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WHAT KILLED INTERACTIVE TV?
AN INVESTIGATION OF INTERACTION MECHANICS AND THEIR RELATION TO USER IMMERSION

by

REUBEN J. ROGAK
B.A. Northern Illinois University, 2003

A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Fine Arts
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in the College of Arts and Humanities
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ABSTRACT

The objective of this thesis is to investigate the history of interactive videos and examine some possible reasons as to why they have never been successful. Because the method of interactivity is often disrupting to the narrative, I wanted to make something that was much more fluid. To this end, I produced Man Alone Interactive, a branching story that allows users to choose their path without stopping the narrative.

The purpose for creating it was to see if a different interactive mechanic would aid in the user immersion. In order to fully test this, two versions of the movie were created. One with the relatively standard interactive technique of stopping the story to display the choices and another that had the choices onscreen as the video progressed. The two versions were then used in a study to determine which was more engaging to users. This paper examines the research that led to the design, the process by which the story and different versions were created and the results of the study.

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CHAPTER ONE: INTRODUCTION

For my thesis project of Masters of Fine Arts, I wanted to explore the area of interactive television/movies. My goal was to try to answer the question of why higher-level interactive television does not work. As early as the 1950's, the industry has tried multiple ways of adding varying degrees of interactivity to the television or movie watching experience (Dodson, 2001). There have been individual levels of success, but on the whole they have largely failed to hold the public's interest for very long. Obviously, lower level interactions are prevalent (remote controls, viewer voting, etc.), but I am more interested in instances where the viewer can control or modify the content itself. As part of my project, I studied the different methods that have been tried and use this research to help design my own version of an interactive movie.

Project Overview

The question I would like answered is "What method of interactivity is more immersive to viewers of interactive videos?" To explain this a little more, I have found that pretty much the standard for most interactive videos now is to have the video stop, then a screen pops up at any decision point, and have the user pick between typically 2 different choices of what to do next. I think this takes the viewer out of the story and can be distracting. Since interactive movies can be considered a form of gaming, I looked to video games for some influence to try to make them more engaging. This

seemed fitting since for years cinematic movies have been influencing video games, and now it seems that video games are starting to influence movies right back.

I hypothesized that changing the interactive mechanic to something found more often in video games would make the video and story more engaging for the users. Rather than stop the video, I wanted the choice to be made while the story continued using glowing objects embedded in the movie that have titles describing what action they will do. The ideal place for a movie like this is an online presence, so I developed two different websites. One had the stopping decision points that are fairly common and the other that had the continuous narrative with the video game influence that I hoped would be more engaging. In order to test the effectiveness of the interaction mechanic, I wanted the story to be the same with the only difference being how the user interacted with it. I ran a study with twenty-four participants that were randomly assigned one of the two versions. After watching the interactive movie, they completed a survey dealing with their immersion levels in order to see if the new technique was indeed more engaging.

The following chapters contain research into the history of interactive videos, starting with very early works leading up to what is currently being done in the field. They will also deal with the process by which the story was created, a detailed overview of that story, the development of the two websites, the study that was run, analysis of the results of the study and concluding remarks.

CHAPTER TWO: LITERATURE REVIEW

As I mentioned before, there have been many different attempts at making an interactive viewing experience. Despite the fact that interactive videos seem like a relatively new field, it has actually been around in some form or another since the early 1950's. Since there hasn't been any one method or definition that has been agreed upon, they are often quite different from each other and in very separate mediums. So much so, that I feel the need to briefly discuss the different categories they fall into before going into more depth with the history in this field. This is both to avoid confusion and to more closely define the area that I am interested in.

Definition of Terms

Television

In the realm of television, there is low level interactivity, mid level interactivity, and high level interactivity. Low level interactivity consists of things that affect the TV itself at a local level. Examples of this are using a remote control, recording a program, and skipping over parts of it (commercials, etc.).

Mid level interactivity usually takes the form of enhanced viewing. These are things that are additional content created to give more information on the program. They often take the shape of textual or graphical overlays that are added on top of the

existing program. This can include the ability to purchase goods seen on screen, submit votes, change camera angles during sporting events, or play games related to the show.

High level interactivity is focused mainly on having the program or story change directly as a consequence of viewer input. While an argument could be made that voting can determine outcomes on certain game shows (American Idol, Dancing with the Stars, etc.), this is more referring to scripted shows with storylines that can be altered. Because this one deals with scripts and actors, it is much harder to accomplish.

Video Games

Although all video games are interactive by their nature, for this category I will be referring to a certain type of video game that is crafted more like a movie that you can play. These games are mainly created with the idea of being able to play as characters in a movie and often used full motion video (FMV) of live action or animated footage.

Interactive Video

There does not seem to be an agreed upon term for films or videos that are interactive, so for the purposes of this paper, I will be referring to them as interactive videos. These are not video games but are scripted stories displayed in a movie format that can be watched with viewer input that affects how the story turns out.

Now that we have the categories sorted out, we can continue with the history. Let's start with that of television.

Television

One of the first instances of interactive television occurred in 1953 with a show called Winky Dink and You. It had the children who watched the show purchase a transparent screen that stuck to the TV set. At certain points during the show, the characters on screen would ask the children at home for help decoding messages or connecting the dots of a particular image. The children would then draw on their special screen to complete the message or picture and the story would continue based on what they helped with. One of the main problems they ran into with this was that children started simply drawing on the TV screen itself without the protective cover, which eventually caused the show to be discontinued.

The next major jump in interactive TV started in December of 1977 with the launch of QUBE in Columbus, Ohio. The ideals of the company were to provide many different services to its customers and for many of them to be interactive. The first introduced the pay-per-view concept to TV and started Pinwheel, what would later be known as Nickelodeon. "The QUBE selector box also was equipped with five response buttons, which could be used for everything from interactive game shows, to town meetings, to home shopping" (Mullen, p. 120). Though it was touted as the cable system of the future, few viewers took advantage of the interactive features that were offered. A full three quarters of subscribers never used those features at all, and it was only able to draw an average of 2% of users to its most popular interactive programs

(game shows with cash prizes). Due to low usage numbers and increasing debt created by the service, QUBE was phased out in 1984.

In 1988, the BBC broadcast a live children's show hosted by Sylvester McCoy that used viewer suggestions to move the story along. The show started with a premise that was left open ended at the close of the show. Children would then call in with their suggestions as to where the story should go from there. The producers would then create an amalgam of the best suggestions and continue the story using those in the next episode. In between the action, the host would interject to mention the names of those who had contributed to this week's show. After a revamped second season was produced, the show was cancelled.

Not to be outdone, Denmark created its own interactive program for children in 1989 called Hugo. The creators of the show developed a technology that converted telephone signals into pulses that they translated to movement on the screen. Essentially, this let a caller control characters on the show in real time using their phone as a game controller. The show got a very large following and had different versions of it licensed and aired in over 40 countries. A line of video games was also created based on Hugo's adventures that were playable on various platforms (PC, consoles, mobile phones, etc.) and more are still being developed currently with its most recent incarnation of Hugo Retro Mania in 2011.

The early 1990's saw some more forays into the field of interactive TV services. Interactive Network, based in California and Illinois, attempted to add a second screen

to supplement the normal television. It allowed you to play along with game shows and sporting events through the use of a multiple choice format. However, the service was restrictive in that it was not cheap. Before being able to utilize any of the features, a special box was required that cost several hundred dollars. After this, there were high monthly costs to worry about. Despite this, early users were excited about it, but due to a change in management, the decision was made to abandon the project entirely rather than try to build a new market from scratch.

The other major service at this time was based in Montreal and Quebec City called Videoway. Videoway, by comparison with the Interactive Network, was comparatively cheaper, with a low monthly fee and no hardware costs. And rather than require a separate screen, all interactions took place on the TV where they used a four channel system. A quick example of this is that while watching a sports game, viewers were able to choose different camera angles by changing the channel. The main downside to this technology was that it wasn't always cost effective since the cable company had to use four channels to occupy just one program, whereas four separate channels with four separate shows would bring in more money. While there was an interested market for this service, the company decided to go back to single channels in 1996 (Carey, p. 12-13).

The late 90's saw several companies trying to make TV interactive by combining it with surfing the web. WebTV and the Full Service Network both threw their hats into the ring. WebTV had a relatively low cost for their hardware ($350) and monthly fees

($19.95). It allowed standard internet access over a modem and would alert you if you had any new email in your account. Full Service Network was also a way to surf the net over your TV, but it also combined cable and phone services as well. However, it had a much higher cost at over a thousand dollars for the box. WebTV was eventually bought out by Microsoft who turned it into MSN TV. Though they are still providing service to those who already have the box, they are no longer selling them and seem to be phasing the service out. Full Service Network closed its doors in 1997 saying that they had learned what they wanted to in interactive TV and that they will be using that knowledge to create more modest versions of such programs (Abbott).

The Digital Content Lab, a division of the American Film Institute, was founded in 1998 with the specific purpose of exploring the possibilities of interactive TV. Since their opening, they have worked to either add additional content to existing programs or to work with show producers to incorporate interactive material from the very beginning. They have created content for dramas, comedies, educational shows, etc. and have learned that there is no one way to do it, but that it has to be tailored to the specific program. When considering what kind of enhancements to add, they suggest considering some of the following (Miller, p. 308):

- "To add dimensions to the show's characters
- To allow viewers to delve more deeply into the subject matter
- To serve as an educational springboard for young learners
- To provide an opportunity for self-exploration

- To explore sensitive social issues and offer a forum for community building"

Though the program was eventually closed in 2010, the work they completed during their existence greatly adds to the field of interactive television.

In the 2000's, many shows started adding supplemental content to draw viewers further into their world. CSI was "America's first interactive prime-time network drama" (Miller, p.306). It boasted features such as learning more about a topic brought up during the show and being able to help solve the case alongside the shows protagonists. Antiques Roadshow on BBC added an overlay on the show that let viewers try to assess the value of the pieces currently on display. This added a game element to the show that attracted a younger audience. Boy's Toys, a show about gadgets for men, didn't add anything to the TV version of the show, but instead had the viewer go to a website online during the show. As soon as the broadcast started, a game began simultaneously that urged users to accumulate points by answering trivia questions related to the show. The use of a leaderboard helped keep players competitive and a chat feature made things more social.

While these are considered interactive by some definitions, I will be focusing my project more on the user's ability to affect the content of the show and give them control of what they see. Programs that allow for this are fewer to come by as it is both more time consuming and work intensive to create content to allow for this. However, there have been some notable works in this area as well.

Accidental Lovers was a Finnish black comedy that was ran as a mini-series from Dec. 27, 2006 to Jan. 5, 2007. It focused on a 61 year old cabaret singer and a 30 year old rockstar who "explore alternate love relationships " (Saarinen). Viewers were able to control the outcome of the story by sending text messages with key phases to the show. The events would change in real time based on popular vote, which resulted in 12 different versions of the story being broadcast. There were more possible stories than this, but some content never got chosen and some got played many times. This is somewhat similar to my project idea in that I intend to have users choose the path through the story they want to see, but I will not be using text messages to control the change. Users will be able to see the choices laid out for them and pick which they want to see. They should not have to sit through any repeated scenes unless they want to.

New Millennium, New Media (NM2) is a collaborative project throughout Europe that aims to create stories that can be shaped by the viewer, which they call ShapeShifted TV. Accidental Lovers was a part of NM2, but they have created multiple other projects that are each unique. Cambridge City Symphony is an interactive production that "enables visitors to explore the City of Cambridge, at different times of day, through their own choice of topic and length" (Williams, et. al.). Interactive Village uses a picture based interface to let users choose the topic and area of Czech city Dolni Roven that they wish to explore. Gormenghast Explore has viewers explore a 3d castle to find different characters who tell them stories. These each have different ways

of exploring the topics at hand, but their theme of letting the engager choose their way through the material is the same.

A Golden Age is also a product of NM2 that is a documentary where you can choose your topic of interest as you move through a pre-laid out storyline. While watching, keywords based on topics touched upon on screen pop up and let the user click them if they want to know more about that particular idea. The words appear on the bottom of the screen along with a countdown meter next to them showing how much time the viewer has to click that topic before the next keyword appears. They are also allowed to select a level of interest ranging from low to medium to high by hitting the button multiple times. Unlike most videos online, the story does not immediately switch to this new topic when chosen. Rather, it works it into the current story naturally before moving on (Ursu, et. al.). While the idea of combining the story with native transitions like this is appealing, the onscreen keywords can be distracting at times as the countdown meter is perpetually moving. It can be hard to pay attention to the actual content. My project will try to avoid this problem by having a minimal onscreen interface, though this is something that will need further development.

