

OPEN  
DOOR  
GAMES

## GAME DESIGN DOCUMENT

LAST UPDATE: Apr. 22, 2019 (Marina Pimentel)

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# REVISION HISTORY

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# 1. PROJECT SUMMARY

## 1.1. PROJECT VISION / PURPOSE

*Spirits* is a 3D third-person action-adventure game that uses the player's psychic abilities of telekinesis and time manipulation in combat. The theme pulls from recent trends seen in film, comics, and video games that are targeting retro nostalgia, specifically the 80's era where 8-bit video games, superhero comics, and horror sci-fi themes had a huge cultural impact. The game combines retro nostalgia with the current video game trend of fast-paced action combat seen in games like *Dark Souls*, *The Legend of Zelda: Breath of the Wild*, and *Spider-man*.

### 1.1.1. DESIGN CHALLENGE

Make the player feel vulnerable without taking away or manipulating any of their established abilities.

### 1.1.2. CORE GAME PILLARS

- + Dynamic combat
- + Retro nostalgia
- + Power struggle

### 1.1.3. GAMEPLAY FLOWCHART

Can be found on [Google Drive here](#).

### 1.1.4. STAR CHART



Figure 1 — STAR chart for *Spirits*' combat versus other games.

## 1.2. TARGET PLATFORM

|                  |   |
|------------------|---|
| Genre            | Third-person shooter (projectile-based)   |
| # of Players     | 1   |
| Play time        | 5-10 minutes  |
| Format           | PC (digital download)   |
| Engine           | Unity (2018.3.2f1)  |
| Software / Tools | <b>Services</b>   |
|                  | + Adobe Mixamo  |
|                  | <b>Programs</b>   |
|                  | + <b>Art Assets:</b> Blender, Houdini, Marvelous Designer, Maya, Motionbuilder, Photoshop CC, Substance Suite |
|                  | + <b>Audio Assets:</b> Adobe Audition   |
|                  | + <b>Diagrams:</b> Microsoft Visio  |
|                  | + <b>Programming:</b> Visual Studio   |
|                  | <b>Unity Packages</b>   |
|                  | + Behaviour Designer  |
|                  | + Chronos   |
|                  | + Cinemachine   |
|                  | + Post-Processing Stack   |
|                  | + Wwise   |

### Spirits Software Diagram

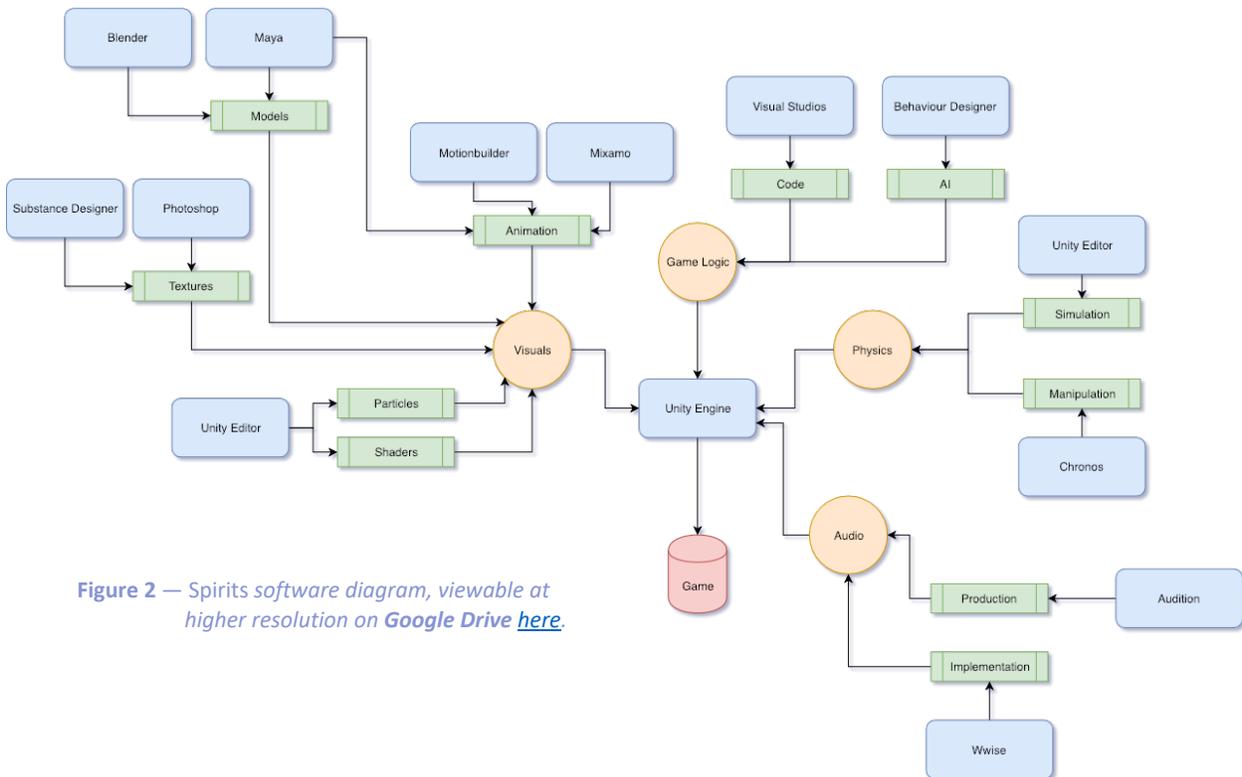


Figure 2 — Spirits software diagram, viewable at higher resolution on [Google Drive here](#).

### 1.2.1. SYSTEM REQUIREMENTS

|           | <i>Minimum System Requirements</i>                    | <i>Recommended System Requirements</i>   |
|-----------|---|--|
| OS        | Windows 10/8/7/Vista/XP PC (x32/x64)                  | Windows 10/8/7/Vista/XP PC (x32/x64)   |
| CPU       | Dual Core 2.0GHz processor or equivalent              | Quad-core Intel processor or AMD CPU   |
| RAM       | 2GB System RAM  | 4GB System RAM   |
| HDD       | 6GB free HDD Space                                    | 6GB free HDD Space   |
| Video RAM | Direct X 9.0c compliant video card with 512 MB of RAM | DirectX 9.0c compatible NVIDIA video card with 1GB of RAM (NVIDIA GeForce GTX 260 or higher) |
| Sound     | DirectX compatible sound card                         | DirectX compatible sound card  |

### 1.3. PROJECT SCOPE

#### 1.3.1. MINIMUM VIABLE PRODUCT

##### PLAYER

- + One player controller that moves character & camera, takes damage, use abilities, dodge
- + Modelled, textured
- + Cloth physics on clothing details (using Cloth in Unity)
- + Rigged & animated (using [Adobe Mixamo](#)) for:
  - + Idle
  - + Running
  - + [Telekinesis](#) (push & pull)
  - + [Time stop](#)
  - + Dodge

##### ENEMY

- + One enemy AI with behaviour and logic
- + Animated in-engine for:
  - + Attacking (x3 unique)
  - + Taking damage
  - + Death

##### PLAYABLE LEVEL

- + One [title screen](#)
- + One [level](#)
- + 10 unique props with physics

##### GAMEPLAY

- + Game can be won by defeating main enemy
- + Game can be lost by player character getting killed
- + Player health indicator
- + Aiming reticle for telekinesis (using *Chronos*)

## CUTSCENES

- + Intro
- + Outro

### 1.3.2. CONSTRAINTS & LIMITATIONS: LEVEL

---

As *Spirits* is a low scope project, there are several constraints that are enforced so that development is easier:

#### NO LEVEL HEIGHT VARIATION

This allows us to not implement gravity on the character and an additional state for jumping and falling. Being in the air does not have an impact on the gameplay, so the character will always be on the ground. Because of this, the entire level is completely flat, and any obstacles are taller than the player model.

#### TIGHT CAMERA VIEW

With the tight camera view, we aim to hide the players feet as much as possible. As the player moves without root motion, we want to hide the foot sliding. The benefit of this is that many modern games use this camera angle and is trending.

#### SMALL THROWABLE PROPS

We discovered early on that when players collected many large throwables, the camera's view was obstructed. Because of this, we limited the size of throwable items to avoid this issue.

### 1.3.3. CONSTRAINTS & LIMITATIONS: TECHNICAL

---

#### LIGHTING

Lighting in *Spirits* uses the advanced features of the Unity High Definition Render Pipeline. We emphasize baked lighting to get more lights in our scene and have a system of reflection probes and light probes to bring simplified information from the baked lighting into our dynamic assets. This process gives us the quality of real time global illumination and eliminates almost all of our real time lights. We use one real time directional light for harsh shadows and volumetric fog.

- + Volumetrics
  - + Voxel Division Interpolation: Squared function
- + Real Time illumination
  - + Memory Allocated:
    - + Reflections: 1GB
  - + Directional Light: 1
  - + Area Lights: 64
  - + Shadow Resolution: 2048 - High Quality
  - + Diffusion Profiles: 3
- + Baked
  - + Lightmap size: 2k
  - + Mode: Shadowmask
  - + Memory: 2GB
  - + Lightmaps: < 5

## PHYSICS

- + Dynamic Colliders
- + Static Colliders

## ART ASSETS

Our art assets pipeline prioritizes ease of use and visual fidelity. With our dual-style art direction, most effects can be achieved with conventional art assets (geometry and textures). However, many situations call for more advanced techniques, thus a limited number of custom shaders and new workflows are required to address these use cases.

- + Models
- + Textures
  - + Import Size: Procedural (SBS) or 4k
  - + Deployment Resolution: < 2k
- + Shaders
  - + Custom Shaders: < 5
    - + Water
      - + Dynamic Paint: 1 Render Texture
    - + Boss
    - + Cell-Shaded Uber Shader
    - + Dithering (Toggle)
    - + Angle Based Outlines (Toggle)
    - + Artistic Shadow Blending (Toggle)
    - + Color Tint (Col)
  - + Imported Shaders: < 5

## 1.4. MARKET ANALYSIS

### 1.4.1. TARGET DEMOGRAPHIC / PERSONAS



|                    | <b>Sam, 25</b><br><i>engineer</i>                                      | <b>Henry, 34</b><br><i>architect</i>                   | <b>Charlotte, 19</b><br><i>art student</i>                     |
|--------------------|--|--|--|
| <i>Interests</i>   | Games with retro graphics, challenge                                   | Superhero comics, sci-fi / fantasy TV series           | Old Resident Evil games, watching Stranger Things with friends |
| <i>Needs</i>       | Things to learn about  | To feel inspired                                       | To feel like she's making an impact                            |
| <i>Behaviours</i>  | Plays horror-themed games but won't watch it as TV, plays with his cat | Binge watches Netflix, buys games he barely ever plays | Watches 'Let's Play's on YouTube, tries cooking new things     |
| <i>Values</i>      | Hard work  | Having options   | People who understand how hard being creative is               |
| <i>Aspirations</i> | Save lots of money   | Don't lose hobbies as a parent                         | Evoke emotion through her work                                 |

#### 1.4.2. SALES COMPARISON

| <i>Game</i>   | <i>System</i>  | <i>Release Date</i> | <i>Total Sales #</i> |
|---------------|--|---------------------|----------------------|
| Outlast 1     | + PC<br>+ Nintendo Switch<br>+ PlayStation 4<br>+ Xbox One | Sep. 4, 2013        | 4m+                  |
| Outlast 2     | + PC<br>+ Nintendo Switch<br>+ PlayStation 4<br>+ Xbox One | Apr. 25, 2017       | 2m+                  |
| Slime Rancher | + PC<br>+ PlayStation 4<br>+ Xbox One                      | Aug. 1, 2016        | 1m+                  |
| Soma          | + PC<br>+ PlayStation 4<br>+ Xbox One                      | Sep. 22, 2018       | Around 1m            |
| Dead Space    | + PC<br>+ PlayStation 3<br>+ Xbox 360                      | Oct. 13, 2008       | 3m+                  |

## 1.5. PROJECT RISKS

### 1.5.1. SWOT CHART

| STRENGTHS   | WEAKNESSES  |
|---|---|
| <ul style="list-style-type: none"><li>+ Team with diverse set of skills</li><li>+ Have 3 years of game development knowledge</li><li>+ Have all had previous positions in companies that relate to our positions within our team</li></ul>  | <ul style="list-style-type: none"><li>+ Game requires a lot of art and we only have 3 artists</li><li>+ We have a small development team</li><li>+ Team doesn't have experience working on a project for more than 4 months</li><li>+ We haven't developed for the Nintendo Switch before</li></ul> |
| OPPORTUNITIES   | THREATS   |
| <ul style="list-style-type: none"><li>+ Games on Nintendo Switch sell better than the same games on other systems</li><li>+ Hype for <i>Stranger Things</i> season 3 (which releases shortly after we Level Up) will draw attention to our games' similar style</li><li>+ <b>Retro nostalgia</b> themes and trends are big in media currently</li></ul> | <ul style="list-style-type: none"><li>+ As <b>retro nostalgia</b> is a big theme in media, our game might struggle to gain attention over the rest</li><li>+ Lots of other students are demoing boss battle / combat focused games at <i>Level Up</i></li></ul>                                     |

## 1.6. USER DOCUMENTATION

- + In-game controller layout (accessible from main / pause menu)

## 2. PROJECT CHARTER

### 2.1. CHARTER INTRODUCTION

#### 2.1.1. EXECUTIVE SUMMARY

*Spirits* is a 3D third-person action-adventure game that uses the player's psychic abilities as a core mechanic. The design challenge that the game is trying to fulfill is to *create a combat demo that can both teach and test the game's mechanics within a 5 minute play session*. The 'spirits' theme pulls from the recent trends seen in movies, comics, and video games that are targeting **retro nostalgia**, specifically the 80's era where 8-bit video games, superhero comics, and horror sci-fi themes had a huge cultural impact. *Spirits* combines the **retro nostalgia** trend with the current trend of fast-paced action combat seen in games like *Dark Souls*, *The Legend of Zelda: Breath of the Wild*, and *Spider-man*. *Spirits* uses these themes and trends aid in defining its core pillars, which include:

- + **Dynamic Combat** where the decisions the character makes with their actions and abilities influence the speed and fluidity that the combat plays out with.
- + **Retro nostalgia** for our target demographic to feel through our 80's themed aesthetic
- + **Power struggle** where the player feels like they're barely able to overcome our game's challenges until turning the tables with their psychic abilities

This project was decided to be the best game to create using our team's diverse areas of strengths, and weaknesses. We all felt that it would be something we that we could be proud to put on our portfolio when considering where in the industry each team member wants to end up in post-graduation, especially as most of the team is looking to get into the AAA part of the industry. The overall goal of this project is to give our team a portfolio piece that shows off our strong design and art skills, while delivering a final product that is of a high quality, while ensuring the game achieves our design goal and hits every pillar. Throughout the project, we aim to keep *Spirits* small in scope by practicing agile development and maintaining a healthy work-life balance.

