

SOCIS Arcade

Usability Test Findings and Analysis

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Executive Summary

The SOCIS arcade team, a group of four students in Usability Testing and Design at the University of Arkansas at Little Rock, developed and conducted a usability test on the the arcade machine created and deployed by the university's Society of Computer and Information Science. The arcade had not previously gone through any usability testing.

The team developed personas of typical users, identifying students as the main group to focus on, and conducted analysis of the machine using Nielsen's 10 usability heuristics. These identified error tolerance and recovery, visibility of system status, and ease of learning as likely issues.

Testing was completed with 12 testers on site in the EIT building on April 3 and 10.

This revealed issues with labeling of buttons of the machine and instructions, as well as navigation of the system, although visibility contributed significantly to that.

Since the test was originally conceived as focusing on the software, the aesthetic was not expected to be an issue, but it was discovered to be a much more significant factor during on-site testing. Visibility problems were found to contribute significantly to testers' difficulties with the system.

After reviewing these findings, the team's recommendations for improvements to the SOCIS arcade are:

- Label buttons
- Place instructions in a more visible location
- Change OS theme
- Upgrade display screen

Introduction

The SOCIS Arcade team consisted of four students(one graduate and three undergraduate) in the Spring 2019 Usability Testing and Design class at the University of Arkansas at Little Rock. They were:

1. Vrutkumari Modi (technician)
2. Stevie Nielson (moderator)
3. Sunny Singh (observer)
4. John Yankowskas (technician/logger)

Under the supervision of Dr. Joe Williams, the team decided to test an arcade machine developed by the UA-Little Rock Society of Computer and Information Science. The machine had already been placed in the lobby of the EIT building and was available for play to the public, but members of the society had noticed some issues with the machine and expressed a desire to improve it.

The intent of the study was to suggest improvements for an update to the arcade machine. Development of the study occurred in February and March 2019, and testing took place over two days, April 3 and 10.

Report Structure

The report is structured with major parts as follows:

- **Methodology-** Description of the development of the test; how it was set up and run, and how the results were analyzed
- **Findings-** Information obtained during testing, including completion times and error rates
- **Conclusions-** Analysis of the findings and recommendations for improvements
- **Appendices-** supplemental information, including:
 - **Heuristic analysis-** Each team member's notes on how well or poorly the arcade fit the 10 Nielsen heuristics
 - **User research-** Demographic and survey data that was collected to refine the user profile and the testing tasks
 - **Personas-** For theoretical users, developed from the research.
 - **Empathy maps-** Illustrating what the personas might think, feel, etc. while using the arcade
 - **Test plan-** The documents developed before testing, including test goals, methodology, scenarios, team roles, questionnaires, scripts, and checklists

- **Questionnaire responses**- Images of the questionnaires filled out by each tester
- **Observer notes**- Notes taken by the observer on the comments, difficulties, and successes of each tester
- **Video releases**- Forms signed by each tester allowing recording

Methodology

The purpose of this usability study was to determine the effectiveness of the controls and navigation of the SOCIS Arcade machine at UALR. A team was assembled and tasked with completing the task of testing the machine. A heuristic analysis of the machine was completed by each member of the team using Nielsen's 10 heuristics (Appendix A). This was done by each of the members individually. Once the heuristic analysis was done, they were each further analysed to see what aspects of the machine needed to be focused on during the testing process. The reviews of each members' heuristic analysis showed that the main focuses of the usability test needed to be controls and navigation on the machine.

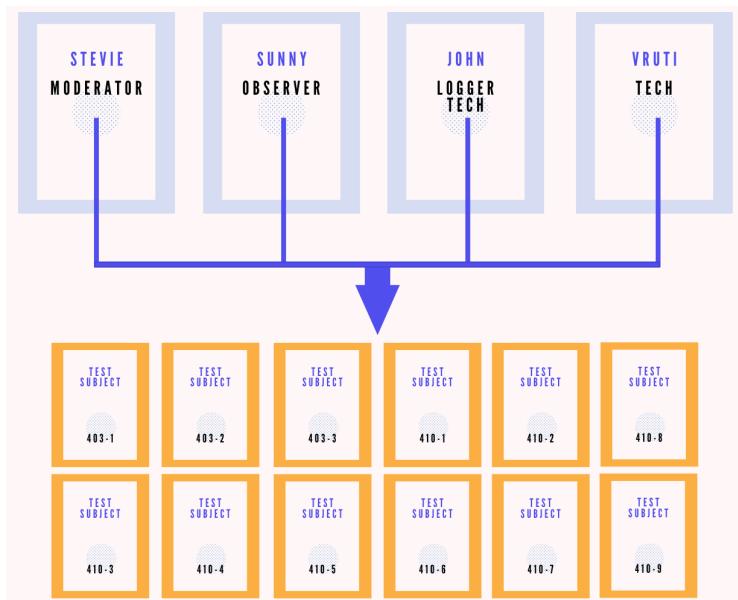
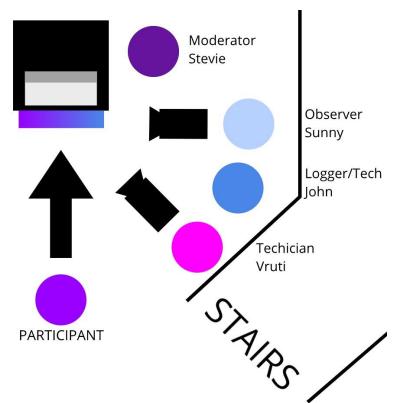
Recruiting participants for the testing was the next step of the testing process. Persona and empathy maps were created to create idealized versions of the candidates that would be used for the usability test. Each member of the team created a unique persona and empathy map. These personas featured a number of different things like skill levels, frustrations, motivations, goals, biographical details, and personality traits. An accompanying empathy map was created that included what these personas say, think, feel, and do. These documents helped establish the user groups for our test. These user groups were defined by gaming skill level. These groups were separated based on experience with video games and their overall skill levels in operating these games. Since the arcade is on a college campus, it was determined that the key user groups would be based around mainly college students. Using the personas and empathy maps, testing participants were recruited that represented similar traits and qualities from the personas. These personas and empathy maps can be found in Appendix C.

A test plan was conceived and used for the testing process. The elements of the test plan were divided for different members of the team to complete. The test plan was comprised of:

- test goals,
- user profiles and subgroups,
- methodology,
- team roles,
- screening information,
- timeline for testing,
- deliverables,
- questionnaires,
- checklists for team roles,
- personas,
- empathy maps,
- and a script for the test moderator.

Each of these elements was vital to the completion of the test and helped structure our testing procedure. Once completed, these elements were combined into the final test plan.

Testing of the SOCIS arcade machine took place at the EIT building on UALR campus on April 3rd and 10th. The test took place in a secluded area behind the stairs in the building's lobby. All team members were in the same area as the testing participant during testing. Team members completed the particular role that was assigned to them. Three cameras were set up to record the usability tests. There was one camera each dedicated to the user's face and hands. These cameras allowed reactions and user input to be recorded for further analysis. A camera was set to record the screen so that navigation could be evaluated. Overall, there were 12 participants tested. The moderator greeted the participants and used the moderator



script to guide these individuals through the test. Before testing began, participants were given pre-test surveys (Appendix E) to gather background information. They were also given video release forms to fill out, allowing the recording of the tests and for that footage to be usable for analysis. The tests took around 25-30 minutes each and were designed around a set of task-based scenarios. These scenarios are outlined in the test plan (Appendix E). These scenarios were designed to test the arcade machine's navigation and controls. After completing each task, the users were given a post-task survey, allowing them to formally detail their experience in completing the tasks. Once all tasks were completed, the participant was given a final survey that allowed them to give feedback on their overall usage of the arcade machine and were debriefed by the team.

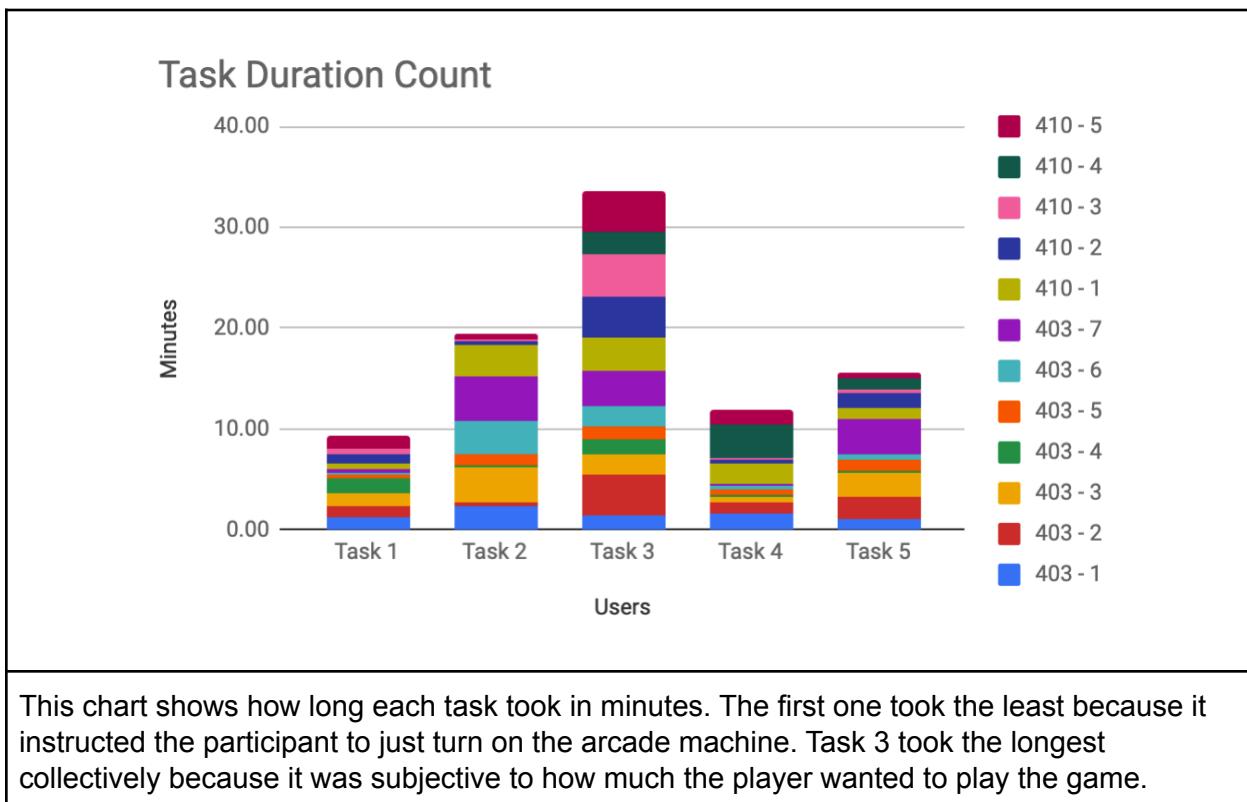
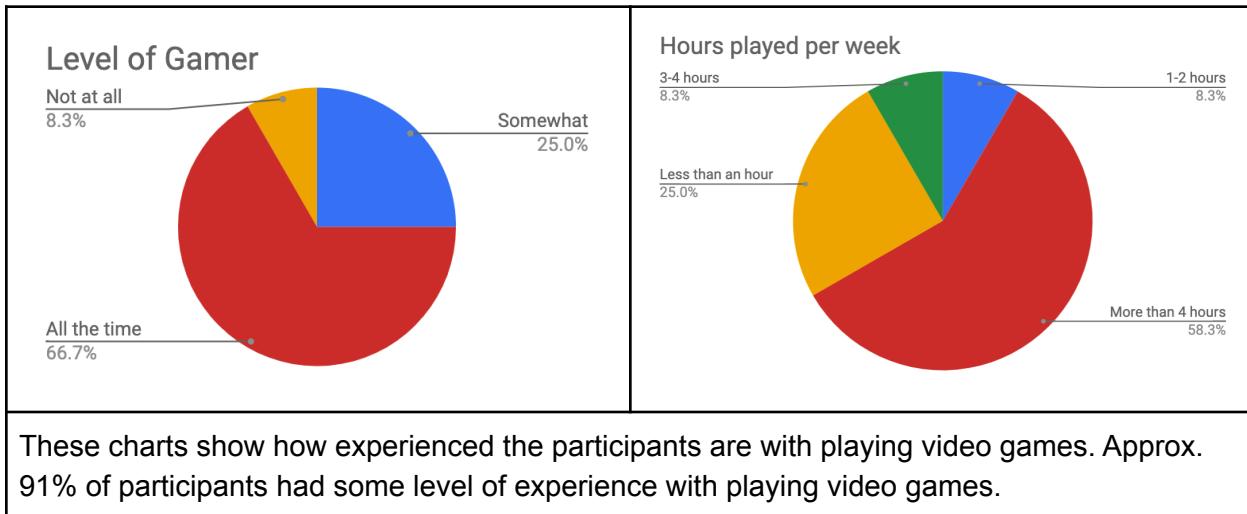
After all tests were completed, data analysis began. Participant videos were compiled together so that they could be analysed. The videos were viewed by two members of the team and coded for specific events that occurred during the test. The data collected from the surveys were also compiled together into a spreadsheet. The data collected during testing was analysed

to provide useful information to SOCIS that will help improve this machine. This data was made into a number of charts that give visual representation of how users interacted with the arcade machine.

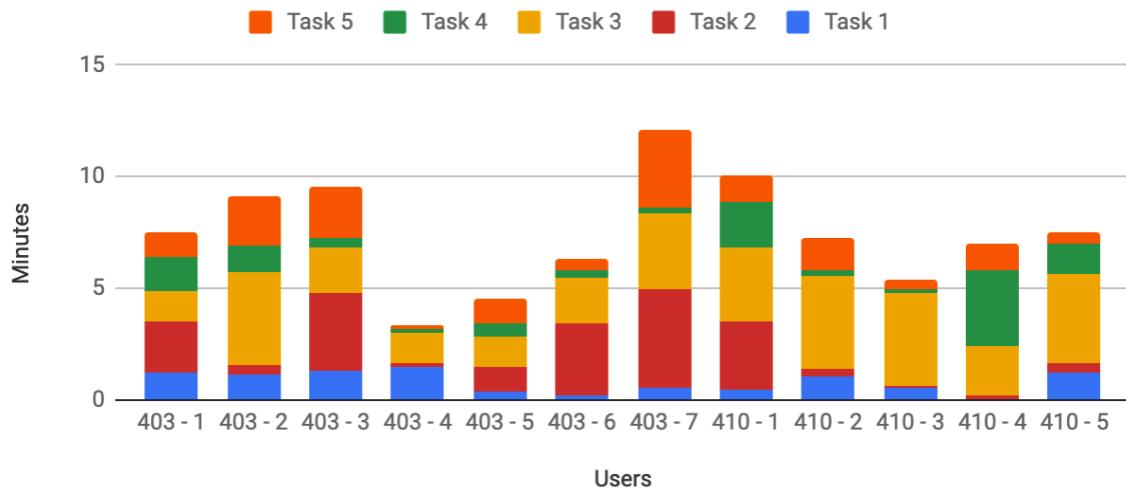
EC	Error Control
EN	Error Navigation
EV	Error Visibility
HMA	Help by Mod Achieved
HVA	Help by Instructions Achieved
HNA	Help not Achieved
PQ	Positive Quotes
NQ	Negative Quotes
C	Catastrophe, User gives up

Findings

Quantitative Findings

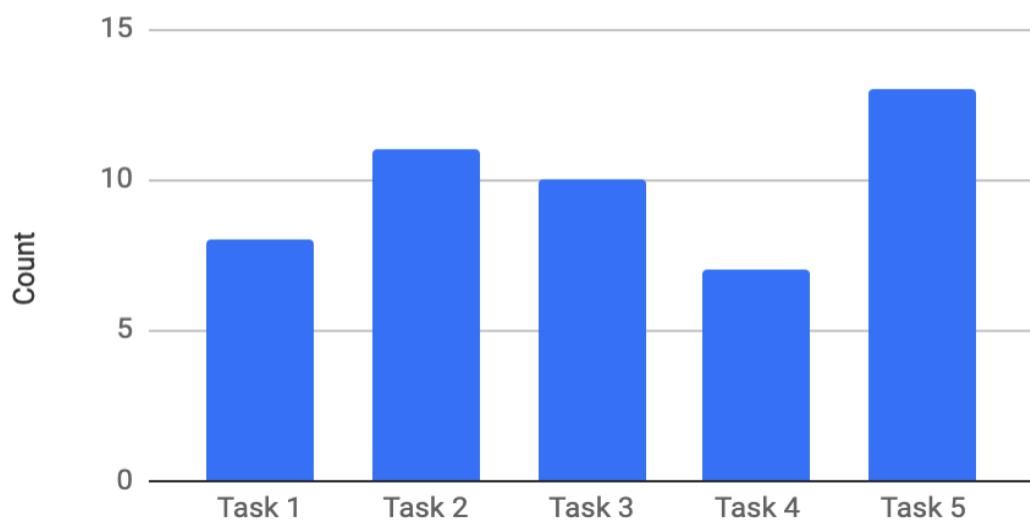


User Testing Durations



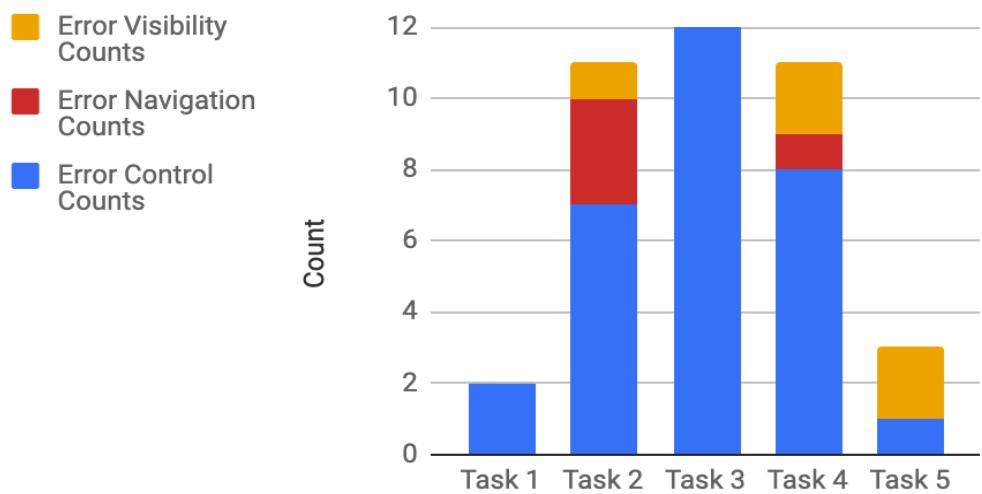
This chart shows how long each user took to complete all of the tasks. We can deduce and gauge the experience level based on this. The short times were the ones who had used the arcade machine before. This would include user 403-4, and 403-5.