More recently, in 2011, a show was aired on Current TV called Bar Karma. It was originally conceived by Will Wright, who also created the Sims and Simcity games, but the show itself was written by an online community. In order to let possible writers give their ideas to the producers, the StoryMaker tool was created. This allowed anyone to navigate through a myriad of possible choices of things that could happen, or

even create their own. The producers would then sift through the ones submitted and integrate them into the plot. The series finished its first season with 12 episodes and thousands of online contributors.

Video Games

Now that we have discussed some of the history of interactivity on television, let's now turn our attention to some of what has been done in video games. As I stated earlier, this will be focusing on a specific type of game that was made to be more like a movie you can play. The first such game was Astron Belt, released in 1983, using a laserdisc system to use live action footage that the player was superimposed over.

However, the game that made this genre popular was Dragon's Lair. Dragon's Lair looked like an animated movie, but the player could control the main character by hitting a series of movements or using his sword. Rather than movement being directly controlled, the buttons were used more like quick time events in modern games with different video clips being played depending on how good the timing was. In 1984, the year following its release, Dragon Lair was accompanied by another creation from the same studio: Space Ace. The style was similar, but this time, there was more variety in terms of gameplay. This time, there were allowances for different skill levels and the player had the ability to navigate more than one path through the story.

Throughout the 1980's various other video games were produced with a similar formula: take some form of full motion video and incorporate it into game. Sometimes

this was accomplished by playing a clip (often animation taken from various Japanese anime) in the background and overlaying computer graphics on top. Some examples of games that did this are Cliff Hanger (1983), Time Gal (1985) and Road Blaster (1985). Bega's Battle used similar techniques, but also introduced the video game world to the cut scene. Its gameplay being a simple shooter, it told the story through a series of videos played in between levels.

In the 1990's, CD-ROMs were becoming standard installations for home computers as well as some game consoles (3DO, CD-I, Sega CD, etc.). Because of this, it became possible to use more than just a few snippets of live action video scenes and a variety of games were released that utilized this.

One of the early and more notorious examples of this is the game Night Trap starring Dana Plato (of Diff'rent Strokes fame). The story is like something you would expect from a bad horror movie: a group of teenage girls are staying at a suspicious house for the night and you are able to help them survive through the use of surveillance cameras and traps set throughout the house. The player is able to switch to different views of the house to keep track of the story and capture any bad guys by activating the traps at the right time. There are several reasons this game has a dubious reputation, the first of which is due to the very cheesy acting prevalent throughout the game. However, as this was largely common for games of this sort, the second reason it has become infamous is because the game made national news for being violent against women. It made its way to congressional hearings because of its supposed nudity and

violence (there is no nudity and the violence is comical at best). It was banned in some stores and was one of the main games responsible for the creation of the Entertainment Software Ratings Board (ESRB) that rates video games similar to the MPAA for movies. ("Dangerous Games.")

Despite the controversy Night Trap had raised, the full motion video on CD-ROM format was gaining speed. Quick on its heels was Myst in 1993. Myst offered a new look at interactive gaming in that it simply places the player in the game environment with very little explanation. They are left to wander the world on their own and figure out how to play and what to do. There is no time limit or deaths, just a rich backstory that unravels as you play through the game. It was also the first time a game required you to own a CD-ROM drive. Other games had been available on CD before, but there was always a diskette option until now. Because of this, Myst is often credited as fostering in the CD-ROM format (Parish). The main lesson I take away from this game is that it is sometimes beneficial to let a story play out on its own rather than give the user a lot of exposition in the front end.

Although Myst received much attention with its pre-rendered computer graphics, there was still some life left in the live action full motion video beast. Phantasmagoria proved this when it was released in 1995. Whereas Night Trap was a mostly silly romp through a cheesy PG scary movie, Phantasmagoria contained some very graphic violence and a rape scene. Though there was some controversy over it (including some bans from CompUSA and other major retailers), it did not create the

national stir that Night Trap did. In fact, it was one of the best selling games for that year. This game is notable for being the first to use a live actor as the main character that is controlled by the player throughout the game. Hundreds of her actions were filmed against a blue screen over the course of four months working with a 550 page script (Bellatti). To this end, it is very important to write out every possible scene that may be required to have a fully developed interactive piece.

While most 'interactive movies' tended to use D-grade celebrities or completely unknown actors, when FMV was at its peak even well known actors jumped on the bandwagon. Such was the case with the 1996 game Ripper, who boasted such stars as Christopher Walken, Burgess Meredith, Karen Allen, John Rhys-Davies and Paul Giamatti. Despite a large budget and Hollywood sets, the game was largely panned by audiences due to very poor acting and a largely predictable script. However, it makes its way into my thesis because of the nifty feature it had that allowed the ending and gameplay to be somewhat different through multiple run-throughs. The story is centered on finding a killer that the game randomly selects at the beginning from a possible 4 candidates. As such, there is no definitive villain to the game, which does make for a nice idea and would add to the replay value if used in a better context.

If Ripper was a B-movie quality game, then the interactive X-Files game released in 1998 was the A-list answer. It was "the genre's first true blockbuster –a Hollywood-quality production using the same assets as the show it was based on" (Russell, p. 111). One of the last big games to use FMV, it is a fully realized world that allowed players to

interact with just about anything they see. It allows you to use a lock pick set on doors you don't have keys for, call phone numbers on any documents you see, or even pull a gun on your fellow agents. This adds to the theme from Phantasmagoria that every little thing that can happen needs to be planned ahead of time to keep users fully immersed in the story environment.

Proving that not every game needs high end production values to be an immersive experience, the game Façade from 2005 shows us an interesting evening spent with a couple at their house. The setup is seemingly simple, as you show up for dinner at your friend's house, and the gameplay is the player walking around talking to them. The characters talk directly to the user, who can talk back by typing responses. But it is here that the game is at its most interesting. The AI is very flexible and can have very realistic conversations. As the story progresses, you find their marriage is not as happy as they show it to be and the way you respond to situations shapes the entire story (Mateas, Stern). While the graphics are not very detailed, once you are immersed in the dialogue, you forget about that and start to care for the characters. This is a great example of a game that is based on human connection rather than physical action.

Taking the term "interactive film" very seriously, Indigo Prophecy set out to immerse users in a world by having them control virtually everything about the character. This includes everything from disposing of a body to controlling a mop with back and forward motions on the control pad to washing your hands. However, the main focus of this game is the story and the player's ability to control it. The choices

made while playing do have consequences and the characters are crafted such that you care about them. These are both quite important and add significantly to the replay value. No one would want to try to find the different paths if the story and characters were unlikeable.

Created by the same studio and director as Indigo Prophecy (Quantic Dream and David Cage respectively), Heavy Rain was the next game they released in 2010. As with Indigo, Heavy Rain is very story-centric, using it as a base rather than something slapped on after the fact. They have also taken the control scheme from Indigo and magnified it to the point that whether or not you do the right thing at the right time, the story will move on either way. This goes a long way to creating an immersive environment that makes the player feel as though they are in a real world. Main characters can die, taking any future usefulness with them. However, you are allowed to go back to previous chapters in the game to play them differently to affect the overall outcome. All told, there are between 18-22 possible endings to this game, and they are all dependent on the choices you make.

Interactive Video

As mentioned earlier, for this section I will be focusing mainly on scripted works of pieces of interactive fiction where user input can change the story in some way. Let's start with the first interactive videos to be played on the big screen. In 1995, a company called Interfilm signed a deal with Sony to produce 4 interactive movies (Miller, p.351).

In order to make them react to user input, they removed the cup holders from the seats at a local theater and installed a three button controller hooked up to their machine in the projection booth. The first film they showed at the newly renovated theater was Mr. Payback. It worked predominantly like a 'choose your own adventure' novel in that the plot would move along and, as the title indicates, the main character would come across someone who needed to be punished. The audience was given the choice of what kind of punishment to mete out by pushing the buttons on their seats. Majority ruled, and there was a running display of votes on screen (Stack, E1). However, the movie is crippled by bad acting and terrible jokes. In a scene where the hero is confronted by some tough guys, there is the option to bite a knife in half or breathe fire in their faces. There is even the option to enter 'flatulence mode' where his vengeance can be silent but deadly. A second movie called Ride for your Life starring Adam West came not long after Mr. Payback, but the public had already lost interest in this type of movie and the company soon shut down. One of the main reasons for this failure was that the movies used to showcase the technology were B or lower class cinema. The choice was viewed as a gimmick since there was no real substance offered beyond that. Another problem lies in the fact that in a theater full of people, not everyone will agree with the choice that was made and people can feel shortchanged because they didn't see the movie they wanted to.

Taking a different approach to engaging the audience, Immersion Studios in Toronto has created a variety of what they call 'immersive cinema' for museums or

educational institutions across the globe. Rather than present the viewer with a simple selection of choices that don't affect the overall plot, an Immersion movie brings the viewer fully into what's on the screen by having them actively direct the storyline. For example, in their movie Vital Space, the viewers get to interact with scientists on a space mission. One of the scientists gets exposed to some possibly deadly materials and the users get to choose the best course of action to try to save her. To do this, users get to use a touch screen console to do research on each possible choice and determine which would work the best. If they do find the problem (a parasite) in time, the movie switches to something like a first-person shooter game and the viewers try to destroy it. By giving the audience the resources to explore more information, creating situations that require critical thinking and letting their choices have consequences to the story, Immersion Studios has very effectively drawn their users much further into the narrative than simply presenting them with a list of simple choices.

Taking this idea back to the realm of purely fiction entertainment, Uncompressed, released in 2000, shows us a film that can be watched in a linear fashion or viewed from different characters perspectives. Unlike a traditional movie, there is no central main character here, as the story follows 6 different plot lines. Rather than have a clunky graphical overlay to navigate through them, the controls are image based and use visual cues and color schemes to represent each character. The story itself is focused on a single event and how each character views it and is connected to it, similar to Rashomon. It is this interconnectedness where the strength of this movie lies, as it

can take multiple viewings to get the full story and understand the various themes present.

Late Fragment is another attempt at an interactive movie created in Toronto. This movie is made interactive through the DVD it comes on and lets the viewer choose the way they want to see the movie (obviously). The plot focuses on 3 main characters who all attend the same 'restorative justice meetings', which serves as the central point of the film. The way that users interact with the DVD is each scene can be clicked at any time to move to another scene. However, the paths for which scene it will move to are predetermined and there are only ever three at the most options to choose from. The problems it runs into is that if you don't click any scene, the movie still jumps around, seemingly at random, through the story. You can eventually find out the overall plot, but it is made overly difficult since if you are interested in a particular character and don't click to follow them, you will be whisked away to someone else and have no way to go back. There are also times where the clips will loop two scenes forever until you choose a new path. The idea for this movie seems interesting, but the interface they chose for the interactivity is flawed and needs more work to fully suss out the problems inherent in it.

Since these examples have all so far been relatively large budget productions, it is worth noting that many people have started using features on the internet to create their own short interactive videos. The main one people have started utilizing more is the clickable video feature on YouTube. There are interactive magic tricks where the

magician in question has you choose a card by clicking it onscreen. When you do, you are taken to a separate video where your choice is shown. Though it is a relatively simple card trick, it shows the different avenues that interactivity can be used for. Another good example of this is the Interactive Easter Egg Hunt where the videos creator invites us to search her apartment for various things she hid for Easter. There are several hotspots on the screen and after you choose one, you see if you found something or not.

Going in a slightly different direction is the Street Fighter Fighting series. Here you can play a version of the classic Street Fighter II game by viewing videos the creator has made as stop-motion animation using action figures of the game. You start by selecting a character to fight and are given four buttons to hit. Each one is a separate attack that takes you to a video of you performing it if you hit the button fast enough. So far, there has not been much story in these, but they are used merely to show the different kinds of ideas people are coming up with to involve interactivity using a video medium.

However, The Time Machine: A Chad, Matt and Rob Interactive Adventure is a good example of using this technology to craft low budget stories. The story starts by giving us the mission of getting everyone to their business meeting by noon. The characters find a time machine in their office and are being chased through time by men in suits. You help them decide what to do along the way. While this does play out like

a ‘choose your own adventure’, the fast pace and entertaining nature of it makes the piece successful, certainly considering this was the work of just a couple guys online.

