regulations of the industry have fostered independent development, financing and technical/business knowledge are still big obstacles for them. Here, I explained how independent developers rely on diverse strategies according to their organisational needs. This shows continuities and discontinuities between the independent sector and trends towards work fragmentation and outsourcing in the capitalist high-tech and digital game complex. Nonetheless, the analysis also shows how they organise themselves through networks in order to capture capital for their own projects or form partnerships based on creative interests.

Furthermore, I have addressed how digital distribution as a sociotechnical and business infrastructure provides a more open access to markets than the retail model and AAA aesthetics, but which is still insufficient to reach an audience and achieve a level of commercial success. Here, I have explored how independents try to increase the odds for success through artistic recognition. They can also involve players in the process of game production, creating a fan base across players, bloggers and press, generating expectations that could also be leveraged when negotiating with digital distributors and publishers.

Finally, I have addressed how access to game assets and software tools has also shaped the conditions of possibility of independent games. Given the economics of software architecture and the small scale of their projects, independent developers rely both on their own work and internet cultures of production to develop or obtain the tools and assets needed for their games. Additionally, the diversification and

commercialisation of digital distribution has entailed the creation of dedicated services or assets targeted to independent developers.

This first outlook to the independent sector –in combination with chapter 4- was aimed to define the general structural constraints informing the independent game sector. We can observe how the social structure behind DD fosters flexible conditions giving relative autonomy to game developers at the price of risk. The novelty of DD presupposes an extra difficulty to ‘figure out’ a viable creative and technical process of independent game production. Given the concentration of DD channels in corporate hands, this flexibility allows for diverse strategies at organisational and labour levels to adapt, contest or harness corporate DD channels. The previous sections showed some of these strategies found at organisational, promotional and sociotechnical levels. The following chapters will focus more on the social aspects of independent development. First, I will address in chapter 6 the entrepreneurial and artistic cultures, as well as the ethics informing the process of game development. Then, I will move on to examine more in depth the cultures of independent development, emphasising how –within indie circles- the independent *ethos* has informed the creation of *local networked scenes*. These are framed as both an expression of ‘indieness’ and a space to deal with the precarious conditions inherent to their flexible position as cultural entrepreneurs.

## Chapter 6

### Looking for independence: Identity and independent game production

In the previous chapters, I have aimed to delineate important features of the games industry at both large and small scale, along with key processes and strategies featuring the independent production of games. These explanations have focused on the complex regulations and arrangements throughout the network of production and the general directions of independent developers as they shape the process of game production. Nonetheless, as we have seen, the flexible and often precarious nature of independent work has triggered varied strategies with varied degrees of involvement with established corporate channels; as an authentic expression of this process of institutionalisation, few publishing enterprises have been set up by successful ‘indies’ to foster independent development and its creative values. What are, then, the experiences, ideas or reasons –beyond economic necessity- informing the diverse initiatives to establish independent institutionalities? This chapter is set to explore the subjectivities and life worlds of independent game developers, the cultures and ideas informing their work. Set loose by flexible work patterns, developers’ identity and cultural *ethos* has become a powerful force shaping the process of independent production.

As I will show in this chapter, developers’ choices are also informed by a series of experiences, perceptions and narratives about the socio-legal regulations, work environment and aesthetics in the games industry. These reinforce a series of values that configure their struggles as independents. This independent ‘worldview’ helps to structure the relationship between the indie and mainstream sectors, informing alternative approaches to work management, commercialisation, and markets, as well as forging internal tensions in the field.

In order to understand this, I explore in section one the professional background and experiences motivating their decisions to become independent. In section two, I

explore how the ideas, ethical reflections and narratives derived from developers' experiential world inform their work practices as independent developers, suggesting a variety of cultures whose ideas are rooted in discourses of entrepreneurship, aesthetic innovation, and creative work/play. Finally, a third section will make a turn in the chapter in order to assess the inherent risks of independent work. This is more an account of the way many independents experience the sociality behind their work, especially as they struggle to obtain the symbolic and social capital that can leverage their situation within the industry. In short, this last account addresses the problems or challenges that currently many developers face as they learn their way to mobilise in the sector.

### **6.1 Occupational Biographies**

Within the narratives and experiences of independence, the image of indie development takes the form of a struggle amongst developers seeking to thrive in a context of global-corporate structuration of game work, and its consequences in creativity and labour conditions. Developers' industry experiences and narratives become highly important here to understand the indie career, helping them to differentiate themselves from big productions and build a sense of belonging to their work. Nevertheless, these labour experiences introduce an important distinction among indies themselves, as many of them are experienced developers who have formed their companies after leaving or being laid off by their former employers, whereas other indies completely lack labour experience or even formal training. This experiential distinction influences not only their approach to game work, but also their cultural/social capital as a means to develop games as well as other cultural affinities.

As has been rightly pointed out by Bowen and Deuze (2009), there are two possible ways of entering independent game development: experience of development at a major company, following an amateur or hobbyist style through their participation on participatory cultures. The following lines will address in more detail the motivations behind these groups, exploring the different experiences leading towards their indie turn. Both routes advocate an appropriation of cultural work as a means to achieve the work/fun *ethos* related to game development, as opposed to the creatively stifling

and professionally uninspiring environment resulting from control by big publishers. This extends to the commercial, aesthetic, managerial and socio-legal spheres.

### **6.1.1 'From underling to mastermind': Independent work as re-appropriation**

In an article published by Kohler (2010) at *Wired*, independents Jamie Cheng, Jake Kazdal and Sean Murray talk about their experience at large game companies and how they became independents. Their stories highlight the negative experiences that informed their decisions to leave their previous job positions. They stress the lack of commitment from team members, their routinized jobs as well as the unfulfilling tasks experienced at those companies. Amongst my interviewees, these feelings were also shared. They also highlighted as motives to become independents the effect of highly compartmentalised job positions in the allocation of the creative input within a project, as well as the creative lines followed by their companies:

'I had quite strong game ideas I wanted to pursue and the games we were working on at Frontier weren't really exciting. I was working on a *Wallace and Grommit* game for a while, and a sort of platform game, and it was the sort of game that I didn't want to work on. So I didn't get on very well at the place.' (Delay, C., interview, August 27, 2010)

'I can consider the game in full, and this is actually something almost impossible if you are not entirely independent. If you work with someone, sometimes your input is kind of what you want anyway. Actually you make the decision of having or not having your input.' (Dock, interview, August 31, 2010)

'Creativity was my main reason to leave. Back then, I was just working on racing games and sequels and after a while, you find yourself with the only 'reward' of making the same thing over and over again. Actually, while I was in the company, I wanted to know what would happen if I submitted a whole game idea. I submitted my game idea to the head of designers and basically it didn't even get to the publisher for consideration, because he said they would see it too risky as investment.' (Bradley B., interview, April 23, 2010)

These quotes indicate that these developers had similar motivations for working in the indie sector. They saw their indie ventures as personal projects or hobbies where to channel the ideas they felt passionate about. The degree of gratification provided by their 'side' projects, together with their unsatisfying work routines placed them in a receptive position towards the emergence of new platform markets. As seen in Ben and Dock's cases, they were drawn in by the available access to development tools and encouraged by stories of success in the independent sector.

Furthermore, some micro studios working as third party or outsourcing companies have started a gradual turn towards fully independent game production. Companies such as Four Door Lemon and Tuna Technologies started out as technology and art contractors, who also developed ports and licensed products. Their transition began when they considered the possibility of developing games on a smaller scale, given the tools available and the creation of digital distribution channels for accessing new markets. For indies, the motives behind these transitions are rooted in the creativity-crippling culture amongst publishers and their policies of intellectual property appropriation:

‘...it was about four years ago that we decided we wanted to be more independent. For us that meant moving from the financial support of the big companies, which pays bills, pays wages, but for us it was very frustrating because we couldn’t express ourselves, making the kind of games we wanted to make.’ (Crashaw A., interview, February 12, 2011)

‘For me, obviously, I can run this company or I can work for a large company doing something there, but it just doesn’t appeal at all. Instead of that, it just feels right when you see a couple of guys working on their fully owned project. I grew up playing games made by just a couple of people. Somehow, that has influenced my decision to concentrate on developing our own IP, especially now we got digital distribution.’ (Barrat S., interview, March 3, 2011)

Educationally, many of my interviewees have degrees in Computer Science, with a couple of exceptions who had technical training in graphic and game design. This knowledge played an important part for them in getting around in their companies, but as all of them convey, the experience of working in a game company was indeed important, as it set up the professional bases of their work as independent. Besides mastering their own work, learning the different technical and managerial aspects involved in game production was crucial to their professional formation. As some of them express:

‘[Working at SUMO] was a good learning. Because when I started I didn’t really understand how I would manage my work in a company or how what is like to work on a game which is so big compared to what I had done back in the university. So I learned a lot and quite quickly.’ (Bradley B., interview, April 23, 2010)

‘I was the only person in the team who had experience in design and graphics, so it was fine and all worked pretty well. I went onto do some character stuff and I got onto character lead on some projects, and that’s most of my stuff, character work. But then I got into the late projects... I was on that as an artist, but also I had to design them too, and manage the whole thing. So I end up acting as a designer and producer on smaller projects.’ (Dock, interview, August 31, 2010)



### 6.1.2 Indie natives: game development in participatory cultures

By indie natives, I am referring to developers who did not work in the games industry before they started developing their own games, and whose debut into the game making business resulted from self-taught strategies or work within participatory game cultures. These cultures foster amateur game development, attracting a wide range of players, hobbyists and sometimes professional developers who view making games as a worthy and enjoyable use of their free time due to the possibilities they entail. The features of these cultures are quite similar to those described by Jenkins et al. (2009), fostering active collaboration between members at different levels:

‘low barriers to artistic expression and civic engagement, strong support for creating and sharing creations with others, an informal mentorship whereby what is known by the most experienced is passed along to novices... [They] believe that their contribution matter, and members who feel some degree of social connection with one another (at least, they care what other people think about what they have created)’ (Jenkins et al, 2009: 5-6)

Although many of my interviewees had formal technical training and professional experience in the field, a significant number of developers started their careers as independents without any such training. For instance, both Stephen Lavelle and Terry Cavanagh have degrees in mathematics, and they even state that they did not want to have anything to do with Computer Science during their years at college. Dave Evans achieved degrees in Art and Painting, Film, and finally Psychology before starting another degree in Computer Engineering, while Kaworu Nagisa’s and Jonas Kyratzes’ studies focused on Philosophy and Philology. Richard Brooksby, meanwhile, drew on his 15 years of experience in software development when he discovered the enjoyable enterprise of game making.

It is likely that these game makers developed a specific taste for the medium, not only for the degree of gratification and enjoyment of their ventures *per se*, but also as a way of communicating their artistic ideas. Their passion for games can be traced back to their early years, when they started playing. They all started to experiment with programming languages and game making at a very young age.<sup>95</sup>

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<sup>95</sup> This is not something exclusive to indie natives; indie converts and developers within the larger industry also claim to have had strong bonds with digital games since their early years, through both

‘Since secondary school I’ve been putting games together using simple tools, and I’ve just kept learning stuff since then. Making sure there wasn’t an aspect of making games I wasn’t at least barely capable of.’ (Houlden S., interview, September 16, 2010)

‘I got a Commodore 64, and I used to write very simple games in Basic, moving stuff around and things like that. Then when I got a bit older I got a PC and started to write games on KBasic, the next step up on that progression. For me it was very important as an expressive medium.’ (Cavanagh T., interview, August 24, 2010)

Most of these indies did not develop their technical and managerial skills alone. Instead, they participated in organised communities of hobbyists and game development. These communities mostly interact on the web, although their activities are not limited to virtual environments. These places foster the creation of game content using resources freely available on the Internet, as well as providing technical support and a space for indies to develop their creative vision. Interestingly, it was the presence of these communities and the structural conditions described through this chapter that caused many developers to realise the potential of working as independents:

‘Around 2007-2008 one of my business partners told me about the 48hr game competition known as Ludum Dare and also about the independent game site TIGSource. I had taken about 10 years off from game development and hadn’t been paying attention to where the industry was at. The last time I had considered making games all the books and info in the mid 90’s were on “how to raise your first 250,000 dollars” etc. What I discovered when looking at TIGSource in 2008 was that the industry had totally changed. You had a growing and thriving Flash game industry, you had Steam and other digital download networks cutting out the need to get a physical game box on a store shelf.’ (Evans D., interview, August 16, 2010)

With regard to their motivations, indie natives have strong reasons for working as independent developers besides their declared passion for game making. For those without expansive knowledge about software development and informatics, there is no other way to develop games on their own. This is especially so given the highly specialised labour sought in the games industry. Hence, as Robert Fearon says, ‘[N]o one would employ me [laughs], seriously. I mean I have no formal talent, perhaps formal training is a better word. The only thing I think they could employ me as is as a sort of tea boy.’ (Fearon, R., interview, May 18, 2010). In addition, Fearon, and other developers such as Charlie Knight and Dave Evans, described themselves as ‘going mental’ when stuck in an office or being bossed about by other people. This

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playing and hacking/creating small games. In their view, game development is not simply work but is deeply rooted in their identity, as argued by Dovey and Kennedy (2006).

autonomy is perceived as creative and meaningful, given their direct control over the process of development:

‘I love working for myself and creating games. Being indie lets me make the games I want to make how and when I want to make them. I only work when I am feeling inspired to work on a project and I like being in control of my destiny (as much as one can be anyway).’ (Evans D., interview, August 16, 2010)

Although they have not worked within the industry, their affiliation with game communities provides them with first-hand stories about it and this contributes to the construction of an indie identity opposed to the ‘mainstream’ industry. This indie discourse portrays the larger industry as creatively stifled, over-exploitative, corporate and strongly hierarchised: in sum, an industry that fails to fulfil its own promises of rewarding creative jobs and work as fun, and focuses on profit-making instead of making games fun to play. This discourse is deeply rooted within these communities, to the extent that it inspires younger developers to try out the independent approach to game making. As stated by Sophie Houlden:

‘I have never worked in the “larger industry” of game development before. It was my intention when going to university to join the “main industry” but the more I worked on my own games and the more I learnt about how things work at games companies I felt I preferred how I was working anyway.’ (Houlden S., interview, September 16, 2010)

## **6.2 Understanding the meaning of independence**

What does indie stand for? This question has turned the game development sector upside down. The problem with the definition relates to different layers of social experience, mediating developers’ perception and appropriation of their own autonomy. In this section, I aim to sketch out some of the main principles behind developers’ view of independence, and what they are trying to achieve through their work.

Two interesting positions here. First, in addition to their experiences and stories of the games industry as whole, a culture based on hacker ethics and independent media is present in developers’ perception of both their work and themselves (Keimppanen, 2009). As Himanen (2001) outlines, hackers’ occupational, financial and social ethics are fuelled by individuals’ passion, quest for freedom (both creative and organisational), social significance, work openness, individual empowerment and

concern for their peers. These values are also present in independent developers, as their work is rooted in an exhaustive process of creative expression bound up with social cooperation.

Secondly, the independent arena is nuanced, as each developer may take a different approach to harnessing their relative autonomy. Here, the tension between creativity as necessity and creativity as freedom is not only a matter of material constraints, but also an aspect of independents' motivations and ethical views of their work. This imagery is sometimes informed by the culture of new entrepreneurialism within the so-called new economy, both celebrated and questioned by media scholars and developers (Leadbeater & Oakley, 1999; Florida, 2002; McRobbie 2002b; Ross, 2009). As I will address here, the research suggests that at least amongst companies with a long track as third party developers, the view of independence seems bound to their experience as specialists, the rational needs of their organisation, and their inner motivations. In a different fashion, indies avoiding immediate pressures of the industry are driven more by experimental and aesthetic motivations, even trying out other approaches to the commercialisation of their products as 'alternatives' to the instituted publishing channels. These later 'indies' foster an active engagement within independent communities or scenes (inspired by hobbyist development cultures), as well as social participation in self-referential activities that –besides helping in the process of acknowledging and validating developers' work as 'indie' - embody values of sharing and professional and personal growth that overcomes their instrumental value.

### **6.2.1. The spirit of indie labour**

For the interviewees, four main interlocked principles give meaning to their work, namely self-fulfilment, cooperative sociality, freedom and its consequent authorship. Along with other game and software developers, indies describe themselves as passionate about their work, finding the creative dynamics of games and technological systems fulfilling. In contrast to a mechanical job in an office or factory, they perceive their activities as playful, challenging and entertaining. As such, doing a job that is personally gratifying, in addition to linking that gratification with the creative, playful perception of and challenges posed by both games and the

digital medium (as addressed in the previous section), goes some way towards defining indies' passionate behaviour:

'if we have enough inspiration to come up with an idea, play with it, [we] actually make some prototype to play with it, we make it, we change it, we make it again, we change it, we make it again, it is amazing' (Crashaw A., interview, February 2, 2010)

'Other people are very fascinated with the storytelling prospectus of the medium. Other people like the feel of games; they want to create something that you can interact in a way that feels nice. Some people just make them for fun.' (Cavanagh T., interview, August 24, 2010)

'I definitely think [being independent] is worth it. The freedom of choice is thrilling to me. Every day is an opportunity for me to make the games I want to play.' (Evans D., interview, August 16, 2010)

This commitment to creativity fuels indies' main criticism of the large-scale sector of the games industry, as the aesthetic conventions of the latter rely too much on high fidelity and photorealist visuals, standardised genres, narrative content and themes:

'...just look at these games normally you find in the market, always the same old FPS and reiterations of old franchises, full of clichés and dumb characters. I mean, you really don't feel engaged by what they present you on an intellectual level...' (Nagisa K., interview, July 31, 2010).

Furthermore, at the independent development track at the GDC 2010, developers stressed the notion of challenging the aesthetic conventions promoted by the games industry. Of particular importance was the adaptation made by independent Chris DeLeon of a passage from David Thoreau's *Walden*:

'We are in great haste to construct a higher fidelity technology; but it may be we have nothing important to communicate that requires higher fidelity... as if the main object were to talk elaborately, and not to talk sensibly. [N]o videogame ever stood the lower in my estimation for having low fidelity graphics, yet I am sure that there is greater anxiety commonly to have fashionable visuals, or at least high definition and 3-D graphics, than to have sound meaning.'

In addition, one of the defining traits of independent developers is their self-awareness and role as a mutual support group, showing the social grounding of their passion. Independent developers are likely to congregate in online and local networks that function as professional communities, validating developers' work and providing social belonging to independents. These spaces are crucial to developers' identity, as they shape and give meaning to their lives as independents; emotional support and motivation, in other words, can keep developers' passion flowing:

'Because it's fucking funny. There isn't a day where you sit down and do some weird characters or just some silly stuff for a living, small victories like this one are amazing. You know, I don't give a shit for any reward from external bodies. The only reward I picked up is the one from my own guys.' (Fearon, R. interview, May 18, 2010)

Cooperative sociality arises, as the immediate consequence of developers' identification as independents, in the context of network relationships. This is an element that exists more generally in the software and games industry, as the hackers' ethic of openness is embedded within the information systems that developers themselves work with. Nevertheless, indies vindicate this principle, in both its instrumentality and teleology, by forming networks and communities where material assets, labour and knowledge can be shared and support given. These social spaces stand in strong opposition to both the ruling secrecy of the games industry and the traditional use and enforcement of intellectual property rights.

Furthermore, developers' perception of autonomy or freedom informs, to a varied extent, their creative decisions and work style. In essence, this notion of autonomy can be broken down into three basic elements: creative, organisational and economic. The most important aim of indies is located within the creative sphere: an experimental *ethos* where developers realise and materialise their own ideas while devising the technical means to transform them into a playable version, something unlikely to happen were they to work for a first-party or exclusively third-party studio. For the interviewees, this is embodied within their claim about making the games they want to make and play, and the rewarding experience of working and experimenting with their own ideas:

'I love working for myself and creating games. Being indie lets me make the games I want to make how and when I want to make them. I only work when I am feeling inspired to work on a project and I like being in control of my destiny (as much as one can be anyway).' (Evans D., interview, August 16, 2010)

'I have fewer resources than a large company (by far), but more freedom to make unusual or intellectually challenging games. My games are not produced by committee, but are the expression of a single artistic vision.' (Kyratzes J., interview, February 5, 2011)

'I really don't think I ever worked that hard on something before, but I was trying to do some sort [of] psychoanalysis simulation. I did a lot of work, coming up with a big database and all these real world demographics of sort of various ways that persons like to get screwed up.' (Lavelle S., interview, August 21, 2010)

Their personal views and game ideas have inspired these developers not only to become independent, but also to criticise the large-scale industry for focusing overly on profits to the extent of applying impersonal creative formulas or ‘tweaking’ the artistic vision of a project to make it more appealing to mass markets.

As they consider themselves to have creative minds, time, place and work logistics are likely to be subject to personal scrutiny or team negotiation. Flexibility to define or switch tasks in a project is likely to happen amongst indies, usually subject to inspiration rather than following the rational and technical division of tasks embodied by the classic scheduling principles of the industry.

‘I work as an indie developer because it gives me the chance to make the games I want to make. I have no desire to work a 9-to-5 job as a programmer with minimal creative input; besides, I’m a terrible programmer.’ (Kyratzes J., interview, February 5, 2011)

‘Question: with Jonas [Kyratzes], how are you organising the work?’