Negative Comment vs Task



Task 5 had the highest amount of negative comment. This could be because the users would get frustrated and would give up when what they were trying to accomplish did not work. The second highest negative comment count was Task 2. From Task 2 we had a lot of comments surrounding visibility issues and control issues.

Error vs Task



Definitions:

Error Visibility - When user had issues with reading the screen

Error Navigation - When user had issues with navigating the user interface

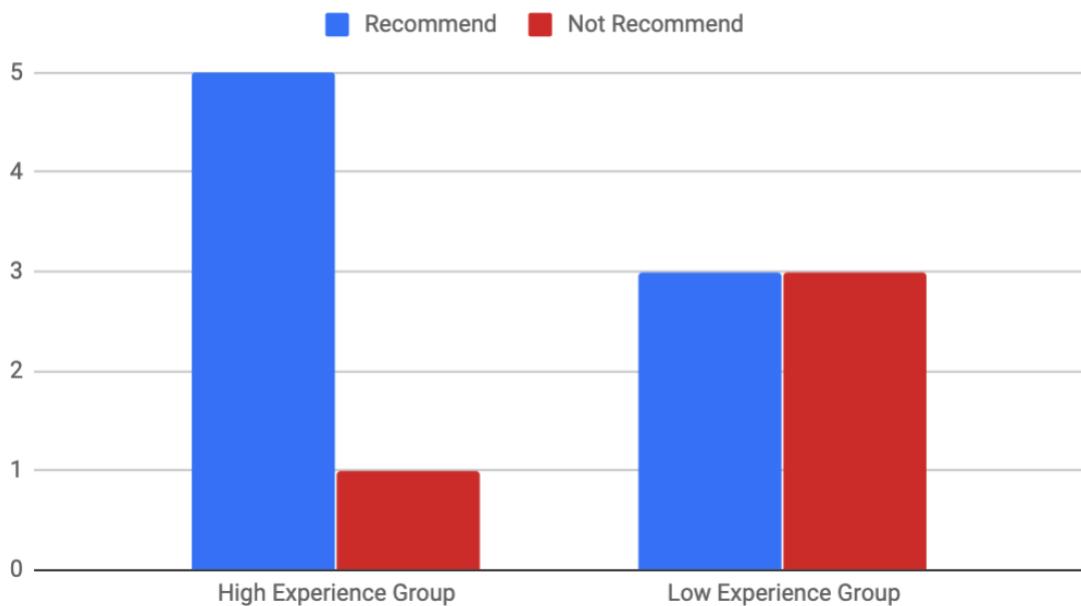
Error Control - When user had issues with using the physical controls of the arcade machine

Task 3 was when the user had to play a game. This was also the task with the highest amount of control issues because the user was adjusting and learning how the controls worked for the game.

Task 4 had the 2nd highest amount of issues with the controls because the controls were inverted. This put higher amounts of cognitive load on the user and ultimately added unnecessary confusion.

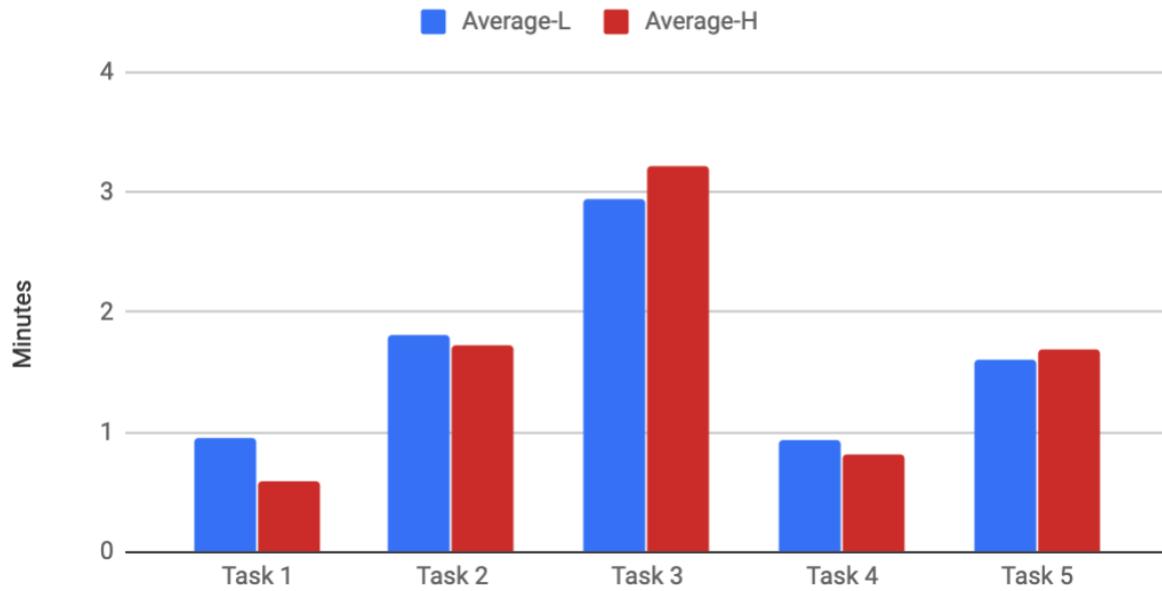
Task 2 had the highest amount of navigation issues because this was the first time the user would be engaged with the UI and was trying to find a game and play it.

Overall Recommend vs Not Recommend



Results of the post test survey in which the user were asked if would recommend the arcade machine. Lower skilled users found the machine harder to use, and they were less likely to recommend it compared to higher skilled users.

Average Task Times for Low Experience Level vs High Experience Level



Definitions:

Average-L - Low Experience Level average task time

Average-H - High Experience Level average task time

The participants were divided up equally into two groups. Low experience level and high experience level. Both groups were pretty close in terms of average task completion time except for the first task. The high experience level users were significantly ahead of the low experience users. We noticed that the low experienced users were trying to find a ON button and took some time reading the instructions before trying to turn on the arcade machine.

Qualitative Findings



These were some of the comments users had when talking about the screen and the user interface.

Conclusions

After completing the usability testing process, a number of problems were shown to exist with the machine. Participants had trouble with three main areas of operation: controls, navigation, and visibility.

During testing a number of participants had trouble understanding how the buttons for the arcade worked. The participants believed that the buttons did not work as they should. The participants also had trouble with the controls, as the buttons lacked any clear labeling. This caused users to guess in order to operate the machine. The supplemental sheet on the machine did not do a proper job to inform users as to how to operate the machine. A number of users never consulted the paper. One participant noted that the location of the instructions did not work as they would not consider checking by their knees. In order to make the controls more usable for users of the machine, we recommend that controls be properly labeled. This would help users from falling into an error state. We also recommend that the location of the instruction sheet change. Users were not able to find the instructions, hindering them from using the machine properly. Changing the position of the instructions will aid users in understand how to control the machine and prevent them from entering an error state.

There were a number of problems with the navigation of the arcade machine by participants of the tests. Majority of which came from the readability of the text on screen. Users complained about the inability to read the text that was supposed to aid them in navigation. Users also had issues finding games that lacked any picture to show them that they were at the correct game. Since users had a hard time reading the text on screen, many chose to use pictures to aid in their navigation of the machine. Games without pictures created confusion with the user and made navigation difficult. General visibility was a common issue amongst users. This is due to a number of factors. The theme of the arcade machine uses texts that very difficult to read. The font, contrast of the text, and size/resolution were common issues during testing. Participants were not able to properly read the text on screen, causing navigation errors. The screen on the arcade also created problems for participants. A number of participants complained that the screen jitter made the text even tougher to read. The SD television was not displaying information in a very useful way to the participants. To aid in navigation and help with visibility, we recommend that the theme of the arcade is changed and a better display is chosen. There are themes with much easier text to read on the RetroPie OS. Changing the theme would clear up a number of issues with readability of text and would better aid users with navigation as a result. Changing the display to something with a higher resolution would make text more crisp and less jittery than what the current machine offers. A different display could also resolve the issue several users had, where they thought the power button on the television controlled the whole machine.

Summary of Proposed Changes

- Label Buttons on Control Deck
- Change position of Instruction Sheet
- Change Theme of RetroPie OS
- Upgrade Display to Higher Resolution Screen

Making these changes to the arcade machine will aid in the usability of the machine, making it a more enjoyable experience. The proposed changes are fairly low level, making the necessary revisions to the arcade machine easy to make. These changes are proposed in response to the key issues found in the arcade machine during the Heuristic Analysis and Usability test of the SOCIS arcade machine.

Appendices

Appendix A- Heuristic Analysis

Heuristic Analysis

By John Yankowskas

Recognition rather than recall

The arcade machine does a pretty good job at this heuristic. There are clear navigation tools in the menu that explain how the operation and navigation works. They are there if the user doesn't understand at all times during navigation of the menus. The only time that the user really has to remember anything is during gameplay. They need to remember what buttons do, as they change for different consoles being emulated. There is a general guide as to how the buttons work taped to the machine, however the action that the buttons complete vary based on a game-to-game basis and an emulator-to-emulator basis.

Flexibility and efficiency of use

There are not too many instances of Acceleration on the arcade machine. Majority of this will be done by the user's overall understanding of the operation of the machine. The more a user knows about the machine, the quicker they will be able to find the games that they are looking for. There are no shortcuts available for launching games. The accelerators in this instance are completely reliant on the user and their ability to control the machine. Inexperienced users may take more time to get accustomed to the navigation of the machine. They may take more time scrolling through menus to understand how games are laid out. Once they understand how games are placed on the machine, they will be able to operate the machine in a much more efficient manner.

Aesthetic and minimalist design (Cosmetic problem)

The aesthetic design for the most part is clear for the user to understand. Menus are laid out in a way that the user can navigate through the selections of games available on the arcade. The UI presents key information to the user and is straight to the point. The only thing I can see being an issue is readability in some cases. The design of the menu is a little loud, which may make it difficult for some users to read some of the options. I think that a simpler UI would be beneficial to the overall navigation of the machine. Some of the games lack pictures to them. This could confuse other users during their game selections and may look like an error. This can be easily remedied with the placement of proper game art.

Help users recognize, diagnose, and recover from errors (Major problem)

The arcade machine has issues with helping users recover from errors. During startup of a game, if the user presses any button on their controller, they will be launched into a hardware configuration menu. There is no clear instruction as to how to escape. The user must have an

understanding of the software to properly escape this hole and enter their game. The user can stumble and change the emulation settings and break the game. When games are broken at the launch menu, and the user tries to launch, they are given no explanation of the problem. The emulator simply displays a black screen and sends them back to the home menu. It would be helpful to the user for guides to help them resolve

Help and documentation (Minor problem)

The help and documentation for the operation of the arcade machine is limited. On the machine itself, there is no real help or user guide. Taped to the machine is a set of instructions for controls. It provides users with how the buttons on the arcade machine are generally setup. For the most part, the machine is fairly simple to use. There are navigation guides for the user in the menus, which show them how to move through the UI. If the user reads through the user control guide taped to the machine and then they should have a solid understanding of usage. The pitfall that can occur during the starting of the game doesn't have clear help tools prepared in the event that the user falls into this error.

Heuristic Analysis

By Stevie Nielson

1. Visibility of system status
 - a. Mostly loads/moves quickly enough to avoid issues, but when it does take time, it's bad about signaling what's going on. Led me to sometimes question if a button just did nothing or whether it was working.
2. Match between system and the real world
 - a. Didn't match my expectations--took a lot of trial and error. Might make more sense for someone familiar with arcade machines?
3. User control and freedom
 - a. Game exit unclear (I would not have figured it out if John hadn't told me when we first went to check out the machine.)
4. Consistency and standards
 - a. What buttons do varied on different menu levels (in game config, the joystick down is up, somehow.)
 - b. Select button doesn't select, but kills the screen
5. Error prevention
 - a. Too easy to get into setup menus and game backend (I did this more times by accident than I successfully got into a game).
6. Recognition rather than recall
 - a. Not always clear what options are
 - b. Guide along bottom is illegible
7. Flexibility and efficiency of use
 - a. Couldn't find any accelerators? Could be a skill level issue
8. Aesthetic and minimalist design
 - a. A lot of visual clutter
 - b. Hard to find relevant info/distinguish it from background

- c. A lot of basically useless art/background, so useful items are relatively small
- 9. Help users recognize, diagnose, and recover from errors
 - a. No error message at all on bugged games
- 10. Help and documentation
 - a. No visible help menu
 - b. Guide along bottom of menu screens is illegible (and possibly too detailed, given the relative size/number of the items in it)

Heuristic Analysis

By Sunny Singh

1. Visibility of system status - The system should always keep users status informed about what is going on through appropriate feedback within reasonable time.
 - Game selection screen. Can be controlled via a controller or keyboard and mouse.
2. Match between system and the real world - The system should speak the users language, with words, phrases, and concepts familiar to the user rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.
 - It uses english and common words that are used in gaming systems
3. User control and freedom - Users often choose system functions by freedom mistake and will need a clearly marked “emergency exit” to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.
 - There is a menu button which takes you back to game selection screen
4. Consistency and standards - Users should not have to wonder whether standards different words, situations, or actions mean the same thing. Follow platform conventions.
 - The controls on the arcade follow the standard setup for button and joystick scheme.
5. Error prevention - Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.
 - Sometimes fast button presses between loading screens activated configuration settings and it can be confusing for new users.
6. Recognition rather than recall - Minimize the user’s memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.
 - There is a instruction sheet that tells the user on how to operate the system.
7. Flexibility and efficiency Accelerators—unseen by the novice user—of use may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

- The control scheme is a classic arcade style that most users have seen being used in popular media.

8. Aesthetic and minimalist design - Dialogues should not contain information minimalist design that is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.

- The controls are minimalistic.

9. Help users recognize, diagnose, and recover from errors - Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

- This is something that is hard to do because its a open source project and only experienced users know how to diagnose and recover from errors.

10. Help and documentation - Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

- There is a lot of good documentation out there but it does need a certain technical skill level to decipher it.

Heuristic Analysis

By Vruti Modi

Visibility system status

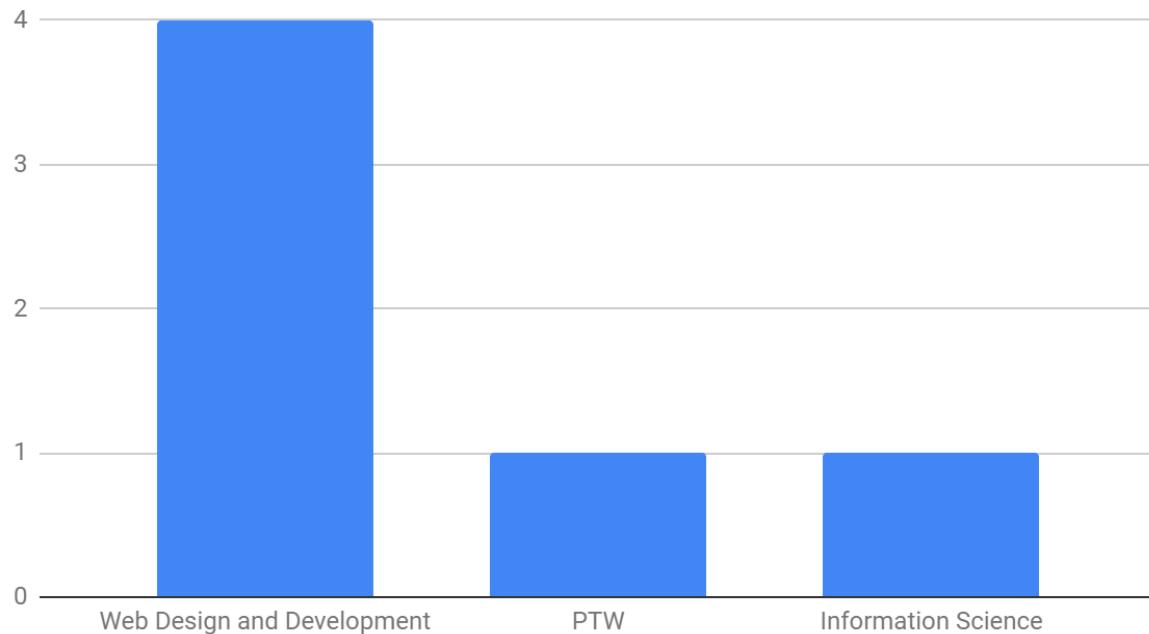
Visibility of system status is all about transparency and clear communication with the users. The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.

