Solent University

SCHOOL OF MEDIA ARTS AND TECHNOLOGY

BSc (Hons) Computer Games (Indie)

2020

Kyle Conwell

“Enchantress”

Primary Supervisor: Nick Hampton
Secondary Supervisor: Sheeba Joshy
Date of submission : June 2020

Acknowledgements

I would like to thank my lecturers, Nick Hampton and Sheeba Joshy for assisting me with guidance through the development of this project. I would also like to acknowledge Jack Self, Matthew Corben, and the other indie students for providing their feedback and testing.

Abstract

This project consisted of a first-person psychological thriller game. in this document you will find the development, publishing, and launch sales of the game.

Table of Contents

PROGRESS REPORT

1 PROJECT TITLE

Enchantress is a First Person Psychological thriller game, that the player will feature Megan Sterling, the first and last child to a dark and twisted Matron within WhiteRose Orphanage. A crimson trail has been left behind that must be uncovered through exploring the Orphanage, before mother finds you herself.

2 BACKGROUND AND TOPIC OVERVIEW

I have always been intrigued behind the psychological impact of games, especially in the horrors and thrillers as they bring out the emotive responses from each player in a variety of methods, such as uniquely designed characters or immersive sound mechanics. These methods distribute the games initial goal. The dark natures of a hidden mystery persuade a player's urge to discover the truth, unaware what the outcome will be. I find this approach towards games very engaging because of how the human mind can be tested and mislead, through emotional experiences.

With my Enchantress project, I would like to demonstrate these skills, to produce an engaging life-like story based on forgotten events, design an unique level and sound setting to show that I am capable, to make immersive, iconic levels that create a smooth game flow and show that I have the ability to program an Inventory, as well as a complex level of AI. I believe that the overall scope for this game is in a capable size to manage over the course of 5 months. This type of project meets Indie Game course expectations, as it covers relevant knowledge and experience that has been acquired during the 3 years, I have spent at Solent showing I am accountable to develop a quality parallel to the industry of gaming.

3 PROJECT AIM

I want to develop a First-Person Psychological Thriller centered on storytelling, through a gripping emotional user experience, to portray life-like events in a surreal setting and compelling manner. Essentially, the game is a first-person quest to uncover the past that has been kept hidden away as history progressed, but in its own flawless style.

This approach gives a stronger and considerate response. This impact will demonstrate the genre I am trying to show as the content is quite fragile, involving children of the 1930s and their forgotten past behind closed doors of orphanages. The project definition has been chosen due to my personal interests in the use of emotion, covering physical and mental within games. Creating a game like this will give me a better understanding as to what makes a great thriller.

4 PROJECT OBJECTIVES

4.1 Steam Title Release

My first Objective is towards the destination for this project, as well as my final product. Publishing my game would give me a sense of proudness and acknowledgement, in how I contributed all my hardest of efforts into the construction of this game. This will also benefit on previous experience and a reputation towards a work portfolio, as well as to showing how it meets the industry standards. This will be met by the 4th of May to publish onto the Steam Market as a fully functioning game.

4.2 Unity Scripting Capabilities

My second objective is to demonstrate my levels of skill, through programming in C# libraries (Visual Studio, 2017). This will be shown by scripting a complex level of AI that uses significant movement, becoming a threat towards the player and around the levels. I have always struggled to find my expertise in programing. My current knowledge gives me enough confidence to make a

patrolling enemy feature as smoothly as possible. This will be met by the 18th of March as part of the Proof of Concept build.

4.3 Progress Documentation

My third objective is about documenting my project not just for academic purposes, but for personal gain. I want to record and document my project throughout to show the journey of development and how far my progress has come since its initial idea . It allows me to backtrack my difference in skills since I started studying video games. This will be met throughout the project, using the management tool (HacknPlan, 2015) and a personal logbook on word documents (Microsoft Word, 2016).

4.4 Psychology in Video Games

My fourth objective is to Understand what makes the psychological impact so significant to horror and thriller games. I have always been drawn to the interest of Psychology, especially in gaming. Unlike films or books as they make the user feel present and immersed within the game they are playing. The use of emotions is very significant, and I want to understand what drives a game to make it such an impact. This will be met by the end of Pre-Production in mid-February.

4.5 Immersive Sound and Level Design

My fifth objective is to create an audial framework that proves my knowledge of sound design. I only had the one opportunity in the past to use sound software (AudioKinect Wwise, 2019) within games which has proven useful to understand the variations of sound to enhancing the emotion of games. The game I am making, must demonstrate the effectiveness of emotion not just in story, but through sound mechanics. This will be met between the 15th and 29th of April, when the Alpha and Beta deliverables are due.

4.6 Transferable Department Skills

My sixth objective is to apply a reasonable use of my own art and design to show my different department skills to the industry and not having to fully rely on external placeholders. This allows me to make concept art based on my creations and incorporate them into the design elements of my game. It makes me versatile as the indie course has allowed me to work, within different areas of gaming for the foreseeable future. This will commence on the 12th of February and be completed by mid-April for the Alpha build.

4.7 Historical Tourism

My seventh objective is to show through a gripping user experience, the unseen history that took place in orphanages in the 1930s. The specific time period not even a century ago, included untold cases involving children who had no families, subjected to orphanages where they suffered forms of abuse. The user experiences of the game will give players an insight on what tragedies happened back then as it needs recognition. This will be met by the end of the project as the game is to show what happened and their emotive response.

4.8 Cinematic Narration

My eighth objective is to capture the essence of drama, through the creation of cinematics, both introducing and concluding the main concept of the story. As one of my main features is story driven. I want to show the story, projected in a movie-like style to cover the initial background behind the game so the user acknowledges what they are about to experience. This will be done using Cinemachine and timeline (Unity 2019) to make relevant cinematics. This will be met by mid-April.

5 PRODUCT SPECIFICATION

The outcome for this project shall consist of a First Person thriller game, designed for players that want to be immersed into the experience, as if they are living the story themselves. To live through the side of history that was never truly explained to society due to its sensitive nature.

5.1 Product Features

5.1.1 Gripping Emotional Experiences

Referring to the 7th objective, the game enhances a first-person perspective in not just player view, but through human emotions and how the psychological effects impact on the player. One of the most delicate parts of being human is mental manipulation as covered by Mandy Kloppers(N.D). I will have this in the overall product by the game's camera focus on precise moments to demonstrate the detail of horror and empathetic meaning behind the content.

5.1.2 Iconic Narration

Referring to the 8th objective, a key focus on narrative storytelling, alongside emotional aspects makes a smart method towards the players addiction as they are driven within each minute of gameplay from the characters backstory and the intriguing levels around them. I will have this in the overall product by outputting use of text across the screen for ease of readability, giving the players full attention as they are fully engaged.

5.1.3 Twisted Environments

As mentioned in the 5th objective, the surreal levels of the orphanage will keep the player on edge, due to the mental absorption from each room they venture into and the unaware tragedies that took place. I will have this in the overall product by using distinctive character and level design methods to match with the games thematic design, as well as the use of particle effects to sharpen the environment features.

5.1.4 Immense Sound Mechanics

Alongside the use of physical Atmos, the game shall include a strong and effective mixture of sounds, to intensify the players smoothness of game flow and placing their mind in a life-like situation. I will have this in the overall product by using AudioKinects WWise(2020) to integrate and trigger events that increase level tones.

5.2 Product Functionality

5.2.1 Cognitive Thinking

I want to have the game unfold in a steady and visual manner so the player can be hooked throughout, hence splitting the difference between a psychological and cognitive impact. Everyone reacts in their own way and by using that to an advantage, they set off a uniquely emotive response.

5.2.2 Storytelling

I want the story to be narrated in a self-driven method, meaning the players have personal involvement within the plot. This gives a belief in themselves more than just motivation to carry on, but to study the nature of the subject as if they are walking through forgotten history events.

5.2.3 Level Design

I want to show a significant time period, consisting of two levels inside the orphanage with a very-interactive environment for wide player exploration to demonstrate a smart and realistic level design from a variation of assets, based on personal creations and external placeholders.

5.2.4 Sound Design

I want to measure and control multiple qualities of sound, to adapt to the environmental aspects of the game. This will be shown through the quietest of rooms in the orphanage, to the intense footsteps of character movement. Involving a range of sound sources show how powerful the structure is.

6 RESEARCH COMPLETED

6.1 Initial Concept

Before commencing the project officially, I initially started it as a game over the summer named Enchantress: An Orphans Tale. The current state of the project at the time was a white boxed layout, consisting of two floors of the orphanage. There was no functionality at the time since I followed a design approach, involving a concept document with listed features and an asset list. The layout of the orphanage was inspired by Resident Evil 2 (2019) orphanage.

I would eventually use this concept as my main Project to be refined as an upcoming Psychological Thriller. The initial concept would be developed through a multitude of research that would assist in finalizing the type of project I wanted to aim for, as well as how I would carry it out. The initial concept can be found in Appendix A-1.

6.2 Inspired/Relevant Titles

I constructed my research as the project commenced. This involved a list of relevant titles that already exist within the game market. I wanted to research titles relating to my features as they suited the best candidates to compare that would allow me to change or improve my overall design. My findings led me to games like WitchKin(2018) that showed a strong plot, based on historical events of a woman named the “Candy Lady” (Stryker, 2018) that used a sinister form of children, possessed by toys.

Root of Evil: The Tailor(2016) includes the abuse of mental illnesses to create a murder mystery which is what drew my interests. The horror elements in the games Silent Hill 2(2001) and the demo of P.T(2014) showed how the shortest of triggering events, have such a reaction to the player. A vital game source was Town of Light(2016) which introduced me with the idea of a user experience. Discovering lost memories like Renée, hidden the truth of how asylums use to operate, without any discretion for human decency.

This was noted by Wesley Yin-Poole(2015) each game source I researched linked with one another due to the thematic design, specifically a time where children were mistreated in enclosed environments that would not be externally seen or heard from again. Aside from Games, I chose to research two films related to horror/Thriller genre with psychological aspects. Orphan(2009) focuses on an innocent young girl, with a dark backstory that becomes clearer throughout as the film progresses.

The perception of a harmless individual was well hidden, found in a case study (ABoksh, 2014). The second film I analyzed, Sinister(2012) held a plot towards a contrast of twisted murders that would be used for material media purposes. Alongside a supernatural force that influences as a demonic-like figure. Both films showed empowering stories regarding the psychology behind it. Additional research I covered, was actual historical events that took place during the 1930s.

This included the care for children within Russian Orphanages that suffered many levels of abuse during their sanctuary. This was made in a public article(Richard C. Paddock, 1998). The importance of these events transpired to make the game Palmyra Orphanage(2019) that literally adopted the level design found from recorded orphanages, as well as the characters. further research discussion can be found within Appendix A.

6.3 Psychological Impact on Video Games

Researching the psychological impact on video games was necessary to get a stronger understanding in how it is used. An online article (Colin Campbell, 2016) covered the emotion and manipulation of game design and explained how the grasp of a player's reaction, is essential to the definition of "User-Experience". This was a key element towards my project aim, to show life-like events in a thrilling nature and allowing you to uncover a mystery. A game career guide (Darren McKettrick, 2013) mentions about the effects what we cannot see that enhances a player's view, compared to what is clearly visible.

I have discovered alongside my findings, that an overall psychological approach in games is about how to control emotions, as well as the loss of mental status in the mind. A player's perception is used effectively with emotive responses (Douglas Heaven, 2015). Each aspect of research has concluded the type of direction I want the project to follow, how the showing of emotion is of vital importance towards the player as they explore the levels of an orphanage with the name defining "WhiteRose" indicating death. Additional information can also be found within Appendix A.

6.4 Target Market/Demographic

My research towards the game's audience is aimed at individuals that are interested in playing user-experienced games. This is not officially classed as a genre within the gaming industry, but a seminal experience following a psychological thriller. The audience are gamers and users who are accustom to adrenaline rushes from emotional moments that induces an emotional response (Shay Ellis, 2014). The highest demographic for within the gaming market ranges between 18-24 (Carolyn Pairitz Morris, 2018).

This meets my expectations on the type of content that will be included. There is no specific gender appeal for my game as it is in the neutral range for both to participate. The highlights from most gamers show males 17.5%, whereas females are 5.5% which indicates a stereotypical enjoyment for men enjoying the horror elements, to women who will have a further grasp in the main concept. Further discussion on demographic can be found within Appendix A.

7 POTENTIAL SOLUTIONS

Throughout the course of development, I will encounter different problems that may affect the outcome of the overall product. I have addressed some problems and solutions on how to resolve them. Additionally, these solutions show how they relate to industry.

7.1 Implementing Scripts

The implementing of code scripts may become an issue regarding specific functions, as well as the understanding of complicate functions. I class myself between the beginner and intermediate level of programming as I only know the basics, such as player physics and scene management. This issue could grow to the biggest complication as implementing mechanics are of vital importance, for the game to execute and run accordingly. This would show poor skillsets in the programming department.

A solution for scripting would be the use of a different method to create game events by using a flow diagram system (Playmaker, 2011) that would allow me to call functions to apply events within a game scene, provided a relationship is attached to each entity. This makes scripting clearer without having to structure line after line of commands and sequences. The tool contains a variety of packages within the asset store(Unity, 2019) that may assist in coding specifics such as character/world behaviors. I would feel comfortable using this technique as it reminds me of using Blueprint (Unreal Engine 4, 2019) with ease of navigation and clear labelling.

7.2 Sensitivity of Content

The choice of content that I am trying to show within my game, may appear to some players/users as quite sensitive, due to the presence of children in an exaggerating situation. Overusing this type of content may lead to upsetting responses and potentially lead to a censoring or worse, ban of game because of the disturbing manner of children that suffered in an orphanage. A solution for the level of sensitive material in the game itself would be to remove a major amount of content.

adhering to the age ranging of 18+ Plus (Andy Robertson, 2015) due to the delicate involvement of young individuals. The best method I would carry out with high content without making it too obvious, would be to use simplistic in-

game objects such as writing entries, drawings, and damaged toys to symbolize the remnants of a children's presence. That way, the main message to get across is clearer and more interactive without being too threatening.

7.3 Effectiveness of Game Flow

The use of game flow in my game is critical as the effectiveness is driven through the story, sound, and level design. This means each area for the game must appeal to its highest standards, to ensure the overall concept meets the players' experience. Should this type of issue be found during the development of the project, end up being in the final product with no game flow, it would just show the lack of key features and classed as ineffective gameplay. The sounds may be distorted and without pure ambience, or the story could have no flavor that gives the player no motivation to play further.

A solution for the ineffective game flow would be to add an inventive use of playtesting from a range of peers(Nathan Lovato, 2015). This would provide how the different player variations feel when gripped to the game emotionally, physically, and socially. That way, I know the main features are working to my expectations and it monitors any difference between people that play it. This also provides necessary responses on further development to enhance the experience. For example. Updating the game in the future for a more gripping appeal like a change in soundtracks, further map releases depending on the scope capacity and success of overall concept.

7.4 Platform for Product Release

The choice of platform release for my game is all dependent my consumer. I want the game to aim for the PC market as the benefits involve a unique and inventive, indie product to gain some reputation on a popular, but not too costly platform. The main choices are between Valves Steam(2003) or the open indie website of Itch(2013). Both popular for PC gaming consumers.

A solution for the platform for product release resolved in being Steam. Due to its extensibility to promote specific content that makes up the design behind the game. Steam does have some costing fees up to £100 to publish a title on its website as they are placed for high-end developer discouragement (Samit Sarkar, 2017). Only drawback being the 30% profit Steam makes using them as a publisher, but for the reliability and consumer reputation. Would have considered Itch for personal benefit, compared to financial.

8 TOOLS/TECHNOLOGIES

To ensure my project is carried out correctly, I need to use a range of Tools and technology that I can rely on to complete my overall product and achieve each objective

8.1 Art/Video

Adobe PhotoShop(2015) Use of Photoshop includes a multitude of artistic techniques, especially skills that can be applied to art and design, regarding materials and textures. Would consider the use of Pixlr(2019) but has lack of design tools. Can cope with scope of simple styles, instead of wide-creations. £21 monthly payments for single app use.

AutoDraw(2017) Resourceful in drawing wireframe designs with two options, manual drawing or auto that predicts what you are trying to design. Could consider using Adobe Illustrator(2019) but I am lacking the hardware to experience full tool use. Better hands-on with AutoDraw friendliness. Free

Cinemachine/Timeline(2017) Installable unity package that uses camera system to enhance cinematics and cutscenes. Already built within Unity and uses the same tools. Personally, lacking experience but will get familiar with tools as project continues. No found records of alternate tools. Free

Mixamo(2008 Reliable animation tool for character models, allowing a rigged body that can be used to make animations. Reliable collection of sources for motion capturing. Would consider using DAZ 3D(2000) but lack of knowledge within given timeframe of development. £25 monthly payments with additional animations in deal.

8.2 Design

Autodesk 3DS Max(2018) Highly reliable and friendly modelling software that can be used in a comfortable manner. More experienced in constructing simple objects, but an increase in Polygons will adjust. Would consider using Blender(2002) but have no experience and due to different interface, would make me feel sense of unease. £145 monthly payments for standard version.

Draw.io(2016) Draw.io is a reliable flow diagram tool, consisting of flowcharts and UMLs relevant to my designs. Easily accessible and can be navigated through gridded layouts. Would consider using Microsoft Visio(2019) but prefer the online browser access instead of multiple programs loaded at once. Free

Tiny Scanner(2016) Design Image editing tool that enhances sketch drawings to a professional standard. Can be accessed on mobile with use of camera and can be shared through devices. Would consider using other scanning tools but have been accustom to the current one since the start of my studies. Free

Unity(2019) Unity Game engine is a strong candidate program for making my game, as I have been using it for most of my creations. Integrating plugins is simple from personal experience and extra benefit of the asset store can directly import assets without any struggles. Would consider using Unreal Engine(2019) but lacking knowledge as only made a few projects in the past. £25 monthly payments for standard engine use.

8.3 Programming

Unity C# Libraries(2019) The integrated C# library that Unity includes is straightforward and is user friendly, due to the library share of Visual Studio project applications. Smart when it comes to error reports in console tab. Would consider an alternative but could not find one as the API is Unity based. Pricing not applicable.

Visual Studio(2017) Cross-Platform scripting software that can be integrated through multiple programs, especially a game engine like Unity. A wide collection of language libraries including the C family, specifically C# for my game scripts. Would consider looking for alternate application software but due to Microsoft free community version of Visual Studio, there is no need. £45 monthly payments for professional version. Free version available.

8.4 Sound/Music

Adobe Audition(2019) Sound editing software made simple to improve types of audio that may have bad mono channeling or bit rates and can be improved. Fairly simple to follow when adding audio files. Would consider using alternate audio program like Audacity(2000) but more comfortable with Adobe products.£75 monthly payments

AudioKinetics Wwise(2019) Wwise is great for not just editing like Audition but enhancing sounds that can be used with sound banks and mixers. Messing with attenuation to double the distance of events and easy integration between Unity and Unreal Engine 4.does not need an alternative as fully comfortable with using familiar sound editor. £21 monthly payments for single app use.

8.5 Documentation

Microsoft Word(2016) Word is by far, the most efficient and strong piece of software to document every aspect of the project. the layout can be custom to my own benefit, as well as easily transferable should sharing documents need to take place. Alternative would be to use Google docs(2006) that uses online word

applications. Layout can be frustrating which lacks usage capabilities. £120 for full office programs.

9 TECHNICAL DESIGN

The majority of designing the project is included within the GDD that I constructed (can be found in A-1 & GDD Doc). This consisted of all my research analysis, game concept, game design and level design into one document as I used a reliable source (Silent Hill 2 GDD, 2002) to layout all my features and mechanics into one document.

9.1 Moodboard

After my research analysis, I started gathering images to make a game Moodboard (can be found in Appendix A-1 & GDD Doc) which would assist in the type of art style and appeal I wanted the initial concept to develop into. This was made up of game and movie related images.

9.2 Level wireframes

To make a new map design, I went through a variation of stages (can be found in Appendix A-2) to correct and finalize the level designs, totaling into two levels of an orphanage that suited the scope capacity.

9.3 Flow Diagrams

To ensure the UI made sense in terms of functionality, I made 3 menu flow diagrams (can be found in Appendix A-2) to cover the proceedings of navigating through the menus. I later added an additional game flow diagram for overall gameplay experience.

9.4 State Diagram

Due to one of my game mechanics involving the use of AI, I created a state diagram (can be found in Appendix A-2) to demonstrate how the intelligence of the Matron Witch AI would function throughout.

9.5 Activity Diagram

Another game mechanic involves picking up items. This creates different behaviors for objects. To show how these function, I made an activity diagram to show how behaviour of object events are monitored (can be found in Appendix A-2).

9.6 UML Diagram

Due to the current amount of scripts within my game, I created a UML (Unified Modelling Language) diagram to show a visual representation in the scripts purpose. My current number of scripts consist of 2, which will increase throughout the course of development.(can be found in Appendix A-2)

9.7 Pseudocode

There is a simple sense of logic used to implement the main mechanics of the game. to do this, I have written an example of pseudocode that tests the necessary actions that take place.

Enchantress Pseudocode
1. Start.
2. Move to object
3. Is object interactable? If yes, pickup and examine. If no, proceed.
4. Is object added to inventory? If no, drop object. If yes, check inventory.
5. Is player near door? If yes, click to open door. If no, proceed.
6. Is player near wall lantern? If yes, light lantern. If no, proceed.
7. Has equipped lantern been pressed? If yes, check lantern. If no, proceed.
8. Check number of rooms visited. If visited more than half, play matron voice. If no, proceed.
9. Is player near matron? If yes, press crouch. If no, proceed standing.
10. Has matron spotted player? If yes, flee from location. If no, proceed crouching.
11. Has matron caught you? If yes, game over. If no, flee from location.
12. Has player died? If yes, play again. If no, proceed.