Going back into the world of professionals, a company called Silk Tricky has made several of their own contributions to the field of interactive videos. Their first was called The Outbreak in 2008 and was about surviving a zombie apocalypse. While it also uses the simple choice between 2-3 actions to affect the story, it has a lush interface that lets you see the path you’ve chosen and go back to try a different one at any time. It also indicates whether a certain path you’ve tried led to death or not (pretty much the only two options in this movie). Their next attempt was called Bank Run in 2010. They added several new features to this production, aside from looking very slick. The first of which is, in addition to the basic choice characteristic, they have added some keyboard functionality to the movie. At certain points, you need to hit keys to make something happen. For example, when being held hostage, you need to hit the arrow keys repeatedly to undo the ropes holding you. Do it fast enough and you escape, too slow and you are killed. Beyond this, the story is spread from the web to a mobile app that you can buy. The first section is online for free where the story leads to the app. This app is a game where the character fights for survival. This seems like a decent combination where the online version gives a back story to the game and the game allows users to go into more depth if they liked the online movie.

Relatively recently, in 2010, there was another movie to come out in theaters featuring interactivity from the audience called Last Call. Rather than a comedy like

Mr. Payback, this German movie is a horror, billing itself as the first interactive horror movie in theaters. When viewers show up to the theater, they enter their mobile numbers into a database. Then the system chooses one number at random and calls it during the movie. The actress on screen then talks to the person that was called and asks them for help. When she comes to a staircase, she asks whether she should go up or down. When she encounters someone who is tied up, she asks if she should help or leave. While it still functions like a basic two choice scenario like others in this list, the addition of the phone and having the actress talk directly to the viewer raises the engagement level significantly. The way it works is their answers on the phone are translated to different scenes using language recognition software. The main problem with this is that only one person per screening will get that call and the rest will have to yell out answers if they want any kind of influence. However, this does seem like an interesting direction for tech to take.

The last piece of interactive video I'll be talking about here is Brandon Generator, which started in March 2012. It is a new project by Edgar Wright, of Shaun of the Dead fame, which is similar to Bar Karma in that it will be created by the Internet community. However, it is different in the manner in which it goes about collecting user submissions. The plot focuses around an author with a terrible case of writer's block who happens to black out. When he wakes, there are new ideas that he can't remember coming up with. These are the user submissions and participants can submit written ideas, drawings of characters or monsters (it is an animated piece with a comic book

feel, so illustrations will certainly add to it), or leave spoken ideas on his voice recorder. It is very cleverly worked into the story and serves to foster a very creative community.

CHAPTER THREE: DESCRIPTION OF PROJECT

After going through the history of three types of interactive videos, I certainly came across things that I thought did and did not work. Though I talked briefly about these things earlier, I am writing this section to focus on the specifics of things I took away from all of it and influenced the shape of my project.

Design Concepts

The first and foremost thing I gleaned is that in order for any type of interactive video to be successful, it has to be driven by the story. While this is true in ordinary movies, it is more so here since the users will be interacting with them on some level. If they don't connect with them at all, they have no reason to continue. And one thing that helps make a compelling story is creating characters that are both real and sympathetic in some form. This is something that is certainly easier said than done, but having that idea to start with is important.

Another very important theme that came up frequently is that in order for the interactivity to be successful, it has to be planned and implemented from the very beginning. Writing a story and then trying to add interactive parts to it after the fact is bound to feel disjointed and out of place. The best examples I found always started with that idea and built the story around the type of interactivity they wanted. Obviously for this type of project it is always important to give the users the ability to

change the content in a meaningful way, but the specifics of how that is done and to what degree are paramount.

Along those same lines are what kinds of choices to include. Ideally, they should be something more than random based choices (like guessing through a puzzle presented) and have more meaning to them. While this is somewhat accomplished by having the 'should the character do choice A or choice B?' questions, those leave something to be desired in terms of engagement. If the user always knows it will be either one way or the other, they may get bored with it, or skip through them to see what happens without really connecting to the story. Façade did this very well by having the story be fairly open ended and react to whatever you said. There was no choose this or that in Façade, you typed whatever you wanted and the story reacted to it.

Interface design is also something that needs to be considered. There were many projects that I looked at where I was taken out of the story simply by the way the interactivity was setup. Stopping the action onscreen to ask me a question is very jarring and makes it that much harder to get immersed in the world. Late Fragment kept a running count of all the scenes you had clicked through and where the next click would take you at the bottom of the screen the entire time the movie was playing. I constantly felt the need to check to see where I would end up next if I clicked one way or the other. If you are creating something for television, the visible interface needs to be simple and clear, as people are not nearly as close to that screen as they would be to

a computer monitor. The documentary A Golden Age was constantly putting new keywords onscreen that let you click them to see more info on that topic. The problem with this is that it was not done in a subtle way at all. There was a grey bar across the whole bottom of the screen when the word was there as well as colored bars that served as a countdown. The bars would disappear one by one, but it gave a sense of urgency to a documentary that was very slow moving otherwise. It made me feel anxious that I might be missing something by not clicking. It is important to find a way to have onscreen prompts without interrupting the flow of the video.

One thing that A Golden Age did that I liked was the way they transitioned from one scene to the next. Once a keyword was clicked at the bottom of the screen, you were not immediately thrown to the next topic, but gently inserted after the current one had come to a natural breaking point. This was a very interesting way of handling choices, as most pieces will simply cut the character off mid-sentence if you click. Since it is a story told on video, not simply a website, it can be beneficial to find a way for natural transitions like this to keep people immersed in your creation.

The use of additional technology can be very powerful if done correctly. Last Call in reality was simply a two choice medium (left or right, etc.), but it was able to draw the user in much further by having the person onscreen actually call their personal phone. Hugo similarly proved phones can be effective by having users control the show with their home phones. Accidental Lovers can also get on this bandwagon with their use of text messages to control the story. Having a second screen to work on

definitely added immersion to Vital Space, as well as Bank Run by continuing the story in an app.

All of these are things I tried to keep in mind as the rest of the project was written and designed. I changed the original format I had planned on somewhat based on this and came up with new ideas on how the interface will function. When the story was written, we wrote it with the interactivity in mind at all times. We planned out scenes based on what kind of interaction would happen in that place and scouted the locations to see what kind of local scenery/object we could use for this purpose. This had the benefit of making it easier to add the interactivity in post-production as well as giving it a more professional feel rather than just tacking the choice points to random items.

Another benefit of using location-based items was that it added more meaning to the choices that were being made. We wanted the choices to come organically from the story and locations, so we took the time to make sure they made sense to the situation the character was in. There are several times throughout where the viewer gets to use objects existing in the scene to aid their progress.

During my research, I found that I did not like the interactive videos that used intrusive interfaces. Because of this, I wanted to create something that would be uncomplicated yet effective. I settled on using a design that is simple looking and intuitive. The story periodically gives the user choices in the form of slightly shimmering items onscreen. If the mouse is hovered over them, they display a short

text description of what it will do if they click it. Since I wanted this to be an uninterrupted story experience, I have given the user some time to make their choice, but if they choose nothing within a given time period, the system will choose an option for them. The purpose for this is so that even if a person doesn't want to interact with the video at all they will still see a complete story, but it also gives users paths that they can take if they want to.

Story Synopsis

Man Alone Interactive has multiple paths that users can take through the narrative as well as eight possible endings. Each full story is around five to ten minutes with there being around thirty minutes of total footage to watch. The plot lines can be a little hard to follow at times, so it may help to refer to the story map (Appendix B).

None of the characters in the script were ever given real names and never refer to each other by any titles. The reason for this was to both convey the loss of humanity that would occur with no one else around, as well as to allow the viewer to implant themselves easier onto the central character.

Characters

There are five total characters in Man Alone Interactive. Those are:

MAN: the protagonist

GUY 1: A man whose lack of social interaction may have driven him insane

GIRL 1: A woman in fear for her life

OLD MAN: A father trying to reconnect with his daughter

REDMAN: An elusive person who may not be what he seems

The story takes place in a post-apocalyptic land where the main character has not seen anyone in a very long time. The narrative always starts the same, with the protagonist walking across a dead landscape and eventually coming into a new town. As he walks, his thoughts narrate some of the background and allow the user to get to know him better. After several minutes, he comes to a hotel and we come to our first branching path, which gives the option of cooking some food or leaving the area.

Path A

If the user decides to leave, they will eventually see REDMAN in the background. MAN tries to get his attention, only to have him run off. After a brief chase, REDMAN seemingly disappears and MAN is left to wonder if he had imagined the whole thing. He continues on and eventually finds GIRL 1 rummaging around a ruined building. Here we have another choice. If the player decides to not confront her, he later hears a radio transmission from someone in need of help. He goes to the source of the broadcast and finds OLD MAN sitting in the middle of a huge empty room. After some discussion, OLD MAN asks MAN to help find his daughter. If MAN agrees, he is unable to find the daughter and comes back to discover that OLD MAN is

now dead. Having found nothing useful in this town, he decides to leave and try his luck elsewhere. This is the end of this storyline.

If the user does not want to search for the daughter, they leave only to encounter REDMAN again. There is another chase, but this time it ends on a roof with MAN cornering REDMAN at the edge. MAN angrily yells at him, asking why he runs. He runs at REDMAN one final time, only to find him a figment of his imagination and MAN falls off the edge of the building to his death.

Path B

This path line goes back to when MAN encounters GIRL 1 from earlier. This time, if he decides to talk to her, she is afraid of him at first, but soon warms up to him. She takes him back to her encampment and describes a problem she's been having recently. GUY 1 has been stalking her and she is worried he may kill her soon. MAN decides GUY 1 must be gotten rid of and the player has a choice of three different methods to try. If he grabs a brick from the ground as his weapon of choice, he goes out to find GUY 1, only to get his skull unexpectedly caved in almost immediately.

If he leaves empty handed, he is unable to locate GUY 1 and upon returning to the camp, he finds GIRL 1 killed. Angered by this, he tracks GUY 1, eventually finding him by a stream. MAN sneaks up on him and stabs him. He then decides to stick around the town to see if there are any other people living in its midst.

If the user decides to talk to the girl, they are rewarded with a gun containing only one bullet she had kept for emergencies. MAN finds GUY 1 walking around and is able to sneak up on him, shooting him to death. He then returns to GIRL 1 where they decide they are going to stick together.

Path C

Going back to the first choice point at the hotel between cooking food and leaving, if MAN chooses to cook some food, he is immediately presented with another choice. He can put the fire out or investigate something outside. If the fire is put out, there is a quick possibility to investigate an object lying on the floor. If this is chosen, he pulls a badly damaged teddy bear out and has a flashback to his family before everything went bad. Whether you choose to see this or not, both the flashback and the putting the fire out scene go back to storyline from Path A where he first sees REDMAN.

If the player decides to investigate the noise outside, they see REDMAN running around a corner. MAN gives chase but to no avail. He comes back to his room the following morning only to find the room burned out due to the fire he left burning. Discouraged, he sets out to look for new gear to replace what was lost in the fire. While searching, he happens upon the dead body of GIRL 1. He finds some paperwork with an address on it and decides to go there to see if there are any more people. When he

arrives, he sees GUY 1 walking into a cave in the distance. There is a choice if you want to leave the area or try to talk to GUY 1. If you leave, you are immediately killed by GUY 1 who has snuck up on you

If you try to talk to him, he acts very strange, but eventually invites you back to his living area. During the walk there, the two talk about the possibility of other people around and how much food they've been able to find. They finally reach the camp and GUY 1 is acting even more strange. MAN then sees a picture of the dead girl he just found on the ground amongst GUY 1's belongings. He decides GUY 1 is dangerous and the viewer is given another choice. If you try to attack him with a club, he sees MAN ahead of time and is able to throw some dirt in his eyes. Unable to see, GUY 1 gets away. MAN eventually tracks him down and the viewer sees the same scene from before where MAN kills GUY 1 at the stream from Path B.

If the user decides to ask a Buddha statue for help, the player is swiftly clubbed in the head and dies

If the choice to use the knife on GUY 1 is chosen, MAN is able to get the drop on GUY 1 and stabs him several times until he is dead. He then decides he's seen too many bodies in this town and decides to try his luck elsewhere.

Production Timeline

October – December 2012: Preproduction

During the preproduction stage, Brian Tortorelli and I brainstormed ideas for possible script. In addition, we tried to come up an interaction mechanic that we thought would be intuitive and immersive. After we settled on one, the script was written with it in mind, making sure to choose the objects that would glow and inserting them in the narrative as well as the prop list.

We ended up settling on the story above after many different ideas. After the basic story outline was created, we started to scout locations to find places we could incorporate into the story. Whenever writing scripts, I find it best to try to write for things I know I can use, rather than write something grand and then have no idea how to get it off the ground.

The script was written over the course of two months, during which time we tried to write everything in such a way that it would both make sense from a character motivation aspect as well as take place in a location we had access to.