**The major milestones our team needs to hit in order to ensure that our game will be a success includes:**

- + Concepting the game in its entirety before starting development on the project including gameplay loops, art direction, the LDD, and the initial GDD
- + Creating an initial stood up build of the game that includes the player controller and the characters psychic power that is chosen and designed in the concept phase
- + A functional build that includes a rough version the combat demo
- + A feature complete build that includes a final version of both the combat and character controller
- + Squashing all bugs in order to create a shippable game
- + Developing a complete LDD and GDD

**The key deliverables of the game include:**

- + A fully functional player controller
- + The combat demo can be played through from beginning to end

- + A fully complete Game Design Document
- + All bugs in the game being squashed

**Key risks in developing our game include:**

- + Combat not meshing well with our designed psychic powers
- + Aaron isn't present enough on the team as he has 3 vacations planned throughout the year
- + Developed art assets don't fit with theme of game as theme keeps progressing
- + Power struggles developing between team members

### 2.1.2. APPROVAL

This project charter formally approves of the game project, *Spirits*, and provides the project team with direction to apply resources to project activities described herein. If there is a change in the project scope, the project charter will be updated and submitted for re-approval.

|   |  |
|---|--|
| <b>Prof. J. A. Rueda &amp; Prof. Z. Dinath</b><br>_____<br><i>Name and Signature</i><br>Capstone Coordinators | —<br>_____<br><i>Date</i>                  |
| <b>Nic Phan</b><br>_____<br><i>Name and Signature</i><br>Technical Designer                                   | September 17, 2018<br>_____<br><i>Date</i> |
| <b>Aaron Sutton</b><br>_____<br><i>Name and Signature</i><br>Game Designer                                    | September 17, 2018<br>_____<br><i>Date</i> |
| <b>Marina Pimentel</b><br>_____<br><i>Name and Signature</i><br>Art Director                                  | September 17, 2018<br>_____<br><i>Date</i> |
| <b>Matthew Murchison</b><br>_____<br><i>Name and Signature</i><br>Art Director                                | October 1, 2018<br>_____<br><i>Date</i>    |
| <b>Adam Clare</b><br>_____<br><i>Name and Signature</i><br>Design Mentor                                      | —<br>_____<br><i>Date</i>                  |
| <b>Jonathan Standing</b><br>_____<br><i>Name and Signature</i><br>Art Mentor                                  | —<br>_____<br><i>Date</i>                  |
| <b>Andrew Carvallo</b><br>_____<br><i>Name and Signature</i><br>Technology Mentor                             | —<br>_____<br><i>Date</i>                  |

## 2.2. PROJECT OVERVIEW

### 2.2.1. PROJECT SUMMARY

The purpose of this project is to act as a portfolio piece that will:

- a) Fulfill our design goal of *creating a combat demo that can both teach and test the game's mechanics within a 5-10 minute play session*,
- b) Satisfy the different needs of all team members (ie. art, design, etc.) involving our career paths in the future, and
- c) Take advantage of the popular themes and trends seen in media to create a game that uses psychics in a fast-paced, combat focused action-adventure game.

We plan to keep the game small in scope, minimize our risks by planning for them in advance, and use agile development as a framework in order to hit milestones and boost our odds of success. We believe that our team will benefit from this game as a portfolio piece, our mentors will benefit in assisting us on our road to success from this project, and that players who fit our intended personas have fun using psychic powers to engage in combat.

#### 2.2.1.1. PROJECT GOALS, DESIGN OUTCOMES AND OBJECTIVES

| No. | Goals  | Objectives  | Design Outcomes   | Measurement Criteria  |
|-----|--|---|---|---|
| 1   | <b>Deliver a finished game of high quality and low scope</b>   | <ul style="list-style-type: none"> <li>+ The game is feature complete</li> <li>+ The game can be demoed to the public</li> </ul>  | <ul style="list-style-type: none"> <li>+ Have a game that does not feel incomplete or lacking in content</li> <li>+ The game can be proudly demoed at public venues and posted online</li> </ul>              | <ul style="list-style-type: none"> <li>+ All of the features and content that is expected by the final milestone must present in the final build</li> <li>+ No reproducible bugs can be present in the final build</li> </ul> |
| 2   | <b>Have each member maintain a healthy work / life balance</b> | <ul style="list-style-type: none"> <li>+ Stick to dedicated work hours to complete tasks</li> <li>+ Minimize the need to crunch</li> </ul>  | <ul style="list-style-type: none"> <li>+ The game reflects the passion of its designers</li> </ul>  | <ul style="list-style-type: none"> <li>+ The team didn't lose sleep over the game</li> <li>+ No one needs to take a stress leave</li> </ul>   |
| 3   | <b>Fulfill design challenge and pillars</b>                    | <ul style="list-style-type: none"> <li>+ All content that is in our minimum viable product is in the game</li> <li>+ All content in game supports pillars and/or challenge in some way</li> </ul> | <ul style="list-style-type: none"> <li>+ The game demo will fit within our challenges, trends, and pillars, which increases our chances for success</li> <li>+ The pillars are clearly conveyed to</li> </ul> | <ul style="list-style-type: none"> <li>+ Combat is taught to the player and is challenging enough for playtesters</li> <li>+ All content appears to fit within game.</li> </ul>   |

|   |  |   |   |   |
|---|--|---|---|---|
|   |  |   | the player through art and gameplay   | Nothing feels out of place.   |
| 4 | <b>Combat is simple enough for players to understand</b> | <ul style="list-style-type: none"> <li>+ Player understands the combat, controls, and objective of the demo</li> <li>+ Doesn't take the whole demo length for the player to understand</li> </ul> | <ul style="list-style-type: none"> <li>+ The player can play easily from beginning to end</li> <li>+ Players won't leave our demo frustrated or confused</li> <li>+ The game loop can be easily played through from beginning to end</li> </ul> | <ul style="list-style-type: none"> <li>+ Player must understand how to play the game within the first minute or two as our demo will be short</li> <li>+ Nothing is left in the game that can lead to confusion on how to play or complete tasks within the game</li> </ul> |

### 2.2.1.2. PROJECT SCOPE

At the start of each milestone, we will determine what 'feature complete' is for the game by discussing the results of the passing milestone and what we are able to accomplish. Things that get cut during the milestone do not appear on the feature complete list for the next milestone. Anything that is not on or contributes to something on the feature complete list is considered to be outside the scope.

Adding to the feature complete list can only happen based on a reassessment of what's needed, and will only be added if there is an absolute necessity to such as:

- + A feature that will unblock another feature
- + A feature that will greatly enhance the quality of the project if scheduling permits
- + A feature is cut in order to create time or resources for the new one

### 2.2.1.3. SCOPE DEFINITION

All work necessary to achieve the project's desired outcome includes:

- + One character controller that allows the player to achieve fast-paced combat and uses designed abilities
- + One enemy AI to test the player's combat skills
- + One player character that is fully modelled and has keyframe animations for all actions
- + One enemy that is fully modelled and has keyframe animations for all actions
- + One level where the player can test mechanics, incl. min. 5 modelled assets necessary to create the environment
- + UI necessary to inform the player of the game and the player's states, incl. main menu, pause screen, player health, etc.
- + A GDD that will be maintained over the course of capstone containing all necessary information about the project

Tasks will be broken up into design, art, and technical tasks when assigned. The above work is categorized as such:

| Design   | Art  | Technical  |
|--|--|--|
| <p><b><u>Player</u></b></p> <ul style="list-style-type: none"> <li>+ controls, combat</li> </ul> <p><b><u>Enemy</u></b></p> <ul style="list-style-type: none"> <li>+ behaviour, combat</li> </ul> <p><b><u>UX</u></b></p> <ul style="list-style-type: none"> <li>+ flow</li> <li>+ game feel</li> </ul> <p><b><u>GDD</u></b></p> <ul style="list-style-type: none"> <li>+ create / maintain</li> <li>+ diagrams</li> </ul> | <p><b><u>Player</u></b></p> <ul style="list-style-type: none"> <li>+ design, model</li> <li>+ rig, keyframe</li> </ul> <p><b><u>Enemy</u></b></p> <ul style="list-style-type: none"> <li>+ design, model</li> <li>+ rig, keyframe</li> </ul> <p><b><u>Level</u></b></p> <ul style="list-style-type: none"> <li>+ design, model</li> </ul> <p><b><u>UI</u></b></p> <ul style="list-style-type: none"> <li>+ art</li> </ul> <p><b><u>GDD</u></b></p> <ul style="list-style-type: none"> <li>+ maintain design section</li> </ul> | <p><b><u>Player</u></b></p> <ul style="list-style-type: none"> <li>+ controls, combat</li> <li>+ implement art</li> </ul> <p><b><u>Enemy</u></b></p> <ul style="list-style-type: none"> <li>+ AI / behaviour</li> <li>+ combat</li> <li>+ implement art</li> </ul> <p><b><u>UI</u></b></p> <ul style="list-style-type: none"> <li>+ scripting</li> <li>+ implement art</li> </ul> <p><b><u>Level</u></b></p> <ul style="list-style-type: none"> <li>+ set up (incl. lighting)</li> <li>+ shader(s)</li> <li>+ GDD</li> </ul> |

#### 2.2.1.4. BOUNDARIES

| <i>Activities Within Scope</i>   | <i>Activities Out of Scope</i>   |
|--|--|
| 1. Prototype with required mechanics   | 1. Develop a fully realized game   |
| 2. Vertical slice of a potentially larger game                               | 2. Adding things that are not crucial to achieving the game's intended design goal |
| 3. Create & maintain a game design wiki                                      | 3. Develop a game design document for a full game that is out of our scope         |
| 4. Game is free of major bugs and errors, & runs efficiently on our hardware | 4. Game is perfectly optimized to an industry standard                             |

### 2.2.2. MILESTONES

| <b>Project Milestone</b>               | <i>Description</i>   | <b>Expected</b> |
|--|--|-----------------|
| <b>Project Plan (M1)</b>               | Produce a detailed plan for designing and developing a complete project using standard design and production techniques from conception to completion. | <i>Sep. 19</i>  |
| <b>Game Design Document (M2)</b>       | Plan production-oriented goals, professional production design, and a body of design work for the capstone project.                                    | <i>Oct. 17</i>  |
| <b>Prototype 1 (M3)</b>                | Create a prototype that demonstrates one aspect of the demo.   | <i>Nov. 7</i>   |
| <b>Game Development Document (M4)</b>  | Refine the design plan and document the development stage of project.  | <i>Nov. 14</i>  |
| <b>Project Management Log (M5)</b>     | Create a document that outlines the management of the project.   | <i>Nov. 14</i>  |
| <b>Testing Documents (M6)</b>          | Create a document that outlines playtesting methods and results from playtests conducted.  | <i>Nov. 14</i>  |
| <b>Prototype 2 (M7)</b>                | Create a prototype that demonstrates one aspect of the demo.   | <i>Nov. 21</i>  |
| <b>Alpha Prototype (M8)</b>            | Have a final built prototype that contains all feature on a Functional Level   | <i>Dec. 12</i>  |
| <b>Production Report (M9)</b>          | Create a document that outlines the production of the project.   | <i>Jan. 9</i>   |
| <b>Technical Report (M10)</b>          | Create a document outlining the technical aspects of the project.  | <i>Jan. 16</i>  |
| <b>Testing Report (M11)</b>            | Create a document that outlines playtesting methods and results from playtests conducted.  | <i>Feb. 13</i>  |
| <b>Beta Build (M12)</b>                | Have a final built prototype that contains all feature on a Presentable Level  | <i>Feb. 27</i>  |
| <b>Gold Build (M13)</b>                | Have a final built prototype that contains all feature on a Shippable Level  | <i>Mar. 20</i>  |
| <b>Interactive Digital Media (M14)</b> | Create a piece of digital media that advertises for the project.   | <i>Mar. 27</i>  |
| <b>Project Documentation (M15)</b>     | Compile and organize all existing documentation for the project.   | <i>Apr. 3</i>   |