10 PROJECT PLAN

To Carry out this project effectively, I plan to use a combined methodology called Incremental development. This is a hybrid method between the time process of waterfall, as well as the sprint structure of agile.(can be found in Appendix A-1) To monitor the project thoroughly, I have set up a Hacknplan(2015) to update weekly, logging hours and maintaining my level of activity. I will also be logging my hours in a personal Logbook using Word(2016).

10.1 Project Overview (GDLC)

10.1.1 Conceptual - (20th January - 27th January 2020)

In the first stage, I will be setting the initial concept in stone, by conducting research and start the creation of a GDD to include every feature I want my game to have. This also involves setting up a weekly logbook and start thinking about management tables (Risk, WBS and Gantt).

10.1.2 Pre-Production - (27th January – 12 February 2020)

In the second stage, I will be creating further design elements such as concept art, levels, UI, and story. This will all be finalized by the 8th of February, to leave enough time for prototyping on commencing 11th of February. Tables will be completed to carry every task through production.

10.1.3 Production - (12th February – 1st April 2020)

In the third stage, I will be contributing a lot of my time to meet the completion of prototyping and start to piece the game using Unity(2019), along with the range of tools mentioned in section 8. The use of foundational sound will be met on the 11th of March as one of the main mechanics. The use of playtesting will begin as of the 18th of March, when the game is in a playable state for peers to experience and gather feedback from them, to refine any features.

10.1.4 Post-Production - (1st April – 29th April 2020)

In the fourth stage, I will be demonstrating a Mid-way prototype version of the game on the 1st of April, to show its current condition, as well as the organized effort that has been allocated within the past 6 weeks. The next deliverables will be an Alpha build on the 15th of April, followed by a Beta build on the 29th of April. This will be the final push to fix all bugs that are found to ensure no further issues occur when Steam consumers purchase it.

10.1.5 Release - (29th April – 5th May 2020)

In the fifth and final stage, I will have by the 4th of May to release the game onto the Steam market. An updated version may be necessary if users find minor bug fixes. This release will take place on the 5th of May as a highly functioning, gripping game published to the industry.

11 PROJECT MANAGEMENT TOOLS AND METRICS

11.1 Word Breakdown Structure

From my project development plan, I created a Word Breakdown Structure (Can be found in Documentation Folder) that covers every task in a clear parent-child structure, consisting with a total of 325 tasks. This was made using Draw.io(2016).

11.2 Gantt Chart

Based on the relative WBS information. I was able to create a Heavily organized Gantt chart that includes every task, alongside a deadline as to when they need to be completed by. I also used dependencies for specific deliverables before rushing in between development stages.(can be found in Documentation Folder).

11.3 Logbook and HacknPlan

The use of Metrics for this project involve my personal logbook which contains weekly tasks, logged hours of contribution and a weekly justification as to how the week went. HacknPlan is also linked to manage hours as well as progress. (both can be found in Appendix B).

12 Risk Register

The Risk register table, alongside a contingency plan outlines potential issues I may encounter throughout the course of development, followed by how I would resolve the issues(can be found in Documentation Folder)

13 RESOURCE IMPLICATIONS

13.1 Hardware

The first resource which is of vital importance, is a medium-high range PC. Due to the developing, running and testing of the game, it needs to function correctly. My current PC has the necessary hardware to carry out the project. Should my PC get broken, I would use my backups and use the University equivalent to continue further development.

13.2 Software

There is a large use of software resources to carry out this project. this ranges from browser tools like Draw.Io, to documenting reports in Microsoft Word. Not to mention Unity engine, as well as the plugins to have the correct version for transferable files. Alongside the need to use software correctly, is the project management tools for planning. The University has most tools I have on my PC so I can transfer programs effectively.

13.3 Time

Due to the length of the project being 5 months for development, time is a resource implication. Setting deadlines and meeting milestones is essential to precise dates as each stage needs to stay on top of workflow and scheduling.

13.4 Human

I am the only individual carrying out the project. This makes me a resource within myself. I have a sense of duty to manage this project and to ensure it meets my expectations that I set. Another individual who oversees my progress is my Supervisor. Who keeps me up to date whether I am on track with the project. Using him as the primary point of contact adds that extra support should the project start to alter down a wrong path My objective regarding progress documentation. This ensures the project stays on track.

Final Report

14 IMPLEMENTATION NARRATIVE

Throughout the course of development. The progression was kept on record using a variety of methods previously mentioned in Tools and Technologies, such as HacknPlan to monitor the tasks and different milestones that would need to be completed by a certain deadline. Another usage will be personal development videos, as well as a logbook to carry out the tasks effectively and reliably.

14.1 Conceptual - (20th January - 27th January)

The conceptual stage involved kickstarting the project as the foundations need to be put in place that would assist in carrying out further development. Thinking with a designer's mindset, documentation took place instantly as the initial idea needed room for improving before the finalized concept could be worked upon. Although the first week was only one milestone, it involved researching into the studies of psychological impacts on video games as this was the main focus, to understand the significance of horror/thriller games and how this could potentially be added to a gripping emotional user experience. Setting up a GitHub Repository, as well as a HacknPlan project were made to allow stable work capacity for both myself and the game. essentially supporting one another

as the project progresses. Due to the excessive amount of research necessary to meet a conclusive concept, I started constructing a design document.

Although there was slight confusion regarding the types of documents to create, there were multiple documents consisting of 3 that a developer should consider. A concept document, level design document and design document. This was just the few for the design side (Abhishek Ahlawat, n.d) These three would establish what I envision the game to be. To resolve this confusion, I carried out a document as I saw fit.

This meant using a combination of all 3 documents to avoid confusion. This worked in my favour as I would include any research and analysis that would tie in towards a finalized concept. Bearing in mind that was all going towards the documentation side of the overall ending product, hence why I am using a design approach and stick to my use of the incremental methodology. My stages of development act as my sprints and within the sprints, are weeks. This made logical sense to me to ensure how I would observe each section of the project thoroughly.

I had an essential idea in what the core mechanics of the game would be. This would range from a wide level of player exploration, interaction with multiple types of objects, A data handling inventory system and a complex level of AI. These key aspects would demonstrate in how I predict the final outcome of the game to turn out. Additionally, I would maintain my concentration and skills towards story, level, and sound elements prior to my objectives.

There was not much development in terms of programming aspects as the syntax I will be following, does not begin any prototyping until the design stage has been completed by the 15th Feb (can be found in Appendix E-1 & Gannt Chart). This also meant pacing myself towards the programming aspects as it will be a challenge throughout, with the limited knowledge of scripting in C#. The project

was underway and in sight to complete the design aspects by the end of Sprint 2, Pre-Production. Establishing the starting point of the project is complete.

14.2 Pre-Production - (27th January – 12th February)

Pre-Production consisted of carrying out each design element necessary to finalize how the game would eventually feel and look. I spent a lot of time gathering research, stretching efforts from studying specific movie genres, to comparing historical events (can be found in Appendix A-2) as the precise time period of the 1930s covered a lot of background in where the thematic setting was going to be built upon. Involving such a wide aspect of research made me understand a strong and significant area.

For instance, each threat or representation of abuse showed sensitive character, which would persist in carrying out their deeds to inflict on others, specifically vulnerable children. This gave me a lot of things to consider how the “threat” of the game could meet up to such high expectations and effects. Following up on research, there were Art aspects coming into the project as what the concept lacked, was some visual representation.

Sketching and updating in Photoshop gave a better appeal in how the environment would look(can be found in GDD Doc). This would eventually link up with the implementation of level and story to further practical and realistic standards. Using the asset list that was refined from its initial copy. The criteria for assets was clear to research and purchase the necessary graphics to ensure the theme of the game is met.

A student mentioned to me who was working on a similar first-person game, about an orphanage pack (can be found in Appendix E-3) which was available on the asset store for a reasonable price. Once the recommended assets were researched and analyzed. There was no haste when purchasing as the pack came across as the ideal candidate to assist in developing an immersive environment. Using modular pieces would benefit piecing levels together without ease of

designing original assets that by far, would not meet the professional standards and would class as an “unbalanced” design.

The collaboration of one design document included a thorough and self-explanatory appearance. This was still considered as a strong approach, tackling multiple aspects which in the latter stages of the project, will demonstrate ease of navigating between multiple attachments. There were further refinements on how mechanics would be carried out, as everything was concise in the one document. Such as the key mechanics and their behaviors that would take place during gameplay.

Level design was put through 7 stages as the precision of detail, needed to meet a vital and accurate quality (can be found in Appendix C). Level is the middle layer between telling the story and broadcasting sound effects. At this point, the project is in a strong position in relation to design and finalizing each aspect towards the start of prototyping that commences in Sprint 3, Production where the game will draw closer to piecing mechanics and covering more of the programming side, based on the strong design plans. Project is on track and wraps up the Pre-Production.

14.3 Production - (12th February – 1st April)

Production covered a long period of the project. This introduced the initial implementation of general player mechanics. As stated in the Technical Design(can be found in Section 9), there was a total of 2 C# scripts (can be found in Appendix A-2) that carried out basic player movement(Brackeys, 2019). After these scripts, there were refinements to adapt to new functions. For instance, the first attempt of object interaction involved a simple examine system using 2 UI canvases on the player camera (can be found in Mechanics Video Folder). The use of faded text would ray cast on to the camera and become visible when centered (DitzelGames, 2019). Further programming progress lead to creating the UI to demonstrate how the inventory would work.

This was used by timers (can be found in UI Video Folder) with simple panel interaction to represent object slots (Camilo Ramirez, 2019). The next mechanic to focus on was a standard level of AI, which would be improved as the project progresses.

The state of the AI proved acknowledgement with facing the player (can be found in Mechanics Video Folder) as a turning cube(Brackeys, 2019). This was a strong position for the current mechanics allowing interaction, movement, and a simple AI. This put the current state of the game into a Proof of Concept build to outline general mechanics, introducing the idea and how it would function.

There was some confusion in regard to what to expect with a Proof of Concept. Essentially it would be showing the idea works, followed by a prototype based on those mechanics(Anon, 2018). The theory side of design was completed in Pre-Production, but the practical side needed to be pieced together. I needed to meet the objective involving transferable department skills (objective 4) to show my skillset across various areas of the industry.

This was carried out in a combination of ways. One example being the design of the players main feature, an old fashioned lantern(can be found in Logbook Doc). This would be attached to the players hand throughout the game as a primary light source. Additionally, the lantern is an indicator for other lights to be lit as every room will be set to unlit/dark. With the use of sound design (objective 5), The integration of Wwise (AudioKinetics, 2019) took place to ensure that Incorporating the sound engine, was easily maintainable. The use of generating sound banks into a plugin, predicted a higher increase of audio responses and performance.

The continuation of programming lead towards the Prototype (can be found in Build Demos Folder). This was nearing an incomplete build than originally planned (can be found in Appendix E-1) due to the impact of Covid-19. The impact restricted my working environment and my capacity to contribute hours, nearing the end of the Production (can be seen in Appendix A-6). The best level of contribution possible, was finalizing my lantern by giving it realistic textures and attempting further research on finalizing mechanics, specifically inventory.

The remainder time was allocated to recover, as well as experimenting with the orphanage asset packs and testing the latest mechanics in a newer setup. The Prototype implementation had to be met by the designated date(can be found in Appendix E-1). Unfortunately, this was not met due to still in a recovery phase. This set a new personal task, to stay on track as the loss of hours has placed the game into a falling behind state. This occursion marked the end of Production.

14.4 Post-Production – (1st April – 27th May)

Sprint 4, Post-production is where everything starts to come together. Following from Production, the Prototype was uploaded for peers to review and gather feedback from the least installment, towards an ideal user experience. This was very strong and promising since the previous occurrences regarding health put me into a middle state, meaning the project was nearing a brick wall.

Fortunately, the university were providing an extension due to the interruption of studies. This allowed a reschedule in terms of milestones (can be seen in Appendix E-2). The latest structure gave a positive response in terms of progression in a short space of time. The games current state was at 50% capacity of mechanics and only experimentation with level and sound design. To adjust these results, the first two weeks involved heavy level design (can be found in Logbook Doc) to experiment with assets even further. This would include two detailed maps of the orphanage.

The comparison between the Prototype showed a majorly positive and strong evolution. The intensiveness of level design involved adding object placement that would be realistic not just in visual, but physical appearance. This ranged from adding plumbing into a bathroom, stationary all over tables, to boarding up a window.

Each object placement would link with the story driven narrative such as cutscenes and flash backs(objective 8). Level design was at a very pleasing standard, meeting 1 of the 3 main areas. Sound design was dependent on the type of environment that is accessible. The two maps have a mixed feeling towards the player. One portion of the game acting in a delicate nature to allow a player exploration to be persistent. The other portion is threatening to make players feel alone and trapped. This would develop emotive responses and alter their decisions, pursuing the truth.

The rescheduled deadline for milestones enabled the game to meet an industry equivalent approach, as well as pace towards each build with what was to accomplish. For instance, there were improved story elements from the Alpha to Beta, which allowed constructive feedback in what could be refined or kept. In relation to functionality in this sprint. There were a lot of drawbacks including the scene changing, incorrect cursor states, discarding the examine system, and no inclusion of saving and options.

Predicting the type of completion was too unclear, until major fixes and additions would make up for the lost functionality. Due to extending build deadlines for the completion of certain tasks, a new schedule was created to assist on tracking what state the project is in, as well as how much time there was to allocate (can be seen within Appendix E-1).There was marketing strategies to consider since meeting a Steam release (objective 1) meant producing gameplay footage and store page credentials (can be found in Logbook Doc).

This drew out a lot of development time and delayed other tasks, alongside a separate assignment hand-in. With a remainder of 2 weeks left to initial release, time was limited with the remainder tasks that needed completion. The majority of time was spent replacing broken features. Such as fixing up sounds, refining AI which from a personal view, is at a "simple" behaviour level and ties in well with the story. An intro cutscene was developed to outline the main story, covering location, characters and a hidden secrets waiting to be uncovered at a player's own discretion. The additional touch was the working enough AI, allowing matron to be more involved when players encounter her(can be found in Logbook Doc). It was duly noted and clear, that the game would not be meeting its envisioned expectations, but as an early access release, which allows the continuation of the game, long after the project has ended.

14.5 Release – (27th May – 3rd June)

During this Sprint. The game was officially released on Steam (can be found in Appendix D3) wishing it had been published to the market earlier. Due to Steam guidelines of publication, the review needs up to two weeks acceptance before promoting the game on their store. Before the upload went official, minor testing took place to ensure the current state was playable(can be found inn Logbook Doc). There were encounters regarding timers through game scenes where switching from game to menu and pressing "new game" cancels out timers as they are not set in a scene manager.

This makes them destroyed and putting the build into a non-playable state. An attempt to change the scene function was used but only ended with the same result. This meant that potential consumers would repeatedly have to close the build to gain access something playable. This type of error takes away the game, as well as the experience. On the 2nd of June, the game went up online with a surprising amount of units being sold within such a short space of time (can be found in Appendix F-7) This drew my attention to look at the games Wishlist activations (can be found in Appendix 5-7).

One of the consumers posted gameplay of my game on YouTube (can be found i Appendix D-4) which gave some clarification and positive recognition from a third party who held the game in such a reasonable level, especially with the current functionality of the Beta 1.1.

The journey of the game has so much more potential for further development outside the project restricted timeframe. The game as a published product, meets its key features and functionality to the best of its playable abilities. A developer message has been attached on the main menu to inform players that the game in its best working performance, will give the ideal and immersive experience.

15 EVALUATION

15.1 Meeting Project Aim

I fulfilled my aim to the best of my abilities, which allowed me to carry out an industry standard project plan independently and experience the development of an initial idea to its early access release to the pc market. It gave me a strong grasp in putting all of my knowledge to practice ranging across all departments, especially the programming side which proved to be a high challenge. I was able to create my first ever gameplay trailer (can be found in Appendix D-3) giving me further understanding how to reach out to a target demographic and involve myself further within the community, as well as industry.

The level, story and sound elements collaborate accordingly for the ideal game flow that I initially set out. I feel that seeing the game in action, creates all sort of emotive responses from the calming startup, to the truthful tragedies. It allows a player's own feelings to be measured and share some sense of entrapment and empathy. The ideal setting behind the game is meant to tell the untold secrecy of orphans during a difficult time of neglect and abuse. The research of this specific manner graphically paid off with the accomplished, effective detail within the storytelling, level, and sound design.

15.2 Meeting Objectives

15.2.1 Steam Title Release

I was able to meet my game being published as a new Steam title. This was met by releasing as an early access indie title on the 2nd June. There were issues regarding initial release for the 27th May as stated in implementation Narrative, the Steam publication guidelines prevent any publishers from releasing until prior the two weeks from review.

This was amended by refining graphics that did not meet their promotional standards, as well as how I would involve the community in further development. This can be found on the store page (can be found in Appendix D-2) in the early access section. It was a very surprising result from consumers (can be found in Appendix A-7) from how many units were sold within the first 24 hours of release.

15.2.2 Unity Scripting Capabilities

I feel that this objective has been accomplished to the best level of knowledge. My skills of C# scripting within Unity have strengthened to an intermediate level, meaning I am no professional or beginner, but the middle developer who has limitations meaning I could carry out programming to a comfortable degree.

This involves setting up basic UI functions. Object interaction and use of timers. Without the Coroutine functions aside from the cancelling out on build, they would not have run the games experience in a smooth manner, making everything too efficient and going through a history simulator with no sense of purpose or direction. This has been shown especially through the creation of patrolling AI.

15.2.3 Progress Documentation

This objective with a full sense of confidence, has certainly been met. The project has been tracked and monitored in a variation of methods. The HacknPlan metrics (can be found in Appendix-5) estimates the amount of contribution and effort into the game. My logbook (can be found in Logbook Doc)

was accurately labelled with weekly tasks, logged hours, and a justification to adhere the positives and negatives each week.

The evidence on the pie and burn down charts (can be found in Appendix-4 & 6) back up the logged Hacknplan hours in how a suitable level of workload, were to be carried out each week, consisting of 19 hours and above to stay on track. This of course differed during project or personal related encounters.

15.2.4 Psychology in Video Games

Understanding the types of psychological impacts when participating in horror and thriller games, has been achieved through the in-depth amount of research. (can be found in GDD Doc) For instance the various topics from films, games, historical events, and blogs enabled me to grasp pure significance on how we as players, are affected in our own unique way.

we never properly know how to reciprocate the impact. This has also been achieved through tones of sound, detail of environment, and emotional narration. If it weren't for the designer's approach in carrying out the project, it would be very unclear in questioning my own input if the experience has its effectiveness.

15.2.5 Immersive Sound and Level Design

Being one of the main areas I concentrated on, I would consider this objective to be achieved at an average rate. The collection of sounds that were incorporated into the game, give the immersive impressions. This was met through the different levels of Atmos, significant intractable tones, and dialogue pitches rising through each line, edging the player that the environment is not all enlightening than it was led to believe.

The sound proved a challenge in terms of setting up functions. Being limited using a lot of forums (AudioKinetic, n.d.) made it a difficult role to carry out. At its best, it meets a mixture of sounds that the player would expect and reframe from the inescapable tension. This also benefits the scope I intended to have, keeping things concise on each floor, adding its own innovative detailing that would adapt to the theme.

15.2.6 Transferable Department Skills

As you can see from the project as a whole, I met a lot of areas in each department (can be found in Appendix A-8). This was done specifically by creating my own concept art (can be found in GDD Doc) and stages on level designs of the orphanage (can be found in Appendix C-1), not to mention my own unique 3D design of a lantern, that plays as a significant light source throughout the game.

I believe this showed how accountable I can be when working between multiple departments. This was put to practice in the best way possible. Bearing in mind this is a single one man project and it takes a lot of hands on versatile skills, to carry out such a multitude of roles and responsibilities.

15.2.7 Historical Tourism

This objective was carried out through the thematic design I applied. The 1930's is one of the most popular time periods, especially when it comes to games. It gives a sense of classic horror settings. It was the best approach to come up with a fictional town, located in Poland for a unique backstory. Following this, I picked the ideal setting because of the events that took place. The orphanage is a strong representation, regarding what happened in the past.

Allowing players to walk through a slice of history, this approach improves the explorational aspects of the orphanage since it was not just a mystery, but it was history. This also triggers self-driven teaching principles, provided that players

understand the concept behind the experience. Not just for mental manipulation, but for historical recognition.

15.2.8 Cinematic Narration

One of the most challenging objectives throughout. Setting the story through the use of cinematics and narrative dialogue allowed me to read it aloud to players. The intro cutscene sets the foundation of the concept, leaving you confused, but immersed. Reading questions back to the player gives them personal involvement as if they witnessed what happened.

This was my first attempt of cinematic narration and it managed to cover each section of design through the movement of one camera, desaturated visuals, isolating music, and a deceiving environment. In addition, the flashbacks added another engaging technique as the players movement is disabled. Forcing them to witness a memory, which lead to an inhumane tragedy. I don't expect players to pick up on the dark setting as it is do with the emotional and historical aspects, in a visual manner.

15.3 Outcome of the Project

The project as a whole, has been met in its own manner. With the release of the game, there is mixed feelings. It has come along well since the start of development and I have ensured to carry out each objective to their best standards. The visual aspects make the game really come alive in the chosen setting. This convinced me, as well as other potential consumers with the trailer content. The game has been given the best love in terms of development that it can offer from the timeframe that was given, as well as my skillset as an indie student, to make an ideal experience which will either be emotionally thrilling, or emotionally gripping.

16 REFLECTION

This section covers the reflection on the project overall.

16.1 The Positives

The first thing to look when it comes to the highlights of the project is the visuals. They are to a high standard of detail, whether it be without the lighting in each room, to the flicker of the lantern. It gives a welcoming appeal and view where everything else is unsettling. The use of post processing really made an immersive impact in terms of graphics (Haimoshe, 2018) (Jimmy Vegas, 2019). It was an inventive way to really enhance the environment around the player including a grain affect, which was removed due to potential strain on eyesight during gameplay.