In order to make it easy for us to keep track of the different plot lines and stories, we divided the scripts up into sections (Appendix C). From the beginning, we planned on giving the user a set amount of time to make their choice. After that time was up, we wanted a choice to be made for them so we determined where the story would go if the user never interacted at all. We made sure there would be a complete story if someone

wanted to simply sit back and see what happened. So, for every choice point, there is a pre-arranged direction the story will go if the user never chooses.

Once we had the script ready to go, we started the relatively short process of casting. We had written the piece with Brian cast in the main role. For the role of OLD MAN, I was able to convince Michael Rogak to act in it as well, being related to him. The remaining parts went to actors I had worked with on various projects in the past. Once all the actors had agreed to do it, they were sent the scripts along with the story map in order for them to familiarize themselves with the material. Several weeks before the shoot was to begin, I met with all the actors and did a read through with them and Brian.

Before the shoot started, I made sure to arrange for all gear that would be needed (camera, audio equipment, etc.). I also contacted several people to help me in post. Specifically, I lined up someone to compose the music for the piece, someone who would create the color scheme and apply it to the entire finished product and someone to help me develop the online portal for the websites I intended to create, since I have little to no background in web development. I planned on editing the final piece and doing any special effects work that would be needed.

January – February 2013: Production

With the preproduction completed and everything in place, we began shooting in early January. With the exception of some scheduling conflicts and a couple minor

hiccups, everything went well. Due to work schedules, everyone could only shoot on the weekends, so we started very early each Saturday and Sunday. Shooting wrapped in late February.

March – October 2013: Post Production

I began editing at the beginning of March and gave notice to the crew I had enlisted to help me in post that they would be needed shortly. In order to keep consistent with the way the script was done, the project was edited in sections to follow the different scripts. This would allow for more flexibility when the website was created. In addition to the video editing, I concurrently worked on the special effects, audio mixing and the foley.

Because this movie takes place in an empty world devoid of population, much of the ambient soundtrack had to be recreated in post due to the fact that there were audible cars/people in the background of many shots. So many little things like footsteps had to be added in order for the piece to sound believable, which was a time consuming process.

There were also a fair amount of special effects throughout the whole project. The most noticeable were the glowing aspects added to many of the items onscreen to facilitate the interactivity. In order to create these, I pulled the relevant video clips into Adobe After Effects. I duplicated the movie layer for each object that would be glowing in that scene and then masked out the rest so that just the one object would be visible.

So, for example, in the scene that has a knife, a wooden club and a statue glowing, I made an individual layer for each object and masked everything else out so you could only see the knife, club or statue on each layer. With the objects separate, I added a glow effect to each one that would move across the surface. This needed to be subtle so as not to be distracting, but just enough to call attention to it. To accomplish this, for each object I masked out, I added a glow effect to it. Using the above knife as an example, with the knife being the only thing visible, I went to the stylize section of effects and added the glow to the knife. Once this was in place, I would adjust the glow intensity, glow radius and glow threshold until a glowing sheen was visible on the object. This was different per object and was modified for each individual case in order to be visible. Then I would add keyframes to have the glow attributes fade from the settings I just made to zero and back again. Each cycle would last about one second with enough cycles to last the duration of the clip (typically about 10-12 seconds). This gave the effect that the object started glowing in one section and would shimmer over the entire thing until it was gone and then start over again. With the glowing effect added, I put the objects back over the original scene so they looked like part of the background again (Figures 3 & 4). This was the first part of adding the interactivity to the movie. These were created only as visual aids that let people know they could interact with these objects but the actual interactivity was not added until the website was created, which will be discussed in more depth in the next section.

In addition to these, there were various blood splatter effects and a gunshot/muzzle flare that had to be added. Some of the effects are most likely unnoticeable. There are several scenes where a car could be seen driving by in the background that had to be removed.

Once I had a rough cut edited, I sent it out to my composer and colorist in order to give them some time to work on it. While they were doing that, I had Brian come into a sound booth and record the narration that occurs throughout. As I added that into the story, I tried to start development of the portal. I was unable to get a hold of the person who had originally volunteered to assist me and they ended up dropping out entirely.

My colorist was able to finish the project in a reasonable amount of time and I had the color ready to go. After waiting on my composer and not hearing anything from him for several weeks, I was finally able to make contact with him. Without telling me earlier, he had also decided to drop out of the project, leaving me with two fairly large holes to fill.

I sent out emails to various established musicians in the ambient style I was looking for, explaining my situation and asking for the rights to use their work in my project. The only response I got back was from an artist called Kammarheit from Sweden, who agreed to let me use his music. I was also able to find two different people locally that composed things to go along with Kammarheit. While their assistance was much appreciated, I still was not able to find the specific type of music I

was looking for. After going through my contacts, I was finally able to find a composer in Texas who had the sound I was looking for and did end up scoring the entire piece. Getting the music done was the main delay in post production.

Website Development

When the project first started, I initially recruited someone to help me create the website since I have very little experience in it. However, once they unexpectedly dropped out I was unable to find someone in the time span I needed. So I decided to create the site on my own.

Before I started working on it, I did a fair amount of research to determine what would be the best way to create the portal that would allow it to do what I needed it to do. The requirements I had were not terribly long, but not overly easy to find. I needed something that would allow me to add clickable buttons to a video onscreen that would only appear at designated times. These buttons would link to other videos and would be the main method of interactivity throughout my video.

There are several companies that add clickability to videos for a price, but I didn't find one that would do what I needed it to do for a price I could afford. Camtasia also seemed like a viable option for some time. They do allow for clickable buttons on videos and I created a quick version of the project in Camtasia to see how it worked. The problem I found with it was that while it did create buttons onscreen, it loaded the entire video at once with a moveable playhead over it. This meant that users

would be able to scrub through the entire video with or without the need for the interactivity I was trying to provide. It would put all the different storylines in one place and would be very confusing for anyone jumping around in the story. I needed to keep all the individual story pieces separate to avoid this.

I finally settled on using Adobe Flash when I found out the program had the capabilities I needed. With this settled, I started building the two different websites. For the purpose of the study as stated above, I needed two different sites to test my hypothesis. Since I wanted to test the effectiveness of my glowing mechanic, the only difference between the two sites was how the interactivity was handled which is discussed in more detail below.

The title screen is the same for both and takes a still image from the beginning of MAN coming into the new town. The image has been photoshopped to remove the background sky in order to add slowly moving clouds behind the city. In addition, the title "Man Alone' was added behind some of the buildings on the skyline. There is a short description of how to interact with the video at the bottom that is slightly different depending on the version the viewer sees. Finally, there is a 'Begin' button in the center that glows red when hovered over, letting users know this is how to start the video (Figure 1).

The first site (which I will be referring to as the stop version) would need to have the standard method of interaction for these videos, which has the video stop and a set of choices come up as shown in Figure 7. This one was relatively easy to create. All the

video clips were added to their own layer with scripts directing them to pre-made choice screens. Once the video finishes, it automatically goes to the relevant choice screen to give the user the options for moving forward. The choice screens all have a color stylized and blurred still image of the scene related to them and have two or three text buttons onscreen depending how many choices there are. In addition, each death or survival screen gives the option of either starting over or going back to the previous choice point, as well as the option to end the movie and go directly to the survey (Figures 5 & 6).

To give a quick version of what the user watching the stop version would see, after they hit the 'Agree' button on the front page, they would watch the video for a couple minutes. When a particular scene ends, the video stops and has two or more options come on screen of what they would like to do next. The first scene ends with the main character sitting in a room when the options start. There is the option to either leave the room or to cook some food. The video will not continue playing until the user makes a choice between these two. Once a choice has been made, the next scene plays according to what was chosen. This continues until the storyline they are watching ends.

The second site (which I will be referring to as the glow version) was more difficult to develop as it dealt with adding temporary buttons on top of the video. It took some time to find a method that worked consistently, but this was eventually solved. In order to get it working correctly, various cue points need to be added to each

video. Cue points are ways to control events in Flash and are created by skimming through the video and adding them at specific frames where they are needed. In this case, they were created to sync up with any object that starts glowing as well as after it stops or the clip ends. These cue points tell Flash that something will happen when the playhead hits this particular frame in the video.

Now that they are in place, functionality can be added to them. Invisible clickable buttons were created on top of the video over the previously created glowing objects. The purpose of them is so that once clicked, these buttons will move the narrative to the next story section. Additionally, so that the user knows what their choice will do, text appears when the mouse hovers over the glowing items. However, even though they are invisible, they would still be clickable throughout the entirety of the video which would be very confusing to the viewer. To fix this, I used the cue points I created earlier and added ActionScript that told the buttons to only function in between the existing cue points. This means that the glowing objects are now only clickable during the time they are glowing, which is exactly how they are meant to be. Also, since this version has the condition that a choice will be made for the user after a certain time has passed, a cue point is setup for that as well. So once the video has reached a certain cue point (at the end of the scene), if the user hasn't clicked anything yet, the video will automatically move on to the next scene. Following the script, the predetermined choices are used and set in place. The death and survival screens are the

same as in the first site with the options of starting over, going back to the previous choice point or ending the movie and going to the survey (Figures 5 & 6).

To get a better understanding of what the user would experience when viewing the glow version of the movie, here is a quick run through of what they do. When they visit the site they see the title page and hit 'begin' to start. After watching for a couple minutes, there will be some flashing objects onscreen. In the case of the first choice point, this is a metal can of food and a portion of the left side of the wall. If they move their mouse over the can, it will say 'Cook Food' above it. If the put the mouse over the wall, it will say 'Leave Room'. Note that these are the same options given in the stop version, the difference being how they are displayed to the participant. They can click on either object in order to move the story forward. If they click 'Cook Food', the character will start a fire and put the can over it to cook the food inside. If they click "Leave Room', he will go to another part of town. If the user does not click anything, after about 10 seconds, it will automatically choose the "Leave Room' option. Each choice will lead to other possibilities that are also displayed with glowing objects until the storyline they are following ends.

After the two different versions of the site were created, they were integrated into a single website for the study. The front page has the Informed Consent form for everyone to read so they know what to expect out of the experience with an 'Agree' button for them to hit. Once this was done, the site randomly assigns one version to each user that viewed it as part of the study.

CHAPTER FOUR: RESULTS AND DISCUSSIONS

Study Design

Once the site was fully designed and built, web hosting and a domain name were purchased (ManAloneInteractive.com). The portal was transferred over to the domain and made available online. Utilizing the site SurveyMonkey.com, the survey was created using the questions below in Appendix A. Both the versions of the website used a unique survey URL that contained the same questions. This allowed the data from each group to be viewed separately and grouped according to which version the user had participated in. A link to the survey was inserted into each of the different endings in the story.

Once everything was ready, the IRB approved flyer (Appendix F) was sent out to potential participants and the study was open. Viewers were directed to the website where they were free to explore the video. When they had completed the experience, they were directed to the survey. As stated earlier in the paper, I am looking to answer the question of what method of interactivity is more immersive to viewers of interactive videos. The survey's main purpose was to assess their immersion in the movie and how the different interaction mechanics affected this. This was gauged by looking at three things: choice point usability, choice point accessibility, and choice point response time. Choice point usability refers to how easy the individual mechanics were to use to

make their story choices. Choice point accessibility refers to how visible the hotspots on screen were. Choice point response time refers to how much time the user had to make a choice. For the purposes of this study, any response on the survey that was either "strongly agree" or "agree" will be regarded as a positive response.

Data Analysis

In this study, there were 24 participants, 12 for the new version I created (referred to here as the glow version) and 12 for the standard version (referred to here as the stop version). There was an even distribution between genders and the age range was fairly distributed as well with about a third being in their late teens to twenties, a third in their thirties and the remaining third forty and up. In total, only 3 of the participants had ever viewed an interactive movie before this study so this was a new experience for the majority of the viewers.

In general, the participants liked the narrative with 75% (18 out of 24) answering with a positive response when asked if they enjoyed the story. Additionally, 75% (18 out of 24) had a positive response when asked if they liked the basic ability to control the story. These results were evenly divided for both the glow and stop versions since the story is identical in each and they both give the user the ability to control the story. This is important because this allows for a more accurate testing of the interaction mechanics in each version. If no one liked the story, they would not care how they interacted with it. And if they had no interest in controlling the story, it wouldn't

matter what type of control it was. So having a high number of people enjoy the story, as well as the ability to control the story, lets the research focus on how immersive each version is.

Looking at the tables below, you can see how the answers spread out. I have color coded the results to get a better picture on how the data is distributed. In each case, the lighter color indicates fewer participants answered and the darker color indicates more participants answered. So, the darker colors are where the most participants responded.