### 2.2.3. DELIVERABLES

| Project Deliverable 1: Concept Documents     |   |
|--|---|
| Stakeholder                                  | Team Members  |
| Description                                  | Document that demonstrates the art style and theme that the game will follow  |
| Acceptance Criteria                          | <ul style="list-style-type: none"> <li>+ Concept art, themes, mood boards, atmosphere are all high level</li> <li>+ Game can be envisioned through concept pieces</li> </ul>  |
| Due Date                                     | October 3   |
| Project Deliverable 2: Monthly Team Schedule |   |
| Stakeholder                                  | Team Members  |
| Description                                  | Team schedule is created each month and is sent to each team member   |
| Acceptance Criteria                          | <ul style="list-style-type: none"> <li>+ Takes into consideration mentorship times, teammates class schedule, work schedule, time for homework, events, demos, presentations, and time to develop game</li> <li>+ Doesn't conflict with any team members other commitments</li> </ul>   |
| Due Date                                     | The beginning (1st) of each month   |
| Project Deliverable 3: Design Documents 1    |   |
| Stakeholder                                  | Mentors, Team Members   |
| Description                                  | The documents that provide the base for the game that we are going to design, e.g. what is in scope and what isn't  |
| Acceptance Criteria                          | <ul style="list-style-type: none"> <li>+ Document is readable</li> <li>+ Document features all process and design work created throughout the development of the game</li> <li>+ Document flows smoothly and is properly annotated</li> <li>+ Features work that each team member has created</li> <li>+ Project scope defined</li> <li>+ Combat experience defined</li> <li>+ Character abilities defined</li> </ul> |
| Due Date                                     | October 3   |
| Project Deliverable 4: Character Prototype   |   |
| Stakeholder                                  | Mentors   |
| Description                                  | Character controller has been created and has the necessary locomotion needed for the game. It can traverse an environment and has the appropriate animations to do so.   |
| Acceptance Criteria                          | <ul style="list-style-type: none"> <li>+ Character can move and dodge</li> <li>+ Mentors find the controller fun to use</li> <li>+ Character model and animations have been implemented</li> </ul>  |
| Due Date                                     | October 10  |

| <b>Project Deliverable 5: Design Documents 2</b>                 |  |
|--|--|
| Stakeholder  | Mentors, Team Members  |
| Description  | A finished game design document/wiki that fully encompasses all design and process work, and represents a high level description of each feature within the game   |
| Acceptance Criteria  | <ul style="list-style-type: none"> <li>+ Document is readable</li> <li>+ Document features all process and design work created throughout the development of the game</li> <li>+ Document flows smoothly and is properly annotated</li> <li>+ Features work that each team member has created</li> </ul> |
| Due Date   | October 17   |
| <b>Project Deliverable 6: Prototype 2 (Superpower Prototype)</b> |  |
| Stakeholder  | Team Members, Mentors  |
| Description  | Character controller is able to use their abilities and can attack.  |
| Acceptance Criteria  | <ul style="list-style-type: none"> <li>+ Character can use psychic abilities</li> <li>+ Character can attack</li> <li>+ Mentors find the controller fun to use</li> <li>+ Effects and animations have been implemented</li> </ul>  |
| Due Date   | November 5   |
| <b>Project Deliverable 7: Design Testing Documents 1</b>         |  |
| Stakeholder  | Team Members   |
| Description  | Documents that contain playtesting results   |
| Acceptance Criteria  | <ul style="list-style-type: none"> <li>+ Questions to ask playtesters are defined</li> <li>+ Questions to ask to remain neutral</li> <li>+ Results have been recorded through a variety of media</li> </ul>  |
| Due Date   | November 12  |
| <b>Project Deliverable 8: Prototype 3 (Battle Prototype)</b>     |  |
| Stakeholder  | Mentors  |
| Description  | The designed combat is feature complete, fully playable, and is engaging   |
| Acceptance Criteria  | <ul style="list-style-type: none"> <li>+ Stakeholders find the battle engaging</li> <li>+ Deemed to use the game mechanics in interesting ways</li> <li>+ Battle can be played from beginning to end</li> </ul>  |
| Due Date   | November 19  |
| <b>Project Deliverable 9: Design Testing Documents 2</b>         |  |
| Stakeholder  | Team Members   |
| Description  | Documents that contain playtesting results   |

|  |   |
|--|---|
| Acceptance Criteria                        | <ul style="list-style-type: none"> <li>+ Questions to ask playtesters are defined</li> <li>+ Questions to ask to remain neutral</li> <li>+ Results have been recorded through a variety of media</li> </ul> |
| Due Date                                   | November 26   |
| <b>Project Deliverable 10: Alpha Build</b> |   |
| Stakeholder                                | Team Members, Mentors   |
| Description                                | Game is playable from start to finish   |
| Acceptance Criteria                        | <ul style="list-style-type: none"> <li>+ Mentors can play through the game from start to finish</li> <li>+ Full game loop has been realized</li> <li>+ Combat and Player are feature complete</li> </ul>    |
| Due Date                                   | December 5  |

## 2.2.4. PROJECT RISKS, ASSUMPTIONS, AND CONSTRAINTS

### 2.2.4.1. RISKS

| No. | Risk Description  | Probability (H/M/L) | Impact (H/M/L) | Risk Management Plan  | Team Member Responsible for Resolution |
|-----|---|---------------------|----------------|---|--|
| 1   | Team members aren't following the <a href="#">Sheridan Code of Conduct</a>  | M                   | H              | Refer to Sheridan's Code of Conduct and follow steps within to help address and solve conflicts. If needed refer to mentors for input.  | All team members involved              |
| 2   | Aaron isn't present on the team enough as he has 3 vacations planned throughout the year and is unable to finish work he committed to | M                   | M              | Ensure Nic has exact dates of vacation beforehand so Nic can create schedule around vacation dates. Plan ahead and give team members sick days that can be taken.   | + Aaron<br>+ Nic                       |
| 3   | Art and theme become too similar to other media influences  | M                   | M              | Refer to <a href="#">core pillars</a> and pull inspiration from larger different pool of media.   | + Marina<br>+ Matt                     |
| 4   | Power struggles between all four team members.  | H                   | M              | Communicate professionally and openly with <b>all</b> teammates. Let everyone know if you're having conflicts before they progress as things cannot be solved unless they're communicated. Refer to <a href="#">Sheridan's Code of Conduct</a> and solve team conflicts | All team members involved              |

|   |   |   |   |   |                   |
|---|---|---|---|---|-------------------|
|   |   |   |   | over coffee or lunch so nothing gets carried back into the room.  |                   |
| 5 | Having only one animator results in needing to scope the demo down far too much | H | H | Plan ahead in each milestone and sprint, and while designing the combat.<br>Investigate alternative methods of offloading asset creation (ie. animation libraries). | + Marina<br>+ Nic |

#### 2.2.4.2. ASSUMPTIONS

The following table lists the items that cannot be proven or demonstrated when this project charter was prepared, but they should be considered when stabilizing the project approach or planning going forward.

| No. | Assumptions  |
|-----|--|
| 1   | We all feel comfortable raising concerns about the project and our work environment with each other. |
| 2   | We can focus on our game for at least 80% of our scheduled work times per week.                      |
| 3   | The purpose of this project is to act as a portfolio piece that can help all of us in its own way.   |
| 4   | None of us will drop out or not complete our courses this year.                                      |
| 5   | We all want to have enough time for our personal lives outside the project.                          |

#### 2.2.4.3. CONSTRAINTS

The following table lists the conditional factors within which the project must operate or fit.

| No. | Constraints  |
|-----|--|
| 1   | The game may have technical problems (ensure that the game runs smoothly on our hardware).   |
| 2   | The project's pre-production & production must be contained within 8 months or less.         |
| 3   | There must be enough time in the team's work schedule for coursework outside the project.    |
| 4   | Two team members have part time jobs, so their work on the project must compensate for that. |

## 2.3. PROJECT ORGANIZATION

### 2.3.1. PROJECT GOVERNANCE

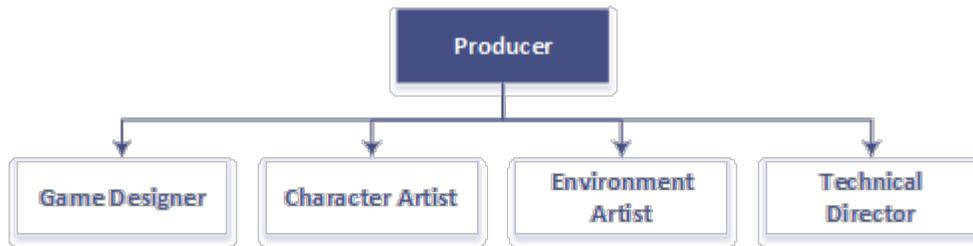


Figure 3 — Team governance chart.

- + Final decisions are to be made by the lead of the subject in question (ie. art decisions by the **Art Director**, game design decisions by the **Game Designer**, etc.)
- + All decisions made by any lead must stay true to Spirit's core pillars
- + In the event of disagreements and disputes the team will refer to the Sheridan Code of Conduct and work through the necessary steps to come to a resolution.
- + All team members are to follow the Sheridan Code of Conduct and if any team member(s) are not complying then the team will work with team mentors to resolve the issue and take necessary steps

### 2.3.2. PROJECT TEAM STRUCTURE

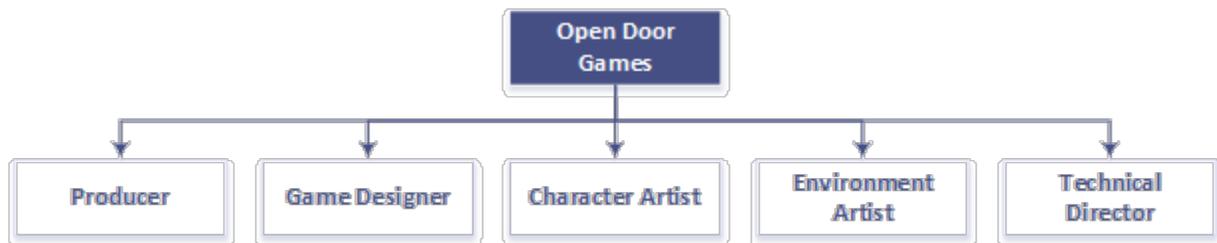


Figure 4 — Team structure chart.

### 2.3.3. ROLES AND RESPONSIBILITIES

| <i>Project Role</i>       | <i>Responsibilities</i>  | <i>Assigned to</i> |
|---------------------------|--|--------------------|
| <b>Producer</b>           | Assigning tasks and ensuring that everyone's tasks are being managed. In charge of managing scope of the game and what features get implemented or cut. Creates and updates schedules as needed.             | Nic                |
| <b>Game Designer</b>      | Leading the design process and making the decision for the gameplay elements in the game and documenting the designing aspect of the game (GDD).   | Aaron              |
| <b>Character Artist</b>   | In charge of realizing and designing the artistic direction for characters and enemies in the game. Must keep in contact with <b>Game Designers</b> to ensure that art fulfills the focus of the design.     | Marina             |
| <b>Environment Artist</b> | In charge of realizing and designing the artistic direction for environments and props within the game. Must keep in contact with <b>Game Designers</b> to ensure that art fulfills the focus of the design. | Matt               |
| <b>Technical Director</b> | In charge of creating, learning, and documenting any technology that they work with in order to provide tools for the other members of the team.   | Nic                |

### 2.3.4. PROJECT FACILITIES AND RESOURCES

Facilities / resources that are already provided to the team are as follows:

- + Workstations
- + White boards / cork boards
- + Slack
- + Trello

The **Producer** is responsible for procuring or inquiring about the procurement of the following:

- + Meeting room timeslots
- + Hardware being used in the project (ie. VR headset, etc.)
- + Digital resources that the team decides to use (ie. Unity Store assets, software, etc.)

Any unaddressed resources should be acquired by individual team members or brought up with the **Producer** to be acquired.

## 2.3.5. PROJECT CHANGELOG

### 2.3.5.1. TEAM DYNAMICS CHANGELOG

| <b><i>What Changed</i></b>   | <b><i>Date</i></b>           | <b><i>Why?</i></b>   |
|--|------------------------------|--|
| Member left the team (Filink Cao)  | Sep. 17, 2018                | She left the group as she didn't feel like she fit into our team dynamics.   |
| Switched from the <i>Machine Learning</i> mentorship project to current charter project <i>Spirits</i> | Sep. 19, 2018                | After Filink left, we were unconfident in our abilities to deliver on what the machine learning mentorship leaders needed with a team of 3 people.   |
| New member joined the team (Matthew Murchison)   | Oct. 8, 2018                 | We needed more group members and Matt left his group. We brought on Matt as it was beneficial to both parties.   |
| Scheduling changes   | Oct. 22, 2018                | Our schedule needed to have hours cut as originally, we were working 19 hours a week. This was unrealistic as we needed more time to finish other course work. Our new schedule sees us working 12 hours a week. |
| Producer (project manager) role switched from Nic to Aaron   | Oct. 29, 2018                | Nic felt as though he wasn't enjoying the work required by the project manager, and believed Aaron was up to taking on the role.   |
| Took 2 break weeks off from the game   | Dec. 3, 2018 - Dec. 14, 2018 | The unscheduled time off from working on the project was much needed as our team needed to finish work for our other courses.  |

### 2.3.5.2. PROJECT SPIRITS CHANGELOG

| <i>What Changed</i>  | <i>Date</i>   | <i>Why?</i>  |
|--|---------------|--|
| Level design changed from a psychic underworld setting with lots of rocks to a mall lobby / food court   | Oct. 10, 2018 | The level seemed to limit the telekinesis ability as the player was constantly needing to look at the ground to pull objects towards them. In a mall many things are large or at eye level, making them easier to aim at and pick up.<br><br>The mall also fit with our <b>retro nostalgia</b> pillar far better.  |
| Player telekinesis abilities changed from grabbing single objects to multiple at once  | Oct. 4, 2018  | This makes the player feel more powerful, as though they have the strength to pull many objects at free will.  |
| Level design changed from a mall lobby / food court to an open mall with stores that the player can enter                                      | Oct. 29, 2018 | After Matthew joined our team, design mentor Adam Clare suggested we up our scope a little more in order to make the game more fun.<br><br>Giving players the ability to explore the mall gives us more opportunity to hit our <b>retro nostalgia</b> pillar through various assets in the store fitting the specific time period and allows us to hit our dynamic combat pillar through changing combat within the environment. |
| Player time freeze ability changed from being a resource that the player must gain through attacking, to a resource that charges automatically | Nov. 6, 2018  | A limited resource that the player must gain through successfully timing attacks and dodges, were making the players feel less powerful. Through making it a resource that charges automatically, it places more power into the player's arsenal and allows us to better hit our power struggle pillar.  |
| Project theme changed from strong red <i>Stranger Things</i> style aesthetic to a <a href="#">retro-neon aesthetic</a>                         | Nov. 12, 2018 | We needed to differentiate ourselves further from <i>Stranger Things</i> as many of our theming and inspiration originally came from that series. We went for a different aesthetic that still hits our <b>retro nostalgia</b> pillar, the retro-neon, while maintaining the <i>Stranger Things</i> inspiration through gameplay, environment, and story.  |

## 2.4. PROJECT REFERENCES

More information concerning this project can be found in the following documents:

| <i>Document</i>  | <i>Ver #</i>          | <i>Date</i>   | <i>Author / Org.</i>    | <i>Location (link or path)</i>   |
|--|-----------------------|---------------|-------------------------|--|
| <b>Project Brief</b><br><i>(1 pg. text + 1 pg. poster)</i> | 1.3                   | Dec. 11, 2018 | <b>Open Door Games</b>  | <a href="#">Google Drive</a> <i>(incl. in this GDD with revisions)</i>   |
| <b>Game Mechanics Document</b>                             | <a href="#">Rev #</a> | Apr. 22, 2019 | <b>Open Door Games</b>  | <b>OneDrive</b> <i>(this document)</i>   |
| <b>Sheridan College Policies</b>                           | -                     | -             | <b>Sheridan College</b> | <b>Access Sheridan</b> > Documents & Policies > Policies and Procedures<br><a href="https://policy.sheridanc.on.ca">https://policy.sheridanc.on.ca</a> |

### 2.4.1. GLOSSARY AND ACRONYMS

| <i>Acronym</i> | <i>Name in Full</i> |
|----------------|---------------------|
| <b>EoD</b>     | End of Day          |
| <b>EoM</b>     | End of Milestone    |
| <b>EoY</b>     | End of Year         |
| <b>OoO</b>     | Out of Office       |
| <b>M1</b>      | Milestone 1         |
| <b>M2</b>      | Milestone 2         |
| <b>M3</b>      | Milestone 3         |
| <b>M4</b>      | Milestone 4         |
| <b>M5</b>      | Milestone 5         |

## 3. TECHNICAL DESIGN

### 3.1. UNITY EDITOR

Spirits is developed using the Unity Editor and Unity Engine. The features that it possesses are:

- + Real-time physics simulation
- + State Based Animator
- + Audio System
- + Scene based environments
- + C# Scripting
- + Plugin Support
- + Asset Store
- + Robust Post Processing
- + Cinemachine camera system

The Unity Editor was chosen because its engine provides many tools that are needed within the game, such as the physics simulation and Cinemachine camera system. Also, all four of the team's members have four years of experience with Unity and C# Scripting. The team's tech artist also specializes in post-processing using this engine.