It was all about the right levels of exposure and temperature within the profiler. Navigating between the two types of effects (normal and flashback) became challenging as I had never experienced scripting for post processing. I think that the game turned out very well, aside from the minor cancellation of timers that prevents gameplay as mentioned in Section 14. I was able to produce a reasonable amount in the last 2 weeks of development. I would have benefited with additional time to polish the main mechanics to prevent bugs, removing the player from an immersive experience. It was a real achievement publishing something onto the Steam market.

This also benefits work to flesh out my portfolio. Another positive that I loved and hated quite frequently, was the programming. Learning how a simple inventory system worked in terms of picking up items containing data and dropping items that deletes data yet held in a prefab.

This made a great feature to my game, aside from the persistent data that did not run through multiple scenes and ended up emptying the collected items. If I had more time, I could have learnt more about serialized data on objects. In a way, it acts as a new section to the game as if you were confiscated. Only

thinking of positives, but the inventory has worked greatly in my favour. Another part I am proud of is the design of my lantern. I felt like taking some initiative towards a designer's approach. Not just with level, but with content. I didn't want to fully rely on external placeholders and purchasable asset packs (can be found in Appendix E-3) .

The use of the lantern was going to play a significant role in the game. It only felt right that I took the privilege to design the games signature. I am very proud of it as my modelling, has come a long way since the first year. It also looks very professional on the main menu as the only available light source. I did make progress on another unique item, involving a music box (can be found in Logbook Doc) which would act as a save item. Unfortunately, the design did not meet completion due the time of development, where I was incapable to work physically. Hence why I put double effort in the lantern to signify the feelings of the game when holding it so close, as if it has sentimental value.

I was very impressed with the result of cinematics, especially the ending scene. Admittingly I always wanted to leave the game on a cliffhanger, Because it would keep players wandering what happened after all of that effort. There was never an intension to a win/lose scenario, because of the incidents at the time and how no one really knew what terrible things happened. This experience enhances you to figure it out for yourself and reach some clarification of empathy. I really enjoyed how the levels turned out as this was something I would be leaning more into, the environment.

Especially the use of the terrain tool which I had never experienced since attempting 2D mobile game levels in my second year. This showed a great improvement in terms of skillset and knowledge as I had the opportunity to make my fake town name of Kentora really come alive in a cinematic. The music was fluent, the trees pathway was smooth, and the arrival of the orphanage is very appealing.

16.2 The Negatives

Not to say that everything went perfect. But I encountered a multitude of bugs, errors, and glitches throughout the project, which prevented it to be in the glowing state I originally had planned. One of my main issues regarding UI, took a lot of my time to attempt to fix. (can be found in Weekly Updates Folder) This first encountered when implementing a pause menu using a standard time scale function that would put game mode into a pause state (SpeedTutor, 2018).

This would lead to one problem being the cursor state leaving the game mode which affected testing, whereas the other would unfreeze the player, yet you can still move the camera around. These recurring issues were one of the worst as each time I researched an answer, it would just discuss about cursor lock state being used correctly. Essentially. I stopped using the cursor locking, and only had it for the inventory system and pause menu. If it were to use the journal and map, I would call the GameObjects script from another script and set the enable value to false.

This was working up to two new issues. The cursor glitching at random intervals during gameplay, and movement being set to true when entering a flash back. This took away the immersion instantly as the idea is meant to be narrative to the player. I managed to fix this by setting the ‘PlayerController’ script to false, as well as true over various events, which felt like I was abusing the call function. It solved the issue but with great frustration.

One major drawback was my examine system. As mentioned in the section 14, the examine system was another method of object interaction. It originally worked back in the Proof of Concept (can be found in Appendix D-1 & Build Demos Video Folder) and worked accordingly. Unfortunately. The old script would not adapt to the latest version of my character. This did not stop me from trying to resolve the method. I researched more into how I could examine objects without using canvases on every single object, along with a duplicate of that object.

This led me to screen pointing a raycast to random game objects to test it out (Grimoire Hex, 2018).The general idea was there, but it still wasn't heading in the right direction, let alone going to link with my inventory. after a couple of days thinking about alternative ways. I chose to discard the feature as this would lead me to falling behind, enough as I had since the end of Production.

What annoyed me more was not the effort in trying to fix something that was broken, but how I never stated that the examine system was a main feature. I spent all this time classing it as a necessary component, but in the end, it was only to cover the feature of object interaction. Essentially it acted out as a child parent case, where if the child did not work, I could remove it and add another such as interactable (doors, chests, notes). It was the overthinking that caused the feature to become an obsession, which could have been prevented.

The final bug that went majorly wrong and majorly frustrating, was scene transitioning(can be found in Logbook Doc). Apart from the bug already mentioned that affects core gameplay. My original idea for switching between scenes was using an exit entrance function, like a Mario warp pipe(Paterk , 2015). This works using a level change function with two scenes representing the same door number. Through this would be a scene manager to calculate the positions using an array. This worked at first, until you test it with a ratio of 4.

The bug would be transporting the player between different locations. One being the start position, while the other was the calculated position. This was of vital importance to resolve since half my content would evidence to be inaccessible. I researched on the best methods to resolve the confusion but developed with no breakthroughs. This led me to rethink about my mapping structure. Considering I only have two maps, I changed the perspective of game flow to linear, which meant no going back after leaving the second floor the first floor. Due to the time left on fixing other mechanics, this proved to be the best course of action to carry on.

16.3 Learning Curves

If I have learnt one thing throughout this project, is the struggles following a game through from start to finish. Not just from my studies, but the overall amount and effort that goes into making a game, is still unbelievable to me and can appreciate the hardships on any developer. I have also learned at great detail when it comes to managing scripts. Not necessarily format, but in terms of what you are executing. I now understand the importance in maintaining the same code syntax. Instead of combining it with multiple sources, as you eventually find that all of your features you thought were smooth, start breaking at the last minute.

Another area I overlooked was testing. I carried out testing as I went developing but didn't necessary document my issues as I knew what the problems were. Looking back at my WBS and Gantt chart (can be found in Documentation Folder), my overall motives for testing were quite broad, ranging between friends, family, and peers. I feel that I gained enough peer presence to work on fixes, only to find the majority of family did not have prior knowledge or experience with PC Gaming. They did however provide feedback in terms of visual, hence why I hold the graphics up in high standards.

16.4 Alternatives

If I were to go back and start this project anew, I would consider starting with the programming aspects as this would benefit getting stuck in with a potential idea, messing around with something that could work or break. Thinking more like a programmer, would enhance further skills as mentioned in the Evaluation (Section 15) that my skills could be enhanced, taking on more challengers in a practical manner and more hands-on testing with physics. Until things start to seem clear. Either way, it would work in reverse.

I took a designer's motive which lead to prototyping in later stages of the project. Doing this in reverse, would accomplish having a stronger insight in how the general idea visually works, instead of having a graphical environment that you cannot involve the player in. If it came to a conclusion that the programming area did not suite my skillset, I could always consider using visual scripters that would enhance more knowledge, using a blueprint format like the Playmaker plugin(Playmaker, 2011) and ticking boxes to execute an event.

I would also reconsider my approach towards sound design, by running with Unity's own sound functions. Not to say that Wwise has its great potential to manage sound in a separate program, only Unity is limited when referring in how to implement elements, such as spacial audio. This was restricting me a lot and drove me to regret in using Wwise. If I were to use the Unreal Engine, Wwise would be the go to guide for my sound plugin. I may have mixed opinions about Wwise as I used it to the best of my abilities. Overall, it still output the type of ambiences I wanted to achieve.

16.5 Room for Improvement

It was clearly shown through documentation, that the game had not yet met its ideal and playable state where I wanted it to be. For instance, having no options or save function takes away the general features that consumers, would expect to have and modify at their own leisure. This was due to the remainder of development, involving the completion of main features such as AI and sound. Saying that, the AI could be refined to allow a greater threat as the matron behaviour is navigation via waypoints. If she sees you within a radius she attacks you and after a total of 2 encounters, her colliders start to drift making her get lower into the floor. What would be more challenging is if she was able to chase through other rooms. Due to the remainder timeframe, she is in a fixed area.

This still achieves a reasonable level of AI, only it could be developed upon for a more accurate and life-like behaviour. The use of UI is something I would like to improve. Using sprite images feels very cheap compared to the level of content within the map. This would also tie in with note taking as the purpose of the journey acts as a clues book, monitoring anything that you may have found during player exploration.

17 FUTURE DEVELOPMENT

The development plans for this project after it has come to an end, it to continue developing upon it, as I believe it has strong potential to be a unique indie title in its own making. Considering my game is already as an early access version on Steam (can be found in Appendix D-2), I have the option to prepare for a continuation of the project. This time, it would involve the community to find any other potential issues or ways on improving its full release. I may eventually upload it to the Itch page, although there is lacking support. For the current time now, this is only a suggestion. From what I have already seen in terms of play length, this game could have an increase, involving more interactive aspects than just your casual doors to open. The project definitely needs progressing. As I mentioned on my Steam page, it may not be the latest masterpiece, but potentially the begins of one.

18 REFERENCES

Visual Studio, 2017. Microsoft Cooperation. [Online] Available at: https://visualstudio.microsoft.com/ [Last Accessed 02/03/2020]

Mandy Kloppers, N.D, Games and Manipulation: The Games People Play. [Online] Available at: https://www.mentalhelp.net/blogs/games-and-manipulation-the-games-people-play/ Last Accessed [02/03/2020]

AudioKinects Wwise, 2019. AudioKinect. [Online] Available at: https://www.audiokinetic.com/products/wwise/ Last Accessed [02/03/2020]

Unknown, 2019. Orphanage Maps (Resident Evil 2 Remake). [Online] Available at: https://www.evilresource.com/resident-evil-2-remake/maps/orphanage# Last Accessed [02/03/2020]

HacknPlan, 2015. Stripe. [Online] Available at: https://hacknplan.com/ Last Accessed [02/03/2020]

Cinemachine/Timeline, 2017. Unity Technologies. [Online] Available at: https://assetstore.unity.com/packages/essentials/cinemachine-79898 Last Accessed [02/03/2020]

Gladstone Girard, 2018. WitchKin – Fear Comes in Small Packages. [Online] Available at: https://survivethis.news/en/witchkin-fear-comes-in-small-packages/ Last Accessed [02/03/2020]

Dead Parrot, 2016. REVIEW: Root of Evil: The Tailor. [Online] Available at: https://saveorquit.com/2017/03/30/review-root-of-evil-the-tailor/ Last Accessed [02/03/2020]

Stryker, 2018, Terrifying Candy Lady Lures Kids to Horrific Death in Creepiest Texas Urban Legend. [Online] Available at:https://1063thebuzz.com/terrifying-candy-lady-lures-kids-to-horrific-death-in-creepiest-texas-urban-legend-ever/ Last Accessed [02/03/2020]

Matt Christian, 2002. Designing Horror in Silent Hill 2. [Online] Available at: https://www.gamasutra.com/blogs/MattChristian/20120807/175207/Designing_Horror_in_Silent_Hill_2.php Last Accessed [02/03/2020]

Occams, 2019, The Games that Defined the Decade: P.T. [Online] Available at: https://www.destructoid.com/the-games-that-defined-the-decade-p-t--573988.phtml Last Accessed [02/03/2020]

Katherine Cross, 2016. Experiencing a protagonist's personal hell in The Town of Light. [Online] Available at:https://www.gamasutra.com/view/news/300544/Experiencing_a_protagonists_personal_hell_in_The_Town_of_Light.php Last Accessed [02/03/2020]

Wesley Yin-Poole, 2015. The Town of Light is a first-person asylum game without jump scares. [Online] Available at: https://www.eurogamer.net/articles/2015-07-22-the-town-of-light-is-a-first-person-asylum-game-without-jump-scares Last Accessed [02/03/2020]

Stephen A. Diamond, 2009. ORPHAN is Coming: Are There Really Evil Children? [Online] Available at: https://www.psychologytoday.com/us/blog/evil-deeds/200907/orphan-is-coming-are-there-really-evil-children Last Accessed [02/03/2020]

ABoksh, 2014, Case Study of Orphan. [Online] Available at: https://www.slideshare.net/ABoksh/presentation1-orphan Last Accessed [02/03/2020]

Meagan Navarro, 2012. 'Sinister' Features Modern Horror's Most Effective Jump Scare. [Online] Available at: https://www.slashfilm.com/sinister-lawnmower-scene/ Last Accessed [02/03/2020]

Richard C. Paddock, 1998, The Grim Face of Russia's Orphanages. [Online] Available at: https://www.latimes.com/archives/la-xpm-1998-dec-17-mn-54995-story.html Last Accessed [02/03/2020]

Steve Hogarty, 2019. Premature Evaluation: Palmyra Orphanage. [Online] Available at: https://www.rockpapershotgun.com/2019/07/30/palmyra-orphanage-review-early-access/ Last Accessed [02/03/2020]

Colin Campbell, 2016. Emotion, manipulation, and the future of game design. [Online] Available at:https://www.polygon.com/2016/3/30/11319406/emotions-video-games Last Accessed [02/03/2020]

Darren McKettrick, 2013. An Investigation into the Effects of Horror Games. [Online] Available at: https://www.gamecareerguide.com/features/1247/an_investigation_into_the_effects_.php?print=1 Last Accessed [02/03/2020]

Douglas Heaven, 2015, An Investigation into the Effects of Horror Games [Online] Available at: https://www.newscientist.com/article/dn28375-how-the-scariest-video-games-use-our-own-minds-to-terrify-us/ Last Accessed [02/03/2020]

ShayEllis, 2014. Target Audience of Psychological Horror. [Online] Available at: https://www.slideshare.net/ShayEllis/target-audience-of-psychological-horror Last Accessed [02/03/2020]

Carolyn Pairitz Morris, 2018. The Demographics of Video Gaming. [Online] Available at: https://www.earnest.com/blog/the-demographics-of-video-gaming/ Last Accessed [02/03/2020]

Playmaker, 2011, Hutong Games LCC. [Online] Available at: https://assetstore.unity.com/packages/tools/visual-scripting/playmaker-368#version-original Last Accessed [02/03/2020]

Unity, 2019, Unity Technologies. [Online] Available at: https://unity.com/ Last Accessed [02/03/2020]

Unreal Engine 4, 2019, Epic Games. [Online[Available at: https://www.unrealengine.com/en-US/ Last Accessed [02/03/2020]

Andy Robertson, 2015. How the UK Video Game Age Rating System Works (or Doesn't). [Online] Available at: https://www.kotaku.co.uk/2015/01/13/uk-video-game-age-rating-system-works-doesnt Last Accessed [02/03/2020]

Nathan Lovato, 2015. How To Do An Efficient Game Test. [Online] Available at: https://gameanalytics.com/blog/how-to-do-a-game-test.html Last Accessed [02/03/2020]

Steam, 2003. Valve. [Online] Available at: https://store.Steampowered.com/ Last Accessed [02/03/2020]

Samit Sarkar, 2017. Valve sets Steam Direct self-publishing fee at $100. [Online] Available at: https://www.polygon.com/2017/6/2/15729276/Steam-direct-fee-valve Last accessed [02/03/2020]

Adobe Photoshop, 2015. Adobe. [Online] Available at: https://www.photoshop.com/ Last Accessed [02/03/2020]

Pixlr, 2019. Pixlr. [Online] Available at: https://pixlr.com/ Last Accessed [02/03/2020]

AutoDraw, 2017. Google Creative Lab. [Online] Available at: https://experiments.withgoogle.com/autodraw Last Accessed [02/03/2020]

Adobe Illustrator, 2019. Adobe. [Online] Available at: https://www.adobe.com/uk/products/illustrator.html Last Accessed [02/03/2020]

Mixamo, 2008. Adobe. [Online] Available at: https://www.mixamo.com/#/ Last Accessed [02/03/2020]

DAZ 3D, 2000, Daz Productions. [Online] Available at: https://www.daz3d.com/ Last Accessed [02/03/2020]

3DS MAX, 2018, Autodesk. [Online] Available at https://www.autodesk.co.uk/products/3ds-max/overview Last Accessed [02/03/2020]

Blender, 2002, Blender. [Online] Available at: https://www.blender.org/ Last Accessed [02/03/2020]

Draw.io, 2016, Draw.io. [Online] Available at: https://drawio-app.com/ Last Accessed [02/03/2020]

Microsoft Visio, 2019, Microsoft Cooperation. [Online] Available at: https://products.office.com/en-gb/visio/flowchart-software Last Accessed [02/03/2020]

Tiny Scanner, 2016. Appxy. [Online] Available at: http://www.appxy.com/tinyscan/ Last Accessed [02/03/2020]

Unity C# Libraries, 2019. Unity Technologies. [Online] Available at: https://docs.unity3d.com/ScriptReference/ Last Accessed [02/03/2020]

Adobe Audition, 2019, Adobe. [Online] Available at: https://www.adobe.com/uk/products/audition.html Last Accessed [02/03/2020]

Audacity, 2000. Audacity. [Online] Available at: https://www.audacityteam.org/ Last Accessed [02/03/2020]

Microsoft Word, 2016. Microsoft Corporation. [Online] Available at: https Last Accessed [02/03/2020]

Google Docs, 2006, Google. [Online] Available at: https://www.google.co.uk/docs/about/ Last Accessed [02/03/2020]

HacknPlan, 2015, HacknPlan. [Online] Available at: https://hacknplan.com/ Last Accessed [02/03/2020]

Trello, 2011. Atlassian. [Online] Available at: https://trello.com/ Last Accessed [02/03/2020]

Microsoft Excel, 2016. Microsoft Corporation. [Online] Available at: https://products.office.com/en-gb/excel Last Accessed [02/03/2020]

Google Sheets, 2006. Google. [Online] Available at: https://www.google.co.uk/sheets/about/ Last Accessed [02/03/2020]

Gantt Project 2019. Gantt Project. [Online[Available at: https://www.ganttproject.biz/ Last Accessed [02/03/2020]

Excel, 2016. Microsoft Cooperation. [Online] Available at: https Last Accessed [02/03/2020]

Microsoft Project, 2019. Microsoft Cooperation. [Online] Available at:https://products.office.com/en-gb/project/project-management-software Last Accessed [02/03/2020]

GitHub, 2008. GitHub. [Online] Available at: https Last Accessed [02/03/2020]

GitHub Desktop Tool, 2019. GitHub. [Online] Available at: https://desktop.github.com/ Last Accessed [02/03/2020]

GitLab, 2011. GitLab. [Online] Available at: https://about.gitlab.com/ Last Accessed [02/03/2020]

Google Drive, 2012. Google. [Online] Available at: https://www.google.com/drive/ Last Accessed [02/03/2020

OneDrive, 2007. Microsoft Cooperation. [Online] https://onedrive.live.com/about/auth/ Last Accessed [02/03/2020]

Silent Hill 2 GDD, 2016. Gamescrye. [Online] Available at: http://gamescrye.wpengine.com/wp-content/uploads/2016/12/silent-hill-design-document.pdf [02/03/2020]

Zach Betka, 2013. How the scariest video games use our own minds to terrify us. [Online] Available at: https://www.newscientist.com/article/dn28375-how-the-scariest-video-games-use-our-own-minds-to-terrify-us/ Last Accessed [02/03/2020]

Anders HejdenBerg, 2005. The Psychology Behind Games. [Online] Available at: https://www.gamasutra.com/view/feature/130702/the_psychology_behind_games.php Last Accessed [02/03/2020]

Unknown, 2016. Why Sound Design Horror Gaming Matters [Online] Available at: https://www.cinemablend.com/games/Why-Sound-Design-Horror-Gaming-Matters-129577.html Last Accessed [02/03/2020]

Warriior1424, 2016, LoadSceneAsync is the same as LoadScene? [Online] Available at: https://forum.unity.com/threads/loadsceneasync-is-the-same-as-loadscene.437570/ Last Accessed [02/06/2020]

SpeedTutor, 2016. Splash Screen in Unity 5. [last viewed 02/06/2020]. Available at: https://www.youtube.com/watch?v=tnA_4hJ70yg

Bluefni, 2017. Changing post-processing profile via scripting. [Online[Availa at: https://answers.unity.com/questions/1370298/changing-post-processing-profile-via-scripting.html Last Accessed [02/06/2020]

Grimoire Hex, 2018. Unity 3D - Object Examine System. [last viewed 02/06/2020]. Available At: https://www.youtube.com/watch?v=KHXjDbPgJ9c

STEAMWORKS, N.D. Valve. [Online] Available At: https://partner.Steamgames.com/ Last Accessed [02/06/2020]

Johnathan Miller, 2018. How to Position the Player based on Previous Scenes in Unity. [Online] Available At: https://medium.com/@johnathanmiller/scene-based-player-positioning-in-unity-4499f25e0521 Last Accessed [02/06/2020]

Sebastian Lague, 2015. Field of View. [Online] Available At: https://github.com/SebLague/Field-of-

View/blob/master/Episode%2001/Editor/FieldOfViewEditor.cs Last Accessed [02/03/2020]

Jimmy Vegas, 2019. How To Make A Survival Horror Game - Unity Tutorial 025 - MENU FUNCTION + LINKING. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=4ZtbBfQczg4&t=3s

Apiotuch, 2019. Missing Post Processing Behaviour after installing Post Processing Stack. [Online] Available At: https://forum.unity.com/threads/missing-post-processing-behaviour-after-installing-post-processing-stack.611449/ Last Accessed [02/06/2020]

Jimmy Vegas, 2019. HOW TO MAKE EARLY 20TH CENTURY CAMERA EFFECTS - BLACK & WHITE | SEPIA UNITY TUTORIAL. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=wb8e1hbSzuo