We are just starting with this, so things might change later. He is basically doing the writing and some of the game programming along with me, and a lot of gameplay ideas, and the art...I’m also focusing quite a lot on the game design part.’ (Cavanagh T., interview, August 24, 2010)

This subjective way of organising work reflects an important feature of indies: they are both artists and entrepreneurs. Some of them expressed a refusal to accept orders from others, which is derived from both their passion for creative expression and authorship, and can even be seen as a political stance. As Robert Fearon and David Evans tell us about the reasons to work by themselves:

‘Well, I know we live in society and there are certain norms, but the fact of saying there is no way I could fuck[ing] do that, and there is nothing I can do about it is quite powerful. Whereas if I were working on Codemasters, if someone tells you “put that wheel at your left”, so you cannot say fuck off! You know, I got no one to answer to at all, but that’s something you cannot afford when you are working in the mainstream industry.’ (Fearon, R. interview, May 18, 2010)

‘I am not very interested in going back to that type of exploitive relationship (even if the boss is friendly it is still exploitive in principle I believe)... I just feel that a lot of employees make the companies they work for an awful lot of money and the companies never let on how valuable they are or pay them what they should be paid for their time and talent. Employees don’t get to reap the rewards as often as the owners of a company.’ (Evans D., interview, February 09, 2011)

As we can see, indie developers’ accounts of their autonomy can be tightly knitted with artistic and political expression, while their organisation of work is based on flexibility and individual convenience.

Deeply bound to the idea of creative and organisational freedom, the idea of authorship underpins the identity of indie developers. A strong source of satisfaction for independents is their ability to control all the phases of game production - even the non-creative aspects. As we know, the digital games industry fosters multidisciplinary team-based projects, where specialists in art, programming and game design are required for the flow of work. Still, although they are coordinated, these work tasks throw up occupational boundaries. Many independent developers prefer to transcend these divisions, employing a 'trans-occupational' approach to their work, as it provides them with the creative control needed to 'script' their personal views for a project:<sup>96</sup>

'I like having complete control over my projects. I am a bit of a control freak [laughs], I want to do the art, I want to do the music, I want to realise the whole thing from top to bottom.'  
(Cavanagh T., interview, August 24, 2010)

The notion of authorship is key to understanding the social dynamics of independent developers, as it underpins the dynamics of recognition among colleagues and players, and contributes to the building of the 'audience' that will become potential consumers. Furthermore, it is interesting to note how the early life experiences of some developers in the fields of arts and technology shape their ideas and identification with independent development, as it provides a means to express the different dimensions of their creative vision through the different media enabled by digital games. These experiences show a perception that sciences and arts are more than compatible. Indeed, their separation is considered deceitful:

Well mainly the frustration I found when I was younger in having to pick between either "being an artist" or "being a scientist" drove me mad. I didn't understand why someone couldn't be interested in both. I decided I just like learning about anything that interests me and it wasn't until the past 2 or 3 years that it finally dawned on me that the only career or passion of mine that could encompass everything I was interested in was actually games.'  
(Evans D., interview, August 16, 2010)

Indies such as Dave Evans, Sophie Houlden and Terry Cavanagh claimed that they developed a special relationship with technology at a very young age, programming on old computers and making small games for fun. They also conveyed their passion

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<sup>96</sup> It seems that the process of specialisation and further technical division of labour in many cultural industries has fuelled all the independent movements in their respective media. For instance, Keimpanen (2009) labelled both independent film makers and game developers as 'auteurs', who retained artistic responsibility for their own creations. Both groups seek to express their creative vision, which means being in charge of the main aspects of production.



for and knowledge of other media forms, such as music, storytelling and visual arts. In sum, digital games' multi-media features can enable multi-faceted developers to explore the medium through their resourceful artistic skills, resulting in further personal fulfilment. Indeed, this explains why most indie projects tend to be handled by one or two developers; larger teams might dilute their creative vision.

As with the other principles, authorship tends to cause controversies among indies, as those independent studios that are more engaged in capitalistic relations pursue more pragmatic and standardised models that tend to reproduce the technical/creative division of labour. Furthermore, a tension between authorship as legal ownership and cooperative sociality offers a point of distance from business-driven independents and aesthetically/socially-driven ones. The latter tend to promote sharing principles, opening their work to others, using alternatives to copyright law to commercialise their projects and appeal to a closer and open relation to their players.<sup>97</sup> These differences lead us to think about how independents' values and material constraints shape the framing of their work as both artistic and commercial.

### **6.2.2 Autonomy, art and commerce.**

The spirit of independence can be seen in the living principles and set goals for which indies strive. They are informed by both an uneven merger between independent movements in other media and a hacker culture common within the technological field. These principles can be harnessed differently in practice, however, as developers can use their autonomy either to privilege profit-seeking strategies or to take a more experimental approach to their work. Here, the economic pressure experienced by some independents not only reduces the scope of their autonomy but also influences their work organisation and revenue models. It is in the intersection between economic necessity and the freedom present in developers' practices and expectations where independent game development becomes nuanced and controversial.

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<sup>97</sup> This leads us to ask about the mechanisms to regulate the use of independent labour. Here, the existence of communities of indie developers serves as a legitimate space to negotiate the conditions for sharing, as I will address in the following chapter.

As it has come to be known, the culture of new capitalism has successfully combined the discourses of bohemia, cyber-utopianism and libertarian entrepreneurialism, drawing a link between capitalism and creativity.<sup>98</sup> As a result of the process of economic deregulation experienced worldwide during the 1980s and 1990s, the ‘culturalisation of labour’ took place, along with a process described by McRobbie (2002b: 99) as ‘when the work replaces the social’. This describes the devaluation of the public sector and social services, a devaluation that is said to have been followed by the promotion of ‘competition, the seeking of self-advancement at work, and self-improvement techniques’ (ibid.). This results in individualities that prize ‘freedom, autonomy, choice’, and are predisposed towards ‘self-exploration and self-fulfilment’ (Leadbeater and Oakley: 1999). Among independent developers, these discourses take different forms, many of them overemphasising business ventures, freedom and individual economic wellbeing:

‘I know we are sort of indie as we are trying to self-fund our projects. But we are not this kind of ‘Indie’ living in his mother’s basement, that’s fucking awful. We are actually trying to make business here, we are trying to make money and we just want to make it in our own way.’ (Lacey R., interview, July 14, 2010)

‘For my money, it is the only option :) Creative freedom. Financial freedom. Freedom to try any business opportunity which comes along... freedom! A lot of “indie” developers are in it for the art. I’m not. If it doesn’t make any money then I won’t do it, until and unless I am in a position where its financial success doesn’t matter.’ (Hickey L., interview, April 4, 2011)

For these ‘indie entrepreneurs’, individual freedom and business practices are practically merged; the emphasis is on the excitement of commanding their own enterprise and its economic returns. But this sentiment is structurally pushed forward by the business conditions under which these independents interact. When defending the culture of ‘freelancing’ within independent game development, Charles Cecil reveals:

‘...you don’t have the problem of the employer-employee relationship which is full of difficulty, and also you know, when you interview somebody that could be one of your best employees; the moment you employ them, suddenly all the power goes for the employee. And this relationship is full of difficulty, because inevitably the employee thinks he should be getting more than they are getting. And then you know, they take time off, the mother-in-

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<sup>98</sup> For a synthesised account of this process, I suggest David Harvey’s historical account of neoliberalism (2005). According to McRobbie, decades of entrepreneurial discourse are echoed in the new generation of creative workers. Interestingly, many of these ideas of self-expression are akin to the artistic *ethos*, leading scholars such as Ross (2003) to argue that the bohemian world has been industrialised.

law falls down the stairs or whatever. The point is that you have very very good employees, but also you have too many bad employees.’ (interview, July 15, 2010)

However, he also argues:

‘The fantastic thing about the relationship we have with collaborators in freelance spaces is... you know, you agree what the rate is, you do the project, everybody is happy because you already agreed in advance, we come to the end of the project, and then you talk again about what the rate should be, you talk about what the deal should be.’

These quotes, due to their richness, can be read in several different ways. It is worth noting that these indies, in order to succeed, stay very close to the organisational trends imposed by the globalised labour market. The message is clear: in the games industry, as part of the new economy, there is no place for class struggle as the aim is to survive and make money in a competitive world. Abolishing the role of the employee makes it easier for developers to identify with their work and their colleagues, as they all share similar work uncertainties and values. While indies value ownership of their own IP and creativity, it is more important to engage with the business culture, even though this could result in creative constraints.

Nonetheless, creative work as an ideological foundation of indie development is not one-dimensional, as some indie entrepreneurs ironically suggest. For developers at FDL and Tuna Technologies, although they share the ideal of pursuing aesthetic goals, they know that their companies need to think in market terms, which can be seen in their game catalogues, privileging sports and trivia games as safer projects. They need to work as contractors and incorporate market logic to their projects because the risk of closing down is too high:

‘we would love to make a game that players love, we are gamers and we want our games to be played, but this is business, and you gotta make something that makes money at the end of the day. Like I said, if you are truly independent and you have the money to make your game, and you do something that doesn’t sell much, it doesn’t really matter. But at the same time, as business, games need to make money, so we need to take decisions based on what would sell more than what we would love to make. It is not a great way of looking at it, but this is business.’ (Jones P., interview, April 13, 2010)

‘Differences between Tuna and other indies is that we have been established for a while. We have got commitments about looking after our staff and to make a spin truly indie is a bit tricky for us. We have our own risk we have got to consider. I think that’s the difference between being really independent and completely commercial and where Tuna is. We are in a kind of weird place in between both.’ (Crashaw A., interview, February 12, 2011)

In spite of being influenced by the economic context, the ‘indies’ mentioned by Crashaw still pursue a more experimental and artistic relationship with their projects. In contrast with Hickey and other independents, who frame themselves as ‘newborn entrepreneurs’, developers such as Kyratzes, Kaworu Nagisa, and Charlie Knight instead focus on the importance of finding new ways to express their creative vision and other people who understand and appreciate their work. For this group, economic returns are addressed in terms of ‘making a living’, and sometimes as a by-product of their creative labour.<sup>99</sup>

‘ Q: What motivates you to make games?

- The same thing that motivates me to write or to make films: the intense need to create. The moment I realized that I could make games, I decided to make them. I never needed to think about it...For me, it’s been hard and mostly frustrating, but making art is not something you choose. If the vision is there, you follow it, even if the road is hard. It’s like religion, but with fewer wars.’ (Kyratzes J., interview, February 5, 2011)
- ‘Getting into games for whatever reason means you develop interests in things like graphics, programming, art style, mechanics and all sorts of stuff, but ultimately I still make games for the same reason I started out, I want to make a great world for people to experience stories in.’ (Houlden S., interview, September 16, 2010)

Some of these independents tend to have a more romanticist and totalising vision of the game artist, viewing themselves as isolated individuals trying to imprint their personal touch on their creations regardless of mundane concerns about money. Other developers mention their active engagement in participatory game cultures, and how they shape their own identity as indies:<sup>100</sup>

‘I played cave story for the first time, I saw online videos of Jonathan Blow talking about games design, I started to take part in Ludum Dare events and get in touch with indie

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<sup>99</sup> These independents resemble Bourdieu’s autonomous artists in the literary and artistic fields: ‘advocates who are least endowed with specific capital tend to identify with a degree of independence from the economy, seeing temporal failure as a sign of election and success as a sign of compromise.’ (1993: 40) Bourdieu here draws a tension between these artists, their *ethos* and the heteronomous principle, favourable to those who dominate the field politically and economically. I consider this context valid for the games industry, though it also appeals to independent development as a subfield, as self-published games and outsourced work retain a strong synonymy.

<sup>100</sup> Within the collective memory of the independent community, an important discussion is still ongoing between the Belgian developer Michael Samyn (*The Endless Forest* [2005], *The Path* [2009]) and other developers such as Robert Fearon and Stephen Lavelle. Whereas other developers find that the camaraderie, support and diversity of indie communities provides an important space to create original works, Samyn strongly advocates for a one-man creative vision, isolated from external influences. As such, he views indie communities as self-indulgent and regulative. His distinction between the ‘true indie artist’ and the technician as the tool maker shows how the coupling between hacker ethics and the artist is not without conflict.

developers. It was like “hey, I’m already an indie, and this community, this movement is something I can be part of and contribute to” and I felt that, all of a sudden, I really could make the games I wanted to make, unfiltered, and when I wanted to, that there was a real chance I would make enough money to eat from it.” (Houlden S., interview, September 16, 2010)

As stated earlier, independent developers tend to take a critical view of the channels through which projects are conceived, managed and commercialised in the large-scale sector. For them, being independent entails the possibility of seeking alternative strategies for the commercialisation of their games. For instance, against the background of the legal initiatives and regulations promoted by entertainment industries, including the Stop Online Piracy Act (SOPA), the Protect IP Act (PIPA), the Anti-Counterfeiting Trade Agreement (ACTA) and the use of Digital Rights Management (DRM) mechanisms to impede copying and counterfeiting, many independents try to find different ways to conciliate their commercial activities with social uses of sharing, and offer different perspectives on the illegal sharing of their games. For this purpose, many of them adopt ‘pay as you want’ models, release their games free of DRM, market games by appealing to their indie condition and offer special services for those who do buy their games:

‘If someone pirates Minecraft instead of buying it, it means I’ve lost some “potential” revenue. Not actual revenue, as I can never go into debt by people pirating the game too much, but I might’ve made even more if that person had bought the game instead. But what if that person likes that game, talks about it to his or her friends, and then I manage to convince three of them to buy the game? I’d make three actual sales instead of blocking out the potentially missed sale of the original person which never cost me any money in the first case.

[Also] Instead of just relying on guilt tripping pirates into buying, or wasting time and money trying to stop them, I can offer online-only services that actually add to the game experience. Online level saving, centralized skins, friends lists and secure name verification for multiplayer. None of these features can be accessed by people with pirated versions of the game, and hopefully they can be features that turn pirates from thieves into potential customers.’ (Notch, 2010)

Other developers, such as Robert Fearon (n.d.), have released their graphic and music assets under non-commercial licences to be used by anyone for personal purposes:

‘Getting started can be a pain in the neck. “I can’t draw very well”, “I don’t know how to make sound effects”. I want to take some of that pain away. Now, I could write a series of long tutorials, code snippets and things like that but there’s plenty of places on the Internet where you can get that kind of thing and it’ll likely be more lucid and more helpful than anything I put together... You can go off now and start writing your own SYNISO game. I’ve dumped out all the graphics and sounds I’ve used in the SYNISO games to date and they’re

available (with a few small caveats) for you to use right now in your own game. You can even use them in a non SYNISO game, that's alright. (with a few small caveats).'

For independents, the artistic claims of their work are based on their experimentally driven projects as well as subcultural aesthetics, in combination with the individual touch given to a variety of game genres, from 'platformers' to more RPG or 'Sims' styles. For instance, Terry Cavanagh borrows common aesthetics from these genres to combine them with a variety of narratives in both form and nature. For instance, VVVV combines the characteristic "indie" pixel art graphics to re-enact the classic and subcultural space opera theme, under a challenging and rarely seen gameplay based on gravity changing mechanics. Moreover, he can borrow the classic 'platformer' aesthetics (bosses, jumping, shooting) to reinterpret the myth of Orpheus and Euridice in *Don't look back*, featuring an interesting side-scrolling technique to experience the delusion of our hero, whose fantastic adventure finished at the same point it had started, in front of the grave of his beloved one. His works explore a range of narratives, with an RPG version of the French folktale Bluebeard, and a parody of both Sims games and the excesses in lifestyle of the financial sectors, a work done in collaboration with Stephen Lavelle, and Tom Morgan-Jones from the politically active TerrorBull Games.

Other developers, such as Michael Brooksby manage a more ludologic interest for their games, as an exploration of what constitutes 'fun' in games,

'I would more be interested in thinking why this is fun, why this is interesting, what engages people about this, why everyone likes more this particular form of play and not that one. So it is about the abstract part of the game design other that I am interested in. Sometimes is the feeling, the ways it is presented, sometimes it is the speed in which it becomes difficult.'

(Brooksby, R., interview, August 24, 2010)

Interestingly, we can draw some connections between the above ideas of autonomy and the commercial relationship between indies and the mainstream. First of all, independent developers have made a series of criticisms about the industry that help us to understand their agency within the process of game production. Nonetheless, material constraints and personal views shape the goals of their independence. The main tension unfolding in the sector relates to both the entrepreneurial and artistic nature of their work. Some developers stress entrepreneurial freedom and the possibilities of financial success, but also the experience of more meaningful

relationships and social conditions at work. Here, the problem is the potentially stifling consequences of thriving creativity. Kempainen (2009) frames this problem as the existence of developers who are independent but not ‘indie-spirited’, i.e. their projects might not be motivated by, or infused with, the pursuit of originality, creativity and/or community involvement. Additionally, studios that work as contractors tend to have a more restricted view of autonomy and less space for experimentation, given the material needs of their organisation.

On the other hand, ‘indies’ who are more committed to their aesthetic aims see their professional autonomy merely as a necessary step to achieve their project ambitions. Whether professionals who have worked in the larger industry or ‘newcomers’, they are mostly engaged with the artistic potentialities of game development, a vision strengthened by their participation in indie communities. Hence, as I will discuss in the next chapter, they develop their own mechanisms for game development even though their role is contested within the independent movement. These indies follow an ‘*auteur*’ approach to their work, where control of creative and technical labour is emphasised over profit-making, allowing a wider range of people to experiment with the artistic, design, technical and commercial aspects of production.<sup>101</sup>

Whether indies dismiss or embrace profits as their ultimate goal (a common tension between hacker ethics and capitalist production values) is not the question, given the need for commercial success in order to keep working. As with Frith’s (1981: 90) observations of the music industry, independents do not consider profit-seeking to be unethical or creatively crippling, as they do the oligopolistic control of corporate actors over the creative process. Nonetheless, while some independents’ primary aim is profit-making, other indies focus mainly on pushing the aesthetic limits of game design, art and storytelling. I consider these nuances critical for understanding the social battlefield of the independent scene. A constant source of quarrelling amongst independents is related to this exact issue, where economic need and the quest for profits clashes with the culture of sharing. I believe a historically fuelled sensitivity

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<sup>101</sup> A clear example of the constant clash of these two visions can be seen in Kristiansen’s blog post ‘Indies are Morons’ (2011) and Robert Fearon’s immediate reply ‘I am a Moron’ (2011). Whereas Kristiansen criticises developers who dismiss marketing strategies and business plans, Fearon tries to show how a family man can still hold to the spirit of independence without committing to work rationalisation.

is at stake here, as for the first time in the history of the games industry, developers have the chance to retain ownership of their games, making independent development a means of empowerment. Nevertheless, this empowerment is sometimes embodied in pro-copyright and anti-piracy stances, in a context where IP laws are used to benefit corporate game capital.

### **6.3 The independent developer professional and his/her woes**

As we can conclude from the sections above, there are two conflicting professional features of independent developers. One, more entrepreneurial and pragmatic, seems to feed from the larger industry, embracing a freedom understood mostly as the possibility to make business from one's own game ideas. The second is the vision of independence as an obsession with developing creative individuality in a series of technical and artistic areas akin to digital games. Both types of indies are seemingly nurtured by the same ideas across different media industries, and share, as part of the generation of young workers, a disembeddedness from traditional attachments, geographical boundaries, and the concept of work as the 'fulfilling mark of the self' (McRobbie, 2002a: 521). The interesting part of this is that the emphasised role of creativity and innovation in contemporary economic life makes this discourse a dominant feature of modern capitalism (Ross, 2002).

As Pontgratz & Voß (2003) have pointed out, the '*new economy*' needs new forms of labour while retaining old forms of exploitation. These forms of labour are characterised by an 'enhanced self-organisation' and, within new media, are also increasingly entrepreneurial. Indeed, the self-organisation of work goes hand in hand with immaterial labour practices (the economisation of daily life) and a commodification of the self (Ursell, 2000). Given the nature of cultural labour as cognitive labour, workers' labour power in the new economy can be dissected into a series of skills that are commoditised according to labour market trends (Urciuoli, 2008). In addition, as Kennedy (2010: 189) notes, work imperatives such as 'flexibility, adaptability and project-based portfolio work lead to insecurity, long working hours and a constant drive to re-skill.' These practices are recognisable to indie developers, as the structural conditions of both the industry and their lifestyle



lead inherently to uncertainty and risk, especially when it comes to sustaining a family (Kristiansen, 2011).

The following lines are set to address the precarious nature of independent development. Bearing in mind that developers leverage their positions through ‘cultural’, ‘social’ and ‘symbolic’ capital, a lack of this capital reduces their chances for market exposure and commercial success. Under such conditions, working and self-promotion practices can easily turn into an iron cage for developers, firstly because some struggle to develop the social and technical skills to keep themselves in the market, and secondly because the less successful are prone to engaging more actively with the corporate outsourcing structure. Starting out as an independent developer is a difficult endeavour when it comes to handling the intensive nature of gamework while managing the business and marketing areas of a project. Moreover, the process of developing skillsets, together with practices to improve market awareness become particular burdens when freelance and outsource work are needed to make up for the lack of social and symbolic capital. The blurred line between “love of work” and self-exploitation, as well as the claim about re-skilling are addressed in the following section.

### **6.3.1.[Net]Working as an iron cage**

A major feature of developers is the self-management of one’s productive life, which follows a discontinuous pattern that intercalates and overlaps with their private sphere. This is seen, in practices such as tele-work, remote collaboration, networking and even work overload, with both independent developers and contractors.

