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# CHIPPED: THE INTERACTIVE MOVIE

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by

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This report represents the work of WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its web site without editorial or peer review.

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## Abstract

This project's goal was to create a new experience for interactive story telling using video. Similar to a "Chose your own ending" book, players have complete control over the direction of their story in the game. We created a story that involved the development of a chip that could increase human mental and physical capabilities. Using this story we created a website that hosts our game and an introductory video that bring players into this pseudo-reality. This gives players the background and knowledge about this "chip". They are also instructed that they will be using an interface to manipulate video clips. These video clips are held within this chip and the players must make an ending to the introductory story they are watching. The players then download an interface we designed and created. This interface allows users to arrange video clips in any sequence they choose. Once players have completed their video story ending, they can then return to the website to upload their ending or download other player created stories and compare it to theirs.

## Acknowledgements

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# 1. Introduction

## 1.1 Project Background

Our project was to create the tools necessary for players to take an active role in constructing the outcome of a story. This project allows players to construct their own ending to a movie by arranging digital video clips within an interface in any way they choose. Players begin the game at the game's website where they watch an introductory video that instructs them to piece together an ending by downloading a system that contains the video clips they will use. These clips were all pre-filmed for the player and are referenced in the introduction movie they have watched. The system they download to their computer contains a software application that allows players to arrange the video clips. This application also contains mini-games that have a "computer chip-esque" theme to deepen the sense of immersion by continually suggesting that the players are indeed working with a circuit board interface connected to the chip. In addition to the application there is also a web-based gallery where players can share their creations with others. This gallery contains all of the videos created by players and serves as a way for other players to view varying interpretations of our storyline.

## 1.2 Motivation

Many advanced tools exist that allow people to create unique video works of art. These tools, such as Adobe Premiere and Final Cut Pro, are very expensive programs that are capable of producing amazing results. Both of these tools are very complex due to the fact that they are meant to be complete video editing programs that are capable of allowing a user to perform any action on a particular video. While it may be manageable to learn the basics of assembling a video with these tools, mastering the seemingly endless supply of functions is out of the question for most users. To an average person, purchasing one of these tools is beyond



reason not only because of their price but also because most people just will not need all the functionality it gives. A free program that is very simple to use should be sought after by these individuals. We felt that we could provide a way for these people to be able to construct their own story using the software and video clips that we will provide. Unlike some existing tools, ours only has the minimum necessary functions that a player will need in order to create a story. Our software is free and offers enough functionality to satisfy user's who aren't at a semi-professional or professional level. Ultimately, we wanted to have people experience the artistic side of story creation through video.

## 1.3 Project Objectives

### 1.3.1 IMGD Objectives

The objectives of this project entail the creation of a system that allows users to manipulate pre-made video clips in any order they chose to construct a movie. The video clips contain footage for three scripted endings, but will be unedited and unsorted. This will allow players to construct at least three possible endings (by our scripts, unbeknownst to them), or formulate one of their own. The specific project objectives were confirmed by each of the group members. These objectives were to create the following items:

- A user interface for players to interact with the system;
- Video clips for players to use;
- Online forums for discussions;
- An introduction video detailing the story.

### 1.3.2 CS Objectives

The main objectives of this project were to learn what it takes to create a system from the point of inception to product shipment. To do this we needed to follow methodologies learned throughout our stay at WPI in order to have a successful outcome to this project. Some

of the objectives we felt we needed to achieve in order to satisfy our intentions were to create a way for players to arrange pre-made video clips in an order they chose. Ensuring a high level of usability that meets the users expectations was a major objective we wanted to achieve. As we also wanted to make the player more immersed and engaged in their experiences, we implemented 'mini-games' within the application. Finally, players should be able to have an online community where they can exchange their videos.

## 2. Related Work

### 2.1 Video Editors

Adobe Premiere and Final Cut Pro are two video editing programs that are regarded to be the best of the best in terms of the quality of the output possible and the seemingly endless capabilities allowed. The only real significant different between the two are the operating systems for which they are created. Adobe Premiere used to be a Windows only product while Final Cut Pro was for Mac systems: however now Macs are capable of running Adobe Premiere. The two programs still aren't able to freely exchange files, forcing users to select one or the other.

The major advantage of these tools is the ability to easily arrange video clips within the interface. This is achieved by allowing a user to click and drag the video clip from one location to another within the video timeline. Another selling point is the organization of the available video clips. Premiere and Final Cut allow users to create folders called "bins" in which they store any of the user's video clips. This allows the user to organize the video clips so that they can find particular video clips faster. We decided to use this bin system in our interface as well. We created and named the bins in such a way that any user could feel that they could easily find any video clip available to them. The organization of these bins will be detailed later in section 5. The final major benefit of these video editors is that they are capable of combining all of the video clips together to make one long seamless video. It would not make sense for a player to have a final product that was comprised of a number of individual video clips, but instead, players need to have one final video that they can view from beginning to end with no interruptions in between.

A major drawback to these two programs is that they are very complicated to an untrained user. If an average user wanted to simply import videos, arrange the videos in some

order then export the entire workspace into one single video, they would encounter an interface that is packed with sub windows, menus within menus, complicated options and hidden functionality. We decided to only include the ability to rearrange video clips in our application. This kept our application simple to use thus allowing for a level playing field regardless of the user's experience. When a user decides that they want to export their created video in Final Cut Pro or Adobe Premiere, they must navigate through a series of windows that allows them to control every aspect from compression type, output file type, frame rate, and many more. We have a single button that will do all this work for our players by creating a simple text file that contains the order of their selected clips. This serves two purposes. First it ensures that the text file the player creates will be viewable to our website. It also removes any doubt from the players' minds whether they have the correct options selected. These design decisions about our application and more will be presented in more detail in the Design section of this paper.

## 2.2 Video Sharing

Beyond just allowing a player to create their own stories from our application, we felt that it would be interesting if our players also got feedback about their creations. This led us to desire a website where players could upload their created videos receive comments from other users about them. We related this idea to the comment area that YouTube implements. YouTube is a service that allows any user to upload any video onto their website then allow any user the ability to leave comments about these videos. Both the community and hired moderators moderate the videos the users are allowed to upload.

YouTube allows a user the ability to upload a video and then attach a title, a description and keywords to that video. This allows other users to be able to search for that video based on those keywords. We felt that it would be useful if our players could also title and describe their videos, so when others go to view that video, they know what they should expect from it before they watch it. Another major that was inspired by YouTube was to show statistics with the

videos, such as the number of views. This allows players to know how popular a particular video is even if it may not have many comments from other users.

One of the issues with YouTube is that the videos have to be less than ten minutes. So if a user had a particular video they wanted to upload to the site that was over ten minutes, then they must first split their video into two appropriate lengths, then upload each one of the sections onto the website. As we do not anticipate our player created videos to be longer than 10 minutes, we will not cap the maximum length of a particular video. We did not feel that we would be getting as many uploads as YouTube does, so limiting our players to a maximum length would be unnecessary. This decision is explained further in section 5.1.2.

## **2.3 Interactive Storytelling**

We were not able to find existing media that covered all of the elements we were interested in for this project, but we found different reference materials that touched upon some of the essential pieces that we wanted to have at the conclusion of this project. We critically looked at each element and how it played within the form of media, trying to translate it to our project successfully, avoiding any concept that was not well liked, or poorly designed.

### **2.3.1 Dragon's Lair**

Dragon's Lair is a 1983 arcade game where the player controls the protagonist, "Dirk the Daring", guiding him through a trap and monster infested castle to save a princess (Dean 2002). The game was an animated video where the player would have to react to certain events and overcome them with a proper sequence of moves (left, right, up, down, or attack) in order to advance into the dungeon. If the player failed, they would see one of the game's many death scenes and would lose a life. Players were given five lives to attempt this trial and error game.

### 2.3.2 Myst

Myst is a 1993 computer game where players solved puzzles to reveal the game's storyline (Sengstack 1996). Players would see one of the game's pre-rendered frames, which made up the gaming environment. From there they might have options such as: walk down a rocky pathway to the left, walk toward a house to the right, or examine an object in the current scene more closely. The interaction in the game was mostly limited to toggling switches, buttons, and valves, inputting numbers, and collecting pages to reveal the story. This game was known for its difficult puzzles and real time movies within a game world. QuickTime movies were used to display over one hour of video footage within the game. The combination of well-rendered scenes, live video footage, and ambient sounds were factors that contributed to the game's realism.

### 2.3.3 Mr. Payback

Mr. Payback was a movie that played in select theaters in 1995 and was the first movie where voting was implemented to determine the outcome of the movie (Ebert 1995). Throughout the course of the film the storyline would come to a halt and players were able to give their votes through a control built into their seats. These branching points had three choices and viewers were able to press the button of their choice repeatedly within a time frame to influence the outcome they desired. Votes were then tallied up in real time and players saw the most popular choice realized.

### 2.3.4 Who Killed Taylor French

This murder mystery game gave players six hours (in game) to figure out who killed Taylor French, a newspaper reporter (Jong 1997). The user played the role of a detective and the game leaves many clues at their disposal. Investigating each clue takes a fixed amount of time from the player's given six hours. Interviews were also available with the murder suspects, played by real actors, and the game utilized QuickTime video clips of each suspect. Near the

end of the allotted six hours players would have to successfully answer enough questions to be allowed to advance to final interviews with three suspects. The player then tries to get a warrant for the suspect they think is the murderer, and arrest the suspect if they are right.

### **2.3.5 Choose your Own Adventure Books**

These books first came out in the 1980's and allowed the reader to play the role of the protagonist in the story to influence the final outcome (Chooseco 2008). Readers would be presented with choices in a scene and could determine which outcome to pursue and what page to turn to given a prompt. Many paths ended with failure or death and there were very few winning paths.

### 3. Methodology

#### 3.1 Schedule

Since one of our group members, Nelson Nogueira, was working on this project for both his Computer Science and Interactive Media & Game Development majors, it ran for four terms (A-D) from August 2008 to May 2009. The project was divided up into two portions for Nelson, while the rest of the group focused solely on the Interactive Media & Game Development (IMGD) portion. The IMGD portion planned to work on the requirement analysis and design during A term, so that the team would film and edit the video clips during B term. During D term, we would make any final refinements necessary and complete our project report document. We planned to work on our project report document over the course of all three terms. For Nelson, the Computer Science (CS) portion consisted of developing the requirements and design during B term, implement the designs in C term and then D term was left for testing, refining and finishing off the project report document. Table 1 shows a graphical interpretation of the project's schedule.

Major	A Term	B Term	C Term	D Term
IMGD	Planning, Scripting, Design	Filming, Editing	Additional Editing, Tweaking	Evaluation, Completion of Report
CS	Preparation, Feasibility	Planning, Design, Requirements	Implementation, Testing	Testing, Refinement, Evaluation, Completion of Report

Table 1: Project Schedule



## 3.2 Meetings

We held weekly meetings with Professor Brown (CS) and Professor Rosenstock (IMGD). The purpose of these meetings was to present the work that we had done over the previous week, get feedback about the work and then obtain a direction to go in based on suggestions given by our professors. Agendas were written for each meeting so that every topic we needed to talk about was addressed during that meeting. The meetings in A and D term were joint meetings where both Professor Brown and Professor Rosenstock attended. During B and C term, major divided the meetings up so that the meetings could be solely focused on a single major. During these terms, there was an IMGD and a CS meeting each week where Nelson attended both meetings.

## 3.3 Development Tools

The technical portion of our project utilized NetBeans IDE 6.5 (<http://www.netbeans.org/index.html>) for both the website and game application portions of the project. NetBeans is an open source solution for JAVA desktop applications, web development and PHP development, along with many others. It allowed us to quickly and easily develop both the website and game software all in one professional package. The NetBeans interface is centered around a drag-and-drop system which allows programmers to save time by simply dragging checkboxes, tables, scrollbars, etc. right onto your application instead of having to hardcode them manually. Since time was a major concern throughout our project, NetBeans allowed us to spend more time developing and not programming tediously.

MPlayer (<http://www.mplayerhq.hu/design7/info.html>) is a video (and audio) player that supports most video codecs. More importantly for us was that it runs on nearly all computer systems so that everyone would be able to watch the video clips. MPlayer was integrated into our software application to allow players the ability to preview video clips before and after using

them in their story. MPlayer also has the ability to stitch videos together which would prove useful for our purposes. MPlayer does not need to be installed on the system and it is available under the GNU General Public License.

## 4. Analysis of the Problem

### 4.1 Statement of the Problem

We began by identifying the major constraints on our problem. We needed to design and implement a software application and website. The software application needed the ability to allow players to interact with the game by means of arranging video clips and triggered mini-games. The application also needed to be able to display video clips within the interface and also stitch together video clips to form one single, seamless, video. The website needed to be able to handle uploading player created video files and then make them visible to other players. There were no requirements on what programming language to use or which development tools to use.

One major issue we encountered was how to handle getting the player created videos onto the website. We could either allow them to upload the actual video file or have the players upload a small text file generated from the game software that contained information to assemble the video itself for the website. If we were to store every video on the website then we needed to have unlimited file storage provided by our webhost. Another major issue was whether to have the entire game reside within our website or have the system separated into a software application (the game) and the website (the gallery). The decisions made regarding these problems are explained in sections 5.1.

Since a game that behaves like ours has never been created before, we were in uncharted territory. This gave us the ability to freely create and use ideas that normally may never work in a typical mainstream video game. A downside to this freedom was that we would have to create everything from scratch since there were no existing models on which to base our work.

## 4.2 The Solution

We decided to divide up the system into a software application and a web-based gallery. The reason for this depended heavily on each group members' ability. Bringing the game element of the system out of the website and onto the player's computer allowed us to spend more time developing in familiar environments rather than take valuable time to train ourselves in the fundamentals of WebWare. WebWare would have given us the knowledge on how to implement our entire system on a website. This design decision will be detailed in section 5.1.1.

Arranging video clips in our interface resembled assembling video clips in Adobe Premiere or Final Cut Pro. The player simply clicks on a video clip they want to use, and then drag it onto the location in the sequence of clips where they want it to be located. The main idea we tried to get across to our players were that they were actually interacting with a computer chip embedded circuit board. To reinforce this idea, the mini-games we wanted needed to resemble actual functionality of a circuit board. The mini-games were created within the IMGD portion of the project then they were either modified so that it would be possible to program them within Java or they were scrapped. The design decisions for this issue can be seen in section 5.1.2.

As stated earlier, MPlayer was used within the software application to allow playback of video clips. NetBeans allows the application to execute external programs such as MPlayer. MPlayer only needs to know the location of the video file and it handles everything needed in order to display it to the screen. MPlayer was also used to stitch the video clips into a single file so that the player only needs to upload a single file onto our webpage instead of many smaller video clips. This was an essential issue that needed to be solved.

The website was much simpler to implement. The major functions of the website were to simply allow players to upload their videos onto the website and view other players' videos. This

functionality was related to how YouTube worked. We used the layout YouTube had for their website and the idea of allowing players to leave written comments on videos. The layout is shown in detail in section 5.2.1. Each video a player uploads to the website can be accompanied by a title and a description, written by the player. This information was stored as a text file right onto the website and placed in the same directory folder as its matching video. The file size issue was eliminated due to DreamHost.com (our webhost), which allowing unlimited file storage size. Players will still have to wait a period of time as they upload their video onto the website if it is a very large file. The reasoning behind these decisions is explained within section 5.2.

### 4.3 Requirements

We divided the requirements into categories based on discussions amongst ourselves. The category listed as "Primary" involved the most important requirements that must be in the system. The requirements that would be interesting to have, but been not absolutely crucial to the success of the project were listed as "Secondary". "Optional" referred to the requirements that were considered "delighters". These were ideas that were something other than a requirement the system must or should have had. The requirements are divided up by area of focus: either for the website or for the game portion which we will call "Chipped: The Game".

#### 4.3.1 Primary CS Requirements

"Chipped: The Game":

1. allow for underlying background images
2. video player within interface
3. drag-and-drop ability for video clips
4. stitch video clips into one single video
5. create triggered mini-games

The Website:

1. create the webpage template
2. embed video within the webpage
3. gallery of players' videos with their respective descriptions
4. allow players to enter details about their videos
5. store all information/files onto website
6. navigation links

#### **4.3.2 Secondary CS Requirements**

"Chipped: The Game":

1. detailed category system for organizing the video clips
2. preview an entire sequence of arranged video clips
3. immersive reset/quit the game ability
4. meet minimum performance specifications

The Website:

1. storing the number of comments for a video (and display it)
2. create a rating system for the videos
3. determine the number of a views a video has
4. allow players to write comments about the videos
5. moderator contact information

#### **4.3.3 Optional CS Requirements**

"Chipped: The Game":

1. player animations to add immersion

The Website:

1. allow players to chose the thumbnail to represent their video
2. create user accounts
3. display teaser videos

#### **4.3.4 Primary IMGD Requirements**

Scripting/Storyline:

1. create an open-ended script that can be interpreted differently by different players

2. mark-up the script with specifics related to filming
3. seek out actors and costumes that will be suitable for our storyline
4. acquire camera, boom microphones, multiple lights, and any other equipment for filming
5. film and edit introductory video
6. film and split up the short video clips

#### **4.3.5 Secondary IMGD Requirements**

1. create a style of colors and fonts that suits a futuristic technological theme
2. ensure that the chip's computer components are thematically relevant.

## 5. Design

As was stated earlier, there were two major components to our system: the game and the website. We discussed what a typical walkthrough of the system by a first time player would be as follows:

1. the player starts at our project's main website;
2. they will view the introductory video we have provided for them;
3. the player would then chose to download our game software from our website;
4. after downloading and installing the game, player would begin to play the game;
5. time elapses and a player finishes their sequence of video clips;
6. they navigate back to our website and upload their video;
7. after including detailed information about the video, they click submit;
8. the video is then added to the website and made available to the public;
9. the player then views other created works before leaving the website.

We felt that having a player watch the introductory video is crucial for them to understand what the story is about and what they must do once it is their turn to participate. After playing through the game we felt that the players would spend a majority of their time viewing videos created by others so that they could see all the different ways people linked video clips together to form their story. The player would then use the knowledge they gained from seeing new perspectives on video clip arrangements to create a new sequence of videos. This new sequence could be related to another video or it could be something completely new and draw a crowd over to this new style of arranging the videos. There is no forced direction for the player to follow; they will be free to interact with our system however they chose.



## 5.1 IMGD Design

### 5.1.1 Story Creation

Due to the heavy storyline focus of our project, a script was produced to better manage the story and possible avenues it could lead to. The development of the script and background, required creating an environment that would support a user's decision to construct a story however they wanted. The concept that a movie is an assortment of clips, arranged in a particular way, was the subject of experimentation. By giving the user creative control over which clips to include, in which order to arrange them, as well as providing the user with multiple variations of clips, the result is a varying storyline and user experience.

We discussed different ways to write an open-ended story so that players would be able to form different interpretations of the storyline, which would lead to different ending videos that varied between players. The approach we decided to employ when creating different stories included the use of multiple variations of a single scene or clip. For instance, a line of dialogue was altered by a few words to change its meaning, or would be spoken in a different manner when it was filmed. This alteration of lines created different interpretations that could be utilized by players. Trying not to limit the player was always a consideration throughout the scripting and storyline writing process. A non-traditional story idea, such as the one we created, presented us with problems. We theorized that a user could arrange clips in a nonsensical manner or produce a story that wasn't intelligible or logical. Rather than commit to a more rigid selection of clips, we decided to support a more haphazard, and untraditional plotline. These ideas lead to the creation of "the chip" and its unsorted memory files. We felt that by showing a movie that was chaotic and illogical, players could then choose to create something traditional and structured, or unfamiliar and irrational as an answer to the introduction and still remain thematically related.

Our main concern was that a player would not understand the background for the game. The users would need more of an appeal than our original textual introduction, and we wanted to motivate the players to partake in our story creation process. Our solution was to film an introduction video, an incomplete story that would focus users on the characters and plot. We would also be demonstrating a haphazard editing style, which could be imitated in an ending built by users.

The story we created was a group effort that resulted in a science fiction use of technology and a device called a “chip”. This device was in Research and Development (R&D) and as suggested by the introduction, could yield superhuman strength, agility, and memory. The chip also had the ability to store memories, dreams, desires, and thoughts in a sophisticated storage system. The user is placed into the role of a lab technician belonging to a fictional government agency. The user is informed by another lab technician that the chip’s sorting system was damaged. On the monitor the user sees the remnants of a convoluted story, recorded from the chip’s original, undefined, host. The user then watches the five-minute introduction that introduces some semblance of a plot and the characters of Sam, Tony, Rebecca, and a Doctor, in a way that leaves many things up to interpretation. The chip’s malfunctions cause the monitor to fade to static at the end of the introduction; the user is then told that they need to assemble an ending to give to the “higher ups” and is then warned that the chip is unstable, and can unexpectedly breakdown. The user is able to sequence an ending with their selection of clips from a pool of one hundred and twenty video clips within the interface.