Game Dev Guide, 2019. How to Build A Save System in Unity. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=5roZtuqZyuw&t=490s

Paterk , 2015. Unity C# Tutorials - Loading Between Scenes at Different Entrance and Exit Positions. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=lQ3OT9xp_5A&start=4s

Tiedtiger, n.d. Pre-Alpha. [Online] Available At: https://www.whatgamesare.com/pre-alpha.html Last Accessed [02/06/2020]

Jimmy Vegas, 2017. How To Make A Survival Horror Game - Unity Tutorial 026 - FULL INTRO SCENE [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=fxdTJ6faDJY

Kyle Andrews, 2017. How To Make a Unity Skybox with Photoshop. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=-ZutidNYVRE

SharpCoder, 2019 Unity 3D Coding a Simple Inventory System With UI Drag & Drop. [Online] Available At: https://sharpcoderblog.com/blog/unity-3d-coding-a-simple-inventory-system-with-ui-drag-and-drop Last Accessed [02/06/2020]

Brackeys, 2017. ITEMS - Making an RPG in Unity (E04). [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=HQNl3Ff2Lpo&t=339s

Anon, 2018. MVP VS POC VS PROTOTYPE: WHAT DOES YOUR COMPANY REALLY NEED?. [Online] Available At: https://skelia.com/articles/mvp-vs-poc-vs-prototype-company-really-need/ Last Accessed [02/06/2020]

Camilo Ramirez, 2019. Unity Speed GameDev #5 - Inventory On UI And Examine Items. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=6VycY0XPVvQ

Brackeys, 2019. FIRST PERSON MOVEMENT in Unity - FPS Controller. [last viewed 02/06/2019] Available At: https://www.youtube.com/watch?v=_QajrabyTJc&t=983s

DitzelGames, 2019. 3D Objects on GUI for Inspection with Unity SRP. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=cu39TdzirCE&t=566s

Brackeys, 2018. SAVE & LOAD SYSTEM in Unity. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=Qfcu1QPGkMA

SpeedTutor, 2018. SIMPLE PAUSE MENU in Unity 2018. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=pbeB9NsaoPs

AudioKinetic, n.d. Wwise & Unity Integration Implementing Button Sounds (Using PostEvent). [Online] Available At https://www.audiokinetic.com/learn/videos/wVC3ZnLTkt8/ Last Accessed [02/06/2020]

AudioKinetic, n.d. Wwise & Unity Integration - Triggering Footsteps and Switching Between Surface Types. [Online] Available At https://www.audiokinetic.com/learn/videos/O_ZgQwqOll8/ Last Accessed [02/06/2020]

Abhishek Ahlawat, n.d. Technical Design Document and Game Design Document. [Online] Available At: https://www.studytonight.com/3d-game-engineering-with-unity/tdd-and-gdd Last Accessed [02/06/2020]

19 BIBLIOGRAPHY

Tuning Mania, 2018. Unity FPS tutorial - Light on/off - Crouch - Smooth movement! [last viewed 02/06/2020]. Available at: https://www.youtube.com/watch?v=aJfm-teEmkA

Adrian C. Chase, 2018. Unity3D - AI Tutorial - Zombie Stealth Concepts and Techniques (Part 1). [last viewed 02/06/2020]. Available at: https://www.youtube.com/watch?v=woCt1-uXE_Y&t=10s

Michael 8, 2012. C# Countdown Timer. [Online] Available at: https://answers.unity.com/questions/225213/c-countdown-timer.html Last Accessed [02/06/2020]

In Principle, 2017. Preparing your Unity game for Steam - Part 4 – Building. [last viewed 02/06/2020]. Available At: https://www.youtube.com/watch?v=rK5Fr5hhslM

Mauricio Ageno, 2019. How to Create a Gameplay Trailer. [Online] Available at: https://modusgames.com/how-to-create-a-gameplay-trailer Last Accessed [02/06/2020]

MiriamAteo, 2017. Overlapping Generated Lightmap UVs. [Online] Available At: https://forum.unity.com/threads/overlapping-generated-lightmap-uvs.522747/ Last Accessed [02/06/2020]

Blackthornprod, 2018. ADVANCED AI IN UNITY (Made EASY) - STATE MACHINE BEHAVIORS. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=dYi-i83sq5g

Dbonekjones, 2013. Extract 1 animation from an FBX. [Online] Available At: https://forum.unity.com/threads/extract-1-animation-from-an-fbx.164509/ Last Accessed [02/06/2020]

Jimmy Vegas, 2017. Mini Unity Tutorial - How To Create Scrolling Credits Scene - Beginners Tutorial. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=cj6hwCjiVZE

EYEmaginery, 2015. Unity 3D - Horror Game Tutorial #2: Open & Close Doors. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=xcWlXRESo-8&t=1286s

Table Flip Games, 2019. Building Simple AI Patrols | Unity AI Pathfinding (Part 3) | Table Flip Games. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=5q4JHuJAAcQ

Zdravko Jakupec, 2015. Saving Data Between Scenes in Unity. [Online] Available At: https://www.sitepoint.com/saving-data-between-scenes-in-unity/ Last Accessed [02/06/2020]

MerlinsMaster, 2019. Unable to save the player's position between scenes. [Online] Available At: https://answers.unity.com/questions/1642395/unable-to-save-the-players-position-between-scenes.html Last Accessed [02/06/2020]

SadSmile Games, 2016. [UNITY 5] [7] Beginner Tutorial: Horror-Game – Lighting. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=4ecisbu-ODE&t=358s

Sykoo, 2017. 5 Tips for Designing a HORROR Level!. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=Cm1qkh4Y91E

KillerMontage. 2017. 3 Major Elements to any Good Horror Game. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=aO4fKS_6pls&t=305s

Octo Beard, 2018. Enemy Patrol Path in Unity [5 Minute Unity Tutorial] | Octo Beard. [last viewed 02/06/2020]. Available at: https://www.youtube.com/watch?v=KqkW3FsuPoM

Sebastian Lague, 2017. Introduction to Game Development (E23: stealth game 1/3). [last viewed 02/06/2020] Available at: https://www.youtube.com/watch?time_continue=935&v=jUdx_Nj4Xk0&feature=emb_logo

Haimoshe, 2018. How can I access Post Processing Stack volume and change the values for example of depth of field ? [Online] Available at: https://forum.unity.com/threads/how-can-i-access-post-processing-stack-volume-and-change-the-values-for-example-of-depth-of-field.537525/ Last Accessed [02/06/2020]

Itscesar24, 2018. How can I change camera when colliding with "X" object? [Online] Available at: https://answers.unity.com/questions/1528262/how-can-i-change-camera-when-colliding-with-x-obje.html Last Accessed [02//06/2020]

ActivistF, 2015. Exporting Video – Where does it go? [Online] Available at: https://community.adobe.com/t5/premiere-pro/exporting-video-where-does-it-go/td-p/7212878?page=1 Last Accessed[02/06/2020]

Thereddic, 2014. Moving a player's position on scene change. [Online] Available At: https://answers.unity.com/questions/814386/moving-a-players-position-on-scene-change.html Last Accessed [02/06/2020]

Master Davicious, 2017. Modifying the new Post-Processing Stack through code? [Online] Available At:

https://answers.unity.com/questions/1355103/modifying-the-new-post-processing-stack-through-co.html Last Accessed [02/06/2020]

Blackthornprod, 2018. HOW TO MAKE AN RPG LIKE MAP - UNITY TUTORIAL. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=T1masuI3g8Q

WatchFindDo Media, 2017. [Tutorial] Horror Game Tutorial in Unity3D [Pause System] - Part 1. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=r5eO5C8UZcQ&list=PLfDfpN1H_F6HmfciGb-b4g0rV0frWuCbQ&index=29

Aaron Hibberd, 2016. Unity Tutorial - Monster AI. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=8DZAXuIUgvY&t=45s

Unity, 2013. Stealth game tutorial - 403 - Enemy Sight and Hearing - Unity Official Tutorials. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=mBGUY7EUxXQ

Sensisenic, 2013. What's the entry name for mouse buttons in InputManager?. [Online] Available At: https://answers.unity.com/questions/455501/whats-the-entry-name-for-mouse-buttons-in-inputman.html Last Accessed [02/06/2020]

Jimmy Vegas, 2017. How To Make A Survival Horror Game - Unity Tutorial 001 - BEGINNERS INTRODUCTION [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=OzwdgrxYViQ&list=PLZ1b66Z1KFKiaTYwyayb8-L7D6bdiaHzc

Chiisana Risu, 2004. Orphanage Hall – Lights. Available At: https://www.flickr.com/photos/adpbryant/6027184800/in/album-72157627272776569/ Last Accessed [02/06/2020]

Hollistic3d, 2017. Programming NPC Behaviour with Finite State Machines in Unity Part. [last viewed 02/06/2020] Available At:

https://www.youtube.com/watch?v=NEvdyefORBo&list=PLi-ukGVOag_2dY9NxEwUjQfYK801Y0UBc&index=13

Hollisitc3d, 2016. Mechanim & Mixamo in Unity 5: The Basic Basics! [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=BEIaakl9vJE

Lurony, 2017. Unity 5 – How to Make Jumpscares. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=qnNRdUMULoo

Jimmy Vegas, 2018. Mini Unity Tutorial - How To Select And Highlight Objects In Game Realtime With C# [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=7ybz28Py0-U

Sykoo, 2017. Flashlight for Horror | C# Tutorials in Unity 2017 (BEGINNER FRIENDLY). [last viewed 02/06/2020]. Available At: https://www.youtube.com/watch?v=9EJiEYUXQbE

SpeedTutor, 2013. Adding an object glow in Unity. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=pcenAa7oNII

SpeedTutor, 2020. INSPECT System tutorial in Unity 2020. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=Qfcu1QPGkMA

Foxcade, 2016. Horror in Video Games: What Makes a Good Horror Game. [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=EcpEVeXE2k0&t=868s

Extra Credits, 2012. The Pre-Production Problem - How to Improve the Planning Process in Game Design - Extra Credits [last viewed 02/06/2020] Available At: https://www.youtube.com/watch?v=ukADFPuscG8

APPENDICES

APPENDIX A – DOCUMENTATION

A-1 Research

A-1.1 Initial Concept

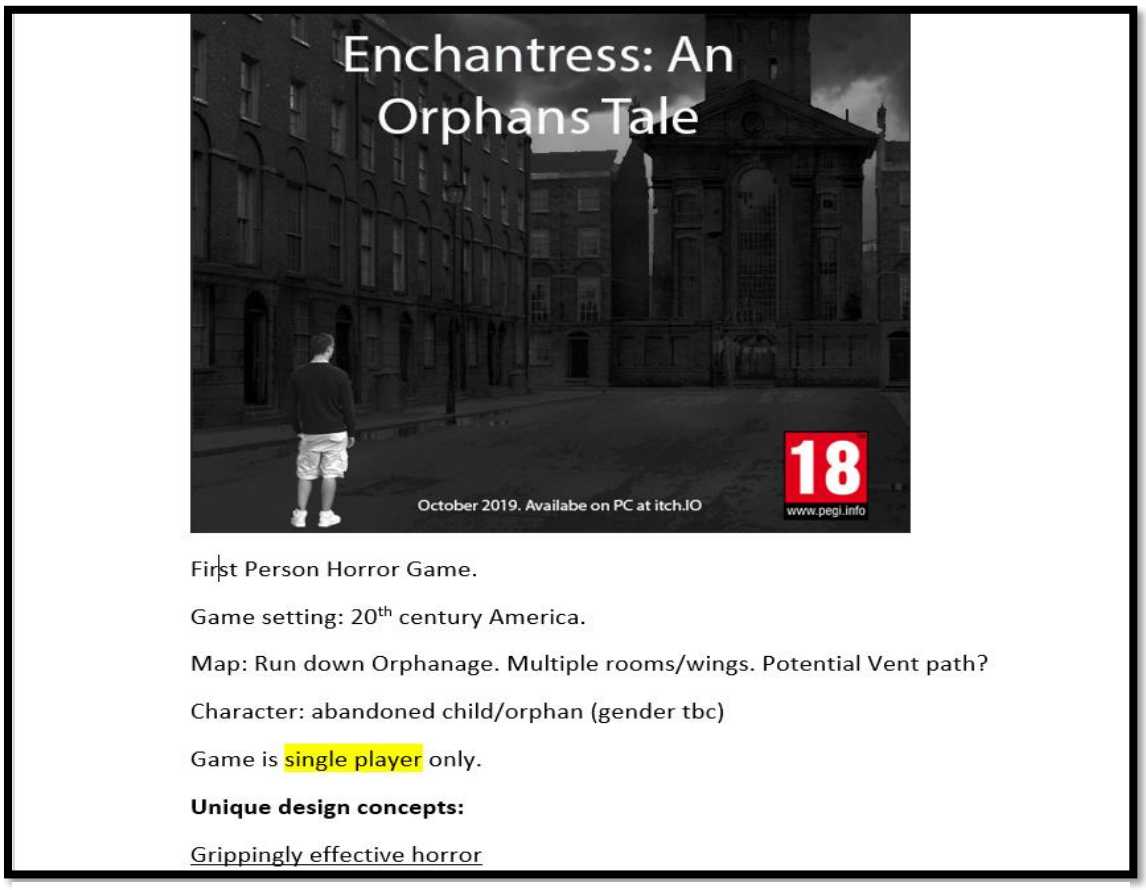


Figure 1 Initial Concept

A.1.2 Games

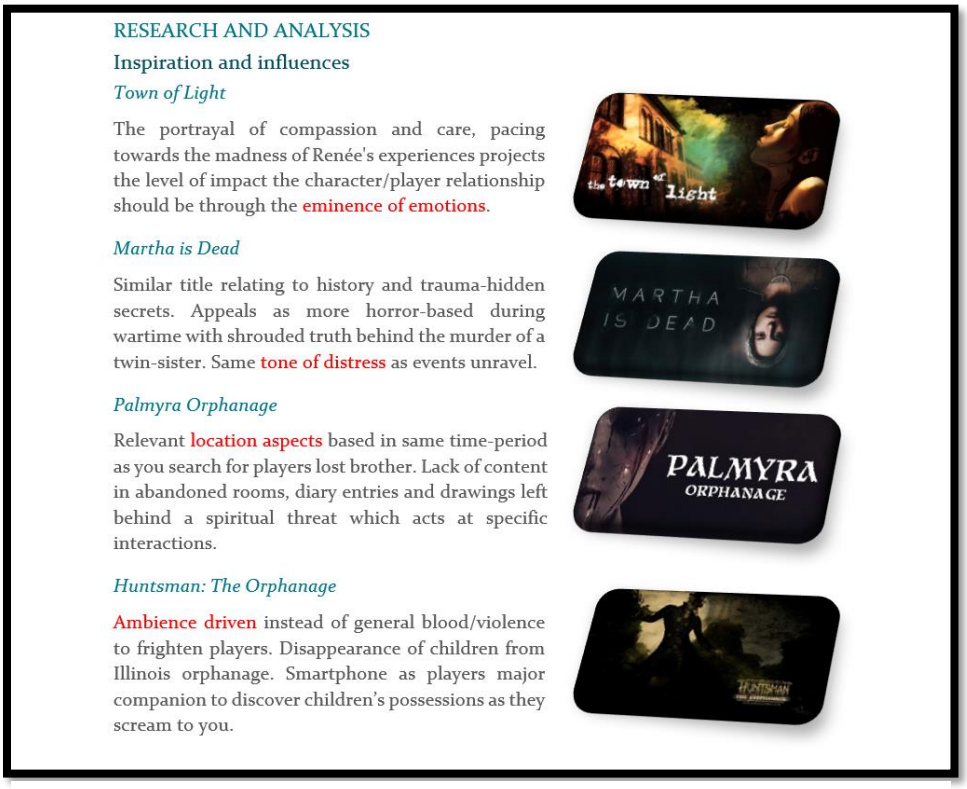


Figure 2 Game Research

A.1.3 Movies

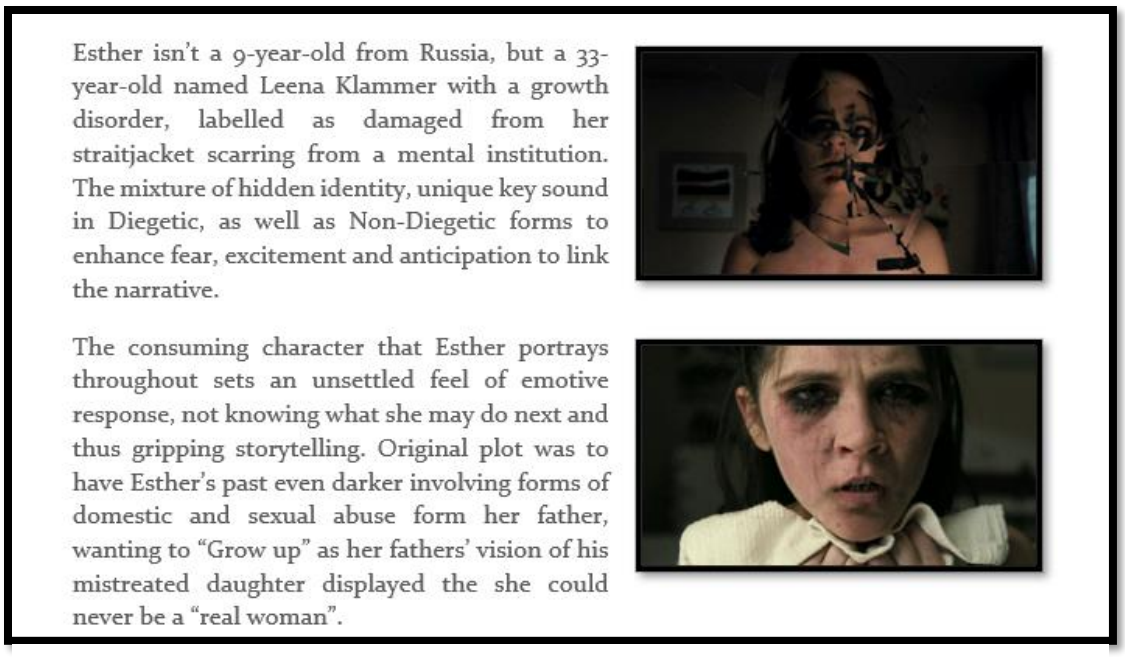


Figure 3 Orphan Research

An ominous figure appears in the reflections of the videos depicting as the kidnapper of the missing children to carry out evil deeds. Tensions start to build in the creepy house as if the production of a new home movie is in the works. Ellison's daughter starts talking to previous children who caused the murders previously and starts drawing symbols related to the kidnapper.

This represents "Bagul", snatcher of weak minded ones, who will stop at nothing to exist in the real world, even if it means killing a family all over again. This makes the family move, as Ellison starts to experience creepy encounters that weren't just in his writer's block of a mind. The harrowing story builds up from hanging corpses to child abduction. This shows inner threats a child's mind has, when influenced by a controlling spirit.

Figure 4 Sinister Research

A.1.4 Historical Events

The Candy Lady (Historical Event)

Murder legend of a small town in Texas, Clara Crane as the Candy Lady. The spark of cruelness began with her supposed murder of her husband in 1895 from a poisonous caramel. Evidence stated she was allegedly the murderer due to the 5-year gap since their daughter died. Clara was taken to Terrel State asylum, also an asylum for lunatics at the time. Clara literally made a friend out of torn bed sheets. Marcy the doll. She held her in such high respects that she was mentioned to Clara's sister in a letter towards her release in 1899.

She disappears from history for four years where her legend crops up. Rumors near her old property stirred up where children would go missing. Sweets were left aside on children's windows with notes inside the wrappers. Clara was the main culprit for these disappearances. Teeth were found, and town sheriff was murdered with sweets placed in his pocket. The Candy Lady legend of Clara Crane still roams Texas to this day. Luring children in, pulling their teeth out and blinding them with pitch forks.

Grim Face of Russian Orphanages (Historical Event)

Russian Soviet records between the 1920s and 1990s, state the awful and appalling levels of abuse and neglect that thousands of children were confined to in the orphanages that housed them. These forms of abuse were from keeping a child in bare, dark rooms without any raising of stimulation, throwable objects from their own toys and books like target practice, to being restrained to furniture like badly behaved animals. A total of 170,000 children who were abandoned yet classed as "normal" experiences not just physical, sexual forms of abuse.

Figure 5 Historical Events Research

A-1.5 Research Analysis

Research Analysis

From the research gathered on video Games, Film and historical events, they all link towards the psychological aspects and how they broadcast between a character's mentality and a user's reality. Each game demonstrates how the titles alone follow a precise pattern to target the player in a collection of cognitive responses. Whether it be the narrative approach, the environment around them, or the detail of a character and their lead-up, not being to tell which one will literally press your buttons first. The film shared character behavior to be deceiving. Though this isn't the main relationship, but a slice based on unraveling and dark events. This type of impact holds strongly to how the game should respond as it's not always about appearances. The relevant sources to likeo-like events assisted in setting the thematic design.

The realism of events in the 1930s sets the mood already as its forgotten events in history where children weren't in the safest of living conditions with homes, family and society in general, hence the gruesome incidents that took place. Each connection relating to a child's background in an orphanage or mental institution sets the scene in how the games experience should display. The sensitive levels of the design are set to high expectations as it's the realism behind emotion must grip the player in believing the experience it portrayed to a life-like manner. Each detail that has been discovered gives a better understanding towards how the outcome "Enchantress" should appear.