Developers require flexible timetables and working hours and the ability to adapt to different areas of expertise if they want to stay competitive as independent contractors. This is a problem even for small studios working as outsourcers, such as Tuna Technologies. Although the company tried to keep to certain commitments made to the lower ranked employees in terms of working hours and stability, the three directors were compelled to work more than 40 hours a week in order to keep the company running. The intensity of their passion, paired with resignation to the way the industry works, fuels their trend towards self-exploitation:

‘...when I say we I mean me, Mark and Alex, the three directors - come in at eight in the morning and leave at six in the evening on a good day. So I mean around two hours before everyone comes in ...But when I have to, I mean last week I was working until 1am, three days on the trot. Like I said before, for me I love making games and to get my job done, if I need to work more hours I would do it, but I don’t like asking other people to do that...working these crazy hours, you know you are just working on something you like. To me, if you work in a job you didn’t like, that’s seven/eight hours a day means something you hate all the rest of your life, whereas I am doing you know 14 hours a day in something I love.’ (Crashaw A., interview, February 2, 2010)

Being both a contractor/freelancer and independent imposes another critical condition on developers. As they are their own bosses, collaboration, hired work and economic success does not come easily unless they deploy self-marketing strategies. As Chris Delay states in an interview, doing the PR for one’s own game is part of the fun, but when it comes to marketing one’s name and finding work as a freelancer, the landscape is more stressful and uncertain. As mentioned in Chapter 5, independent developers engage in a series of social practices and participate in events in order to promote their projects and create market awareness. As part of the sphere of production, networking practices are deployed in some of these spaces, especially when independents are working as specialists. Thus, many of them participate in corporate events such as Game Developers Conference, Develop Conference, or Games Horizon in order to establish contacts with possible contractors.

These spaces are crucial for developers who are trying to establish connections and/or strengthen them. Network dynamics can be frustrating for many developers who need to develop social skills in order to approach important people at these events:

‘Networking is a skill I clearly need to develop...when running a small business you need to promote ...you need to get out there and talk to everyone. I’m afraid to say I did end up spending too much time “safely” with friends and perhaps not enough time talking with potential publishers, investors and other useful people to know... Perhaps my social awkwardness caused some wasted opportunities, but I did pluck up the courage to talk to some people, especially after a beer or two had been consumed. I swapped lots of business cards and shook hands with a lot of the attendees. I also wore my company logo t-shirt all day with pride, so hopefully more people are aware of my company now – which may or may not translate into future sales.’ (Judge, 2011)

Along with the subjective distress that networking may cause developers, the structuring of networks during these events also acts as a constraint, as the majority of people congregate around renowned programmers and game designers. Here, interaction is limited by the centrality of big developers and producers, making them

difficult to approach, as well as by the incompatibility of interests held by those present. In short, the network structure and the intentionality of its actors play against indie developers whose projects are not considered appealing and also against those who are not well-connected or experienced in managing themselves within the networking arena.<sup>102</sup> Judge's experience contrasts totally with Charles Cecil's advocacy for networking as a PR and production strategy, indicating a hierarchy based on status and connections within the freelancing/outsourcing layer of the game labour market. Charles Cecil is not only considered a 'legend' due to being a pioneer of the British game industry, he is also a successful entrepreneur who has strong ties with small and large studios in the UK. These connections allow him to dedicate a great deal of his time to creative consultancy and finding partnerships for big projects in between his independent projects. In turn, for those who lack the prestige of other developers, the game becomes one of developing 'social skills' to mobilise better on those environments.

As industry spaces, the 'macho' culture it embodies is played out in networking spaces as conferences, becoming even more challenging for women to engage into significant discussions given the discriminatory behaviours they often endure. At Develop Brighton 2013, in a conversation at the "networking zone", a developer mentioned

"You know, I love them [conferences] because you get to meet so many nice people [...], it really pisses me off when some of them start harassing you. You know it's all this rubbish about 'what else is a woman doing here' kind of thing [...], it is actually better to be with people you know because otherwise the atmosphere gets quite hostile around you."<sup>103</sup>

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<sup>102</sup> A powerful experience, denoting the experiential and symbolic underpinnings of networking interaction, happened to me at Develop Brighton Conference 2010. An attempt to establish conversation with a developer failed after I mentioned it was my first industry conference and my profession in sociology. The following attempt succeeded when I told a freelancer that even though he might not have seen me at an Australian game event, he might have done at GDC San Francisco or Gamescom Cologne. The conversation went on until he realised I was not a game developer, but a researcher.

<sup>103</sup> The stigmatised view on women in the games industry is not new at all. Women in the sector have reported constant gender discrimination and harassment at their work and industry environments. There is even a growing perspective that on top of the precariousness developers have to deal with in the industry, women keep experiencing the hostility of places built as a "boys locker room" (Burrows, 2013).

Similar experiences have been reported in other occasions, assuming developers to be the wives of male colleagues or marketing employees, as well as putting up with sexist comments, jokes and behaviours (Raja, 2012; Plunkett, 2012), situation that extends to almost every moment of their professional life (Hills, 2013).

### **6.3.2. Copying and updating: the multi-skilled worker**

As we already know, the ‘informational’, ‘knowledge’ or ‘new economy’ is based on constant ‘innovation’ motivated by intense competitiveness in contemporary capitalism. This leads to a constant need to reskill and keep up with these innovations in the market (new business models, game genres, game platforms, software tools), technology and legal fields (licenses, labour contracts, etc.) (Sennett, 1998; Kennedy, 2010). In addition, within indie game development, control over the process of game making and its different stages requires a versatile individual, compelled to move from one area of expertise to another, given the complexity entailed in the process of game production.

#### **6.3.2.1 Learning**

In addition to the main craft, knowledge and creative skills, independent developers also require managerial, marketing and even ‘emotional’ skills. This means that some indies have strategic advantages over others, as skills are unevenly distributed throughout the sphere of the occupational platform upon which independent development is based.

For instance, Dock, a solo developer with professional experience in the games industry (in the field of art design), has what he calls an uncommon and ‘boring’ schedule for indies, showing self-control and work discipline:

‘I tend to be relatively uncommon in this respect, because I tend to wake up pretty early, before 7am and I do exercise, laundry, I do my breakfast, and I make sure that by 9am I am at my desk, and I sit there until 5pm, but it tends to be 7pm, and then I go away from my desk and I try to relax. Whether I succeed to relax is another matter, but it is something like “get out of that room”. I work on a Mac mostly, so when I’m sat on that computer, I am working mainly. I am doing something but work on that computer I know I shouldn’t be, so I tend to have it just for that. So I keep writing very regular hours and I never work on weekends, well sometimes you have to, but I try to take the weekends off and the evenings to

relax you off... I think I haven't managed to meet any independent so far that has worked in such a boring manner such as my routine.' (Dock, interview, August 31, 2010)

The sphere of work experience goes further when it comes to marketing skills and the ways he addresses his potential players:

'...working in the comics gave me a little bit of experience, dealing with costumers and stuff like that, and like seeing how we can make decisions; trying things out and seeing them fail. It was a whole influence on me because, it was something I enjoyed a great deal...I also dealt with female players. Within the comic group, there were a lot of our customers who were female, which is quite strange because the vast majority of costumers in comics are male. The reason for this was that I didn't put anything objectionable in them.' (Dock, interview, August 31, 2010)

But when he describes his most difficult challenge as an indie, he immediately flags up the frustration of coding and programming skills:

'I was fortunate enough to have a computer when I was 5 years old, I got into programming and I did not do very well (laughs), actually my programming didn't really advance very much between 1986 and 2004. My lack of programming experience frankly astonishes a lot of people sometimes. It's been months about now when I took a decent chunk of time and I invested that into code. That was an annoying attempt to spend, because essentially I am asking about very very essential and simple stuff, and people where going like...puff!'

'I think sometimes it is easy to be over-ambitious, sometimes you can trick yourself and say "I can do this", it can be very disappointing to step back and go, you can do that but it is gonna be a little bit of work, it will take you perhaps years to learn and that's very disappointing. So that's definitely a big challenge for me.' (Dock, interview, August 31, 2010)

Other developers faced similar troubles to Dock when dealing with the areas of game development that were not part of their experiential or professional expertise, such as graphic and visual aspects of games in Terry's case, and business and bureaucratic subjects for Jonas Kyratzes. This adds pressure and uncertainty to their work. Conversely, Andrew Crashaw expresses how Tuna have developed the ability to manage groups of freelancers:

'I find art quite difficult, but I force myself to do it because it is the only way to get better and better. Music is very difficult, music and techniques to mix everything.' (Cavanagh, T., interview, August 24, 2010)

'[What] I have to deal with right now is understanding what paperwork I have to do for the German bureaucracy, and making sure that I manage to sell games regularly enough to have a stable income.' (Kyratzes J., interview, February 5, 2011)

'Outsourcing has become really widely used in mass for four years. But we've been like that since forever, like 12 years ago. We have always been used to having people outside of Tuna, helping us to create stuff, and that means we have become very good at finding people good at things, managing process, making sure everyone can communicate, etc. So if you got people around the globe you can still write games.' (Crashaw A., February 12, 2010)

Here, organisational compositions tend to temper this problem, as independent studios divide their labour into meaningful occupational units, where finances, business, and symbol production have their own specialists. As Mark Morrison from Introversion Software states:

‘We keep meeting a pair of guys who have made a game, and they say, “what should we do?” and I always say: “Go to the business school, find a guy who understands games, give him a third of your company, and start.” If you don’t have that business mindset I think you’re doomed to failure.’ (Rossingol, 2008)

The same applies to the creative process. Indie developers find it easier to divide tasks into just two general sections, art design and programming, as I have mentioned in a previous section. Nonetheless, this process is uneven amongst companies, as solo developers have to hold a whole range of varied knowledge in order to perform successfully as indies. In the case of independent developers who seek funding through freelancing, the pressure can be even higher, as they rely on that knowledge and skills in order to make a living.

### **6.3.2.2 Updating**

Indies’ flexibility and adaptability to changing conditions can also be seen in the practices of reskilling and updating, often found in the IT and media industries. The tendency to reskill is vital to the games industry and its pace of technical specialisation, as new tools for game development are constantly released, new consoles crowd the markets and game genres push for higher standards. In the case of independent developers, the last three elements are known to be the most relevant.

Those structural conditions have been detailed in other studies (Kline et al., 2003), diverting attention to the particular way in which new tools encourage reskilling. The outcomes for indie developers are somewhat paradoxical depending on their self-sufficiency. The need for new software tools does not necessarily comply with industry specialisation, but instead with the need for these tools to be user-friendly and affordable and provide new ways to represent developers’ creative vision. Nonetheless, for those who work as outsourcers and freelancers, reskilling is a key strategy to avoid dispensability and to keep up with industry standards. This means constant tweaking of their in-house tools and main commoditised asset:

‘The Unreal engine was five years ago and now it does amazing things. We still want to implement those new things; the more those features are implemented the better we can market it’ (Jones, P, interview, April 13, 2010).

‘we don’t have a lot of time so maybe looking for tools to see how sane our ideas are, is something important.’ (Crashaw A., interview, February 12, 2010)

Even more important is the drive among developers to keep up with new technical tricks, business opportunities, marketing possibilities and contacts. Almost every single developer interviewed conveyed the importance of constantly looking and asking for interesting information that could be implemented in their work: ‘I was on the train coming in this morning, I had my 3G smartphone, and I did a source update, I got a couple of ideas for our games, and checked a game and some blogs out there’ (Crashaw A., interview, February 12, 2010). In addition, contact lists seem to be crucial for developers, especially outsourcers and freelancers, as possibilities for game funding can result from contracted work, although some of them express the difficulties of such an endeavour:

‘Because we want to stay small there will always be skills we have to find somewhere else. It is so much quicker to develop those relationships when you already know the people. So we are not as social, but we know well lots of people in different areas. We are not one of the hard pro-indie companies but we know a lot of independents, we know about mainstream companies, people within Sony, and also small people, so we are everywhere.’

‘Another obstacle is finding people to do stuff, even when we have got the connections, whether that means recruiting people or partnering up with other teams, it is always hard to find.’ (Crashaw A., interview, February 12, 2010)

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In this chapter, I have shown how occupational experience, based on either professional or informal activities, can infuse independent work with different meanings. These meanings are played out within the sphere of late capitalist ideas about cultural work and participatory cultures, as semi-autonomous structures enabled by the games industry itself.

In game development, the problem of structural independence or freedom influences developers’ portrayals of themselves as indies. The actual organisation of their work, their professional life and their whole engagement with the industry is informed, to a great extent, by their experience, conception of independence and construction of indie-mainstream tension.

Within these limits, we can identify independent developers as cultural entrepreneurs with different goals to pursue and means to deploy. Two discourses were commonly found: one highlights independents as self-made entrepreneurs on a quest to ‘take the reins of their destiny’, whereas a second one emphasises the personal artistic style of game making and the work/play culture associated with communitarian practices. Often, the second stance articulates a more anti-corporate or political attitude as well as alternative strategies of promotion and commercialisation, relating to lifestyles and ideas that underpin a more aesthetically and ethically driven capitalism (Banks, 2006: 461). This results in the aim for more fair and meaningful relations with the ‘community of players’. In other cases, ideas of autonomy were informed and constrained by developers’ organisational contexts and experiences as contractors, and concerns were more to do with finding and providing economic security inside studios than experimental game design.

Furthermore, the mutual shaping between developers’ experiences and their affiliations poses a question of performance within the industry. The most common problem is that although developers chase an ideal of independence, they have to deal with the structural problems imposed by the games industry, triggering a sometimes painful and decisive process of adaptation to (labour) market conditions. Thus, regardless of their differences, this process fosters similar working practices among indies, while also hiding the structural inequalities of outsourced work *vs* self-funded workers and status within the field. The outcomes can vary, ranging from total absorption – as in the example of Red Dot Studios, where interviews were conducted - to creative syntheses that, under certain conditions, enable developers to sustain their enterprises. As we have seen so far, outsourcing practices, freelancing and the support of indies by new industry actors have become common ways of retaining a certain degree of independence. Still, new autonomous structures are seemingly emerging from a special sector of the independent sphere. Some developers take their ideals and try to find ways of achieving a major degree of independence from corporate capital or institutionalised forms of production, using networking principles to create local groups; this has a notable effect on developers’ subjective and professional well-being. Although run by indies, these communities are open to any developers regardless of their background. Their organisation



includes a mixture of production practices and a variety of cultural aspects of their work/play *ethos* that have started to give a particular identity to these groups, to the extent that I de call them artisanal networked scenes. These communitarian aspects of game production are changing both the space where game production takes place and hence the forms through which some indie games are being produced. I will address these aspects in contrast to the way traditional independent studios organise and manage their work in the next chapter.

## Chapter 7

### **Independent game development and cultures of production: from the studio to the artisanal local scene**

In the previous chapters, I have attempted to describe the ‘materiality’ of independent game production and its connection with the corporate structure of the games industry. I have given accounts of different strategies and social practices for marketing and commercialisation of games, pointing out some ethical reflections and arguments that underpin developers’ work and self-portrayal as independents. The following chapter will focus particularly on independent developers’ agency and their resourcefulness in organising and creating conditions to deal with the technical, social and creative issues entailed in the process of game production.

The argument set forth in this chapter is as follows: given the challenges imposed by the creative-design-knowledge-intensive nature of gamework, and the precarious conditions shared by the self-funded and capital-less nature of many independents, developers are increasingly organising themselves into artisanal networked clusters, featuring local scenes aimed at community-building and creating spaces for work/play, learning and networking.<sup>104</sup> These networks or groups, often called communities, nowadays resemble ‘dense, multiplex, relatively autonomous networks of social relationships’ (Calhoun, 1998: 391). In addition, local manifestations of online networks and communities are acting as autonomous spaces dedicated to the ludic exchange, production and learning of technical knowledge associated with game development.<sup>105</sup>

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<sup>104</sup> Networks of collaboration and knowledge can be traced back to the consolidation of Silicon Valley’s horizontal organisation (Saxenian, 1996) and the collaborative projects of free software organisations during the 1980s (Sennett, 2008). These networks have informally existed as part of software and game developers’ identity, each time becoming more of a decisive factor for the success of game companies, and a strong driver of game production.

<sup>105</sup> Hitherto, communities of game development had comprised mostly hobbyists and professional developers who worked on their projects as a free time activity. Nonetheless, once independent

These spaces also provide a platform to work on commercial projects, with practices mirroring game development techniques and results that feed into these projects. Furthermore, social interaction at these events promotes entrepreneurial practices, enabling developers to exchange industry information, business advice and references for work management.<sup>106</sup> Lastly, as embodiments of developers' cultural world, these events mobilise strong principles and subjective meanings that work as safety networks and provide moral support. In fact, self-termed communities of independent developers are inter-embedded networks, each one providing a space (virtual and/or physical) for constructing shared meaning and trust. In other words, communitarian activities on the part of indie developers show a tendency to surpass obstacles to the creative, knowledge and entrepreneurial features of developers' cultural work.

To begin, I will address the spatial and time organisation of independent game developers. Here, studios and developers organise their time/space needs according to the extent of their integration within the industry, as well as the moral responsibility towards themselves and their peers; as Sayer (2000) states it, the way we organise our work is related to our moral priorities as we deal with professional, family and other social concerns. In this fashion, I identify their different ways of managing both the creative and technical processes of game development, highlighting the growing tendency amongst aesthetically-driven independents to make informal environments their workplaces, and to use their time flexibly as part of their work/play *ethos*.

The second section will move the focus onto the particular forms of cultural organisation utilised by the most experimental and aesthetically-driven of the indies. Here, I will address independents' participation in local artisanal scenes, stressing the increasing role of their social activities in boosting creativity, improving skills and

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development became possible and profitable for low-budget projects, indie communities became a basic infrastructure to substitute for the highly specialised and expensive processes of AAA games.

<sup>106</sup> Interestingly, these practices were not necessarily originated by instrumental needs subdued to production but simply as a part of the *ethos* of game developers, strongly based on collaboration and community strengthening (Bowen & Deuze: 2009). It was not until myriad game developers in precarious conditions, hobbyists, amateur developers, art designers and students discovered digital distribution and new platform markets that communities became an important infrastructure, now redefining the experience of work fragmentation and flexible work.

supporting their cultural work.<sup>107</sup> A third section will assess how interactions within game jams and weekly events enable developers to learn, train and share knowledge in the making. In a fourth section, I will show how these dynamics of learning are synchronised with the process of game development itself via the strengthening of the different aspects entailed in the labour process, and also how those communitarian events are harnessed as workspaces. A fifth section will explore how these events are entwined with developers' daily lives, as they are harnessed for entrepreneurial activities such as networking, information exchange and peer advice. The last section will briefly address the subjective element that mobilises these artisanal scenes, the sharing principles that underpin their communitarian activities and their effects on the shaping of game developers' work management.

**Textbox 7.1**  
**Communication of Activities organised by the Cambridge Friendship Club**

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<sup>107</sup> In the study of music scenes, analysis has focused on situations where a variety of actors (performers, support facilities and fans) “come together to collectively create music for their own enjoyment” (Bennett & Peterson, 2004: 3), characterising them as “the domain of small collectives, fans turned entrepreneurs, and volunteer labor” (Bennet & Petersen, 2004: 5). Although the features and dynamics of a music scene can be surely different to the ones in the independent game sector, they certainly share a basic orientation that consists in finding and creating alternative ways for cultural production, promotion and consumption. Nonetheless, this chapter focuses on the concept of scene in a more restricted fashion. I coin the term artisanal local scene as a social space dedicated to ‘crafting’ games, characterised for their local events and shared activities with hobbyists, students and other fellow developers. This artisanal scene is but one dimension of the complex networks that define the boundaries of the more general independent game scene.

Hey all,

We're hosting a meetup for Ludum Dare on the weekend of the 18th at CB2! Please come along, and spread the word to anyone you know who might be interested. While the regular Tuesday meetups will continue over Christmas, this'll be our last large meetup until the end of January!

The TIGSource thread is here: <http://forums.tigsource.com/index.php?topic=16279.0>  
If you're not familiar with the event, the Ludum Dare website is here: <http://www.ludumdare.com/>

We're also organising a larger TIGJam in the new year, which is still in the planning stages - there's a bit more information about that in this TIGSource thread: <http://forums.tigsource.com/index.php?topic=16153.0>

- Terry  
08/12/2010

The events I am considering here are the periodical game jams organised by members of the local clusters or/and online communities, in addition to weekly ‘get-togethers’ in public spaces as part of their occupational practices. The textbox 7.1 shows an email that gives us an idea of the frequency and mobility of these activities. Game Jams are small competitions, organised by different networks or communities of developers, where the participants have to rapidly prototype a game in a short but variable period of time. For instance, the Global Game Jam and Ludum Dare are 48-hour competitions, whereas the Indie Game Jam invites contestants to write a game in four days. In addition, organisers establish a theme or restriction as part of the challenge. For instance, developers might have to create a game with the theme ‘total darkness’ or that only uses the keys ‘1, 2, 3, 4’.<sup>108</sup> The weekly meetings, meanwhile, often resemble a ludic workspace where gamework, entrepreneurial practices and leisure overlap. The texture and logic of these local dynamics will be the main concern of the next section.

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<sup>108</sup> These game jams work within the boundaries established by the community of developers who are regular attendees. Nevertheless, rather than identifying them as communities by themselves (very common among developers), they should properly be referred to as local clusters, chained by a broader network of game developers who constantly participate (either as a group or individually) in each of these activities. For example, Terry normally takes part annually in more than a dozen of these events, organised by different groups: Ludum Dare, Global Game Jam, World of Love, Tech of the Month and Indie Kombat.