To create the fragmented clips that the player would have access to, we each wrote endings that would later be filmed and split into many video clips. This assured us that at least 3 endings were possible with the assembly of the clips. However, we anticipate many variations and combinations of our three endings arising between different users. The foresight of knowing that each line and clip could be used in the other two endings influenced us when we each

wrote our own respective endings. Thus, all three endings use the same location but have different character interaction.

In one ending Tony is portrayed as a persuasive man who is trying to convince Sam that they are brothers. A woman accompanies Tony, but there is confusion as to who she is. Sam sees it as his lover Rebecca being held hostage, but Tony claims Rebecca has been dead for years. In the second ending both Sam and Tony accuse each other of using the chip for himself: of being “chipped”. Additionally, Tony claims he is a cop. Both men are trying to encounter Rebecca, although their intentions are unknown. This ending has variations of each main character shooting the other. In the third ending, Sam is losing the grip on reality. He is unsure if he is seeing Rebecca or just hallucinating. Whether she is still alive, dead, or never existed comes into question. Later he encounters Tony holding who he believes is Rebecca as a hostage. The scene ends as Sam finds that Tony is an alter ego of himself.

The film methodology used in filming was comprised of using a close up (CU) shot of a line of dialogue. This would be more valuable to a user than if the clipped had been shot very wide (WS). This is due to the fact that in close-ups, characters are no longer constrained to a location, or forced to maintain continuity between clips, allowing the clip to be placed elsewhere with little restriction. Each ending also had its own special clips, such as Sam putting a gun in Tony’s back, or Rebecca escaping Tony’s grasp; these clips may be valuable to a user who might be trying to sculpt an ending that they deem to be “correct”.

The introduction followed basic film theory with the progression of shots, from Wide to Medium, to Close. Certain trick shots were devised, as per the request of a team member, to add an interesting dynamic to the introduction, but before stylistic flare was added, the team agreed on covering the script in a basic format that would yield an easier production in regard to filming.

To circumvent weather conditions, the team decided to use many indoor locations. Having complete control over our planned main location, allowed us to create a film schedule that was flexible and manageable. Casting of actors took place in between October 16<sup>th</sup> and October 28<sup>th</sup> in 2008 and drew from local WPI talent. Story boarding of required shots was written on the scripts and was organized onto a production layout document. (See Appendix B for the script with markups) (Appendix E for production layout)

### 5.1.2 Interface Design

Our game places the user in the shoes of a lab technician whose job is to interact with a malfunctioning chip to re-create a story from fragmented video clips. Therefore, there are two separate interfaces that the user sees: the lab monitors that are connected to the exterior circuit board and the circuit board itself. These two interfaces will be referred to as the monitor view and circuit board view throughout this section. When we planned to re-create something similar to iMovie for our monitor interface, Professor Rosenstock pointed out that we should invest some time in creating a unique interface that was more thematically intertwined with our interactive idea.

There are two interfaces players will interact with within our application. One of the interfaces is a circuit board (interior interface) that houses our damaged chip. The other interface, which acts as the protective shell around the circuit board (exterior interface), is where players will spend most of their time constructing a video. Due to our theme of computers and technology, we have added technical components to the design of our interior interface. These components include fans, meters, buttons, and power cables, and lights; all of which, the user can interact with. The exterior interface contains other computer components including a monitor and uses a color scheme and steel-like texture relating to futuristic technological hardware.

Our users can toggle between the two interfaces; each of which has a different purpose. The monitor interface, (Appendix C and Figure 1), consists of a pool of video clips, video preview screen, and a sequence of video clips. This is the area where the user will be able view tabs of thematically grouped video clips, preview those clips, as well as form them into a sequence for an ending movie. The monitor interface was originally designed to look like iMovie. The layout would have consisted of a large screen for viewing videos in the top left, an area to display all the possible video clips in the top right, and a portion at the bottom of the interface dedicated to the user's sequence of video clips. This layout was deemed efficient due to the fact that it is the most current version of iMovie. We ended up deciding to swap the location of the clip bin and preview video section because we believe that the majority of our users will read from left to right. Since the task is to find a clip in the bins and then preview it, eye movement from the left to right is more natural to the majority of our audience. The sequence of clips was deemed most effective if placed along the bottom of the screen, since eyes' traveling downward is more natural than going upward; a procedure that is consistent with all users who read from top to bottom.

Also players will drag a clip from the bin and drop it into the timeline to simulate the idea that they are actually moving the clip. Dragging an object and having that object follow the player's cursor is always linked with the idea that they are actually moving that object. Within this interface we also have buttons that will allow the player to watch individual video clips, play the entire sequence of video clips in their timeline or selectively play or delete certain clips the player chooses. These buttons also flash blue to indicate to the player that they have interacted with it. Having responses to the actions the player performs helps confirm to the player that they are capable of interacting with certain objects on the screen.

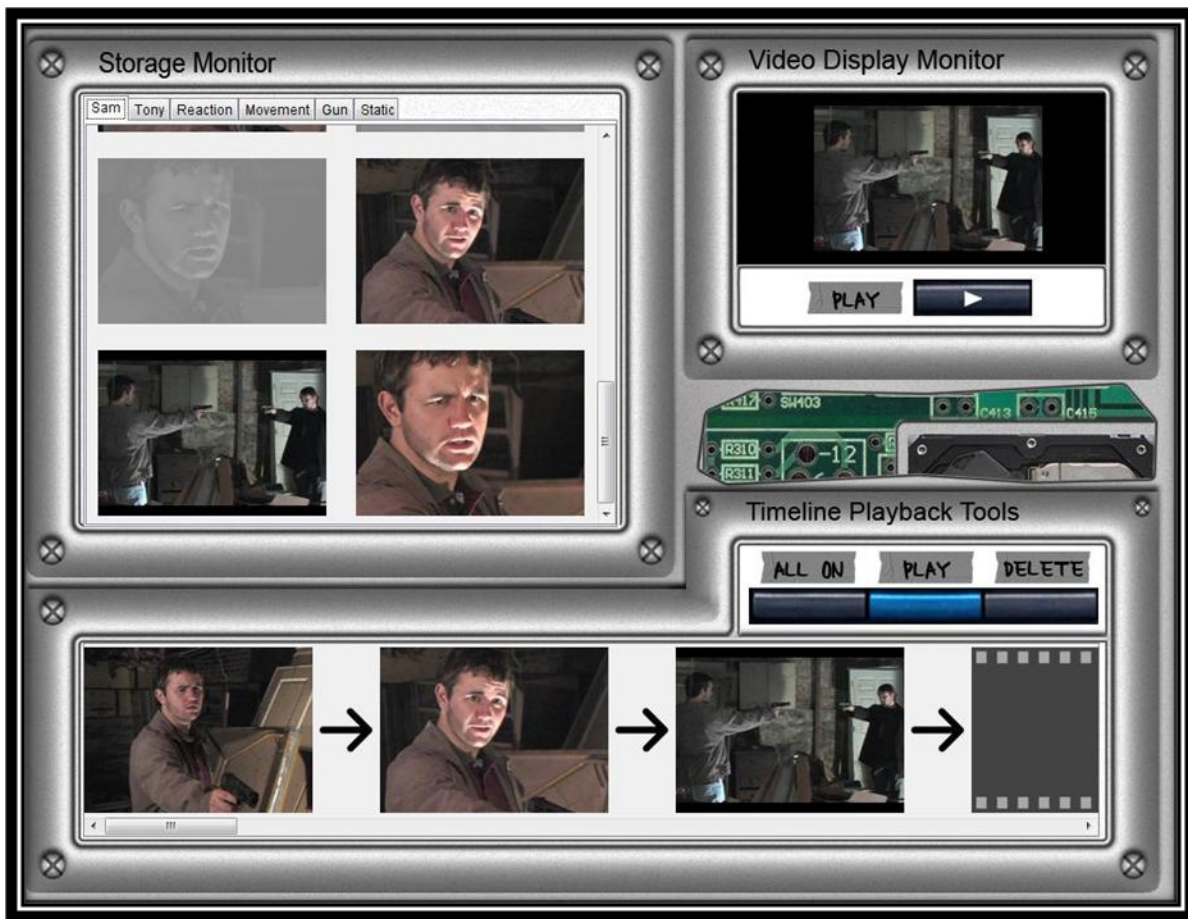


Figure 1: Monitor Interface

The circuit board view is the second interface that users can view and interact with. Meeting the expectation of the user, this is where the circuitry, fans, and other computer components are contained (Appendix D and Figure 2). The user will interact with this view to participate in various mini-games that will occur randomly throughout the course of the user experience. These mini-games are:

1. Clicking stopped fans to clean the dirt build-up from them;
2. Toggling switches to reach a state of equilibrium as displayed on an accompanying meter;
3. Attaching a cable connecting two components;
4. Re-inserting popped out colored-capacitors in their appropriate location;
5. Completing a path for coolant to travel through pipes that the user must rotate and align correctly.

These mini-games are necessary for the chip to continue working. Modifications to the circuit board components can only be done in this particular view. If users are in the monitor view, the space in between the monitors where the circuit board shows through will glow red to indicate that something is malfunctioning with the chip and the user's attention is required.

Each mini-game was designed so that it ties in with possible problems a circuit board could have with its components. The problems players will have to fix include a wire becoming disconnected, the system over heating, too much/too little power is being fed into the system, the fans accumulate too much dust and LEDs have popped out of place due to a surge in the system. The mini-games on the circuit board were scattered about to emphasize the idea that this circuit board was just thrown together quickly by the scientists in our story so that the player would have some way of interacting with the chip. We also wanted the mini-games to be easy to solve once the player understands what they have to do in order to solve it the first time. We wanted players to spend more time on the monitor screen constructing their movies than being forced to complete the mini-games so the mini-games were made to be quickly solvable.

Stylistically, our intentions were to develop the interface using a theme of realism. The monitor view has sleek silver edging, as if it were a futuristic metal. However, there are elements, like screws and the underlying circuit board, which appear similar enough to present day technology. This suggests that the time period is in the future, albeit the near future. The circuit board interface contains hardware that can be recognized as being realistic due to its power cables, fans, and hard drive. These images were either created in Photoshop or were photographed pictures of real computer parts. Also, we needed to darken the color of the background circuit board image because the original image we had was too bright and caused the circuit board components to not stand out as much as we wanted. We gave the user some elements of a circuit board to give a feeling of technology, but we avoided being completely realistic, otherwise the complexity of the interface would be overwhelming.

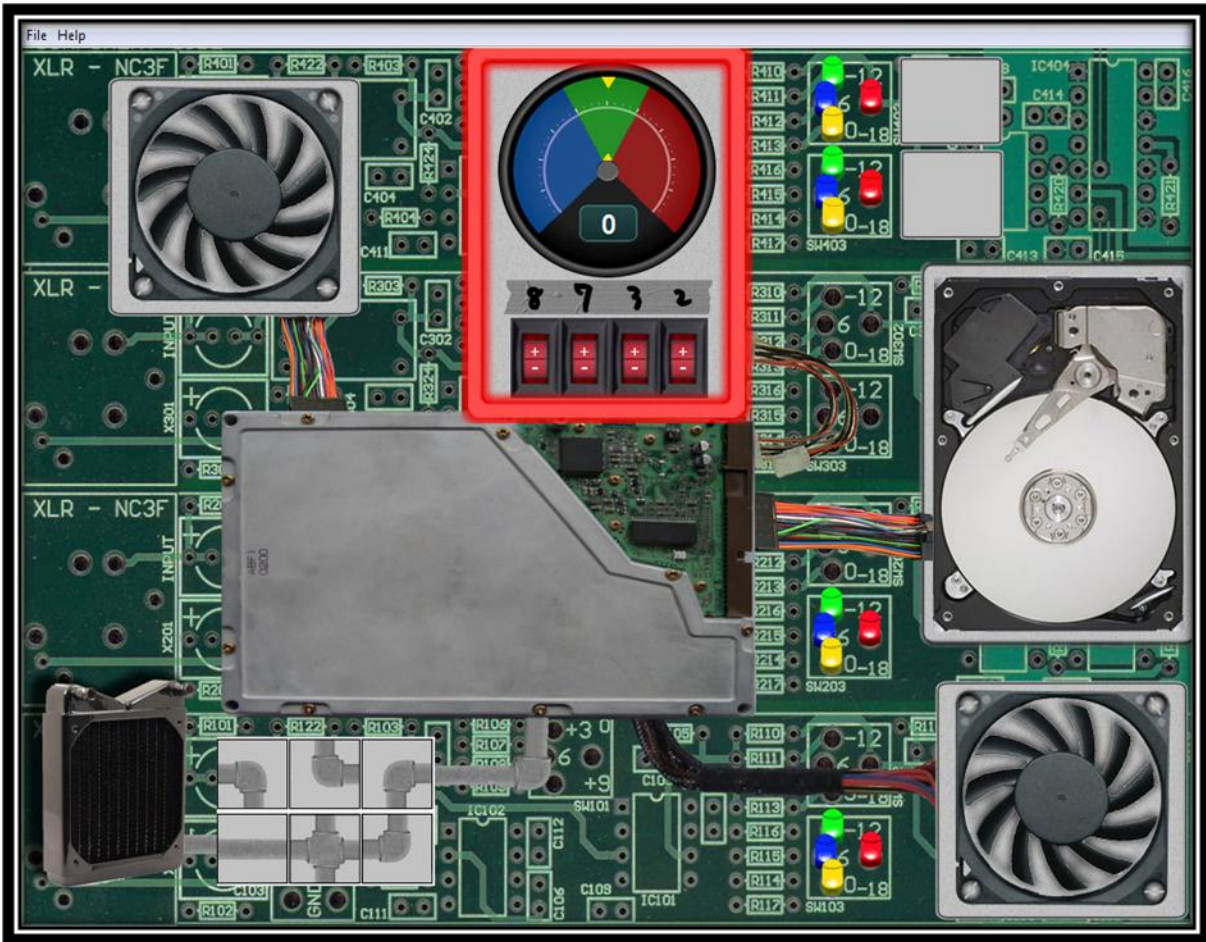


Figure 2: Circuit Board Interface

### 5.1.3 Artistic Website Design

The website we created was meant to serve the story in a visually aesthetic way. (Figure 3) The contents of our website were originally intended to include: a home page, an introduction video, a forums section, and a gallery for viewing participants' final edits. All of these original ideas were implemented except for the forums.

The forums were meant to be a place for our users to gather in a community. We envisioned a place where be able to utilize an account name they could create within the forums for posts they add. It was originally conceived that these forums could have been a place to



store sequence codes, a set of numbers denoting the player's ending. Videos could also have been organized by genres such as: "Conflict Resolved", "Tragic", and "Miscellaneous." However, we found that there weren't many genre possibilities when we evaluated the video clips we planned to provide players with. We also felt that the forums weren't especially crucial since a user's interpretation of the storyline was well enough represented in their personally edited endings that they could put in the gallery.

The home page's purpose was to welcome the user and offer information for navigating the rest of the site. The style we chose was to match that of the interface players would be using later, keeping with a theme and style, information was written on monitors. Each monitor contained text written in Arial, so readers could easily read the font. We also wanted to avoid the over-the-top fonts that are used too often in science fiction-themed productions. We liked the simplicity of the monitors and their text because they had a concise and professional feel, without having many unnecessary distractions. To compliment the silver monitors with recognizable technology we included a circuit board in the background. The monitors obscure most of this circuit board, but with its green color, the website has more of a complete feel since there are still gaps in the tightly grouped monitors. The functional purpose of this home page is directing the user toward the introduction video.

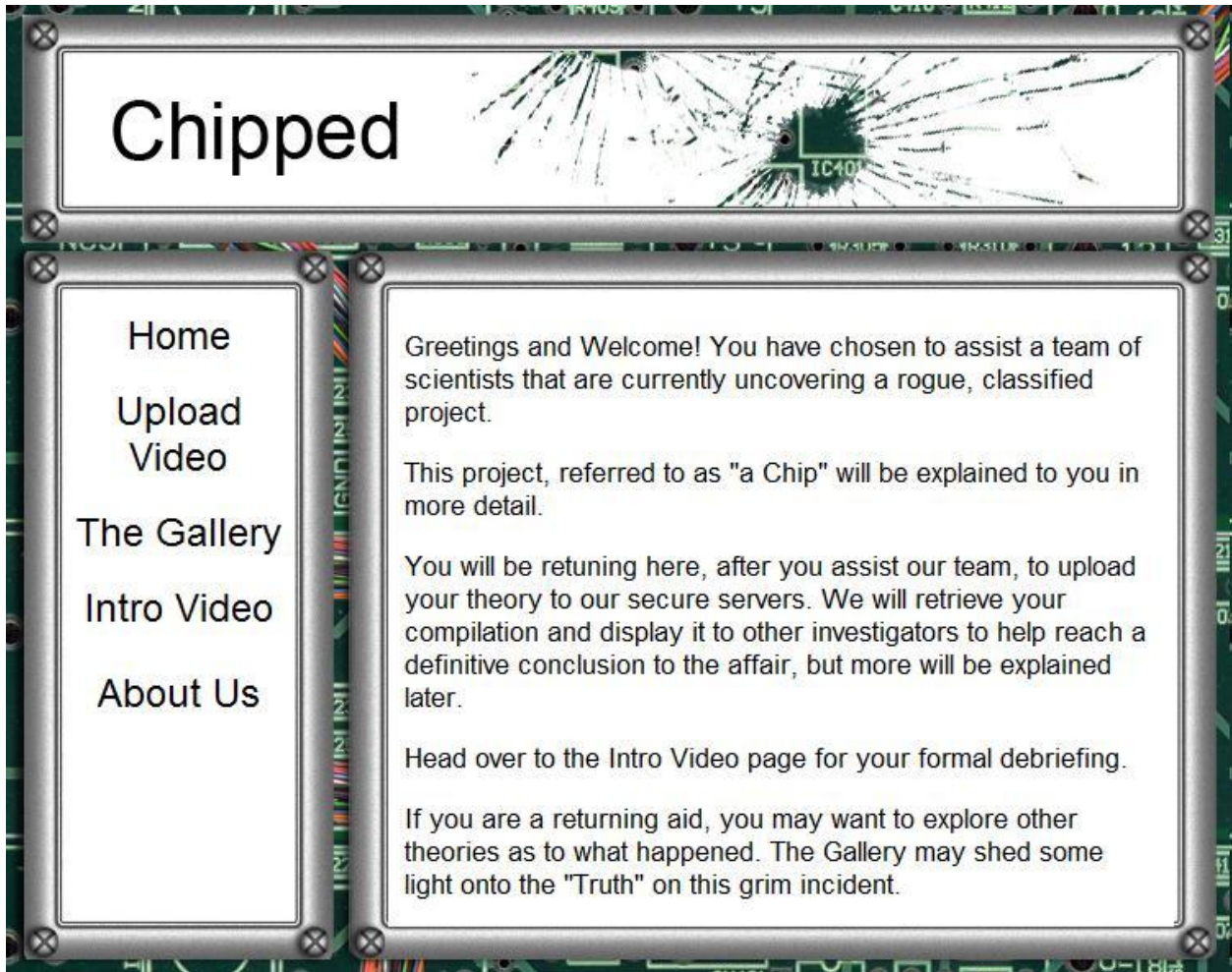


Figure 3: Website Interface

A short description-giving context to the world of the protagonists is offered just above the introductory video that viewers will see. Just below the video are instructions for downloading the interface and video clips for user-constructed movies, and a link is provided here as well. Before the user decides if they wish to construct a movie, they are told of the gallery portion where they can watch other user's interpretations of the storyline. Should they choose to participate, they may assemble any number of video clips they choose, and upload the text document that the interface will create for them when they are finished. This text document contains information denoting which clips the player included as well as what order they are in.

A major change we implemented to the website was providing users with the game in a download rather than having them play it on our website. This is due to the large size of the video clips that players would be interacting with. If the hundred and twenty short clips were stored on the website and were being accessed by many people, bandwidth problems could occur with the server that is hosting our site. To overcome this, the initial download of the game might take a bit of time, approximately four minutes on a fast connection, but it would be the only extended wait time that the user had to experience. When players have completed their story, they can choose to upload it back to the website via game generated text file, which wouldn't require any waiting time at all.

#### **5.1.4 Video Quality Decisions**

Our initial plan regarding filming was to shoot everything in high definition (HD). HD is the highest quality that a video can be filmed in, which would give our video clips a higher production value. One second of HD footage will take up 11 megabytes (MBs) of storage space (Malley 2004). This meant that our seven-minute introduction movie was calculated to require 4,620 MBs or 4.62 gigabytes (GBs) of space. Our original goal was to store our project on the web space provided to each student by WPI. This web space can only store up to 750 MBs. We would not be able to use our web space, without even including the 75 video clips that players will use to create their stories.