Figure 6 Research Analysis

A-1.6 Moodboard

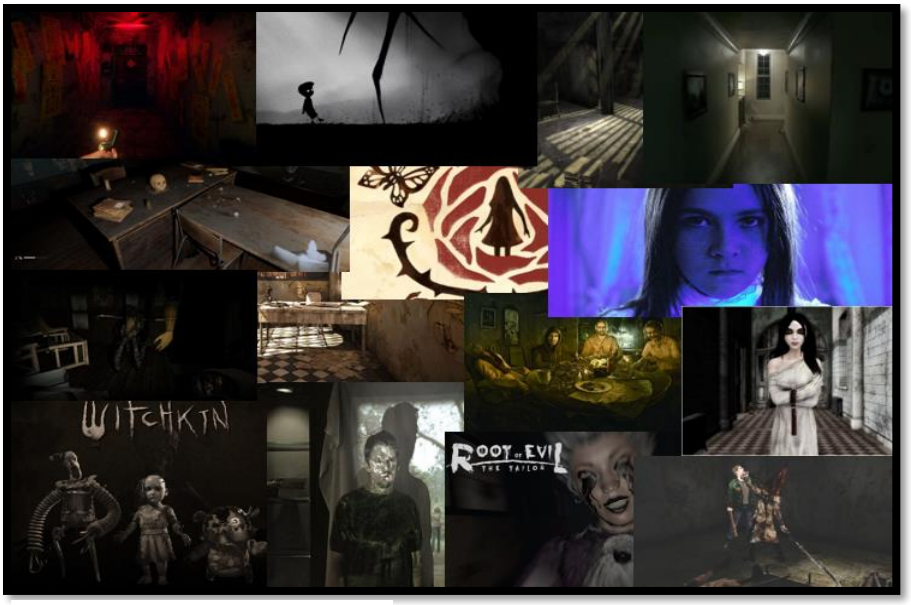


Figure 7 GDD Moodboard

A-2 Diagrams

A-2.1 Class Diagram

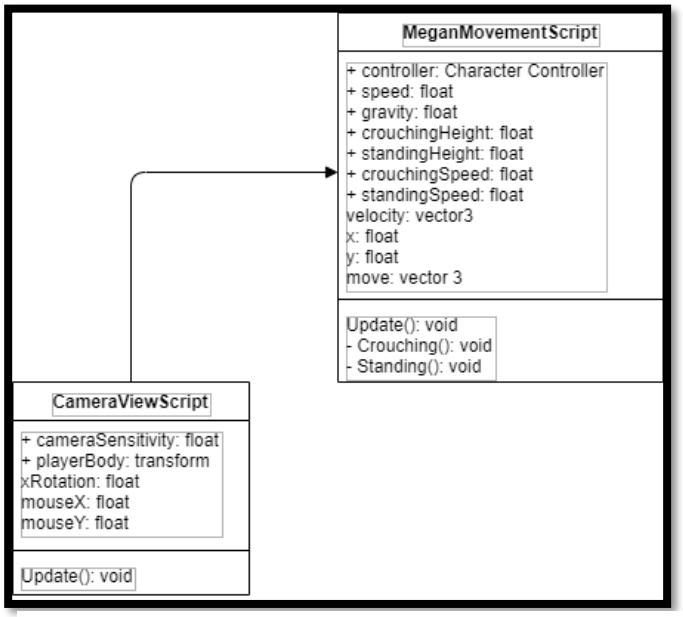


Figure 9 UML Diagram

A-2.2 AI State Diagram

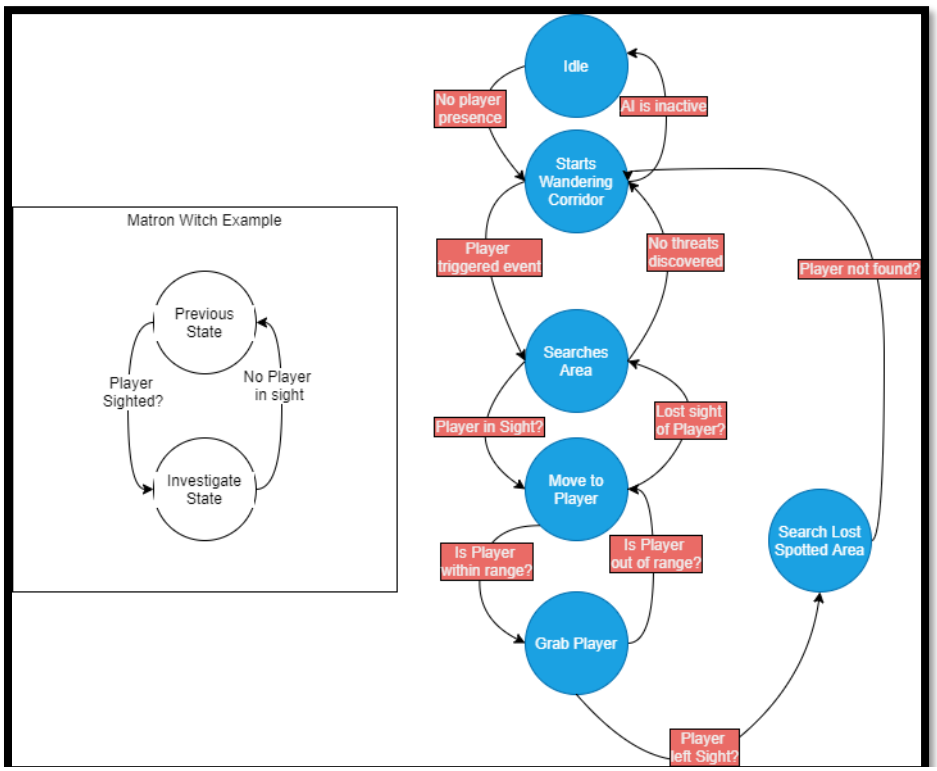


Figure 11 AI State Diagram

A-3 Flow Charts

A-3.1 Game Overview Flow Chart

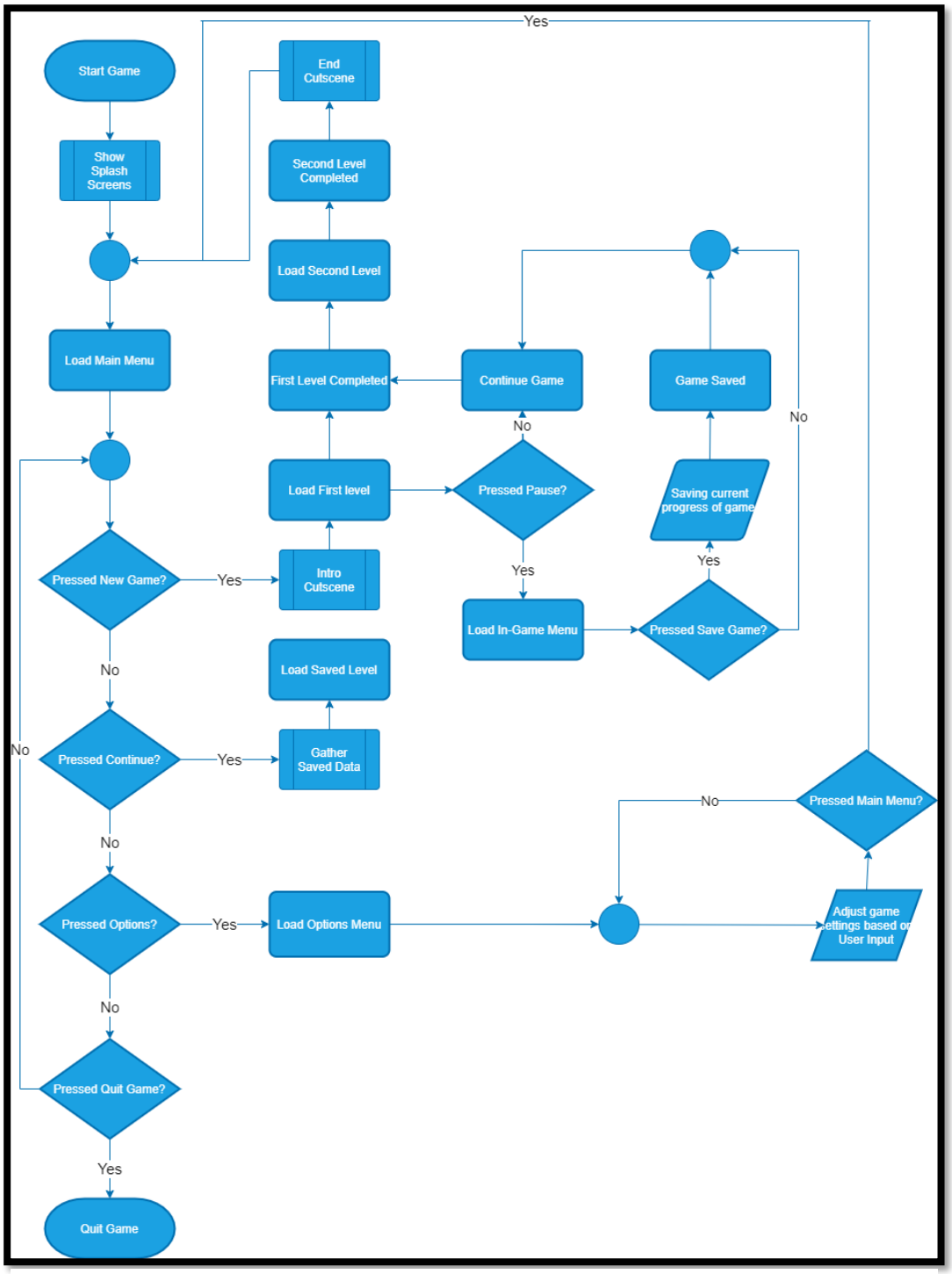


Figure 12 Game Overview Flow Chart

A-3.2 Object Activity Flow Chart

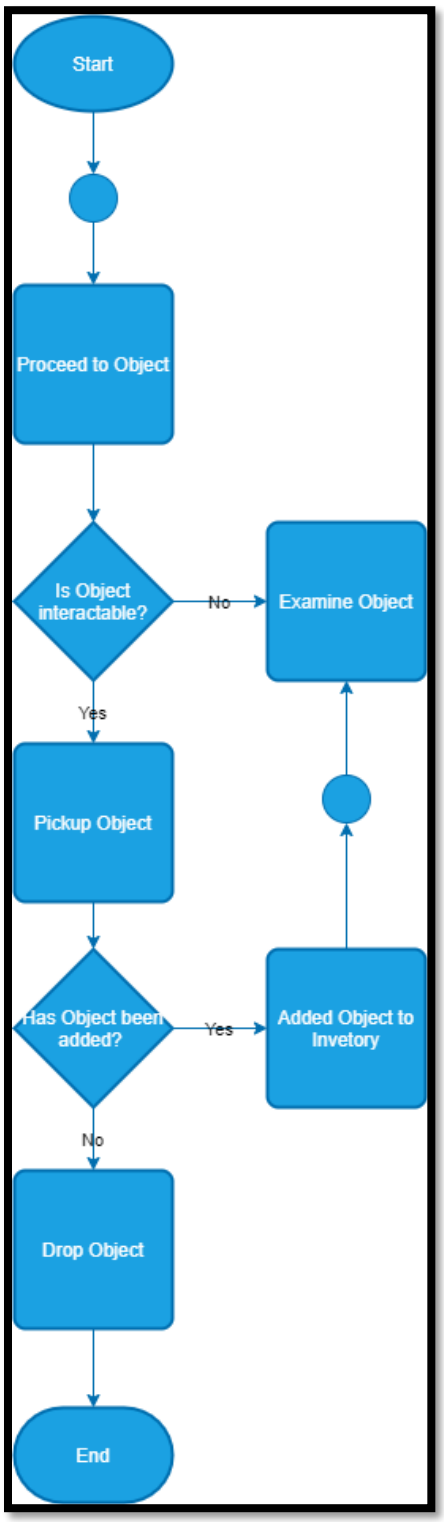


Figure 13 Object Activity Flow Chart

A-3.3 Menu Flow Charts

A-3.3.1 Start Screen Flow Chart

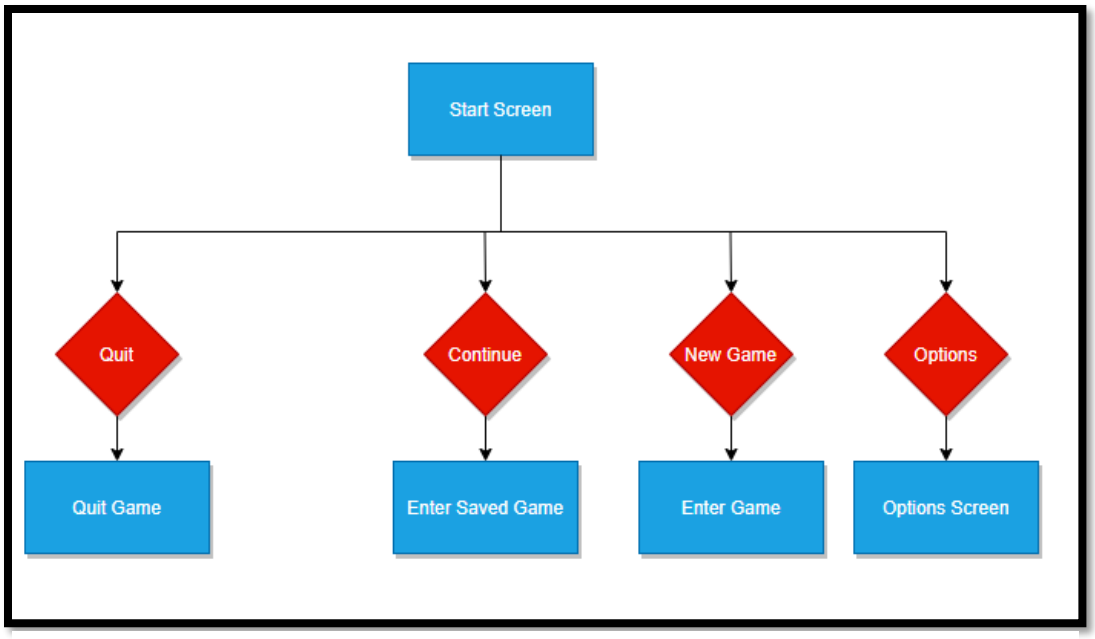


Figure 14 Start Screen Flow Chart

A-3.1.2 In-Game Menu Flow Chart

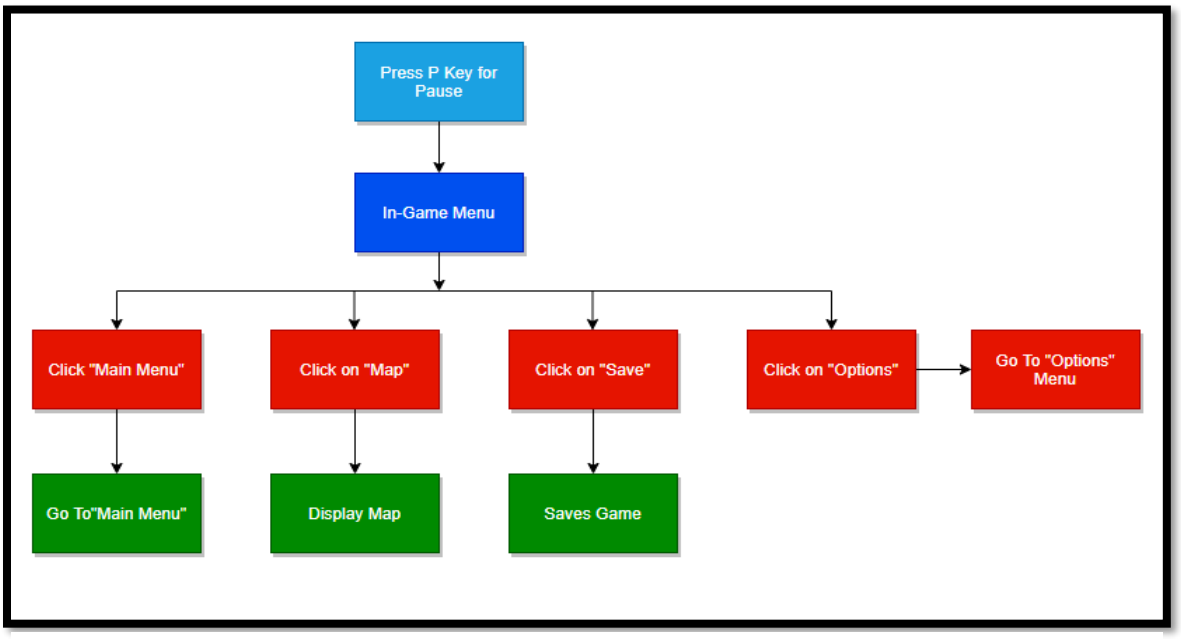


Figure 15 In-Game Menu Flow Chart

A-3.1.3 Options Menu Flow Chart

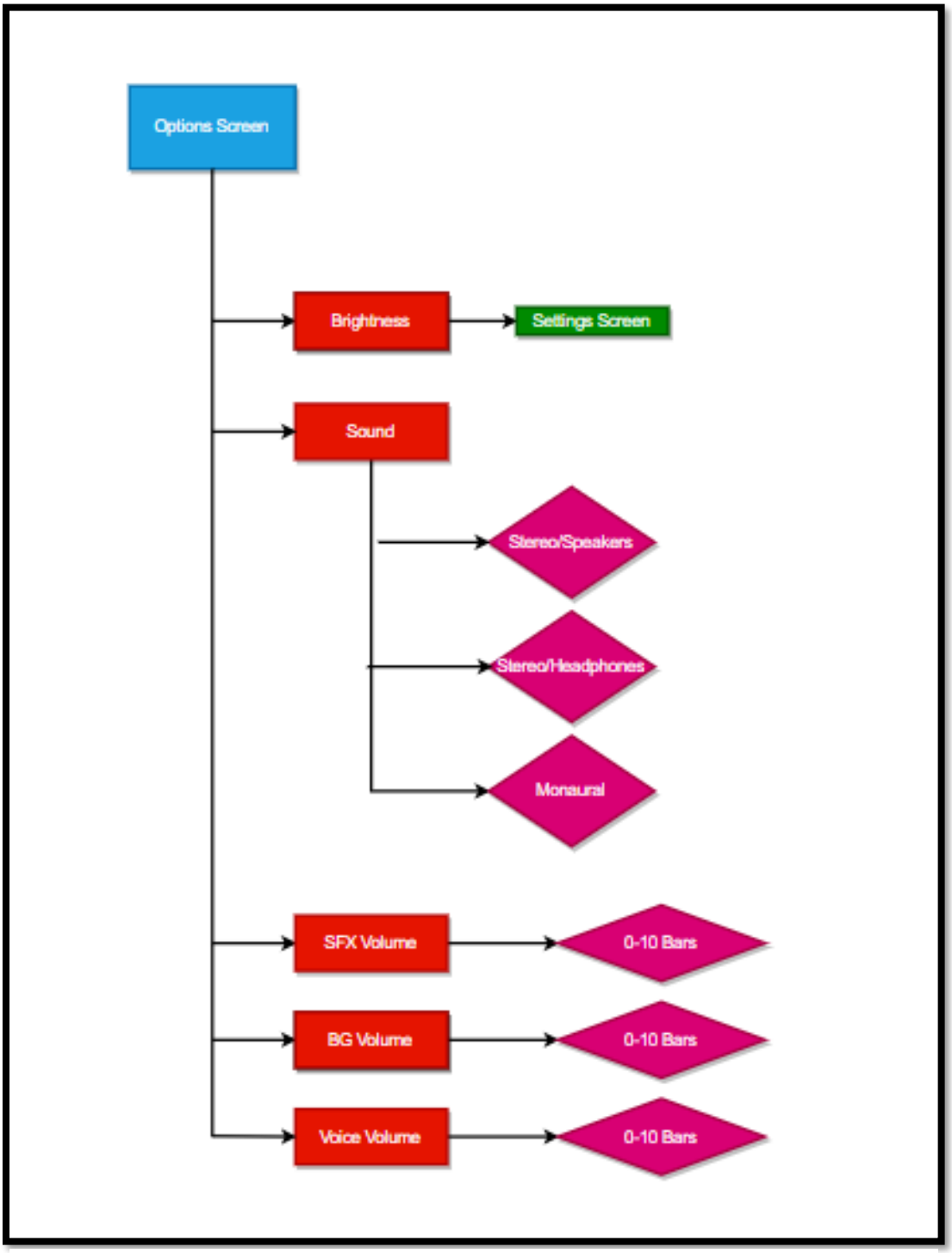
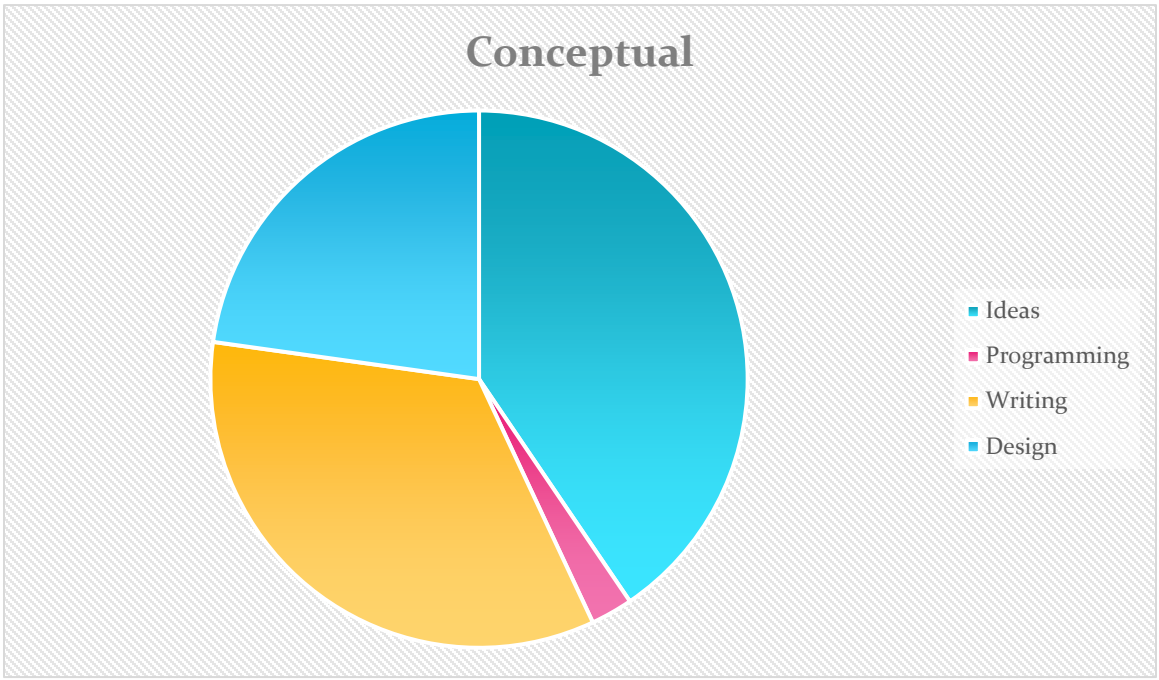