Table 1. Survey results for 12 participants using the Stop Mechanic

STOP MECHANIC	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Interactive movies increase engagement	3	4	2	2	1
2. I enjoyed the story of the movie I just watched	4	5	0	3	0
3. Choice Points gave control over the story	2	8	0	2	0
4. I liked ability to control story with choice points	4	5	3	0	0
5. Choice Points were easy to use	7	4	1	0	0
6. Choice Points interfered with the story	0	3	2	6	1
7. Choice Points were distracting	1	2	1	7	1
8. Choice points provided smooth transitions for story	1	8	2	1	0
9. I was engaged in the story	4	5	3	0	0
10. Choice Points were easily viewable	7	5	0	0	0
11. There was enough time to make story choices	7	5	0	0	0
12. Interested in seeing a larger version	3	2	3	3	1
13. Enjoyed the overall experience	3	7	1	1	0

Table 2. Survey results for 12 participants using the Glow Mechanic

GLOW MECHANIC	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Interactive movies increase engagement	2	7	2	1	0
2. I enjoyed the story of the movie I just watched	3	6	2	1	0
3. Choice Points gave control over the story	0	7	3	1	1
4. I liked ability to control story with choice points	3	6	2	0	1
5. Choice Points were easy to use	1	3	2	5	1
6. Choice Points interfered with the story flow	0	2	2	7	1
7. Choice Points were distracting	0	3	2	5	2
8. Choice points provided smooth transitions for story	0	7	3	1	1
9. I was engaged in the story	3	7	1	1	0
10. Choice Points were easily viewable	1	5	0	4	2
11. There was enough time to make story choices	1	3	1	5	2
12. Interested in seeing a larger version	2	8	1	1	0
13. Enjoyed the overall experience	4	6	2	0	0

At first glance, there are a good amount of similarities between the two tables. When discussing the choice point's ability to provide smooth transitions, both the glow and stop versions show a high number of positive responses. Similarly, users from both versions gave largely positive responses that the choice points gave them control over the story. Additionally, they both had a low number of positive responses when asked if the choice points were distracting or interfered with the story.

However, in order to answer my question as to if the glow version was more immersive to the viewer, the areas with the most discrepancies need to be looked at. The main differences start to appear when talking about the choice point functionality. Looking at number 5 on the tables above, which concerns choice point usability, the stop mechanic had 92% (11 out of 12) of the participants give a positive response on ease of use while the glow mechanic only had a 33% (4 out of 12) positive response. This is implying that the glow version was more difficult to use than the stop version. Delving further into the matter, we see that the glow mechanic was also problematic when it came to choice point accessibility. Number 10 on the tables shows that the stop version had a 100% (12/12) positive return on if the choice points were easily viewable while the glow version only had a 50% (6/12) positive result. One of the reasons that people may have been having problems with the glow version is that they were having a hard time finding the hotspots onscreen

Yet the main thing that seems to be the issue here, based on the positive responses, as well as the user comments, is the time factor. Looking at the results, there

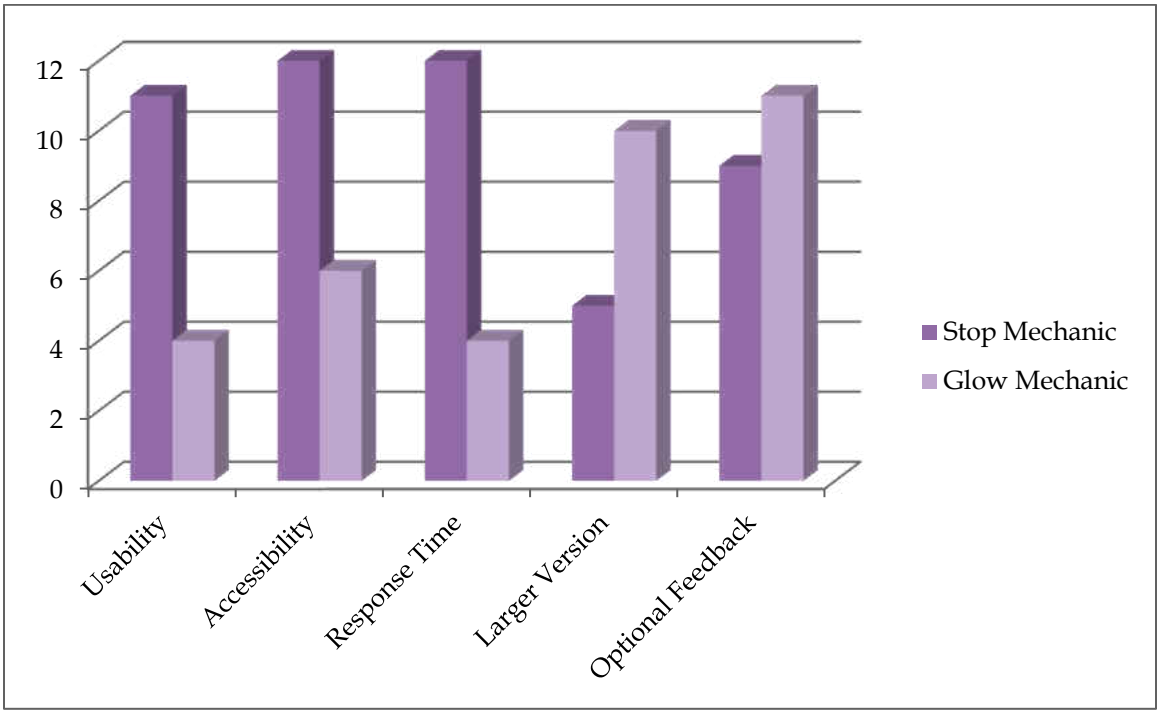
was again a 100% (12/12) positive return for the stop version when asked if they had enough time to make their story choices. The glow version only showed 33% (4/12) positive feedback for the same question. Based on this, it seems people were having some issues making their choices in the given amount of time. Looking at their comments gives some more insight:

"The choice points could be made more visible and more time should be alloted *(sic)* for the users to first notice them and then make their choices."

"The choice points were hard to notice, esp. w/so *(sic)* little time to make a decision."

There were several other similar sentiments, but the overall feeling was that it takes longer than the time window given to first find the hotspots and then to make a choice as to what they want the character to do. Table 3 shows the questions with the different number of positive responses that each version of the website received, where it can be seen that on usability, accessibility and response time, the stop version had much more postive responses.

Table 3: Chart showing main differences in positive responses between the two versions



However, there were some benefits to the glow mechanic that start to become visible when looking at this table and reading the viewer comments. While it is true that several people had difficulties with the time and visibility elements, they also appear to have enjoyed it at the same time. Some users talk about how it made them a more active participant in the movie by making them pay more attention, comparing it to video games. Others liked the fact that they could make their own choices but also be a passive viewer if they didn't feel like making a choice:

"I liked that there was a limited amount of time to make decisions and that if you didn't make a decision one would be made for you. It brings to mind the idea of fate and choice/causality. I would like to maybe see that expanded if there is a larger scale version."

"[I liked] the fact that the story didn't stop for me to make a choice. It let me be a passive viewer as well."

"I like that it is something different & that it merges the movie experience w/the gaming experience."

Even looking at the broad picture of the optional user comments gives some additional insight. 75% (9/12) of participants who viewed the stop version left a positive comment and 58% (7/12) left something that they felt could be improved. But 92% (11/12) of those who viewed the glow version left a positive comment and 75% (9/12) left something that could be improved. What this shows is that at the very least, the glow version got people more invested in the experience, enough that they felt a higher need to leave some feedback about it. Additionally, the majority of the positive comments for the stop version are written in general terms with very few specifics while the glow version positive comments have more specific things to say (as shown

above). Oddly enough the reverse is true when looking at the improvement comments in that there are more specific answers for the stop version than for the glow version:

"Maybe show, "The Director's and Writer's choice first as one whole and then let the audience go back and make their own choices."

"I think exploring, with more interaction would benefit the experience. The options are simply forks in the road. I.e. 'go left, or go right.' I did like in the first few options though. Going 'Right' made the experience longer, there was an option to explore my surroundings. But only after two sequences, the experience was inevitably to go outside. Further more, I don't [think] interactive television can be a popular norm. It prohibits the excitement you get from not knowing whats *(sic)* going to happen next…"

"Acting & narration a bit wooden, plot(s) maybe a little foggy; had trouble understand what sort of person the main character was."

This also seems to show that the glow version had people more invested and were more forgiving about things that may have bothered the stop version group.

One last thing I noticed while examining the data is that there was a significant difference in the amount of people who would like to see a larger version of this project.

In this case, a larger version means that it would have a bigger budget, better actors, better effects, more choices or outcomes, etc. Overall, in both versions, there was an 83% (20/24) positive return when asked if they liked the overall experience. But among the stop version, only 42% (5/12) said they wanted the larger version, while 83% (10/12) of the glow version said they would be interested in seeing the larger version. This seems to imply that even given the issues they had with the glow mechanic, more participants in the glow version were engaged enough to want to see a better version of it.

CHAPTER FIVE: CONCLUSIONS

The main idea that motivated this thesis was to explore the topic of how to make interactivity in video more immersive to the viewer, in the hopes that interactive movies may go beyond their current status as a gimmick. While I do not think I have definitively solved the problem, I do think that the research done does hint to some more avenues to explore. Based on the research and results I've gathered, I believe that interactivity is gaining traction in popular culture and just needs to find the right venue for it to work.

Lessons Learned

Choose your method of interactivity first. While this was something I originally stated based on my initial research, I feel it is important enough to discuss again here after having finished the project. Even though I knew going into pre-production that having the method of interactivity chosen before writing or shooting the production was important, I think it was still something I could have worked on. I had several occasions in post-production either while editing the video or creating the effects where I wished I had worked out the specifics more.

Most of the more successful interactive videos I've seen had a more interesting interaction mechanic than simply putting two choices up and those were obviously something that was worked out and planned well in advance. Ideally, it should be

interwoven into the story so that it feels organic and not tacked on. Additionally, having it planned out ahead of time makes for much less work in the back end and allows the creator to focus more on the story and experience than working some gimmick in.

Think about the best way to test your hypothesis. While I did have the survey with some questions I thought would be able to show me enough differences, I found out after the fact that they weren't as focused as I would have liked. I was able to pull some conclusions from them, but I would have had some more concrete results had I settled on a more established method of surveying people. Examples like the Presence questionnaire or the video game self-efficacy measure are more established at looking at how immersed people are in particular tasks and experiences, and have clear methods of analyzing the data. Had my survey used these as influences, I would have had some more focused results pertaining to my research.

In addition to surveys, there are other types of data that could help as well. Looking at data from the site itself could shed some light by showing how long each person took to make a decision, if they actually watched the entire video or just skipped through it, how much of the entire content they watched, etc. Also, adding more physical types of data would help as well, such as tracking their eye movements to see if they find all of the hotspots and how long it takes them. Recording a video of their session would also help to see their physical reaction to the video. This could show how engaged they are, if they get frustrated looking for the glowing objects, etc.

Decide on what audience factors to test. Another thing that would have helped was if I had established a little more about my participants. Since I was using glowing objects like those in video games, it would have helped to ask more about each person's proficiency with video games that feature similar items. This would have given me a better idea of what kind of audience would be more receptive to an interactive video of this type. When dealing with people who may already be familiar with the concept, they may not have had as much issue with the accessibility and response time.

Choose a technology that suits the needs of the project. I knew I was going to need a way to make clickable hotspots on video from the beginning of this project. However, it took me quite some time to settle on something that worked the way I wanted it. For a fair amount of time, I thought I would be using Camtasia. Even after initial tests, I thought it would work fine. But it took me longer than it should have to realize I was trying to make it do something it just wouldn't do. I ended up settling on Flash and was able to get it to work fine, but I think had I spent some more time researching this, I could have found something that may have worked better.

Test your theories before you really test them. After I finalized the concept of what interaction mechanic I was going to use based on my research, I didn't think much more about the need to hone it down. Since the point of the study was to test the effectiveness of my choices, I figured I would wait and see what the results were. However, doing a small version of the study would have given me enough basic information to make my finished product much better.

A good example of this is the choice point response time. In order to leave enough time onscreen for people to make their choices, I had to film a certain way at the time of the shoot. Finding out now that people would like more time doesn't help, as I cannot go reshoot those scenes. A short pilot study would have helped me address this issue earlier.

Future Applications

While I have been working in film for over 10 years now, this was the first interactive movie I have made. However, I do plan on continuing work on interactivity in videos because aside from being personally interesting to me, it seems to be getting more widespread with the advent of second screen viewing, alternate reality gaming, various uses in the commercial sector and I feel it will only get bigger. To that end, here are some specifics I will be taking away to apply on future projects.