### 3.2. SCENE MANAGEMENT

In order to optimize the scene, several measures will take place:

#### LODS ON PROPS

- + As there will be many physics objects at play, they will have multiple LODs to lower the polycount
- + Store interiors will have multiple LODs

#### OCCCLUSION

- + Props that are not in view will be occluded
- + Areas that are not in view will be occluded

#### REGION STREAMING

- + In order to transition the player from the tutorial area to the arena, the tutorial scene will be loaded initially, and when they exit, the arena will be loaded additively
- + An event will occur causing the player to be unable to go back, and the tutorial area will be removed from the scene

#### INVISIBLE LOADING

- + In order to transition the player from the arena to the finale zone, a screen space effect will occur to make the screen entirely black
- + When this occurs, the level will load into the void area, which is black as well, and the screen space effect will play in reverse

## 4. GAME STORY OVERVIEW

### 4.1. STORY GENRE

Paranormal sci-fi adventure.

### 4.2. STORY OVERVIEW/SYNOPSIS

**Isaac** is tasked with hunting down people whose psychic powers have become infected with the **Psycho Rabies** virus, making their powers go out of control. It's up to the player to try to save them by battling with their own brand of psychic powers, cure the corruption within the world, and find the source of the virus.

### 4.3. STORY PROGRESSION OVERVIEW

#### 4.3.1. STORY SETTING (LOOK & FEEL OF THE WORLD)

Overall dim with neon light accents, reminiscent of a city at night or a smoky laser tag arena. Everything feels like it's alive, but sleeping.

#### 4.3.2. LIST OF POTENTIAL CUTSCENES

Cutscenes will be animated in Maya and will have voiced dialogue.

##### INTRO

- + Introduce the player character & location to the player
- + Blend from game menu to gameplay
- + Real-time cinematic

##### ENDING (DEMO COMPLETE)

- + Ends gameplay after the win state is achieved
- + Blends from gameplay
- + Real-time cinematic

#### 4.3.3. STORYBOARD / SCRIPT FILE LOCATIONS

Can be found on **Google Drive** under the folder '**Documentation**' with the appropriate names.

### 4.4. GAME CHARACTER DESCRIPTIONS

|              |   |
|--------------|---|
| <b>Isaac</b> | A young man who hunts & cures peoples' berserk spirits. Has a strong sense of justice and a quirky sense of humour. Athletic enough to break into a quarantined building without hurting himself. |
| <b>Maya</b>  | Isaac's close friend who has become infected by the <b>Psycho Rabies</b> virus. Has self-confidence issues.   |

## 5. ART DIRECTION

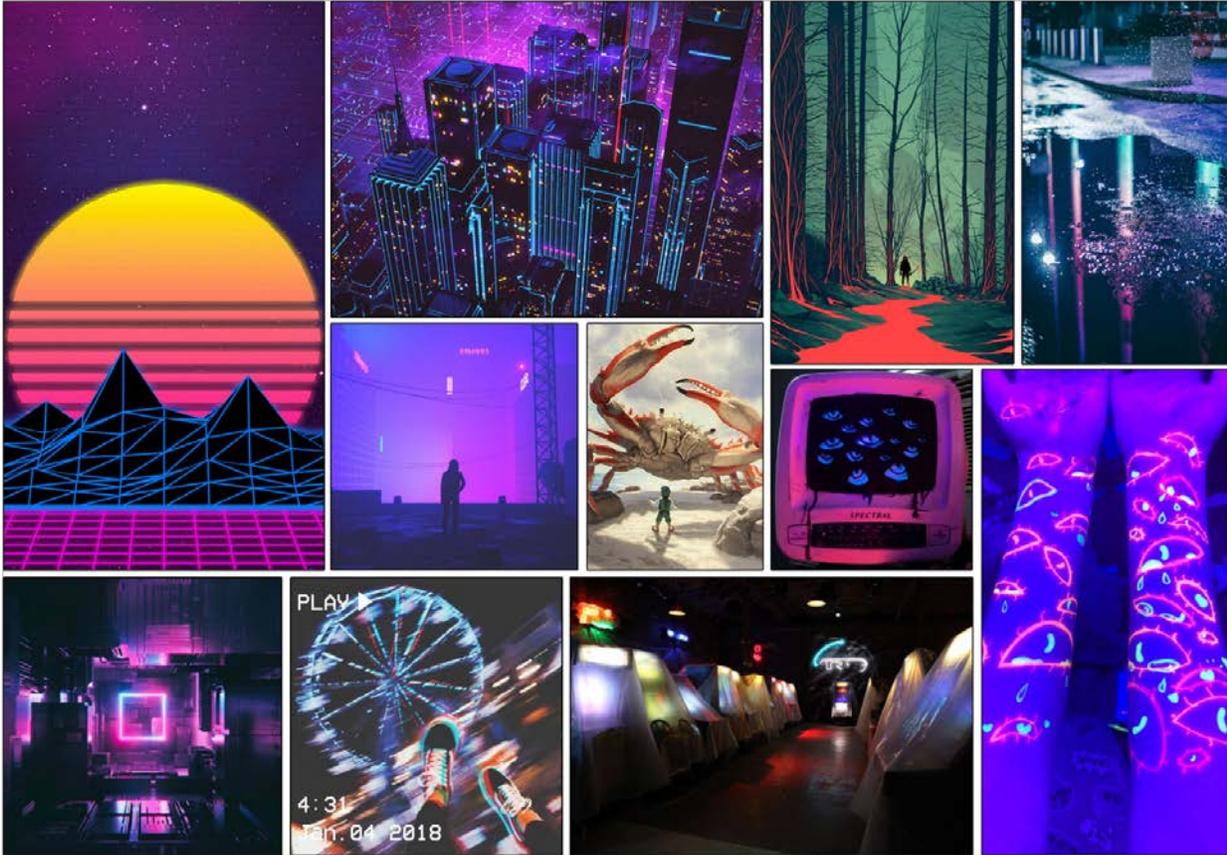


Figure 5 — *Atmosphere*. Ominous, uncertain, almost-reality, foreboding, with retro influence & an overall cool palette.

**Style** between the character and the environment may differ to make the player feel like they don't entirely belong in the world to stress the theme of real vs. unreal.



Figure 6 — *Mixed Style*. Example of mixed style in character vs. environment in *Ni no Kuni* and *The Last Guardian*.

## 5.1. CHARACTER DESIGN

### 5.1.1. PLAYER CHARACTER (ISAAC)

The player character, Isaac, is a reflection of the 80's and horror elements combined, similar to *Stranger Things*. He's meant to be a likable character with a little mysterious flair.

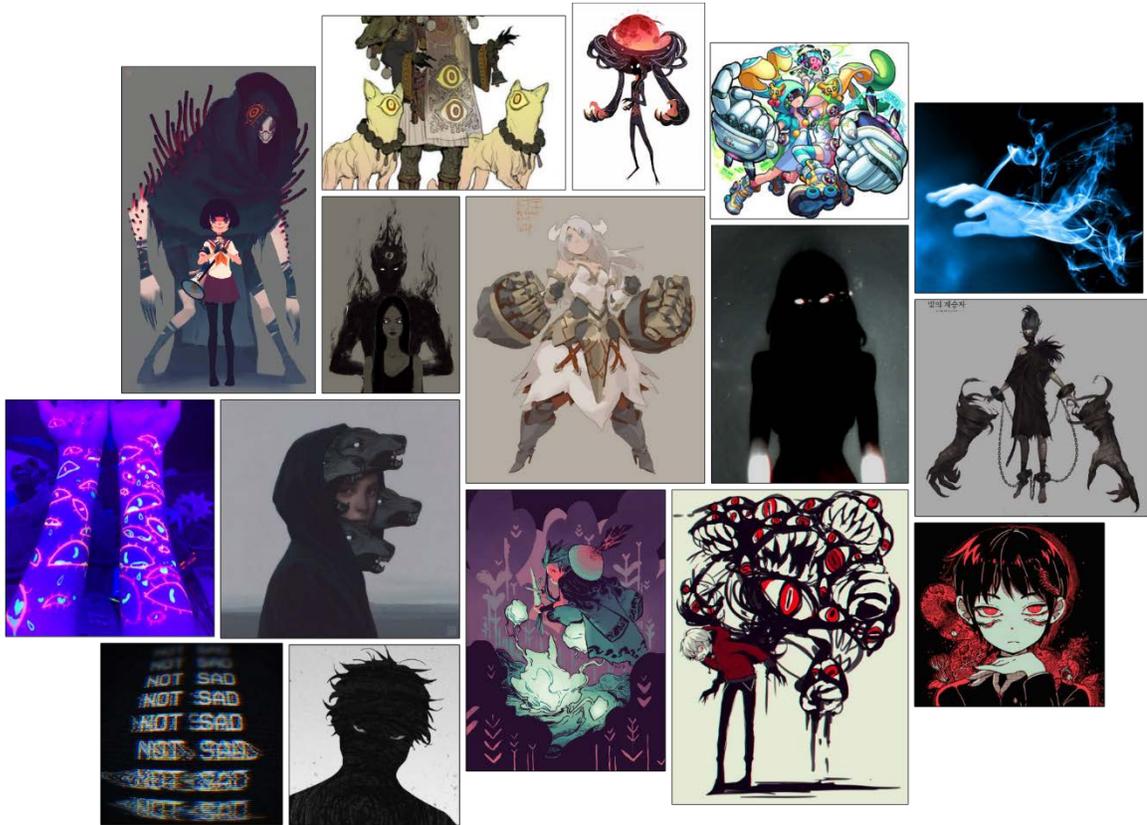


Figure 7 — Mood Reference. Reflects the reality Isaac lives in. Emphasis on 'inner demon' & big (psychic) hands.

As **retro nostalgia** is a prominent theme, his fashion sense should also be in line with that and draw inspiration from nostalgic *elements* (ie. things that aren't necessarily from the 80's time period but feel *old* nonetheless to include an audience of various age groups).



Figure 8 — Fashion Reference. Used in designing Isaac's outfit.

Isaac's first pass was more mysterious and 'self-insert', as the camera was not meant to rotate around the character enough for the player to see their avatar's face. Though it still can't, this first design was pivotal in finding Isaac's attitude and initial fashion sense, as well as the *third eye* motif on his hood.



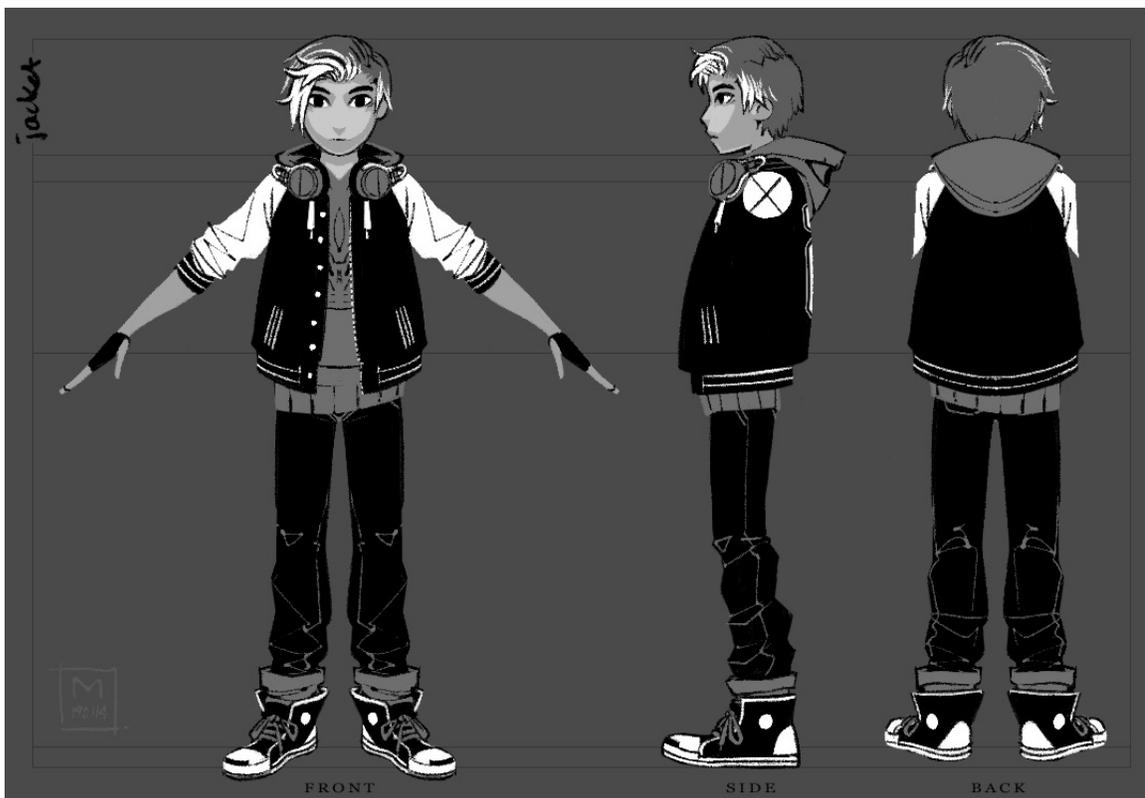
Figure 9 — *First Pass.* 'Third eye' on mask & hood, worn when psychic powers are at their peak. Face covering to represent hiding secrets, mystery, and monster inside. Psychic hand as a manifestation of ESP.



Figure 10 — *Silhouettes.* Based on the first pass with more retro fashion. Elements of 1, 2 & 3 proved most popular, so they were mashed together on the bottom row.



Figure 11 — Final Pass. Isaac's completed turn around, with clothing layers (left) and full body (below).