After running into this problem, we chose to record the videos in standard definition (SD), which is equivalent quality to watching a television broadcast on a normal TV set (i.e., non-HDTV). One second of SD footage will take up 5 MBs of space, which means our introduction video was estimated to be 2.1 GBs. This is an improvement from the HD quality videos. We further reduced the space by compressing the files with a video compression converter. Video compression refers to the reduction of data used to represent video images.

Compressing a video can reduce the file size by 60 to 85 percent, depending on how much action is going on in a particular scene.

The total space needed for our entire project was originally estimated to be about 5GBs with 2.1 GBs coming from the introduction video and 2.812 GBs coming from the 75 individual ending clips we planned on having. Although we managed to shorten the introduction video significantly, there were also considerations to store the actual Flash program itself along with the forums for players to communicate on, which will need about 2 more GBs. To be safe, 7 GBs would be the amount of storage for everything we need. Based on these findings, we decided that we must purchase a real website that has the appropriate storage capacity.

### **5.1.5 Game Play Design**

Our goal of the website and interface portions was to provide a user experience where the user feels involved in the world we created. Upon arriving at our website they are greeted and given basic instructions on navigating the rest of the site. If they wish to delve in deeper, we suggest they visit the introduction video. From the moment they begin to watch the video, we hope they are immersed in the world we have created. The introduction video that they will watch is filmed in a first person view so as to indicate that the user plays a role in the fictional world. They see through the eyes of a lab technician as a second lab technician informs him/her of the problem with the chip that must be dealt with. By keeping the user silent and addressing the second technician directly in conversation, it allows for people to assume the role we have provided for them. From this point on we hope to maintain the user's involvement in our world.

The user is told information about a mysterious device called "the chip". The technician displays the contents of the chip on a nearby monitor. The first person view carries the focus onto the monitor and the user is transitioned smoothly into viewing the dreams, thoughts, desires, and memories held within the chip. Once the entire introduction is complete, the

monitor turns to static, and the player is brought back to conversation with the techie. He informs the user of the task at hand: to arrange the remaining video clips into an explanation to the introduction movie they just watched. Up until now we anticipate that the user is personally involved in the storyline, and this should be enough to carry them onward to completing their edit of an ending. Had the website permitted, we would have liked to have continued the user's role in this story, but in transferring their attention to the interfaces that will allow them to construct and edit, they will have lost the immersion element.

### **5.1.6 Production Schedule**

The production schedule was an important aspect of our project. It helped us gauge how far along we were each week during filming. The production schedule was developed after we created the script so that we had a good idea of what exactly was needed, such as locations, costumes, props, characters, in a given scene. We created a list of every scene in the movie, then for each scene we listed what props, and characters, costumes and locations were needed in order to film that scene. This list can be found in Appendix E.

The production schedule is essentially a calendar with the scenes we planned to film on a given date. Generally, we filmed scenes out of storyline order. We filmed based on the location of a particular scene, ensuing ease of use and keeping with scene continuity. This allowed us to keep lighting and sound consistent, as well as other aspects of filming. We did consider and factor in that there may be more film shoot days required if actors weren't always available to film on their scheduled days or if we needed to re-film things. The week following the filming session consisted of importing the video into a computer and then editing the material to our liking using Adobe Premiere. The schedule can be found in Appendix F.

During the filming process most of the roles were filled easily enough. Each member of our group had a role to fulfill for filming, whether it is acting, filming, or film crew and lighting

effects. The script called for a few additional acting roles; most of which we were successful in casting. There was one fall-through that occurred - we didn't have a female actress who could guarantee availability on film shoot days. We considered altering the script to have her character removed, having her role replaced by a man, as well as other alterations. Fortunately, she was able to film with us late into the term, which pushed some editing back into B-term break.

### **5.1.7 Post Production**

Once all of the filming was complete and the editing was finishing up, we had some minor things to fix up that carried over from production. A few scenes were re-shot for better lighting and audio. Once the filming and editing was complete, the focus became on reaching a file size that was small, while retaining as much quality as possible. Exporting everything as AVI's, a very good video compression quality, we received files far too large to be optimal or even manageable. After multiple trials with different settings for compression using Adobe Premiere, we found compression settings that worked well. We exported the video with a 2048 average kilobytes per second, using a Windows Media Codec. These settings resulted in decent quality videos that were sized appropriately. We ended with a five-minute introduction video in standard definition, yielding a file size of only 74 Megs. The video clips that the user could mold into their ending ended up consisting of 120 video clips rather than the 75 we had estimated previously. The total file size of these video clips was 132megs. Because the final edit required heavy interaction with so many clips, we decided that a downloadable file was the most feasible mean for the user. This downloadable file ended up being 162 Megabytes.

## 5.2 CS Design

### 5.2.1 System Design

The high-level representation of our system is shown here in Figure 4. The highest level shown is called the presentation level because that is what the player uses to interact with our system. The GUI interfaces with the underlying application hidden from the player. All of the functions of the application will be masked with graphical elements so that a player does not think that they are manipulating data directly but rather are playing a game. The same idea can be applied to the website.

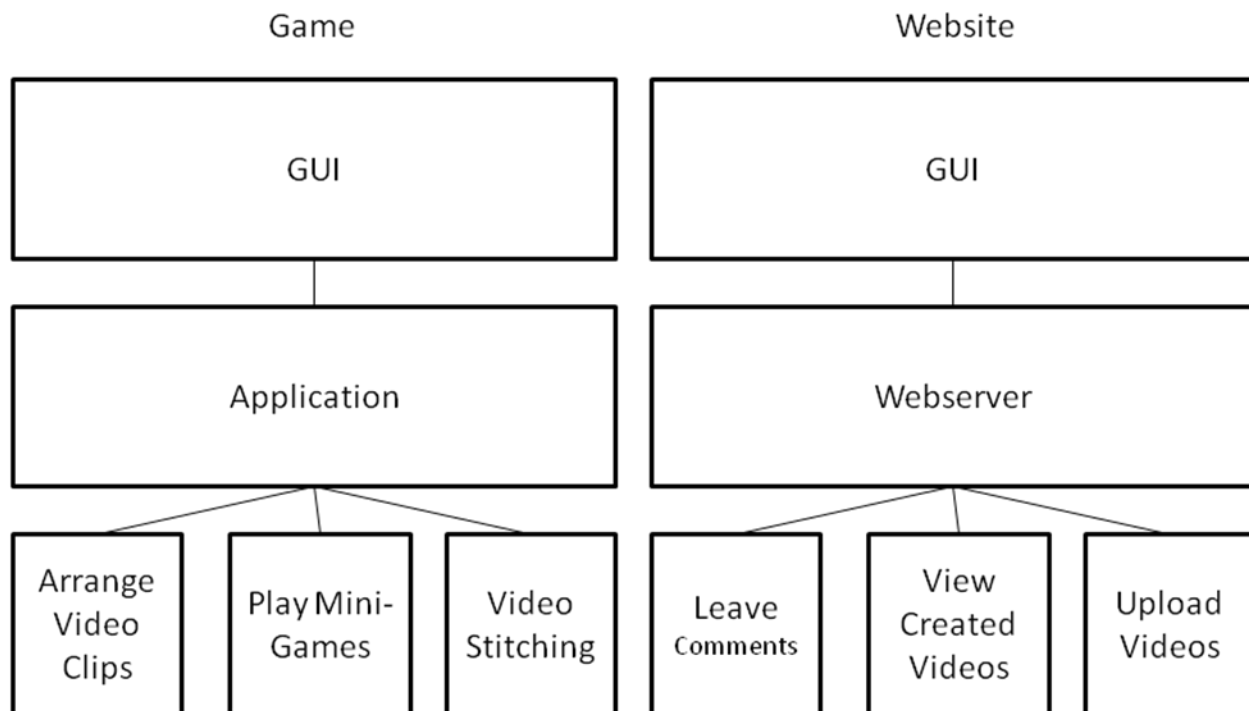


Figure 4: High Level Representation of System

#### 5.2.1.1 Game Software Design Decisions

The game application was written in Java using NetBeans IDE. Our original intent was to have the game element playable directly from the website. This would allow players using all computer systems, such as Windows, Mac, and Linux, to be able to play the game. As long as

the player had a compliant web browser that was capable of handling Flash then they would be able to participate in our game. The major reason for the shift towards a desktop application was that our project's programmer, Nelson, felt he would be able to achieve our desired results if he used a Java application with which he has had many years experience. He would have had to learn the Flash engine inner workings in order to be able to even create something not to mention achieve all of the requirements set forth by our team.

Initially there were 10 mini-games created in the IMGD portion of the project. After many discussions between the project members, we felt that since Nelson only had C Term to program the game application, the website and each of the mini-games that we had to reduce the number of mini-games we had. Also, we simplified the mini-games so that they would be trivial to implement into the game as well as not slow down the player's video editing experience. Since each mini-game runs in its own thread in the application, having complex games would use more system resources than necessary when the only reason for the mini-games is to get across the point that the player is physically interacting with a defective computer chip.

The players are able to use the same video clip multiple times within their sequence. The players dragged video clips from the bin into a timeline on the screen that represented the sequence of desired video clips. This timeline was simply a single dimensional array that stored the locations of the video clips in the system. This way a player can place a single video clip in multiple locations in their sequence. When a player wanted to finalize their video sequence, the application simply executes MPlayer, feeds it the contents of the array and it handled the rest.

#### **5.2.1.2 Website Design Decisions**

We originally chose to have a forum page similar to existing web pages that use vBulletin (<http://www.vbulletin.com/>) but during a meeting, Professor Rosenstock brought up an



idea of having the videos generated by users to also be located in the forum area so that it's easier to talk about the video as you watch it. This led us to think of YouTube as a better model, where user generated work is posted up for display and allows other visitors to comment on it. We felt like this would be a better choice for our project unlike how it was originally planned for users to have to switch between looking at the video player webpage where the video can be seen and the forum webpage where the users could talk about their videos.

Uploading the finished videos onto the website also was discussed. We wanted to have players simply upload their videos onto our website but the issue was that the file size of this final video could potentially get very large. This is unwanted because then it will take longer to complete the upload onto the website. Professor Rosenstock suggested that we could have the website assemble the video clips into a single file and all the player needed to upload to the website would be a small text file that contained the order and which video clips to stitch together. We chose not to follow this suggestion because as we stated earlier, there are not many tools that exist that are suitable to our unique project. MPlayer is capable of stitching together video clips but we were never able to test whether we could get it to work on the web server. The time constraints of the project limited us to stick with mainly doing things we already know how to do within the limited learning time needed.

### **5.2.2 Interface Design**

Interface Design is very important to consider when creating any type of system with a visual component. The design of the interface determines how well people can interact with a system. If there is a poor design in place then the system can never reach its full potential because the interface simply does not allow for it. The website interface went through 3 iterations of critiquing. We created the initial design based on what we learned from a class offered at WPI called Human Computer Interaction (HCI). We then had our advisors look over

the design to give us suggestions on what should change and what should stay. The final design came after we had finalized all the requirements for both the website and the game.

### 5.2.3 Layouts

Currently, five prominent metrics exist which designers, seeking to improve the usability of their software/website, use. These have been developed based on software usability research. (Constantine & Lockwood, 1999) They are:

1. Essential efficiency – how close it approximates to the ideal website layout
2. Task concordance – evaluates support of efficiency and simplicity
3. Task visibility – visibility of features
4. Layout uniformity – spatial arrangement of interface components
5. Visual coherence – how well related items are kept together

Our website was tested using these metrics and modified based on the results received so we could achieve the highest measured quality possible. The first three metrics are procedural or task-sensitive metrics based on essential use cases. They were used to measure the quality of specific parts of the user interface. Layout uniformity assesses aspects of a single interaction context taken in isolation. Visual coherence is a content-sensitive metric that was used to evaluate the complete user interface architecture. The metrics are normalized to a range of 0 to 100 so they can be interpreted like percentages with 100 being a perfect design.

Appendix G contains our first draft of our initial layout design. It was created before we decided to split our system into a website portion and a desktop application portion. The final version of the layout can be seen in Appendix H. Since both versions were created with the usability metrics, listed above, in mind, the actual scores the layouts received were nearly identical. The major difference between the two is that the last version has the system split up with the online and offline portions. The subtle changes that were made to the layouts were that we should have a title and small description identifying each page. This way players will know exactly where they are at all times and know what they should do on each particular page. The

final layout, while not visible in the images shown, was made with YouTube in mind. The upload forms, gallery pages, categories, were all modeled after how YouTube has their page. YouTube's layout has been proven to work since it gets such a high volume of users visiting their pages.

Since the artistic portion of the layout was handled during the IMGD portion of the project, these layouts were made for the sole purpose of laying down the functionality and usefulness of the layouts. Each webpage has its own specific purpose. None of the pages are cluttered with unrelated objects so that players do not get sidetracked from why they originally came to that particular page. By keeping this in mind, we were able to have a simple layout that kept the player's attention on a single object. Minimizing the amount of time a player has to scan a webpage for useful information is crucial so that they do not waste any time reading unnecessary information.

#### 5.2.4 Evaluation Design

Once we finished creating the system, we evaluated it. This evaluation was intended to show us how a typical player would interact with the system. Based on these assessments, if changes needed to be made then we would have had to go back into the system and modify it so that the player's needs are met. Like the rest of the project, we divided up the evaluation between the website and the game. The evaluation went as follows:

*website:*

- part 1: verbal walkthrough with paper/pencil version of website
  - test 2 people minimum who are familiar with our project
  - watch as they perform their tasks (taking notes)
  - issue questionnaire about hardships they encountered, poor design choices, critiques, things they desired to happen that didn't
- part 2: repeat part 1 with web-based version

- test the same 2 people from the paper version for comparisons on how they performed the second time around
- give this test to an additional 2 new people
- watch as these 2 new people perform the tasks and issue the same questionnaire
- part 3: repeat part 2 with newer designs until site reaches satisfactory level

*game:*

- the same test format used on the website can be used here
- only change: in the questionnaire to now include questions on the resolution the user played on, organization of objects on the circuit board, if too many/not enough events/distractions were going on and if everything is very viewable and clear
- as was done in the website testing, repeat with newer designs when changes are made
- make sure to test old users along with a batch of new users

*our response to evaluation:*

- based on questionnaire responses, we will modify the game/webpage accordingly to accommodate those suggestions
- when the game/webpage has reached a point where we felt that every user found the game enjoyable to play and the website was easily navigable then we will stop evaluating and record all results

### 5.2.5 System Development

Large-scale projects, such as this one, are better executed through the use of popular project management methodologies. We have examined various methodologies for this project. The processes which we analyzed were Agile, Rapid Application Development (**RAD**), Spiral, and Waterfall. (Steinberg and Palmer, 2004) Our MQP has both a technical aspect and an artistic aspect. The artistic portion will not be able to be applied to a specific methodology but rather will follow a typical production schedule that movie creation entails. This production schedule is detailed in the workplan section of the IMGD portion. These approaches are

explored as possible methodologies for the successful completion of our MQP's technical portion.

Agile development is based upon creating short-fast iterations of a product through very quick iterations. Each iteration results in a sub-product that is ready for release which brings more body to the project. Due to the focus placed on each iteration, requirements are easily refined and a market ready product is always available throughout the development process. This approach takes into account the inevitable changes to a developing system. Agile methodology allows customers to be satisfied by a continuous flow of market ready systems. This method does present a disadvantage to our group in that we have very little time to spend redefining the project after each iteration. There are a limited number of iterations because time is the major factor in creating our interactive movie. A trend is nearly impossible to track with such a small number of iterations. This is not such an issue when there are many iterations expected. However, with such few iterations, the project's progress would appear to be very jerky at best using this process. A visual representation of Agile development can be seen in Figure 2 below.

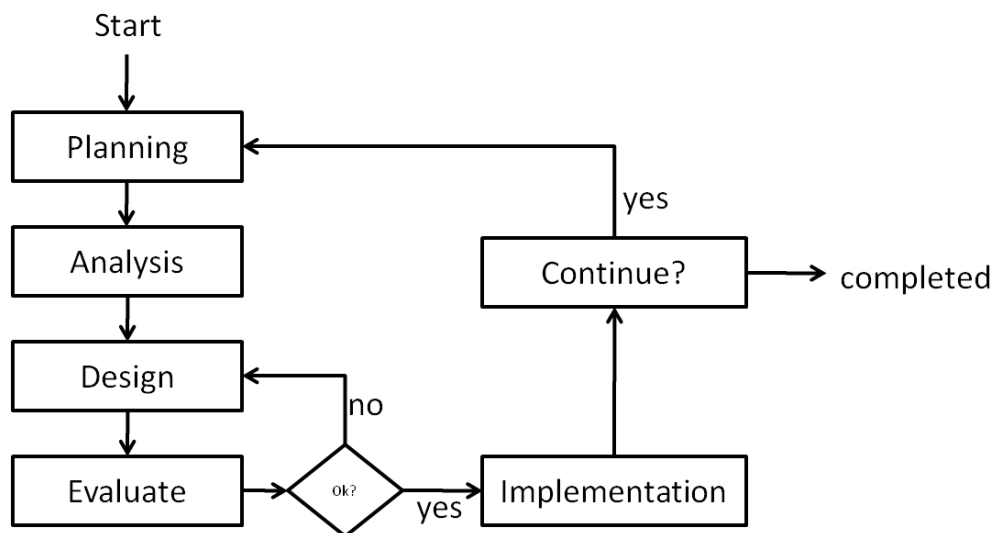


Figure 5: Agile Development

Each iteration was scheduled to end on a Friday and there were 7 iterations total, with the last iteration being comprised of leftover or added requirements. Each iteration was then given particular tasks based on the requirements we agreed upon. The planned iterations were as follows:

<b>Iteration 1</b>	<ul style="list-style-type: none"> <li>• create the webpage template</li> <li>• embed video within the webpage</li> <li>• navigation links</li> <li>• create underlying game application</li> </ul>
<b>Iteration 2</b>	<ul style="list-style-type: none"> <li>• gallery of players' videos with their respective descriptions</li> <li>• allow players to enter details about their videos</li> <li>• allow players to write comments about the videos</li> <li>• store all information/files onto website</li> </ul>
<b>Iteration 3</b>	<ul style="list-style-type: none"> <li>• video player within interface</li> <li>• drag-and-drop ability for video clips</li> <li>• stitch video clips into one single video</li> </ul>
<b>Iteration 4</b>	<ul style="list-style-type: none"> <li>• storing the number of comments for a video (and display it)</li> <li>• create a rating system for the videos</li> <li>• determine the number of a views a video has</li> <li>• moderator contact information</li> </ul>
<b>Iteration 5</b>	<ul style="list-style-type: none"> <li>• immersive reset/quit the game ability</li> <li>• meet minimum performance specifications</li> <li>• detailed category system for organizing the video clips</li> <li>• preview an entire sequence of arranged video clips</li> </ul>
<b>Iteration 6</b>	<ul style="list-style-type: none"> <li>• create the 7 triggered mini-games (there are seven games)</li> </ul>
<b>Iteration 7</b>	<ul style="list-style-type: none"> <li>• allow players to chose the thumbnail to represent their video</li> <li>• display teaser videos</li> <li>• player animations to add immersion</li> </ul>

Figure 6: Iteration Details

After an iteration was completed, the progress was shown to Professor Brown and Professor Rosenstock for evaluation and critiquing. The only way Agile programming works is if a programmer moves on to the next iteration after that iteration is scheduled to be completed. Even if they did not finish all the work detailed in the iteration, they still must move on in order to

complete the entire system by the end of the production schedule. The work is either made up when the programmer has extra time at the end of a future iteration or at the end of all the iterations if they have more time.

Normally use cases are created so that the programmers of the system and the designers of the system have an agreement on exactly what needs to be created. A use case is a software engineering and systems engineering term that describes a single behavior of the system as it responds to a particular request that originated from outside the system (by an actor). The use case technique is used to capture the functional requirements of a system. These use cases act as the contract between the programmer and the designer. This comes into play when the programmer completes a particular use case in the exact fashion described to them and then the designer later says that the system has changed. If the designer needs a change to be made to the system then they must create a new use case that will get added on to the current list of use cases the programmer already has.

Since in our project we were both the designers and the programmers, use cases were not necessary. If a design decision needed to be made at some point in the implementation cycle then it would be modified immediately instead of creating a new use case for it and tacking it on at the end of the list. We minimized change by planning and designing the system before the implementation process. We forced ourselves to stick with our plan throughout the implementation portion of the project. This is not the case in industry where the programmers do not have a say over whether a change is allowed or not.

During the implementation portion of the project, we described in detail what was necessary to complete each iteration. Topics from particular algorithms used, order of operations, modifications to the system all will be detailed in section 6.

## 6. Implementation

### 6.1 IMGD Implementation

#### 6.1.1 Procedure

The implementation of what we designed relied heavily on many circumstances that we tried to plan for. The implementation procedure tried to take into account the many unexpected situations that happen during filming, editing, and over-all movie production: such as equipment failure, missing cast or crew, mishandling of material, either digital or physical, weather changes, and unexpected acts of God.