Response time is a factor. And that is not a bad thing. There are certain projects where having a short response time would be well received. However, the pace at which Man Alone moved wasn't something that lent itself to fast decision making since overall it had a slower tone. There is also the target group to consider. I had many people participate who grew up playing video games but there were also a large portion that hadn't and weren't used to thinking in those terms. So having a shorter time window wasn't something that worked for them.

Make the interaction mechanic plainly visible. While I did have a small number of people say they liked hunting for the glowing items onscreen, most found it

frustrating to miss a choice opportunity simply because they couldn't find it. Unless the whole point of the project is the hunting (like some point-and-click games), there should be no reason to make the hotspots hard to find.

However, this is a fine line, as I found out. My initial examples of glowing objects were much more blatant and everyone I showed them to said they were too much and needed to be toned down. There is likely a sweet spot in the middle that I will try to hit with the next interactive project I do.

Come up with your workflow first. This one sounds obvious and it mostly is, but creating an interactive movie is much different than anything I was used to. I tried to impose the workflow I normally use in film, but it ended up making things more difficult more often than it helped. Everything is affected, from how you write your script to how you shoot the scenes to how it works in post-production. It would be much better to plan all the steps out first and how they are to be handled. Doing a smaller version as I mentioned earlier would also help with this.

Invest in some crew. This is often a failing of mine, but it certainly would have helped a lot on this project. While I am very appreciative to those that did help me out, I could have used a much bigger crew. On set I was in charge of the script, locations, camera, audio and directing. In post, I did have more help in that I had someone help with the coloring and the audio scoring, but I was still in charge of editing, special effects, foley work, and creating both of the websites. I was often bogged down and

overwhelmed which slowed the whole process down. On future projects, I intend to recruit a team with specific talents from the start so everything moves smoother.

The next step. With this project completed, I have learned a fair amount that I can apply to future iterations. There were several things that no participant mentioned, but that I would like to improve on Man Alone. The first would be to put a chapter select function in place. While there is some base level of story control, it currently does not allow for users to skip to other parts of the story without having to go through sections they may have already visited. Additionally, if someone would like to see every part of the story, it would be very difficult for them to be sure they had since there is no visual way to keep track of everything.

Secondly, I think a load screen would help immensely. Currently, the screen goes to white when it switches from one video to another. This time is not long if the user has a fast internet connection, but anyone using a slow connection could easily think the site has broken between scenes (and in fact, I had at least one or two people who I believe this happened to based on their comments).

Another issue I ran into was creating the interactivity itself. It is functional now, but there are some minor glitches that need to be ironed out. I had a difficult time getting the hotspots to be active only within a certain range of time and the solution I came up with created a new problem. If a user decides to go back to an earlier point in a video after the hotspot is active, it will sometimes be active for the rest of the time the

video plays. At the time the site went live, I was unable to solve this issue, but it is something I would like to fix.

Finally, my next step would be to use all of the feedback I've received to create another interactive movie that will undoubtedly be better. I would also like to do an updated version of my research using some of the techniques I mentioned above and get a larger participant base. The technology for creating these is improving and becoming more prevalent all the time. There are whole companies who are dedicated to adding hotspots to videos (though mainly in an advertisement capacity) and people are coming up with innovative ideas all the time. I may not have solved the problem of interactive movies this time, but I believe we are moving toward that day.

APPENDIX A: SURVEY QUESTIONS

1. **Have you ever participated in an interactive movie before?**
   Yes
   No

2. **If yes, give a brief description of it**

3. **If yes, I enjoyed the experience overall**

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

4. **I believe that interactive movies increase audience engagement in the story**

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

5. **I enjoyed the story of the interactive movie I just watched**

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

6. **The choice points (ie. the points where I was able to choose what to do in the story) gave me a lot of control over the story**

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

7. **I liked the ability to control the story with the choice points**

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

8. **I thought the choice points were easy to use**

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

9. I thought the choice points in this interactive movie interfered with the flow of the story

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

10. I thought the choice points were distracting

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

11. I thought the choice points provided smooth transitions from one scene to the next

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

12. I was engaged in the movie and was interested in what happened in the story

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

13. The choice points were easily viewable

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

14. I felt I had enough time to make the story choices I wanted

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

15. I would be interested in seeing a larger scale version (i.e. feature length) of an interactive movie like this

1	2	3	4	5

Strongly agree	Agree	Neutral	Disagree	Strongly disagree

16. I enjoyed the overall experience

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

17. What did you like about the overall experience?

18. What do you think could be improved?

19. I identify my gender as

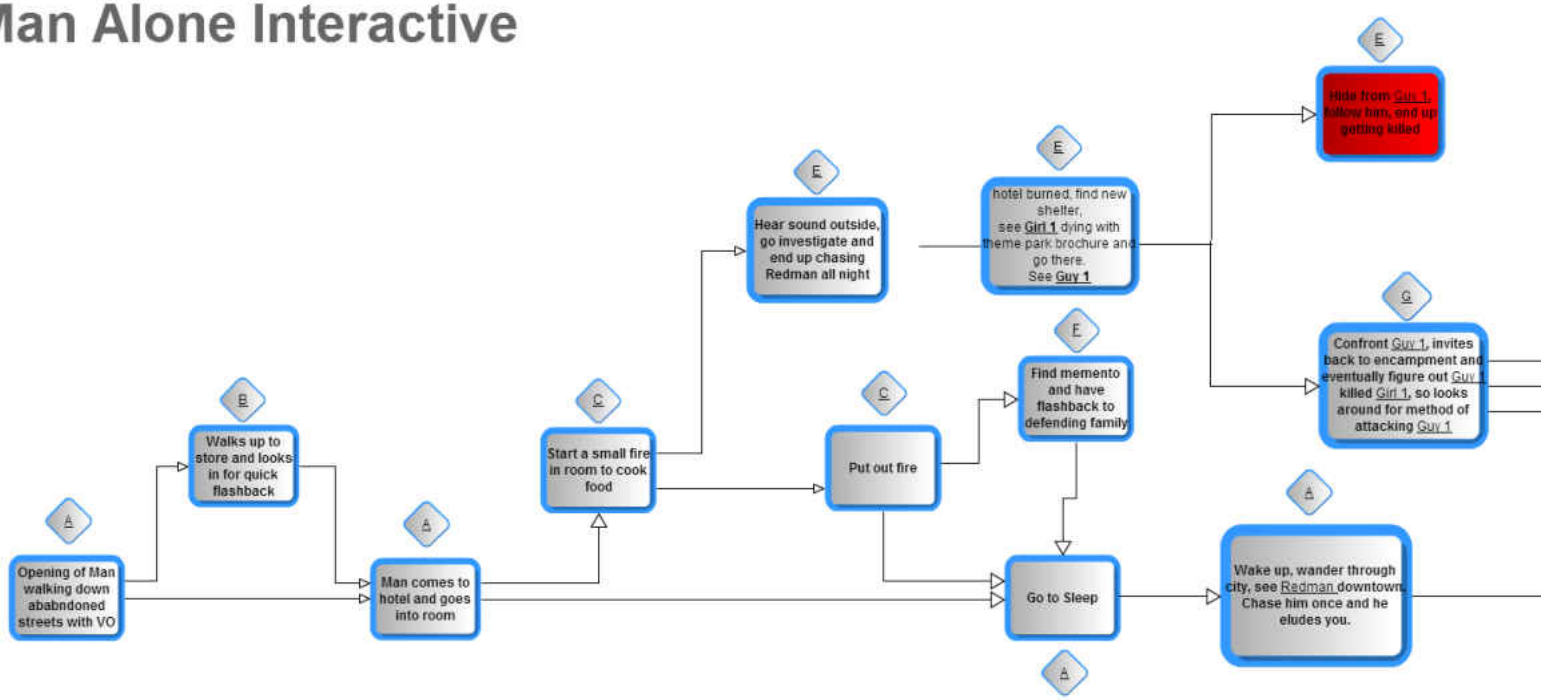
- Male
- Female
- Prefer not to disclose