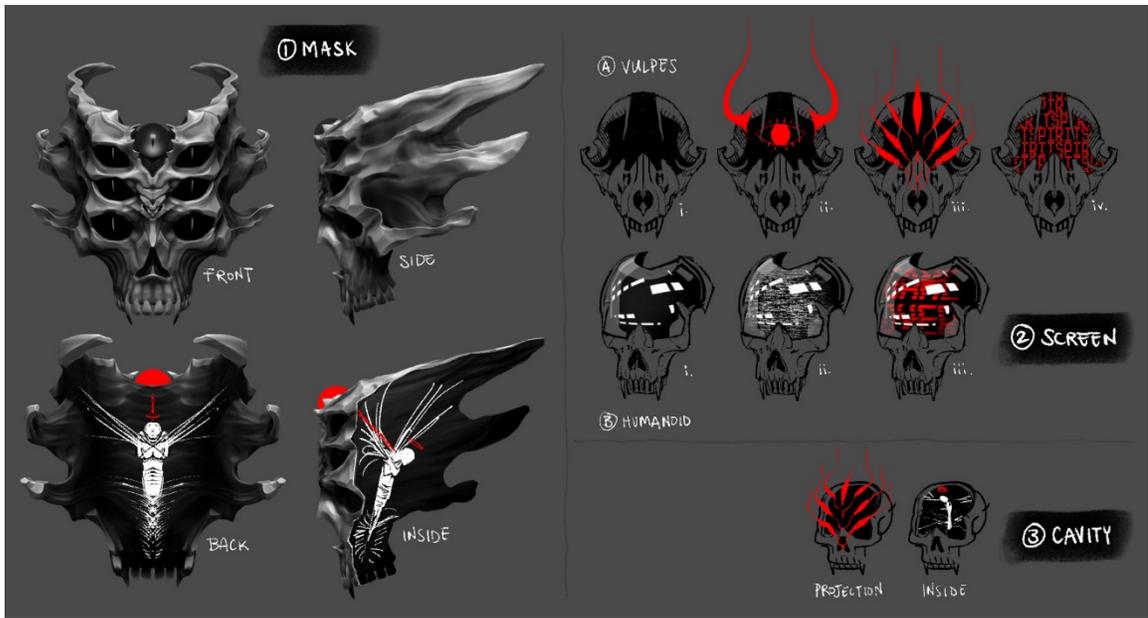


Figure 13 — *First Pass.* Based heavily on combining skulls with screens, although maybe a bit too darkly.

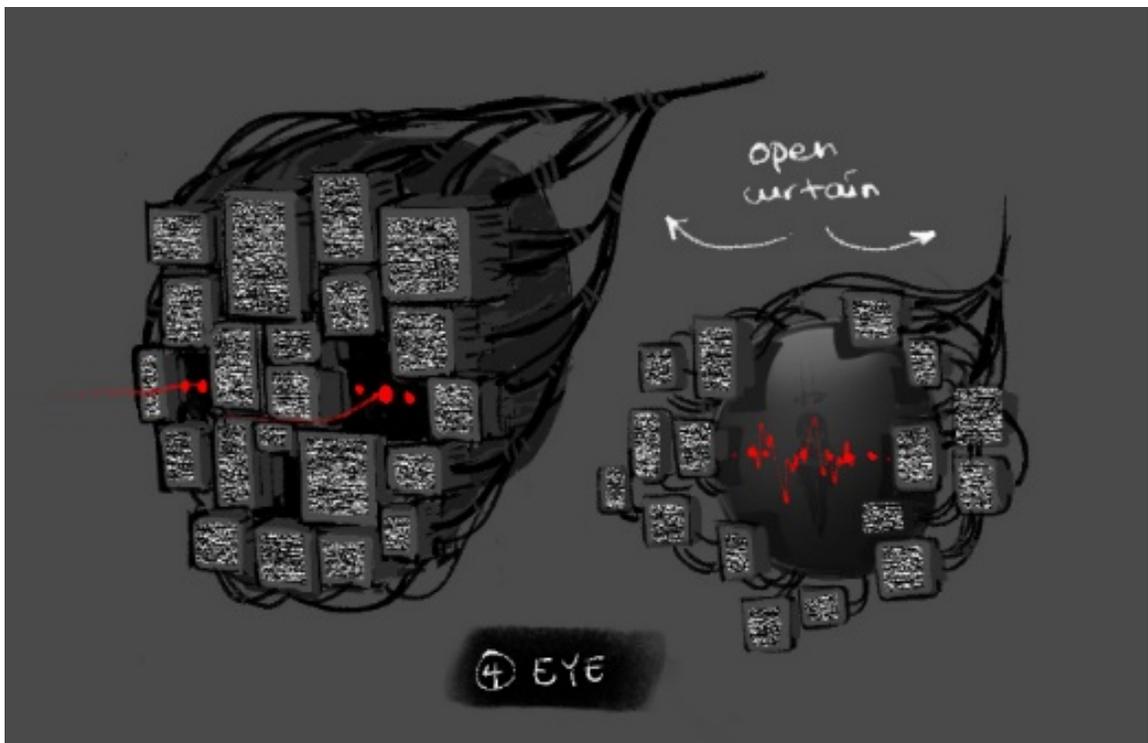


Figure 14 — *Second Pass.* Originally one design. The second image lead to the final design, sans TVs.

## 5.2. ENVIRONMENT DESIGN

### 5.2.1. WORLD



Figure 15 — A beta level with baked lighting.

Retro-neon mall aesthetic, zoning, environmental progression.

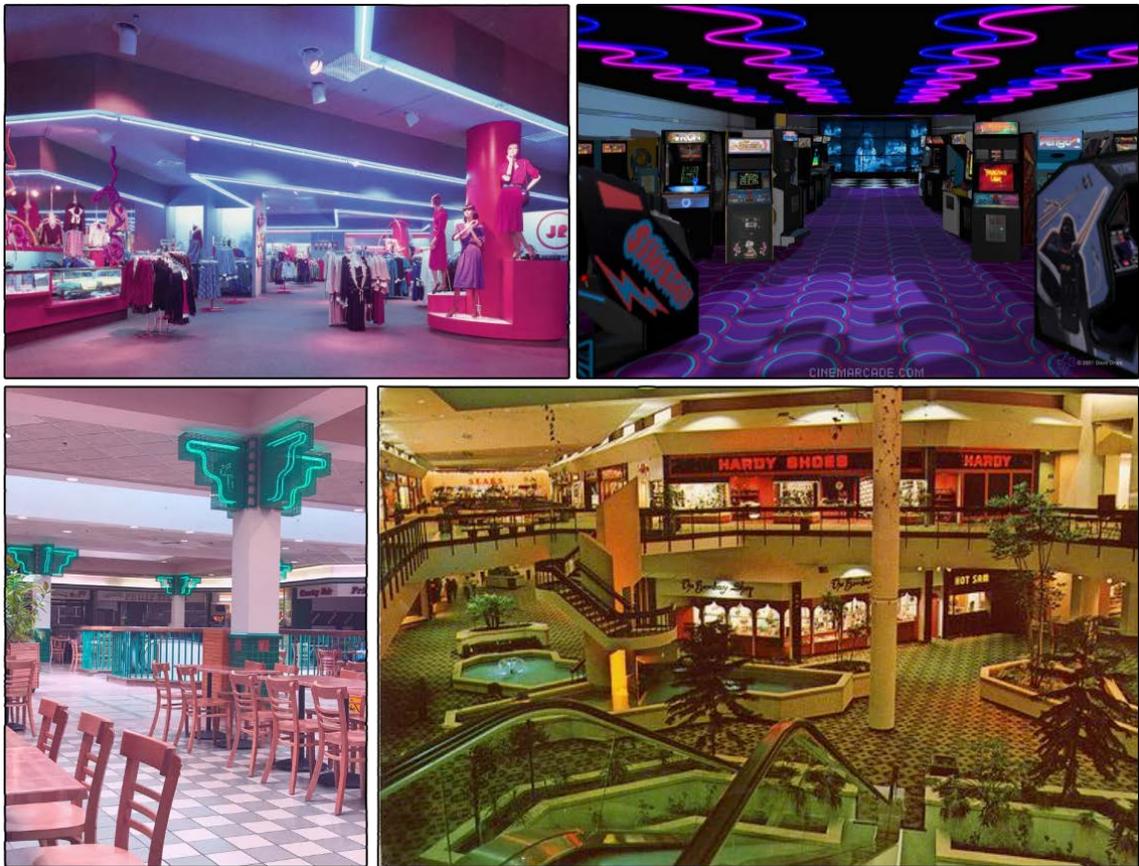


Figure 16 — Reference. Old malls, 80's diners, and arcades of the era. And indoor trees.

#### ASSET GROUPS

- + Mall kit
- + Neon lighting (particles / line renderer)
- + Cover objects
- + Interactive objects
- + Physics set pieces

## 5.2.2. ZONING

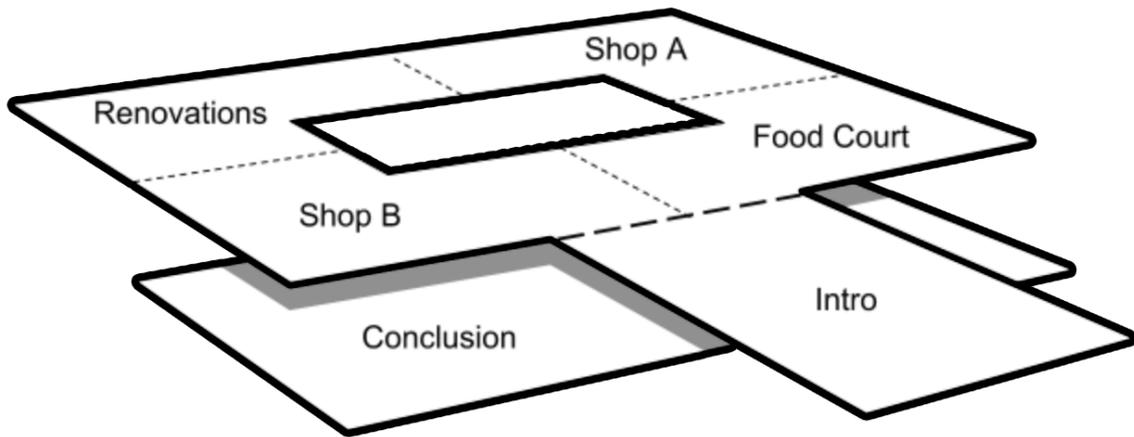


Figure 17 — *First Pass*. An older mall layout concept to accommodate a basement floor with arcade cabinets.

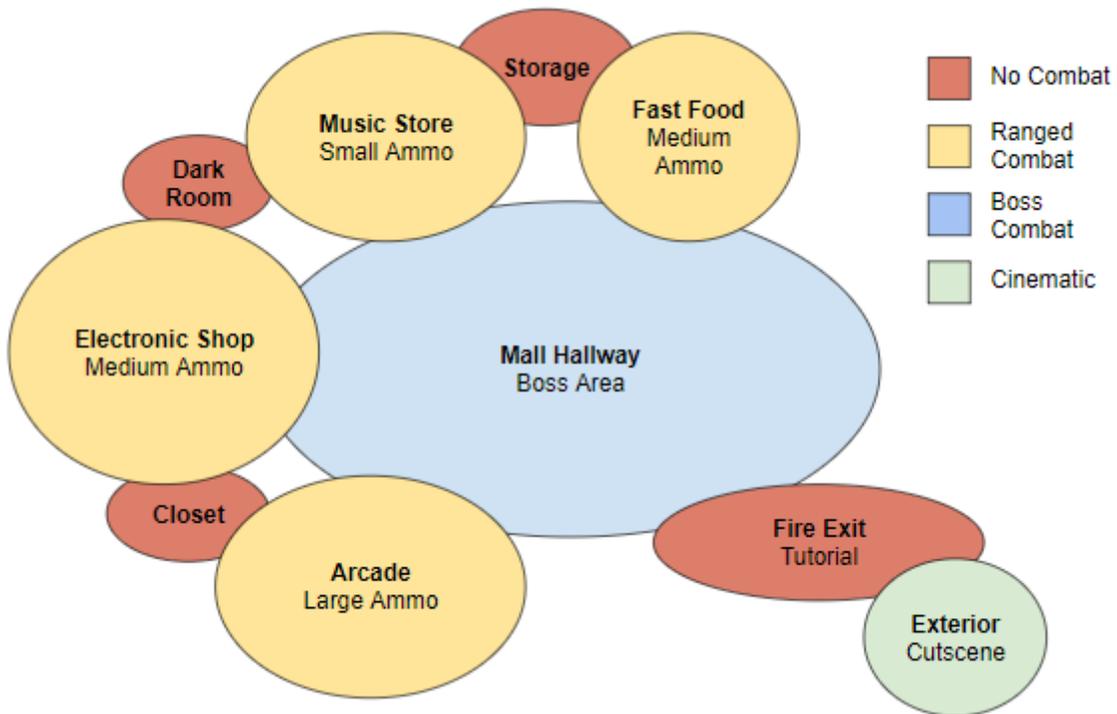


Figure 18 — *Final Pass*. Layout sectioned by use with colour.



Figure 19 — More reference. Key for the environment art.

## 5.3. TECHNICAL ART

### 5.3.1. RIGGING & ANIMATION

The player character model will be auto-rigged using *Adobe Mixamo* to lessen the workload on artists on the team and most animations will be from a library. Animations from a purchased animation library package will be used for the player and the boss' animations will be handled in **Unity** using the animator and code.

#### PLAYER ANIMATIONS

The package used is [here](#) on the **Unity Store**, with a full list of animations included [here](#) (via their store page). Animations are sampled from their library to create:

- + Walk
- + Run
- + Pull / push object ([telekinesis](#))
- + Dodge (from jump / fall)
- + Receive damage

#### ENEMY ANIMATIONS

- + Intro (noticed player)
- + Attack
  - + Ground slam
  - + Throw object
- + Receive damage
- + Death

### 5.3.2. LIGHTING

Should support the retro-neon vibe (like vaporwave / retrowave), as seen in the **mood board**.



Figure 20 — *Lighting Concept. What the level should generally look like as an end-product.*

Leveraging the improved lighting options in Unity 2018's High Definition Render Pipeline, we can use baked lighting and post processing effects to get efficient and immersive visuals.

Lighting is extremely important in achieving our pillar of **retro nostalgia**; with the right lighting we can capture the feeling of the 80's we see in shows like *Stranger Things*.