The procedure we used when going into production of filming was very structured, but became more haphazard as it went on. Many situations appeared that distracted us from our original plan. Our planning allowed us to adapt to these situations and helped in the completion of objects we need to achieve. This was very helpful in ensuring success in our project.

Editing required the attention and focus of one person. Alex, who had experience with non-linear editing systems such as Adobe Premiere, was given the task of head editor. This allowed the editing to cross as few hands and computers as possible, ensuring that clips would not be lost, or identical scenes were not edited twice by two different people. Alex collaborated heavily with the group, to ensure that their perspective and opinions influenced the direction of the introduction movie and useable clips.

The method we used in the creation of the art assets followed a linear workflow. Having a layout of the website, chip, and game diagram, the group created these elements and supplied them to their final location, implementing them in the website, or game engine. Nelson and Eric collaborated heavily in the use of Photoshop, while Alex edited the footage. The creation of many of the art assets was a collaborative effort by the group, as everyone found



images to modify to use in the creation of the fans, monitors, cables and other hardware requirements.

### 6.1.2 Filming

Filming followed a structure that applied to almost every filming day. This structure involved rehearsing the scene as scripted, getting the general idea and feel of what was written, and then actually filming the scene as detailed in the storyboard. The majority of filming took place in the basement of 7 Goulding Street, Alex's Apartment, and the location played a very important part in the overall success of the filming. This "set" was one of the locations that we had complete control over, and this allowed us to manipulate lights, props, and equipment freely. We could also leave our equipment set up during breaks and between filming. This allowed us to maintain consistent lighting and prop positioning.

We chose to film each line of dialog in a close up frame of the actor. The reasoning behind many of our chosen close-ups was based upon the knowledge that close-ups are easy to edit together without breaking continuity. The actor was then directed by Alex to say his line in a different manner: angrier, more scared, etc. This allowed for different variations in certain lines that would give players more options to choose from in their story creation.

The basement was one of the best locations the project had available. We knew in the early phases that we had control over this basement, so we integrated it heavily into the story. This allowed us greater control over different aspects, from lighting, to time limits, and was the "go-to" spot if conditions prevented us from filming in other scheduled locations. If we got rained out of an exterior shoot, we made use of our time by gathering footage we knew we needed in the basement scenes.

There were locations that were out of our realm of control. We tried to seek other alternatives, to see if we could obtain the results we were looking for in a simple to use location.

The Lab Interior was an example of a location that we had trouble with. Having little control over an actual lab, and lacking the resources to create one, we found a lab on campus, and quickly filmed what we had to, using the storyboard as a guide to ensure our coverage of shots. There was little room for error, as we could not easily replicate the location and situation that we found. The idea of “guerilla filmmaking” played an important part with the locations of: Lab Interior, and the Cemetery Exterior, these two locations called for specific locations and props that could not be substituted so easily. The Cemetery scene eventually got cut out of the story, because the actor who played the doctor could not make a second day to film the last scene he was in. The group decided that the scene was not pivotal to the story, and only gave the player more options in his story, and so was deemed a secondary goal and was cut. The scene was cut because it required such a specific location that was not easily in our control.

The exterior locations were the easiest to obtain. The weather was a factor that we knew could easily ruin an exterior shot. Having scheduled the exterior shots first in our production schedule allowed us to compensate for rainy days that kept us indoors, filming interior shots. With the mix of snow and poor Fall conditions, keeping a consistent snow level outside proved tricky. We kept a lot of the exterior alley shots to a minimum, as they were merely intended to provide a transition for players to add to their stories, and had little influence on the introduction movie as well.

The hardest part of production was getting actors together under our production schedule. The role of “Rebecca” was the hardest to cast for, as our connection to female actresses were limited, and this affected our ability to shoot with the role un-casted. We casted Eric to act as the role of Sam, the protagonist of the story; this was an important choice to the project, as it ensured our main actor would be available for a majority of the project. The strength of Steve DiTullio, who played Tony, also helped in filming the three endings that called for these two actors. The commitment of our main actors yielded a successful filming and

allowed us to film a majority of what we originally scheduled to film thanks to their commitment to the project and outcome.

Not having a Rebecca cast until the very end hurt the production as well as one of our endings. This constant struggle to obtain a female actress could have forced us to rewrite the script without the role. We did a lot of filming without her, and the team had to creatively explain away one of the endings that called for the character. Rebecca also had lines that were supposed to be shown on film, but by the time we had cast her, it was too late to film her in that specific ending, so we creatively decided that her voice would be played over the video, giving the feel that her spirit was inside Sam's head. This creative direction, though unplanned until the circumstances called for such a change, yielded a more interesting result to the ending than we originally intended.

Overall, the implementation of the filming suffered from many of the problems we foresaw. We were able to compensate for them with proper pre-production and creative problem solving through story re-writes in the script. There was one instance of filming where we filmed half of one scene one day and then the other reverse angle a different day because we could not get both actors available on the same day. Steve, playing Tony, was talking to a stick off camera, when Eric was unavailable. We knew with close-ups, we could put anything off frame to keep a consistent eye line. This method enabled the clips to be edited together seamlessly and we also managed to keep a day of production on schedule.

### **6.1.3 Editing**

Editing of the video was relatively straight forward. We ended up filming straight to tape, which meant importing in real-time to the computer. This had the added benefit of being able to watch all the footage as it imported straight to Adobe Premiere. Importing all the footage without picking and choosing the best takes to import was a decision we made as a group. Alex

had the opinion, as chief editor, that we should be careful when importing because of the overwhelming number of clips coming in could easily become messy and disorganized if they were mishandled. The group did agree on keeping everything, but labeling everything by person and location, allowing Alex to further sort the clips in the editing bin in Adobe Premiere. Having all the takes gave us complete control over what to put in the final version of the Introduction, and what clips were available to the players in the resulting game.

Finding the best takes of a scene, while making the story engaging was a challenge. The group wanted to create a movie that would look like a finished result made by a player. There were editing techniques that Alex knew about, but felt he could not incorporate, “L” and “J” cuts for example. These techniques are the unique placement of audio or video. An “L” cut is where you see a clip and hear its respective audio, then the movie cuts to another clip with the audio from the first clip still playing. These techniques, which are unavailable to the players while they are making their story, are widely used in cinema and TV, yet stylistically; the group felt they could do without them. This subtle choice of editing was used to enforce the style of movie that the players will be completing.

The use of video effects, like the horizontal and vertical hold, gave a unique look to the static of the “broken chip”. These filters made making the clip sway and jitter easy and effective. The use of compressing minutes of footage over the course of a few seconds, speeding up and slowing down sounds, and using reverse footage gave a unique, organic feel to the video of the chip, but still gave the video a digital, sterile, surreal look to it. These decisions were made as a group, and were created with a trial and error method. Alex wanted a crazy, technical sound for the static of the introduction. The sound created was an alteration of background noise from an Air Conditioner.

The group agreed upon how to edit the clips that were to be used by the players. There were 3 scripted endings filmed, ensuring that 3 endings were possible. When a line had a different delivery or meaning, different takes were given to the players - to have more choices when they construct an ending. The ability to switch clips out, or make alternative endings and scenes was proved to be possible when we were editing the three scripted endings. The way the clips were filmed allowed for a relatively seamless edit that had different results. The group also exported reaction, and silent clips, that could be used as filler in the players edit. We exported each film clip in an AVI format that was compatible with the code that was being created for the game engine.

#### **6.1.4 Art Assets**

Implementing the art assets relied heavily on finishing their creation in Photoshop. Once these assets were completely polished, they were given to Nelson, who incorporated them into his programming. The art assets were sketched out on paper to give us a sense of layout. From fans to monitors, the assets stemmed from real things that were used in computers and machines and we generated a collection of all these parts for our “Chip”.

Pictures of the real objects were collected, while pieces of other pictures were used.

Creating the assets required us keeping a consistent perspective. While collecting stock images of circuit boards and hard drives, we made sure to find images that shared the same perspective, so when we stitched them together in Photoshop, the finished result would not be some optical-bending, piece of nonsense. Nelson’s vision of a casing around the chip, with monitors and displays surrounding it, came to fruition with some freehand Photoshop drawing. Nelson could not find any monitor images that looked like it was a part of the whole design, so he created his monitors in Photoshop, while the interior of the chip is made up of many real images of computer components, modified to fit together and look functional.

## 6.2 CS Implementation

In a computer science context, implementation usually refers to the “carrying out, execution, or practice of a plan, a method, or any design for doing something”(Vio, 2008). In CS MQPs, usually an entire term (seven weeks) is devoted to the implementation of the software/product being created for the MQP. The implementation of the website and software application occurred during C-Term in which we followed the design decisions previously made during the first two terms of the year.

### 6.2.1 Procedure

Agile development practices were followed as was stated in section 5.4 (System Development). The iteration schedule created in that section was used to help us stay on track throughout the term. As the term progressed, we felt that we should spend more than one week working on a particular portion of the project. The iteration schedule was set up in such a way so that one week was spent on working on the website, the next week would be focused on the software and then back to the website on the following week. Instead, it was found to be easier to spend multiple weeks in a row on each portion. This allowed everything to be fresh in our minds from iteration to iteration.

Also, we decided to focus mainly on the primary requirements as the term progressed because we found ourselves not having as much time as previously anticipated during B-Term where the planning and designing took place. Some of the optional and secondary requirements were not implemented because of time constraints. These setbacks will be explained in the next two sections; Software Creation and Website Creation.

### 6.2.2 Software Creation

The initial steps taken to create the software application involved creating a base framework on which all the components, like the timeline and bin system, would sit. The

NetBeans IDE allows for several different types of layout systems, of which, the grid system was decided on for the video timeline and an absolute layout for the rest of the interface. The grid system acted as a short cut because it automatically re-adjusted the contents of the grid to sit side by side with one another. This allowed him not to have to worry about the placement of the video clips when the players added more clips to the timeline than fit on the screen, because the grid layout also had a scrollable panel layered underneath it in the framework.

The next major hurdle was to implement the bin system. This is where all the possible video clips are located which the player could use. The absolute layout allows for images to be layered on top of one another. This was essential because we wanted to be able to indicate when a new clip was obtained by surrounding it in a colored box. The bin system took quite a while to complete because each image that represented the video clips along with the colored box layered behind it was manually positioned. This section of the interface also was layered on top of a scrollable panel because some of the bins containing video clips had more clips than could fit on the screen at once. All of this was then layered on top of a tabbed window panel so that each tab contained its own video clips. For example, one tab contains all of the clips that had our main character, Sam, in them. This was one of the major design decisions we made during the design phase of our project.

Nelson chose to focus on integrating MPlayer with the application next. Originally it was designed to have MPlayer physically sit inside and display the video within the interface. After implementing this design decision, Nelson felt like the amount of space the video player took up was not substantial enough to allow the video to be viewed easily by players with a variety of different computer screen resolution sizes. It was then decided to have MPlayer play the video clip in a separate window outside of the application which could be resized to any width and height desired by the user. Even though this breaks the feeling of immersion we were trying to maintain, we felt that it was a necessary trade off in order to make the video clips clearly visible.

The final major function of the application was to allow players to drag-and-drop video clips from the bins where they are stored onto any position within the video timeline. This was rather straight forward because of MouseEvents like `mouseEntered()` and `mouseExited()` provided by NetBeans. During one of the meetings with Professor Brown, it was brought up that video clips should also be able to be dragged from within the video timeline to another position within the timeline. This was a small addition to the code but it was a big improvement in the interaction with the application. This change really helped to open Nelson's eyes to what he should be thinking of when developing the software. He learned to focus more on what a player might try to do instead of programming to what the user should want to do.

Once the major functionality of the software application was created, the focus shifted to creating the mini-games where the players would be able to obtain new video clips to use within their timelines. There were five games implemented, despite more games existing in the design phase. During the creation of the mini-games, we decided that certain games would either be too difficult to complete according to the schedule or that they were too time consuming. When the time came to implement the games, it was known immediately where to start and how to go about it because of the planning done during the design phase. Each mini-game was accompanied by graphics that were created in Photoshop. This was done by the group while following certain specifications so that they integrated smoothly into the application.

The fan game was done first because it only required the ability to keep track of the number of clicks performed by the player. Next came the two drag and drop games which used the same functionality needed for the video clip dragging. These games are the LED game and the wire dragging game. The pipe game was created next because it was more difficult to implement than the previous games. NetBeans does not have any built in functions for easily rotating an image, mainly because images can only be applied to 'labels' which in themselves are only supposed to be static on the screen. This forced the need to create an image for each



position a pipe could be in (bent pipes needed 4 images, straight pipes needed only 2 and the quad pipe only required 1).

A player would simply click on a pipe and that would send a call to the next rotated version of the pipe to be placed onto the screen on top of the previous version of the pipe. This would be a huge issue if hard drive space was limited but the images themselves had file sizes that were too small to be significant if there were 4 more images than the original 3 planned. Finally, the meter game was created because it was the most involved out of all the games. This game required many graphical assets like responsive buttons, updating text displays, and moving needles.

Throughout the implementation process, weekly progress was shown by using screenshots of the system in action. With these images, Professor Brown acted out what a player might possibly do with the interface. This is where many suggestions of improvements that could be made or new possibilities to try out to see if they aid or hinder game play. Since players would spend more time playing the game than exploring the website, we felt that the game should be more scrutinized and enhanced. In the next section we will describe how the website was implemented and how it lost its role from being a major hub for communication amongst players to a way for us to be able to give information and resources to the players.

### **6.2.3 Website Creation**

The first step in implementing a website, as for any other programming project, is to create the underlying framework. For a website, this usually means the parts of the webpage which will be identical throughout the website. The template implemented originally was based on the designs we came up with during B-Term, which can be seen in Appendices A and B. After a revision or two we felt that the template did not correlate well with the immersion factor we were striving for because the website and the software application did not correlate to one

another. The idea was brought up to have the website look identical to the main interface of the game to reinforce the idea that all information is being displayed on monitors. This would help reinforce the idea that you as a player will always be interacting with information through monitors. One of our main goals of this project was to keep the player fully immersed in the game from the second they come to the site and learn about the game until they submit their video back to the site. After a few iterations of tweaking the internet interface we felt that it was time to complete the major functionality of the website.

The next step was to implement a system for players to be able to upload their own created videos onto the website. This started off with the players actually uploading a stitched-together video file that the software application created. A major flaw in this was that people would be able to upload any video file they wanted even if it had nothing to do with our game. The last thing we needed was to have to go through and monitor the website to make sure the only videos people were uploading was of our game content. Another major reason this had to change was that it was taking just over 2 hours to upload a 70 megabyte file. This obviously was a major issue but during a meeting with our professors, it was suggested to go back to an older design choice that was replaced with this idea of having the application stitch the video clips together. This alternate design was to have the software application simply produce a text file containing a list of numbers representing the order of the video clips assembled by the player. This was different than the older design because now the player only needs to upload a text file they never need to open. The older design was to give the player a long string of numbers that they must then copy and paste onto a special section of the website. This new idea also fit within the story we were trying to maintain because, like the introduction video states, the player was given a defective chip (represented as the game the players download) that they needed to tinker with and then give it back to the scientist (represented as the text file). This helps reinforce the idea that the player is actually part of the story. The website then takes this file,

reads its contents, then assembles a video using MPlayer which was installed onto the website. The MPlayer installation itself took a few weeks to complete because there was a lack of helpful resources for people who did not have any prior knowledge on how to perform such a task. Professor Rosenstock had some prior experience with what it takes to stitch video clips together on a website and provided some essential information on how to get it working.

After the MPlayer installation issue was solved, the website was then able to take in any file created by the software application and successfully create a stitched together version which could then be downloaded by the players and played on their computers. The final major hurdle of the website implementation was to be able to have these stitched together videos play within the website itself. The issue that arose here was that videos stitched together by MPlayer could only be played by MPlayer or its close relatives. This was an unforeseen problem that only could be solved if we were able to get an MPlayer plug-in installed onto the website. A major drawback discovered during this time was that our website providers, Dreamhost, did not provide its subscribers with root access to the servers for obvious security reasons. The plug-in we needed required root access in order to be able to install and configure it. If we were hosting this website off of a personal computer or server where we had complete access then we would have been able to complete the website. Instead, as a temporary solution, we were forced to provide players with a link directly to the stitched videos stored on the website so that they could download them to their own computers to be able to watch them. Once again, this is not what we had originally designed but like all software projects, change happens.

Overall, the website creation took several weeks longer than was planned in the iteration schedule. The major reason for this was the lack of knowledge with website development. It was easy to judge the possibilities of the software application because this was within our area of study, but the website required the knowledge of PHP and how the underlying architecture of a server hosting company affects what was possible to do on their websites. The website evolved

from a major communication hub for players, to a place where there would be no communication between players. Even though the website was not the major focus of the project we felt the players should still be able to see the creations of other players so we felt giving them links to everyone's created videos should be something we provide.

## 7. Evaluation

In this section we will describe the user testing we performed at different stages of the project. The first section details a paper prototype where users were given the task of assembling an ending video. Since no game interface was available at this point, they used pieces of paper containing lines of dialogue. Samples of the paper based user trial can be found in Appendix I. Once the game had been implemented, we began testing users with the full version. To gain more feedback on the user experience, a survey was created. This survey asks the user their opinion of various aspects of the game, website, and overall experience. While user surveys were useful for evaluating areas of our project, time did not allow us to modify our project based on their critiques. We were still given good insight for potential future developments.

### 7.1 Paper Based User Experience

In the earlier stages of our project, when a functional interface and website had not been implemented, we did some testing with a textual prototype to acquire preliminary evaluations. Two friends were willing to undergo an experimental test run of our game. Each of them was tested separately at different times. They were each given the script of the introduction film. Following this, we provided them with small rectangular pieces of paper containing a character's lines of dialogue, representative of a single video clip. These pieces of paper were grouped into piles (folders in the actual game) by certain re-occurring elements of the film such as: gun, Sam, Tony, etc. Within each category, the papers were randomized so as not to suggest any of our pre-formulated sequences. Some clips appeared multiple times due to the fact that some video clips contained multiple elements. Players were not restricted to a time limit when assembling clips.

We believe that a paper prototype is a valid test of our interactive media in spite of lacking visual elements. Our group was still be able to judge how effective our categorization of video clips was, if our range of video clips varied enough for players to design a multitude of unforeseen endings, and if our introduction was open-ended enough to allow players to form different opinions of the characters.

In regard to the user testing, we found that it took player one seventeen minutes and player two twenty-one minutes to finish their edits of the ending video clips. We used these times as a lower bound to judge how long game play will last. We made the assumption, at this point, that the fully-implemented game would require more time than in our prototype test runs due to the fact that videos incorporate pausing in dialogue, mini-games slow the player's progress, and there will be more transition time going from video to video than browsing from paper to paper. The details of user testing with a fully implemented version of our game are detailed in the following section, (7.2.2).

During the paper trial of our game we observed that players were able to find most of the clips they desired within a minute of searching. However, in three instances player one could not find a suitable clip for what he desired to occur next in the story. In the first two cases, he knew which character was the focus of the clip he desired to add to his sequence, but was unable to locate the existing clip in a timely fashion. To rectify this, we considered implementing layered folders that are based on characters. For example, a Sam folder would contain other folders labeled, "Sam angry", "Sam confused", "Sam passive", and "Sam all". The "Sam all" clip will contain every clip that has Sam in it. In the third case, player one was looking for an ending where Sam and Tony make peace with each other and the conflicts between them are resolved. However, there was no clip available to serve this purpose, which led us to realize that we had to film extra conclusion scenes to diversify the end results from which the player could choose.

While playing the textual version of the game, both users constructed different ending sequences that were different from our three pre-formulated endings. One user chose to follow our haphazard style, which was demonstrated in the introduction, so his edit was nonlinear and took bits and pieces from each of our pre-constructed endings. His final story construction utilized twenty-six of our seventy-five scenes. Player two took a more linear approach where Sam had left the house with intention to kill Tony, but as the dialogue developed, Tony and Sam developed an understanding of each other and no longer wished to pursue a violent path. Player two's final edit was composed of thirty-three clips out of seventy-five.

In addition to filming our participant's desired ending, we learned that we should film some generic dialogue clips that can be well applied toward a multitude of scenarios. Therefore, lines of dialogue that weren't in any of our three endings were filmed to act as vague transitions that the player could use in a multitude of situations.

## 7.2 Gameplay Survey

This section describes the experience of players who had the full game at their disposal, not just the game play trial. The users were tested on a computer we had established that could successfully run our game. We stood in the same room as the user to observe their actions. Players were directed to the website where they could browse around at their leisure. They each watched the introduction video and played "Chipped, the Game". Afterward they were given a survey to fill out, based on their reaction to all they had seen. These surveys that the user filled out can be found in Appendix J.