## 7.1 Managing work locations

A common stereotype among journalists is that of the indie developer as a lone teenager working from his bedroom (Jenkins, 2010; Brown, 2010; Gere, 2010).<sup>109</sup> Although this had a basis in truth during the 1980s, such a portrayal is now far from true. The configuration of the workplace in the independent sector takes a different form depending on whether game development is rooted within communities or a more traditional industry structure. While the former makes use of informal spaces to develop games, the latter appears to replicate more ‘traditional’ workplace structures. The way that the production of games brings different places together, binding development practices and time management in the process, leads the following argument.

### 7.1.1 The concentrated workshop

Nowadays, globalised economic processes and production make it easier to imagine the work process as a coordinated outcome stretching across different locations. International trade growth in intermediate goods entails new forms of production, where the work of producing and assembling components, assets, or other parts is normally outsourced from main firms to other companies around the world (Nash, 1983; Milberg, 2004).

This global production sharing shows the trans-localisation of the production of goods and services. It is a process widely seen in the manufacturing of tangible commodities and later on within the IT and services sectors (Bardhan & Kroll, 2003; Ross, 2004). Since the mid 2000s, it has become a normal practice in the digital games industry (as with any other creative industry) to outsource parts of games’ software architecture and artwork.<sup>110</sup>

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<sup>109</sup> These assumptions have been explored by communities of developers during the early days of indie game development. However, the topic was rarely addressed by journalists until more recently. There now exists a more comprehensive approach to indie games by the Guardian’s Keith Stuart (2010), and recent articles by Gamasutra’s Brandon Sheffield (2011) or Gilbert (2012) about the meaning of independent development.

<sup>110</sup> To outsource both software architecture and artwork, it is first necessary to figure out how the game mechanics, software infrastructure and art will fit together as a unit. Thus, each (sub) component of a game needs to be considered in terms of meeting the creative designer’s concept. In order to do

Undoubtedly, outsourcing practices have played a role in redefining the workplace as a 'spatio-temporal concentration of the production of goods and services, the discipline and control of work' (Kallinikos, 2003), but then so have knowledge specialisation and game technical requirements. The granular modularity (Kallinikos, 2010) of games as digital artefacts enables developers to split game requirements into subsystems that can be developed separately. For instance, games that aim to replicate real life physics require an engine to simulate all physical actions that are happening while playing the game. Alternatively, the game might be an MMORPG featuring a real-time offline training system, such as *EVE Online* (2003). In addition to the artwork, game design and game source code, such a game would require both a multiplayer network system and a feedback system that updates the offline events. Each subsystem has different technical requirements and even programming languages, which will not necessarily be covered by developers within a single studio. Therefore, games are often broken down into small bits and outsourced to other companies, as I showed in Chapter 4.

This form of work is quite prevalent at independent studios such as Four Door Lemon (FDL) and Tuna Technologies. They are small studios, featuring a core team of no more than eight people, with a series of satellite freelancers and studios who serve as potential employees when needed. Their historical role within the larger industry as third-party and outsourcing studios explains the need for a centralised space in which to coordinate their work. Although within their ranks there are employees with different skills, both companies advertise a main 'expertise' in order to catch the small projects that keep the company running. FDL sells more knowledge-intensive services (R&D, technology licensing, coding, graphic generation, prototyping) and its core employees have a strong programming expertise, whereas Tuna's services are based more on design, artwork, and project management, with programming being strictly functional to those ends.

These studios have utilised the work model of a service-outsourcing company, working on small projects and parts of larger ones. Their connection to independent

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this, Andrew Crashaw, creative director of Tuna Tech, explained that he has to convert his vision into a set of guidelines to be followed by the outsourced company, musician or artist.

game production lies in both their ideal of producing self-funded games and the network of companies for which they work (some of them independent game studios). Their strategy entails either ensuring enough funding to develop a game or taking part in other self-funded projects. The structure of this model requires a high amount of planning, coordination and control of the production.

As such, work arrangements at FDL and Tuna Tech shape the space where developers carry out their job. Studios follow a similar workplace layout, privileging a single open area, and groups of desks divided by tasks performed or developers' positions. Openness and proximity at the office play an important role in developers' work fashion (Hatch & Cunliffe, 2006).

At FDL, there are at least three identifiable places in the studio, namely a testing and playing area, the whiteboard and the desks. Needless to say most of the developers' work takes place on their desks, but it is important to point out these desks' proximity to one another, enabling constant interaction among developers. Next to the desk there is an open space where developers drag their chairs or simply stand up discussing design issues or task responsibilities, and defining team work strategies. A playing area with a TV screen and a PS3 features at one corner of the office, used by developers to test their games but also as a playing area.<sup>111</sup>

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<sup>111</sup> On my first visit at the studio, Simon Barrat jokes with me about how work flow keeps him away from the PS3.



**Picture 7.1**  
**Four Door Lemon Office**



At Tuna Tech, the office space is structured as follows: a big oval table and a couch partially isolated from the working space lies next to the office's entrance, followed by three sets of desks. The first set is used by the people in charge of the business and public relations side of the company. The second set is where the core development team works, while a third set is mostly used by a current freelancer and for testing purposes.

The openness and proximity within the studios enables developers to keep a constant flow of communication with their colleagues. Because of the complex structure of digital games' components, the tasks performed by one developer have an effect on, or is interdependent with the work of another. Phillip Jones and Simon Barrat from FDL comment in this respect:

It is just a case of opening your mouth and talking... We had Rachel some time back doing some internal testing, and it was much easier just to go and have a look why the system crashed rather than looking through the bug list.' (Jones P., interview, April 4, 2010)

‘If there is a problem with a particular piece of technology or part of a project...you just talk directly with them (developers involved), work out the problem.’ (Barrat B., interview, March 3, 2010)

In addition, the small size of the teams within these spaces enables more meaningful interaction among developers, as they share jokes, news and information, creating a compact identity but also concealing hierarchies. This creates a sense of equality amongst colleagues:

‘Yeah, there are a lot of perks to working in a small team. I mean, you get to know everyone - we go for a drink every Friday night, the whole team. You build up a good working relationship; everyone gets along and works better together.’ (Jones P., interview, April 4, 2010)

The configuration of the workplace not only maintains a constant flow of communication among workers, but due to the small size of teams, it also becomes easier to create a consensual organisational culture and maintain effective control over employees. Simon (2010) is quite clear when he says that ‘in a smaller company...there is no place to hide really in it. Everyone knows what you are working on, so you got to pull yourself in.’

### **7.1.2 The mobile workshop**

In the above case, we saw how some independent companies organise their workplace according to their production and work arrangements, privileging studios as a specific place for managing their work. I will now focus on a growing trend of independent developers whose work takes place in the informal environments of home, the Internet and public places such as pubs, cafés, restaurants, etc. Independent developers move through different virtual and physical places, all of them truly significant to the process of game making. Each place fulfils a series of functions, and in some cases, plays host to a large part of a developer’s social life. In these places, developers configure their time spent developing games through a series of events, in a small variation on traditional and linearly-conceived clockwork time. In sum, this space of development links places, free and work time, people and a series of events hosted by communities of developers, all constituting the ‘workshop’ where independent game production takes place.

Commonly, independent game production does not require a set of people gathered in the same place in order to work on projects. Developers' limited budget, self-employed condition and broadband connections lead them to search for individualised forms of work, finding their own workplace across their daily life coordinates. As freelancers and independent workers, indie developers use their own homes as offices. In this regard, most of the interviewees (apart from those at Four Door Lemon, Otterly Games and Tuna Technologies) utilised their houses, and often their bedrooms, as suitable workplaces and sometimes even considered them an idyllic place to do their work. Chris Delay and Dock are amongst the developers who overtly expressed the feeling of autonomy that working from home gives, yet Dan Marshall (A. Meer, 2011) best explains this sensation in his own words:

'I get up every day, my girlfriend goes to work, I make a cup of coffee and from the kitchen window I can see people trudging through an office building over the road, with sunken heads, moping about the next eight hours. I genuinely feel like I'm living the dream.'

Although home offices have become an easy solution for independent developers, it does not mean (though it does happen sometimes) that they usually work on their own. Their bedrooms are also a physical anchor from which they establish cyberspatial environments for working with peers or partners. An Internet connection not only helps developers to find assets, applications and advice, but also keeps them in constant feedback with developers, partners and collaborators via Instant Messaging Software, emails and fora participation. This spatial configuration resemble Castells' *space of flows* (2000), featuring as it does the production of independent games and its coordination through networks whose nodes can be traced to distant locations around the world, with ICTs as a basic infrastructure to keep the work flowing.<sup>112</sup> In the words of Charles Cecil:

'Since everyone is working from a home office, we have different ways of communicating. Instant messaging is absolutely vital, what we do is to keep instant messaging on and to indicate when they are away...(also) email and text messaging help us to communicate in a way that it would have been impossible 10 years ago.' (Cecil, C., interview, July 7, 2010)

Furthermore, in addition to enabling constant contact between developers at their home hubs, communication technologies give developers a mobility that has become crucial for establishing new spaces for game development.

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<sup>112</sup> Interestingly enough, the relatively small magnitude of an independent project allows for developers to carry out their work fluidly through their *space of places*. A single developer can fragment his/her workplace and customise it according to professional needs, from their bedrooms and offices to the places where their local scenes are embodied.

Cafés and pubs have also become important places for developers, as they give them a different atmosphere in which to think. Dan Marshall explains that ‘[G]enerally the [game story and design] sweeping “overall” stuff is done in the pub, with a pad, a pen and a pint in hand’ (Reynolds, 2009). As pubs are also used for community interaction and work, independents use this space to work on their projects. More importantly, they provide spaces for consultation and problem solving, as developers try out solutions to technical issues of game design and technology use. Terry Cavanagh mentions that he ‘occasionally’ gets work done in the pub, but the most important part of the space is that:

‘I often ask Dock for advice because sometimes he has better ideas than me and a lot of people I can ask for help around here. Chris over there is dealing with the same problem I am dealing with right now, and he has been very helpful.’ (Cavanagh T., interview, August 24, 2010)

These spaces are also useful for organising game jam competitions or other meetings where hobbyists and developers make prototypes of games within a specific period of time. Those events can take place in university labs, warehouses, or cafés and it is these places where developers tend to gather as a community.

It is worth asking how this mobility came to be. Independent development as a self-employed profession can be self-alienating and stressful, as developers have to handle every single aspect of game production, from conception to marketing and distribution. Added to this is the pressure to succeed in the sales market. Working under those circumstances tends to be absorbing and sometimes gratifying (mainly when success comes about), but it also leads to the deterioration of developers’ social lives in the long term, causing frustration, lack of motivation and loneliness. Dave Evans from Hybrid Mind states how careful he has to be to keep up his connections with family, friends and significant others. In addition, he explains that working from home is a challenge, as ‘you can start feeling a little cut-off and reclusive.’ Although other developers expressed similar thoughts (such as Terry Cavanagh’s experience of living in Dublin without a local ‘indie scene’), Chris Delay and Owen Goss’ words offer an interesting link with the traditional office space:

‘Because I work from home and we don’t have an office anymore, it is just good to meet up with people that are like-minded and talented, and like working on games and just chat [to] them and work with them.’ (Delay C., interview, August 27, 2010)

‘Yes, there are hard parts about being indie. I’m not pretending otherwise. It’s incredibly hard at times. I miss the social aspects of working in an office. I miss having a regular pay cheque. And yes, sometimes I even miss having someone else telling me what to do, instead of having to make every decision myself’ (Goss, 2010)

This suggests an emergent trend among indie developers to build community and work relations in public spaces, thus providing the social and emotional element lost in the dissolution of the workplace in which I feel it was historically rooted. As argued by Sunley, ‘there is something distinctive about “being there”, and the local is, in some ways, bounded’ (2008: 6). As for the interviewees, there is a difference between interacting on the web and talking face-to-face. That distinctiveness is bounded to the construction of a shared workspace and the nurturing of affective bonds:

‘if the people around are talking about TV and you say “well, if I want to spend some time programming right now, it would feel a bit strange, awkward.” It doesn’t feel like a good thing to be doing...It is typical to share suffering when you are having a hard time. If you are on the Internet and you are struggling with something, you can’t...you put a halt on that, you can’t show that to people. But also like if other people are struggling with something, you can just feel assured that you are not the only person that’s having these sort of things. So that’s the good thing of having a local community.’ (Dock, interview, August 31, 2010)

## **7.2 Managing time**

As soon as the notion of the workplace becomes fluid and informal, the experience of time in game development starts to resemble what May and Thrift (2001) would call a set of networks ‘stretching in different and divergent directions’ according to the cultural and economic logics intertwined within the spaces of development. In the micro-cosmos of independent development, the tension between rationalisation of production and creativity (Tschang, 2007) is intensified by the organisational and financial demands of game studios. Throughout this research, it has been evident that there are two different forms of work time regimes. One complies with project management based on efficiency, whereas the other, a more community-led model of time, caters more to the need to provide space for creative deployment of ideas.

At FDL, Tuna Tech and Games Faction, game making goes through a highly rationalised process of scheduling. As outsourcing companies, they have a need to provide good services to their customers, while also being able to cope with contractors’ deadlines. As Andrew Crashaw states, ‘we are still running businesses

here', leading them to rationalise and standardise their tasks, while following a strict schedule based on a series of deliveries or milestones.

The main strategy for managing development time is scheduling. When presented with a determined quantity of time or funding, developers sit down with producers in order to break down their work into monthly and weekly periods of time, defining every task at the most specific level of detail and fitting them into the different skillsets managed by developers. This is usually a process of negotiation between the managerial guidelines provided by contractors and the experience of developers, but the goal is the creation of a cost-effective and controlled environment that allows the supervision of work.

Interestingly, developers adopting this strategy do not find it comfortable, justifying its use as necessary for staying in business:

'[scheduling] works whether you are in EA or if you are independent...one thing I would say is about when we've spoken informally with other independent companies. I think we have a background where we had to provide games for big companies and then being more officious about how you develop things. Because we've had to do all that stuff for the big guys, we found that approach quite disappointing when it was our own money and when we were making our own games. But when we talked with some other independent guys, it comes clear that because they never had to go through a very business-focused publisher, they actually don't work very efficiently and everything gets hard and puzzled...they have to go free about thinking in a game. It is not always a great way of making things, especially when you start running out of money because you are not running your project well, so rather than making it great you are just putting it out of the door.' (Crashaw A., interview, February 12, 2010)

Scheduling principles, as a managerial strategy, do not provide a trade-off. For a start, the rationalisation of code and artwork results in a constant pressure to standardise work into measurable units of time. Developers tend to achieve this by creating basic software architectures and code work procedures<sup>113</sup> according to their project needs. This becomes problematic, as both these jobs rely heavily on figuring out, testing, and tweaking tasks, all of which are hard to fit into tight time sets. As a result of this, developers and contractors are in constant conflict over submission deadlines and the hours worked towards the end of a milestone can surpass 40 hours per week. Phil Jones states that 'when you're getting towards the end of a project

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<sup>113</sup> Building up code writing skills is highly cherished by companies, and is mainly achieved by becoming familiar with the team's code writing habits and the tools and assets that they have used/developed.

people higher up the chain, people who've got lots of money invested in the project are anxious to get it shipped. So then they'll push down', while Simon Barrat claims, 'we have to work on that level, otherwise we wouldn't have any project. It is pretty ruthless...'

On the other hand, indie developers such as Dock, Terry Cavanagh, Chris Delay, Stephen Lavelle, Sophie Houlden, Dave Evans, Robert Fearon and Jonas Kyratzes among others follow a different logic of time planning, focusing on work as a playful task, and taking more personal approaches to their work time which they interpret as more creative, but which involve careful planning.

Unlike other independent companies, these developers invest more time in experimenting and playing around with software and game ideas, while taking a more flexible approach to scheduling and time management. This is expressed by Chris Delay and Terry Cavanagh:

'I tend to jam an experiment on a game idea... [and] it depends on the game. With Defcon I only spent about a week in doing that and the game was set to that point; with Darwinia it was a lot longer, it was around 18 months or so just experimenting before we hit on what it really worked.' (Delay C., interview, August 27, 2010)

'I tend to work for a couple of days on anything that feels interesting and worth working on. Sometimes they are projects that I worked for game jams, Ludum Dares, sometimes just an idea I want to try. After a couple of days if I feel it has potential then I work more on it and I'm basically doing that until I do all the rest.' (Cavanagh T., interview, August 24)

Terry's words are particularly important here, as activities within the local scene in Cambridge configure the pace of game development. The idea of jamming is a key feature of indie development, but its relative importance as an investment of time is socially defined by developers and the activities in which they participate as community networks. For instance, the weekly meetings organised by the Cambridge Friendship Club at a local café have become a space for developers to showcase their prototypes, discuss technical problems and implement solutions suggested by other developers. At the same time, communitarian activities like Ludum Dare 48-hour jams and the Global Game Jam enable developers to create and/or test game ideas, prototypes and game assets that will afterwards be assembled for their projects. In sum, it is through these communitarian activities that developers embrace, legitimate and nurture the creative aspects of game development.

Outside of community events, game developers tend to take a more personal approach to their work time. These approaches might vary significantly,<sup>114</sup> but most developers manage their work firstly as a creative and motivational start-up, followed by a more task-managed process towards the end of projects.

As stated by Dave Evans, Chris Delay, Charlie Knight, Jonas Kyratzes and Sophie Houlden, time planning is not a priority, as their work depends more on motivation or inspiration, making the first stages of game development ‘timeless’. Flexible timetables and tasks are the rule for many developers, as they prefer to work in whatever way they feel comfortable at any given moment. Dave Evans spends ‘one day doing music and another day doing art or any mix in between’. Often, when he gains enough motivational strength or momentum, he tries to work as much as possible in order to make more progress, which means working evenings and weekends if it feels right, giving himself a few days off afterwards. Jonas asserts that since he has no regular schedule and works for himself he tends ‘to work every day, including weekends.’ (Kyratzes J., interview, February 9, 2011)

Work based on inspiration is quite contingent and does not allow effective task management. Nevertheless, as soon as the game project is successfully prototyped and the game features clearly defined, developers tend to plan each step more carefully, and establish certain deadlines (especially if they are doing some collaborative work or partnering up). In Dock’s and Chris’ words:

‘Once you got a prototype, a basic version of it, you can kind of make bold decisions, things you need to get in place...figuring out how much time is needed on art, how much time is needed on code or interface. So, there’re like several check points in a project where you pretty much do the same thing.’ (Dock, interview, August 31, 2010)

‘And then after that [creative phase], Mark and Tom get more involved and we start to plan the project a bit more carefully. So we started assigning people to the project, we started assigning objectives and timelines and things into the project.’ (Delay C., interview, August 27, 2010)

This is the difference between these procedures and the strategies carried out by other third-party companies or larger studios. Given their self-funded nature, the

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<sup>114</sup> The main difference between indie developers is the degree of time flexibility given to their projects. While some developers, like Dock, Terry, or those at Otterly Games, try to stick to no more than eight hours of work a day and plan their work accordingly, ‘free’ planned work like that preferred by Robert Fearon, Sophie Houlden and Steven Lavelle is also common.



negotiation of tasks and milestones is based on companies' and developers' own pace and needs, without any major interference from third-parties or pressure relating to market release dates for games. For instance, at Introversion Software, game development times are stretched out until income projections and available money start to decrease.

In sum, independent developers' ways of organising their time depend on the actors and their arrangements within particular spaces of development. Studios that also work as outsourcing companies (FDL, Tuna Tech) use a tougher control management inherited from their work with producers and larger companies. Meanwhile, for self-sufficient companies (Introversion Software, Otterly Games) and self-employed developers, time is subservient to their creative needs, only becoming an issue when money is running low. In addition, tasks tend to be scheduled more effectively towards the end of the projects, when they become more mechanical.

The above accounts of developers' work environments and management suggest an interesting way of organising work time and space in a way that blends informality and leisure with labour. These spaces, which I call local networked scenes (since they are local materialisations of online networks) are becoming legitimate arenas for work/play sociality, learning and entrepreneurial practices. They play an important role in supporting developers' experimental and commercial projects. The following section will expand more on this subject.

### **7.3 Creative, learning and knowledge dynamics within communitarian activities**

The design-and-knowledge-intensive nature of digital gamework posits a problem for experienced independent developers. Different paths into the games industry, the constant development of new tools, and the still-debatable structure of academic training in game development pose a serious dilemma for them. However, artisanal local clusters have built learning spaces for the transfer and development of knowledge. For instance, game jams can tackle the aforementioned obstacles by helping developers to refine their craft and learn a series of useful skills for their work.

In addition, the nature of these activities helps developers to create and share knowledge and game assets, feeding the process of learning itself. In this sense, game jams, which emerged as a creative and experimental practice aimed at helping game developers achieve professionalisation, also help them to exercise design and work principles.<sup>115</sup> In the following lines, I will develop these linkages in more detail.

### **7.3.1 Skill acquirement**

A skill is a socially learned action as a result of trained practice (Sennet, 2008). It can comprise the experience, qualifications and ability used to make something, or the experience and ability formally required by the nature of a job (Cockburn, 1983). Moreover, a skill can only be developed by a practice embedded in routine. It is by organised repetition that a person can train in, develop and eventually master a series of skills, from which he/she can expand even further.