## 6. GAME MECHANICS

### 6.1. PLAYER CONTROLS

#### 6.1.1. CONTROLLER LAYOUT

Players will use an **X-Box 360 controller** to play the game.



| <i>Button / Joystick</i>                | <i>In-game Action</i> |
|---|-----------------------|
| Left analog stick                       | Player movement       |
| Right analog stick                      | Camera rotation       |
| B                                       | Dodge                 |
| A                                       | Jump                  |
| Left Trigger (LT)                       | Telekinesis (Pull)    |
| Right Trigger (RT)                      | Telekinesis (Push)    |
| Left Bumper (LB) +<br>Right Bumper (RB) | Time manipulation     |

### 6.2. PLAYER CHARACTER

#### 6.2.1. MOVEMENT

##### **STANDARD MOVEMENT**

The player moves using standard third-person shooter controls, constantly moving relative to the camera's forward-facing direction and **analog input**. Positive input along the y-axis of the analog stick moves the character in the direction the camera is facing, whereas negative input on the y-axis of the analog stick moves the player towards the camera, with 180° movement in between both sides resulting in 360° movement.

## DODGING

The player can dodge in the direction that they are moving by pressing the **Dodge** button or dodge forward in the camera's forward direction by pressing the **dodge** button while stationary. Dodging makes the player invincible for the duration of the dodge and is used to evade enemy attacks during combat. Dodging cannot be executed while the player is airborne.

## 6.2.2. COMBAT / PSYCHIC POWERS

The player engages in combat using **Telekinesis** (a ranged attack) and **Time Stop**. These powers are meant to oppose the enemy's attacks and give the player an edge in order to overcome them.

## TELEKINESIS



Figure 21 — Half-Life 2's gravity gun is an example of how telekinesis would work.

**Telekinesis** can be used on interactive objects in the level using the **Telekinesis Pull** button. Using it on an object will pull it towards the player to hover around them, where it waits to be thrown (like physical ammo). Multiple objects can be stored this way. The player can pull objects in motion in the air towards them as well as static on the ground. When grabbing objects, they come towards the player in a straight path in order to allow the player to hit objects while it travels to towards them.

Using the **Telekinesis Push** button throws an object outward away from the player at the reticle in the center of the screen. A thrown object moves in an arc around the x-axis (mimicking *God of War's* axe throw) to the target it's being thrown at in order to make the throw have more of an impact and seem more telepathic. Objects thrown this way can damage the enemy or interact with the environment if physics applies.

## TIME STOP



Figure 22 — Example of time manipulation in Mario Tennis Aces.

**Time stop** is a limited resource that is built up over time and stops time when used. During the state, the **time stop gauge** begins to deplete until the state is ended, either by the player (by pressing the button again) or when the gauge runs out completely. **Time stop** can be used regardless of whether the gauge is full or not, but cannot be initiated if there is none of the resource.

This ability is mainly used to gain access to the openings in the enemy attacks and attack them while they are vulnerable.

## 6.3. CAMERA SYSTEM

The camera is a **dynamic camera system**, featuring:

### GAMEPLAY CAMERA

A camera that tracks the player and uses an over-the-shoulder, third-person perspective.

### CUTSCENE CAMERA

A camera that follows a predetermined shot / animation.



Figure 23 — Example of camera being in the thirds of the screen in Shadow of the Colossus.

- + Camera always tries to keep the player and focus objects **within the rule of thirds**, unless the player is attempting to force the camera elsewhere or is obstructed by the level
- + Camera **smoothly interprets** forward and backwards from the player, allowing the player to get up close and far away from the camera until it smooths out
- + Camera **bobs up and down** emulating the player walking / a cameraman following the player

#### CAMERA DURING TIME STOP



Figure 24 — Example of selective colour, featuring the film Pleasantville, retrieved from [Filminquiry.com](http://Filminquiry.com).

- + Camera works the same as the **gameplay camera**, except scanlines run through the screen and uses a **selective grayscale shader** to turn all objects in view monochromatic **except the player**



Figure 25 — Example of slight zoom in over Kratos' shoulder in God of War.

- + Camera zooms in a little **behind the player's shoulder**, keeping the player in the rule of thirds while still allowing them to clearly aim using the reticle

## **6.4. ARTIFICIAL INTELLIGENCE (BOSS BEHAVIOUR)**

In Spirits, the boss that the player faces is a giant mass of swirling psychic energy. It is orb-like in shape and draws loose objects to itself that act as a shell. The face of the boss is a giant eye and floats in the air.

The boss has many similar capabilities to the player, being able to use telekinesis and teleporting. This is because the boss is the manifestation of negative psychic energy that is being given off by another psychic child. This person cannot control themselves and their powers have gotten out of control.

When fighting, the boss will have different attacks that trigger in certain scenarios. Some of these attacks allow the player to expose an opening and damage the boss.

The boss is still conscious of his actions, having a conversation with the player as they fight. The boss is trying to run away and escape, when the player is trying to subdue them so they cause no further havoc. This results in the boss being furious toward the player and is reflected in their voice and dialogue.

Defeating the boss is the end of the demo.

### **6.4.1. START UP**

The boss will initially be static in the environment. It's dormant and does not respond to the player until one of following occur:

- + The player gets too close to the boss
- + The player throws an object at the boss

This will cause the boss to slowly rise while its SFX begins to intensify. During this time, it will not be able to take any damage. The boss will then send out a shockwave that knocks back the player and nearby items.

The boss will open its eye and draw in all nearby items.

### **6.4.2. MOVEMENT**

The boss will follow the player around the map.

### **6.4.3. SHIELD**

The boss will constantly be collecting items and producing its own. These items will hover around the boss and act as a shield. When it has items, it is invulnerable and when it doesn't it.

#### 6.4.4. BASE ATTACK

The boss will have several base attacks depending on certain situations. These trigger due to various reasons, below:

| # | Name               | Trigger   | Description   | Tell  | Effect   |
|---|--------------------|---|---|---|--|
| 1 | <b>Junk Shot</b>   | When no special action is performed for <b>5 sec.</b>             | The boss uses items it has collected to shoot a moderately sized mass of items at the player. The player can hit this in midair with their own items to <b>destroy it or dodge it.</b>  | The items around the boss will start gathering around the front, and after <b>2 sec</b> , the boss will stop and the mass will be shot.                             | The player will suffer a <b>small amount</b> of damage and be pushed in the direction hit.                     |
| 2 | <b>Ground Slam</b> | When the player is standing within <b>1 m</b> to the boss.        | The boss slams itself into the ground, causing a small shockwave on the floor. Can be avoided by <b>dodging or moving away from the area of effect.</b>   | The boss will stop and rise slightly into the air. Takes <b>1 sec.</b>  | The player will suffer a <b>small amount</b> of damage and be <b>pushed moderately far away from the boss.</b> |
| 3 | <b>Store Hunt</b>  | When the player is <b>3m or more inside of a store for 3 sec.</b> | The boss stays by the entrance of the store and its eye begins to glow. All of the items within the store rise and begin to fling themselves at the player. <b>This continues until the player leaves the store or until 15 sec passes.</b> | The boss will stay by the entrance of the store and its eye will glow. The objects stay risen for <b>1 sec</b> before they begin to fling themselves at the player. | The player will take <b>very small amounts of damage but will be hit multiple times.</b>                       |

## 7. GAME PROGRESSION

### 7.1. GAME ELEMENTS

#### 7.1.1. CHARACTERS

The only AI-driven character in the level is the enemy (the boss) that the player fights. See [Artificial Intelligence](#) for details on its behaviour.

#### 7.1.2. INTERACTIVE OBJECTS

Objects that can be picked up using [Telekinesis Pull](#) and thrown using [Telekinesis Push](#). They are indicated by their use of a [different shader](#) (comic / toon) compared to the rest of the environment (more realistic lighting).

### 7.2. LEVELS / AREAS

For the sake of having a vertical slice, there is only one level and the player begins & ends in it, but it has two sections to accommodate a short tutorial.

#### 7.2.1. TUTORIAL

- + Long hallway
- + Malfunctioning door at the end
- + Several interactive objects (to throw)

#### 7.2.2. ARENA

- + Mall foyer
- + 4 storefronts (incl. interiors)
- + Many interactive objects (to throw)
- + Boss



Figure 26 — 'Cruise Ship' level in Uncharted 3 used as reference for Spirits' level layout.

The level design in *Spirits* references sections of the 'cruise ship' level from *Uncharted 3*. This level integrates choke points and controls flow between the enemy and player attacks while still maintaining a clearly built world that is functional in both its assets and metrics. Though the level maintains principles of shooter design to meet its gameplay requirements, it feels extremely natural to the narrative context within the game.

We aim to achieve this same design through *Spirits'* level location (the mall), as it fits within gameplay requirements by having lots of unique objects to pick up and allows easy design with regards to a layout similar to *Uncharted 3's* cruise ship, since it features lots of natural cover and unique sections within stores in order to control the pacing of the level.

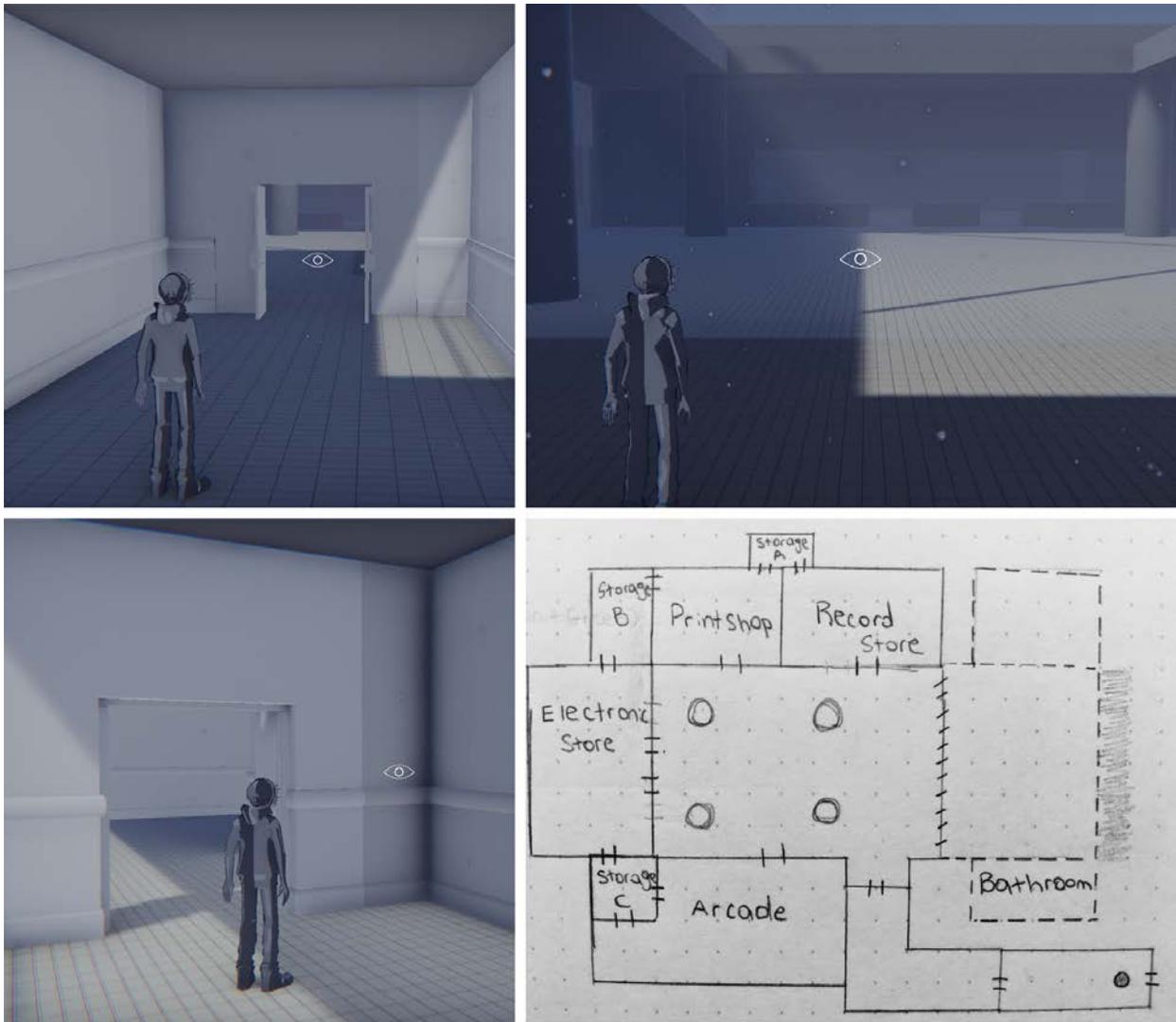


Figure 27 — Our level greybox and rough map layout sketch.

Initial concept of the mall's layout begins with real life mall reference (photos of those built in the 60's - 70's, looking at mall floor plans) then sketching out and adapting these ideas into a layout on grid paper.

Unity greybox is built on such this research. The ideas are successful when they are adapted from paper into Unity and the game has consistent and realistic metrics, then the level should be filled with assets that could be picked up as projectiles or used as cover from the boss' attacks.

Once the level fulfills all of the requirements, it is complete and given to the environment artist to refine and texture the greybox assets, including adding lighting in accordance with the concept artist.

### 7.3. BOSS FIGHT

The boss fight takes place after the tutorial section, in the **main mall area**.

## 8. GAME INTERFACE SYSTEM (GUI)

| Scene Group | GUI / HUD Components  |
|-------------|---|
| Main Menu   | + <b>Buttons:</b> To transition between the <b>Game / Controls</b> screens.   |
| Pause Menu  | + <b>Buttons:</b> To transition between the <b>Main Menu / Controls</b> screens.  |
| Game Level  | + <b>Aiming Reticle:</b> Center of the screen, used to aim.<br>+ <b>Time Stop Gauge:</b> Keeps track of the resource used to initiate <b>Time Stop</b> .<br>+ <b>Player Health:</b> Only visible when the player is hurt a lot, when it fades in on the edges of the screen to indicate pain. |

### 8.1. UI LOOK & FEEL

UI look should be reminiscent of old technology to support the **retro nostalgia** pillar.



Figure 28 — References. Glitchy, old technology of the 80's - 90's.