The survey contains questions that ask for user feedback on a one to five scale as well as open-ended questions. These questions focus on the website, the game, and the overall experience. In these surveys, the goal was to ask players about as many aspects as possible based on criteria we felt was important. For instance, in regard to the game, some of our

concerns were its replay value, the effectiveness of the organization of the clips, and whether the mini-games were a good inclusion. The surveys were evaluated by taking the mean average of the quantifiable responses and looking for similar responses in the open-ended section. This survey can be found in Appendix K.

The initial number of users we surveyed was four. The following week, users completed an addition five surveys. All nine users were fellow students at WPI. Their ages spanned between 19 and 22, none of them were game design majors. Seven out of the nine considered themselves experienced in gaming, while the remaining two said they spent little time playing games. The two users from the paper trial participated again, with the addition of seven more people who were unfamiliar with this MQP. Although we are aware that to calculating significant trends in data would require at least a few dozen participants, some preliminary observations of the data could be made with the surveys we obtained.

Overall, it seems as though “Chipped, the Game” could be classified as fun for most of our users. The game also left some sort of positive impact on our users since they rated the game well for its potential replay value. Users were slightly dissatisfied or neutral in regard to the mini-games. Some players felt that the organization of the game’s video clips was manageable, while others said they would have preferred more structure. As a final note, the game’s visuals matched the user’s expectation with regard to the affordances. In other words, users were able to infer what they were allowed to do as a player. These observations are based on the average of the quantifiable section of the survey. A survey has been created representing this average and can be found in Appendix J

The comments left by users in the open-ended section gave us more feedback about things that weren’t as easily quantifiable as the previous section. For the mini-games, the meter game and pipe game received positive reviews or had potential, while the fan game, plug game,



and capacitor game were lacking enough complexity to be interesting. Some of the game improvement suggestions were to re-vamp the mini-games or to include new ones. Most users, at some point, were slightly confused with the concept of editing a game together or took some time getting used to the process of creating a sequence. These issues were resolved quickly as the users learned what they could do in the interfaces.

The visual aspects of the website were well received and our users were successfully able to navigate through it. There were some differences in opinion about whether the introduction video loaded quickly enough. In the website suggestions section of our survey, one user had a good observation that each of our menus, on the left side of the page, was specialized at conveying information about one task. However, the introduction video menu, while leading to our opening video, also led to the game download link. On a site where every other feature has its own section, we realized we should follow this pattern for the software download.

From the open-ended response concerning the website, we received a lot of varying feedback from the users. There was interest for additional video clips, re-ordering of menus on the site, re-sizing the site, and improved video load times. We also found that users didn't have much motivation to stay on the site much longer than it takes to watch the introduction video and download the game.

Following the game and website questions, we asked users for their opinion on topics that didn't belong to any particular category, but would be useful to know about. Most users found the best part of the experience was delving into the video clips and constructing an ending sequence. Players also reported liking different characters rather than they're being one or two that were commonly liked or disliked. Participants reported that the video quality and

style of the website and game interface either acceptable or good. Unfortunately, as the game stands now, users weren't interested in buying or spending much money on the game.

## 8. Conclusion

The project was an attempt to find a new way of storytelling with the use of technology. We wanted to turn watching a video into a more interactive experience. The user surveys give us data showing that the game was challenging to learn and interesting to play. The data also shows that the interface and mechanics were challenging to understand at first, but became intuitive as players continued to play the game, learning how to use the interface.

Having a story revolve around a few characters and a central location helped in the filming of the project. The designing and planning that went into the creation of the story allowed the project to be a success with regard to filming and programming. Keeping the cast size small allowed us to manage the many variables associated with filming. The programming required for the website and game was radically changed once we evaluated the work that was required to implement many of the designs we originally wanted.

The drawbacks of the project proved to be due to a limited amount of time. Designing and developing a system to support the game we envisioned proved to be difficult. Some of the technical limitations, of skill or manpower, were a limiting factor in many of the mini-games and the features of the project. The combination of working with pictures, video clips, and user input, a mix of many different forms of media, resulted in a coherent, playable game.

A unique experience in media and games was something the group wanted to pursue for the new Interactive Media and Game Design major. The game interface was a technical achievement, inspired by many non-linear editing systems such as Adobe Premiere. This interface allows players to manipulate clips in such a way that they can make a story out of the given pieces; added with the human ability to interpret things differently, lead to bountiful possibilities. The coding that went into the product was built from the ground up, thus limiting the

amount of detail we could put into the system due to the lack of time. We wanted to break ground in a new way of storytelling in games and media with the overall design of the project.

Based on the requirements we created, that are shown in Section 4.3, we found that all of the IMGD requirements were successfully met. Our past experiences with filming and editing video allowed us to achieve our goals and on time. The IMGD requirements acted as the basis on how the application and website should function technically. All of the CS requirements that dealt with the software application were also fully satisfied. Since software engineering was a strong suite of some of the group members, it was fairly straightforward to complete. Many of the aspects of the application were planned out weeks in advance so that implementation of it would go smoothly.

The requirements that encompassed the website functionality was partially met. The three major goals for the website was to allow players to obtain our game, watch the introductory video and also socialize with other players who have uploaded videos to the website. The first two of these three were met but the community aspect was cut short as described in Section 6.2.3. We did create a temporary workaround for this issue to allow players to download videos created by other users. Even though we never got this final functionality of the website completed, we felt that the overall result of the project was a success because we were able to create a story and application that allowed players to create their own ending video to our story.

## 9. Project Experience

Working under WPI faculty greatly aided in the management of the project. We had the guidance of our advisors to help us get to the next level of project maturity. We found ourselves constantly asking questions about the final result and the method we would use to get there. This experience shaped the initial conception of the project into in a more refined and detailed project.

Working together as a team brought many skills and talents together to achieve a very successful project. It was interesting to note how our project went through many levels of development. We had to use our artistic talents to express our ideas into a script. This script was our backbone for a filmed representation of our ideas. This travel from text to visual representation in film is the culmination of our IMGD career at WPI.

Nelson Nogueira worked heavily on programming the website and game interface. His skills both artistically and technically were challenged by this project as he needed to create, implement and evaluate his website, game, and art assets into the game. Nelson created many assets in Photoshop that became a big part of the game itself, from the circuit board, to creating the monitors by scratch, Nelson's handiwork, both technical and artistic moved the game from idea into reality.

Alex Laferriere created most of the idea behind the world "Chipped" takes place in. His passion and talents for film were tested within the project. The directing and filming of actors over the course of seven weeks was a challenging and rewarding experience for this aspiring writer/director. The visual look of the filmed clips and overall scope of the game was an idea Alex wanted to build for his MQP. Knowing that interactive media projects are scarce for this new Major, Alex wanted to incorporate many aspects of media, and games, resulting in an open-ended, user controlled story.

Eric Kolodziejczak utilized his ability to adapt to changing circumstances, filling gaps where the project needed to be supported. Eric's ability to transform into a jack-of-all-trades, gave him the unique opportunity to be the star of the project. While acting for 7 weeks, and creating art assets for Nelson, he worked on the balance and construction of mini-games. Eric's ability to handle many different project aspects, through the use of a diverse skill set, allowed him to relieve other members of smaller side projects, like creating smaller art assets, writing an ending to the introduction video, or create an overall website layout. The unique combination of skill sets and talents were utilized in "Chipped" and resulted in success for each member.

The incorporation of computer science experience, gained over the four years here at WPI, resulted in the creation of a new system of managing the video clips and interacting with a game environment. With the development of a new game-play style and a unique user interface, many factors had to be considered when evaluating the effectiveness of what was created. The technical portion of the project, combined with the technical prowess of our advisors, supported and refined the artistic ideas that were drafted in the beginning of the project. Overall, the project experience was the balance of technical and artistic achievement.

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## Appendix A: Glossary

AI - Artificial Intelligence: refers to the intelligence of machines and the field of computer science involved in creating it

A.R.G. - Alternate Reality Game: interactive narrative that uses the real world as a platform

CS - Computer Science: computer programming major at WPI

CU - Close Up: filming technique where only a certain feature of the subject takes up the screen

GBs - Gigabytes: approximately one billion bytes of computer storage

GUI - Graphical User Interface: allows people to interact with electronic devices

HD - High Definition: video format that has higher resolution than normal video

IMGD - Interactive Media and Game Development: major at WPI

MBs - Megabytes: approximately one million bytes of computer storage

MQP - Major Qualifying Project: a project that is an accumulation of topics learned at WPI

Non-linear editing systems – software allowing free form editing of digitized movie clips.

SD - Standard Definition: video format that meets average standards for viewing resolutions

Sequence Numbers: the order of the clips the user assembled

WPI - Worcester Polytechnic Institute: a private technological university in the heart of New England

WS - Wide Shot: filming technique where the entire subject takes up the scene

## Appendix B: The Script

### *The Script of the Introduction Video.*

INTERIOR LAB

A man in a professional suit stands in a lab filled with equipment and instruments. He addresses the camera as being his partner, who is actually the player.

VEYA

I can't believe we found the chip. This sort of technology never made it past the development phase. I still don't believe what they said about this thing, I would never put this in my head, no matter how much they say it can help humankind. Now we're supposed to go into it and make sense of it all. Damn thing looks fragmented and damaged. The higher ups aren't gonna like that...We gotta give them some definitive answers.

Veya handles the chip, fiddling with the computer.

VEYA

It seems that this chip's sorting mechanism went on the fritz.  
Now we can't tell what was truth, desires, dreams, memories or even simply thoughts of the moment. \*Sigh\* Lets see what we got here.

Veya "plays the chip".

Warehouse

Two men fight in close combat. Tony, in a suit and tie, seems like he is on the verge of losing. SAM, wearing a suede gray jacket seems like he's out for blood. The two men break apart.

SAM

Damn it Tony, this has got to end.

Tony

Sam, you're the one that went and got yourself chipped.  
What did you think that was going to do?

SAM

Help me. That's what.

TONY

Help you? You haven't even realized what it's doing, do you!?

PSSH! The Screen statics.

TONY

Help you? Do you even know what I've been watching you do?

PSSH! The Screen Statics.

TONY

Help me? I think you're going to regret doing this Sam,  
you should have given up when you had the chance.

PSSH!

SAM

I know what I did to myself. It's only allowed me to do things like this!

Sam takes a swing at a granite pillar, smashing pieces of it off.

PSSH!

INTERIOR KITCHEN APT.

SAM, dressed in a white muscle shirt sits with REBECCA at a kitchen table. REBECCA wears a red cotton dress.

SAM

Tony's been threatening us for sometime.  
I don't want anything to happen to us.

REBECCA

Sam, you've been working too hard. I don't think you're thinking clearly.  
We've been fine for almost a year now and Tony's men have let up.

PSSH! The screen statics for a second. Rebecca is wielding a knife.

SAM

Rebecca! No!

PSSH! Rebecca is normal.

REBECCA

No, what? Sam, you've got to get some rest, this desk job is killing you.  
This is only going to help all of us out. You can't keep doing what you used to do.

PSSH! The screen statics.

EXTERIOR CITY STREET

Sam is running after some street kids, yelling obscenities.. Sam stops, letting his targets go.  
PSSH!

INTERIOR KITCHEN APT.

Rebecca sits with blood dripping down her forehead.

SAM

Rebecca!

Sam stands to get a towel, Rebecca slumps over the table.

PSSH! Sam is sitting again with towel in hand, Rebecca looks on concerned.

REBECCA  
Honey, please.

Rebecca wipes his brow.

REBECCA  
What did you see the doc for anyway?

SAM  
Nothing.

Sam rises and exits. Rebecca brings her hand back, feeling blood that has dripped off of Sam's Brow.

PSSH!

ALLY WAY

Sam is huddled over a body, he stands and scans down each passage.

SAM  
I'm coming for you Tony.

A young punk lays at his feet, coiled over in pain. Sam reloads his gun, takes in the air and begins to stride off.

PSSH! Sam is huddled over a body, he stands and scans down each passage.

SAM  
Is this the best you can do Tony?

A young woman lays on the ground, looking very much like Rebecca. Sam reloads his gun, but takes notice of his victim!

SAM  
Rebecca?

Sam Kneels by her side. Looking up and down the ally, unsure of what has just happened.

SAM  
What have they done to you?

Sam stands, worried, making to leave, he breathes deeply.

PSSH!

INTERIOR LAB

SAM and a doctor are arguing in a lab filled with lab instruments.

SAM

It's going to display where I am at all times? Why do you think that's going to help?! I can't be seen!

DOC

Sam, Listen, it can also make you smarter, faster. Everything that humans do stems from the brain. Why not improve your output?

SAM

And this-this chip can do that?

DOC

Just a little god given power; the power of technology.

SAM

What about the side effects?

DOC

What side effects?

PSSH!

ALLY WAY

Sam opens his eyes to see that there is no body at his feet. Sam shakes his head and looks down the ally, he reloads his gun and takes off.

PSSH!

As Sam disappears down the ally, DOC and Tony turn the corner, slowly walking to where Sam was, looking down at the body of a dead punk.

TONY

(aggressive)

What is he seeing?

DOC

(Frightened)

I-I'm not sure.

TONY

Damn it!

PSSH!

INTERIOR BEDROOM

SAM wakes in a fright, breathing heavily.

SAM  
Rebecca? Rebecca?

Rebecca wakes next to Sam.

REBECCA  
Is it happening again?

SAM  
I think I need to see the Doc.

REBECCA  
Who?

SAM  
The Doc.

REBECCA  
Are you?

SAM  
Huh?

REBECCA  
Who are you?

SAM  
Rebecca?

REBECCA  
You're Rebecca?

SAM  
No you are.

REBECCA  
Sam?

SAM  
What the hell is wrong with you?

REBECCA  
You're chipped.

SAM  
What?

REBECCA  
The Doc is going to chip you. You can't sort your mind out.

Sam grabs onto Rebecca, shaking her.

SAM  
Stop it!

REBECCA  
It's hurting-

Sam stops.

REBECCA  
-you. It's hurting you. Us.

PSSH!

Sam wakes up, breathing heavily.

SAM  
Rebecca? Rebecca?

REBECCA  
(VO)  
Sam?

Sam looks over to Rebecca.

PSSH!

INTERIOR LAB

The Doc and Sam continue a conversation.

SAM  
I need help against Tony.

DOC  
Sam, I can't help this time.

SAM  
Don't you have *anything* for me?

DOC  
No.. You're not even supposed to be here.

SAM  
Rebecca said to-!

DOC

Sam, You can't hold onto that.

SAM

Don't tell me what I can't do!

The Doc contemplates.

DOC

Come see me next week. I think I can lift something out of R&D.

PSSH!

INTERIOR LAB

Once again, the camera takes the form of Veya's partner. Veya stops watching the chip and turns to the computer.

VEYA

That's it? That's all that's intact...if you can even call it that. We can't rewrite the beginning part of the chip, so we've got to make sense of what's there... Like I said before, these clips are a mess of dreams, thoughts, memories, and desires, we don't actually know what happened; but we have to tell the higher ups something. From the remaining fragmented clips, you should assemble the rest of the story to how you see fit.



## ***The Script of Ending 1***

INTERIOR BEDROOM

Sam wakes from his sleep.

SAM  
Rebecca? Rebecca?

Sam turns and sees there is no Rebecca.

SAM  
Tony..!

Sam gathers himself and rockets out of his bed. Sam, meticulously puts on his clothes, including his gray suede jacket. While getting his pants on, he is eying something off camera, stern faced. Sam approaches the door to leave then pauses. Sam moves over to the closet and sifts around revealing a gun. Sam reloads the weapon.

SAM  
I know where he is...

EXTERIOR SAM'S PLACE

Sam exits his place, running through the city streets.

EXTERIOR WAREHOUSE

He ends up at a warehouse. Sam scans up and down the building, reloads his gun and runs in.

INTERIOR WAREHOUSE

Sam creeps about the warehouse, looking for Tony, he encounters him holding a gun to Rebecca's throat.

SAM  
Tony! Let her go!

TONY  
I thought you'd never show up Sam!

Rebecca  
Sam! Don't. Stop.

SAM  
I'll handle this Rebecca, he's not going to hurt us any longer.

REBECCA  
Sam! Listen to me!

TONY

Always the do-right, huh Sam? You took her away from me before, but not this time!

Tony makes to shoot Rebecca.

REBECCA  
Sam! Stop!

SAM  
Tony stop! This is between you and me.

TONY  
You couldn't be anymore right.

SAM  
Then let her go!

TONY  
Why don't you?

SAM  
What are you talking about?

TONY  
You don't remember me, do you?

REBECCA  
Sam! Listen to me! It's the chip! The suppression chip is breaking down. Tony is leaking through!

The camera zooms in onto Sam's Eye and Zooms out. We see it is Sam that is holding Rebecca by the neck with a gun, he looks like Tony did and speaks both Tony's and Sam's lines.

TONY  
You were such a criminal when I was around. Then they tried to get rid of me!  
When Sam speaks, the gun against Rebecca loses its pressure on her throat.

SAM  
Tony, you're out of your mind.

TONY  
And so Mr. Good guy was created. Why do you think you are so good with a gun, Sam! Why do you think you could never catch me, I am you! Except you've been enjoying *my* Rebecca!

REBECCA  
Sam!

TONY  
Sam is lost in this infernal chip! Soon to become a digital memory. Sorry, Rebecca, you shouldn't have tried to lock me away to save Sam. I always loved you, just too bad you loved Sam more!

"Sam" leans in and kisses Rebecca on the top of her head, Rebecca screams and "Sam" then fires the gun that is pressed up on her neck, the trajectory should kill them both.

### ***The Script of Ending 2***

INTERIOR LAB

Tony looks ill, holding his head.

Tony

God Dammit, I lost him. He assured me that the chip would work. I should have known it would malfunction. What am I supposed to do now? Its all gone to hell, and he's no where to be found! Ugh...I feel horrible right now.

INTERIOR WAREHOUSE

Tony

Sam, have you gone mad?!

Tony comes from nearby with a gun pointed at Sam.

Sam

I don't care what it takes to get you to come out. Now where's Rebecca?!

TONY

Rebecca?!

SAM

Where is she Tony?

TONY

I don't have Rebecca, but I'm trying to find her to protect her.

SAM

Enough of your lies! Tell me where you're hiding her or your dead.

TONY

I'm not lying, Sam. I'm a cop.

SAM

A cop? Don't make me laugh. I can see that you're chipped!

TONY

It's only your own chip that's making you see that Sam.

SAM

It's pointless to argue any longer with someone like you. I'll make it simple; this is your last chance to save yourself.

TONY  
You're making a mistake.

Sam fires the gun. (Sam hits Tony, and a variation, Tony hits Sam, Lastly, they hit each other).

EXTERIOR CEMETERY

The Doc is visiting the gravestone of someone.

DOC  
It really is a shame. Another young life gone to waste, and it was completely worthless to me. I just have to keep persisting. No matter how many chips I have to implant people. They will find my daughter. Rebecca is the only one in this world that matters to me.

### ***The Script to Ending 3***

EXTERIOR SAM'S PLACE

Sam exits his place, running through the city streets towards the warehouse.

INTERIOR WAREHOUSE

Sam enters the warehouse and spots Tony who is standing behind a woman with his arms wrapped around her and a blanket draped over her. Sam sneaks up on Tony.

SAM  
Tony. It's over.

Sam leans in close to Tony and pokes the gun barrel into Tony's back.

TONY  
Who are you?

SAM  
What do you mean "who are you"?

Sam presses the gun harder against Tony.

SAM  
Don't play games. You've been after us for years. Threatening both Rebecca and me. He whispers into the woman's ear. The Woman stands and walks away without any questions.

SAM  
Wait, Rebecca! Don't!

"Rebecca" continues on her way.

TONY  
Sam?! It can't be. Where have you been?

SAM  
Where I've always been. Living with Rebecca, until you decided to come back!

TONY  
That's impossible. She's been dead.

SAM  
LIAR! We were together last night!

TONY  
I don't know how you survived. It was nearly a 300 foot drop.

SAM  
What are you talking about... Don't play games with me!

TONY

You don't remember do you? You killed Rebecca... We were never able to find your body.

SAM

STOP IT! YOU'RE LYING! You're keeping her from me in that room over there. Rebecca, I'm here for you!

TONY

I knew your passion for Rebecca would overtake your chip. Lisa show yourself. The woman returns, it is not Rebecca.

SAM

No...no, it can't be. I killed her? I don't remember any of this.

TONY

Put the gun away Sam, this can all be fixed. I'll get you help. They will get you straight.

SAM

I don't need help!

TONY

We thought we would never see you again; Mom will be so happy your back. Our whole family gave up hope.

SAM

Our family? You're speaking nonsense.

TONY

I think if you look deep enough you'll see that we are..

SAM

..brothers?

Sam jerks the gun into Tony deeper not knowing what to believe. His hands start trembling as his head starts to twitch. Sam falls to the ground and appears to have passed out.