Game jamming as an activity is an example of this process. For the same reason that a game jam can be used to leverage development, it can also help us to understand game makers' skill acquirement. In a game jam, people are learning and exercising the process of game development itself, a notion labelled by Arrow (1962) as learning by doing, where learning is a by-product of production: 'Nothing has helped me understand what goes into making a game better than the time I've put into rapid development events' (Houlden S., interview, September 16, 2010). In addition, the challenge of figuring out game ideas and how to represent them digitally as an enjoyable product is considered by developers as fun in itself.

As for the skills learnt by developers, they are relevant to every single aspect of the process of development. Rapid prototyping helps developers 'to exercise some strong design principles and some strong decision-making that you would otherwise not necessarily do' (Dock, interview, August 31, 2010). Chris Delay also stresses the effect of game jams on game design: 'it is actually a very good practice, because

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<sup>115</sup> Two of the first game jam initiatives since 2002 (Indie Game Jam and Ludum Dare) aim both to 'encourage experimentation and innovation in the game industry' (Chris Hecker, n.d.) and to create a space where people can 'make the time to create a game prototype for [themselves].'(Ludum Dare, n.d.)

sometimes you can get too attached to these very big epic ideas and going and making a game in three hours actually forces you to zoom in on important gameplay things.’ (Interview, August 27, 2010)

**Picture 7.2**  
**Scottish Game Jam**



Furthermore, ideas are still important to independent developers, and there seems to be a strong opinion that game jams foster creativity: ‘one lesson about the jam is that it forces people into thinking very fast and quickly realising their idea, and sometimes those ideas work or they don’t, but you often take away those ideas and make new ones based on those ones’ (Brooksby M., interview, August 24, 2010). In game development, the ability to come up with game ideas quickly and test them immediately opens up different opportunities for developers, and helps them to assess a game in terms of possible impact on players, without getting too attached to the game.

As I mentioned earlier, experimentation is inherent to game jams. When the subject of experimentation is a piece of software, the *know-how* of the community and the

training ground are joined in the act of jamming, also known as learning by using (Rosenberg, 1982). Hence, developers' expertise in the use of certain technologies is enhanced as a result of its constant use. This process goes beyond domesticating technology, as developers figure out ways to 'cut the corners' and effective procedures for maximising the use of certain tools.

Skills like those mentioned by Chris and Terry have a serious impact on game development. Industry-wise, AAA games set the dominant conventions in game making. Realistic simulations and cutting-edge technologies support the generation of tens of hours in game content and highly specialised art design. Nevertheless, new platforms (iPhone, Flash games, handhelds, etc.) are introducing new conventions to game making, given their limited performance, storage and variable interface. In sum, game jams are a learning space whose rules and dynamics lead to the development of skills necessary for taking full advantage of the conditions of the new platform markets.

### **7.3.2 Production and transference of knowledge**

As often happens with skills, relevant knowledge for developers is usually 'rooted in the flow of practice within communities.' (Duguid, 2005) In independent game development, local events have become a key organisation, providing a means to access and produce knowledge.

Furthermore, these cultural practices do not simply allow information to flow. Rather, developers use them to produce, share and give meaning to that knowledge (Wenger, 1998; Brown & Duguid, 1991). As a result of community interaction, developers construct what I call a pool of knowledge, a deep understanding of the process of production, the mastering of tools and the different ways to frame a problem in order to solve it (for instance, the transmutation of a game idea into software architecture, or the programming of an AI in order to make a race car run realistically in any environment).

Within this pool of knowledge, indie developers create a common understanding of the games industry. Reflecting upon working practices and predominant (artistic,

design, technological, etc.) visions of game production, developers create meaningful ways of dealing with the production pipeline. As one of my interviewees mentioned, most of the time, they share and discuss game *post-mortems*, developing an understanding of the problems that have arisen in the project from the process of development to the marketing and distribution stages. This enables them to discuss and learn from it. Thus, developers collaborate with each other and in the process create the *know-how* that can be used to solve future challenges.

Seemingly, developers discuss and/or attempt technical procedures, reinforcing their knowledge of certain technologies, which in turn enables them to develop skills later on. The social dynamics in local game jams indicate a constant loop between experimentation and learning, played out through both ‘messing about’ with game systems and feedback from the community. Developers constantly evaluate and change their approaches to game ideas or challenges, in an ongoing process of *trial and error*. It is common for developers to visit their neighbours during a break and keep themselves informed of others’ projects and their work-in-progress. There, they discuss the methods and tools employed in order to achieve ideas for games, providing mutual feedback throughout the event. Furthermore, Ludum Dare games are always assessed by the participants, who provide feedback and vote on the best games of the event.

In summary, game jams exist to open up creative spaces where developers can explore their ideas. Interestingly, their dynamics perfectly match the ways that independent developers reflect upon production. Developers use these activities as lab tests to give form to their game ideas. Thus, they enhance and energise the pre-development process by trying out and throwing away game mechanics: ‘I mean one lesson about the jam is that it forces people into thinking very fast and quickly realising their idea, and sometimes those ideas work or they don’t, but you often take away those ideas and make new ones based on those ones.’ (Brooksby M., interview, August 24, 2010) Furthermore, game jams enable developers to try out software and design techniques. No matter how strong a game idea, its development and playability depends on the technology and techniques used to create the game

experience. This leads developers to experiment constantly with these techniques and technologies in order to convey their artistic vision.

#### **7.4 Learning, knowledge and cultural dynamics of independent game development**

As I have argued above, artisanal local clusters and events provide legitimate spaces for developers to engage in general learning dynamics. In this section, I aim to demonstrate the mutual shaping of communitarian spaces, the dynamics of learning already mentioned and the organisation and management of gamework. At artisanal local events, gamework and learning dynamics provide a boost for each other through the same processes of experimentation and feedback seen in game jams. The flow of work/play in game jams and weekly events suggest a continuous repetition within the game development process, on a very small scale. In addition, game developers harness these local events as legitimate spaces for work, in a move that demonstrates how time and work management is reshaped from traditional linear work time. I will first discuss the process of software development, shared by these independent developers, as a ‘community of practice’, and then move on to address the mutual informing of local events and the development process.

##### **7.4.1 Methods of game development: using AGILE strategies**

Although the terminology can vary, it is common to describe the process of development in a series of well-defined stages, for instance Design and Prototype, Pre-production, Production and Testing (Kerr, 2006a). These stages do not hold great significance for independents, as their work tends to be less structured over time. Their workflow is framed as an organic and cyclical process, with an initial and strong emphasis on experimentation and pre-prototyping stages, embedded in their core activities as participatory cultures (Van Best, 2011). A second phase is characterised by spiralled iterative prototyping, where developers start working with basic game features and artwork, adding more complexity while refining the previous features.

### 7.4.1.1 Experimentation and pre-prototyping

As most developers assert, game ideas can be inspired by anything that happens in their daily lives, from reading a book to personal experiences. Sometimes these ideas are sketched out in the design document, where developers break down a game into its basic mechanics and objects and set out the software design. Nevertheless, behind a game design document, there is a whole process of creative experimentation. The notion of ‘messaging about’ with technology is very important, as experimentation with programming languages, 3-D software and game making applications and reflecting on their use usually converges with the process of coming up with and sketching game ideas.<sup>116</sup> As stated by Sophie and Chris, technology and game ideas can feed off each other:

‘either I have an idea, or I’m messing about with some tech and from there it will mull in my head for an hour or so, and usually at that point I’ll have a “maybe if I try this” type idea, at which point I try it, and then that usually points the way for the next thing to try. Usually after a day or so I’ll have a prototype or base control for a game. Sometimes it’s fun already, sometimes it isn’t and I drop it.’ (Houlden S., interview, September 16, 2010)

‘I tend to sort of jam. I tend to jam an experiment on a game idea and it depends how long that takes, it depends on the game. With Defcon I only spent about a week in doing that and the game was set to that point; with Darwinia it was a lot longer, it was around 18 months or so just experimenting before we hit on what it really worked.’ (Delay, C., interview, August 27, 2010)

When developers come up with a feasible game concept and a way that the idea could be carried out, they might begin a more specific level of planning, with a design document specifying (in varied detail) the different tasks needed to achieve the completion of the game. This practice is more common amongst micro studios; self-employed developers tend to use more personalised strategies. As Sophie and Robert Fearon explain:

‘I really don’t. I have no sense of planning at all. The most I get is a couple of pages of A4 with some drawings, but there is never...most of it is in my head. I can’t set deadlines for myself, that just doesn’t work, I crumble under the idea of being organised.’ (Fearon R., interview, May 18, 2010)

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<sup>116</sup> This constant ‘learning by doing’ (Arrow, 1962; Foray, 2004) is a key habit and requirement for indie developers. The availability of countless feasible technologies for game development, the search for technologies (as Robert Fearon claims) that best match their personal mindset and conceptual art style and the need for constant updating, all mean that developers are always trying out new libraries, techniques, applications for games and new software in general. This habit takes on a personal dimension and creates a pool of tacit knowledge (Polanyi, 2009) that boosts the process of game ideas and experimentation.

‘I don't really do much planning outside my head, maybe a few quick sketches for character designs or maybe a doodle to figure out some math that's confusing me, but otherwise my plan for the game is whatever I see in my head, since I'm usually working alone I don't need anymore than that.’ (Houlden S., interview, September 16, 2010)

#### **7.4.1.2 Iterative development (prototyping)**

Independent developers commonly work towards a playable prototype for their game, from which a succession of iterations will derive, utilising the already developed features and adding new ones. This cyclical process is adapted from general AGILE development methods (Boehn, 1986; Rollings & Morris, 2004; Iuppa & Borst, 2010). It stresses rapid prototyping in order to assess the functionality of a product. As one of my interviewees stated:

‘AGILE development is the most suitable way for us to work. When you work as a small team, it is easier to keep the flow of communication and control over the whole process...it's more like working on a sculpture. That is something much riskier to do in a larger company. The number of employees is significantly bigger and the money at stake too, hence their need for hierarchical organisation and official channels.’ (Hewitt S., interview, March 17, 2011)

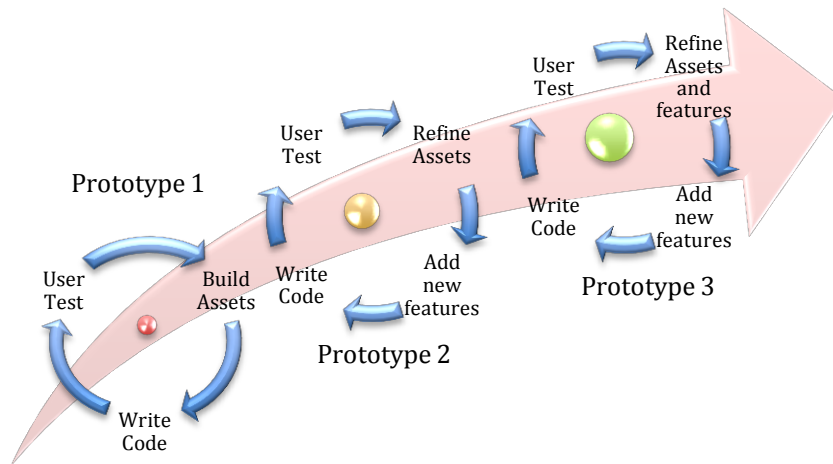
The phase of working out requirements and system design is normally flexible and open to changes. Maintaining the spiral principle, but adapting to personal needs and styles, indie development matches what Rick has defined as Evolutionary Delivery:

‘we are trying to get a complete build very early on, we had a prototype of this game going within a week, and it was kind of playable, we showed it to people and made them see what the game was like, and from then on it was just a matter of improving and refining until you run out of time or until you decide it is enough’ (Brooksby M., interview, August 24, 2010)

The model contains, in itself, the mechanics of coding in game development via which developers edit, compile and run code. In a similar fashion, the whole process of development for each prototype would undergo a three-phased process: working on a prototype (edit), building a playable version (compile) and subjecting it to player testing (run), as we can observe in diagram 7.1.



**Diagram 7.1**  
**Inside the iterative process of development**



As stated by developers, this work scheme keeps game development a reachable enterprise, allowing them to work more organically, which makes planning easier and allows the developer to make ‘bold decisions’ as they reflect on the feedback received by testers (Dock, interview, August 31, 2010).

Moreover, although many avoid the use of strict deadlines, developers still see them as a helpful strategy for organising the process of game development. In contrast to the milestones motivated by monthly paychecks from publisher-based funding (Cohen & Bustamante, 2010; Iuppa & Boorst, 2010), the deadlines that indie developers (especially extended ownership studios) set for themselves are flexible. More organised studios tend to match their milestones to the building of prototypes, whereas other indies see them as a very formal planning strategy, and only use them to separate the development of assets and code writing from other formal development features: ‘Milestones are typically getting the game finished, getting the menu finished and releasing the final game. I tend to consider the milestone met when I feel like I haven’t got anything else to add.’ (Knight C., interview, May 18, 2010)

#### 7.4.2 Game development process and communitarian interaction

The above methods are technically informed, culturally shaped and spread through game networks that act as communities of practice. Local events such as game jams and weekly meetings have a very important effect on developers' commercial projects, since they are seen as workplace scenarios.

The methods exercised in these events exactly constitute the sociotechnical labour process of game making on a small scale, based on prototyping techniques and AGILE game development. As mentioned earlier, developers such as Chris Delay, Sophie Houlden, Dock, Terry Cavanagh and even Andrew Crashaw expressed a strong inclination towards a creative first stage based on game mechanics and technological experimentation. This process continues as developers refine their creative ideas and build new ones upon old (Broosby, M., interview, August 24, 2010) As a result, they develop a personal portfolio of potential commercial projects:

‘I tend to work for a couple of days on anything that feels interesting and worth working on. Sometimes they are projects that I worked at game jams, Ludum Dares, sometimes just an idea I want to try. After a couple of days if I feel it has potential then I work more on it and I basically do that until I do all the rest.’ (Cavanagh T., interview, August 24, 2010)

In addition, interviewees stated that ‘if you have an application with a purpose already, and you are having a deadline, then that [game jam] can force you to design very quickly and to think on new feats and kind of meet big pot systems’ (Dock, interview, August 31, 2010). Developers such as Stephen Lavelle and Terry use these events in order to work on their projects and make as much progress as they can.

Moreover, Terry comments on how he uses his website ‘to post playable builds of games way before I finish them because I want to get a little bit of feedback...and very often they can point out very basic things they can see and I missed.’ Likewise, developers use their weekly meetings to show off prototypes or commercial projects and discuss them with their peers. As Dave Evans points out, these spaces are a ‘...fun time to demo your game or take a look at some of the game assets work-in-progress...or demo a game that is almost ready for release to the group at large.’<sup>117</sup>

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<sup>117</sup> These face-to-face interactions present very interesting implications for the dialectic of communities as a set of virtual and physically located networks. Although developers like Terry, Steward, Dock and Chris stressed the importance of being part of a virtual community of indie

As for the Cambridge Friendship Club, Michael Brooksby comments that ‘showing [your game] to game developers, that’s gonna give you specific feedback of “that’s gonna sort of trip you up” or “in my game, I did that and I got those problems”. That is a useful kind of feedback you get from people.’<sup>118</sup>

As we can see, by interacting with the community, indie developers energise the iterative cycle of development. By providing technical and user feedback, testing technologies, ideas and prototypes, or simply ‘playing around’, they set up the creative conditions for their commercial projects and the material conditions to harness them as work spaces.

### **7.5 Entrepreneurial practices**

Artisanal local clusters are a physical manifestation of the networks that provide developers with the necessary connections for team building, knowledge, technical support and assets. A feature shared by otherwise very dissimilar participatory cultures is their ability to connect professionals involved in game development. According to Wittel (2001) and Kennedy (2010), these practices are a common feature within networks of media workers, where the precarious and unstable conditions of cultural industries lead to ‘a kind of informal, voluntary professional collectivity’ (Kennedy, 2010: 198).

Whether online (through community fora) or at physically-located events, developers constantly engage in conversations, expressing their professional interests and fields of work and exchanging information about the industry. They even connect with more entrepreneurial networks when seeking business advice. In this way, they meet freelancers, collaborators, and potential team partners. Chris demonstrates how this works: ‘we got a freelance audio guy, we got him doing some audio for Subversion

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developers when events such as conferences take place, the need to transcend computer-mediated communication and establish physical contact with developers is key to gaining a stronger bond and trust in order to share, give support and (more importantly) show off one’s projects and be subject to criticism.

<sup>118</sup> Presenting and discussing game projects is an ever-present subject in indie game meetings. I verified this during my visits to the CB2 Café, where the Cambridge Friendship Club meetings take place. In addition to the meetings, they organise a formal ‘show and tell’ meeting on the first Tuesday of every month, where developers are encouraged to present their projects in order to hold an open discussion about them.

right now, and we actually met him at that Cambridge indies event, because he was working with one of the other indies.’ (Delay, C., interview, 2010).

Furthermore, developers’ constant engagement through community events enables them to exchange information and knowledge about new technologies, business opportunities, marketing strategies and advice about outsourced or freelancing work. Evidently, this entrepreneurial knowledge and information is sought in order to find cost-effective methods of developing and publishing games:

‘Because of camaraderie, people are very happy to share experiences and knowledge, and that knowledge is very valuable. You know, when we came to do self-published work, I remember we had no experience in publishing whatsoever. And we got fantastic exposure and we sold 100,500 copies of Broken Sword at £4... £5 in some cases. And the only way I could do that is by knowing from other people what their experiences were.’ (Cecil C., interview, July 15, 2010)

Developers also leverage their daily work by being constantly in touch with their peers. By the means of web communication and physical interaction, communitarian bonds enable knowledge transaction when technical obstacles emerge in the process of game making. In cases like the Cambridge Friendship Club, this interaction is a constant during their weekly events:

‘‘We asked him [Dock] how he was using the Unity user’s interface and he was doing it different from us...then we switched to use the interface in the same way, because we had the same difficulties in it. It was useful to know it was working quite nicely and that helped us to make decisions to make a switch, so that’s a specific technical issue. Other times we got a problem that we had found a blank frame in the game and we said ‘‘have you come across that’’ and he said ‘‘no’’, but if he had and he solved it, that would work out, that sort of thing.’’ (Brooksby M., interview, August 24, 2010)

Online, independent developers benefit from the shared work carried out and published for free by hobbyists and other indies. These works include game assets (art and audio libraries, applications, engines) and even games’ source code. Stephen is a developer who always links to his games’ source code from his website. Michael Brooksby, commenting on the pros of the indie community at Cambridge, states: ‘Terry sent me his Flash framework because we got interested in how it works and we would be willing to share code with other people.’ (interview, August 24, 2010)

Nonetheless, this latter feature of networking is the most contested. Assets and code are products themselves of gamework, and can be commodified easily. As stated by Charles Cecil, ‘code has a tangible cost. So it is right that if you give some code to

somebody, he should then pay something for it.’ In addition, some independent companies address indie transition as a reappropriation of their own IP as a tool of empowerment within the industry relations of production. Nevertheless, these assets are normally outmatched by the high standards of AAA games, enabling companies to compete on a small scale, with affordable prices for independent studios.<sup>119</sup> The difference from other developers is in the scale of business and the quality of work. While companies with high programming skills tend to write better structured code, other developers do not consider theirs good enough to be monetised, but are happy to provide it as a shared base that can be built upon by other developers.

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In sum, independent games, as a final product, are profoundly shaped by the communitarian practices discussed throughout this section. Celebrated games such as *World of Goo* (2008) came about because of developers like 2DBoy experimenting at game jams. Many of my interviewees have published games as a result of jams. It appears that Terry’s most famous games have emerged from his constant participation in local events. As one developer states, these events ‘can help with the creative sparks, the playtesting of games, and how to handle the business aspects of selling the games. Really all sorts of things at all levels.’ (Evans D., interview, August 16, 2010)

### **7.6 Subjectivity and communitarian interaction**

So far, I have addressed the overlapping and mutual shaping of participatory cultures and the development of independent games as cultural work. Yet there is another aspect of artisanal local clusters worth noting, aside from their emergence from developers’ activities as a community and the part they play in facilitating game production. It relates to the affective nature of their work within the general landscape of struggle in the industry.

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<sup>119</sup> The comparison is risible. For instance, a game powered by an engine made by two of my interviewees would cost £2,500, whereas licensing Unreal Engine 3 would cost between \$350,000 and \$750,000, although their new indie-oriented licenses start at \$5,000. Indies also rely on free 2-D engines like PyGame or PyCap for the Python programming language, and the tens of physics and graphic engines for Flash.

As many scholars have pointed out in the past, either online (Weisband, et al, 1995; Wellman et al, 1996) or through physical interaction (Brown & Duguid, 1991; Wenger 1998), the motivational driver behind the formation of communities or networks is shared interests. These interest-based communities form a domain that orchestrates members' concerns and passions (Wenger, 1998). Independent developers' passion for games and interactive work/play, along with the struggle to maintain their careers, triggers a need for contact in an industry where complex sets of specialised knowledge and skills are hard to acquire by oneself or within a small self-contained team of developers.