Match between system and the real world

Appendix B- User Research

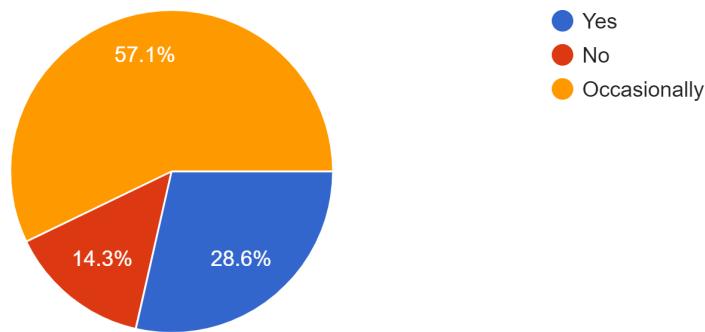
Before beginning the Usability Test, primary surveying of students that match our user groups was conducted. These charts show demographic information about these users.

What is your major?



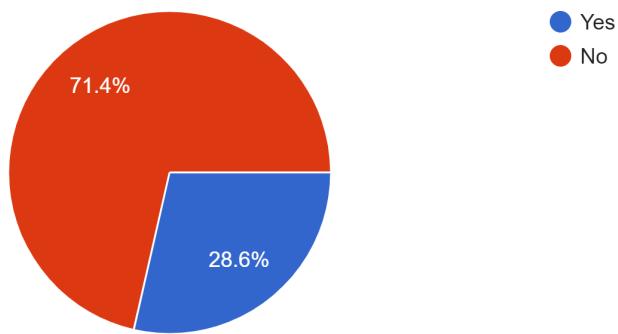
Do you play video games frequently?

7 responses



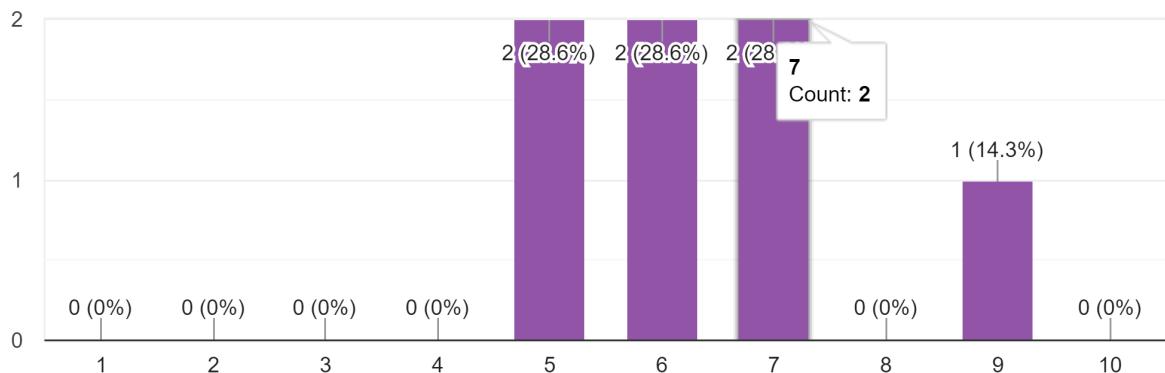
Do you consider yourself a "gamer"?

7 responses



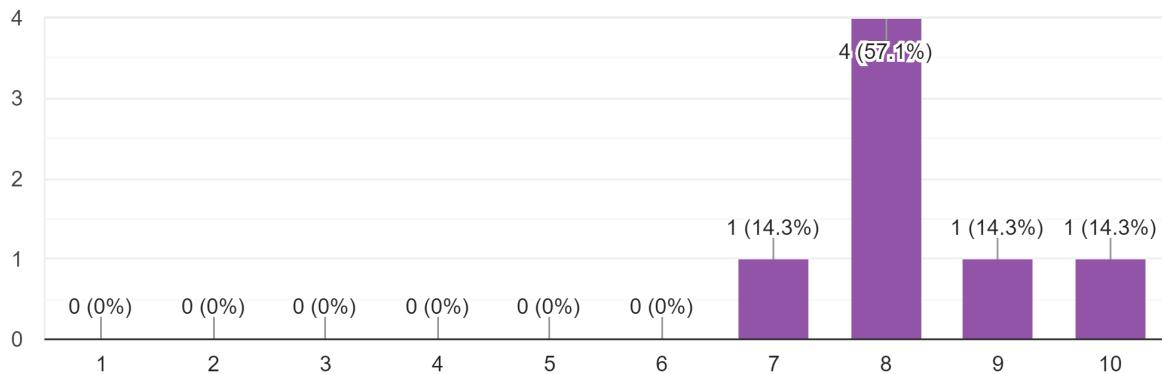
On a scale of 1-10, how comfortable was the operation of the arcade machine?

7 responses



On a scale of 1-10, how quickly do you adopt new technology?

7 responses



Further Research

Below are additional research resources that were used when developing parts of the usability test and test plan.

UALR Demographics

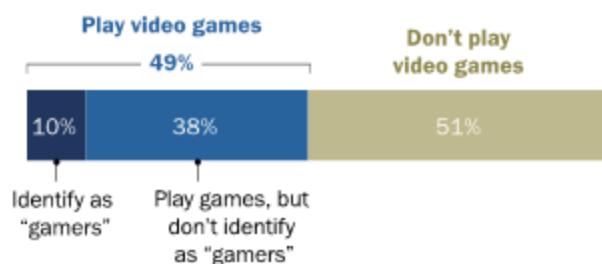
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Before beginning the usability testing process, the team examine the demographics of UALR's campus to have a starting point for the personas. We wanted to know what the college looked like so that we could better shape the personas to be realistic.

Pew Research Center

Half of American adults play video games; 10% consider themselves "gamers"

% of all adults who ever play video games on a computer, TV, game console or portable device like a cellphone



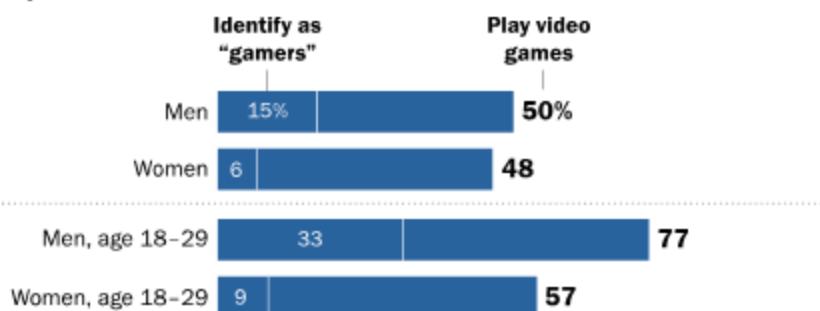
Source: Survey conducted June 10 – July 12, 2015.

Note: Figures do not add to 100% due to rounding

PEW RESEARCH CENTER

Men and women play video games, but men are more likely to call themselves "gamers"

% of all adults who...



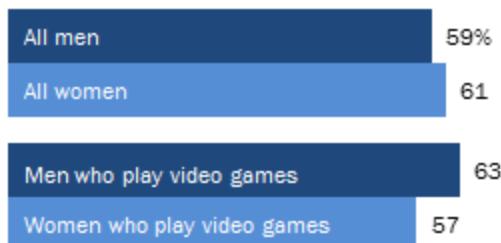
Source: Survey conducted June 10 – July 12, 2015.

Note: "Play video games" includes those who identify as gamers. E.g., 50% of adults play video games, including 15% who consider themselves gamers.

PEW RESEARCH CENTER

A majority of women (including women who play games themselves) believe most video game players are men

% of men vs. women who agree that “most people who play video games are men,” by gaming status

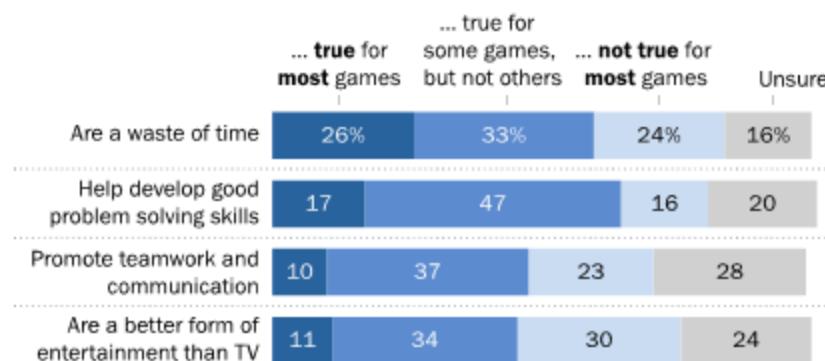


Source: Survey conducted June 10 – July 12, 2015.

PEW RESEARCH CENTER

Mixed feelings, uncertainty among general public about video games

% of all adults who think the following qualities are...



Source: Survey conducted June 10 – July 12, 2015

PEW RESEARCH CENTER

At the beginning of the study, we examined some information pertaining to the specific demographics of gamers. This information is sourced from the Pew Research Center and looks at how society sees gaming. These charts look at the perception of gaming, specifically looking at things like the usage of the word “gamer.” These charts helped to shape the surveys and aided in the creation of our personas.

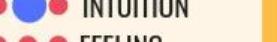
Appendix C- Personas



TIGERFIST VON SHARKPUNCHER
VISITOR

AGE: 80
OCCUPATION: WOODWORKER
LOCATION : LITTLE ROCK, AR
STATUS: MARRIED
TIER: BASIC
ARCHETYPE: THE SAGE

BADASS | CLEVER | ATTENTIVE

MOTIVATION	GOALS
<ul style="list-style-type: none">• Family• Grandchildren• Creativity• Humanities	<ul style="list-style-type: none">• Wants to bond better with grandchildren• Learning how to play games• Wants to learn more about technology
BIO	FRUSTRATIONS
<ul style="list-style-type: none">• Pro. Woodworker• Creates sculptures, and paintings• Father of 3• Grandfather of 10	<ul style="list-style-type: none">• Adopting technology is hard• Too many features• Screen is too small• To many buttons in UI
TECHNOLOGY	PERSONALITY
IT/INTERNET 	EXTROVERT  INTROVERT
SOFTWARE 	SENSING  INTUITION
MOBILE APPS 	THINKING  FEELING
SOCIAL 	JUDGING  PERCEIVING



JASON CROSS

STUDENT

AGE: 19

OCCUPATION: STUDENT

LOCATION : LITTLE ROCK, AR

STATUS: SINGLE

TIER: BASIC

ARCHETYPE: THE MAGICIAN

NERDY| INTROVERTED| GAMER

MOTIVATION

- Video Games
- Entertainment
- Technology
- Intuitive Design

BIO

- Student at UA Little Rock, majoring in Computer Science.
- Plays a lot of Video Games, especially online ones.
- Has an interest in New Technology and picks it up quickly

TECHNOLOGY



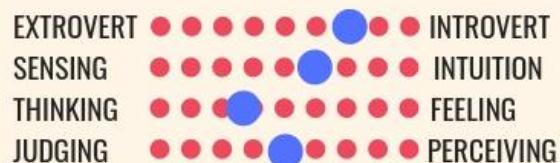
GOALS

- Interested in new technology experiences
- Likes to bring his ideas to life
- Wants to work at his favorite game company
- Planning a small independent game

FRUSTRATIONS

- Class in his major are very difficult and keep him busy
- Annoyed by a lack of clear user interfaces
- Hates when things don't work like they should

PERSONALITY





CURIOUS | OUTGOING | ATTENTIVE

MARIA

FACULTY

AGE: 40
OCCUPATION: PROFESSOR
LOCATION : LITTLE ROCK
STATUS: MARRIED
TIER: MEDIUM
ARCHETYPE: THE EXPLORER

MOTIVATION

- Novelty
- Nostalgia
- Fun
- Socializing

GOALS

- Find a game she remembers playing growing up
- Learn about what her students are up to
- Kill some time in a fun way

BIO

- Information Technology professor
- has played games for decades
- spends some time gaming now, but not much
- family owns several game systems, mostly used by kids

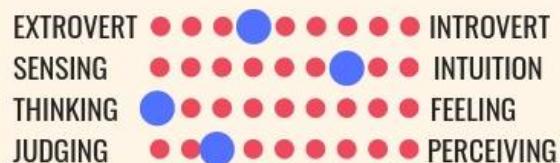
FRUSTRATIONS

- When her knowledge of a system doesn't transfer
- When her relaxation is too intellectually demanding
- Encountering problems she doesn't know how to fix

TECHNOLOGY



PERSONALITY





STUDIUS | INTROVERTED | SHY

PUNIT PATEL

STUDENT

AGE: 25

OCCUPATION: STUDENT

LOCATION : LITTLE ROCK, AR

STATUS: SINGLE

TIER: BASIC

ARCHETYPE: THE ARTIST

MOTIVATION

- career
- enjoyment
- socializing
- stress relief

GOALS

- finish college
- play a variety of video game
- become more familiar with environment
- more confident in playing games

BIO

- Student at UALR majoring in web design and development
- Owner of several game boxes
- Interested in various game creation
- Interested in new game technology

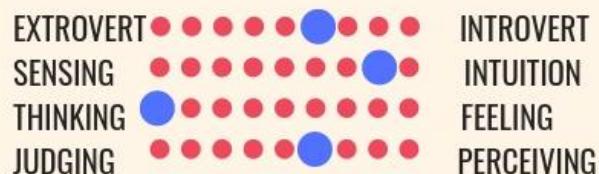
FRUSTRATIONS

- Not enough time
- Clash with associate
- Insufficient funds
- Failed a couple of classes