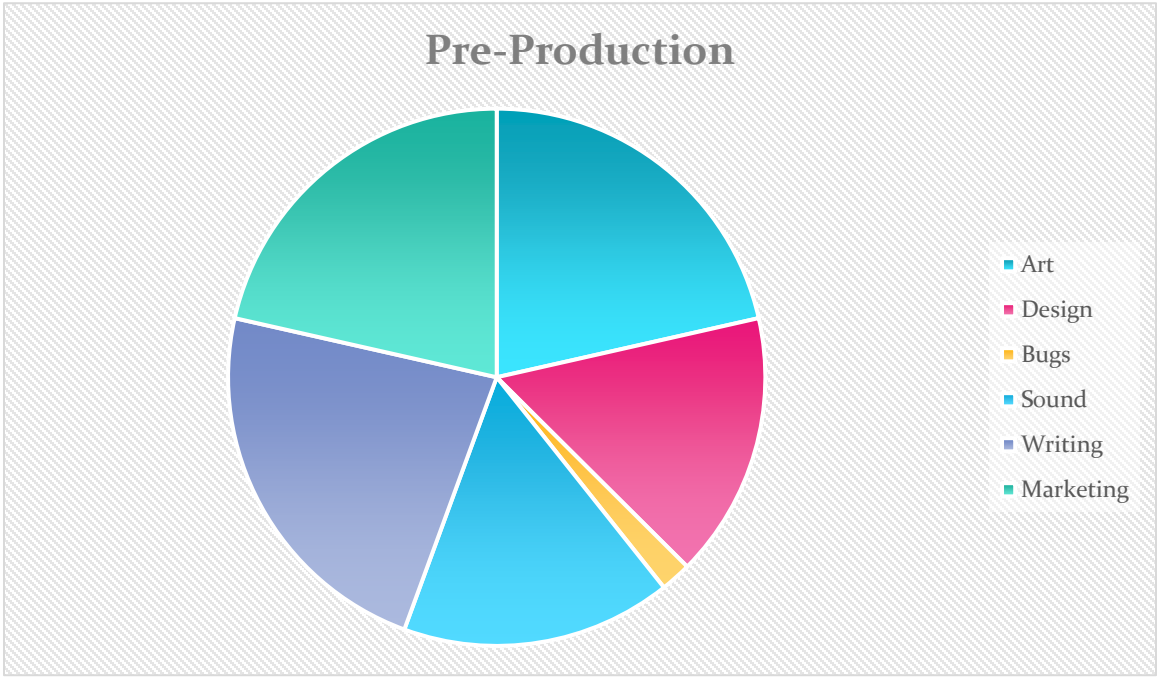
Figure 16 Options Menu Flow Chart

A-4 Pie Charts

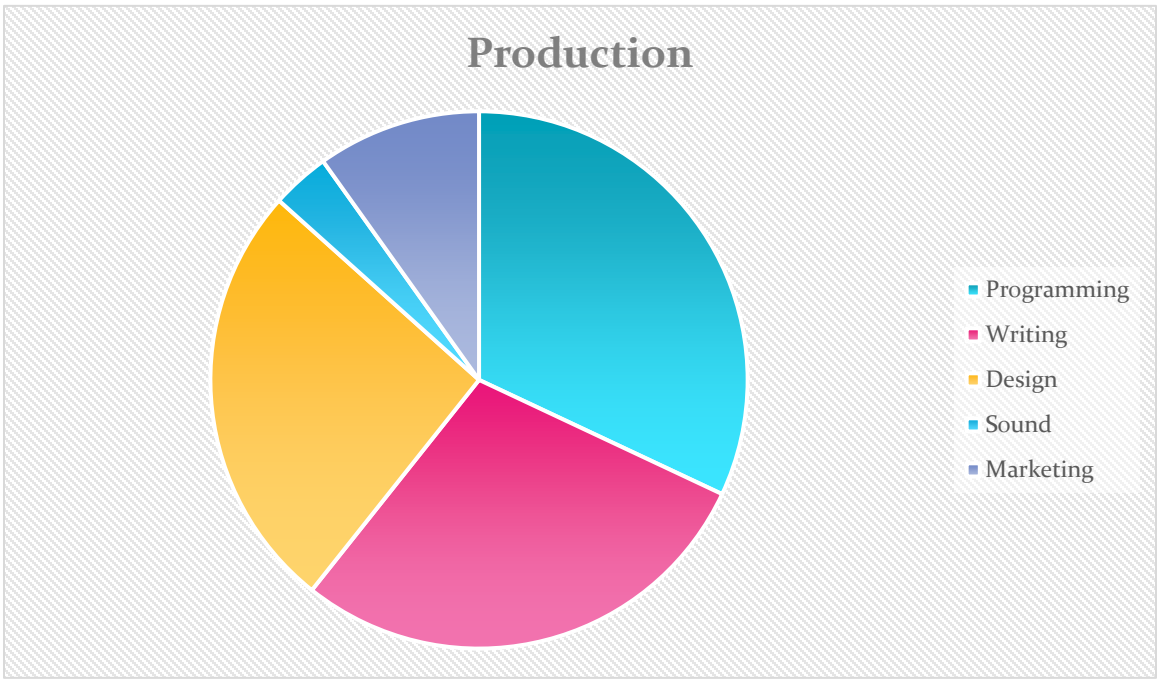
4.1 Conceptual



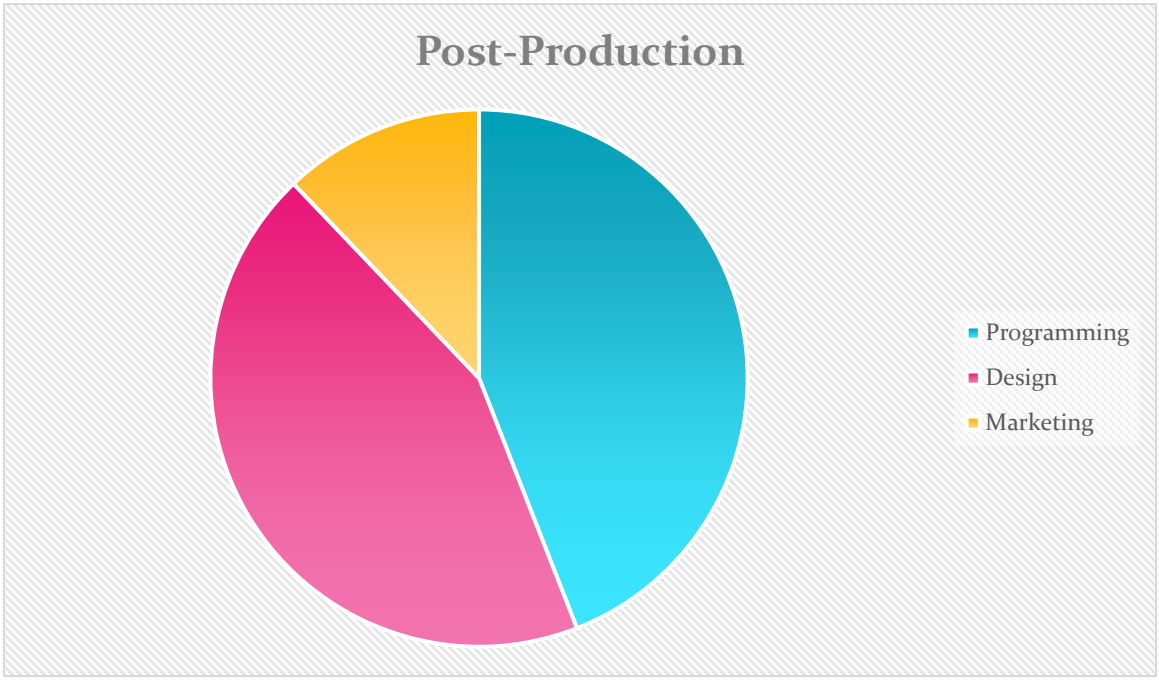
A-4.2 Pre-Production



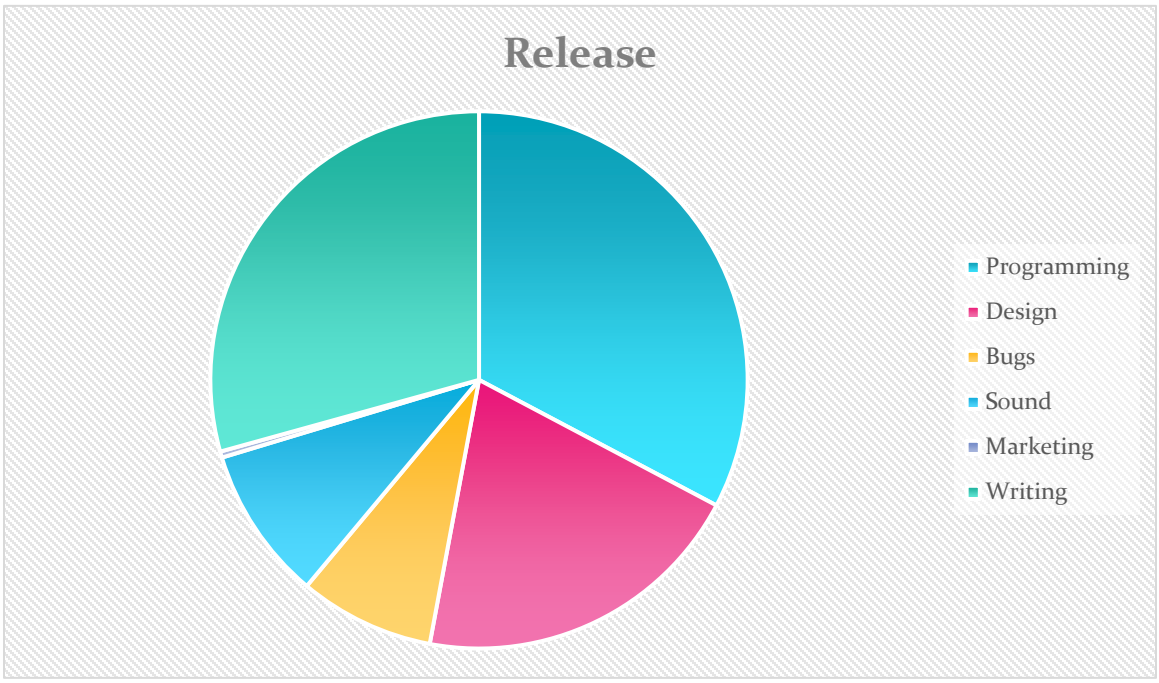
A-4.3 Production



A-4.4 Post-Production



A-4.5 Release



A-5 HacknPlan Metrics

A-5.1 Project Metrics

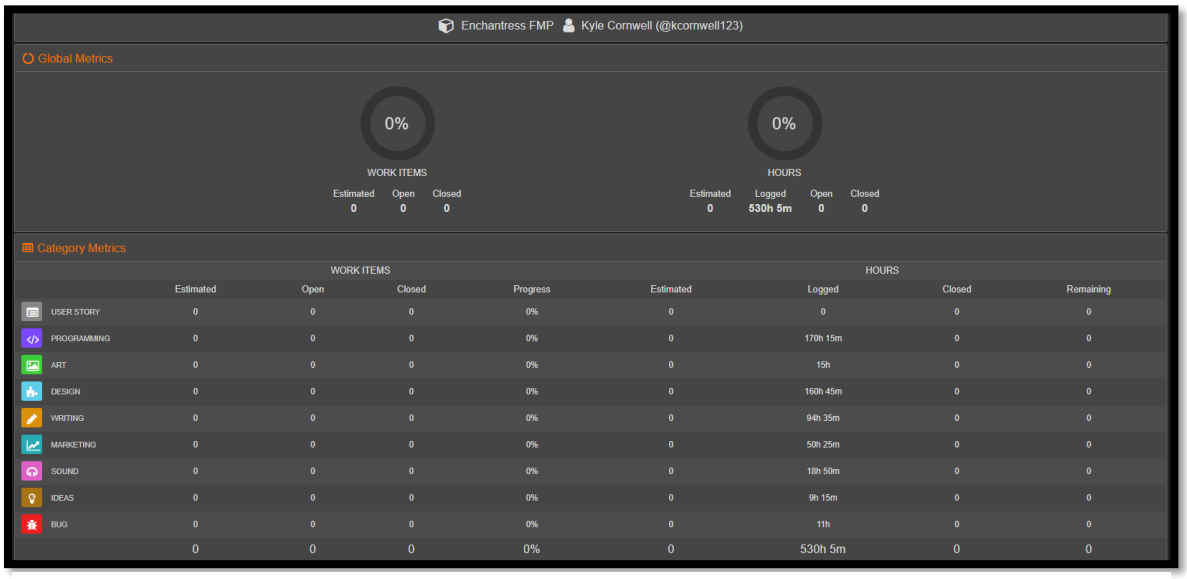
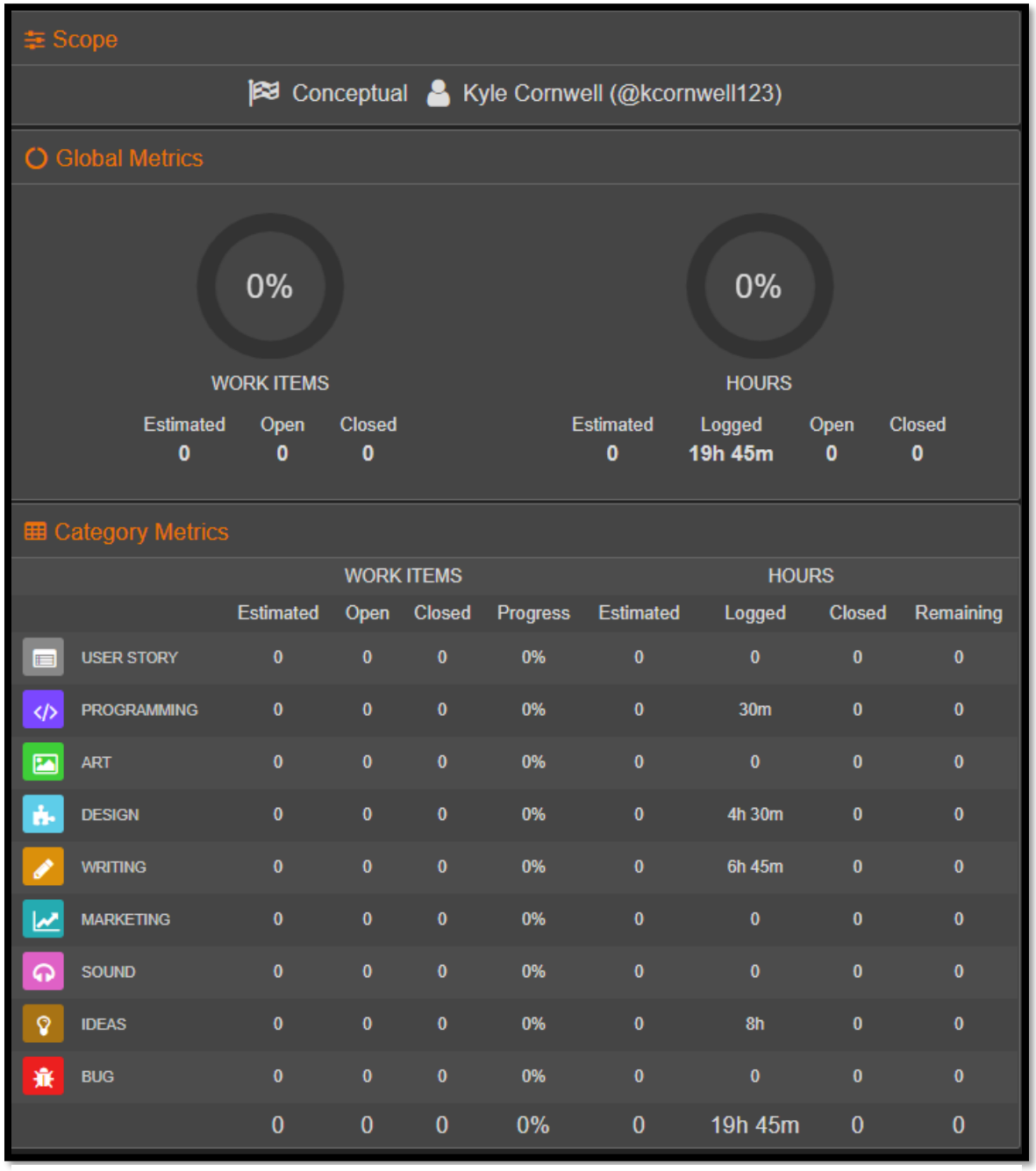


Figure 17 Project Metrics

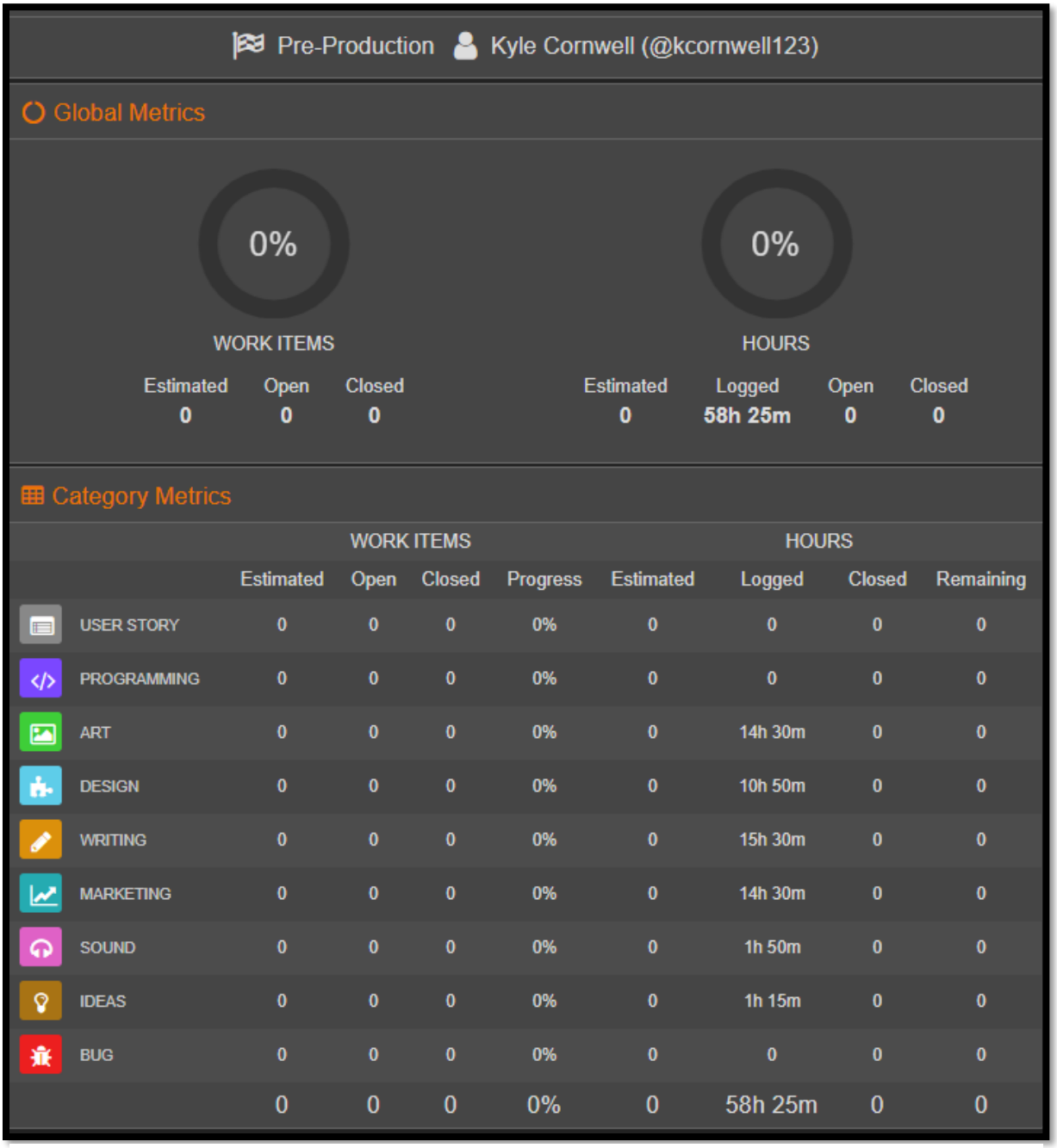
A-5.2 Conceptual Metrics



	WORK ITEMS				HOURS			
	Estimated	Open	Closed	Progress	Estimated	Logged	Closed	Remaining
USER STORY	0	0	0	0%	0	0	0	0
PROGRAMMING	0	0	0	0%	0	30m	0	0
ART	0	0	0	0%	0	0	0	0
DESIGN	0	0	0	0%	0	4h 30m	0	0
WRITING	0	0	0	0%	0	6h 45m	0	0
MARKETING	0	0	0	0%	0	0	0	0
SOUND	0	0	0	0%	0	0	0	0
IDEAS	0	0	0	0%	0	8h	0	0
BUG	0	0	0	0%	0	0	0	0
	0	0	0	0%	0	19h 45m	0	0