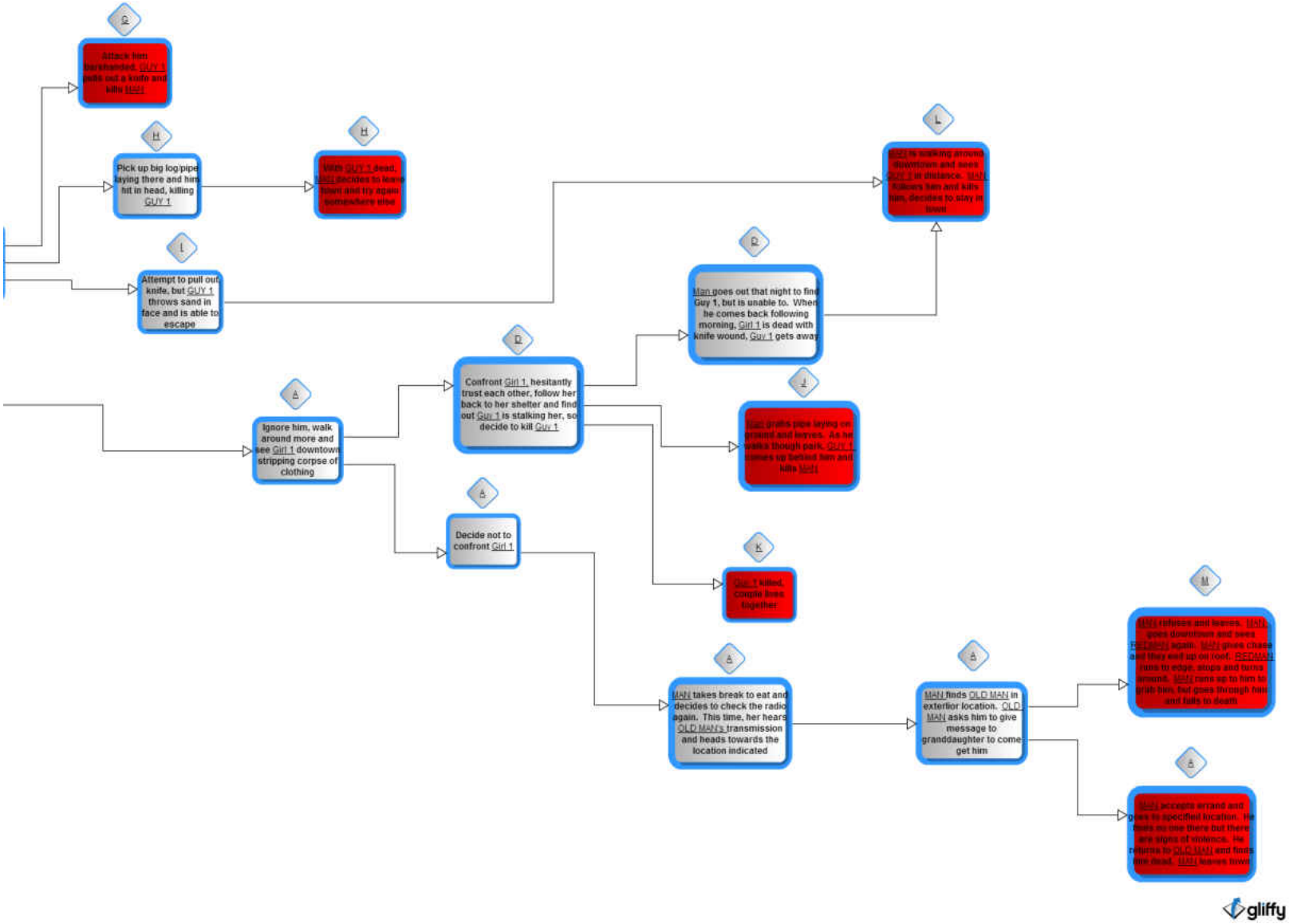
20. My age range is

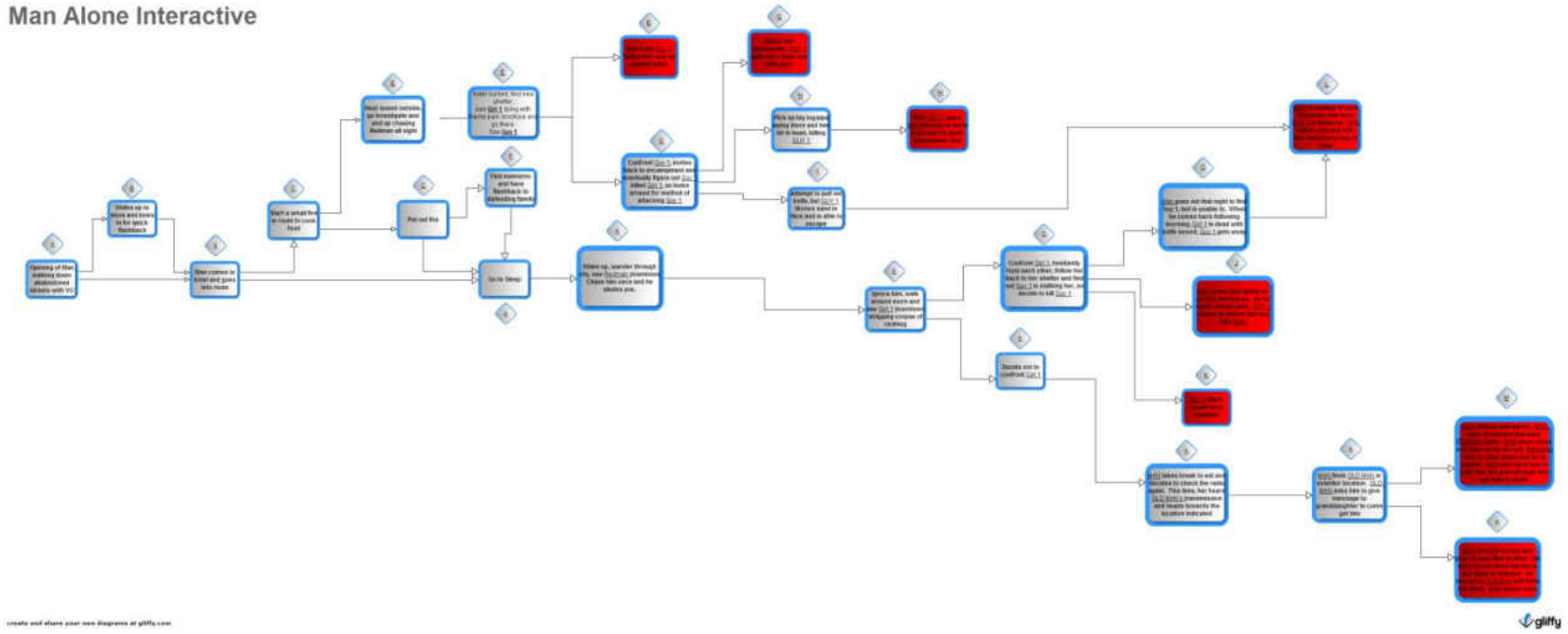
- 18-29
- 30-39
- 40-49
- 50+

APPENDIX B: MAN ALONE STORY MAP

Man Alone Interactive




G
Attack him beforehanded. GUY 1 pulls out a knife and kills MAN
H
Pick up big log/pipe laying there and him hit in head, killing GUY 1
H
With GUY 1 dead, MAN decides to leave town and try again somewhere else
I
Attempt to pull out knife, but GUY 1 throws sand in face and is able to escape
L
MAN is walking around downtown and sees GUY 1 in distance. MAN follows him and kills him, decides to stay in town
D
Man goes out that night to find Guy 1, but is unable to. When he comes back following morning, Girl 1 is dead with knife wound, Guy 1 gets away
A
Ignore him, walk around more and see Girl 1 downtown stripping corpse of clothing
D
Confront Girl 1, hesitantly trust each other, follow her back to her shelter and find out Guy 1 is stalking her, so decide to kill Guy 1
J
MAN grabs pipe laying on ground and leaves. As he walks though park, GUY 1 comes up behind him and kills MAN
A
Decide not to confront Girl 1
K
Guy 1 killed, couple lives together
A
MAN takes break to eat and decides to check the radio again. This time, her hears OLD MAN's transmission and heads towards the location indicated
A
MAN finds OLD MAN in exterior location. OLD MAN asks him to give message to granddaughter to come get him
M
MAN refuses and leaves. MAN goes downtown and sees REDMAN again. MAN gives chase and they end up on roof. REDMAN runs to edge, stops and turns around. MAN runs up to him to grab him, but goes through him and falls to death
A
MAN accepts errand and goes to specified location. He finds no one there but there are signs of violence. He returns to OLD MAN and finds him dead. MAN leaves town
gliffy


Man Alone Interactive
create and share your own diagrams at gliffy.com
gliffy

APPENDIX C: MAN ALONE SCRIPTS

Script A

1 EXT.ABANDONED CITY.DAY

Long shot of MAN walking down the middle of an empty street. He is somewhat disheveled looking, wearing a very beat up looking suit that is dirty and torn. He has several knives hanging from his belt and is wearing a backpack.

MAN (V.O.)
The world collapsed in on itself. There's no way to tell how long ago it happened, but it's been long enough that time no longer exists. If there is anyone left, their sanity must be wearing thin. I travel from city to city trying to find out if I truly am the last person alive. I don't remember how long I've been searching now, but so far, I've had no luck.

2 EXT.ABANDONED CITY.DAY

Long shot of MAN walking in front of various abandoned buildings

MAN (V.O.)
Each new city I enter gives me just a tiny glimmer of hope. "Maybe this will be the one" I think to myself. All I've known so far is disappointment. But who knows? Maybe this will be the one...

FORK TO SCRIPT B

3 EXT.ABANDONED CITY.DAY

Medium shot of MAN walking out of building and down the street. He eventually comes to a hotel. He walks up to a row of rooms and begins kicking the doors to see which one will open.

MAN (V.O.)

Ahhh, my new home. I like staying in hotels, makes me feel that maybe I'm just on vacation and not wandering the earth alone. Let me see what room I'll be staying in

4 INT. HOTEL ROOM

MAN walks into room and sits down. There is a pile of kindling on the floor. MAN pulls out a beat up radio from his bag. He starts fiddling with the dials.

MAN (V.O.)
I know I'm deluding myself, but I can't not check every time I come to a new city

FORK TO SCRIPT C

MAN looks around room and eventually lays down and goes to sleep.

MAN (V.O.)
Glad to have a mattress for a change. Any bed is better than the cold ground

5 EXT.ABANDONED CITY.DAY

MAN is wandering around downtown looking around. He notices a person in the distance. As he gets closer, he sees REDMAN. MAN yells at him and chases after him. REDMAN turns a corner and by the time MAN catches up, REDMAN is gone. MAN waves his arm and looks very frantic

MAN
HEY!

MAN (V.O.)

What's going on here? Did I really just see somebody or am I losing it? The last several years seem to have been taken a toll on me, but I can't afford to lose my grip. If that really was someone, I'll see them again.

6 EXT. BUILDING NTC

MAN is walking around and sees GIRL 1 in a building. As he gets closer, he sees that she is stripping the clothing off of a body laying on the ground.

FORK TO SCRIPT D

MAN (V.O.)
Twice in so short a time? I don't think I can handle this. I must be further gone that I thought.

MAN turns around and walks away.

7 INT. NTC

MAN is sitting down and eating. He pulls out the old radio and begins turning the knobs.

MAN (V.O.)
Even though I never hear anything, it's gotten to be a habit now.

After a few seconds of dead air, he hears a faint voice coming out of the box.

RADIO VOICE
If anyone hears this, I need help. Please find me at (insert landmark here)

The voice repeats the message over and over.

MAN (V.O.)
Finally I hear something. I have to go check it out, wonder if he's still there

8 EXT. SKELETON BLDG

Long shot of building from front. MAN walks up to building and looks around.

MAN (V.O.)
This must be the place. When the bottom fell out of society, it happened more suddenly in some places than others. Looks like this building got stopped mid-construction

9 INT. SKELETON BLDG

MAN walks around interior of building, looking for whoever sent the radio transmission. He eventually comes upon a room full of huge circular cement pipes. He sees an OLD MAN laying down on the floor, leaning against one of the big pipes. There is some form of electronic device in his hands

MAN
Hey! Are you alive?

OLD MAN
(startled) Hello?

MAN
I heard a transmission on my radio that told me to come here. Was that you? What's this all about?

OLD MAN
I'm lucky I setup most of that radio while I was still mobile. I've been waiting for quite some time hoping someone would show up.

MAN
Well, I'm here now, so what do you need?

OLD MAN
(coughing, talking is clearly sapping his energy) I need to get word to my daughter about where I am. I went out awhile ago to look for food. I happened to find this

building with a transmitter, but I'm not well enough to make it back home. We live several miles from here. Can you please let her know where I am?

FORK TO SCRIPT M

MAN
Sure, how do I get there?

10 EXT. WOODS

Fade to MAN walking through wooded path, goes through fence. Eventually he comes out of the woods and ends up at location OLD MAN gave him. He walks around the outside of the amphitheater, goes up the steps and inside.

MAN
Hello? Anyone here?

MAN (V.O.)
Doesn't seem like anyone's here now. She could be out looking for the old man.

MAN walks into room with blood stains and signs of struggle

MAN (V.O.)
Looks like I'm here too late. There's no body, maybe she's out there somewhere. I better go tell the old man what's going on

11 INT. SKELETON BLDG

MAN comes back to room with OLD MAN. OLD MAN is still in the same position on the floor. MAN walks up to him while talking

MAN
I went to your place but no one was there. In one of the rooms, I found...

MAN notices the OLD MAN isn't looking at him, so MAN nudges him with his toe. OLD MAN falls over dead, his face to the floor.

MAN (V.O.)
Hell. I finally find another person and they die on me. Maybe it's for the best since his daughter was most likely killed anyway

MAN leaves room. Fade to him walking away from camera on empty road

MAN (V.O.)
This town has nothing left for me. I guess it's already time to hit the road again. I wonder if the next town will be any different.

END

Script B

1 EXT. STOREFRONT

MAN walks up to store window and looks in and has a flashback to when the world was fully functioning. Shots of cars driving by and people walking around in a city setting.

MAN (V.O.)
I used to enjoy coming to shops like this, back before scavenging replaced capitalism

2 EXT. STOREFRONT

Last shot from montage ends in active storefront then fades to same shot of him in front of desiccated store. MAN comes back from recollecting and pauses in front of the window for a second before continuing on in the direction he was originally going

MAN (V.O.)
Those memories were from a lifetime ago and belong to a different man. Memories are a luxury that have no place in this world.

GO BACK TO SCRIPT A SCENE 3

Script C

1 INT. HOTEL ROOM

MAN reaches over to the kindling and arranges it up into a pyramid formation. He then pulls a can of beans and a lighter out of his pocket. The beans have no label and are handwritten in sharpie with a dent in it. He lights the fire and warms his hands by it.

MAN (V.O.)
This life certainly has been an adjustment. In my past, no one would have called me rugged. I had never even been camping before

FORK TO SCRIPT E

MAN eats beans and then stomps out fire

FORK TO SCRIPT F

GO BACK TO SCRIPT A SCENE 4

Script D

1 EXT. BUILDING NTC

MAN sees GIRL 1 in distance and decides to confront her.

MAN
Hey!

GIRL 1
(startled)
Stay back!

GIRL 1 turns around and pulls out a knife. MAN raises his hands and stays still

MAN
Sorry to scare you, I just haven't seen anyone in so long. Do you live here or are you just passing through?

GIRL 1
What do you want from me?

MAN
Nothing, nothing at all. Oh hey, I've got some Oreos. You wanna split them?

GIRL 1
How bout you throw em over?

MAN and GIRL 1 each sit down on some nearby rubble. MAN throws a small package of Oreos over to her and they both open them up. GIRL 1 takes a bite slowly. As she tastes it, she looks at MAN and starts to smile. He smiles back.

2 EXT. THEME PARK

MAN and GIRL 1 are now walking through theme park. They talk as they walk, but we don't hear the dialogue

MAN (V.O.)
As we talked, I found out that she had been on her own for the past 6

months. She decided to move into this old theme park because it reminded her of happier times. The course of our conversation just skimmed the surface as we both knew the deeper story of loss and isolation.

MAN and GIRL 1 arrive at her camp

MAN
So, have you seen anyone else recently?

GIRL 1
Actually, there is someone else in the area. About a month ago, I thought I saw someone staring at me in the distance. I didn't even have a chance to approach him before he took off. After that, I saw him a couple more times until one night, I came back to my camp and my gear was scattered all over the place. There was a note saying that I was weak and that he was coming for me soon. Since then, I've been very scared waiting for him to show up

MAN
It sounds like he needs to be put out of your misery

FORK TO SCRIPT J

FORK TO SCRIPT K

MAN gets up and leaves the camp.He wanders through the park looking for GUY 1. With no success, he returns to camp. He walks through the camp looking for GIRL 1. He ends up finding her dead, stabbed multiple times laying in a pool of blood. He picks up some supplies and leaves the camp.

GO TO SCRIPT L

Script E

1 INT. HOTEL ROOM NIGHT

MAN is sitting down, leaning against the wall. There is a noise outside and he turns his head toward the door.