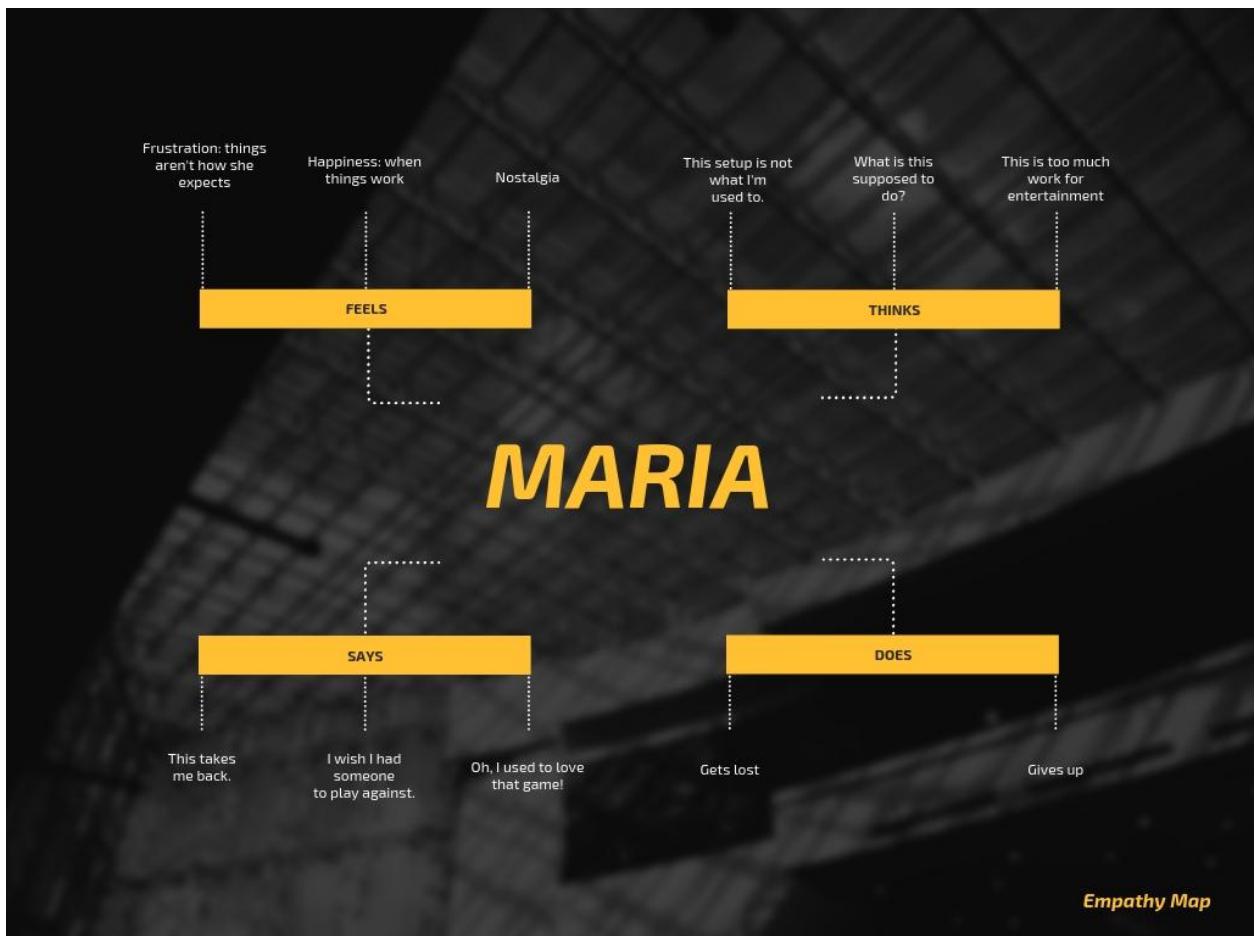
TECHNOLOGY

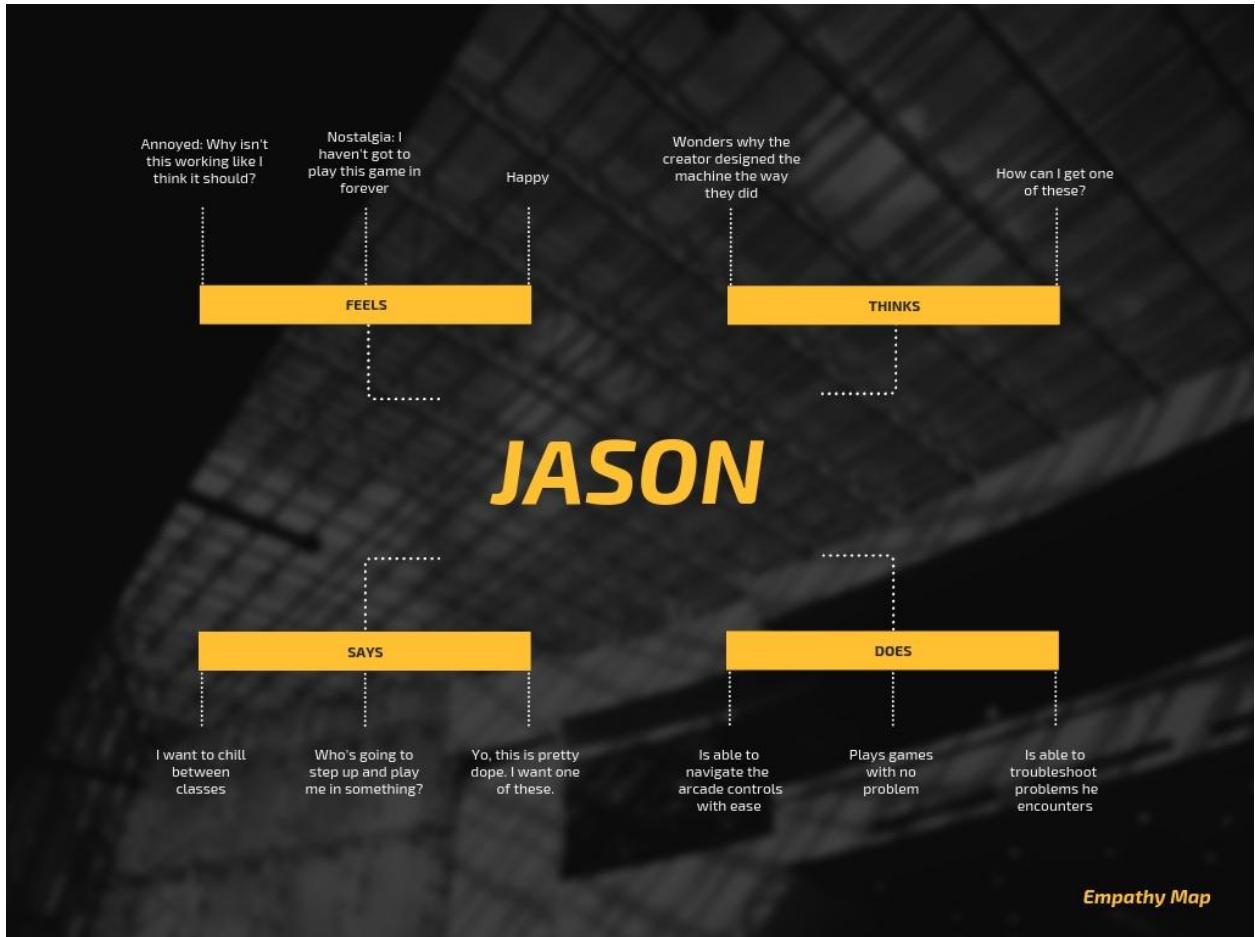


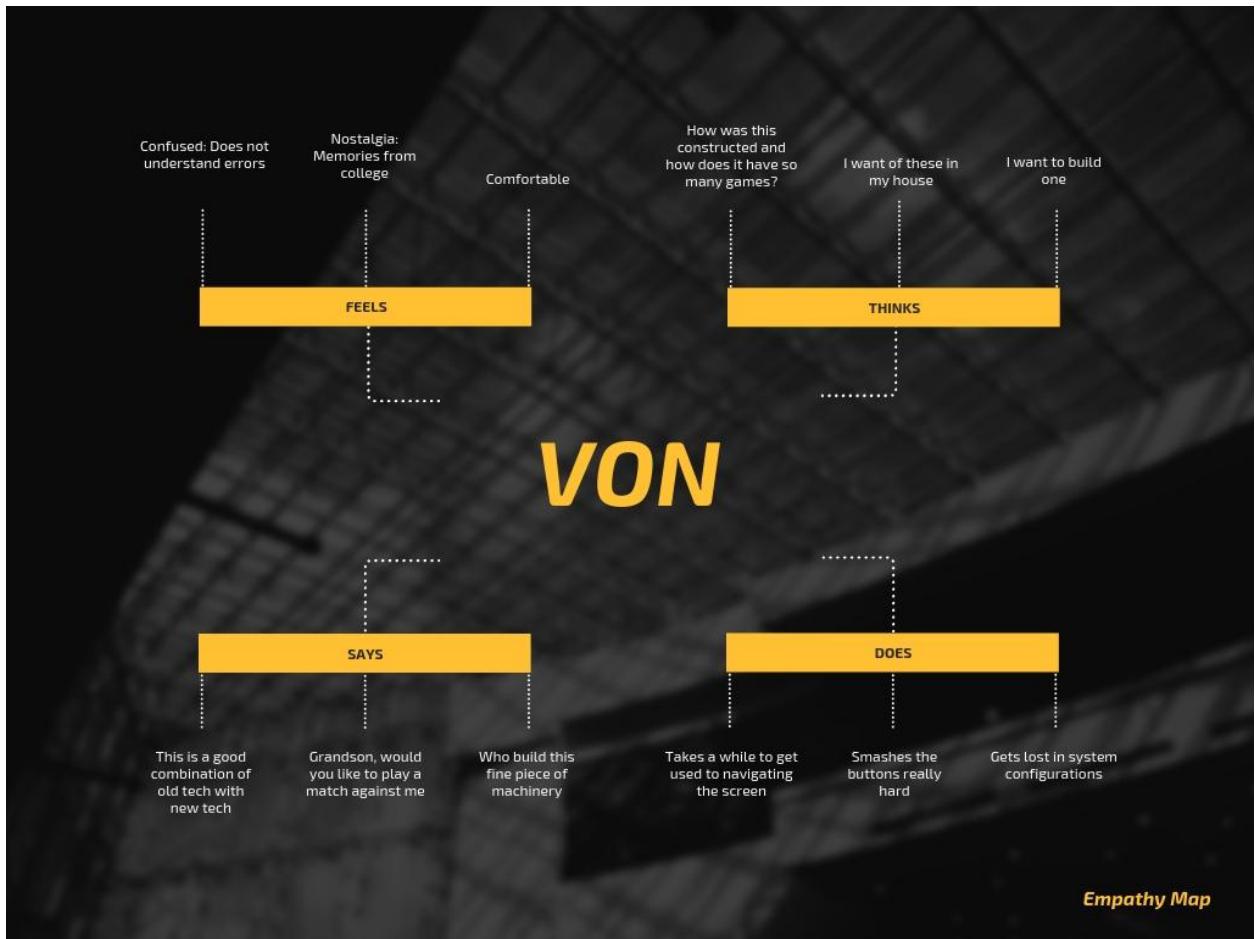
PERSONALITY

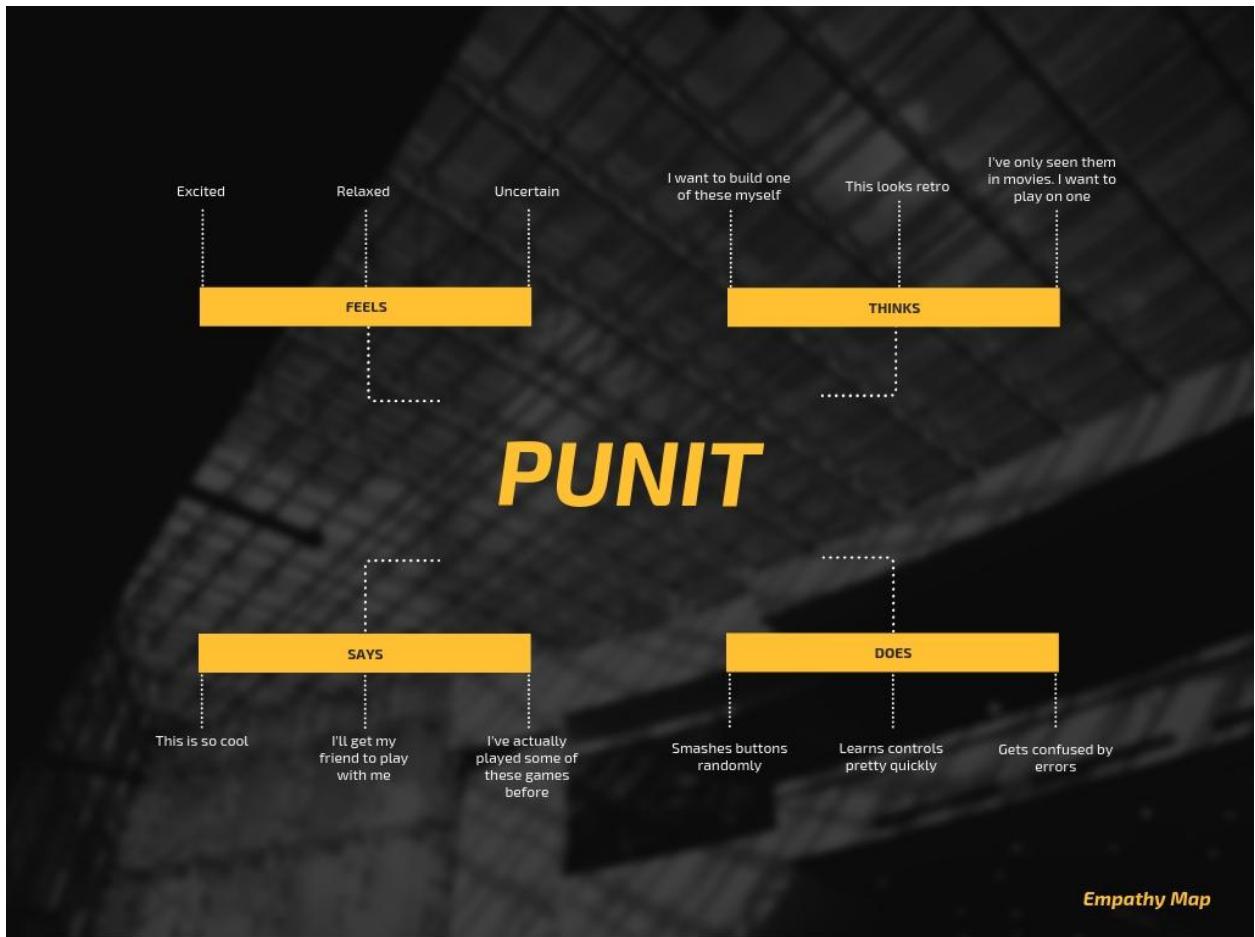


Appendix D-Empathy Maps









Appendix E-Test Plan

Test goals

- We want to see how well people can get through the upper-level navigation and access the games in the arcade, and how well they can then exit a game.
- We want to test the error tolerance of the emulator--specifically, how well people can avoid and recover from errors involving the console section of the emulator.

User profile and subgroups

Ideally, we'll focus on student users with high to moderate gaming familiarity, though our ability to recruit testers may limit this.

The vast majority of potential users (members of the UA Little Rock campus community, plus visitors) are students, and all the actual users we surveyed in our research were students. While most of them did not consider themselves gamers, they showed a range of both gaming habits and comfort with adapting to unfamiliar technology.

In our development of personas, and consideration of users' thoughts and feelings through our empathy maps, familiarity with gaming conventions became evident as a key to how comfortable a new user might feel with the arcade.

We decided to use gaming experience as a proxy for this familiarity--if our recruiting allows, we'll divide our testers by higher and lower gaming experience.

Higher-experience gamers are those who:

- Regularly spend more than two hours a week gaming
- Regularly use multiple game systems

Lower-experience gamers are those who:

- Regularly spend time gaming, but less than two hours a week
- Use mainly one game system

Methodology

The participants selected for the testing will attempt to complete a set of task based scenarios to give feedback on the SOCIS Arcade Machine on UALR Campus. The scenarios were developed based on a heuristic analysis (using the Nielsen Norman 10 heuristics) that identified likely issues with error tolerance and recovery, and visibility of system status. In addition, we identified ease of learning as a possible hurdle to use through our user research and work with

personas (although only one evaluator thought it was a potential problem in the heuristic evaluation).

The participants will give feedback regarding the usability and acceptability of the software. After testing, the participants will answer post-session questionnaires and receive a debriefing on their experience.

Participants will take part in the usability test at our testing facility within UALR EIT. (The participants will complete the test on the actual hardware of the SOCIS Arcade Machine, allowing them to get an authentic experience of what it is like to use the machine. Having the actual machine for the test will allow for authentic and useable data, allowing for insight on how users interact with the machine. Our participants will be monitored by our moderator, who will be standing next to the arcade machine. The logger, observer, and technician will be sat besides the testing setup, monitoring the testing procedure. These testing sessions will be recorded to video for later examination.

The moderator will tell the participants that they are evaluating the software, rather than the participant themselves. Participants will sign a consent form that acknowledges: the testing is voluntary, participation can be ended at any time, and that the sessions will be video recorded. The moderator will ask if the participant has any questions before continuing. Participants will answer a brief demographic/background questionnaire. Testing will begin once the participant feels ready and all their questions have been answered by the moderator. The moderator will provide the task to the participant by reading from their moderator script. At that point, the participant will begin to complete the task. The moderator will instruct participants to ‘think aloud’ while completing tasks so that there is a verbal record of their interaction with the arcade machine. The logger will observe and enter user behaviors, comments, and system actions. After each task, the participant will complete a post-task survey to further elaborate on their experiences while completing the task. Once the survey is completed, the participant will continue to the next step of testing. After all tasks have been completed by the participant, a post-test survey will be administered. This survey will be used to gather information about the participant’s entire experience during testing.

Task-based scenarios

- Wake up the machine
 - You are hanging out in the lobby of the EIT building in between classes. You see the arcade machine and decide to play.
 - How would you get started?
- Launch Super Mario Bros Game
 - You decide to play Super Mario Bros.
 - Scroll to the Super Mario Bros game and select it to begin
 - The game can be found in both the NES (Nintendo Entertainment System) menu or the all game menu

- Falling into the emulation options
 - After clicking into a game, you accidentally press a button that puts you into a settings menu for the game. You need to escape the menu to get back to the home screen of the machine or to launch properly into the game.
 - Scroll to exit option and select it
 - The user can escape the menu from launching into the game itself or by launching back to the home screen.
- Broken Game
 - During the operation of the machine, you try to load into a game that you are interested in playing. When clicked on, the game does not load.
 - Scroll to game and click it
 - How does it make you feel?
 - The user will be sent back to the home screen without any feedback or notification as to what went wrong.
- Exit Game
 - After launching into a game properly, you play it for a few minutes. You come to a point that you are done and want to browse other selections on the machine.
 - Push both start and select on the machine at the same time to send the machine back to the home screen
 - The only way for the user to complete this task is to push the button combination to send the game back to the home screen

Team roles

Moderator: Stevie

The moderator will greet testers and escort them into the testing area, and will be the main person testers interact with. This includes introducing the test, obtaining all permissions necessary, and administering the test and all questionnaires.

Logger: John

The logger will, during the test and/or after the fact based on recordings taken during the test, code the recordings for user behaviors, comments, and system actions.

Observer/note taker: Sunny

When the technicians are not busy with that task, they will take notes of errors and other observations that occur to them during the test sessions.