Figure 18 Conceptual Metrics

A-5.3 Pre-Production Metrics



Pre-Production Kyle Cornwell (@kcornwell123)

Global Metrics

0%

WORK ITEMS

Estimated	Open	Closed
0	0	0

0%

HOURS

Estimated	Logged	Open	Closed
0	58h 25m	0	0

Category Metrics

	WORK ITEMS				HOURS			
	Estimated	Open	Closed	Progress	Estimated	Logged	Closed	Remaining
USER STORY	0	0	0	0%	0	0	0	0
PROGRAMMING	0	0	0	0%	0	0	0	0
ART	0	0	0	0%	0	14h 30m	0	0
DESIGN	0	0	0	0%	0	10h 50m	0	0
WRITING	0	0	0	0%	0	15h 30m	0	0
MARKETING	0	0	0	0%	0	14h 30m	0	0
SOUND	0	0	0	0%	0	1h 50m	0	0
IDEAS	0	0	0	0%	0	1h 15m	0	0
BUG	0	0	0	0%	0	0	0	0
	0	0	0	0%	0	58h 25m	0	0

Figure 19 Pre-Production Metrics

A-5.4 Production Metrics

Scope

Production Kyle Cornwell (@kcornwell123)

Global Metrics

WORK ITEMS

Estimated	Open	Closed
0	0	0

HOURS

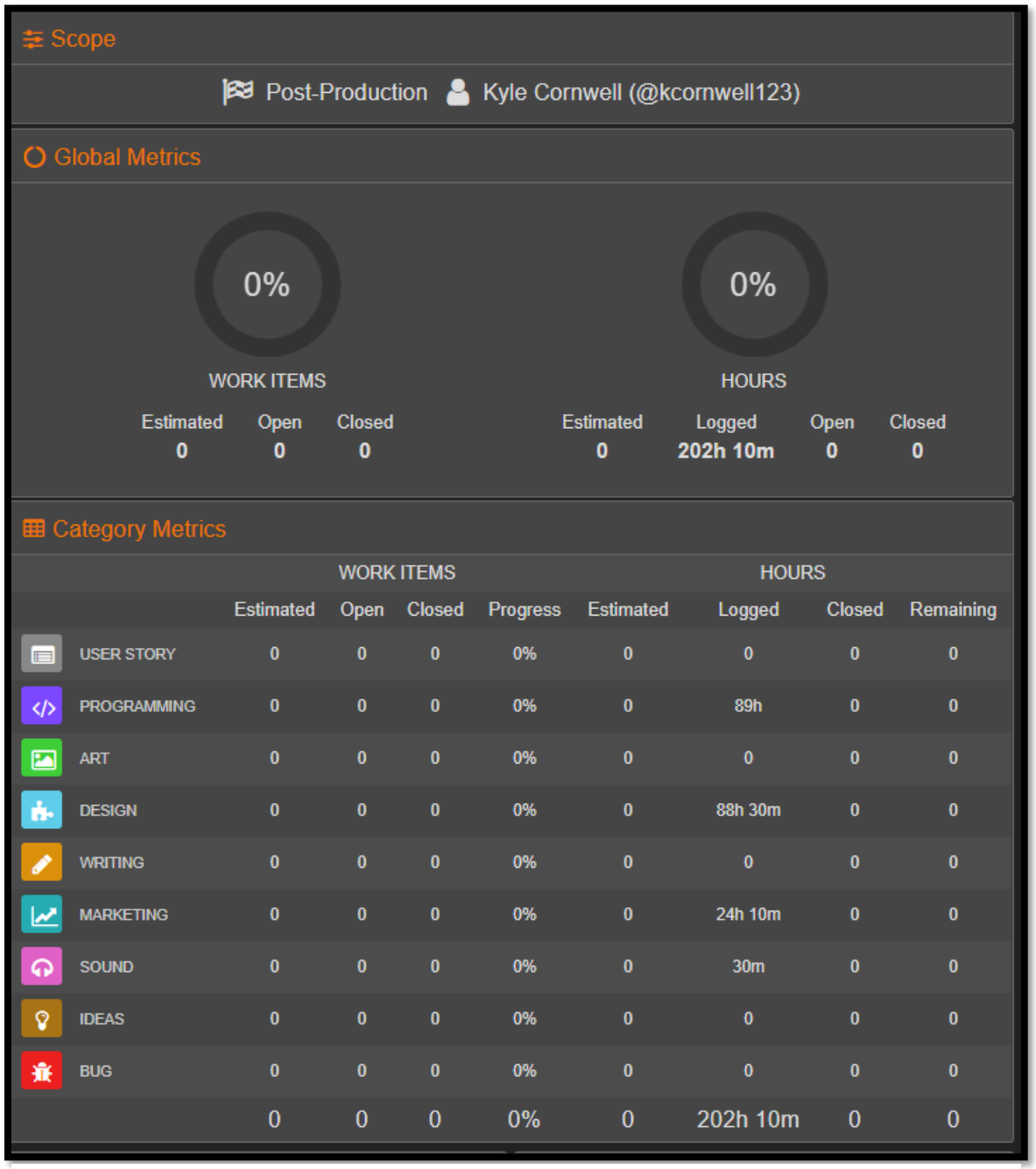
Estimated	Logged	Open	Closed
0	114h 35m	0	0

Category Metrics

	WORK ITEMS				HOURS			
	Estimated	Open	Closed	Progress	Estimated	Logged	Closed	Remaining
USER STORY	0	0	0	0%	0	0	0	0
PROGRAMMING	0	0	0	0%	0	36h 30m	0	0
ART	0	0	0	0%	0	30m	0	0
DESIGN	0	0	0	0%	0	29h 35m	0	0
WRITING	0	0	0	0%	0	32h 45m	0	0
MARKETING	0	0	0	0%	0	11h 15m	0	0
SOUND	0	0	0	0%	0	4h	0	0
IDEAS	0	0	0	0%	0	0	0	0
BUG	0	0	0	0%	0	0	0	0
	0	0	0	0%	0	114h 35m	0	0

Figure 20 Production Metrics

A-5.5 Post-Production Metrics



Scope

Post-Production Kyle Cornwell (@kcornwell123)

Global Metrics

0%

WORK ITEMS

Estimated	Open	Closed
0	0	0

0%

HOURS

Estimated	Logged	Open	Closed
0	202h 10m	0	0

Category Metrics

	WORK ITEMS				HOURS			
	Estimated	Open	Closed	Progress	Estimated	Logged	Closed	Remaining
USER STORY	0	0	0	0%	0	0	0	0
PROGRAMMING	0	0	0	0%	0	89h	0	0
ART	0	0	0	0%	0	0	0	0
DESIGN	0	0	0	0%	0	88h 30m	0	0
WRITING	0	0	0	0%	0	0	0	0
MARKETING	0	0	0	0%	0	24h 10m	0	0
SOUND	0	0	0	0%	0	30m	0	0
IDEAS	0	0	0	0%	0	0	0	0
BUG	0	0	0	0%	0	0	0	0
	0	0	0	0%	0	202h 10m	0	0

Figure 21 Post-Production Metrics

A-5.6 Release Metrics

Scope

Release Kyle Cornwell (@kcornwell123)

Global Metrics

0%

WORK ITEMS

Estimated	Open	Closed
0	0	0

0%

HOURS

Estimated	Logged	Open	Closed
0	135h 10m	0	0

Category Metrics

	WORK ITEMS				HOURS			
	Estimated	Open	Closed	Progress	Estimated	Logged	Closed	Remaining
USER STORY	0	0	0	0%	0	0	0	0
PROGRAMMING	0	0	0	0%	0	44h 15m	0	0
ART	0	0	0	0%	0	0	0	0
DESIGN	0	0	0	0%	0	27h 20m	0	0
WRITING	0	0	0	0%	0	39h 35m	0	0
MARKETING	0	0	0	0%	0	30m	0	0
SOUND	0	0	0	0%	0	12h 30m	0	0
IDEAS	0	0	0	0%	0	0	0	0
BUG	0	0	0	0%	0	11h	0	0
	0	0	0	0%	0	135h 10m	0	0

Figure 22 Release Metrics

A-6 Burn Down Chart

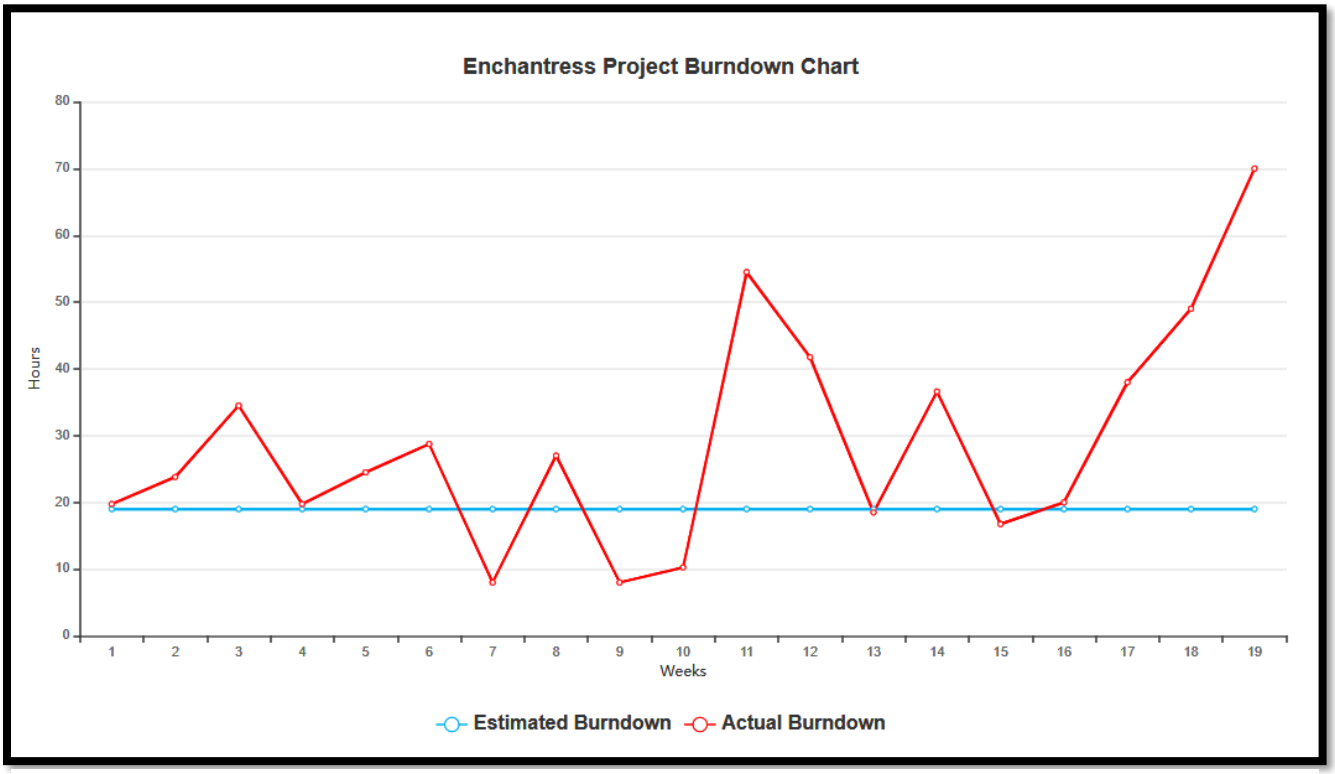


Figure 23 Project Burn Down Chart

A-7 Steam Stats

A-7.1 Views

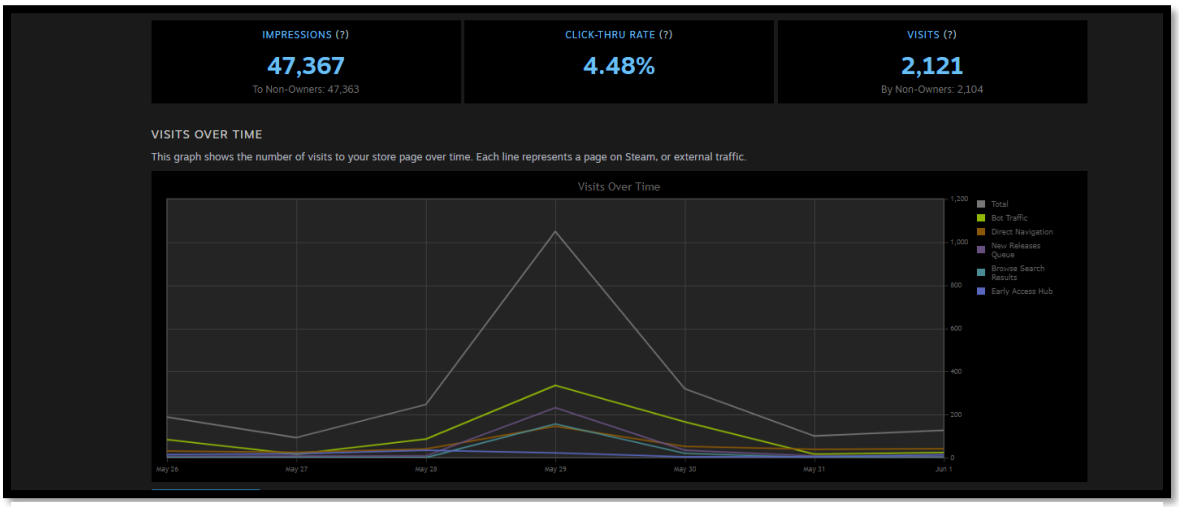


Figure 24 Game Views

A-7.2 Steam Purchases

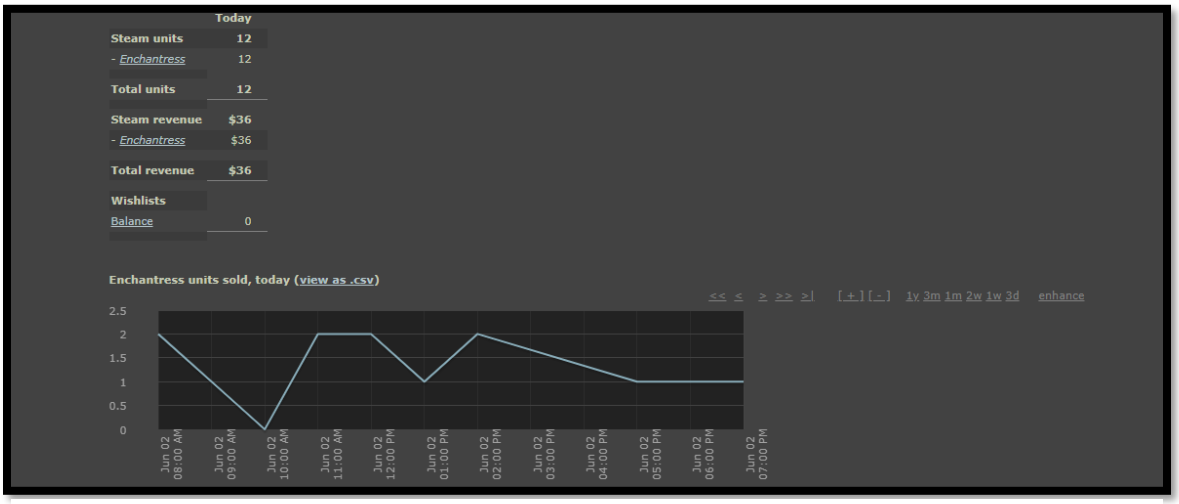


Figure 25 Game Purchases

A-7.3 Steam Wishlist

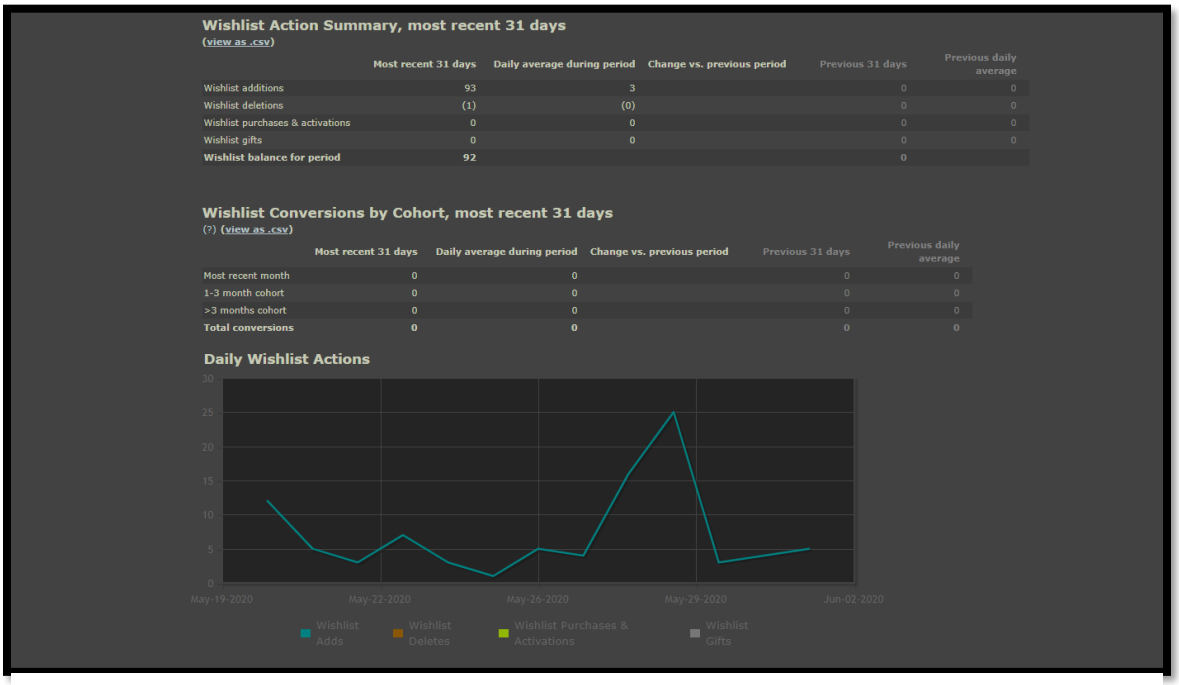


Figure 26 Game Wishlist

A-8 GitHub Commits

A-8.1 GitHub Repository

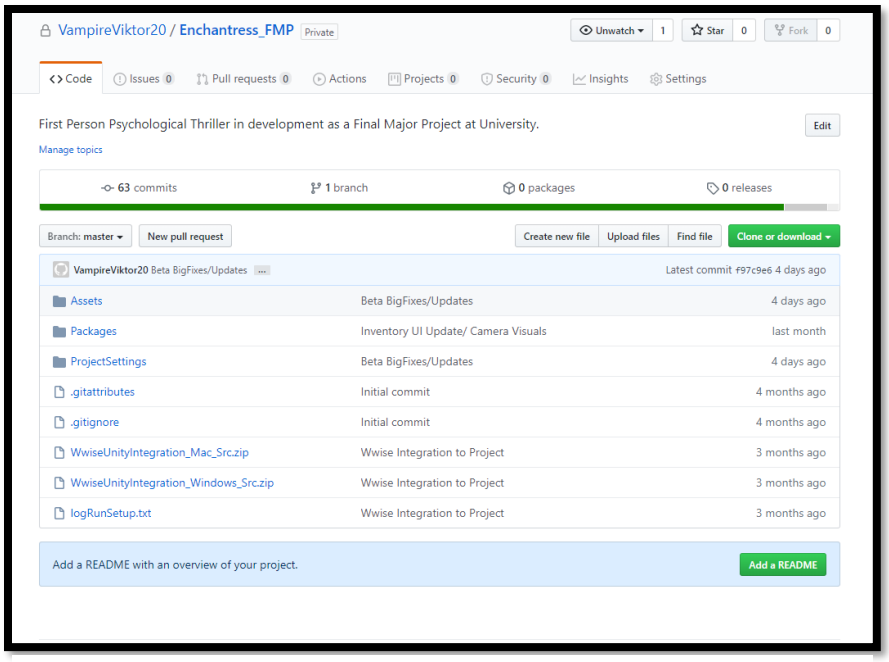


Figure 27 GitHub Repository

A-8.2 GitHub Desktop

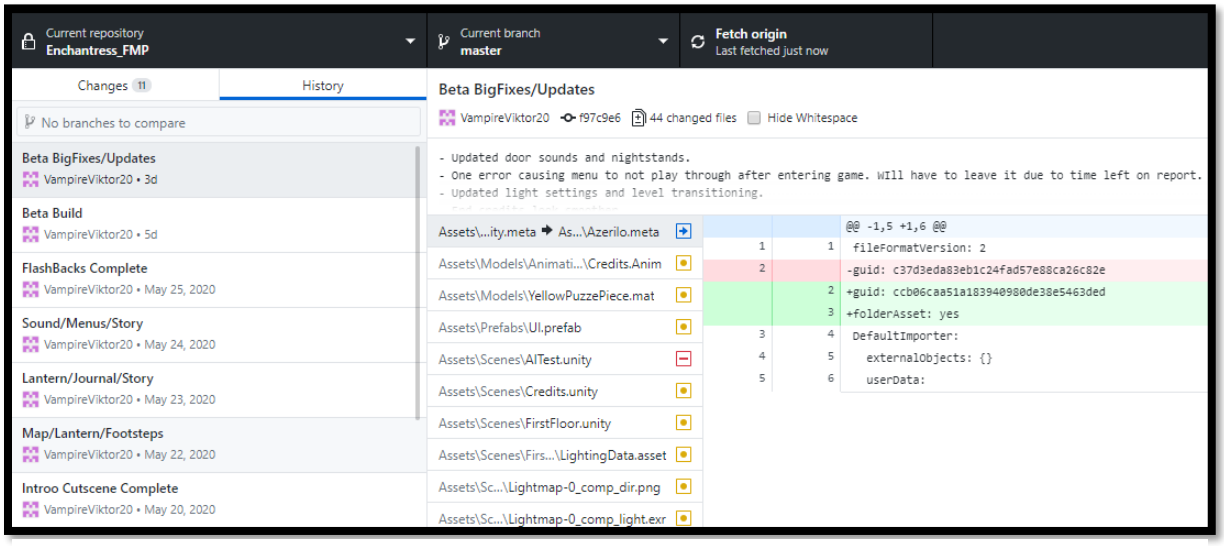


Figure 28 GitHub Desktop

APPENDIX B – LITERATURE REVIEW

B-1 How Psychology is used in Video Games

I wanted to investigate how the psychology with video games affects a player so much, and why it is such a "daring challenge". Through my findings in articles (Zach Betka, 2013), (Anders HejdenBerg, 2020) it is shown that both positive and negative affects come from the impact itself.