## 9. MENU GUIDE

| <i>Menu Group</i> | <i>Branching Menus</i> |
|-------------------|------------------------|
| Title / Main Menu | + Game                 |
| Game Level        | + Pause                |

## 10. SPECIAL EFFECTS

### 10.1. SHADERS

#### 10.1.1. TOON SHADER

Visible on interactive objects (ie. plant pots, some signage). Uses a tiled dot map in the cell shading to make it look like comic book screen tone. It features:

- + Cell-shaded
- + Vertex animation
- + Ambient light input
- + Normal map support
- + Shadow mask for stylized shading

#### 10.1.2. REALISTIC SHADER

On the environment that can't be interacted with (ie. walls, floor, ceiling, pillars). Uses Unity's *High Definition Rendering Pipeline*.

#### 10.1.3. SCANLINE SHADER

On objects affected by psychic powers (ie. the boss' eye, Isaac's telekinesis). Reminiscent of an old CRT TV.

### 10.2. PARTICLES

| <i>VFX</i>          | <i>Description</i>  |
|---------------------|---|
| Player              | <ul style="list-style-type: none"><li>+ <b>Player Damaged:</b> Images controlled by script (edge of screen fades in red with veins).</li><li>+ <b>Telekinesis:</b> Particles.</li><li>+ <b>Time Stop:</b> Camera (modify post-processing stack).</li><li>+ <b>Dodge:</b> Particles, scanline + height map shader.</li></ul> |
| Boss                | <ul style="list-style-type: none"><li>+ <b>Attacks:</b> Particles.</li><li>+ <b>Teleport:</b> Particles, scanline + height map shader</li></ul>   |
| Interactive Objects | <ul style="list-style-type: none"><li>+ <b>Impact:</b> Particles.</li><li>+ <b>Destruction:</b> Particles.</li><li>+ <b>TV Screens:</b> Scanline shader.</li></ul>  |

## 10.3. POST-PROCESSING STACKS

### 10.3.1. GENERAL

Using Unity 2018's *Post Processing Stack* (version 2).

### 10.3.2. TIME STOP

Modified **General** to mimic this concept:

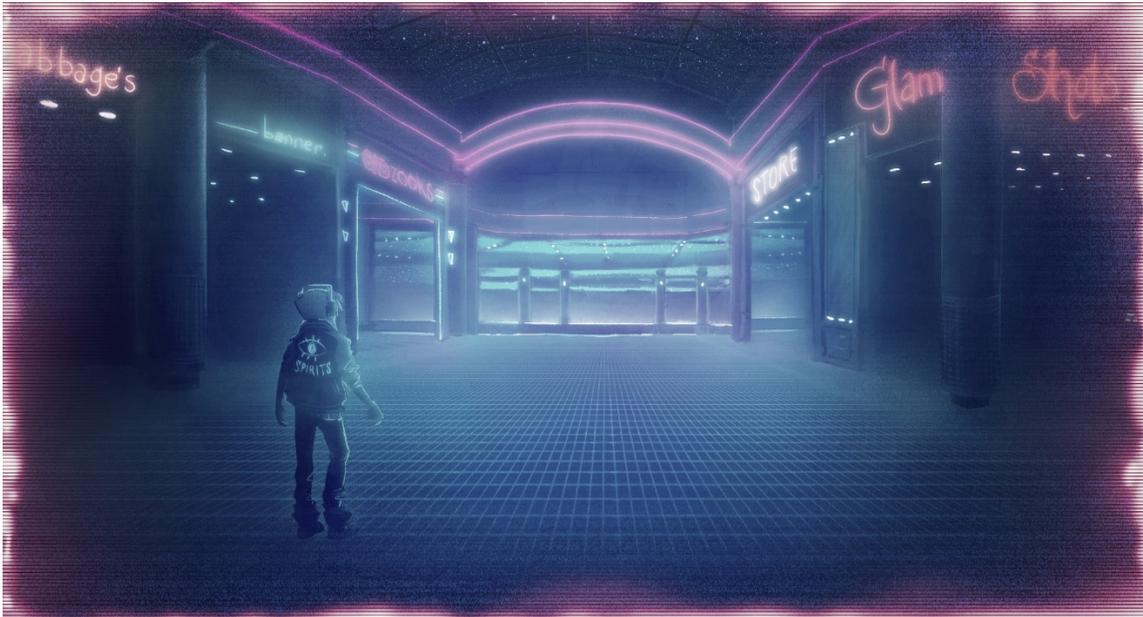


Figure 29 — *Retro-esque blue & pink colour, scanlines, static, and wavering haze on the edges to distinguish stopped time from moving time.*

# 11. AUDIO

## 11.1. MUSIC

Recorded by a **composer (Sheridan alumni)**, who will be given access to the game's build to implement. If for any reason the composer is not able to access the project, team members will implement audio.

## 11.2. CUSTOM SOUND EFFECTS

Recorded by **two Sheridan students**. If neither deliver on time, it will be recorded by a team member.

Asset list [here](#) on **Google Drive**.

## 11.3. DIALOGUE

Recorded by a team member.

Script [here](#) on **Google Drive**.

One of the larger tasks for the game was to design a way to fit our entire narrative into our 5-10 minute demo. It was an interesting challenge to take on as:

1. Narrative games are difficult to present at conventions
2. Telling a full story arc within a short 5 minute session can be challenging to pull off effectively

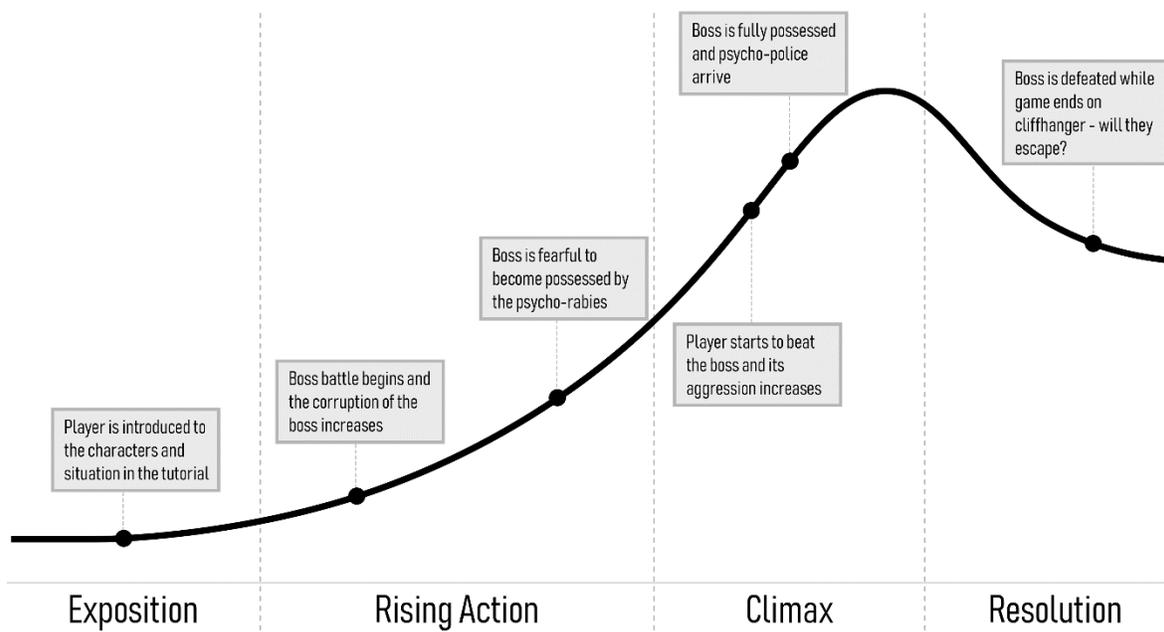


Figure 30 — The narrative arc used in Spirits.

In order to meet these two requirements, the dialogue between the player and the boss should be broken into parts to be reached at different points within the gameplay.

Conversations trigger when the player reaches certain trigger points in the level and when the boss' health reaches certain points, signifying both a change in difficulty of gameplay and arc within the narrative.

In order to reduce the amount of work required to implement this, it should be communicated to the player within the game's dialogue that the conversations are taking place *telepathically* between characters. This also serves as a way to enhance the 'psychic' theme and requires no extra art assets.

## Spirits - Dialogue Script

Open Door Games

### Act 1

**INT. MILL LAKE MALL FIRE EXIT HALL 1 - NIGHT**

Screen is black and a loud explosion is heard.

The camera fades into game view, ISAAC stands up surrounded by smoke in the glow of a fire exit sign.

**ISAAC**

\*coughs\* Oh my god...

The smoke clears and broken fire exit doors block ISAAC's way.

**ISAAC**

Ugh, Maya we're going to be in so much trouble.

ISAAC, using his telekinesis, rips the doors off the walls, throws them, and continues down the fire exit hall.

**\* DIALOGUE TRIGGER 1: ENTER FIRE EXIT HALL 2 - NIGHT**

Another explosion occurs, blowing flames and smoke into FIRE EXIT HALL 2.

Figure 31 — Screenshot of Spirits' script.

The [script](#) follows standard movie script layout with gameplay cues and serves to communicate to team members how the beginning and ending of the game needs to be set up and played out.

Dialogue should be implemented using Unity's built-in *Animation* editor and event system. Using the *Animation* editor allows subtitles to be timed effectively through referencing the document that contained the timing for each characters' lines for a dialogue set, and easily calls the sound clip at the correct times when playing these animations at trigger points.

## 12. PLAYTESTING

### 12.1. INTRODUCTION

|                             |  |
|-----------------------------|--|
| <b>Product Tested</b>       | <i>Spirits</i> (Prototype)   |
| <b>Platform</b>             | PC   |
| <b>Playtest Description</b> | <p>Game mechanics to be tested within a greybox test level:</p> <ul style="list-style-type: none"><li>+ Player movement</li><li>+ Dodging</li><li>+ Telekinesis (pull, push)</li><li>+ Time freeze</li></ul> <p>Previous playtest results demonstrated that players did not understand what they were doing in regard to the player's abilities / how to control their powers. Testing is conducted to determine how long it takes players to understand their powers / controls, if at all, and if they aren't understanding, what can be done to improve it.</p> |

#### 12.1.1. OBJECTIVES

##### RESEARCH QUESTION #1

There is potential that the telekinesis attraction technique is not being demonstrated in a clear enough manner. What is lacking or hindering results in the demonstration of this ability?

##### RESEARCH QUESTION #2

There is potential that the telekinesis repulse technique is not functioning in the way that the player expects. The player now knows they can grab objects, but is there immediate reaction to fire them, what do they expect to do with the objects once they've attracted them, and what is the input they select to perform this action.

##### RESEARCH QUESTION #3

There is potential that our time freeze ability is not being reflected clearly enough to the player. Does the player know that they froze time and if not, how can we communicate this better?

## 12.2. PLAYTEST SETUP

### 12.2.1. SETUP INFORMATION

|                            |   |
|----------------------------|---|
| <b>Date</b>                | Friday, January 25, 2019  |
| <b>Time</b>                | 17 hrs 00 – 19 hrs 00 (2 hours)   |
| <b>Names of Moderators</b> | + Aaron Sutton<br>+ Nicholas Phan   |
| <b>Location</b>            | Sheridan Trafalgar Residence 1 (1410 Trafalgar Rd, Oakville, ON), Board Room  |
| <b>Required Equipment</b>  | + 1 Xbox One Controller<br>+ 1 copy of <i>Spirits</i> Prototype<br>+ 6 donuts |
| <b># of Testers</b>        | 4   |
| <b>Compensation</b>        | Free donuts   |

### 12.2.2. METRICS

**Time spent learning telekinesis attraction:** How long did it take players to discover the input

**Time spent learning telekinesis repulse:** How long did it take players to discover the input

**Time spent learning time stop:** How long did it take players to discover the input

**Time spent learning full controls:** How long it takes them to use every possible input

**Amount of dead inputs pressed:** How many times did they attempt to hit buttons that we aren't using and which inputs were hit

**Length of playtest session:** Did the playtester use the full 10 minute playtest session?

### 12.2.3. MODERATOR SCRIPT

The moderators welcome in the playtesters, introduce themselves, and thank testers for coming. Once testers are settled, moderators introduce the game and explain the process of the test.

**The moderators explain that:**

- + The testers will each play for a maximum of 10 minutes or until they feel that they've understood the game and no longer wish to play
- + While playing, encourage them to think aloud say any thoughts that they may have
- + The purpose of this playtest session is for feedback and to make our game better, so it's okay to be as harsh or as positive as they want
- + Also let them know that moderators will be documenting feedback but will not be judging how good or bad they are at the game
- + After this, give each of them a copy of the pre-test survey

Once they have filled out the pre-test survey, the tester can begin to play and moderators observe their gameplay as they go, writing down what the testers say as well as their own observations. During play, moderators should also try to prompt testers to talk with observational questions.

These questions include:

1. **“What did you just do?”** after they perform each superpower for the first time, to see if they can understand what’s happening
2. **“How did you do that?”** after asking question one to see if they can replicate the actions they’re doing
3. **“Can you list the controls you’ve learned so far?”** 4 minutes into the playtest session
4. **“How do you feel when you collect objects?”** 5 minutes into the playtest session
5. **“How about when you throw the objects?”** After asking question 4 (above)
6. **“How does the time stop make you feel? / Did you know that you can freeze time?”** 7 minutes in
7. **“Do you think you can use your super powers to their full capabilities? If so, what is making you feel the most powerful, if not, what is making you feel like you’re not using your full power”** 8 minutes in

After the allotted time or if the levels being playtested are completed, moderators thank each playtester and ask them to fill out a post-test survey. After they’ve completed the survey, moderators ask them our post-test questions, including:

1. **“Do you feel like you understood the controls?”**
2. **“What was each button for?”**
3. **“Would you make any changes to the controls, and if so, what?”**
4. **“Did you find the controls easy to pick up or were they hard to learn?”**
5. **“Is this a game that you be interested in playing once finished? Why or why not?”**
6. **“Did you immediately understand that you were pulling objects towards you?”**
7. **“What was your immediate gut reaction to do once you had collected those objects?”**
8. **“Did the time freeze react in the way that you would have expected?”**

Moderators then repeat this process with each playtest session.