Technician: Vruti/John

The technicians will be responsible for setting up and troubleshooting the arcade machine and all recording equipment associated with the test. They will stop and start the recordings at the

beginning and end of each test session, and will store and label the files created, along with questionnaire responses, together under a number code unique to each tester.

Incentives

Snacks will be provided to participants taking the test. These will be provided by members of the team.

Screening

We'll focus our recruiting on UA-Little Rock students with some interest or experience in gaming. Further screening than this may not be possible, given user profile; goal of 10 recruited testers, eight completed tests.

Timeline

Testing will take place on April 3 and 10 (with the potential to add dates/time if there are scheduling problems with testers), from 1-3 p.m. and 4:30-6:30 p.m. each day. Allowing 15 minutes to set up or reset before each test, that allows for up to eight 45-minute testing sessions, although we anticipate our test running closer to half an hour.

The results of the testing will be ready for presentation by May 2, with a final write-up ready by May 9.

Deliverables

Usability report for the SOCIS group

Appendix A: Questionnaires

Pre-Test

1. What devices do you play games on? (select all that apply)

- a. Playstation
- b. Xbox
- c. Switch
- d. Computer
- e. Mobile
- f. Other (please explain):

2. To what extent would you consider yourself a gamer?

- a. Not at all
- b. Somewhat
- c. I play all the time

3. How long have you been playing games?

- a. Less than a year
- b. 1-5 years
- c. 5-10 years
- d. 10-15 years
- e. More than 15 years

4. How much time do you spend playing games a week?

- a. Less than an hour
- b. 1-2 hours
- c. 3-4 hours
- d. More than 4 hours

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

Post-Task

Scenario 1

How attractive or unattractive do you think the arcade is?

Very Attractive 1 2 3 4 5 Very Unattractive

Explain your rating:

How well or poorly do you think you understand the arcade's controls?

Very Well 1 2 3 4 5 Very Poorly

Explain your rating:

How difficult or easy did you find it to get the arcade started?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

How easy or hard was it to read the text on the screen?

Very Hard 1 2 3 4 5 Very Easy

Explain your rating:

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

Scenario 3

How easy or difficult was it to exit the game?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

If you looked for it, how easy or difficult was it to find information on how to do this?

Very Difficult 1 2 3 4 5 Very Easy

Explain your answer:

Scenario 4

What did you think was going on when the options menu came up?

How easy or difficult was it to escape this menu and get back to the start screen?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

How would you rate the software's helpfulness in escaping this menu?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

Scenario 5

How well did you understand what was going on when the game didn't launch?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

How would you rate the software's helpfulness in understanding what was happening?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

What did you think was going on when the game didn't launch?

Would you change the way this problem is handled on the machine? How?

Post-Test

Overall, please rate how easy or difficult it was to use the arcade.

Very difficult 1 2 3 4 5 Very Easy

How much time do you think you would need before you would be able to confidently use the arcade?

Less than 10 minutes

10-30 minutes

1-2 hours

3 or more hours

Explain your response:

Please rate your satisfaction with the software:

Very dissatisfied 1 2 3 4 5 Very Satisfied

Would you recommend the use of the arcade to others after using it?

If you answered no to the previous question, please explain why:

Please explain what you enjoyed or disliked about using the arcade.

Is there any other feedback you would like to leave for the arcade that was not touched on?

Appendix B: Moderator Script

Introduction

Hi, _____. My name is Stevie Nielson, and I'm going to be walking you through this session. I'm going to be reading from a script, to be sure that I say the same thing to each person and to make sure that I cover everything.

You probably already know, but let me explain why we've asked you to come here today: We're asking people to try using this arcade machine to see what it's like for actual people to play on.

If you have questions, just ask. I may not be able to answer them during the test, since we're interested in how people do when they don't have someone sitting next to them, but I will try to answer any questions you still have when we're done.

I'd also like to introduce the other members of our team. This is _____ and _____, they're here to take notes and in case of problems with the test.

I want to make it clear that we're testing the arcade machine, not you. You can't do anything wrong here, so don't worry about making mistakes. Finding out what gives people trouble will be really useful to us in making the arcade better.

We want to hear exactly what you think, so please don't worry that you're going to hurt our feelings. We want to improve it, so we need to know honestly what you think.

If you need a break at any point, just let me know.

We have a lot to do, and I'm going to try to keep us moving, but we'll try to make sure that it's fun, too. This whole process shouldn't take more than half an hour.

We will be asking you to do a number of tasks during this test. With each of these tasks, I'd like you to let me know when you're done or if you get stuck and don't think you can do it.

Thinking aloud

As we go along, I'm going to ask you to think out loud, to tell me what's going through your mind. We want you to tell us what you're looking at, what you're trying to do, and what you're thinking.

Is that ok?
[get response]

Video permission

You may have noticed the cameras. With your permission, we're going to videotape you and the arcade screen, and record what you have to say. The video will be used only to help us figure out how to improve the arcade, and it won't be seen by anyone except the people working on the project, and possibly our classmates and teacher. It also helps me, because I don't have to take as many notes.

If you would, I'm going to ask you to sign something for us. It simply says that we have your permission to tape you and goes over who will be able to see the recordings.

[Hand them the form, and wait while they sign it and give it back]

Do you have any questions before we begin?

Background information questions

Before we look at the game system, I'd like to have you answer just a few background questions.

[Hand them the questionnaire]

Could you let me know when you're done?

[Wait on tester]

OK, great. We're done with the questions, and we can start looking at things.

Usability test

Scenario 1

First, I'd like you to imagine you're hanging out in the lobby in between classes. You see the arcade machine and decide to play a game to kill some time.

Go over to the machine and start it up. Don't pick a game yet.

Let me know when you're done, and remember, if you can talk us through what you're thinking and trying to do, that'll be really helpful.

[Wait on the tester]

Great! Now we've got a few impressions about this task and your first impressions of the arcade

Scenario 2

Ok, now I'd like you to try to find the Super Mario Bros game. When you think you've found the game, select it.

[let the tester work]

Thanks! Now we'd like you to answer a few questions about this.

[Hand them the questionnaire]

Let me know when you're done with those.

Scenario 3

Next, I'd like you to play a level or two, then exit the game and go back to the home screen. Again, let me know when you think you're done, or if you can't do it.

[wait for the tester]

Thanks! And again, we just have a quick questions about this task.

Scenario 4

Ok, now I'd like you to pick the game Tony Hawk Pro Skater 2. Select it to start playing, and then immediately press any button.

[Let the tester do this.]

OK, now try to get back to the screen that you launched the game from.

[Wait on tester]

Great! Now we've got a few more questions.

Scenario 5

OK, now I'd like you to try playing one more game. Find ??? and play a level on it.

(Wait for tester to give up.)

OK, obviously that's broken. We'd like to ask you a bit about how that made you feel. What did you expect to happen? What do you think was going on?

Post-test questionnaire

Great! We're just about done now. We have some questions about your overall experience with the arcade, and then we'll see if our other team members have any follow-up questions for you.

[Wait for tester to finish, then ask any follow-up questions]

Now, do you have any questions for me, now that we're done with the testing?

Thanks so much for your help, and for your time today! This will be super valuable in helping us improve the arcade machine. Have a great day!

Text excerpted from "Don't Make Me Think" by Steve Krug.

Steve does usability consulting for [Advanced Common Sense](#).

Appendix C: Checklist

Moderator Checklist

Before participants arrive

- Make sure product is loaded properly and ready for first scenario

Introduction

- Welcome
- Introduce yourself and thank participants for participating
- Escort participant to evaluation room
- Sit beside the participant

Consent form, pre-test questionnaire, instructions

- Explain purpose of test
- Show location of cameras and microphone
- Video release
- Explain process of using scenarios, one at a time, while participant thinks out loud
- Review how think-out-loud process works
- Ask for questions and concerns
- Pretest questionnaire

After each scenario, post-task questionnaire

- Offer plenty of reassurance, especially when tasks prove difficult
- Give post-task questionnaire to participant

After completion, post-test questionnaire

- Give post-test questionnaire
- Offer to introduce participant to team; generously thank for experience

Loggers Checklist

Before the test

- Turn on logging computer
- Enter new test information into logging software
- Check headphones and microphones for logger and team
- Test logging software

After each participant

- Copy log file for team members
- Distribute copies to team members
- Set up logging software for next participant (if any)

At end of day

- Back up logging software data files

Technician's Checklist

Before each test participant arrives

- Turn on equipment
- Adjust cameras to proper settings for recording

During each test session

- Synchronize starting times with the logger/data recorder
- Adjust audio in control room and headsets as needed

After the test participant leaves

- Finalize recording
- Prepare for next participant (if appropriate)
- Turn off equipment (at end of last session)

Appendix F- Questionnaire responses

Tester 403-1

403-1

Questionnaire

Pre-Test

1. To what extent would you consider yourself a gamer?
 - a. Not at all
 - b. Somewhat
 - c. I play all the time

2. How long have you been playing games?
 - a. Less than a year
 - b. 1-5 years
 - c. 5-10 years
 - d. 10-15 years
 - e. More than 15 years

3. How much time do you spend playing games a week?
 - a. Less than an hour
 - b. 1-2 hours
 - c. 3-4 hours
 - d. More than 4 hours

4. What devices do you play games on, and how often? (select all that apply)
 - a. Playstation
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - b. Xbox
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - c. Switch
 - i. Never
 - ii. Less than once a month

- iii. At least once a month
- iv. At least once a week
- v. Daily

d. Computer

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

e. Mobile

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

f. Other (please explain):

NES, SNES

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

Easy to figure out controls, challenging but not impossibly hard

403-1

Post-Task

Scenario 1

How appealing or unattractive do you think the arcade is?

Very Appealing 1 2 3 4 5 Very Unattractive

Explain your rating:

Names of games hard to read

How well or poorly do you think you understand the arcade's controls?

Very Well 1 2 3 4 5 Very Poorly

Explain your rating:

Different button layout than I'm used to

How difficult or easy did you find it to get the arcade started?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

Pretty self-explanatory

403-1

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

Everything on the screen is difficult to read, so I just had to randomly push buttons until I figured it out.

How easy or hard was it to read the text on the screen?

Very Hard 1 2 3 4 5 Very Easy

Explain your rating: Text is too small + very blurry on this screen.

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating: Hard to read.

403-1

Scenario 3

How easy or difficult was it to exit the game?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer: Instruction sheet told me. But I tried to figure it out myself first + couldn't.

If you looked for it, how easy or difficult was it to find information on how to do this?

Very Difficult 1 2 3 4 5 Very Easy

Explain your answer: See above.

403-1

Scenario 4

What did you think was going on when the options menu came up?

That I needed to hit a specific button
that wasn't labeled.

How easy or difficult was it to escape this menu and get back to the start screen?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer: I didn't figure it out.

How would you rate the software's helpfulness in escaping this menu?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating: see above

403-1

Scenario 5

How well did you understand what was going on when the game didn't launch?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating: I assumed it was broken

How would you rate the software's helpfulness in understanding what was happening?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating: An error message or something would make it more clear

What did you think was going on when the game didn't launch?

I assumed it was probably broken, but I thought there was a possibility I was doing something wrong.

Would you change the way this problem is handled on the machine? How?

Add error message or something so user knows game is broken but others are playable. It's the top game on the list, so people might give up altogether when it doesn't work.

403-1

Post-Test

Overall, please rate how easy or difficult it was to use the arcade.

Very Difficult 1 2 **(3)** 4 5 Very Easy

How much time do you think you would need before you would be able to confidently use the arcade?

Less than 10 minutes

10-30 minutes

1-2 hours

3 or more hours

Explain your response: Unclear. I probably would have quit before I got to that point.

Please rate your satisfaction with the software:

Very Dissatisfied 1 **(2)** 3 4 5 Very Satisfied

Would you recommend the arcade to others after using it? probably not, but maybe if they had more patience than me.

If you answered no to the previous question, please explain why:

Not being able to read what's on the screen is frustrating.

Please explain what you enjoyed or disliked about using the arcade.

The Mario game worked well once I got it going. But the menu + navigation were frustrating.

Is there any other feedback you would like to leave for the arcade that was not touched on? No.

Tester 403-2

403-2

Questionnaire

Pre-Test

1. To what extent would you consider yourself a gamer?
 - a. Not at all
 - b. Somewhat
 - c. I play all the time

2. How long have you been playing games?
 - a. Less than a year
 - b. 1-5 years
 - c. 5-10 years
 - d. 10-15 years
 - e. More than 15 years

3. How much time do you spend playing games a week?
 - a. Less than an hour
 - b. 1-2 hours
 - c. 3-4 hours
 - d. More than 4 hours

4. What devices do you play games on, and how often? (select all that apply)
 - a. Playstation
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - b. Xbox
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - c. Switch
 - i. Never
 - ii. Less than once a month

403-2

iii. At least once a month

iv. At least once a week

v. Daily

d. Computer

i. Never

ii. Less than once a month

iii. At least once a month

iv. At least once a week

v. Daily

e. Mobile

i. Never

ii. Less than once a month

iii. At least once a month

iv. At least once a week

v. Daily

f. Other (please explain):

i. Never

ii. Less than once a month

iii. At least once a month

iv. At least once a week

v. Daily

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

→ Can't think of anything right now.

403-2

Post-Task

Scenario 1

How appealing or unattractive do you think the arcade is?

Very Appealing 1 2 3 4 5 Very Unattractive

Explain your rating:

How well or poorly do you think you understand the arcade's controls?

Very Well 1 2 3 4 5 Very Poorly

Explain your rating:

How difficult or easy did you find it to get the arcade started?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

It's ~~hard~~ for me at first time to find start button.
hard

403~2

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

How easy or hard was it to read the text on the screen?

Very Hard 1 2 3 4 5 Very Easy

Explain your rating:

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

There is too opposition for Super mario.

403-2

Scenario 3

How easy or difficult was it to exit the game?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

If you looked for it, how easy or difficult was it to find information on how to do this?

Very Difficult 1 2 3 4 5 Very Easy

Explain your answer:

I look for all the button any toy
all one time but It don't work
After that I try first two button
and it work

403-2

Scenario 4

What did you think was going on when the options menu came up?

A Yea/Thinking It

At first I see I really don't know what's going on.

How easy or difficult was it to escape this menu and get back to the start screen?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

I just have to read everything to go back to the start screen.

How would you rate the software's helpfulness in escaping this menu?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

403-2

Scenario 5

How well did you understand what was going on when the game didn't launch?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

How would you rate the software's helpfulness in understanding what was happening?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

What did you think was going on when the game didn't launch?

I feel like there is no game like that.

Would you change the way this problem is handled on the machine? How?

I don't know.

403-1

Post-Test

Overall, please rate how easy or difficult it was to use the arcade.

Very Difficult 1 2 3 4 5 Very Easy

How much time do you think you would need before you would be able to confidently use the arcade?

Less than 10 minutes

10-30 minutes

1-2 hours

3 or more hours

Explain your response:

Please rate your satisfaction with the software:

Very Dissatisfied 1 2 3 4 5 Very Satisfied

Would you recommend the arcade to others after using it?

yes.

If you answered no to the previous question, please explain why:

Please explain what you enjoyed or disliked about using the arcade.

I enjoy playing Super Mario Game.

Is there any other feedback you would like to leave for the arcade that was not touched on?

*It's hard to read and hard to
find what we looking for.*

Tester 403-3

Questionnaire

Pre-Test

1. To what extent would you consider yourself a gamer?
 - a. Not at all
 - b. Somewhat
 - c. I play all the time

2. How long have you been playing games?
 - a. Less than a year
 - b. 1-5 years
 - c. 5-10 years
 - d. 10-15 years
 - e. More than 15 years

3. How much time do you spend playing games a week?
 - a. Less than an hour
 - b. 1-2 hours
 - c. 3-4 hours
 - d. More than 4 hours

4. What devices do you play games on, and how often? (select all that apply)
 - a. Playstation
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - b. Xbox
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - c. Switch
 - i. Never
 - ii. Less than once a month

403-3

- iii. At least once a month
- iv. At least once a week
- v. Daily

d. Computer

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

e. Mobile

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

f. Other (please explain):

-
- i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

comfortable controls, easy to handle (charge, maintain, etc)

I enjoy refreshing design that still implements easy to use controls. (complicated ≠ better basically.)

Annoyances = non-functional applications of a game system

complicated + unneeded controls

poor quality hardware + software

Post-Task

Scenario 1

How appealing or unattractive do you think the arcade is?

Very Appealing 1 2 3 4 5 Very Unattractive

Explain your rating:

~~A~~ Retro arcade is cool but blatant tv not behind a screen is not very appealing, cords are out near joysticks - can affect controls.

How well or poorly do you think you understand the arcade's controls?

Very Well 1 2 3 4 5 Very Poorly

Explain your rating:

Easy to understand, but quality is probably bad. Whatever game this plays must be inefficient to play using these controls.

How difficult or easy did you find it to get the arcade started?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

Start starts it. Pretty simple.

403-3

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

No clear instructions at all. All I had to do was side scroll but start button actually did not do what I thought - options were confusing

How easy or hard was it to read the text on the screen?

Very Hard 1 2 3 4 5 Very Easy

Explain your rating:

stuttering frames.