Users know the feeling when they are completely drawn by a specific game. It concludes to a variation of mental behaviour such as measuring results, rewards, and more cognitive use of our brains than just the 10% of freedom we have always had accessed to. It sets off core receptors and pulses to the nerve because of the gripping content we put entertainingly and sometimes regrettably, put ourselves through.

B-2 The importance of Sound in Horror Games

I wanted to understand the significant behind sound within video games. Specifically, horror/thrillers. An article (Unknown, 2016) states how the first step is critical to set the first scene. This is done through utilizing atmospheric sounds(environments). It does not get the recognition it deserves from major titles, but more the story and graphical elements that take all the credit.

Sound becomes a literal echo of a games existence and it is vital to include, especially if you are attempting to design a specific tone setting to an environment, otherwise you'd better off having a muted game. to provide such an immersive experience as my game, I must take into further consideration about how the designs should work as I want to get an emotive response from the player, through ambient pitches and unsettling tones.

APPENDIX C - DESIGN DOCUMENTS

C-1 Level Wireframes

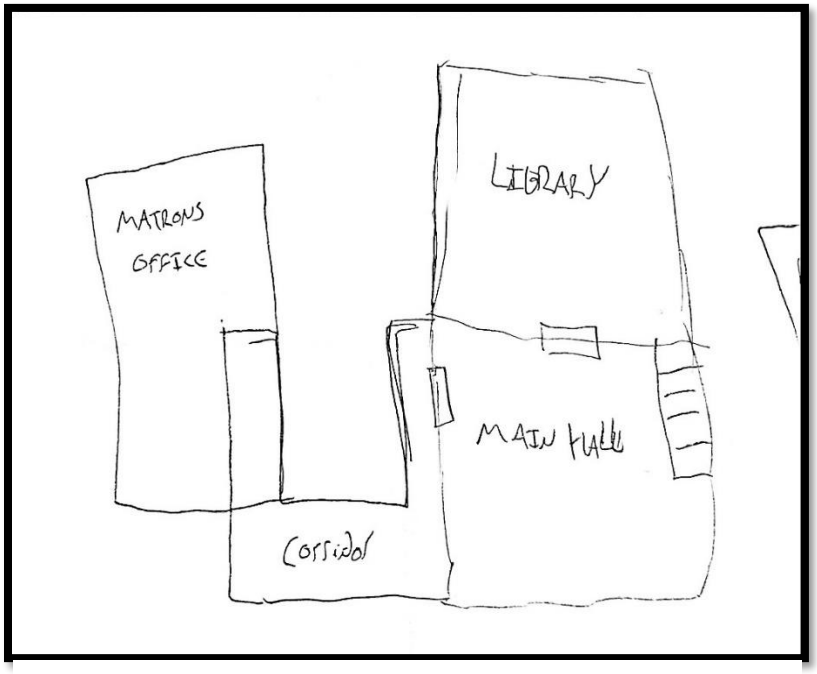


Figure 29 First Floor Stage 5

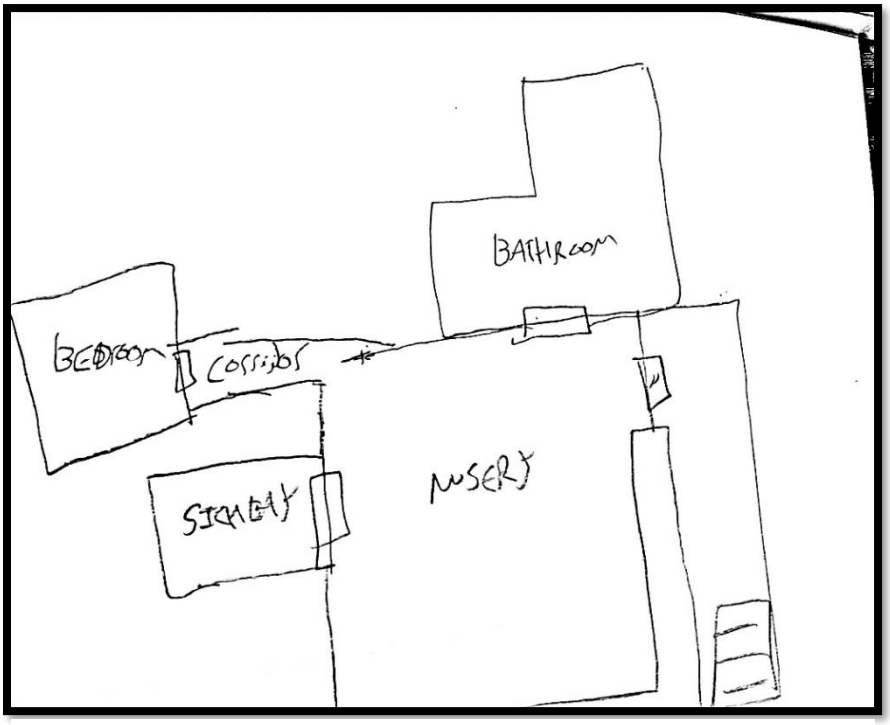


Figure 31 Second Floor Stage 5

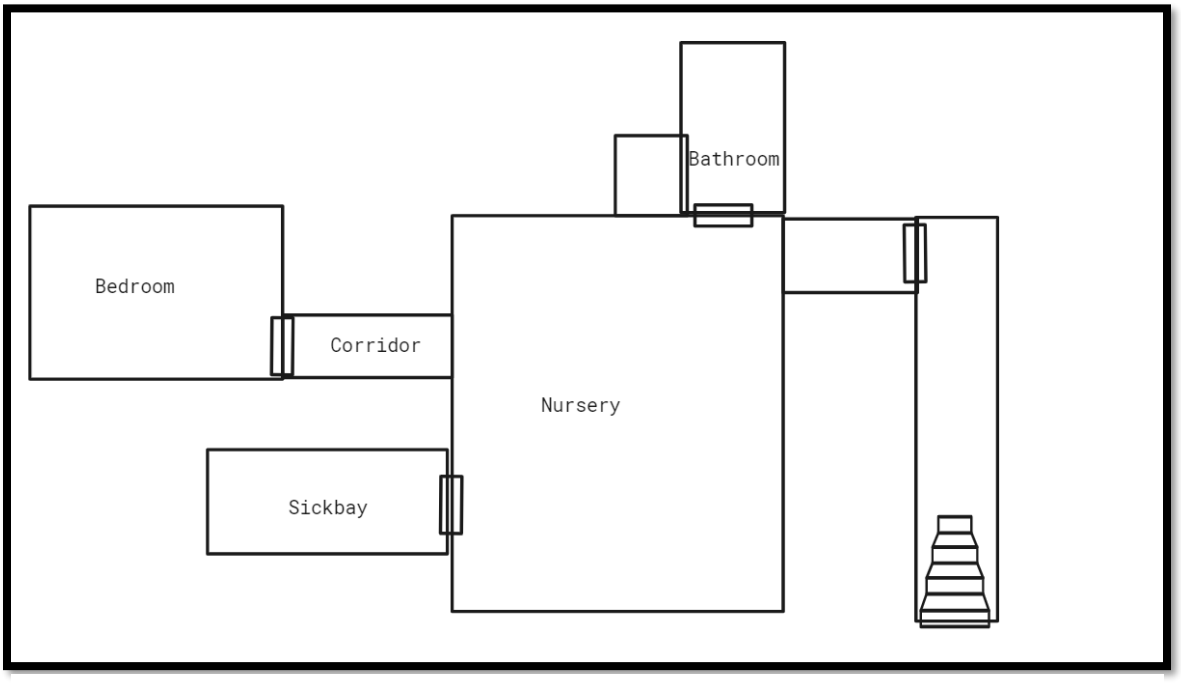


Figure 32 Second Floor Stage 6

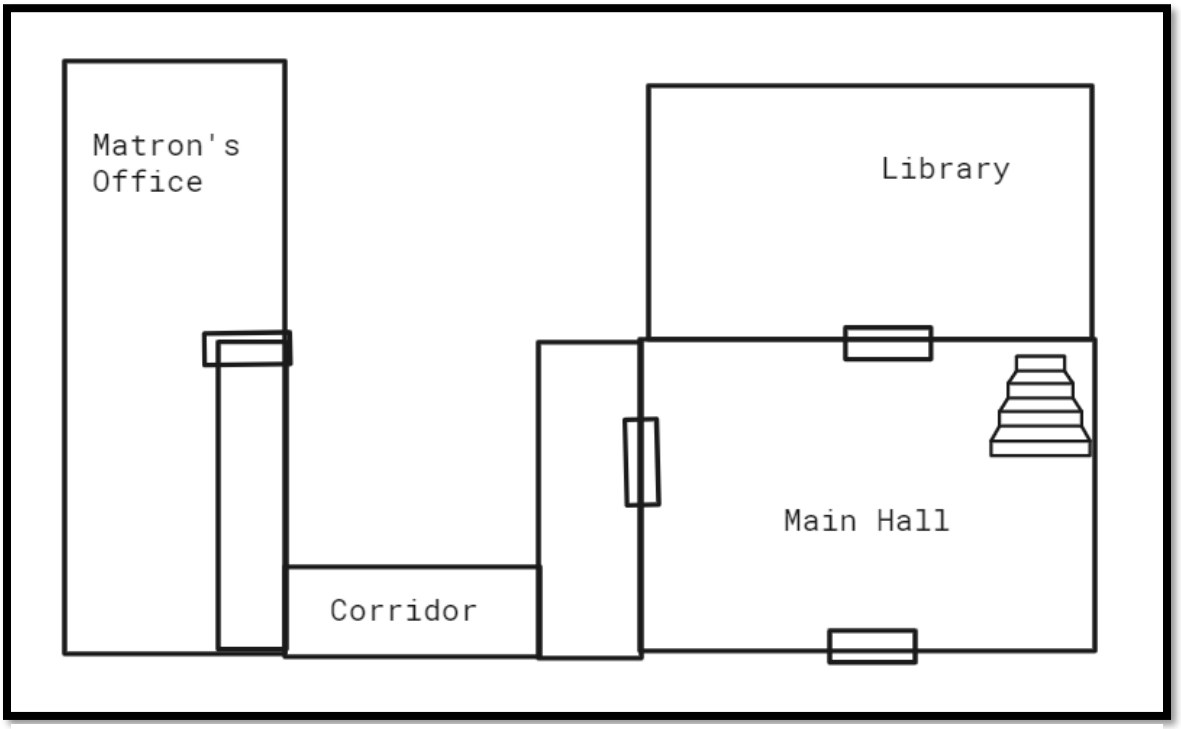


Figure 33 First Floor Stage 6

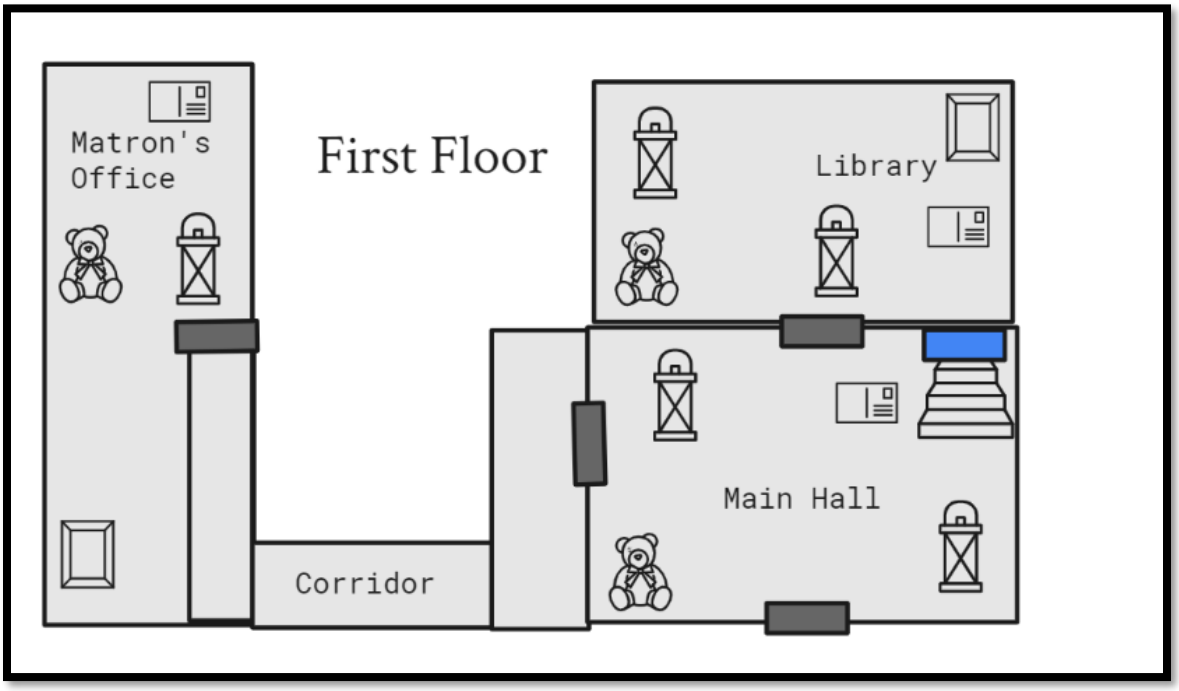


Figure 34 First Floor Stage 7

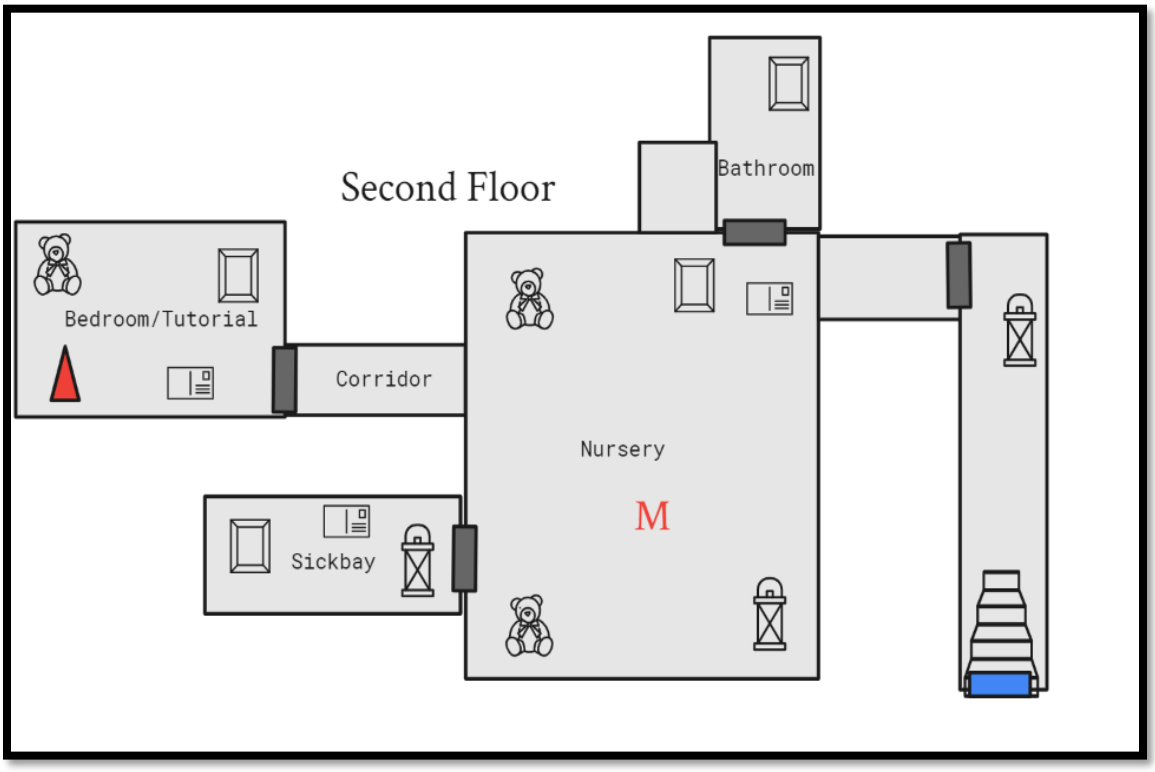


Figure 35 Second Floor Stage 7

APPENDIX D LINKS

D-1 Evolution Video

https://www.youtube.com/watch?v=teEKmL_fSEs

D-2 Steam Page

https://store.Steampowered.com/app/1313150/Enchantress/

D-3 Game Trailer

https://www.youtube.com/watch?v=4MusZJxo1oE&t=1s

D-4 Consumer Gameplay

https://www.youtube.com/watch?v=JbLMKMmUaEs

APPENDIX E TABLES

E-1 Milestones

E-1.1 Original Milestones

Date	Milestone
8th February 2020	Game Design Document
2nd March 2020	Progress Report
18th March 2020	Proof of Concept Build
1st April 2020	Mid-Prototype Build
15th April 2020	Alpha Build
29th April 2020	Beta Build
4th May 2020	Gold Publish
5th May 2020	Final Report

Table 1 Original Milestones

E-1.2 Update 1 Milestones

Date	Milestone
8th February 2020	Game Design Document
2nd March 2020	Progress Report
18th March 2020	Proof of Concept Build
1st April 2020	Prototype Build
15th April 2020	Pre-Alpha Build
29th April 2020	Alpha Build
13th May 2020	Pre-Beta
27th May 2020	Beta Publish
3rd June 2020	Final Report

Table 2 Updated Milestones

E-1.3 Update 2 Milestones

Date	Milestone
8th February 2020	Game Design Document
2nd March 2020	Progress Report
18th March 2020	Proof of Concept Build
1st April 2020	Mid-Prototype Build
15th April 2020	Pre-Alpha Build
6th May 2020	Alpha Build
20th May 2020	Pre-Beta Build
27th May 2020	Beta Build
2nd June 2020	Beta 1.1 Publish

3rd June 2020	Final Report

Table 3 Updated 2 Milestones

E-2 Logged Hours

Weeks of Project	Date	Total Hours
Week1 Conceptual	**22nd Jan - 29th Jan 2020**	19 hours 45 minutes
Week 2 Pre-Production	**29th Jan - 5th Feb 2020**	23 hours 60 minutes
Week 3 Pre-Production	**5th Feb - 12th Feb 2020**	34 hours 30 minutes
Week 4 Production	**12th Feb - 19th Feb 2020**	19 hours 45 minutes
Week 5 Production	**19th Feb - 26th Feb 2020**	24 hours 5 minutes
Week 6 Production	**26th Feb - 4th Mar 2020**	28 hours 45 minutes
Week 7 Production	**4th Mar - 11th Mar 2020**	8 hours
Week 8 Production	**11th Mar - 18th Mar 2020**	27 hours
Week 9 Production	**18th Mar - 25th Mar 2020**	8 hours
Week 10 Production	**25th Mar - 1st Apr 2020**	10 hours 15 minutes
Week 11 Post-Production	**1st Apr - 8th Apr 2020**	54 hours 30 minutes
Week 12 Post-Production	**8th Apr - 15th Apr 2020**	41 hours 45 minutes
Week 13 Post-Production	**15th Apr - 22nd Apr 2020**	18 hours 30 minutes
Week 14 Post-Production	**22nd Apr - 29th Apr 2020**	36 hours 40 minutes
Week 15 Post-Production	**29th Apr - 6th May 2020**	16 hours 45 minutes
Week 16 Post-Production	**6th May - 13th May 2020**	20 hours
Week 17 Post-Production	**13th May - 20th May 2020**	38 hours
Week 18 Post-Production	**20th May - 27th May 2020**	49 hours
Week 19 Release	**27th May - 3rd Jun 2020**	70 hours

Table 4 Logged Hours

E-3 Asset List

Name	Author	Description	Licence	URL Link
FPS Horror Kit	ThunderWire Studio	Collection of FPS Horror kits.	Royalty Free	https://bit.ly/2XQfpH6
The Orphanage	PolyCoven	Modern Orphanage module pack.	Royalty Free	https://bit.ly/3cssR9w
Abandoned Buildings	Aleksey Kozhemyakin	Post-Apocalyptic damaged buildings.	Royalty Free	https://bit.ly/301khf6
School Supplies	YGS Assets	Essential School Supplies.	Royalty Free	https://bit.ly/3006DJj
Bathroom Props	Kobra Game Studios	Collection of Bathroom Props.	Royalty Free	https://bit.ly/306Wr1T
Corpse Under Cloth	Denis Sokol	Low-Poly Covered Corpses.	Royalty Free	https://bit.ly/3020r3G
Dark UI	MichSky	Grunge Style UI.	Royalty Free	https://bit.ly/2XNI6Va

Morgue Room PBR	Rokay3D	Modular Morgue Room.	Royalty Free	https://bit.ly/2AutzWo
Emotional Horror Music Pack Volume 1	Patrik Lega	Collection of Emotional Tracks.	Royalty Free	https://bit.ly/3clOOqE
Banshee Voice Pack	Ausura San	Range of Banshee Voice Sounds.	Royalty Free	https://bit.ly/3gNJVdi

Table 5 Asset List