There are various motives driving interaction within local indie development scenes. Although there seems to be tangible goals that regulate this interaction (information, knowledge, team building), there is also an emotional need and an identification as 'indie' that triggers community interaction. These subjectivities are socially intertwined and reinforced through collaborative work, moral support and trust-building within these communities.<sup>120</sup>

At the Cambridge Friendship Club, Michael Brooksby defines the *ethos* of the community as follows:

'people aren't too precious about things they have...they are not "that's mine!", we would be more like "look, we're all exercising our ability to make things". By jamming, by sharing, everyone's maximising their creativity. So, everyone is confident about doing stuff. So why be worried about how something we made yesterday was boring...that's not the attitude, it's more like "hey I can do another game". So everyone is kind and free with their ideas and not too precious about it, and that's really nice.' (Brooksby M., interview, August 24, 2010)

Reciprocal relationships and shared experiences as part of a community of practice and production create the conditions to develop bonds of trust and 'reinforce common values, goals and practices' (Pargman, 2005: 106). By interacting as a community, independent developers acknowledge their capabilities, allocating synergies of performance to each other. For instance, Terry is considered to be very creative and prolific, while Dock's expertise in Unity 3D and creative ideas have

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<sup>120</sup> The construction of the indie developer's identity is a very complex process, tailoring members' biographies, narratives of the large-scale industry, and the construction of the political, social and aesthetic meaning of indie games through practice. Space constraints deter me from discussing this process in depth, as my aim is to link the role of communities in game development as a 'workshop' that provides affective and organisational assets as well as a means of production.

helped other developers to experiment and improve their skills. Interestingly, the community relationships do not seem to have developed into a hierarchy based on capabilities. Instead, developers highlight the fact that everyone works together on the process of problem solving and problem finding: ‘Chris over there is dealing with the same problem I am dealing right now. We work on it kind of separately but we also discuss and try to figure things out together. It’s been quite helpful in that way.’ (Terry, interview, August 24, 2010)

Furthermore, emotional attachment is also developed, as indies are constantly ‘looking after one another’ (Dock, interview, August 31, 2010). This feature of communities was perhaps the most prevalent throughout the interviews, showing an emotional need to communicate and make contact beyond the virtual. Dave Evans comments how weekly meetings often turn into a ‘talk shop’ about the trials and tribulations of the business, while Scott asserts that ‘in terms of the local community a lot of it is actually like moral support...also it’s kind of good to have people on whom to lean on for advice’ (Dock, *ibidem*). Physical interaction is appreciated during the process of game making, but here it is important to highlight the fact that it acts as a facilitator to convey feelings and support, opening up new dimensions and strengthening developers’ bonds. Although there were hardly contrasting experiences about it, Sophie Houlden emphasises the odd sensation of being a female developer amongst so many male developers. For her gender issues have come during game jams and events more as an occasional sexist joke or comment, as well as the general atmosphere of these spaces:

I will admit though, it's super intimidating to walk into room full of big man-programmers all LAN-playing FPS games. Sooooo much testosterone! But I think even that will vanish after a while. (Houden, S., email interview, April 27, 2013)

At this point we can ask why this is important in terms of game development. Most of the interviewees conveyed the notion that community interaction, relationships of trust and the support that developers receive from their peers combine to provide a powerful source of motivation: ‘Sometimes frankly you really need people around you working, like here Terry working on his stuff right now. That’s motivating, that’s actually encouraging.’ (Dock, *ibidem*)

During weekly events, developers at local cafés encourage each other by discussing game design, the technologies available and art and programming techniques. Stories and news about games, companies and other shared interests are also part of their basic discussion. They show a special empathy when a developer has a problem with a project or a more personal matter.<sup>121</sup> These bonds turn activities such as game jams into special moments, and provide positive reinforcement for the idea of making games and the wonderment of finding a representation of one's ideas through coding, assembling and testing. Motivation, trust and support within indie communities emerge in this process as the way in which developers acquire the group's subjective viewpoint, learn to speak its language, and set the foundations to learn from each other.

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The above account of cultural work by game developers presents key insights into the process of game making in the independent sector. In stark contrast to the corporate secretism and highly concentrated creative process of game development, there is a trend between locally/regionally bounded indies to form networked local scenes as a culturally significant form of solidarity. As I have addressed, local regular activities where independent developers participate, work as spaces of learning, practice and informal transactions that can help them deal with technical, creative and motivational aspects of their work. Within these relationships, developers meet the needs of knowledge-based, artistically driven and entrepreneurially oriented capitalist enterprises such as digital game production. These scenes constitute local expressions of wider networks working at a translocal level through online/offline activities, hence their characterisation as local *networked* scenes. This is how practices fostered by game cultures of production have met economic necessity in a synthesis with the independent trademark.

In relation to this, the analysis of work and time management shows the kind of flexibility upon which these practices are built, blurring the perception between

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<sup>121</sup> Between conversations, some indies were discussing how pleased everyone was to see Terry moving to Cambridge. Seemingly, some chat revolved around the idea of convincing both Stephen Lavelle and Sophie Houlden to move there and be part of the local community.



precariousness and new forms of solidarity. The success of these practices is becoming the centre of roundtables and discussion tracks in the latest industry conferences. Developers consensually agree on the impact of these practices in the professionalization of their work and the creative process of game making, suggesting how other independents can benefit from taking part in these cultures. Still, although many independent developers, especially studio directors and owners, have watched these scenes and events with interest, the responsibilities derived from their work within studios and personal lives deters them getting involved in them.

Finally, this local manifestation of the independent scene holds a much powerful subjective anchor than computer mediated relationships. The examples provided showed us how developers can be part of many scenes, some of them virtual and others local. The characteristic feature is the variety of scenes that developers might belong to. This means addressing the artisanal local scene as a dimension of a more extensive and complex on/offline networks, bringing together developers, fans, hobbyists and other actors. That means, the artisanal local scene as part of a broader 'indie scene'. As Bennet states, the "Scene' is concerned with a far broader spectrum of [musical] activities which also include performance, production, marketing, promotion and distribution" and "has been recast to encompass local, trans-local and even virtual activities" (Bennett et al., 2005: 96). Of course, Bennett's words entail a series of cultural activities that this study could not address in depth or at all for its extensiveness. In this sense, this chapter offered through the case of the Cambridge scene an understanding of the growing centrality of the local space, providing developers with subjective anchorage, enabling new forms production related practices and facilitating their professionalization. The specifics of their relationships with hobbyists, more dedicated fans, peers and other actors are yet to be explored.

## Chapter 8

### Conclusions

The aim of this thesis was to study the social production of digital games and, more specifically, to explore the material and subjective culture underpinning the restricted or independent game production sector, as well as the ‘textures’ of its relationship with the culture and structure of the large-scale game sector. This was achieved through the study of the organisational, professional, technological and economic means entailed in the process of development, marketing and distribution of digital games, the working practices of the industry, and the relationships and tensions between industry actors.

This concluding section will address three main subjects. The first section revisits my research questions and the methods used to address them. I sum up my research findings by attempting in answering each of my questions and attempt to offer a comprehensive interpretation based on my research findings. My aim is to connect the different macro and micro processes, relationships and practices, described throughout this thesis, into an interconnected whole that shapes the process of independent game production, its cultural ‘institutions’ and structural constraints. In addition, I will address in the section 8.3 the subject of professional and creative autonomy in the industry as a historical and social category. I will take into account the active role of independent developers and their use of imagination to make a living, the structural conditions that constrain their work, and also the fragility of these autonomous initiatives given developers’ dependency on corporate DD markets. In section 8.4, I will address future research derived from this thesis, while the final section offers a reflection on the main contribution of this thesis to the scholarship in cultural production. I discuss the contributions that this thesis has made to the academic field, by pointing out how it has strengthened the existing material on game production, and by addressing the theoretical implications of this research for the discussion of autonomy in cultural industries. Some points about the suitability of the Production of Culture Perspective and the Cultural Industries approach in relation to the production of digital games will also be raised.

## 8.1 The story so far...

As was stated at the beginning, this research was inspired by a need to understand the digital game industry as a new dominant cultural industry in our contemporary societies. I was particularly concerned with the deep changes experienced by the industry as a result of the emergence of a self-proclaimed independent game sector that brings different aesthetic and social approaches to digital game production. In other words, this was a study of the dynamics of social change in the cultural industries, revealing how tensions within specific forms of organisation can converge with other societal trends to create new cultures of production.

Given the diverse forms taken by independent movements in capitalist societies, this study was also concerned with the ways that autonomy is understood and embodied by the process of independent game production, as well as the structural constraints that impact on its relative autonomy. In this sense, I aim to contribute to the academic discussion of autonomy in the cultural industries by using the digital games industry as a case study.

In order to do this, I relied theoretically on the PoC approach, which suggests exploration of industrial relationships, regulations, organisation of labour, market structures and professional identities as areas that shape the content and form of cultural objects. I was particularly keen to point out the work issues and environments that inform developers' perceptions of the industry and their own professions.

Methodologically, I relied on a multi-sited ethnographic approach, deploying a range of qualitative methods. I triangulated semi-structured interviews, participant observation and archive research in order to capture not only the already reified boundaries and conventions behind game production and market relations, but also the dynamism of gamework and the constant emergence of initiatives and issues that continue to inform both sectors of the industry. In this sense, the combination of semi-structured interviews and content analysis of industry blogs and trade press articles became an important resource for understanding the constant mobility and direction of a rapidly changing industry sector.

In the following sections, I will return to my research questions, attempting to answer them thoroughly via my research results and interpretations of the industry. I will consolidate the information from my main chapters, rearranging and structuring it in order to give a compact but comprehensive interpretation of both large and small-scale sectors, and of how autonomy is played out within them.

### **8.1.1 The institutions and social arrangements behind the production of digital games**

The concept of independence is a value-laden notion, entailing an inherent and conscious – although not necessarily rational - resistance towards something or someone. At the same time, it implies the potential for individuals and institutions to exercise their freedom of choice and shape their own lives (Banks, 2010; 252). In addition, given the different notions of autonomy developed by academia, it is important to analyse more generally the relationships that interweave between the large-scale and independent sectors of game production, establishing points of resistance, convergence and dependence between the two. As with Negus' (1992) assessment of the music industry, the games industry should be seen as a complex network that connects corporate and minor actors with the cultural dynamics that occur within the unified sphere of production and consumption. These relationships determine access to the use of social and economic resources (Garnham, 2000). From this, my first research question can be summarised as follows: *How is the production of digital games orchestrated and carried out in the large-scale sector of the digital games industry?*

As a sociological study, this research focused on the institutions, social relations and obstacles that structure and provide meaning to the process of digital game production. The digital games industry is a high-tech cultural industry based on the delivery of aesthetically and procedurally-developed content that can be experienced through play. Although mainly shaped by its own conventions, the process of game development generally shares production, marketing, distribution and retail features with the film, music and software industries. Its specificities and the institutions that regulate it are explained in the following section.

### **8.1.2 The general relational structure and corporate strategies of the digital games industry**

In Chapter 4, I addressed the main relationships that mediate the production and form of games. The corporate industry has been mostly shaped by the investments of big software and media conglomerates into the creation of proprietary, non-interoperable platforms; they thus become gatekeepers, controlling access to their own markets. In addition, large publishers have joined the corporate ranks through a process of corporate acquisitions and mergers, backed up by financial investments from other services and high-tech industries. Given the sudden expansion and current size of the global market, platform holders and manufacturers have relied on these independent publishers – as well as second or third-party/independent developers via their publishing branch - to release their titles, subject to the payment of royalties from market sales. The leading publishers exert similar controls to platform holders over the creative process of game development. They have not only become the main financial investors behind game projects, but have also achieved global reach through their own distribution networks and agreements. As happens generally in the cultural industries (Hesmondhalgh, 1996; 2007a), by controlling the means of financing and distribution, they have also managed to maintain strict control over the game studios and hence the creative process of game development. As a result of the irrefutably dominant position of these companies, development companies are subject to a highly supervised creative process, featuring cost rationalisation, certain aesthetic principles defined through proven successful formulas and a reliance on six to seven figure budgets for marketing.

In addition, publishers work with a portfolio of genres and market research, which guide the selection of titles that they develop; their own economic criteria is used to determine which third-party titles to finance. As a result of this structure, third-party studios that engage in this model tend to follow the creative conventions preferred by publishers when pitching their projects. Even when a project is approved, the interests of publishers are represented by the game producers; they are in charge of keeping the project on schedule and ensuring that the technical quality and content of the game matches the corporate creative standards drawn up by publishers, which are not normally specified even in the legal contracts. Creative control tends to extend

even to smaller projects or games for handheld consoles, which are much cheaper to produce. Smaller game studios tend to provide the labour for these projects, although their risk is as high as the larger studios if they consider starting their own project. Financial instalments are paid at the beginning of the project and after every milestone, with the promise of royalties once a game has recovered its investment, although many of them do not. The reach of the influence exerted by big publishers stretches even further, as they have historically managed both to control game pricing and to remove legal rights from the (de-unionised and politically disengaged) developers, as a 'reasonable' trade-off for financing independent companies working as third-parties. Some critically acclaimed developers and studios have managed to leverage their market success and prestige to push for better conditions, but this is not the case for most. In other words, the large-scale and corporate sector of game development has fostered, through its oligopolistic control, a diversity in game products that is underpinned by technological innovation at the expense of content originality.

Platform holders and publishers normally justify these actions by pointing to the skyrocketing costs of production and marketing. In fact, the risks involved in multimillion dollar projects have led the main actors of the industry to adopt a series of commercial, organisational, managerial and aesthetic strategies designed to reduce production costs, add value to games, extend their shelf lives and ultimately maximise profit. Branding strategies through strong marketing has been widely tackled by Kline et al. (2003), while licensing and vertical integration strategies have been addressed by Kerr (2006a). Here, I have focused on other strategies that feature in the production of digital games. As the primary issue of a game as a commodity is the uncertainty of its demand, publishers spread the risk by also financing medium-size and smaller projects that usually break even against production costs, as Negus (1992) has described in the context of the music industry. The success of some games on specific platforms, especially the PC, has resulted in the opportunity to make ports or versions of games for other proprietary platforms, with many independents and specialised third-party companies competing to obtain 'porting' contracts. Sometimes, publishers further spread the risk of certain projects by pairing

up with another minor publisher as a co-financer; cases of this have been experienced by my research participants, as addressed in Chapter 5.

Some large game development companies, especially the main publishers, exploit economies of scale through vertical integration, meaning the acquisition or opening of studios overseas. This strategy is also fuelled by the complications of producing global products for culturally-diverse world regions. The need to localise games according to specific content regulations in certain countries or cultural differences from region to region has resulted in a need to hire or appoint local company branches or subsidiaries. Still, the staggering outsourcing of gamework to Eastern Europe, China and Asia Pacific, and lately to Latin America, suggests that outsourcing labour is ultimately an economic issue, since payroll is by far the most expensive aspect of game production. In this sense, the industry depends completely on the informational infrastructure to mobilise and evaluate the aspects of gamework according to budget and project features. Its creative concept and main assets (game design, engine, AI, art, audio) are normally guarded and developed by the main studio(s) in charge of the project, outsourcing services and assets that have already been designed, compartmentalised and reduced to a set of more or less mechanical instructions that can be carried out by low-wage game workers overseas.

Furthermore, the organisation of game production over time and space has important economic and social implications for major companies and their workers. The first relates to the difficulties of maintaining a balance between developers/employees' input and producers' demands. Scheduling artistic work and code can easily become a straitjacket that leads developers to self-exploit in order to keep up with the milestones set by publishers, platform holders, producers and the studio's lead team. This suggests a strong tension present in the negotiation of milestones; it can be balanced by the negotiation skills and prestige of developers, but it is the financing power of publishers that exerts most of the pressure when negotiating these contracts. Secondly, given the increase in volume and intensity of work towards the end of projects, game companies rely on a local and international reservoir of freelancers and subcontractors who are willing to work on short-term contracts. As scholars in other areas have pointed out, the global de-regulation of labour markets has enabled

the implementation of these flexible, short-term contracts and casual labour in order to ensure adaptability to projects and market demands.

Another strategy deployed to minimise a game's risk of failure is the application of consumers' input to the process of production, a capital achievement for an industry that relies heavily on branding and licensing techniques. Firstly, development values have focused on introducing the early versions of the game (Alpha, Beta) at the end of each milestone so that eager players can provide feedback on all aspects of the game, from the visual atmosphere to the game mechanics and the feeling of the controller. Secondly, game companies also rely on owned or subcontracted Quality Assurance services where employees (mostly young and committed gamers) work on finding glitches and technical problems (bugs) that can negatively affect the game experience.

Furthermore, due to their ability to shape games according to a business model, many companies have developed their own way of increasing the value and playerbase of a game. Examples such as Valve's *Half Life* series and Blizzard's *World of Warcraft* (2004) are cases where the game has been opened up to allow both certain modifications and production of content by players. This – with some exceptions - has generally been played out through a series of legal restrictions that transfer the commercial rights of those creations to the IP's owner. In addition, game and publishing companies can also extend the shelf life of a game by providing technical support via updates or patches, with the intention of fixing bugs and adding game features, gameplay mechanics and balance improvements. Lastly, they derive further value from the game by exploiting its market reach. This can take the form of extra features and items free to download, a must-have multiplayer feature, or new playable content sold as DLCs, expansions, or chapters/campaigns.

At the level of game content, commercial strategies rely on a series of aesthetic decisions in order to minimise the risk of market failure. The games industry has shown signs of reflexivity by paying attention to successful formulas on the market, further adopting and exploiting them on a large scale. Game genres have become market niches, featuring specific game mechanics that are slightly tweaked and modified from game to game. Sometimes, gameplay innovation works horizontally,



with companies mixing mechanics from different well-established genres. The main differences arise from the creative concept that sets the player in a specific simulated universe and the narrative thread (usually present) followed by the player. Personally, I consider these differences in visual effects and storytelling quite banal. First, 3-D/2-D AAA game animation and artwork relies mostly on photorealism, leaving other sorts of visual representation unexplored. This principle has proven very profitable for the middleware industry and publishers themselves, pushing technological standards to higher levels and fostering the periodical replacement of platforms and their parts. Second, although I cannot deny the recent innovations in storytelling – and artwork - made by titles such as *Bioshock* (2007), *Assassins' Creed* (2007), *Catherine* (2012), *Batman: Arkham City* (2012), the *Portal* series and (potentially) the forthcoming AAA games *Bioshock Infinite* (2013) and *Watchdogs* (2013), the recent history of the medium has constantly featured stereotyped male, female and ethnic roles, intensification and aesthetisation of violence (a resource resorted to by even the best games), and poorly elaborated plots full of testosterone, romance and vengeance (Heintz-Knowles et al., 2001; Smith et al., 2003; Ivory, 2006); this is a situation increasingly addressed within industry actors and many industry actors are not unaware of this (Handrahan, 2013; Lee, 2013; Sinclair, 2013; Weber, 2013). Indeed, the preferred aesthetics of the industry have fed into companies' budgets, pushing the costs of production and investment sky high. As a result, bigger development teams, strong rationalisation through management, unaffordable technologies and tensions with publishers are now haunting medium-sized and even large game companies. Studios that lack the prestige, size and resources of big game developers, or the backup of publishers or platform holders, have basically been denied access to the market. For this reason, many medium-size and small game developers have used non-proprietary platforms like the PC to avoid incurring further expenses.

Nonetheless, these same publishers have still managed to produce rewarding gameplay and smartly crafted stories. In fact, I believe that a positive outcome of the industry itself has been the attention garnered in media criticism and novel academic fields. Digital games, as a medium, have become a subject of interest (and sometimes passion) between a generation of scholars and developers who are researching and

elaborating on the potential of digital games as vehicle for interactive storytelling, visual exploration and innovative design (Bogost, 2007; Flanagan, 2009; Wilson & Sicart, 2010; Kirkpatrick, 2011). Public discussion within specialised media and the blogosphere has helped to reinforce the legitimacy of the medium and to create awareness of the creative flaws of the industry, leading to a fruitful exploration of the medium by certain leading developers, who are managing both to make innovations in game mechanics and to adapt/combine them with original stories and highly artistic audio-visuals and level design. Awareness has been expressed even by those of high ranking at the corporate level, such as Jade Raymond (Chapple, 2012b), the producer in charge of Ubisoft Toronto, who has suggested that AAA games should engage more integrally with real world problems and address their political, ethical and philosophical implications. As the games industry learns from the sophistication of the medium and moves from market indulgence to a willingness to tackle complex plots, real life issues and dilemmas, I believe we can expect more original and rewarding projects financed by the main corporate actors, although still in small numbers. The promotion between the corporate sectors of independent production is seemingly an asset for expanding the sources of revenue through DD channels.

## **8.2 The independent sector of the games industry**

My second research question was framed with the aim of understanding the meaning of independent digital game production and the distinctive practices that characterise this sector. My main lines of enquiry can be summarised by the following set of questions: *How is the production of independent digital games arranged and carried out? What is an independent game, how and where is it produced, by whom and according to what motivations? What sort of technical, financial and logistic needs do independent game developers have to meet in order to develop, advertise and distribute their games?*

### 8.2.1 The definition of the independent games development sector

The independent game development industry is composed of a collection of networked entrepreneurial initiatives,<sup>122</sup> both local and global, seeking to develop intellectual property through alternative financial, professional and aesthetic means to the traditionally structured retail model. It is a diverse sector, with a few emerging institutions that are also (to some extent) uncertain, a product of the complex interplay between venture capitalism, diverse aesthetics and professional cultures (under the umbrella of cultural entrepreneurialism) and the corporate expansion of digital distribution channels.