#### 12.2.4. IN GAME OBSERVATIONS

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##### **PLAYTESTER #1 – YAEL HUBERT**

- + Did not discover that she could pull objects until 2 minutes in, was confused by what was going on
- + Discovered that she could throw objects quickly after grabbing them
- + Noted that she was unsure which objects she would be pulling when aiming at them as there was no reticle
- + Did not discover that she was freezing time, had to be told that she could
- + Thought the time freeze was really cool upon using it, used it 3 more times for a total of 4 times
- + Picked up and threw objects at the eye until finishing with the playtest session 8 minutes in

## PLAYTESTER #2 - LAURA MORTON

- + Immediately left the level and broke the game, we must patch some holes in the wall
- + Said "Oh that's cool" when they picked up objects but noted that they did not know what they did
- + Discovered how to throw objects and kept doing it over and over, they verbally said that they loved throwing objects
- + Did not figure out how to use time freeze, had to be told how to use it and that they could
- + Did not understand that time was frozen upon performing the action, said "I don't think it's working"
- + Upon discovering how to use time freeze, they used it once and then continued to throw objects
- + Finished playtest session 6 minutes in after becoming bored

## PLAYTESTER #3 - GEORGIA RADULOVICH

- + Did not know what they were doing at all, just wandered around the level for 3 minutes before asking "what am I supposed to do?"
- + Upon discovering that she could attract and repulse objects, said "That's really cool, but I had no clue that I could do that"
- + Noted that there was nothing in the environment that said it could be picked up
- + Did not discover how to use time freeze at all until we told her that she could freeze time
- + Upon freezing time, she really enjoyed it and used it to throw every object for the remainder of her playtest session
- + Finished playtest session 7 minutes in

## PLAYTESTER #4 - SYDNEY BORTON

- + Immediately understood how to use the telekinesis abilities, noted that she loves shooters and *Call of Duty*
- + Wandered around the level picking up and throwing things at the eye for 3 minutes
- + Did not discover that she could freeze time, she did not expect that you could do more than telekinesis
- + Used time freeze 5 more times after that and said that you can just freeze time forever and that it feels too overpowered
- + Finished playtest session after 5 minutes

## 12.3. PRE-TEST SURVEY RESULTS

Link to pre-test survey [here](#).

| <i>Questions</i>   | <i>Answers</i>       |          |
|--|----------------------|----------|
| <b>What gender do you identify as?</b>   | Males                | <b>0</b> |
|  | Females              | <b>4</b> |
|  | Prefer not to say    | <b>0</b> |
|  | Other                | <b>0</b> |
| <b>What is your age?</b>   | Under 15             | <b>0</b> |
|  | 15 - 19              | <b>2</b> |
|  | 20 - 25              | <b>2</b> |
|  | 26 - 35              | <b>0</b> |
|  | 36+                  | <b>0</b> |
| <b>On average, how many hours would you say you play video games per week?</b> | Less than an hour    | <b>0</b> |
|  | 1 - 5 hours          | <b>3</b> |
|  | 6 - 15 hours         | <b>1</b> |
|  | 16+ hours            | <b>0</b> |
| <b>Which game genres do you like to play?</b>                                  | RPG / MMORPG         | <b>0</b> |
|  | Puzzle / strategy    | <b>3</b> |
|  | First-person shooter | <b>2</b> |
|  | Action-adventure     | <b>0</b> |
|  | Mobile / gacha       | <b>4</b> |
|  | MOBA                 | <b>0</b> |
|  | Simulation           | <b>1</b> |
|  | Other                | <b>4</b> |
| <b>Which platforms do you use to play video games?</b>                         | PC                   | <b>1</b> |
|  | Nintendo Switch      | <b>3</b> |
|  | Nintendo Wii U       | <b>1</b> |
|  | Nintendo Wii         | <b>4</b> |
|  | Nintendo 3DS         | <b>0</b> |
|  | Nintendo DS          | <b>2</b> |
|  | PlayStation 4        | <b>2</b> |
|  | PlayStation 3        | <b>1</b> |
|  | Xbox 360             | <b>1</b> |
|  | Xbox One             | <b>1</b> |
|  | Android              | <b>1</b> |
|  | iPhone               | <b>3</b> |

## 12.4. POST-TEST SURVEY RESULTS

Link to post-test survey [here](#).

| Questions  | Answer Scale                                     | Average Answers  | Different Answers  |
|--|--|--|--|
| How would you rate your overall experience?  | 1 (Awful)<br>5 (Excellent)                       | 3  | <ol style="list-style-type: none"> <li>1. 2</li> <li>2. 3</li> <li>3. 4</li> <li>4. 4</li> </ol>                               |
| What about your experience stood out to you the most while playing?  | (written answer)                                 | —  | —  |
| Were you able to control your character the way you expected?  | Yes<br>No  | — (lean to No)   | <ol style="list-style-type: none"> <li>1. No</li> <li>2. No</li> <li>3. Yes</li> <li>4. Yes</li> </ol>                         |
| Is there anything your character couldn't do that you expected or hoped to be able to do?                        | (written answer)                                 | + Jump<br>+ Aiming reticles  | <ol style="list-style-type: none"> <li>1. Aim, carry more objects</li> <li>2. Jump</li> <li>3. Jump</li> <li>4. Aim</li> </ol> |
| How powerful did your powers (telekinesis, time control) make you feel, and why?                                 | 1 (Not very strong)<br>5 (Extremely powerful)    | 4  | <ol style="list-style-type: none"> <li>1. 3</li> <li>2. 4</li> <li>3. 3</li> <li>4. 5</li> </ol>                               |
| What would you change about your powers (telekinesis, time control) to make your experience more fun / engaging? | (written answer)                                 | + Add aiming<br>+ Let players know which object would be thrown<br>+ Show max limit of carryable objects | —  |
| How functional was the telekinesis?  | 1 (Not functional)<br>5 (Perfect, no complaints) | 3  | <ol style="list-style-type: none"> <li>1. 3</li> <li>2. 4</li> <li>3. 3</li> <li>4. 4</li> </ol>                               |
| How functional was the time stop?  | 1 (Not functional)<br>5 (Perfect, no complaints) | 2  | <ol style="list-style-type: none"> <li>1. 3</li> <li>2. 2</li> <li>3. 3</li> <li>4. 2</li> </ol>                               |

## 12.5. CONCLUSION

### RESEARCH QUESTION #1

***There is potential that the telekinesis attraction technique is not being demonstrated in a clear enough manner. What is lacking or hindering results in the demonstration of this ability?***

Problems with telekinesis attraction occurred mostly from poor aiming due to not having a reticle, not being able to tell when the player reached their max telekinesis inventory slots.

Plan to fix this mostly through UI elements that can indicate the aiming point and how many telekinesis slots are filled.

Players also experienced confusion as they didn't know what objects would be collected, for this we are moving from collecting objects within a radius to only collecting the object that has been aimed at.

### RESEARCH QUESTION #2

***There is potential that the telekinesis repulse technique is not functioning in the way that the player expects. The player now knows they can grab objects, but is there immediate reaction to fire them, what do they expect to do with the objects once they've attracted them, and what is the input they select to perform this action.***

Problems with telekinesis repulsion occurred mostly from (once again) the poor aiming due to not having a reticle. During time freeze players could not tell which direction the objects they threw would move in after resuming time.

Plan to fix this mostly through showcasing how many telekinesis slots are filled in the UI and a directional guide for while time is frozen (ie. line renderer).

### RESEARCH QUESTION #3

***There is potential that our time freeze ability is not being reflected clearly enough to the player. Does the player know that they froze time and if not, how can we communicate this better?***

No playtesters could figure out how to use time freeze, and many were confused on what they were doing, if it was working, and how to use it in gameplay.

To fix this, plan to add a gauge in the UI that indicates if the player has stopped time, how long they can stop time for, and how long before they can use the ability again. Adding indication that objects players throw are frozen and will move in a determined direction when time resumes can help indicate the purpose of the time freeze.

People did not find the input to be intuitive, thus the current input of the time stop should be moved to another button.

# 13. PROMOTIONAL

## 13.1. PRESENTATION SLIDES

Current slides are [here](#) on Google Drive.

## 13.2. VENUE EQUIPMENT & SETUP

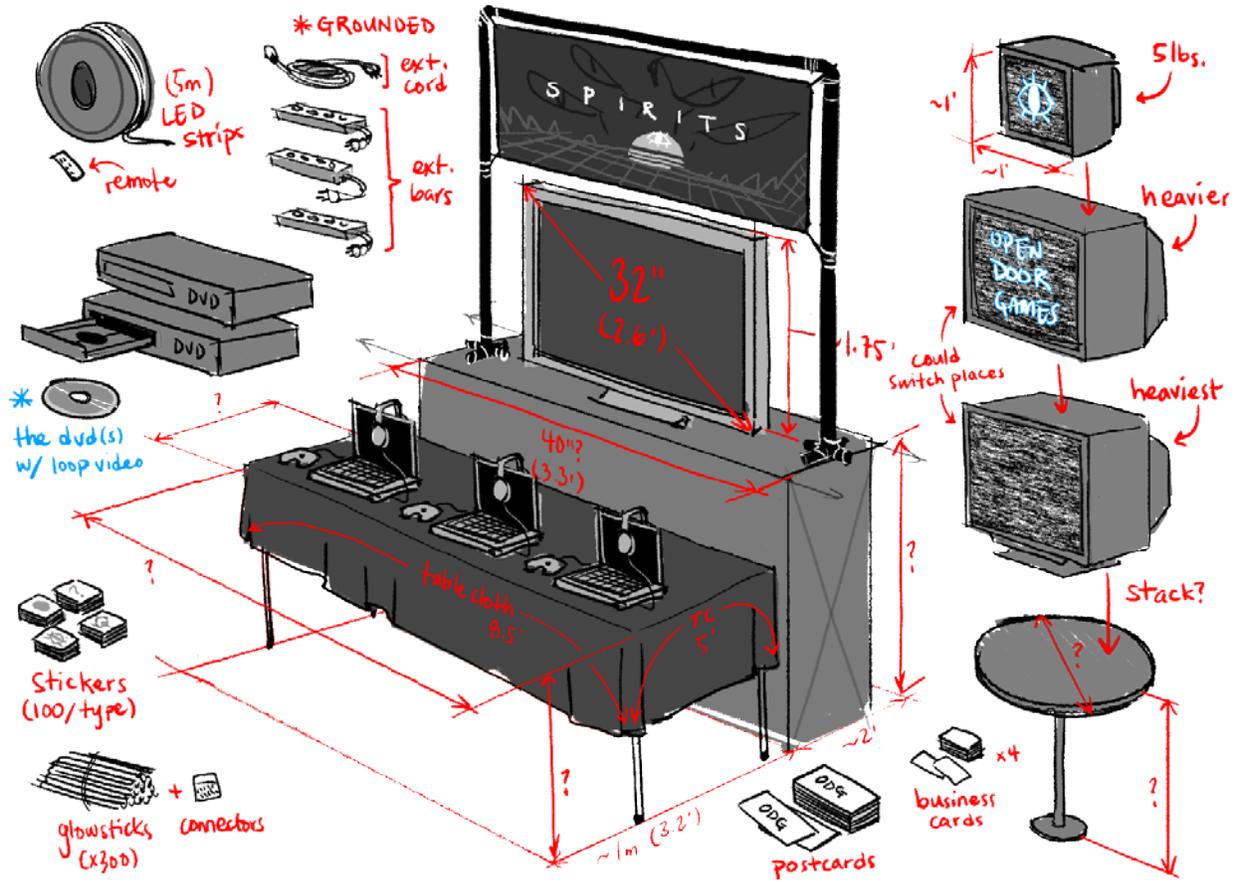


Figure 32 — All equipment required to bring to [Level Up](#), excl. the 32" TV, table it rests on, and the small round table.

### 13.2.1. BANNER STRUCTURE

A structure to hang the horizontal banner from will be made of PVC pipe to reduce cost in place of purchasing a vertical banner with a retractable stand, and also to stand out more.

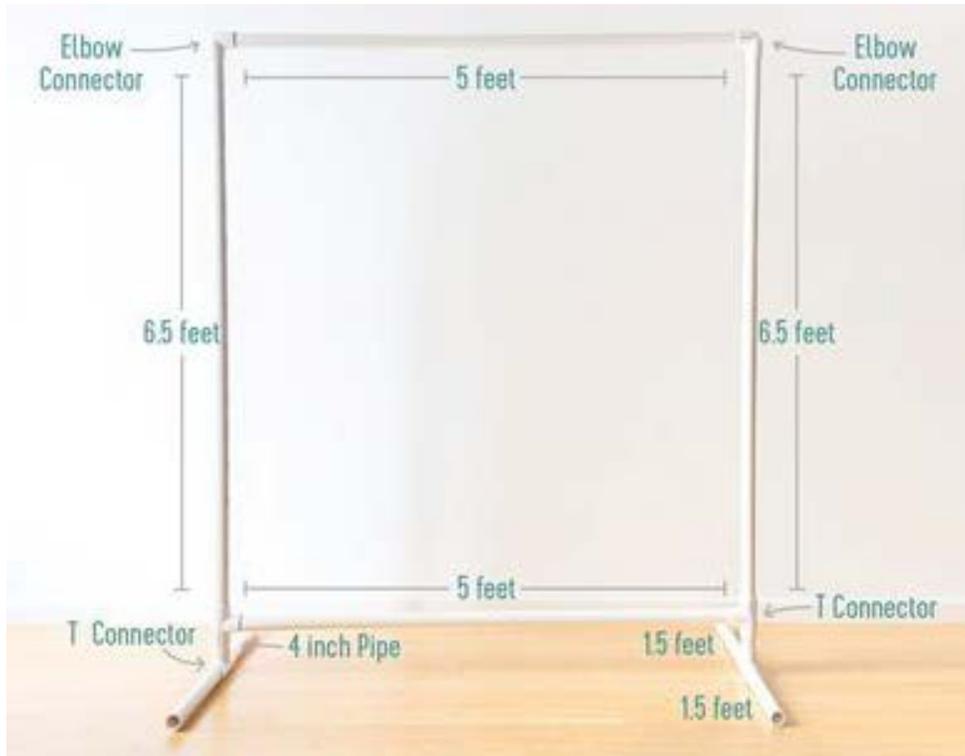


Figure 33 — Example of the structure, retrieved [phillyinlove.com](http://phillyinlove.com).

### 13.3. T-SHIRTS



Figure 34 — Mock t-shirt rotation, generated at [thatshirt.com](http://thatshirt.com).

## 13.4. PRINTED

When presenting at a venue, the team will set up with printed media and will have some promotional handouts for guests who visit.

### BANNER



Figure 35 —Banner design is 2.5' x 8'. It has 2' total padding between the title start / end and the edges, just in case.

### POSTCARDS



Figure 36 —4" x 6" postcard design.

### STICKERS

Stickers will be of the boss and of Isaac's head (hood up, headphones on, showing the eye on his hood).

## 13.5. DIGITAL

DVD players that are hooked up to the three TVs will be playing one of the following (from disc):

- + Video of static
- + Video of static with **team logo** overlay
- + Video of static with **psychic eye** overlay

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