INTERIOR LAB

Sam is semi-conscious as the Doc and Tony stand over him.

DOC

You think he believed you?

TONY

Yes definitely. He believed every word.

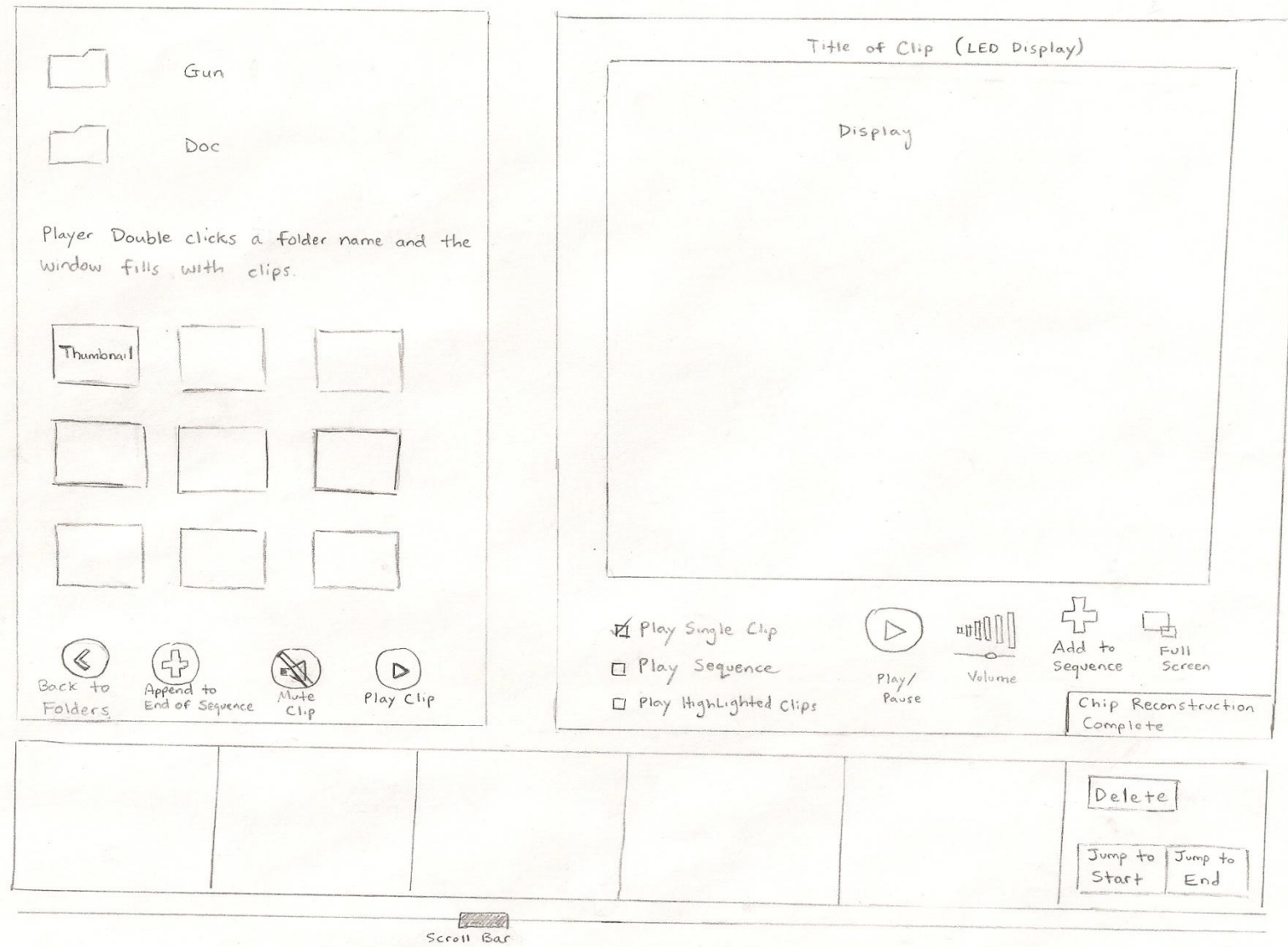
DOC

Good. It looks like overloading the chip short-circuited it....as planned.

TONY

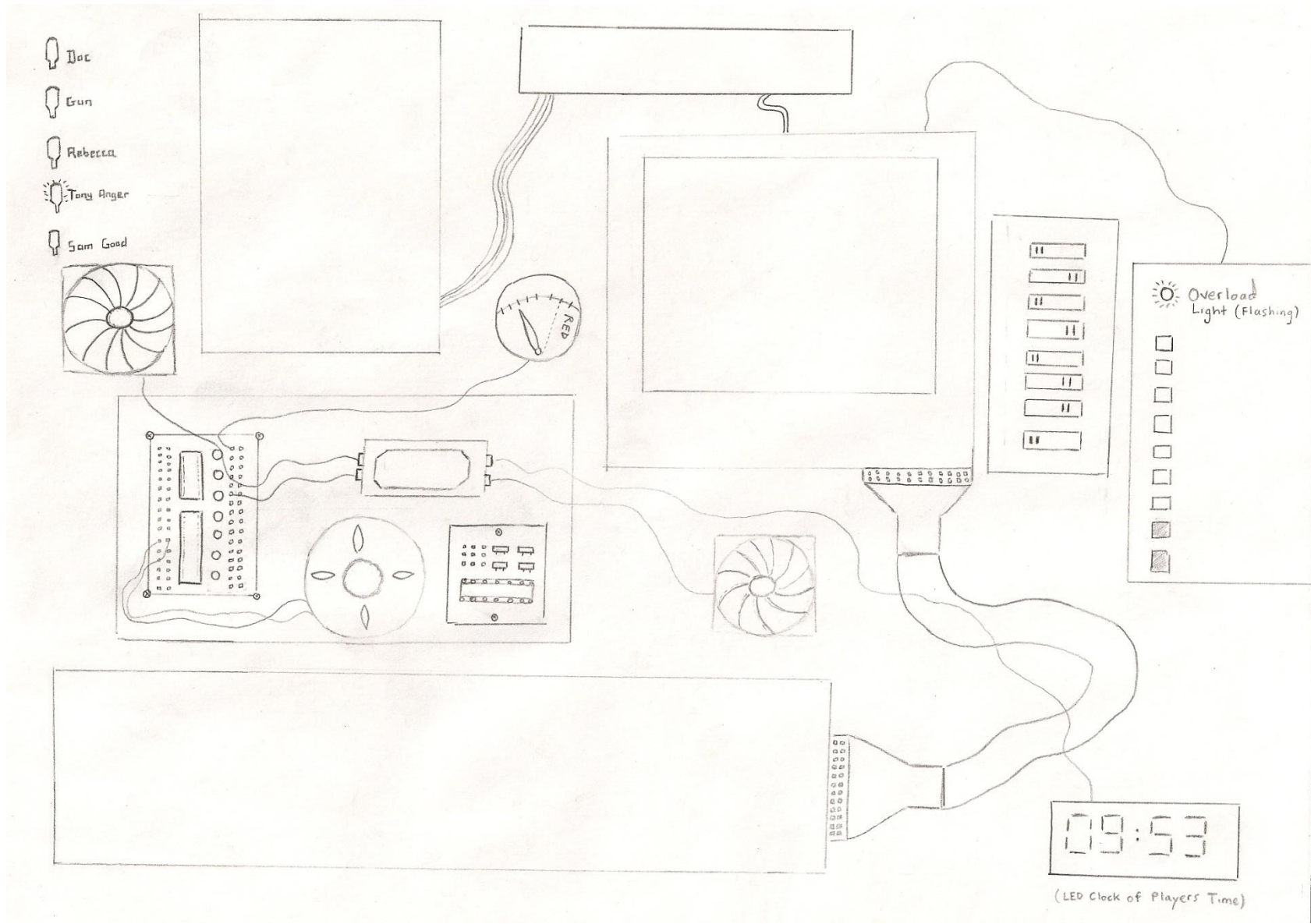
Let's just hope we can cover all this up. I don't want to have this trailing back to me. We have to close this case quickly or else....

## Appendix C: Rough Draft Monitor Interface for the Game





## Appendix D: Rough Draft Circuit Board Interface for the Game



## Appendix E: Production Layout

Location	Page#	Length	Actors	Special Props	Costumes
<b>Int. Lab</b>					
ECE lab	1	0.5	Veya	Chip, computer	Suit/Lab coat
	8	0.5	Veya	Chip, computer	Suit/Lab coat
	4	0.5	Sam		Gray Coat
			Doc		Lab Coat
	7	0.5	Sam		Gray Coat
			Doc		Lab Coat
	1e	0.25	Tony		Suit
	3n	0.5	Doc	Chip or no chip	Lab Coat
			Tony		Suit
<b>INT. Bedroom</b>					
7g2 Bedroom	5..7	1.5	Sam		Muscle Shirt
			Rebecca		PJs (Red Dress)
	1a	0.5	Sam	Clothes(Gray) Gun	White Shirt
<b>Int. Warehouse</b>					
7g2 Basement	1	1	Sam	Granite, gun?	Gray Coat
			Tony		Suit
	1a	2	Sam	Gun	Gray Coat
			Tony	Gun	Suit
			Rebecca		Red Dress
	1e	1	Sam	Gun	Gray Coat
			Tony	Gun	Suit
	1n	2	Sam	Gun	Gray Coat
			Tony		Suit
			Lisa	Blanket	Red Dress
<b>INT. Kitchen Apt</b>					

7g2 Kitchen	2 & 3	2	Sam	fake blood	Muscle Shirt
			Rebecca	Towel	Red Cotton Dress
<b>EXT. City Streets</b>					
Union Station	3	0.5	Sam	Gun?	Gray Coat
			Kids		
<b>Ext Alley Way</b>					
Union Station	4 & 5	0.5	Sam	Gun	Gray Coat
			Dead Punk		
			Rebecca		Red Dress
			Tony		Suit
			Doc		Lab coat? Trench Coat?
<b>EXT. Sam's Place</b>					
	1a	0.25	Sam	Gun	Gray Coat
<b>7g2 Ext.</b>					
	1n	0.25	Sam	Gun	Gray Coat
<b>Ext. Warehouse</b>					
7g2 Backlot	1a	0.5	Sam	Gun	Gray Coat
<b>Kaven Hall Dock</b>					
<b>Ext. Cemetery</b>					
Higgin's Garden?	2e	0.5	Doc		Trench Coat
<b>Worcester Cemetery</b>			<b>Additions:</b>		
			Sam	Standing	
			Tony	Standing	

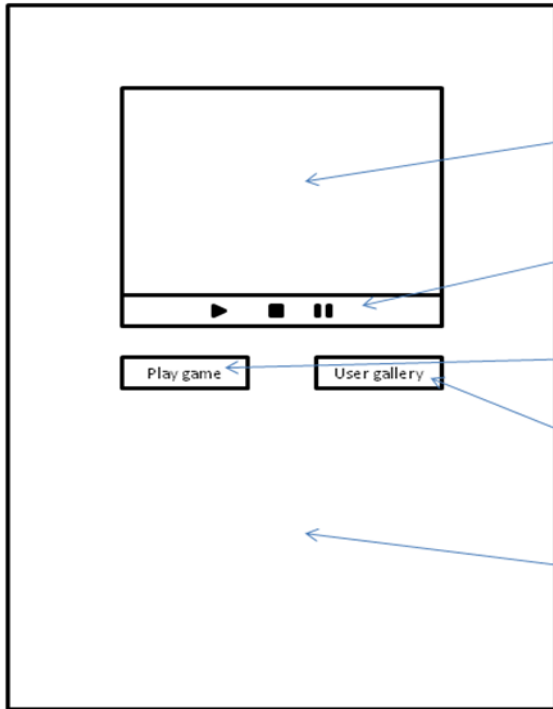
## Appendix F: Production Schedule

November 2008						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26	27	28 First Day of Term	29	30	31	1 • Cast & Crew
2	3	4	5	6	7	8 • Ext. City Streets • Ext. Cemetary • Ext. Alley Way
9 • Ext. Warehouse • Ext. Sam's Place	10 • Import, Sort, Edit	11	12	13	14	15 Extra Film Session
16 Extra Film Session	17 • Import, Sort, Edit	18	19	20	21	22 • Int. Kitchen • Int. Bedroom
23 • Int. Warehouse	24 • Import, Sort, Edit	25	26	27	28	29
← Thanksgiving Break →						
30	1	2	3	4	5	6 • Int. Lab

December 2008						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	1	2	3	4	5	6 • Int. Lab
7 • Import, Sort, Edit	8	9	10	11	12	13 Extra Film Session
14 Extra Film Session	15 • Import, Sort, Edit	16	17	18 Last Day of Term	19	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3

## Appendix G: Initial Website Layout



Main page

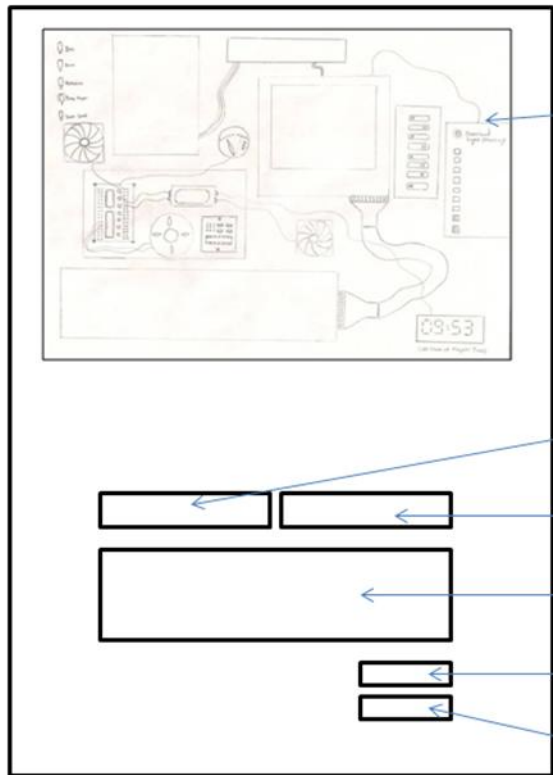
Embedded video

Playback video tools

Link to the game play GUI

Link to the user generated video

Simple background image (or color)



game play GUI page

Interaction area

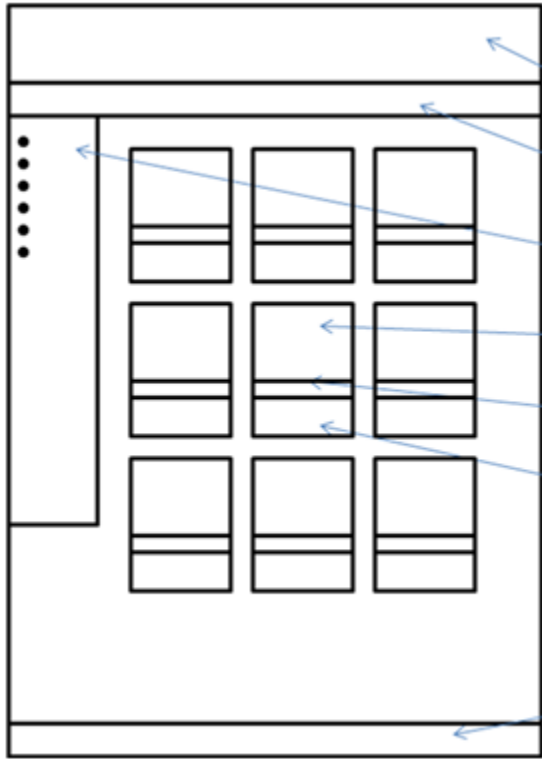
Text field to hold username

Drop down menu of movie genres

Text field to hold description of video

Submit video link

Quit and exit page link



Video Gallery Page

Header (image/logo)

Navigation links

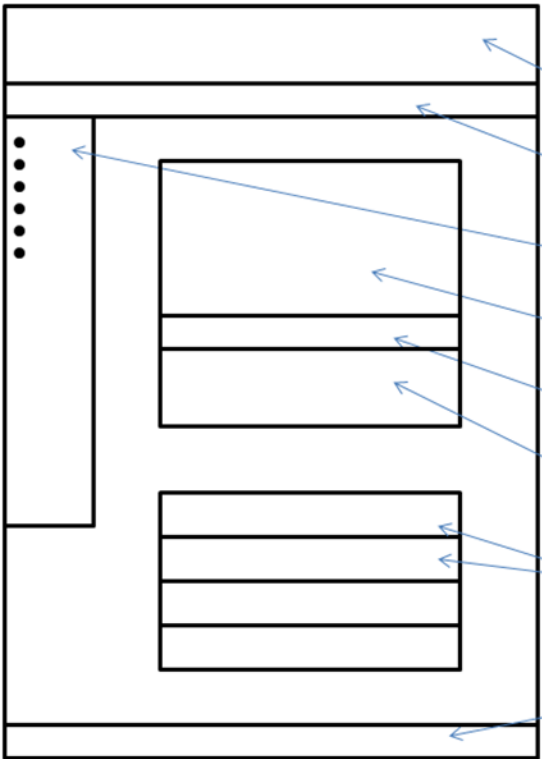
Categories of types of videos

User Video Image

Title of video

Description

Information footer (contact us)



Specific Video Gallery Page

Header (image/logo)