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

Hard to navigate, no direction on the arcade at all
on what to do.

403-3

Scenario 3

How easy or difficult was it to exit the game?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

Instructions showed how to exit the game.

If you looked for it, how easy or difficult was it to find information on how to do this?

Very Difficult 1 2 3 4 5 Very Easy

Explain your answer:

On the machine

403-3

Scenario 4

What did you think was going on when the options menu came up?

Confusing, not for the average person to understand.

How easy or difficult was it to escape this menu and get back to the start screen?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

It had a "quit" option.

How would you rate the software's helpfulness in escaping this menu?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

Could have a better UI system.

403-3

Scenario 5

How well did you understand what was going on when the game didn't launch?

Not Helpful 2 3 4 5 Very Helpful

Explain your rating:

No indication of game being broken.

How would you rate the software's helpfulness in understanding what was happening?

Not Helpful 2 3 4 5 Very Helpful

Explain your rating:

Basically no UI, no pop-ups. Nothing.

What did you think was going on when the game didn't launch?

I thought I was doing something wrong.

Would you change the way this problem is handled on the machine? How?

Yes, make screen less blurry and change UI to
show exactly how to do things. (without looking at
paper taped to the machine)

403-3

Post-Test

Overall, please rate how easy or difficult it was to use the arcade.

Very Difficult 1 2 3 4 5 Very Easy

How much time do you think you would need before you would be able to confidently use the arcade?

Less than 10 minutes

10-30 minutes

1-2 hours

3 or more hours

Explain your response:

Not had, just don't know what to do. Trial + error to figure it out.

Please rate your satisfaction with the software:

Very Dissatisfied 1 2 3 4 5 Very Satisfied

Would you recommend the arcade to others after using it?

No

If you answered no to the previous question, please explain why:

Horrible UI. No info on anything in the UI. No directions or navigation pop-up.

Please explain what you enjoyed or disliked about using the arcade.

I liked the ~~old~~ retro theme, the old games.

Disliked ~~the~~ the poor joystick + the UI.

Is there any other feedback you would like to leave for the arcade that was not touched on?

Machine looks like an old ~~arcade~~ failed to restore machine.

Tester 403-4

403-4

Questionnaire

Pre-Test

1. To what extent would you consider yourself a gamer?
 - a. Not at all
 - b. Somewhat
 - c. I play all the time

2. How long have you been playing games?
 - a. Less than a year
 - b. 1-5 years
 - c. 5-10 years
 - d. 10-15 years
 - e. More than 15 years

3. How much time do you spend playing games a week?
 - a. Less than an hour
 - b. 1-2 hours
 - c. 3-4 hours
 - d. More than 4 hours

4. What devices do you play games on, and how often? (select all that apply)
 - a. Playstation
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - b. Xbox
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - c. Switch
 - i. Never
 - ii. Less than once a month

- iii. At least once a month
- iv. At least once a week
- v. Daily

d. Computer

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

e. Mobile

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

f. Other (please explain):

-
- i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

None

Trouble using analog controls vs. keyboard and mouse

Post-Task

Scenario 1

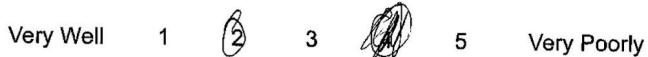
How appealing or unattractive do you think the arcade is?



Explain your rating:

I like the retro look, but not used to low rez/quality of the tv

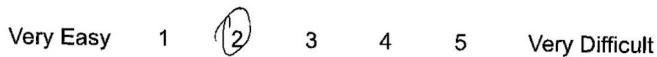
How well or poorly do you think you understand the arcade's controls?



Explain your rating:

I don't know which specific buttons are labeled as such as A or X

How difficult or easy did you find it to get the arcade started?



Explain your rating:

I am somewhat knowledgeable with arcade controls

403-4

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 2 3 4 5 Very Difficult

Explain your rating:

How easy or hard was it to read the text on the screen?

Very Hard 1 2 3 4 5 Very Easy

Explain your rating:

It's kind of blurry

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

Scenario 3

How easy or difficult was it to exit the game?



Explain your answer:

I already knew how to exit, so it was easy for me
but for unexperienced players, it is not labeled
clearly enough

If you looked for it, how easy or difficult was it to find information on how to do this?



Explain your answer:

Stated above

Scenario 4

What did you think was going on when the options menu came up?

It was the options menu

How easy or difficult was it to escape this menu and get back to the start screen?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

Directions were inverted

How would you rate the software's helpfulness in escaping this menu?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

Clear option was used clearly

403-4

Scenario 5

How well did you understand what was going on when the game didn't launch?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

It confused me for a second when the screen turned black

How would you rate the software's helpfulness in understanding what was happening?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

No error or warning showed up

What did you think was going on when the game didn't launch?

It either crashed or was broken

Would you change the way this problem is handled on the machine? How?

Post a warning or error screen

Tester 403-5

403-5

Questionnaire

Pre-Test

1. To what extent would you consider yourself a gamer?
 - a. Not at all
 - b. Somewhat
 - c. I play all the time
2. How long have you been playing games?
 - a. Less than a year
 - b. 1-5 years
 - c. 5-10 years
 - d. 10-15 years
 - e. More than 15 years
3. How much time do you spend playing games a week?
 - a. Less than an hour
 - b. 1-2 hours
 - c. 3-4 hours
 - d. More than 4 hours
4. What devices do you play games on, and how often? (select all that apply)
 - a. Playstation
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily
 - b. Xbox
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily
 - c. Switch
 - i. Never
 - ii. Less than once a month

- iii. At least once a month
- iv. At least once a week
- v. Daily

d. Computer

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

e. Mobile

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

f. Other (please explain):

-
- i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

I like the menu to be readable and responsive to the inputs. What annoys me is the delay between inputs when the system navigates to the part I'm trying to get to.

Post-Task

Scenario 1

How appealing or unattractive do you think the arcade is?

Very Appealing 1 2 (3) 4 5 Very Unattractive

Explain your rating: The Arcade machine itself looks nice,
the TV screen just looks out of place

How well or poorly do you think you understand the arcade's controls?

Very Well 1 2 (3) 4 5 Very Poorly

Explain your rating: The controls are learned, but not all of
them so it's a little confusing

How difficult or easy did you find it to get the arcade started?

Very Easy 1 2 (3) 4 5 Very Difficult

Explain your rating: Didn't see a setup guide, but hitting
the button started it,

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating: All the games were listed under categories, easiest to locate

How easy or hard was it to read the text on the screen?

Very Hard 1 2 3 4 5 Very Easy

Explain your rating: Text is very blurry and difficult for me to read

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating: easy to find and select the game to play it

Scenario 3

How easy or difficult was it to exit the game?



Explain your answer: *Found it on accident, but got it is saves me on how to get back to the game*

If you looked for it, how easy or difficult was it to find information on how to do this?



Explain your answer: *MENU is located above the two buttons*

Scenario 4

What did you think was going on when the options menu came up?

that maybe an error occurred when the game
was launching

How easy or difficult was it to escape this menu and get back to the start screen?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer: controls seemed inverted so it took a bit
to find out how to navigate it.

How would you rate the software's helpfulness in escaping this menu?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating: doesn't explain how to navigate the
menu

Scenario 5

How well did you understand what was going on when the game didn't launch?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating: *that the game wasn't launching properly,*

How would you rate the software's helpfulness in understanding what was happening?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating: *message doesn't last long enough to read it and machine just kicks you back to the main menu*

What did you think was going on when the game didn't launch?

that same sort of error occurs,

Would you change the way this problem is handled on the machine? How?

have a message saying there was a problem launching the game, and maybe connect into port the people that run the machine so that you could let them know about it.

Post-Test

Overall, please rate how easy or difficult it was to use the arcade.

Very Difficult 1 2 3 4 5 Very Easy

How much time do you think you would need before you would be able to confidently use the arcade?

Less than 10 minutes

10-30 minutes

1-2 hours

3 or more hours

Explain your response:

Please rate your satisfaction with the software:

Very Dissatisfied 1 2 3 4 5 Very Satisfied

Would you recommend the arcade to others after using it?

Yes

If you answered no to the previous question, please explain why:

Please explain what you enjoyed or disliked about using the arcade.

I enjoyed how easy navigation is was, but things like a longer error message are easier to read yet would be great.

Is there any other feedback you would like to leave for the arcade that was not touched on?

Tester 403-6

403-6

Questionnaire

Pre-Test

1. To what extent would you consider yourself a gamer?
 - a. Not at all
 - b. Somewhat
 - c. I play all the time
2. How long have you been playing games?
 - a. Less than a year
 - b. 1-5 years
 - c. 5-10 years
 - d. 10-15 years
 - e. More than 15 years
3. How much time do you spend playing games a week?
 - a. Less than an hour
 - b. 1-2 hours
 - c. 3-4 hours
 - d. More than 4 hours
4. What devices do you play games on, and how often? (select all that apply)
 - a. Playstation
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily
 - b. Xbox
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily
 - c. Switch
 - i. Never
 - ii. Less than once a month

- iii. At least once a month
- iv. At least once a week
- v. Daily

d. Computer

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

e. Mobile

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

f. Other (please explain):

-
- i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

Ease of use, no room for

Question on where basic commands\ buttons were, such as power button, menu, volume, etc.

The types of games excite me. (action, RPG, etc.)

Post-Task

Scenario 1

How appealing or unattractive do you think the arcade is?

Very Appealing 1 2 (3) 4 5 Very Unattractive

Explain your rating: Possibly hide the TV monitor to make it

more aesthetically pleasing, however, nice custom cards/
designs

How well or poorly do you think you understand the arcade's controls?

Very Well (1) 2 3 4 5 Very Poorly

Explain your rating:

Everything is easily accessible with instructions in
the case I didn't know how to navigate the machine

How difficult or easy did you find it to get the arcade started?

Very Easy (1) 2 3 4 5 Very Difficult

Explain your rating:

Easy to use

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 1 2 3 **(4)** 5 Very Difficult

Explain your rating: A lot of the commands didn't pop, small test, forgot there was a paper with the controls possibly changing location of instructions to somewhere the eye is drawn

How easy or hard was it to read the text on the screen?

Very Hard 1 2 **(3)** 4 5 Very Easy

Explain your rating: Hard to notice unless you're looking for it.

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 **(3)** 4 5 Very Helpful

Explain your rating: Once I understood how it worked it was better to navigate

Scenario 5

How well did you understand what was going on when the game didn't launch?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating: As a gamer, I understand, but most people would more than likely be confused

How would you rate the software's helpfulness in understanding what was happening?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating: I felt like I had to figure out on my own through trial & error

What did you think was going on when the game didn't launch?

Thought it was broken

Would you change the way this problem is handled on the machine? How?

Yes, possibly display an error screen of some sort, then display some sort of button combination to go to the current default screen for configuration if that is what you desire, or to return to the home screen.

403-6

Post-Test

Overall, please rate how easy or difficult it was to use the arcade.

Very Difficult 1 2 3 **4** 5 Very Easy

How much time do you think you would need before you would be able to confidently use the arcade?

Less than 10 minutes

10-30 minutes

1-2 hours

3 or more hours

Explain your response: Once I read the instructions it was a simple matter

Please rate your satisfaction with the software:

Very Dissatisfied 1 2 3 **4** 5 Very Satisfied

Would you recommend the arcade to others after using it?

Yes

If you answered no to the previous question, please explain why:

N/A

Please explain what you enjoyed or disliked about using the arcade.

Enjoyed the variety of games, needs improvement
on user interface

Is there any other feedback you would like to leave for the arcade that was not touched on?

N/A

Tester 403-7

403-7

Questionnaire

Pre-Test

1. To what extent would you consider yourself a gamer?
 - a. Not at all
 - b. Somewhat
 - c. I play all the time

2. How long have you been playing games?
 - a. Less than a year
 - b. 1-5 years
 - c. 5-10 years
 - d. 10-15 years
 - e. More than 15 years

3. How much time do you spend playing games a week?
 - a. Less than an hour
 - b. 1-2 hours
 - c. 3-4 hours
 - d. More than 4 hours

4. What devices do you play games on, and how often? (select all that apply)
 - a. Playstation
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - b. Xbox
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - c. Switch
 - i. Never
 - ii. Less than once a month

- iii. At least once a month
- iv. At least once a week
- v. Daily

d. Computer

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

e. Mobile

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

f. Other (please explain):

-
- i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

I enjoy when games are very straightforward. I don't think it's fun to be frustrated! I don't really like having to control characters as much as I enjoy text base/story heavy games.

403-7

Post-Task

Scenario 1

How appealing or unattractive do you think the arcade is?



Explain your rating:

It's old school, and made me excited.

How well or poorly do you think you understand the arcade's controls?



Explain your rating:

There is an instruction Sheet, but I was a little confused @ first

How difficult or easy did you find it to get the arcade started?



Explain your rating:

I thought it was off @ first, so I hit the power button.

403-7

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

I couldn't tell that the words on the right were game names @ first

How easy or hard was it to read the text on the screen?

Very Hard 1 2 3 4 5 Very Easy

Explain your rating:

I really had a hard time reading it.

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

Once I figured out where the list was, it was pretty easy.

403-7

Scenario 3

How easy or difficult was it to exit the game?



Explain your answer:

I read the instructions!

If you looked for it, how easy or difficult was it to find information on how to do this?



Explain your answer:

I think it was pretty easy once I got the hang of it.

403-7

Scenario 4

What did you think was going on when the options menu came up?

Maybe mode selection? I didn't read it, whoops.

How easy or difficult was it to escape this menu and get back to the start screen?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

Once I actually read it, it was EASY

How would you rate the software's helpfulness in escaping this menu?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

There are words! It is helpful when ya read them :)

403-7

Scenario 5

How well did you understand what was going on when the game didn't launch?



Explain your rating:

It didn't really tell me anything

How would you rate the software's helpfulness in understanding what was happening?



Explain your rating:

It didn't tell me anything!)

What did you think was going on when the game didn't launch?

Maybe I did something incorrectly

Would you change the way this problem is handled on the machine? How?

Yes! Maybe a message saying "Sorry, this game isn't working right now."

Post-Test

Overall, please rate how easy or difficult it was to use the arcade.

Very Difficult 1 2 3 4 5 Very Easy

How much time do you think you would need before you would be able to confidently use the arcade?

Less than 10 minutes

10-30 minutes

1-2 hours

3 or more hours

Explain your response:

I would really need time to play around w/it.

Please rate your satisfaction with the software:

Very Dissatisfied 1 2 3 4 5 Very Satisfied

Would you recommend the arcade to others after using it?

Yes, sorta

If you answered no to the previous question, please explain why:

It could be fun, if you have some time to kill

Please explain what you enjoyed or disliked about using the arcade.

I got to play Mario for the first time ever!

Is there any other feedback you would like to leave for the arcade that was not touched on?

Better text readability

Tester 410-1

410-1

Questionnaire

Pre-Test

1. To what extent would you consider yourself a gamer?
 - a. Not at all
 - b. Somewhat
 - c. I play all the time

2. How long have you been playing games?
 - a. Less than a year
 - b. 1-5 years
 - c. 5-10 years
 - d. 10-15 years
 - e. More than 15 years

3. How much time do you spend playing games a week?
 - a. Less than an hour
 - b. 1-2 hours
 - c. 3-4 hours
 - d. More than 4 hours

4. What devices do you play games on, and how often? (select all that apply)
 - a. Playstation
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - b. Xbox
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - c. Switch
 - i. Never
 - ii. Less than once a month

- iii. At least once a month
- iv. At least once a week
- v. Daily

d. Computer

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

e. Mobile

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

f. Other (please explain):

-
- i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

410-1

Post-Task

Scenario 1

How appealing or unattractive do you think the arcade is?

Very Appealing 1 2 3 4 5 Very Unattractive

Explain your rating:

~~so~~ very old.

How well or poorly do you think you understand the arcade's controls?

Very Well 1 2 3 4 5 Very Poorly

Explain your rating:

Graphics are ~~are~~ really low

How difficult or easy did you find it to get the arcade started?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

410-1

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 1 2 3 4 **5** Very Difficult

Explain your rating:

How easy or hard was it to read the text on the screen?

Very Hard **1** 2 3 4 5 Very Easy

Explain your rating:

She could not see anything clear.

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 **3** 4 5 Very Helpful

Explain your rating:

410-1

Scenario 3

How easy or difficult was it to exit the game?

Very Easy 1 2 3 4 **5** Very Difficult

Explain your answer:

~~Can't exit~~
there is no exit of this game

If you looked for it, how easy or difficult was it to find information on how to do this?

Very Difficult **1** 2 3 4 5 Very Easy

Explain your answer:

There is about 20 buttons and
~~not~~ none of them are working.

4|0-1

Scenario 4

What did you think was going on when the options menu came up?

How easy or difficult was it to escape this menu and get back to the start screen?

Very Easy 1 2 3 4 **(5)** Very Difficult

Explain your answer:

~~Don't know~~
Very Difficult

How would you rate the software's helpfulness in escaping this menu?

Very Unhelpful 1 **(2)** 3 4 5 Very Helpful

Explain your rating:

Very poor job in software
~~A decent effort~~

410-1

Scenario 5

How well did you understand what was going on when the game didn't launch?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

How would you rate the software's helpfulness in understanding what was happening?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

What did you think was going on when the game didn't launch?