Independent game initiatives have thrived thanks to the worldwide expansion, cultural significance and commercial harnessing of the Internet as a distribution channel. This cultural and commercial explosion can be seen in the availability of development tools and game assets (re)released<sup>123</sup> as open source, shareware, or freeware technologies at the disposition of developers. In addition, the Internet has facilitated the creation of digital marketplaces with small to non-existent industrial mediation between developer and consumer, in contrast with the retail model. DD channels have since been harnessed by academics, amateurs, professional industry developers and game entrepreneurs interested in the cultural exploration and commercial exploitation of the medium's expressiveness. The reasons are pretty clear; the cultural significance of games has fuelled bottom-up initiatives, harnessing free or inexpensive licenses in order to carry out their own work. In addition, the restricted capabilities of these platforms have imposed a limit on photorealism and large projects. As a result, indie games tend to be smaller in scope, inexpensive to produce, and more focused on the exploration of game mechanics and alternative forms of visual and sound aesthetics.

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<sup>122</sup>The reason for these scattered efforts might be best understood in the context of labour market de-regulation and cultural entrepreneurialism. Independent companies and developers do not have much bargaining power, given their small to non-existent capitals and exposure problems within an industry lacking in political mobilisation. In the games industry, the existence of trade organisations is more oriented towards the creation of business opportunities than the defence of developers' rights as workers.

<sup>123</sup> Many of these assets are often outdated and discontinued technologies from the large-scale sector of the games industry.

### 8.2.2 The independent games industry market and its cultural dynamics

In Chapter 5, I sketched out some important politics and practices that structure the industry hierarchically, as well as the social process of production and its obstacles. The DD market is mainly structured by the nature of the mediation between developers and consumers. Independent developers tend to publish for a series of platforms - PC and web-based games being the most common - making their games directly available from their websites. At the same time, other corporate actors have carved out their own closed DD markets for both PC and proprietary hardware platforms, using their dedicated (XBOX 360) or more general (iPhone) devices as market outlets.

Nonetheless, the features and aesthetic/commercial potentials of independent games are not simply restricted by the technological capabilities of the game platforms, but also, more importantly, by the regulations and controls set by platform holders and by the problems of undifferentiation and anonymity resulting from the massification of those markets.

The first problem is related to the corporate appropriation of digital distribution markets. These DD marketplaces offer long lists of downloadable games as well as marketing and business services for developers in order to deal with product differentiation. Their source of revenue derives from both marketing and shares from game sales. Nonetheless, the proprietary nature of these markets enables their owners to exert control over pricing, content, and revenue shares according to their specific business strategies. In fact, the leading companies (Microsoft, Sony, Nintendo, EA, Activision-Blizzard) in the larger industry have capitalised on DD trends by establishing their own proprietary distribution channels from which they sell games by both large and independent developers. Meanwhile, some have acquired small publishers (like EA with Chilingo) and developers, as commercial subsidiaries to help them reach the markets for these platforms. In some cases (for example Sony and Playdeath's *Limbo*), there has even been a push to implement the clauses of IP expropriation common in the retail model. As explained in Chapter 6, following this DD revolution, the leading game corporations have partially adopted the model, monopolising distribution and retail function while retaining certain controls over

game content and commercial releases. Along with the initiatives taken by these corporations to fully support DD and cloud computing in the future, this suggests that the key to gaining control in the industry is the creation of proprietary markets operable only on their own proprietary platforms, which can monopolise both the retail and distribution infrastructure for these markets. As we can see from the markets where independents operate, power flows through two conduits, one corresponding to the digital distribution infrastructure (such as Steam, Direct2Drive, and even Big Fish), and the other interlocking a DD channel with its proprietary hardware platform (such as XBLA/XLIG for XBOX 360 or Apple's Appstore).<sup>124</sup>

Leaving aside the aforementioned sociotechnical and political dynamics of the market outlets for independent developers, another series of dynamics can be seen at the level of cultural practices. They can work functionally as systems of distinction and exclusion that provide market exposure and status. Equally importantly, some of these systems provide dynamic moral markets and spaces for the production of assets, as well as safety nets that help developers deal with both the contingencies of the market and the pressures from the industry. This last aspect of digital game cultures is deeply intertwined with developers' production practices and their creative processes, acting analogically to practices that were traditionally addressed to some extent by the state and the workplace.

The independent games market presents some interesting cultural dynamics, which influence critical success and market exposure in the industry. A first dynamic appears to have grown organically from the inner occupational and specialised games cultures, from which most indies originate. Here, developers get to know each other through their online networks and local, regional and international events organised either by developers themselves or other economic and techno-cultural sectors.<sup>125</sup> Market exposure is influenced by these inner dynamics, as they are a source of

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<sup>124</sup> The difference between Apple and the leading companies in the games industry rests in the former's strategy of creating, marketing and controlling the technological systems that provide access to and experience of cultural content in general; Microsoft, Sony and Nintendo's games sections, meanwhile, are more committed to content publishing and development.

<sup>125</sup> Developers mobilise via a rich series of cultural events and practices, including corporate/independent industry conferences and networking events, academic seminars, presence in online development communities, blogs, weekly meetings, game jams, demo assemblies, industry showcases and award competition events.

symbolic local/international recognition. Although developers tend to recognise each other's works at a local level, events on a bigger scale such as industry conferences and national/international award competitions (many of the latter embedded within the former) become important spaces where developers' prestige is gained and played out. These dynamics are very important, as they open doors to the specialised and even the mainstream press, providing market exposure and public validation of developers' work. This internal recognition matches with varied forms of monetising independent games (donations, 'pay what you think it is worth', normal pricing, bundles) that facilitate a small source of revenue.<sup>126</sup>

Nonetheless, internal recognition within this cultural capitalism is 'scarce', as games are unlikely to generate many sales. This 'scarcity' derives from growing competition as well as problems with product placement and differentiation in the digital distribution outlets. The symbolic status of well-known developers, in this case, provides them with more exposure in the trade press than other developers. However, even the most recognised developers have to incur marketing and PR expenses, since they still depend on the market success of their games.

Although these cultural dynamics are certainly present in the independent sector, the less successful and more entrepreneurial of the independent developers rely mostly on strong networking, advertisements and press attention. As part of this scenario, small independent publishers from the same cultural sector, DD platform owners and specialised subsidiaries of big publishers compete to provide developers with this exposure. Independently-driven strategies have been observed in IUP publishing initiatives, an attempt to counteract the corporate policies that strengthen the position of leading publishers, and in the institutionalisation of The Humble Indie Bundle, an independent DD channel that uses the 'pay as you want' system to sell commercial bundles of indie games, with financial help from angel capitals and investors such as Silicon Valley's Sequoia Capitals. In another front, The Indie Fund is the latest publishing initiative from a group of critically acclaimed and commercially

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<sup>126</sup> Monetisation has become a big pressure for independent developers, who strive to find ways to expand their stream of revenue. In this sense, the new economy has imposed the necessity of business innovation as an integral part of the industry, with results that are sometimes claimed to undermine individual rights, such as social network games.

successful indies, such as Jonathan Blow (*Braid*, 2008), Ron Carmel and Kyle Gabbler (*World of Goo*, 2008), as well as Kellee Santiago (*Flower*, 2009) amongst others. This self-funded initiative provides financing to chosen projects, without seeking ownership or control of the IP developed, even in case of commercial failure.<sup>127</sup> Here, it seems that strong investment and market/media exposure are key to the success of these initiatives, as smaller independent initiatives such as TunaSnack (an indie DD platform from Tuna Technologies) or Manifesto Games (indie developer Greg Costikyan's DD platform project) have been unsuccessful.

Nonetheless, independence seems to offer certain liberties to developers, who apply interesting strategies in order to maintain a relationship with their consumer base. This is in stark opposition to the large-scale sector, whose formal marketing strategies are completely separated from the development process, due to the need to address mass markets and also because of corporate clauses that prevent developers from revealing aspects of the project. Conversely, independent developers circulate their projects within their cultural networks long before the projects are ready, blogging and posting about them, periodically reporting on their work-in-progress and talking to the independent press. This strategy serves to create awareness of the project and garner feedback about its aesthetic and commercial potential. In addition, developers tend to remain in constant communication with their players, assessing their feedback and sometimes even making changes to the game as a result.

As such, the different levels of precariousness to which developers are exposed as 'independent entrepreneurs' suggest important dynamics at a cultural level that help them to carry out their work. This was the subject of Chapter 7 stressing the interesting cultural practices identified in some independent occupational networks.<sup>128</sup> These networks work on a translocal level, connecting simultaneously

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<sup>127</sup> Since its beginnings in 2010, the Fund has released successful projects, such as *Q.U.B.E.* (2012) and *Dear Esther*. The Fund was able to recover the investment on both projects in just days (Chapple, 2012a; Yin-Poole, 2012).

<sup>128</sup> Some of these networks have been institutionalised as formal business networks, as has been the case with Games Horizon and especially Games Republic, a business network born as an independent initiative that took off after securing private and public funding through membership support and formal affiliation with Screen Yorkshire. Of course, these networks do not share the texture and meaningfulness shown by the Cambridge Friendship Club local network, which is interlocked with the more geographically spread Global Community.

to cultural events through ICT's geographically isolated developers and emerging artisanal local scenes. These events are not simply a cultural expression of that which matters to indies; they have actually been harnessed as a replacement for the formal institutions of knowledge and production, given the ever-changing landscape of the industry and the pressures (sometimes extreme) that developers suffer due to their financial condition. Here, a 'moral market' of connections and development assets is established, as local developers meet weekly in pubs and other public spaces in order to work on their projects together and organise activities that are considered both fun and important to their projects. Given the social practices configured around otherwise isolated developers together, and from where they have started to construct their own work/play culture.

### **8.2.3 The politics of cultural work and subjectivity**

As I addressed in Chapters 5 and 6, the cultural practices that inform gamework also provide spaces for game content, industry politics and subjectivities present in the sector to shape each other. In a broad sense, the uninspiring conditions of work in the industry and the resulting politics, in addition to the creative motivation shared by independents, mobilise these developers subjectively. Conversely, the conditions imposed on indie developers by the structural lock-ins and limitations of the industry have pushed the development of business skills and practices as part of the recent trend of shaping cultural workers as entrepreneurs. Independent developers' practices, political positions and ideas suggest that the meaning of autonomy varies accordingly.

The sociotechnical disruption of the Internet and thriving cyber cultures (FS/OS initiatives, communities of hobbyists) has provided significant tools of the trade, enabling developers to become independents. This infrastructure has brought developers with different political stands and backgrounds into the 'indie' sector. Thus, developers who have historically been involved in the industry as freelancers, outsourcing companies, third-party studios or recently graduated professional and amateur developers with strong bonds to modding and hobbyist cyberculture, have coined the term 'independent' in order to differentiate their work and lifestyle within the digital games industry. One group are attracted by the discourse of individual



entrepreneurship and the creative freedom of late capitalism, seeing this new segment of the industry as a legitimate means for self-realisation. The main complaint of these developers about the larger industry is its tendency to monopolise intellectual property, close opportunities to other developers and their excess of bureaucratic control. A second group comprises those whose main concern is that digital games should be an artistic medium rather than a profit-making enterprise. These developers seem to be driven more by a moral sense of economics, desiring only to live decently while developing their games and realising their creative potential. It is through their practices and moral solutions to economic dilemmas that they contest the politics of time and space in the larger industry, as we have seen in sections 7.1 and 7.2. Bowen and Deuze's work is relevant here, as many of these developers are locally unattached, young and childless, but as they develop family bonds and/or settle down to their lives and enterprises, they begin to seek forms of stability. At the same time, these forms of organisation can provide alternative ways of creating material and emotional stability.

In the independent sector, there is an acceptance of the role of business in media and cultural production. This does not mean that the general discourse is smoothly accepted and embraced; in fact the resistance to this discourse mobilises the indie scene on an identity level. What it does mean is that cultural entrepreneurialism is the dominant discourse of the structure of industry relations, and developers - whether they like it or not - have to comply in order to make a living and be successful.

Thus, the independent developer appears to resemble a 'free entrepreneur' and an 'avant-garde consumer', combining aesthetic sensitivity with a heavy technological affinity characteristic of our times. Indeed, within the subjective sphere, contestant cultures seem to claim and cherish other meanings and ethics of autonomy; they are driven by the expressive and aesthetic potential of the digital medium and often share a sense of political reformism within and beyond the industry, as well as a varied

meaning of cultural and economic success. These meanings often inform production practices as well as developers' creative vision.<sup>129</sup>

The challenge that game development poses tends to be greater for developers whose creations are more artistically driven than entrepreneurial. Indie artists face the difficulty of incorporating market(ing) knowledge in order to improve their chances of reaching the right players outside their artistic circle, or to reduce the uncertainty of finding an audience.<sup>130</sup> Business plans have become a constant pressure, especially for those who share a more radical aesthetic and political approach to the industry or whose creations simply do not gain the favour of the communitarian local or online groups.

From this comprehensive account of the industry, we can observe how the issue of autonomy is structured and played out at a subjective level. It also invites a serious discussion about how it should be theorised. My next question will attempt to sum up and pin down what independence means within the digital game industry, and relate it to the academic discussion of production of culture.

### **8.3 Relative autonomy and its meaning in the games industry**

My third research question was set up to deal with *the extent to which the culture and production of independent digital games is autonomous or rather dependent on larger corporations in the digital game industry*. Within the critical literature, this subject has been addressed in the context of determination of economic base over cultural infrastructure (Adorno, 1991; Althusser, 1970; Bourdieu, 1993 & 1996). As Adorno (1997) puts it, the existent dialectics between modern capitalism and cultural production is that one between the monopoly of profit seeking mind-sets and their discursive correlates (culture as entertainment, propaganda, etc.) against the

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<sup>129</sup> Nonetheless, the spaces of struggle within the independent sector go beyond the art-commerce relationship. It also entails the organisational collectivism of indie developers *vs* the romanticized lone auteur, and even struggles relating to the meaning and aesthetics of digital games.

<sup>130</sup> Here, I could have addressed the problem as market risk or uncertainty. Nevertheless, this language is somewhat related to more rationalised and technical narratives of the games business, and does not fit many developers' mindsets, as they have a more personal and intimate approach to consumers. It is important to clarify this, as the use of a certain lexicon also posits a struggle between the market-driven production and the daily life sphere, where economists' interpretations of social phenomena colonise other forms of interpretation.

autonomous production of culture (understood as produced by its own rules), identifying the functionlessness of art as the maximum expression of this autonomy, and its potential to reach revolutionary aesthetics while it opens the possibility for political commentary. This tension persists in an even more pervasive way, through the dynamics of corporate appropriation as pointed out by Huws (2010), through the concentration of intellectual property and the corporate influence of culture industries in world politics. The digital games industry poses a particular challenge from a critical standpoint, given both its inherent entertainment value which has been crucial for the historical development of the medium, and its structural ‘allegiances’ with the corporate sector. Still, within the social forces shaping this sector, the dialectic between autonomy and commodification has taken a modest form –from a revolutionary perspective, seen mostly in the urge of some developers to create a space free of corporate influence in the process of production, motivated by their drive towards self-expression and recognition from which one can make a living. There are reasons to believe that the games industry itself has abdicated since its beginning to the logic of capital accumulation. Nonetheless, it is also true that the emergence of the independent sector has meant the creation of some truly autonomous although fragile spaces from which radical aesthetic criticisms has been raised, breaking with the creative lock imposed by decades of corporate dominance. In this section, I intend to assess this dimension and determine what we mean by autonomy in the independent games sector. My argument leans towards a mobile definition of autonomy, deeply entwined with the different economic and cultural experiences of capitalism in contemporary societies.<sup>131</sup>

In comparison to large-scale production, independent game developers are so-called due to their status as either small studios or individual artists aiming to carry out self-funded projects based on their own ideas. They organise themselves into flat, flexible and networked structures, participating actively in the creative and technical process of game development. Although nuanced by their goals, attitudes and political stances, they generally critique the aesthetics and scope of games for the mass

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<sup>131</sup> It is actually hard to determine categorically the form that autonomy takes in the current digital games industry, since it might vary according to the economic and global geographic stratification of the media industries.

market. The aspect they share is their claim of a *professional autonomy*, meaning a decently paid job, active participation in creative decisions, development and marketing, and an opportunity to bring their creations to a market audience. Furthermore, for solo developers in particular, the dynamics of autonomy also allow them to take an artistic approach to their ideas, experimenting with different aesthetic dimensions of games, technologies, tools and assets that better enable them to imprint their visions on the code. Artistic and professional claims expressed by specific indie sectors show the potential for change within the industry. Free from corporate ties, many of them are starting to explore their own aesthetics. Although it does not fulfil the lack of social function dreamed by Adorno, I agree that this individuality is in itself a precondition for social critique.

The advent of digital distribution, embedded in game platforms, provided for the first time an opportunity to sell potentially successful titles directly to the market, bypassing the publishing and distribution deadlock established by the main publishers and platform holders. This has resulted in the ability to create more personally-crafted game experiences with low budgets, as well as to retain intellectual rights over creations, granting the small-scale sector better conditions than their peers in the pre-digital distribution industry. Digital distribution has also meant a reorganisation of the business climate, resulting in the empowerment of developers as entrepreneurs, and the potential for them to create a product that can be bought, understood and appreciated by their players.

Nonetheless, developers' experience of autonomy is undermined by a series of limitations derived primarily from the capitalist nature of the industry and the norms that regulate each market. Each of these trigger a series of dependencies and trade-offs that undermine professional stability and limit creative autonomy.

According to the information collected from developers (mostly in the UK), trade press and specialised blogs, the greatest limitation that independents face is financial. Being self-funded means that they have to rely on personal and venture capitals and collect information about new markets, business models and technologies that might help them in their projects. As a result, independents develop their own funding strategies, either performing outsourcing work for other game studios or working as

software developers or freelancers. This has given them a certain stability following the growth experienced by mobile and IT markets.

Nonetheless, as low tax/income countries have started to provide this technical labour, the sources of finance for most independent developers are shrinking, especially in countries like the UK. The problem of funding leads developers to seek other sources of financing, either through international competitions or governmental funding agencies. The former has ensured a more autonomous space in which developers' creativity is rewarded, while the latter entails a process of negotiation between the social and educational aims of the project and the developers' creativity. Yet, as we have seen, the recent economic downturn has led the UK government to shut down these initiatives (e.g. 4AD) through cuts to the public sector. Lastly, the harnessing of digital distribution has also meant a redefinition of the relationship between developers and publishers. Given the small scope and budget of independent projects, a few successful indie studios, such as 1Up, the Indie Humble Bundle and the Indie Fund, have managed to assume publishing functions, helping other independents to market, distribute and (to a limited extent) finance their projects. On the other hand, the opportunity to finance and publish a game can come from corporate publishers, who have turned to digital distribution publishing since it has captured a large share of traditional retail distribution. In these cases, developers manage to retain legal rights over their creations, but only receive a much-reduced share of the revenue. In this way, developers who have not managed to position themselves in the market, form their own niche or deliver a product run the constant risk of plunging into a freelance loop where decent work opportunities can be scarce and work on their own projects a luxury.

The second limitation that independents face is the structure of the proprietary markets in which they publish their games. The corporate markets owned by Microsoft, Nintendo and Sony present similar dynamics to the AAA retail industry, following what Ryan (1992) calls *formatting* strategies, established through a calculated portfolio of games for their DD marketplaces. Although these corporations have to be more flexible in relation to their publishing deals with DD channels, the pressures to control the creative process and expropriate developers from their IP are

still there. This landscape is slightly different when dealing with non-dedicated DD game platforms such as Apple's Appstore. Here, game developers can exercise more creative control over their games as long as they comply with a series of content regulations that have sometimes proven to be blurred. In addition, Apple's interest in crowding their proprietary market imposes a pressure for product differentiation, marketing and forms of game monetisation. The resulting increase in marketing expenses has led developers to invest more money or rely more on publishers for their work.

Aware of the proprietary locks on distribution, the crowd-funded platform initiative Ouya has attracted the attention of venture capitalists and developers, as its open architecture is built to avoid corporate controls over published content and to ensure better structural conditions for developers' enterprises. Nonetheless, history shows that these ventures face unequal competition within the *premier league* in terms of marketing investments, market penetration and internal loyalties forged within the network of production. In addition, there is always the risk of design and operability flaws – probably, I believe, due to the concentration of the best intellectual and technological resources in the hands of the industry *establishment*, which undermines the trust of consumers who are hegemonically attached to the preferences existent in the market. Even if an independent project manages to convince developers and consumers, it is likely that corporate publishers will capitalise on the initiative. This is a consequence of the need for marketing strategies and product differentiation in an open global market. However, as long as it is supported by independent publishers grown from the indie *ethos*, it could result in a stronger independent developer culture, which, as we have seen in this research, actively works both to reproduce the conditions of its own existence and to create its own forms of cultural distinction and success, even in unfavourable market conditions.

Nonetheless, there is a third risk facing independent developers, presented by non-dedicated game markets and also open markets of a greater scope. It relates to the potential of the market-driven logic and dominant aesthetics of the industry to form a synergy with the logic of technological improvement in the middleware and platform industry. If they were to focus too much on technological innovation, relegating or

constraining imagination in the constant repetition of genres, themes, audio and mechanics, it could lead to a repetition of the cycle we have observed so far in the digital games industry. Major companies could harness this context to install similar power dynamics as those observed within the corporate “retail model”.