Navigation links

Categories of types of videos

User video

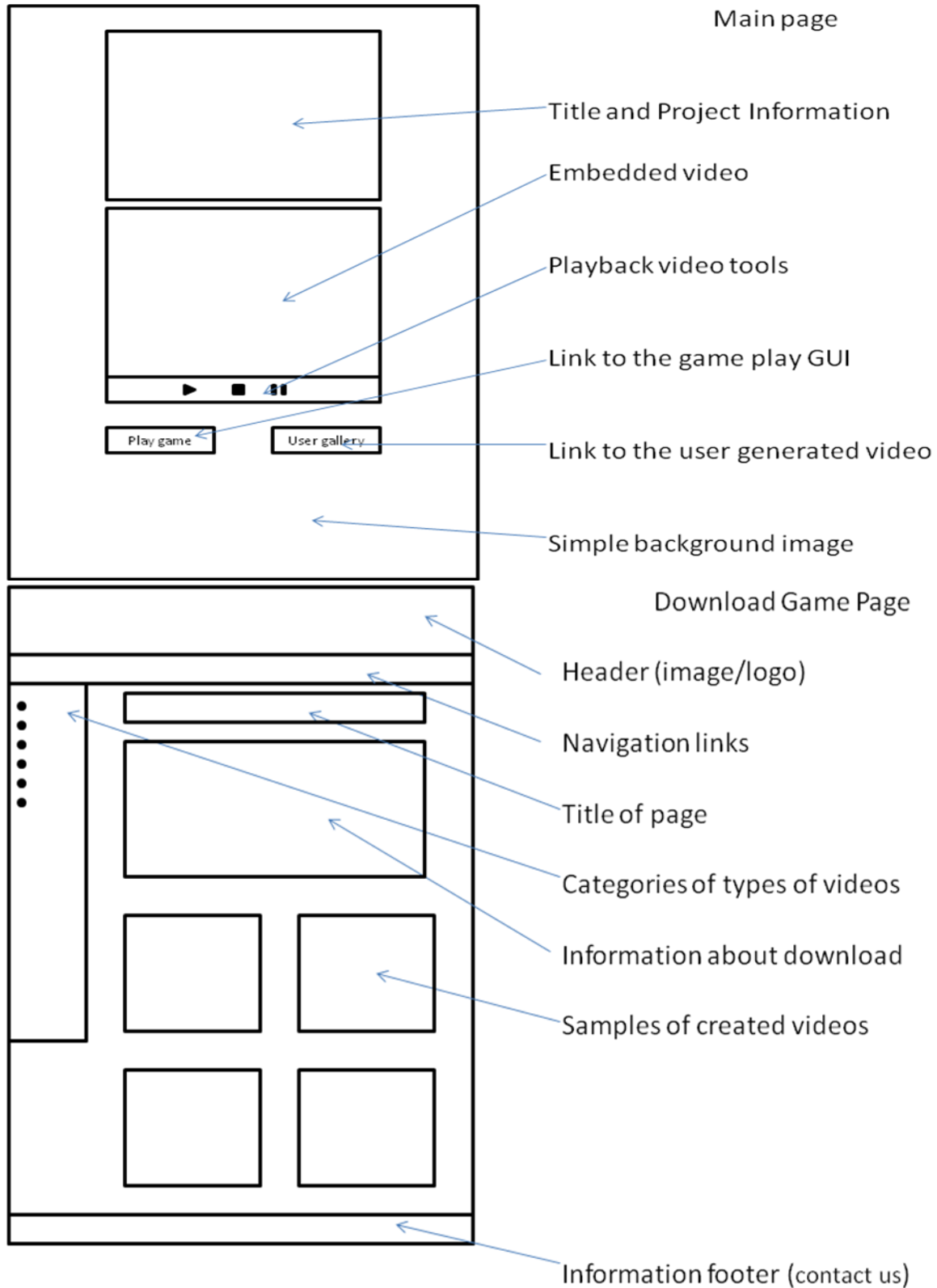
Video playback toolbox

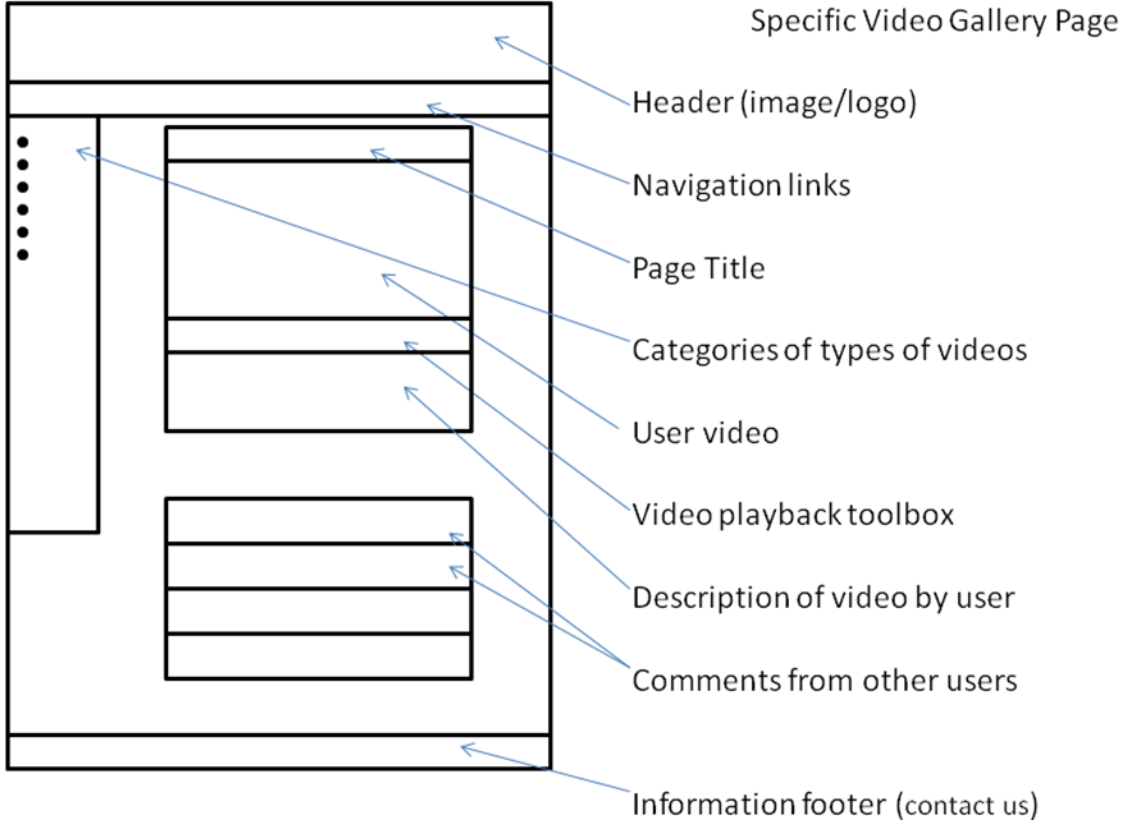
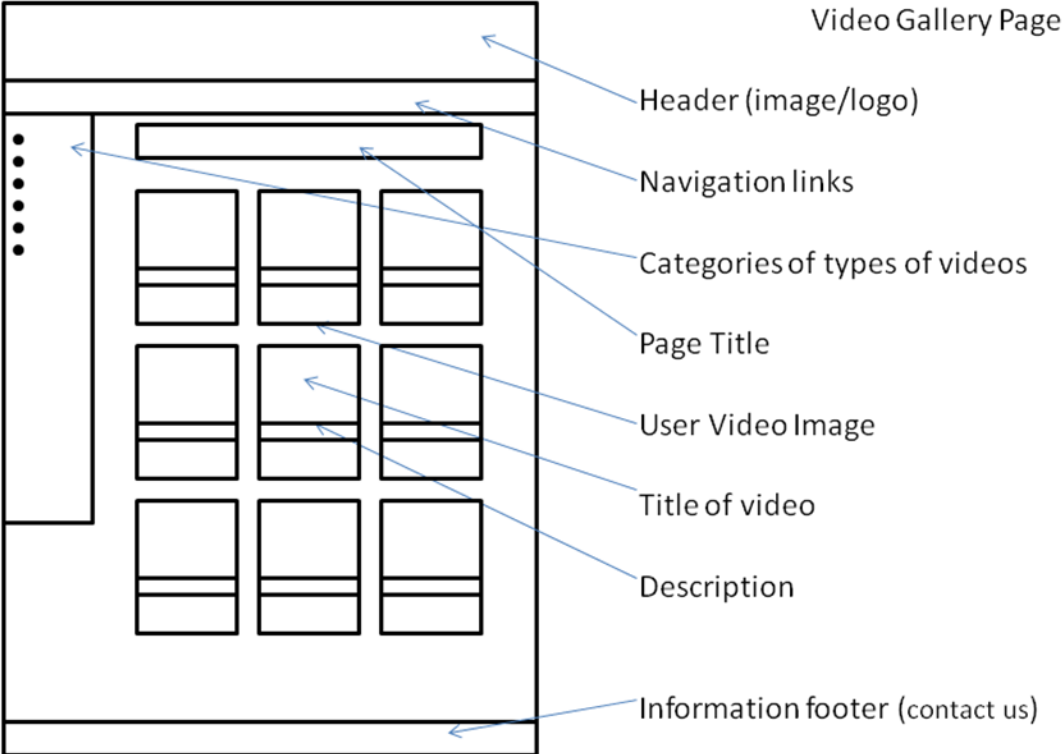
Description of video by user

Comments from other users

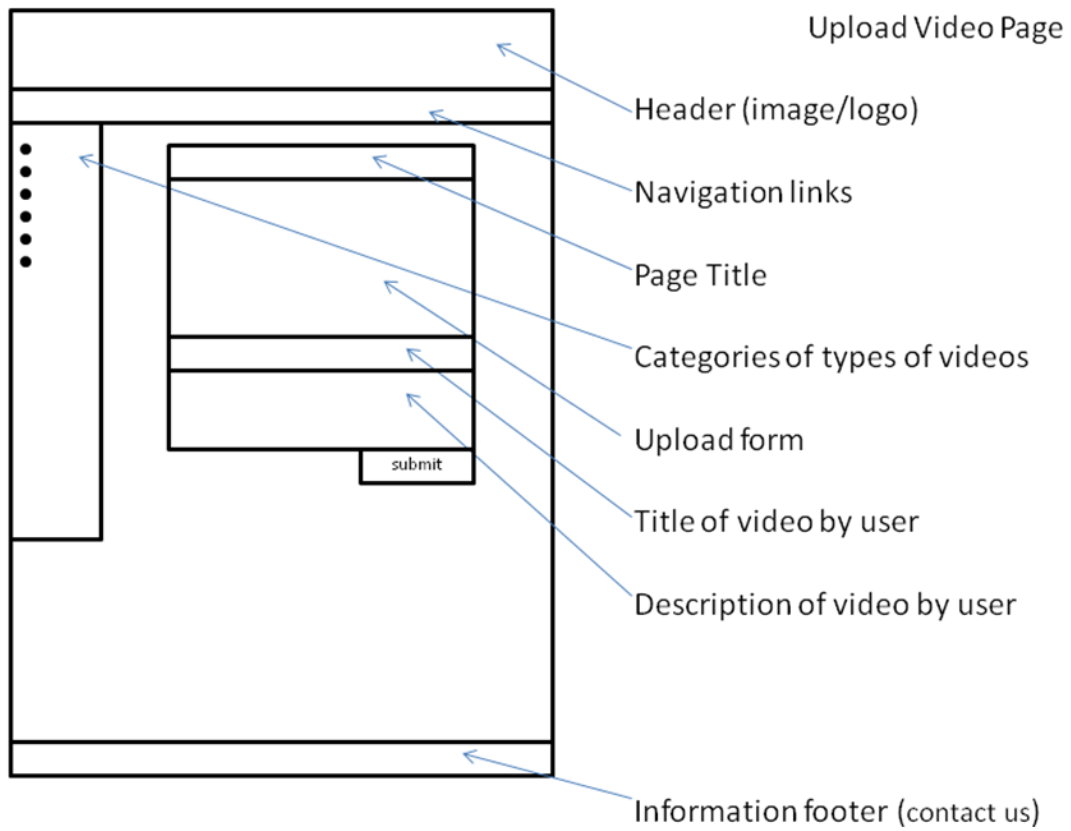
Information footer (contact us, copywrite?)

## Appendix H: Website Layout Version 2

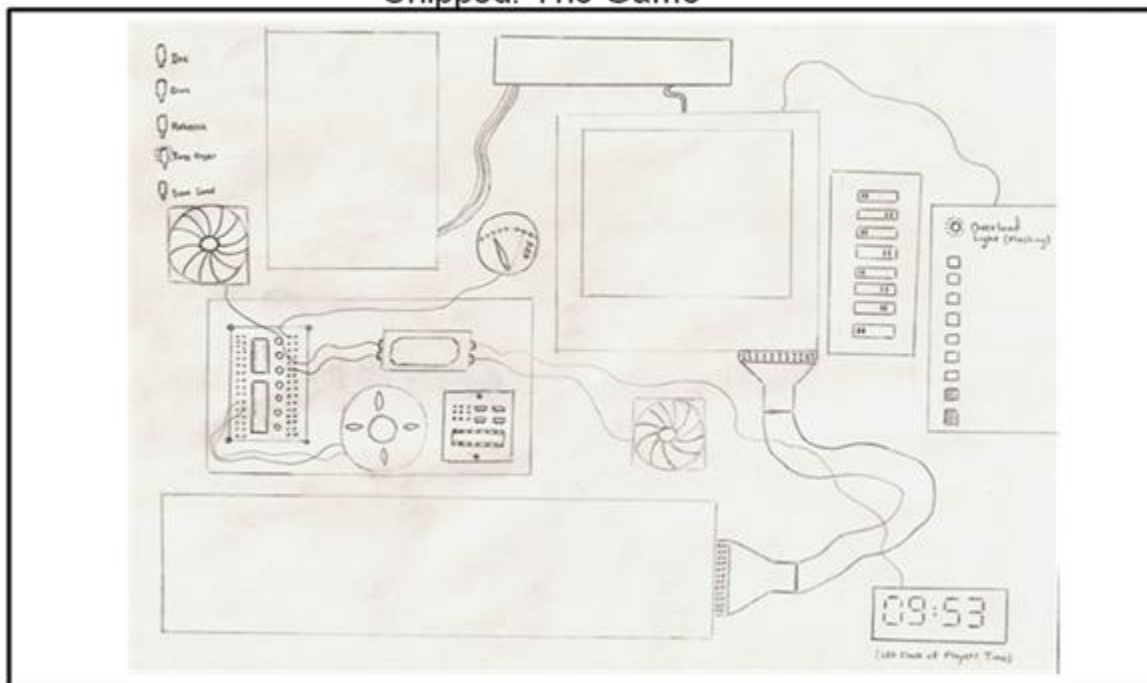




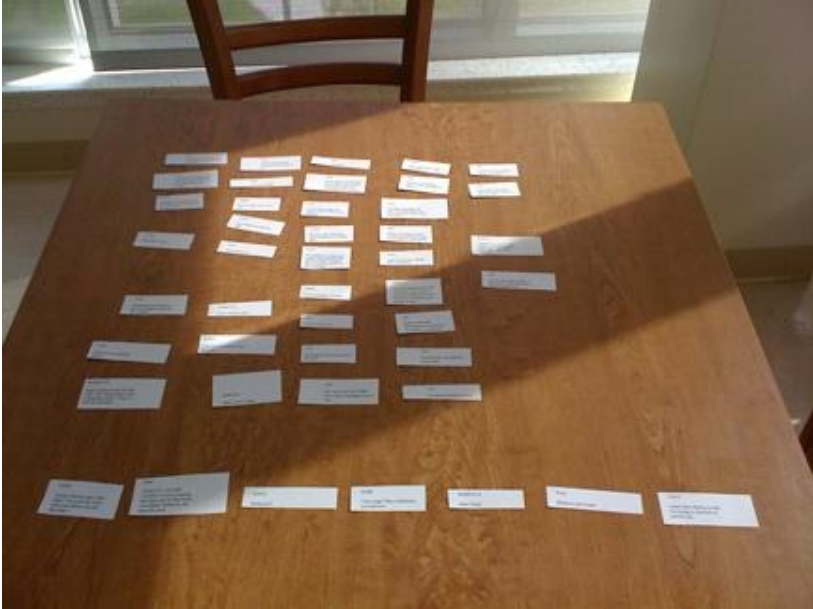
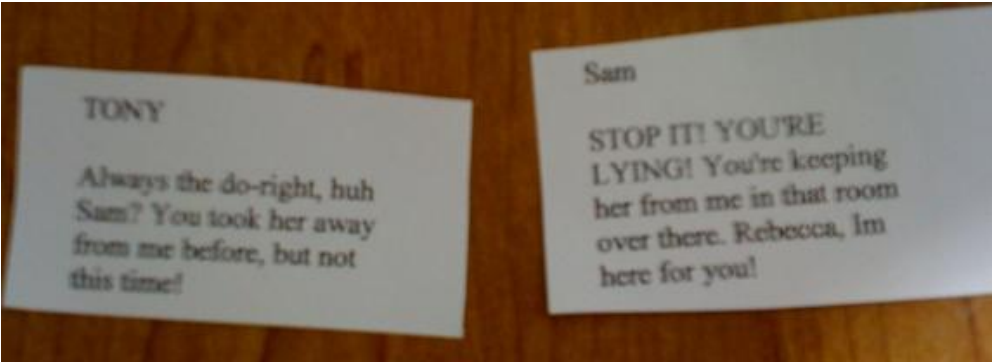




### "Chipped: The Game"



Appendix I: Paper Prototype



## Appendix J: Player Survey

### Survey Analysis: User #1

Fill in a bubble to the right based on your experience.

1. No    2. Mostly No    3. Sometimes / Maybe    4. Mostly Yes    5. Strong Yes

#### Game

Did you have fun playing the game?    No    ①    ②    ●    ④    ⑤    Yes

Would you be willing to create a second ending sequence? (Does the game have replay value?)    ①    ②    ③    ●    ⑤

Were you satisfied with the mini-games?    ①    ②    ●    ④    ⑤

Were you satisfied with the pre-filmed clips you were provided with?    ①    ②    ③    ●    ⑤

Were you able to locate the clips you wanted to use in your edit quickly?    ①    ●    ③    ④    ⑤

Do you feel the clips were well-organized?    ①    ②    ●    ④    ⑤

Was it easy to infer what you were allowed to do within the game interface?    ①    ②    ③    ●    ⑤

#### Website

Was the website pleasing to look at?    ①    ●    ③    ④    ⑤

Was it easy to figure out what you were able to do?    ①    ②    ●    ④    ⑤

Did you find that the website was functional?    ①    ●    ③    ④    ⑤

Did the website have enough content to keep you interested?    ①    ②    ●    ④    ⑤

### Game Questions

What one word would you use to describe the mini-games?

Easy

Talk about the mini-games you liked or didn't like.

They were all pretty easy. Meter one has potential.

Would you have changed any of the mini-games or could you propose other mini-games?

Drop them all or make them harder. Maybe the computer could command you to click something and if you failed to react correctly in time you would lose videos.

What was the most confusing part of the game?

Trying to make storylines that matched up logically

What would you do to improve the game?

More locations. Seems like the story had to take place in that 1 room...

What was your opinion of the video clips you were provided with? (Did they limit your creativity in constructing a story or did they give you an enjoyable amount of alternatives)

Limited, you read my mind.

### **Website Questions**

How much time did you spend at the website?

Little time

What was your favorite section of the website?

Intro video

What was the most confusing part of the website?

Wasn't confused

What would you do to improve the website?

Something that I could do. Games?

### **Overall Questions**

What was your favorite part of the experience?

Watching the introduction

What was your least favorite part of the experience?

Trying to make a video myself

What was your opinion of the characters? (Favorite character, least favorite, any other comments)

Sam was the best

Did the websites and games styles, fonts, and colors mesh well together?

They were good

What is your opinion of the video and sound quality throughout the experience?

Wanted a bit higher quality

What is your opinion of the acting? (Talk about any characters you wish or simply in general)  
Not bad

Do you think a help section was necessary for any part of the website or game?  
Self-Explanatory

What five words would you use to describe the overall experience? (From the time you encountered the site until you uploaded a video clip)  
Difficult, confusing, time-consuming, technology, original

How much would you be willing to spend on this game?  
Nothing, sorry

Any other comments you'd like to make?  
Negative

## Survey Analysis: User #2

Fill in a bubble to the right based on your experience.

1. No    2. Mostly No    3. Sometimes / Maybe    4. Mostly Yes    5. Strong Yes

### Game

	No				Yes
Did you have fun playing the game?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 4	<input type="radio"/> 5
Would you be willing to create a second ending sequence? (Does the game have replay value?)	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Were you satisfied with the mini-games?	<input type="radio"/> 1	<input checked="" type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Were you satisfied with the pre-filmed clips you were provided with?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 4	<input type="radio"/> 5
Were you able to locate the clips you wanted to use in your edit quickly?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 4	<input type="radio"/> 5
Do you feel the clips were well-organized?	<input checked="" type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Was it easy to infer what you were allowed to do within the game interface?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/> 5
<b>Website</b>					
Was the website pleasing to look at?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Was it easy to figure out what you were able to do?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 4	<input type="radio"/> 5
Did you find that the website was functional?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Did the website have enough content to keep you interested?	<input type="radio"/> 1	<input checked="" type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

## **Game Questions**

What one word would you use to describe the mini-games?

Lame

Talk about the mini-games you liked or didn't like.

Would you have changed any of the mini-games or could you propose other mini-games?

What was the most confusing part of the game?

Trying to figure out who did what. The story was very chaotic.

What would you do to improve the game?

Maybe construct a linear storyline. The people were all over the place, and the clips made no sense

What was your opinion of the video clips you were provided with? (Did they limit your creativity in constructing a story or did they give you an enjoyable amount of alternatives)

Some of the clips were just silly, may have been the actors.

## **Website Questions**

How much time did you spend at the website?

Not that long

What was your favorite section of the website?

Gallery

What was the most confusing part of the website?

Nothing

What would you do to improve the website?

Better font, looked like a programmer did it.

## **Overall Questions**

What was your favorite part of the experience?

Seeing the possibilities

What was your least favorite part of the experience?

Trying to figure out what everything could mean

What was your opinion of the characters? (Favorite character, least favorite, any other comments)

I liked Tony

Did the websites and games styles, fonts, and colors mesh well together?

Yes, the style held strong throughout

What is your opinion of the video and sound quality throughout the experience?

Well produced

What is your opinion of the acting? (Talk about any characters you wish or simply in general)  
Rebecca was terrible

Do you think a help section was necessary for any part of the website or game?  
Maybe?

What five words would you use to describe the overall experience? (From the time you encountered the site until you uploaded a video clip)  
Tech-y, sci-fi, funny, weird, experimental

How much would you be willing to spend on this game?  
\$.99

Any other comments you'd like to make?  
Yes.



### Survey Analysis: User #3

Fill in a bubble to the right based on your experience.

1. No   2. Mostly No   3. Sometimes / Maybe   4. Mostly Yes   5. Strong Yes

#### Game

	No				Yes
Did you have fun playing the game?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 4	<input type="radio"/> 5
Would you be willing to create a second ending sequence? (Does the game have replay value?)	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/> 5
Were you satisfied with the mini-games?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Were you satisfied with the pre-filmed clips you were provided with?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 4	<input type="radio"/> 5
Were you able to locate the clips you wanted to use in your edit quickly?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/> 5
Do you feel the clips were well-organized?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 4	<input type="radio"/> 5
Was it easy to infer what you were allowed to do within the game interface?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/> 5
<b>Website</b>					
Was the website pleasing to look at?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/> 5
Was it easy to figure out what you were able to do?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/> 5
Did you find that the website was functional?	<input type="radio"/> 1	<input checked="" type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Did the website have enough content to keep you interested?	<input checked="" type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

## **Game Questions**

What one word would you use to describe the mini-games?

Creative

Talk about the mini-games you liked or didn't like.

The pipe game was great. The fan game got old.

Would you have changed any of the mini-games or could you propose other mini-games?

The fan game could be more involved.

What was the most confusing part of the game?

I had a little trouble at first selecting the videos properly. This became clear after a few clips.

What would you do to improve the game?

Perhaps add more bonuses for completing the mini-games or bonuses depending on completion time.