Software problem

Would you change the way this problem is handled on the machine? How?

Yes. this game need some help.

410-1

Post-Test

Overall, please rate how easy or difficult it was to use the arcade.

Very Difficult ① 2 3 4 5 Very Easy

How much time do you think you would need before you would be able to confidently use the arcade?

Less than 10 minutes

10-30 minutes

1-2 hours

3 or more hours

Explain your response: It takes hours to figure out how it work.

Please rate your satisfaction with the software:

Very Dissatisfied ① 2 3 4 5 Very Satisfied

Would you recommend the arcade to others after using it?

Nope, Not at all.

If you answered no to the previous question, please explain why:

Because it really difficult to play, and It
hurt my eyes to looking at it.

Please explain what you enjoyed or disliked about using the arcade.

Nothing is enjoyable.

Is there any other feedback you would like to leave for the arcade that was not touched on?

Tester 410-2

Questionnaire

Pre-Test

1. To what extent would you consider yourself a gamer?
 - a. Not at all
 - b. Somewhat
 - c. I play all the time

2. How long have you been playing games?
 - a. Less than a year
 - b. 1-5 years
 - c. 5-10 years
 - d. 10-15 years
 - e. More than 15 years

3. How much time do you spend playing games a week?
 - a. Less than an hour
 - b. 1-2 hours
 - c. 3-4 hours
 - d. More than 4 hours

4. What devices do you play games on, and how often? (select all that apply)
 - a. Playstation
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - b. Xbox
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - c. Switch
 - i. Never
 - ii. Less than once a month

- iii. At least once a month
- iv. At least once a week
- v. Daily

(d) Computer

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

e. Mobile

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

f. Other (please explain):

-
- i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

- Type of game I'm playing Excites me most
- "LAG" Annoys the most

410-2

Post-Task

Scenario 1

How appealing or unattractive do you think the arcade is?

Very Appealing 1 2 3 4 5 Very Unattractive

Explain your rating:

How well or poorly do you think you understand the arcade's controls?

Very Well 1 2 3 4 5 Very Poorly

Explain your rating:

No [ables]

How difficult or easy did you find it to get the arcade started?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

Pretty Simple

410-2

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

How easy or hard was it to read the text on the screen?

Very Hard 1 2 3 4 5 Very Easy

Explain your rating:

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

Simple

410-2

Scenario 3

How easy or difficult was it to exit the game?

Very Easy

1 2 3 4 5

Very Difficult

Explain your answer:

Can't figure out easy

If you looked for it, how easy or difficult was it to find information on how to do this?

Very Difficult

1 2 3 4 5 Very Easy

Explain your answer:

Not very difficult but

can be done

410-2-

Scenario 4

What did you think was going on when the options menu came up?

2 Don't Know

How easy or difficult was it to escape this menu and get back to the start screen?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

How would you rate the software's helpfulness in escaping this menu?

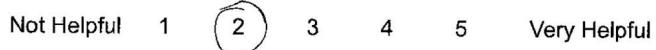
Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

410-2

Scenario 5

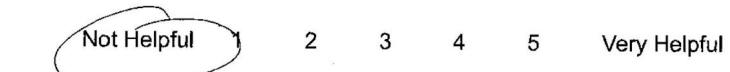
How well did you understand what was going on when the game didn't launch?



Explain your rating:

Not well

How would you rate the software's helpfulness in understanding what was happening?



Explain your rating:

What did you think was going on when the game didn't launch?

Some kind of Error

Would you change the way this problem is handled on the machine? How?

Yes, Prompt user by telling its not working.
And offer another game to play.

410-2

Post-Test

Overall, please rate how easy or difficult it was to use the arcade.

Very Difficult 1 2 3 (4) 5 Very Easy

How much time do you think you would need before you would be able to confidently use the arcade?

Less than 10 minutes

10-30 minutes

1-2 hours

3 or more hours

Explain your response:

maybe 15 minutes to understand controls

Please rate your satisfaction with the software:

Very Dissatisfied 1 2 (3) 4 5 Very Satisfied

Would you recommend the arcade to others after using it?

No

If you answered no to the previous question, please explain why:

It might not be easy for someone to understand the controls and figuring them out.

Please explain what you enjoyed or disliked about using the arcade.

Loved the games

Is there any other feedback you would like to leave for the arcade that was not touched on?

N/A

Tester 410-3

Questionnaire

Pre-Test

1. To what extent would you consider yourself a gamer?
 - a. Not at all
 - b. Somewhat
 - c) I play all the time

2. How long have you been playing games?
 - a. Less than a year
 - b. 1-5 years
 - c) 5-10 years
 - d. 10-15 years
 - e. More than 15 years

3. How much time do you spend playing games a week?
 - a. Less than an hour
 - b. 1-2 hours
 - c. 3-4 hours
 - d) More than 4 hours

4. What devices do you play games on, and how often? (select all that apply)
 - a. Playstation
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - b. Xbox
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - c. Switch
 - i. Never
 - ii. Less than once a month

410-3

- iii. At least once a month
- iv. At least once a week
- v. Daily

d. Computer

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

e. Mobile

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

f. Other (please explain):

-
- i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

Efficiency & Convenience

Post-Task

Scenario 1

How appealing or unattractive do you think the arcade is?

Very Appealing 1 (2) 3 4 5 Very Unattractive

Explain your rating:

I like the ~~aesthetic~~ look of the cabinet

How well or poorly do you think you understand the arcade's controls?

Very Well 1 2 3 (4) 5 Very Poorly

Explain your rating:

hard to determine

the controls are sometimes easy to miss on the screen

How difficult or easy did you find it to get the arcade started?

Very Easy (1) 2 3 4 5 Very Difficult

Explain your rating:

410-3

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 2 3 4 5 Very Difficult

Explain your rating:

How easy or hard was it to read the text on the screen?

Very Hard 1 2 3 4 5 Very Easy

Explain your rating:

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

The picture that corresponded to the
game helped

410-3

Scenario 3

How easy or difficult was it to exit the game?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

If you looked for it, how easy or difficult was it to find information on how to do this?

Very Difficult 1 2 3 4 5 Very Easy

Explain your answer:

410-3

Scenario 4

What did you think was going on when the options menu came up?

An error occured

How easy or difficult was it to escape this menu and get back to the start screen?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

How would you rate the software's helpfulness in escaping this menu?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

410-3

Scenario 5

How well did you understand what was going on when the game didn't launch?

Not Helpful (1) 2 3 4 5 Very Helpful

Explain your rating:

Theres no window or popup that explained told me
What happened

How would you rate the software's helpfulness in understanding what was happening?

Not Helpful (1) 2 3 4 5 Very Helpful

Explain your rating:

What did you think was going on when the game didn't launch?

The game wasn't there or something messed up internally

Would you change the way this problem is handled on the machine? How?

No

410-3

Post-Test

Overall, please rate how easy or difficult it was to use the arcade.

Very Difficult 1 2 3 4 5 Very Easy

How much time do you think you would need before you would be able to confidently use the arcade?

Less than 10 minutes

10-30 minutes

1-2 hours

3 or more hours

Explain your response:

Doesn't seem that hard

Please rate your satisfaction with the software:

Very Dissatisfied 1 2 3 4 5 Very Satisfied

Would you recommend the arcade to others after using it?

Yes

If you answered no to the previous question, please explain why:

Please explain what you enjoyed or disliked about using the arcade.

I could play old games

Is there any other feedback you would like to leave for the arcade that was not touched on?

Fix the joystick, the noise is distracting

Tester 410-4

Questionnaire

Pre-Test

1. To what extent would you consider yourself a gamer?
 - a. Not at all
 - b. Somewhat
 - c. I play all the time

2. How long have you been playing games?
 - a. Less than a year
 - b. 1-5 years
 - c. 5-10 years
 - d. 10-15 years
 - e. More than 15 years

3. How much time do you spend playing games a week?
 - a. Less than an hour
 - b. 1-2 hours
 - c. 3-4 hours
 - d. More than 4 hours

4. What devices do you play games on, and how often? (select all that apply)
 - a. Playstation
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - b. Xbox
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - c. Switch
 - i. Never
 - ii. Less than once a month

- iii. At least once a month
- iv. At least once a week
- v. Daily

d. Computer

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

e. Mobile

- i. Never
- ii. Less than once a month
- iii. At least once a month
- iv. At least once a week
- v. Daily

f. Other (please explain):

-
- i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

comes with instructions

Post-Task

Scenario 1

How appealing or unattractive do you think the arcade is?

Very Appealing ① 2 3 4 5 Very Unattractive

Explain your rating:

I like that the cabinet
has more than one game

How well or poorly do you think you understand the arcade's controls?

Very Well 1 ② 3 4 5 Very Poorly

Explain your rating:

The instructions on the
front are clear

How difficult or easy did you find it to get the arcade started?

Very Easy ① 2 3 4 5 Very Difficult

Explain your rating:

It is usually on
but if its not I check
the plug

410-4

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 2 3 4 5 Very Difficult

Explain your rating:

I just scroll through until I
find it.

How easy or hard was it to read the text on the screen?

Very Hard 1 2 3 4 5 Very Easy

Explain your rating:

It's pretty easy but
kind blurry

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

The games were on
a nice scroll.

410-4

Scenario 3

How easy or difficult was it to exit the game?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

The sign on the front and
the top both said menu

If you looked for it, how easy or difficult was it to find information on how to do this?

Very Difficult 1 2 3 4 5 Very Easy

Explain your answer:

It was clearly
printed on the front.

410-4

Scenario 4

What did you think was going on when the options menu came up?

How easy or difficult was it to escape this menu and get back to the start screen?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

I went to the exit
option

How would you rate the software's helpfulness in escaping this menu?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

It was clearly labeled.

410-4

Scenario 5

How well did you understand what was going on when the game didn't launch?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

I knew the rom was
broken

How would you rate the software's helpfulness in understanding what was happening?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

There was no error message

What did you think was going on when the game didn't launch?

missing rom file

Would you change the way this problem is handled on the machine? How?

add an error message

if possible.

410-4

Post-Test

Overall, please rate how easy or difficult it was to use the arcade.

Very Difficult 1 2 3 4 5 Very Easy

How much time do you think you would need before you would be able to confidently use the arcade?

Less than 10 minutes

10-30 minutes

1-2 hours

3 or more hours

Explain your response:

Please rate your satisfaction with the software:

Very Dissatisfied 1 2 3 4 5 Very Satisfied

Would you recommend the arcade to others after using it?

Yes

If you answered no to the previous question, please explain why:

Please explain what you enjoyed or disliked about using the arcade.

I like the number of games
fun for hours

Is there any other feedback you would like to leave for the arcade that was not touched on?

a game manual for the in-game
controls would be nice.

Tester 410-5

410-S

Questionnaire

Pre-Test

1. To what extent would you consider yourself a gamer?
 - a. Not at all
 - b. Somewhat
 - c. I play all the time

2. How long have you been playing games?
 - a. Less than a year
 - b. 1-5 years
 - c. 5-10 years
 - d. 10-15 years
 - e. More than 15 years

3. How much time do you spend playing games a week?
 - a. Less than an hour
 - b. 1-2 hours
 - c. 3-4 hours
 - d. More than 4 hours

4. What devices do you play games on, and how often? (select all that apply)
 - a. Playstation
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - b. Xbox
 - i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

 - c. Switch
 - i. Never
 - ii. Less than once a month

- iii. At least once a month
 - iv. At least once a week
 - v. Daily
- d. Computer
- i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily
- e. Mobile
- i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily
- f. Other (please explain):
I also make games :)
- i. Never
 - ii. Less than once a month
 - iii. At least once a month
 - iv. At least once a week
 - v. Daily

5. What are your expectations for navigating a game system? What annoys you or excites you about the game platforms you use?

I tend to expect pretty good error tolerance.
I make lots of errors :)

Post-Task

Scenario 1

How appealing or unattractive do you think the arcade is?



Explain your rating:

The UI could be a little bigger,
I can't read the pink lettering.

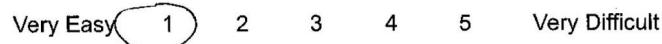
How well or poorly do you think you understand the arcade's controls?



Explain your rating:

The buttons could use labels

How difficult or easy did you find it to get the arcade started?



Explain your rating:

410-5

Scenario 2

How difficult or easy did you find it to navigate the arcade software?

Very Easy 1 2 3 4 5 Very Difficult

Explain your rating:

It got easier

How easy or hard was it to read the text on the screen?

Very Hard 1 2 3 4 5 Very Easy

Explain your rating:

How unhelpful or helpful was the arcade software when finding the Super Mario Bros game?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

The software didn't really help, persay.
~~Is there a way to stick both Mario games under "Nintendo"?~~

410-5

Scenario 3

How easy or difficult was it to exit the game?



Explain your answer:

It was only difficult because I didn't see the controls, which are taped by my legs.

If you looked for it, how easy or difficult was it to find information on how to do this?



Explain your answer:

Is there a way to just mark the buttons? I never think to check stuff under me.

410-5

Scenario 4

What did you think was going on when the options menu came up?

WHY Does pressing up on the joystick highlight the next menu item?

How easy or difficult was it to escape this menu and get back to the start screen?

Very Easy 1 2 3 4 5 Very Difficult

Explain your answer:

I checked the instructions, they were helpful to an extent, but the buttons didn't work the way I expected.

How would you rate the software's helpfulness in escaping this menu?

Very Unhelpful 1 2 3 4 5 Very Helpful

Explain your rating:

See above ✓

410-5

Scenario 5

How well did you understand what was going on when the game didn't launch?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

Was it supposed to give me an error screen?
Cuz it didn't

How would you rate the software's helpfulness in understanding what was happening?

Not Helpful 1 2 3 4 5 Very Helpful

Explain your rating:

What did you think was going on when the game didn't launch?

That I did something wrong.

Would you change the way this problem is handled on the machine? How?

Error screen.

Also, pls bigger text and don't scroll the
text. It makes it hard to read.

4/0-5

Post-Test

Overall, please rate how easy or difficult it was to use the arcade.

Very Difficult 1 2 3 4 5 Very Easy

How much time do you think you would need before you would be able to confidently use the arcade?

Less than 10 minutes

10-30 minutes

1-2 hours

3 or more hours

Explain your response:

never, because it appears to still be in dev

Please rate your satisfaction with the software:

Very Dissatisfied 1 2 3 4 5 Very Satisfied

Would you recommend the arcade to others after using it?

Yeah totally! It may not be perfect, but it is
a great idea and super fun!