MAN (V.O.)
What was that?

He gets up and heads outside. Right when he gets out, he sees the back of REDMAN disappearing around the corner of a building. He then gives chase. Fade out.

MAN
Hey!

2 EXT. HOTEL DAY

MAN walks back to hotel complex looking dejected.

MAN (V.O.)
I don't know what happened, I chased that guy all night. I couldn't get close enough to him, he always seemed to be rounding the next corner. Why would he run from me?

He comes to his room and the whole thing is burned out.

MAN (V.O.)
(sighs) It took forever to gather all those supplies, replacing them will not be fun.

MAN walks off camera

3 EXT. BUILDING NTC

MAN comes up to fence and goes through the bottom. He continues to walk up to the buildings.

MAN (V.O.)
Military installations are often a great place to find good

gear. Let's see what we got here.

MAN goes into hobo den and looks around seeing all the discarded items clearly showing someone had lived there. After a couple seconds, he sees a trail of blood on the floor. After following it, he finds bloody GIRL 1 in back dead from stab wounds. Her hand is stretched out holding a bag

MAN (V.O.)
I can't remember the last time I had human contact and now it's with a corpse. Who stabbed her? Was it that guy from last night.

MAN reaches for the bag she has in her hand. He starts rummaging around in it for useful items.

MAN (V.O.)
Well, I can't let this go to waste.

He pulls out a brochure for a theme park

MAN (V.O.)
She could have been here scouting for supplies as well. Maybe there are more people back at this theme park

4 EXT. THEME PARK

Different shots of MAN walking through theme park.

MAN (V.O.)
Man, what was this place? Who would have paid money to come here? Was she staying here? Was she part of a group? Or was she just as lonely as I am?

As he goes through, he sees GUY 1 walking in the distance and follows him. GUY 1 enters the Dead Man's Cave then comes back out and goes around the corner of it.

FORK TO SCRIPT G

MAN is standing outside looking at Dead Man's Cave where GUY 1 just walked off.

MAN (V.O.)
I got a bad feeling about this. I better get out of here

GUY 1 comes around behind MAN with a knife. GUY 1 grabs MAN and pulls him off screen as knife is coming down. Off-screen we hear a sound effect of stabbing and a small spurt of blood flies across screen

END

Script F

1 INT. HOTEL ROOM

MAN looks down after stomping out fire and sees a burnt stuffed animal

MAN (V.O.)
It wasn't always like this. There were happier times but good things weren't meant to last.

2 INT. HOUSE AT NIGHT

MAN is with a woman and child enjoying a night at home. There is dinner cooking on the stove and they are watching TV. Suddenly a group of people knock the door in and storm the place. MAN tries to defend his family but is quickly knocked unconscious while fighting the intruders. As he falls to the floor, the world turns black

MAN (V.O.)
When the world started circling the drain, things got ugly fast.

FADE BACK TO SCRIPT A SCENE 4

Script G

1 EXT. THEME PARK

MAN follows GUY 1 around Dead Man's Cave and calls out to him.

MAN
Hey there!

GUY 1 comes back up to MAN

GUY 1
Where'd you come from?

MAN
I've been traveling so long I don't even remember anymore. Do you live here?

GUY 1
I do now.

MAN

Is there anyone else here with you?

GUY 1
Nope, on my own. You hungry? Why don't you come back to my camp?

MAN
Sure

2 EXT. THEME PARK

Shots of them walking through park. They cut through graffiti bathroom and amphitheater

GUY 1
Have you met anyone else on your travels?

MAN
No, not in a long time. You?

GUY 1
From time to time

MAN
Is food scarce in this town?

GUY 1
I've had some luck. Actually just found some recently

3 EXT. THEME PARK CAMP

MAN and GUY 1 arrive in the camp. The camp seems to have been here for awhile and has some clothes that seem out of place as if it was a camp for a female (smaller gloves/shoes). MAN stands there while GUY 1 goes through a pile of stuff looking for some food

MAN
Have you been here for awhile?

GUY 1
No, I just found this place recently.

MAN
What do you think happened to the previous tenants? It seems recently vacated.

GUY 1
You know, not everybody is cut out for this world. Nature did most of the work for us, but sometimes we have to do the job.

As GUY 1 is talking, MAN looks around and happens to see a picture lying on the ground. The picture is of the dead girl he recently found with her family. MAN is now sure GUY 1 killed her and decides he needs to do something. GUY 1 sees the change in mood and is ready for action

FORK TO SCRIPT H

FORK TO SCRIPT I

GUY 1 lunges at MAN and knocks him down. Before MAN can get up, GUY 1 picks up an item nearby (big rock/log) and smashes it down on MAN's head. MAN dies instantly

END

Script H

1 EXT. THEME PARK CAMP

MAN and GUY 1 stare at each other for a couple seconds, each waiting for the other to make a move. While they are looking at each other, MAN has slowly grabbed a pipe lying on the ground without GUY 1 noticing. MAN moves first and swings the pipe at GUY 1's head. It hits, GUY 1 goes down, and MAN hits him repeatedly until it is obvious he is dead

MAN(V.O.)
After years of not having seen anyone, the first person dies in front of me and I have to kill the second one with my own hands.

MAN gets up with blood on him and starts to walk off into the distance.

MAN (V.O.)
You'd think the last several years would have prepared me for this, but I'm still a man alone

FADE OUT

Script I

1 EXT. THEME PARK CAMP

MAN and GUY 1 stare at each other for a couple seconds. MAN then reaches in his bag for a knife. While he is reaching, GUY 1 grabs a handful of sand and throws it in MAN's eyes as MAN is getting up. MAN goes down clutching his eyes as GUY 1 runs away. MAN then gets up, red-eyed, looking to see where he went, but GUY 1 is nowhere to be found.

MAN
I don't know how he got the drop on me. Next time he won't be so lucky.

GO TO SCRIPT L

Script J

1 EXT. THEME PARK

MAN grabs pipe and leaves encampment to find GUY 1. MAN walks through theme park by several locales. As he passes one, we see GUY 1 come from behind MAN. He grabs MAN by the shoulder and swings an architectural detail at his head. GUY 1 hits MAN, MAN goes down. After he falls, we see the architectural detail swing down past the screen to hit MAN again

CUT TO BLACK

Script K

1 EXT. THEME PARK CAMP

MAN gets up and starts walking to leave the encampment. As he is leaving, GIRL 1 grabs him arm to stop him.

GIRL 1
Wait, this guy is dangerous. Here, I've only got one bullet left, just take it

GIRL 1 reaches over to pile next to her, digs around in it and comes out with a gun. She gives it to MAN.

MAN
(nods)

2 EXT. THEME PARK

MAN leaves with pistol in hand. Several shots of MAN walking through area looking for GUY 1. He walks up to the Great Wall and peers over. MAN sees GUY 1 in distance and follows him waiting for opportunity. MAN hides around corner of a building and we see GUY 1 walking towards him. As GUY 1 gets close, MAN picks up rock from ground and throws it to the side. GUY 1 hears the noise and looks to the side. As he looks, MAN comes around the corner and quickly fires a round into GUY 1's face

MAN
It's not casual brutality, it's just survival

3 EXT. THEME PARK CAMP

MAN comes back to encampment. GIRL 1 is busying herself in the camp and hears MAN walk up. She is startled and turns around quickly but relaxes when she sees who it is. She walks up to him but is still a little distance away. We see them say a line or 2 to each other but don't hear the dialogue. They then start arranging things in the camp together as the camera pulls out slowly

MAN (V.O.)

With one threat taken care of, who knows what else we'll face? I think at this point we're both relieved we won't have to do it alone.

FADE TO BLACK

Script L

1 EXT. DOWNTOWN

MAN is walking though different locations looking for GUY 1.

MAN (V.O.)
I spent the next few days looking for him. He must have been laying low because it took some time before our paths crossed again.

2 EXT.

MAN has set up camp on high ground, staking out the area. He finally sees GUY 1 in distance. MAN gets down from his high ground to sneak up on him. GUY 1 is foraging the location and looks in the trunk of a car. As he finishes rummaging and stands up, we see MAN standing behind GUY 1. MAN grabs GUY 1, turns him around and stabs him in the stomach. GUY 1 coughs up blood onto MAN and falls to the ground.

MAN (V.O.)
If this was an action movie, I'd have a witty one liner ready.

MAN spits on GUY 1

MAN (V.O.)
But this isn't Hollywood. Not a bad town though, think I'll stick around for awhile.

END

Script M

1 INT. SKELETON BLDG

MAN is standing in front of OLD MAN after having just heard his story. OLD MAN has asked for help

MAN
I can't get involved in this. There's no one out there anymore, everyone's dead old man

OLD MAN
But you're the only one who's shown up to my broadcast. I'll die if you don't help me. Help me, please!

MAN
Sorry, I can't help you

MAN leaves room to OLD MAN protests and walks away. CUT to MAN walking around an alley downtown and sees REDMAN in distance. MAN chases him

MAN (V.O.)
Why does this guy keep running from me? I don't know how he disappeared last time, but I'm not losing him again.

MAN runs off frame. Chase continues in another alley using 1st person view while running. Cut to MAN and REDMAN running in front of building and REDMAN ducks inside. Cut to them on rooftop. As REDMAN gets close to edge, he stops and turns around

MAN
Who are you? Why are you running from me?

MAN runs towards REDMAN. As he gets close, REDMAN disappears. MAN runs through where REDMAN was and falls off of building.

END.

APPENDIX D: PRODUCTION STILLS

Figure 1: Title screen from Man Alone Interactive website

Figure 2: MAN meets GUY 1 and Clown Buddha

Figure 3: Still from glow version showing glowing objects. In this image, they are just starting to glow

Figure 4: This image shows the glow as it moves. Note the can to the right and the left side of the screen

Figure 5: Example of a survival screen

Figure 6: Example of a death screen

Figure 7: Example of a choice screen from the stop version

Figure 8: Trouble brewing

Figure 9: MAN finds OLD MAN in bad shape

Figure 10: MAN and GIRL 1 touring the Great Wall

APPENDIX E: PRODUCTION CREDITS

Directed by: Reuben J. Rogak

Written by: Reuben J. Rogak & Brian Tortorelli

Edited by: Reuben J. Rogak

Cast:

MAN: Brian Tortorelli

GIRL 1: Dayana Rincon

GUY 1: Anthony Benante

FATHER: Michael Rogak

REDMAN: Noah Nunez

Coloring by: Tyler Billingsley

Original Music compositions by: Jeff M. Shapiro

Special Thanks to:

Phil Peters

Si Jung Kim

Carina Viegas

Erika Galeana

Brian J. Daley

Nunzio Armanno

Kammarheit

Rashaad Rosalle

Lordes Crosby

APPENDIX F: STUDY FLYER

PARTICIPANTS NEEDED

A research team is seeking individuals for a movie watching experience research study.

Title: What Killed Interactive TV? An Exploration of Why Interactive Television Hasn't been Successful

The purpose of this project is to learn more about interactive movies and what makes them engaging. Your job will be to watch and participate in an interactive movie. You will be able to pick different options throughout the video that affect the overall outcome of the story. You will also be asked to complete a short survey after you have finished watching the movie.

The movie will last no more than 30 minutes (depending on your choices, it may be shorter) and the survey should take no longer than 10 minutes for a total maximum time of 40 minutes.

Eligibility to participate:

- Anyone over the age of 18 is eligible to participate.

To participate, please visit the website below:

www.ManAloneInteractive.com

Please contact if you have any questions or if you'd like to participate:

Reuben J. Rogak
Principal Investigator
(407)-602-8456
rrogak@knights.ucf.edu

APPENDIX G: IRB APPROVAL

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Reuben J. Rogak**

Date: **February 14, 2014**

Dear Researcher:

On 2/14/2014, the IRB approved the following human participant research until 2/13/2015 inclusive:

Type of Review:	UCF Initial Review Submission Form
Project Title:	What Killed Interactive TV?An exploration of why interactive television hasn't been successful
Investigator:	Reuben J Rogak
IRB Number:	SBE-13-09704
Funding Agency:	
Grant Title:	
Research ID:	N/A

The scientific merit of the research was considered during the IRB review. The Continuing Review Application must be submitted 30days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at https://iris.research.ucf.edu .

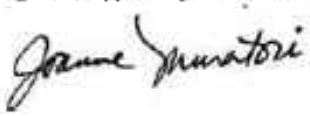
If continuing review approval is not granted before the expiration date of 2/13/2015, approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a copy of the consent form(s).

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 02/14/2014 03:25:26 PM EST



IRB Coordinator

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