What was your opinion of the video clips you were provided with? (Did they limit your creativity in constructing a story or did they give you an enjoyable amount of alternatives)

I felt there was a lot of material to work with throughout the game. The clips were evenly abundant for all sections of the movies.

## **Website Questions**

How much time did you spend at the website?

I spent about 10 minutes on the website.

What was your favorite section of the website?

The introductory video was excellent.

What was the most confusing part of the website?

I thought the site was broken when the intro video did not load immediately.

What would you do to improve the website?

Faster load times.

## **Overall Questions**

What was your favorite part of the experience?

I really enjoyed making me own movie.

What was your least favorite part of the experience?

Playing the fan game.

What was your opinion of the characters? (Favorite character, least favorite, any other comments)

Tony and Sam were believable characters. Rebecca's performance could have been stronger.

Did the websites and games styles, fonts, and colors mesh well together?

Yes. I really liked the background of website. The whole game interface was appealing.

What is your opinion of the video and sound quality throughout the experience?

Excellent – definitely surpassing my expectations.

What is your opinion of the acting? (Talk about any characters you wish or simply in general)

Sam and Tony characters were well done.

Do you think a help section was necessary for any part of the website or game?

The website was pretty straightforward. The game was self explanatory after a few minutes.

What five words would you use to describe the overall experience? (From the time you encountered the site until you uploaded a video clip)

Intriguing. Entertaining. Unique. Interactive. New.

How much would you be willing to spend on this game?

\$5.00

Any other comments you'd like to make?

I was impressed with the originality of this game.

## Survey Analysis: User #4

Fill in a bubble to the right based on your experience.

1. No    2. Mostly No    3. Sometimes / Maybe    4. Mostly Yes    5. Strong Yes

### Game

Did you have fun playing the game?

No				Yes
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Would you be willing to create a second ending sequence? (Does the game have replay value?)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	----------------------------------	-----------------------

Were you satisfied with the mini-games?

<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Were you satisfied with the pre-filmed clips you were provided with?

<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Were you able to locate the clips you wanted to use in your edit quickly?

<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Do you feel the clips were well-organized?

<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Was it easy to infer what you were allowed to do within the game interface?

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
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### Website

Was the website pleasing to look at?

<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	----------------------------------	-----------------------	-----------------------

Was it easy to figure out what you were able to do?

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------	----------------------------------

Did you find that the website was functional?

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	----------------------------------	-----------------------

Did the website have enough content to keep you interested?

<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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## **Game Questions**

What one word would you use to describe the mini-games?

Marginal

Talk about the mini-games you liked or didn't like.

The meter game was the only one that proved to be worthwhile

Would you have changed any of the mini-games or could you propose other mini-games?

Mini-games needed more complexity

What was the most confusing part of the game?

I figured everything out pretty quickly

What would you do to improve the game?

I'd like to have some feedback or reward to know if my end construction was good

What was your opinion of the video clips you were provided with? (Did they limit your creativity in constructing a story or did they give you an enjoyable amount of alternatives)

They were slightly limiting. If more fictional stories were available, that would be ok.

## **Website Questions**

How much time did you spend at the website?

Just long enough to watch the intro video.

What was your favorite section of the website?

Intro video was good

What was the most confusing part of the website?

Everything else got its own tab on the site, except for download the game. Give him his own section

What would you do to improve the website?

Needs more content in general

## **Overall Questions**

What was your favorite part of the experience?

That room in the intro with the glass skull. Looked interesting.

What was your least favorite part of the experience?

Mini-games slowing me down

What was your opinion of the characters? (Favorite character, least favorite, any other comments)

Favorite character – the guy who was giving Sam the chip from R&D.

Did the websites and games styles, fonts, and colors mesh well together?

Yea, just wish the website was a little bigger.

What is your opinion of the video and sound quality throughout the experience?

Not a problem at all.

What is your opinion of the acting? (Talk about any characters you wish or simply in general)

Felt like Sam and Tony were trying to hard on those angry scenes

Do you think a help section was necessary for any part of the website or game?

No, I was fine without it .

What five words would you use to describe the overall experience? (From the time you encountered the site until you uploaded a video clip)

Entertaining Repetitive Long Unorganized Strange

How much would you be willing to spend on this game?

A few dollars at most and only if there was more content being added

Any other comments you'd like to make?

**Survey Analysis: User #5**

Fill in a bubble to the right based on your experience.

1. No    2. Mostly No    3. Sometimes / Maybe    4. Mostly Yes    5. Strong Yes

**Game**

	No				Yes
Did you have fun playing the game?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/>	<input type="radio"/> 5
Would you be willing to create a second ending sequence? (Does the game have replay value?)	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/>	<input type="radio"/> 5
Were you satisfied with the mini-games?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/>	<input type="radio"/> 5
Were you satisfied with the pre-filmed clips you were provided with?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/>
Were you able to locate the clips you wanted to use in your edit quickly?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/>	<input type="radio"/> 4	<input type="radio"/> 5
Do you feel the clips were well-organized?	<input type="radio"/> 1	<input checked="" type="radio"/>	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Was it easy to infer what you were allowed to do within the game interface?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/>

**Website**

Was the website pleasing to look at?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/>	<input type="radio"/> 5
Was it easy to figure out what you were able to do?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/>
Did you find that the website was functional?	<input type="radio"/> 1	<input checked="" type="radio"/>	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Did the website have enough content to keep you interested?	<input type="radio"/> 1	<input checked="" type="radio"/>	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

## **Game Questions**

What one word would you use to describe the mini-games?

Fitting

Talk about the mini-games you liked or didn't like.

I thought most of them were fine, in general they don't have a lot of replay value each.

Would you have changed any of the mini-games or could you propose other mini-games?

Just keep adding mini-games so they each come up less often.

What was the most confusing part of the game?

Meter game, I was in the green, I guess I needed to be in the center of it.

What would you do to improve the game?

More unexpected twists in storyline. Go further with the weirdness of characters.

What was your opinion of the video clips you were provided with? (Did they limit your creativity in constructing a story or did they give you an enjoyable amount of alternatives)

A little limited, I wanted more very different scenes.

## **Website Questions**

How much time did you spend at the website?

A little bit of time

What was your favorite section of the website?

The video was pretty good

What was the most confusing part of the website?

Nothing

What would you do to improve the website?

Forums or comments section

## **Overall Questions**

What was your favorite part of the experience?

Making my movie

What was your least favorite part of the experience?

I wanted to include more videos than the one I was given.

What was your opinion of the characters? (Favorite character, least favorite, any other comments)

Liked all the characters, especially the Doctor.

Did the websites and games styles, fonts, and colors mesh well together?

Yes, they were good.



What is your opinion of the video and sound quality throughout the experience?

Well done.

What is your opinion of the acting? (Talk about any characters you wish or simply in general)

Not too bad, not professional though.

Do you think a help section was necessary for any part of the website or game?

No

What five words would you use to describe the overall experience? (From the time you encountered the site until you uploaded a video clip)

Fun, Constructive, Innovative, limitless, new

How much would you be willing to spend on this game?

I wouldn't buy this game unless it was more expansive.

Any other comments you'd like to make?

Expand on it more please.

## Survey Analysis: User #6

Fill in a bubble to the right based on your experience.

1. No    2. Mostly No    3. Sometimes / Maybe    4. Mostly Yes    5. Strong Yes

### Game

	No			Yes
Did you have fun playing the game?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 5
Would you be willing to create a second ending sequence? (Does the game have replay value?)	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 5
Were you satisfied with the mini-games?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 5
Were you satisfied with the pre-filmed clips you were provided with?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 5
Were you able to locate the clips you wanted to use in your edit quickly?	<input type="radio"/> 1	<input checked="" type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 5
Do you feel the clips were well-organized?	<input type="radio"/> 1	<input checked="" type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 5
Was it easy to infer what you were allowed to do within the game interface?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 5
<b>Website</b>				
Was the website pleasing to look at?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 5
Was it easy to figure out what you were able to do?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 5
Did you find that the website was functional?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 5
Did the website have enough content to keep you interested?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 5

## Game Questions

What one word would you use to describe the mini-games?

Simple

Talk about the mini-games you liked or didn't like.

I wish the pipe game was a bit larger. Some of the ones that were easy like the plug game should come up far less frequently than the interesting ones

Would you have changed any of the mini-games or could you propose other mini-games?

Something that requires fast reflexes perhaps

What was the most confusing part of the game?

I was able to see a lot of thumbnails of videos but wasn't sure at first what I could do

What would you do to improve the game?

I felt like I wanted to hear some happy music, the mood was kind of awkward.

What was your opinion of the video clips you were provided with? (Did they limit your creativity in constructing a story or did they give you an enjoyable amount of alternatives)

I felt I still could be creative

## Website Questions

How much time did you spend at the website?

A few minutes

What was your favorite section of the website?

I would have liked to see a large scale gallery. That would have been nice.

What was the most confusing part of the website?

May as well put the intro video right below the home menu since it comes next for most viewers

What would you do to improve the website?

Add more video clips to the game or new storylines to the game

## Overall Questions

What was your favorite part of the experience?

Finishing my video

What was your least favorite part of the experience?

I guess, the lack of an ultimate goal or end victory.

What was your opinion of the characters? (Favorite character, least favorite, any other comments)

Favorite character – the first guy from the introduction movie. He seemed kind of like a lab technician. He fit the role well. I'm not sure if anyone else fit as well as him.

Did the websites and games styles, fonts, and colors mesh well together?

I thought they had good style

What is your opinion of the video and sound quality throughout the experience?

Pretty good.

What is your opinion of the acting? (Talk about any characters you wish or simply in general)

For a few scenes I thought the acting needed a bit of work, usually ok though

Do you think a help section was necessary for any part of the website or game?

A tutorial showing how to do everything wouldn't hurt.

What five words would you use to describe the overall experience? (From the time you encountered the site until you uploaded a video clip)

Innovative Artsy Emotional Dramatic Decent

How much would you be willing to spend on this game?

A little bit of money if more actors were introduced

Any other comments you'd like to make?

Will you give users the full story ever?

**Survey Analysis: User #7**

**Fill in a bubble to the right based on your experience.**

**1. No    2. Mostly No    3. Sometimes / Maybe    4. Mostly Yes    5. Strong Yes**

**Game**

	No				Yes
Did you have fun playing the game?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 4	<input type="radio"/> 5
Would you be willing to create a second ending sequence? (Does the game have replay value?)	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/> 5
Were you satisfied with the mini-games?	<input type="radio"/> 1	<input checked="" type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Were you satisfied with the pre-filmed clips you were provided with?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/> 5
Were you able to locate the clips you wanted to use in your edit quickly?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Do you feel the clips were well-organized?	<input checked="" type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Was it easy to infer what you were allowed to do within the game interface?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/> 5

**Website**

Was the website pleasing to look at?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/> 4	<input type="radio"/> 5
Was it easy to figure out what you were able to do?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/> 5
Did you find that the website was functional?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/> 5
Did the website have enough content to keep you interested?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input checked="" type="radio"/> 5

## **Game Questions**

What one word would you use to describe the mini-games?

Annoying.

Talk about the mini-games you liked or didn't like.

I liked the meter game. I don't like the fan game.

Would you have changed any of the mini-games or could you propose other mini-games?

No, I would now include Snake and/or Breakout.

What was the most confusing part of the game?

Watching the videos out of order!!!

What would you do to improve the game?

Lose the fan game.

What was your opinion of the video clips you were provided with? (Did they limit your creativity in constructing a story or did they give you an enjoyable amount of alternatives)

The video clips were abundant and did not limit my creativity. Watching the videos took long enough to hinder my creativity, but it was a tradeoff between gaining more material and creating my own movie.

## **Website Questions**

How much time did you spend at the website?

I spent about 10 minutes on the website.

What was your favorite section of the website?

The intro video.

What was the most confusing part of the website?

Uploading my video file.

What would you do to improve the website?

Make the home page fill my browser window.

## **Overall Questions**

What was your favorite part of the experience?

Watching the videos and choosing my own story.

What was your least favorite part of the experience?

I wish I could watch my video in-game instead of a separate window.

What was your opinion of the characters? (Favorite character, least favorite, any other comments)

Favorite character: Sam – he's ambitious and gets what he wants.

Least Favorite Character: The lab guy in the beginning of the intro video. He is pretty awkward and gives me evil glares for no reason.

Did the websites and games styles, fonts, and colors mesh well together?

Yes, the colors went well together.

What is your opinion of the video and sound quality throughout the experience?

The video and sound quality are of professional quality. Beautiful.

What is your opinion of the acting? (Talk about any characters you wish or simply in general)

I think the footage was surrealistic and inspired me to use my imagination at full capacity.

Do you think a help section was necessary for any part of the website or game?

No, I think it was intuitive enough.

What five words would you use to describe the overall experience? (From the time you encountered the site until you uploaded a video clip)

Simplistic, Interesting, Immersive, Enjoyable.

How much would you be willing to spend on this game?

\$0

Any other comments you'd like to make?

No.

**Survey Analysis: User #8**

**Fill in a bubble to the right based on your experience.**

**1. No    2. Mostly No    3. Sometimes / Maybe    4. Mostly Yes    5. Strong Yes**

<b>Game</b>	No				Yes
Did you have fun playing the game?	<input type="radio"/> 1	<input checked="" type="radio"/>	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Would you be willing to create a second ending sequence? (Does the game have replay value?)	<input type="radio"/> 1	<input checked="" type="radio"/>	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Were you satisfied with the mini-games?	<input type="radio"/> 1	<input checked="" type="radio"/>	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Were you satisfied with the pre-filmed clips you were provided with?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/>	<input type="radio"/> 4	<input type="radio"/> 5
Were you able to locate the clips you wanted to use in your edit quickly?	<input checked="" type="radio"/>	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Do you feel the clips were well-organized?	<input type="radio"/> 1	<input checked="" type="radio"/>	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Was it easy to infer what you were allowed to do within the game interface?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/>	<input type="radio"/> 5
<b>Website</b>					
Was the website pleasing to look at?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/>	<input type="radio"/> 4	<input type="radio"/> 5
Was it easy to figure out what you were able to do?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/>	<input type="radio"/> 5
Did you find that the website was functional?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/>	<input type="radio"/> 4	<input type="radio"/> 5
Did the website have enough content to keep you interested?	<input type="radio"/> 1	<input checked="" type="radio"/>	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5



## **Game Questions**

What one word would you use to describe the mini-games?

Repetitive

Talk about the mini-games you liked or didn't like.

The fan game was pointless.

Would you have changed any of the mini-games or could you propose other mini-games?

Something that would be challenging or something that I could have failed. The mini-games were too much of a guaranteed win, and I didn't feel like getting more videos was a bonus worth playing the games for.

What was the most confusing part of the game?

I didn't know that the capacitors needed to be put in by color at first, so I thought the game wasn't working when I had them all in and I still couldn't leave the mini-game section.

What would you do to improve the game?

Music or sound effects

What was your opinion of the video clips you were provided with? (Did they limit your creativity in constructing a story or did they give you an enjoyable amount of alternatives)

Felt somewhat limited.

## **Website Questions**

How much time did you spend at the website?

A few minutes

What was your favorite section of the website?

Introduction video

What was the most confusing part of the website?

Nothing too confusing, just lacking completion

What would you do to improve the website?

Finish the parts that need it

## **Overall Questions**

What was your favorite part of the experience?

Watching the introduction

What was your least favorite part of the experience?

Playing mini-games

What was your opinion of the characters? (Favorite character, least favorite, any other comments)

Couldn't really get into the characters, all of them were just angry or crazy.

Did the websites and games styles, fonts, and colors mesh well together?  
Seemed fine.

What is your opinion of the video and sound quality throughout the experience?  
Video could have been better, sound was ok.

What is your opinion of the acting? (Talk about any characters you wish or simply in general)  
I laughed in some parts that were probably meant to be serious

Do you think a help section was necessary for any part of the website or game?  
No.

What five words would you use to describe the overall experience? (From the time you encountered the site until you uploaded a video clip)  
Boring, Lacking, Repetitive, Anti-fun, Time-consuming

How much would you be willing to spend on this game?  
Nothing

Any other comments you'd like to make?  
Get some music on the website, so I might be interested in viewing the menus of the site long enough to hear the song if its good.

**Survey Analysis: User #9**

**Fill in a bubble to the right based on your experience.**

**1. No   2. Mostly No   3. Sometimes / Maybe   4. Mostly Yes   5. Strong Yes**

**Game**

	No				Yes
Did you have fun playing the game?	<input checked="" type="radio"/>	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Would you be willing to create a second ending sequence? (Does the game have replay value?)	<input checked="" type="radio"/>	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Were you satisfied with the mini-games?	<input type="radio"/> 1	<input checked="" type="radio"/>	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Were you satisfied with the pre-filmed clips you were provided with?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/>	<input type="radio"/> 4	<input type="radio"/> 5
Were you able to locate the clips you wanted to use in your edit quickly?	<input type="radio"/> 1	<input checked="" type="radio"/>	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Do you feel the clips were well-organized?	<input checked="" type="radio"/>	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Was it easy to infer what you were allowed to do within the game interface?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/>	<input type="radio"/> 4	<input type="radio"/> 5

**Website**

Was the website pleasing to look at?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/>	<input type="radio"/> 4	<input type="radio"/> 5
Was it easy to figure out what you were able to do?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/>	<input type="radio"/> 5
Did you find that the website was functional?	<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/>	<input type="radio"/> 4	<input type="radio"/> 5
Did the website have enough content to keep you interested?	<input checked="" type="radio"/>	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

**Game**

## Questions

What one word would you use to describe the mini-games?

Cheesy

Talk about the mini-games you liked or didn't like.

Meter game was all right. None of the others though.

Would you have changed any of the mini-games or could you propose other mini-games?

I never had so much appreciation for minesweeper. Make your games have the ability to lose them.

What was the most confusing part of the game?

Why I was doing it.

What would you do to improve the game?

Less distractions from the mini-games.

What was your opinion of the video clips you were provided with? (Did they limit your creativity in constructing a story or did they give you an enjoyable amount of alternatives)

Too many choices to deal with.

## Website Questions

How much time did you spend at the website?

None besides watching the video

What was your favorite section of the website?

The video was ok

What was the most confusing part of the website?

Nothing confusing here.

What would you do to improve the website?

A fun interactive game

## Overall Questions

What was your favorite part of the experience?

Watching the introduction video.

What was your least favorite part of the experience?

Watching the videos over and over to find the one I was looking for.

What was your opinion of the characters? (Favorite character, least favorite, any other comments)

They were all average. Sam and Tony looked too much alike.

Did the websites and games styles, fonts, and colors mesh well together?

They didn't clash.

What is your opinion of the video and sound quality throughout the experience?

Acceptable.

What is your opinion of the acting? (Talk about any characters you wish or simply in general)

Mediocre.

Do you think a help section was necessary for any part of the website or game?

Pretty self-explanatory

What five words would you use to describe the overall experience? (From the time you encountered the site until you uploaded a video clip)

Dead, weird, abnormal, unnecessary, bland

How much would you be willing to spend on this game?

Wouldn't buy a game like this.

Any other comments you'd like to make?

Leave it where it is and try something new.

## Appendix K: Player Survey Averages

Fill in a bubble to the right based on your experience.

1. No    2. Mostly No    3. Sometimes / Maybe    4. Mostly Yes    5. Strong Yes

### Game

1. Did you have fun playing the game?
2. Would you be willing to create a second ending sequence? (Does the game have replay value?)
3. Were you satisfied with the mini-games?
4. Were you satisfied with the pre-filmed clips you were provided with?
5. Were you able to locate the clips you wanted to use in your edit quickly?
6. Do you feel the clips were well-organized?
7. Was it easy to infer what you were allowed to do within the game interface?

### Website

8. Was the website pleasing to look at?
9. Was it easy to figure out what you were able to do?
10. Did you find that the website was functional?
11. Did the website have enough content to keep you interested?

question 1 - fun?

2,4,3,4,4,4,1,4,3 = **3.22**

question 2 - replay?

2,3,4,4,5,5,1,3,4 = **3.88**

question 3 - mini-games?

2,3,1,4,3,2,2,2,3 = **2.44**

question 4 - like clips provided with?

4,4,3,5,4,5,3,4,4 = **4**

question 5 - locate clips?

1,2,3,3,5,3,2,4,2,	<b>= 2.77</b>
question 6 - well organized?	
2,2,2,2,4,5,1,1,3	<b>= 2.44</b>
question 7 - infer affordances?	
4,4,5,5,5,5,3,5,4	<b>= 4.44</b>
question 8 - website pleasing?	
3,3,3,4,5,4,3,3,2	<b>= 3.33</b>
question 9 - easy to figure out?	
4,4,5,5,5,5,4,4,3	<b>= 3.77</b>
question 10 - functional?	
3,3,5,2,4,2,3,3,2	<b>= 3</b>
question 11 – website interest?	
2,3,5,2,1,1,1,2,3	<b>= 2.2</b>