If you answered no to the previous question, please explain why:

Please explain what you enjoyed or disliked about using the arcade.

enjoy - nostalgia

dislike - could use bigger text and some better UI

Is there any other feedback you would like to leave for the arcade that was not touched on?

wop ☺

Appendix G- Observer notes

[410-1]

- Task 1
 - Looking at the menu of game console options
 - Understands the use of joystick
- Task 2
 - Just pushed button at screen
 - Launched wrong game
 - Did not scroll through the options
 - Trying to figure out how to start the game
 - Pushing buttons to try and start the game
 - Trying to find start button
 - “Nothing so far works”
 - Was unable to find start button during test
- Task 3
 - Using both sides of control board
 - Figured out that only one side controls game
 - Once buttons are learned, Gameplay proceeds pretty smoothly, user is able to play the game
 - Doesn't know how to exit the mario game
 - Pushing random buttons trying to go back to homescreen
- Task 4
 - Reading through options, found correct game
 - Looked at text and pictures
 - Hurts eyes from reading
 - Pushed buttons and entered emulator settings before exiting
 - Figured out inversion
 - Was able to exit the screen and launch into game
- Task 5
 - Scroll through menu trying to find
 - Can't read options
 - Can't find game
 - Trying to launch game over and over again
 - Realised something is wrong with game
- Extra Questions
 - Graphic looks really low
 - Glasses didn't help
 - Buttons were confusing because they were not labelled

[410-2]

- Task 1

- Moved stick to wake up machine
 - Scrolling with stick to view game options
 - “Hard to See”
 - Understands stick control scheme thus far
- Task 2
 - Scrolling through game options
 - Trying to read
 - Found game successfully
- Task 3
 - Trying both sides of control board to start the game
 - Started game on wrong side of arcade
 - Left side works as player 1
 - Figured out which side to use
 - Was able to familiarize with controls and operate the game
 - *Found secret pipe
 - Successfully completed the level
 - Knows W1-2 Roof trick
 - Pushed start and select separately
 - Was able to successful get out of game after looking at control board instruction
- Task 4
 - Quickly figured out inversion after moving stick up and down
 - Exited emulator settings successfully
 - Very fast
- Task 5
 - Launched game and realized that they were kicked out
 - Tries again
 - Tries again
 - Enters emulation settings
 - Pushes launch in emulator settings
 - Tries to launch with Netplay, ready to continue trying
- Extra Questions
 - Controls were most confusing part

[410-3]

- Task 1
 - Pushes button on tv
 - Sees that tv turns off
 - Moves stick to awake the machine
 - Discovers left and right scroll for console specific menus
 - “Some of the titles don’t correspond”
- Task 2
 - Found the game in the NES Menu instead of all games
 - Found game with no real issue

- Task 3
 - Pushed buttons before using start button to launch game
 - Quickly became aware of controls and started playing pretty seamlessly
 - No problem with game
 - Level cleared
 - Did 1-2 warppipe warp
 - Got back to homescreen no issue
- Task 4
 - Tries start plus select
 - Figured out inversion by moving joystick
 - Exited with no problem
- Task 5
 - Found it in Mame listing
 - Launched game
 - “Nothing happened”
 - “Nothing happened again”
 - Figured out something was wrong
 - “Was that supposed to happen”
- Extra Questions
 - If no picture, text bigger
 - Some difficulty to read, could be bigger
 - Figuring out buttons was the most complicated
 - Reported latency when controlling character

[410-4]

- Task 1
 - Moved stick to start up the machine
 - Already knew to move stick
 - Understands interface
- Task 2
 - Scrolling through console specific menu to find the game
 - Found game with no trouble
 - Was able to start game with no trouble
- Task 3
 - Trying to start game with control buttons and stick
 - Pushed start button to get game going
 - Picked up controls and can play the game smoothly
 - Easily navigated back to the homescreen of the arcade
 - Instantly used start+select to get out
- Task 4
 - Once again used the console specific page
 - Picked wrong game
 - Feels like he is not in the right place

- Escaped out to menu
 - Scrolling through games consoles
 - Not using up and down movement to select games
 - Didn't know that was an option
 - Quickly figure out inversion
 - Saw exit without launching feature and went to it
 - Successfully escaped emulator settings menu
- Task 5
 - Went to all games
 - Saw list was in alphabetical order and was easy to find
 - Launches game multiple times
 - Went into emulator settings to try and launch game
 - Notices game not launching
 - Has background, knows ROM is broken
- Extra Questions
 - Include game manual
 - Text was Okay

[410-5]

- Task 1
 - Looking at machine trying to figure how to start up machine
 - Turned TV off
 - Turned TV back on
 - Pushed buttons to wake
 - Can't read text on top most menu (EX Sony on the Playstation Option)
 - Contrast could be better
 - Discovered that the options are scrollable
 - Pushed button to enter into the console specific menus
- Task 2
 - Using very top menu to find game
 - Using both left and right controls to navigate arcade thus far
 - Went to Nintendo to find Mario
 - Knew to choose between Nintendo and Super Nintendo
 - Was able to find game and launch into it successfully
- Task 3
 - Trying to move stick to navigate menu
 - Pushing buttons to get game to respond
 - Doesn't know convention of game
 - Trying to use both sides to control
 - Discovered that jump was on same side as movement
 - Thought that jump would be on right initially because it worked in menu where game was launched
 - Once controls figured out, able to play game smoothly

- Pushed start to try and get out of machine
 - Pushed select also
 - Not using combination
 - Thinks dying will instantly get her out
 - Pushing buttons until something does something
 - Found instructions and was able to escape the game and get back to main menu
- Task 4
 - Discovered left and right scroll to navigate different game lists
 - Tried to move down
 - Hasn't noticed inversion
 - Checking instructions
 - Start + Select attempt
 - Found inversion
 - "Why would you press it up to go down, that makes no sense"
 - Successfully escaped Emulator settings
- Task 5
 - Found game
 - Super Hard to read text
 - Guessing that's right
 - Can't read blue text at all
 - Just realised that bottom nav exists
 - Relaunching game to try and get game to work
- Extra Questions
 - Buttons were confusing
 - Would not check by knees for instructions
 - Can't read text
 - Contrast could be bumped

[403-1]

- Task 1 [first impressions]
 - Checks the instructions first
 - Moves Joystick to wake machine
 - Really hard to read
 - Better for ones that have picture, having problems with the games with no pictures (ask about the font)
 - Was able to move through the menu successfully with joystick
- Task 2 [Finding Mario and starting]
 - Stayed at all games screen
 - Pushed the start button instead of using one of the gameplay buttons.
 - She thought that she selected the game, but opened the options menu
 - Said she would quit if she got to the menu
 - Doesn't realise that there are multiple screens for different games
 - Can't read instructions and doesn't know what to do
 - Eventually Figured it out and launched the game

- Different button to start game from menu as opposed to what it is on the menu
 - Trial and error method was used to figure out how to launch the game
- Task 3 [Play for a bit and exit]
 - Was able to operate the controls of the arcade to navigate the level
 - Didn't see noticeable problem with operation of the controls
 - Was able to escape the game after reading the instructions
 - Would have never figured it out if it wasn't for the instructions sheet
 - Tried a variety of different button combos before finding correct buttons from the instruction sheet
- Task 4 [Emulator settings escape]
 - Reading through all of the options on screen,
 - Checks instruction sheets
 - Text is weirdly wobbly making it hard to read
 - Tried select + start method
 - Didn't work.
 - Randomly pushing buttons
 - Hitting random button seem like the strategy to continue
 - Was not able to complete task
- Task 5 [Broken Game]
 - Launched game
 - Pushed button to launch and didn't work
 - Tried again
 - Same thing
 - Keeps trying to do the same thing
 - If she was playing the machine and she couldn't get it to start, she would just quit trying to play the machine.
- Extra Questions
 - Fonts
 - Small
 - Tv jitter plus and fonts

[403-2]

- Task 1 [First Impressions]
 - Looking at all aspects of the setup
 - Turns tv off and thinks that it is the start button
 - Confused as to
 - Figured out that the machine was asleep and gets it into the menu after a few tries
 - Can't read it at all
 - Sees that he can move with the joystick
- Task 2 [Finding Mario and starting]
 - Finds super mario world
 - Stayed at all games screen during the test

- Saw that there were two and had an issue differentiating which one the task was for
- Task 3 [Play for a bit and exit]
 - Went for the start/select buttons from the go
 - Navigating the options menu in an attempt to launch the game
 - Gave up and failed the launching of the game
 - Was able to start game with the start button
 - Paused the game and was trying to figure out how to navigate
 - Was able to figure out jumping and basic movement
 - Completed the level after a few attempts
 - Pushing a bunch of random buttons trying to get back to the home screen
 - Could not figure it out
 - Looking primarily at buttons
 - Figured it out once he really looked down at the control board.
- Task 4 [Emulator settings escape]
 - Pushed start and select to try and launch game
 - Tapping random buttons in emulator settings, didn't seem to understand how to move
 - Was prepared to give up
 - Figured it out after trial and error.
 - When he moved the stick and saw movement of the navigation, he was able to properly exit the emulator settings menu
- Task 5 [Broken Game]
 - Unable to find the game
 - Scrolling through games, trying to figure out where it is, was unable to find thus far
 - Stumped by finding the choice
 - Looking at images and text
 - Figure out individual console sections on accident
 - Found game under mame emulator
 - Doesn't know what is going on
 - Tried multiple times
 - Pushing buttons to try and figure it out, didn't really know what he was supposed to do
- Extra
 - Very difficult to read
 - Pictures helped

[403-3]

- Task 1
 - Stares at the machine to kind of size it up and understand
 - Looks at the control sheets
 - To get an understanding of what each of the controls do
 - Notices both control sets

- Comments on use for left and right handed users
- Pushes the start button to go to wake up screen
- “Feels homemade”
- Was able to navigate the MAME arcade games, nothing else yet.
- Task 2
 - Used the start button to wake again
 - Continues to launch 1943
 - Over and over again
 - Launched Emulator settings
 - Inverted controls
 - Found that some buttons are navigation
 - Can't really read it very well
 - Has not found other game menu, staying on broken game
 - Scrolling through option menu
 - Doesn't understand options
 - Trial and error in emulator settings
 - Was not able to find other menus, had to assist him in finding out that you could scroll left and right to get to more games
- Task 3
 - Gets understanding of controls before starting
 - Is able to navigate gameplay of Super Mario Bros with little to no difficulty
 - Pushes start button to pause game in an attempt to exit
 - Pushes random buttons
 - Gets it after consulting the instruction sheet
- Task 4
 - Used prior experiences to escape the game
 - Already interacted with the menu, see task 2 for information on emulator setting feelings/thoughts
- Task 5
 - Found the game in the All games options
 - Didn't work, launched again,
 - Back in emulator settings
 - Trying to use launch command from those settings
 - Scrolling through the game
 - Doesn't understand how the games are broken apart
 - Can't read game list
 - Doesn't know how to start game entirely
 - Bottom nav guide unuseful and unreadable
 - Doesn't have a picture, found that odd
- Extra
 - Dropping frames
 - Font too small
 - Screen tearing

- Surprise when he could scroll through game options

[403-4] (User has familiarity with the arcade machine)

- Task 1
 - Turn on the tv
 - Moves joystick to get out of sleep mode
 - Familiar with machine, just looking through options
- Task 2
 - Able to quickly find game selection
 - Launched game no problem
- Task 3
 - Pushes buttons randomly until he got it to work on p1 side
 - Takes a second to figure out control
 - Looking for crouch button, figured it out .
 - Was able to easily exit to main menu
- Task 4
 - Noticed the inversion
 - Was able to quickly exit the emulator settings
- Task 5
 - Looked shocked when the game didn't work
 - Noticed that it is not working
 - Came to conclusion quickly that there was something wrong with the game
- Extra
 - Readable for most part
 - He is able to read it, but he can understand how others would not be able to read
 - Has experience on the machine
 - Wants patch notes for updates

[403-5]

- Task 1
 - Pushed start button to wake machine
 - Found the scroll for navigating to different systems
 - No real issues arising with navigation
- Task 2
 - Accidentally launched game, couldn't figure out how to get out
 - Had to reset
 - Was able to navigate menu and launch into super mario bros
 - Has not had to look at instructions or anything thus far to figure out what button is used as the primary action button for the arcade machine
- Task 3
 - Figured out how to exit the game on accident
 - Was able to figure out controls for the game with no real issues. Did quick button check and was ready to play

- Remembered how to exit game, was able to do so easily with no real problem involved with exiting on purpose this time.
- Task 4
 - Tried to move joystick down
 - Has not figured out inversion
 - Pushing buttons in an attempt to figure out if they do anything as far as movement
 - He has figured it out
 - Use of trial and error to solve problem
 - Task successfully completed
- Task 5
 - Searching for game through different game menus
 - Went to all games as a means to find it
 - Launched the game
 - Had difficulty due to no picture
 - Launched again
 - Noticed that something was wrong after a few cycles
- Extra
 - Text Hard to read
 - Small blurry
 - No other real issue
 - Worked like expected it to work

[403-6]

- Task 1
 - Walk up and touch it to turn it on, was an
 - Power button was second method
 - Hide cables to make it more aesthetically pleasing
 - Saw games on the screen
 - Sees instructions, liked that
 - Like aesthetic of machine control board
- Task 2
 - Pushing menu and option buttons to try and find games
 - Kinda lost
 - Doesn't understand that the games are just there are the homescreen
 - Pushing random buttons to figure out how things work
 - Understands how games are broken apart
 - Don't know how you would get to a specific game
 - In file names trying to search for game
 - Text is really small
 - Finally noticed bottom navigation
 - Hard to read options
 - Had to be bailed out and shown how to get game to launch
 - Placement of instructions made them less noticeable

- Task 3
 - Started game fine
 - Read paper to understand what the controls of the game would be
 - Is playing the game fine, he understands what he needs to push for different actions to happen
 - Pushing random buttons to try and get back to home screen
 - Consulting paper
 - Completed task pretty efficiently after reading instruction sheet
 - Instruction sheet has become vital to his experience, he feels comfortable to refer to it
- Task 4
 - Noticed the controls were not normal
 - Checked sheet
 - Tried start + select
 - Got the inverted controls after trial and error
 - Successfully completed the task after he figured out his navigation control
- Task 5
 - Found game after scrolling through men
 - Tried again after it didn't work
 - Accidentally entered emu settings
 - Doesn't know what to do next
 - Expected it to work like Mario
- Extra
 - Readable, just small
 - Pictures made him feel more confident about selection

[403-7]

- Task 1
 - Pushed power, noticed it was already on, turned the TV back on after
 - Moved joystick and awoke the machine from sleep
 - Getting comfortable with instructions
 - Likes the aesthetic of machine
 - Didn't know tv was already on
- Task 2
 - Keeps going back to instruction sheet
 - Keeps trying to use start + select to find mario
 - Keeps going thru options
 - Not sure what to do
 - Trying to use file options
 - Found games on sidebar -> Didn't realise @ first
 - Some don't have pictures

- Make it hard to tell which one is which
 - Not sure which is which (novice gamer)
- Task 3
 - Not familiar w/ gaming conventions -> Had to help w/ launch
 - Button check to figure out controls -> Had issues w/ controls
 - Checks instructions to exit
 - Successfully left game
- Task 4
 - Figured out main navigation & was able to launch game
 - Tried start + select
 - Figured it out after brief trial & error
- Task 5
 - Noticed not all games have pictures
 - Will probably help
 - Having hard time reading options
 - Not finding it
 - Discovered how to scroll left & right,
 - Left all games menu
 - Going through individual consoles
 - Very difficult to read
 - Reacted that game is not loading correctly
 - Confused by resets
 - Not very helpful, didn't tell much
- Extras
 - Combo of size, font, and screen makes it hard to read
 - Pictures would be helpful

Appendix H- Video releases

4(0-1

Video Release Form

As part of this project, I will be making video recordings of you during your participation in the research. Please indicate what uses of these video recordings you are willing to permit, by putting your initials next to the uses you agree to, and signing the form at the end. This choice is completely up to you. I will only use the video recordings in ways that you agree to. In any use of the tapes, you will not be identified by name.

1. The video recordings can be studied by the research team for use in the research project.
2. The video recordings can be viewed by the team's classmates and professor.
3. The video recordings can be hosted on a Google Drive, with access limited to the above groups.

I have read the above descriptions and give my consent for the use of the video recordings as indicated by my initials above.

Name Jay m6d:
Jay m6d _____ 4/16/19
(Signature) (Date)

Video Release Form

As part of this project, I will be making video recordings of you during your participation in the research. Please indicate what uses of these video recordings you are willing to permit, by putting your initials next to the uses you agree to, and signing the form at the end. This choice is completely up to you. I will only use the video recordings in ways that you agree to. In any use of the tapes, you will not be identified by name.

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Name Siddharth Patel
Siddharth
(Signature) _____ 4/10/2019
(Date)

410-3

Video Release Form

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I have read the above descriptions and give my consent for the use of the video recordings as indicated by my initials above.

Name Johnnie Smith

John Smith
(Signature)

4-10-14
(Date)

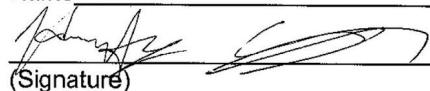
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I have read the above descriptions and give my consent for the use of the video recordings as indicated by my initials above.

Name Hunter Evans


(Signature)

4/10/16

(Date)

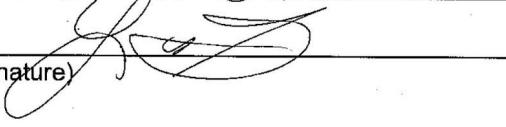
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Name Loren Snow

(Signature) 

4/10/19
(Date)

403-1

Video Release Form

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1. AMR The video recordings can be studied by the research team for use in the research project.
2. AMR The video recordings can be viewed by the team's classmates and professor.
3. AMR The video recordings can be hosted on a Google Drive, with access limited to the above groups.

I have read the above descriptions and give my consent for the use of the video recordings as indicated by my initials above.

Name Amanda M Roberts

(Signature) Amanda M M 4-3-19

(Date)

403-2

Video Release Form

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1. JP The video recordings can be studied by the research team for use in the research project.
2. JP The video recordings can be viewed by the team's classmates and professor.
3. JP The video recordings can be hosted on a Google Drive, with access limited to the above groups.

I have read the above descriptions and give my consent for the use of the video recordings as indicated by my initials above.

Name Jugal Patel

Jugal Patel
(Signature)

04/03/2019
(Date)

Video Release Form

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1. SS The video recordings can be studied by the research team for use in the research project.
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I have read the above descriptions and give my consent for the use of the video recordings as indicated by my initials above.

Name Sarah Sayyar
SarahSayyar
(Signature) _____ Date 4/3/19
(Date)

Video Release Form

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1. JL The video recordings can be studied by the research team for use in the research project.
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3. JL The video recordings can be hosted on a Google Drive, with access limited to the above groups.

I have read the above descriptions and give my consent for the use of the video recordings as indicated by my initials above.

Name Justin Bullard

Justin Bullard
(Signature)

4/3/19
(Date)

403-5

Video Release Form

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I have read the above descriptions and give my consent for the use of the video recordings as indicated by my initials above.

Name Liam Daniel

Liam Daniel
(Signature)

4/13/19
(Date)

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Name Charlie Tran

charlie
(Signature)

4/3/19
(Date)

Video Release Form

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2. JH The video recordings can be viewed by the team's classmates and professor.
3. JH The video recordings can be hosted on a Google Drive, with access limited to the above groups.

I have read the above descriptions and give my consent for the use of the video recordings as indicated by my initials above.

Name Jordan Alexander

JH _____ (Signature) _____ (Date)