The above account provides an interesting interpretation of the way that autonomy can be framed in the cultural industry of digital games. Similarly to the suggestions made by Banks (2010) about autonomy in cultural work, in the independent games sector this notion seems to be a result of the tension between the particular commercial logic implied by forms of management and appropriation of cultural work, and the pursuit of self-expression and the pleasures of producing digital games. In the current landscape, the experience of autonomy in the sector is relative to the structure and regulations of corporate digital distribution channels. This entails a fragmented and fragile experience of independence, always subject to negotiation, and dependent on the level of regulation and intermediation of the markets as well as the struggle between developers and intermediaries with regard to their relative economic and symbolic status. However, it seems that independent developers usually manage to come to terms with their experiences of *precarity* in the industry, and actively try to develop or harness forms of solidarity in order to support themselves through the process of production, marketing and distribution of games, akin to the moral economics depicted by Banks (2006) in cultural work.

This permanently negotiable autonomy (likely to happen in uneven conditions) can be seen as a realist acceptance of industry relations and the pragmatic orientation of independent developers. Despite a complete acknowledgement of the business-led nature of independent cultures, the majority of my interviewees shaped the reach of their autonomy around a search for self-expression, the pleasures of problem solving and the absence of radical thought. They are mostly resourceful and dynamic actors, who try to make the most of the situations that arise from their work. This pragmatism lets them sign with publishers and collaborate as freelancers or outsourcers, but at the same time mobilises them towards the creation of informal networks, communitarian relationships and an identity that, as Banks (2006: 466) asserts, ‘impose[s] limits around the pursuit of instrumental, profit-seeking goals’. At

the same time, it matches the normal progression of independent games from open and free platforms to much larger proprietary and commercial markets. Along this line, Frith (1981: 90) pins down the general feeling of several sectors of the independent industry in a statement made about the music industry back in the early 1980s: ‘creativity is sapped not by profit seeking, but by big profit seeking, by the concentration into too few hands of the means of musical expression’ (Frith, 1981: 90).

This does not mean dismissing insights from studies on other cultural sectors, but does require a restatement of their reach and significance in the digital games industry. Pessimist depictions of the cultural sector (McRobbie, 2002a & 2002b Scherzinger, 2005) are still relevant to virtual risks and real experiences in some sectors of the industry, particularly when developers engage in relationships with other corporate actors. On the Frankfurt School side, Adorno’s views warn of the capitalist trend towards concentration and rationalisation of culture and the homogenising effects of mass-market production; this dystopic theory offers a glance at the dangers of extreme capitalist instrumentalisation in the cultural sphere. This trend is always present in the tendency of capitalist markets towards the concentration of the means of production and consumption in the hands of a few. Aksoy & Robin’s (1992) and Hesmondhalgh’s (1996) respective observations about the film and music industries, coupled with my own about the digital games industry, suggest that leading corporations tend towards the (re)integration and centralisation of distribution and financing facilities. The strict hierarchisation, specialisation and corporate control of the creative and technical process on a large scale suggests a general imposition of mass-market logic and a subordination of cultural work through management, formatting, milestones, release dates, etc. As Ryan (1992) has suggested, this does not mean that autonomy at work is denied, as the industry cannot profit from the destruction of the creative process. Instead, what we see in the games industry is that the space for self-expression is heavily reduced by mass-market inspired formulas that shape the artistic views of their creators. In this context, reduced autonomy – whether it is embraced or criticised - is a privilege of creative directors, team leaders, and the corporate creative boards, leaving the lower ranks with a strong sense of technical work ownership, the promise of



good/enjoyable work and the feeling of being part of something ‘big’. In both the small-scale and consumer spheres, developers’ creative autonomy is structurally reduced by the demands of the capitalist organisation. It is with these sectors that McRobbie’s (2002a) assessment of the fashion industry seems to fit, as the official ideology operates through the uncritical celebration of creative autonomy and – in the case of indies - individual entrepreneurialism, while concealing strong forms of (self) exploitation and precarious creative conditions.

Nonetheless, these general discourse and practices, as I have pointed out, are not followed or accepted uncritically by everyone in the industry, especially not independent developers. Autonomy should not be seen as constrained by external parties or developers’ own perceptions, but instead as a result of changing norms that structure markets and fuel tensions between industry actors at specific historical moments. The resulting ‘agreements’ are always open to negotiation or redefinition, as the dynamics of economic and symbolic leverage between developers and publishers are not fixed. In addition, the same cultures and capitalist relations from which the games industry stems have inspired (counter) cultural movements as well as unexpected events that have given substance to independent endeavours. Whether by free choice or out of necessity, independents have tried to deal with their precarious conditions via a series of inter-subjective practices that enable them to create interesting but still fragile experiences of autonomy within market relations. Other independents, who are more strictly committed to their ethical, political and artistic vision, opt for complete open systems and tools when developing and publishing their own games; this is the reason why many base their work and marketing on PC platforms, sacrificing commercial success for cultural recognition in the short term, or managing to create their own niche with a sufficient playerbase to maintain their low-consumption lifestyles.

All in all, it is important to remember the ethical concerns drawn upon the criticality of the content produced in the sector. As Bowen and Deuze have noted (2009: 290), obtaining the material conditions to develop and publish games does not necessarily convey the entire meaning of independence, reminding us along the way that the independent sector “has also become a playground of fairly typical and mainstream

values and practices across studios large and small.” Depending on context, studios feel compelled to rationalise their work as specialists in order to meet the economic needs of the organisation, as well as to make more decisions based on market trends than on their own creative lines. But even when the means to self-publish are met without many creative constraints, it does not mean that an independent project will necessarily answer to an aesthetic concern, or even less to address critically social and real life issues. Keimpanen’s study on indie aesthetics revealed classic themes in independent games, making clear the abundance of unoriginal and look-alike content, as his distinction between indie ‘spirited’ and ‘non-spirited games suggests. But also what he calls the ‘indie aesthetics’ developed so far are still wrapped in subcultural references, as well as graphic, thematic and narrative simplicity. Still, critical reflections and themes in games are present in a minor set of games with political content and unconventional characters, such as some of the projects developed by the likes of Jonas Kyratzes, Anna Anthropy, Distractionware or Increpere. In short words independence does not grant content authenticity *de facto*, even when the labour process can be labelled as authentically ‘indie’. In this sense independents would greatly benefit from engaging more critically with the projects they create. An interesting way to explore critical avenues could be pursuing cross-media and academic collaboration amongst independents as form to address social issues and produce more complex and critical game experiences.

A final concern relates to the future of these cultural initiatives. The fragility of the independent endeavour, due to the structural limitations to developers’ autonomy, has resulted in a need for entrepreneurial skills in order to improve chances of success. Although diverse forms of solidarity have emerged from the flexible conditions experienced by developers, their de-unionised and de-regulated conditions will continue to undermine their ability to establish, negotiate and leverage their access to funding, work and markets in corporate channels. Much of the success of the sector will depend on whether independently minded publishers manage to establish themselves through successful releases, opening more sources of funding for innovative game projects while introducing new contractual regulations more akin to independent developers. Likewise, the thriving cultures of production fostered through on/offline networks seems to be a powerful force organising

independent enterprises, with activities like game jams being even replicated in academic fields. It is worthwhile to keep looking at these new collectives of independent developers in the medium term, observing their locations, interconnections and dynamics, to gather more evidence about their function in the life of independent game developers.

#### **8.4 Final thoughts and future research**

This research has hopefully contributed to a general understanding of the digital games industry and its independent sector as a cultural industry. In the process, I have tried to provide updated first and second-hand accounts of independent game development and the cultural and economic politics of the industry. I believe that I have shown, to some extent, the configurations and dynamics of the games industry as interconnected processes at the macro and micro levels. Thus, I have made an attempt to connect accounts of the cultural market that shapes the industry with some of its politically economic dimensions.

At the same time, this study has explored some lines of enquiry that suggest further research is needed into the subject of digital games and cultural production. In the organisational sphere, I have explored the professional identities and positions of developers within the occupational structure. Nonetheless, this area still lacks substantial descriptions of the micro processes that shape the aesthetics and labour process of digital games. The scholarship could benefit from a thorough examination of the work and values of developers according to their professional expertise and location within the hierarchy of a game company. The same line could be strengthened by the addition of cultural analyses of the tying up and tensions among organisational cultures, corporate management, occupational/gender identities and hierarchical positions in the process of game production.

In addition, the scholarship would benefit greatly from an in-depth examination of the new independent publishing initiatives, their scope, regulations and sustainability. This research provided accounts of ‘specialised’ publishers for

independent developers, coming from iconic independent developers who invest into the 'indie' sector as a result of their success. I also addressed the creation of publishing branches from the corporate sector aimed to fund micro-studios and independent projects. In this sense, a focused map of both kinds of publishing initiatives, together with an analysis of their cultural and political economic dimensions, can provide us with a good scenario to discuss the potential for independent publishing initiatives to thrive, especially for those who emphasise on aesthetic and organisational innovation.

On a wider scope, scholarship on the subject would benefit greatly from an in-depth study of the cultural dynamics of the independent games sector. Although I have attempted to depict the general subjectivities that mobilise the cultural sphere, I believe that more focused research into the cultural world of independent developers is necessary, in order to determine in detail issues of class, identity and cultural dynamics that shape developers' prestige, market exposure and possibly economic success, as well as the strategies they use to maintain their success over time. Here, the concept of scene could be useful to study the interaction between mainstream and independent trade press, developers, and player cultures deployed throughout a series of cultural events such as conferences, awards and daily on/offline life. This would not only enrich the literature on the subject, but would also feed into general discussions and perspectives within the sociology of culture and cultural production.

### **8.5 The social study of digital games and the academic field of cultural production**

This research has attempted to connect the study of independent digital games with current debates and issues surrounding the sociology of culture, work and cultural industries. It has also offered an adequate account of how social change takes place within the globalised and mediated social relations of sociotechnical systems.

In addition to the contributions already mentioned, relating to digital games as a case study for the cultural production scholarship, I hope also to have contributed to the understanding of autonomy in cultural work, and to have offered a convincing account of autonomy as a dynamic and fragmented concept. It is fragmented firstly at a subjective level, since it is not only experienced but also justified in conflicting

ways by different actors. In addition, these meanings mobilise the occupational structure and cultural sphere, some of them legitimating the power structures of the industry, and others triggering the creation of new forms of cultural production within market relations, from which a few articulate more elaborated interpretations of their autonomy, connecting it to civic freedoms and social justice. These meanings are played out within the commercial relationships embodied by the corporate policies and power relations of the industry, triggering a struggle that orients social action. Since autonomy is both the experience and exercise of power, it should be framed as a historically shaped experience by the struggles and tensions of the sector. In perspective, the different accounts provided by cultural theorists (Adorno, 1991 ; Bourdieu, 1993; McRobbie, 2002a; Banks, 2010) offer powerful examples of the experiential forms that the notion of autonomy in particular industries has taken throughout its different historical ‘moments’.

Finally, reflecting upon this thesis as a research experience, I will assess the potential of the perspectives that guided this study on cultural production, informed namely by The Production of Culture (PoC) perspective and Banks’ politics of cultural work. PoC proved a useful starting point to sort data analytically and establish connections between the general functions and regulations underpinning digital game production. It provided a framework to understand the production organisations behind digital games, their relationships, as well as the contexts where game production is promoted. This translated into descriptive accounts of the industry at a higher level of generalisation, allowing the observation of structural arrangements under which the game production process relied upon.

Nonetheless, in my research experience this grasp of breadth came with the difficulty of trying to focus on the more specific workings within each PoC domain. This imposed a limitation especially when, for instance, the complex relationships between technology, work and organisation showed the possibility of more in-depth analyses. Secondly, PoC falls short in providing a flexible and dynamic account of social change, emphasising only gradual changes and unplanned growth. Although social change might sometimes feature slow progressions, the principle of ‘creative destruction’ promoted and leveraged by current governments and cutting edge

industries worldwide (Pongratz, 2010) suggests that change has become commonplace in the sphere of cultural production. In this sense, PoC is unable to capture a still-emerging independent sector in a very fluid industry. The relative informality and diffused forms of work present in many independent enterprises presented an extra difficulty to be addressed through the PoC perspective, especially since rationally-set aims and work processes in independent production were not often explicit or even clear. Third, as Peterson (1976) himself noted, the analysis of the conditions of social change is undermined by the ambiguous role of power, conflict and resistance in the PoC framework. It is actually not very clear how the PoC perspective would address the political dynamics that mobilise subjectivities, legitimise trends, and capture the struggle implied by the notion of autonomy in cultural industries.<sup>132</sup> Even when the notion of ‘gatekeeper’ suggests the presence of power relations, there is not active engagement with the political economic relationships shaping the conditions of game production.

In this sense, neo-Marxist interpretations of cultural industries and Banks (2010) notion of cultural work provided a strong complement, highlighting the role of political economic relations (financing and distribution) within the industry structure, and the dynamic links between culture, identity and productive processes (Garnham, 1990; Hesmondhalgh, 1998). Focusing on how independents carried out their work opened a gateway to observe the courses of action of independent developers and the *ethos* informing work under their flexible conditions. These conditions, especially amongst micro-studios and solo developers suggest the possibility for social identities and individual ethics to act as a catalyser of social action. Bringing back this subjectivity informing a sector of production still ‘in the making’ became a valuable contribution of the cultural industries/work approach. Additionally, it provided me with the heuristics to link social relationships both at macro and micro levels that underpin independent game production. Particularly, by integrating the notion of cultural work as another category of analysis, I managed to make better sense of the variety of social practices underpinning independents projects and

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<sup>132</sup> In this sense, Peterson and Anand (2004) acknowledge several scholars’ recommendation to combine PoC with other theoretical perspectives when addressing issues of power and domination (namely Wolff, 1999; DiMaggio, 2000; Hesmondhalgh, 2007; and Schudson, 2002).

professional life, the multiple cultural voices populating the independent sector and the relative reflexivity of game developers. In short, it allowed me to emphasise the reflexivity and agency of independent gamework, and the formal/informal practices underpinning their work process.

A major difficulty emerged from harnessing both perspectives, especially when it came to synthesising, presenting and editing the research findings of this thesis. Both perspectives enabled me to gather a wide range of information pointing at interesting structural aspects of the industry, as well as specifics about the technical process of game making. Nonetheless, my focus on independent game production and its social aspects left them beyond the scope of this work. Specifically, it became a challenge to address equally the structural dimensions of game production, when data also pointed out to particular processes at work (in the large and small scale sectors) feeding into the independent 'collective imaginary' and sphere of action. This tension translated (for instance) into decisions in Chapter 4 to rule out some sections explaining more general and functional aspects of the large scale sector; I would keep instead aspects within the broad PoC dimensions that were addressed in relation to the tensions and reactions they trigger within the independent sector. Additionally, in the markets section of the same chapter, I chose to emphasise the market rationality behind digital games, using the pitching process as an instance of it, instead of providing more information about how markets are dissected by game studios and publishers. Overall, both PoC and cultural industries approaches provided strong analytic and interpretative principles to comprehend the sociality of the independent game production sector. They provided a sense of structure and the conceptual tools to understand the varied and dynamic nature of digital game production.

Finally, I hope this thesis has contributed to the understanding of independent digital games as a cultural industry, emphasising the cultural, economic and social aspects of independent production. During the years spanning this research, the number of studies addressing the sphere of game production and its independent sector has remained low. Sociologically informed research on culture industries should engage more with this field of cultural production in the near future, comparing it and

building bridges with the academic literature in more established popular media. So far, the economic and cultural phenomenon of digital games has not shown signs of exhaustion, and it is expected to expand. Legitimised by consumers, harnessed as ‘learning’ artefacts, and commercially exploited in a wide range of environments, games are a daily life expression of our digitally mediated culture. Engaging more actively with the social processes behind their production will open us a gateway to comprehend the nature of cultural work in contemporary capitalism.



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Archon (Electronic Arts, 1983)

Assassins' Creed (Ubisoft, 2007)

Assassin's Creed 2 (Ubisoft, 2009)

Baldur's Gate (Bioware, 1998)

Batman: Arkham City (Rocksteady, 2012)

Bejeweled (PopCap Games, 2001)

Bioshock (Irrational Games, 2007)

Bioshock Infinity (Irrational Games, 2013)

Braid (Number None, 2008)

Break Out (Atari, 1976)

Broken Sword: The Shadow of the Templars – Director's cut (Revolution Software, 2009)

Call of Duty 2 (Infinity Ward, 2005)

Call of Duty 3 (Treyarch, 2006)

Call of Duty: Modern Warfare 1 (Infinity Ward, 2009)

Call of Duty: Modern Warfare 2 (Infinity Ward/Sledgehammer Games, 2011)

Castlevania: Symphony of the Night (Konami, 2007)

Catherine (Atlus, 2012)

Dark Room Sex Game (Copenhagen Collective, 2008)

Darwinia (Introversion, 2005)

Dead or Alive 4 (Team Ninja, 2005)

Defcon (Introversion, 2007)

Distant Star (Blazing Griffith, 2009)

Donkey Kong (Nintendo, 1981)

Doom (id Software, 1993)

Dragon Quest (Enix, 1986)

Dungeons & Dragons Online: Stormreach (Turbine, 2006)

Elder Scrolls 4: Oblivion (Bethesda, 2006)

E.T. (Atari, 1983)

EVE Online (CCP Games, 2003)

EverQuest (Sony, 1999)

Fable (Big Blue Box, Lionhead, 2004)

Fable 2 (Lionhead Studios, 2008)

Farmville (Zynga, 2009)

Fez (Polytron Corporation, 2012)

Final Fantasy (Square, 1987)

Final Fantasy 7 (Square, 1997)

Floe (Otterly Games, 2012)

Flower (Thatgamecompany, 2009)

Gears of War 2 (Epic Games, 2007)

Gran Turismo 5 (Polyphony Digital, 2006)

Grand Theft Auto 3 (DMA Design, 2001)

Grand Theft Auto 4 (Rockstar North, 2008)

Guild Wars (Arena Set, 2005)

Half-Life (Valve, 1998)

Halo: Combat Evolved (Bungie, 2001)

Halo 2 (Bungie, 2004)

Halo 3 (Bungie, 2007)

Harbor Master (Imangi, 2009)

Inkvaders (The Games Faction, 2009)

Irukandji (Charlie Knight, 2009)

Kaboom! (Activision, 1980)

King's Quest (Sierra, 1984)

Leisure Suit Larry (Sierra, 1987)

Limbo (Playdead Studios, 2010)

Little Big Planet (Media Molecule, 2007)

Little Britain (Four Door Lemon, 2007)

Mario Bros (Nintendo, 1983)

Mario Kart: Double Dash (Nintendo, 2003)

Metal Gear Solid 2 (Konami, 2001)

Metal Gear Solid 4: Guns of the Patriots (Kojima Productions, 2006)

MineCraft (Mojang, 2009)

Mortal Kombat (Midway, 1992)

Ms Pac-Man (Midway, 1981)

M.U.L.E. (Electronic Arts, 1983)

Myst (Cyan, 1993)

Need for Speed Carbon (Electronic Arts, 2006)

One on One: Dr. J vs Larry Bird (Electronic Arts, 1983)

Pac-Man. (Namco, 1980)

Pitfall! (Activision, 1981)

Pokémon (Game Freak, 1996)

Police Quest 4 (Sierra, 1993)

PONG! (Atari, 1972)

Portal (Valve, 2007)

Portal 2 (Valve, 2011)

Project Aftermath (The Games Faction, 2008)  
Puzzler Collection (Four Door Lemon, 2008)  
Quake 2 (id Software, 1997)  
Quake 4 (Raven Software/id Software, 2005)  
Red Alert 3 (Electronic Arts, 2008)  
Resident Evil (Capcom, 1996)  
Rex Nebular (Microprose, 1992)  
Rift (Trion Worlds, 2001)  
RoboBlitz (Naked Sky Entertainment, 2006)  
Scoregasm (Charlie Knight, 2011)  
Shadow Complex (Chair Entertainment/Epic Games, 2009)  
Silent Hill (Konami, 1999)  
Small Arms (Gastronaut Studios, 2006)  
Sonic the Hedgehog (Sonic Team, 1991)  
Space Race (Atari, 1973)  
Space Invaders (Taito Corporation, 1978)  
Space Quest, 1986 (Sierra, 1987)  
Starcraft: BroodWar (Blizzard, 1998)  
Starcraft 2: Wings of Liberty (Activision-Blizzard, 2011)  
Star Wars: The Old Republic (Bioware, 2011)  
Super Mario 64 (Nintendo, 1996)  
Super Mario Bros 3 (Nintendo, 1988)  
Super Meat Boy (Team Meat, 2010)  
Super Smash Bros: Melee (HAL Laboratory, 2001)  
SYNSO: Squid Harder (Game Bagfull of Wrong, 2009)  
The 7<sup>th</sup> Guest (Trilobyte, 1993)

The Endless Forest (Tale of Tales, 2005)

The Legend of Zelda (Nintendo, Capcom, 1986)

The Legend of Zelda: The Wind Maker (Nintendo, 2002)

The Path (Tale of Tales, 2009)

Tomb Raider (Core Design, 1996)

Ultima Online (Origin Systems, Electronic Arts, 1997)

Uncharted 2: Among Thieves (Naughty Dog, 2009)

VVVVVV (Distractionware, 2010)

Wallace and Grommit in Project Zoo (Frontier, 2003)

Wing Commander 3: The Heart of the Tiger (Origin Systems, 1994)

Wolfenstein 3D (id Software, 1991)

World of Warcraft (Blizzard Entertainment, 2004)