Pie-oneer Design Document

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Change Log

|  |  |  |
| --- | --- | --- |
| Who | What Changed | Date |
| Whole Team | **Initial Document** | 11/12/2021 |
| Whole Team | **Added the product level UML diagram, Added expectations for sprint 4** | 12/12/2021 |
| Whole Team | **Added the expectations for sprint 5** | 01/28/2022 |
| Whole Team | **Added expectations for sprint 6** | 02/18/2022 |
| Whole Team | **Added expectations for sprint 7** | 03/11/2022 |
| Whole Team | **Added expectations for sprint 8** | 04/22/2022 |

# Product Summary

## Vision

A retro dungeon style video game that is made to appeal to players that enjoy humorous and dark role-playing games. Its 8-bit top-down style of gameplay will bring nostalgia to 90’s and early 2000’s players.

## Mission

### Target User / Needs

* Mark – 90’s Video game enthusiast – Wants to play a video game that reminds him of older 8-bit video games.
* Sam – Admin – Wants to fulfill older gamer’s desires of a fun 8-bit video game.

### Features

* Dungeon maps that the player is free to explore in.
* NPC’s spread throughout the dungeon that will give the player hints about the dungeon they are in.
* Player health bar will be included in a noticeable position, so the user can keep track of his health.
* Item bar will be included, so the player can see all of their possessions that are equipped and switch between items.
* The game will include creatures that will randomly spawn and attack the player while they try to solve the dungeon.
* As the player progresses, new weapons will be unlocked for the player to use.
* Humorous and dark story that will be enjoyable for the player

# Architecture

|  |  |
| --- | --- |
| **Technology / Layer** | **Tool / Version** |
| Data Layer | JSON - TBD |
| Presentation Layer | Unity Editor - 2020.3.21f1 |
| Service Layer | Unity Engine - 2020.3.21f1 |

Unity Editor

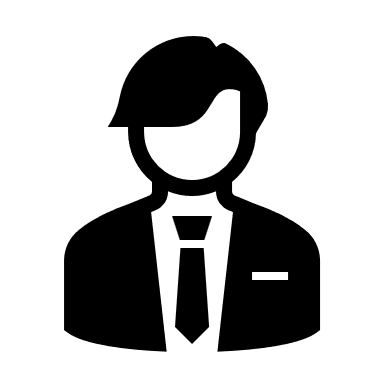
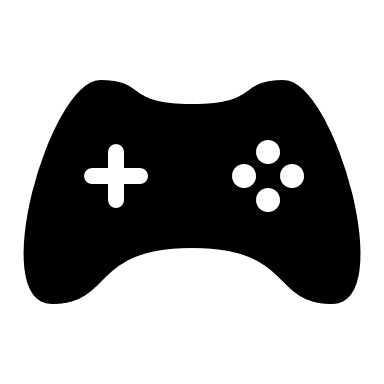
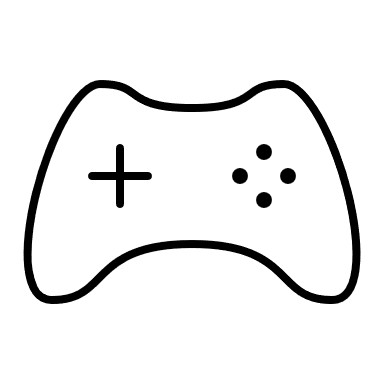
Unity Engine

Database (JSON – TBD)

C# - .NET 4.6

# Boundaries

## Project Community Interactions



Pie-oneer Game

Wants To Play a Video Game

Sam

## Committed Resources

Azure DevOps, Unity Editor, Discord, Visual Studio, TortiseGit

## Prospective Analysis

### 

### Opportunities

|  |  |  |  |
| --- | --- | --- | --- |
| # | Opportunity | Likelihood (1-5) | Benefit (1-5) |
| 1 | The team knows individuals who are willing and wanting to play the game for testing. | 5 | 5 |
| 2 | Get people to draw the in-game art for our characters | 2 | 3 |
|  |  |  |  |

### Threats

|  |  |  |  |
| --- | --- | --- | --- |
| # | Threat | Likelihood (1-5) | Impact (1-5) |
| 1 | We are learning how to communicate as a team and understanding each other’s personalities. | 3 | 4 |
| 2 | Learning Unity is a work in progress. | 4 | 5 |
| 3 | Still learning databases and how to apply them. | 2 | 4 |

# Feature Designs

The following UML diagram represents our project from the product level. It explains how the user

will start the game and interact with the menu and game as he engages with it. The arrows with text explain how the user will directly interact with what is on screen. The squares represent the actual on-screen options, the ovals are interactions the user is having with the game, and the diamond is a possible option that user could have.

Pie-oneer Game

Player

Player

Turns-on Game

Interacts with Keyboard

Start Menu

Quit Game

Selects

Exit

New Game

Interacts with Mouse

Load Game

Options

Edit or no Edit Options

Interacts

with

Mouse

Play Game

Load Save Data

Interacts

with

Mouse

&

Keyboard

Interacts

with

Mouse

Interacts

with

Mouse

&

Keyboard

Selects Pause

Pause Menu

Yes

No

Continue Playing

Options

Save Game

Exit

Interacts

with

Mouse

&

Keyboard

Beat the Game

Output to Screen

User Rejoices

User Exits Game

Interacts with Keyboard

# Detailed Design

## Team Details and Links

**Team Organization / Project(s):**

https://dev.azure.com/OITJuniorProject-Pie-oneer/Pie-oneer

**Project Code:**

https://OITJuniorProject-Pie-oneer@dev.azure.com/OITJuniorProject-Pie-oneer/Pie-oneer/\_git/Pie-oneer

**Project Tests:**

**Other:**

## Sprints

#### Sprint 3

1. What changes to in the high-level design occurred last sprint? (Note it here, update the design and fill the change log.)

None

1. What is your strategy or goal for this sprint? (short)

Our goal for this next sprint is to finish designing the game, having our individual workstations connected to the project with all resources working properly, and begin implementing a scene for the game that is interactable.

1. Describe any trade-offs and alternatives that you expect to encounter.

None

1. How will you maintain team code ownership?

* Each individual will have their own individual user story that will have their own code applied to.
* At the top of each file, we will make sure to comment when that file was worked and by whom.
* We will communicate through discord when we will be pushing or pulling code and what changes were made.

1. Other questions that you add based on your domain.

None

#### Sprint 4

1. What changes to in the high-level design occurred last sprint? (Note it here, update the design and fill the change log.)

None

1. What is your strategy or goal for this sprint? (short)

Our goal for this next sprint is to start finish more of the character movements and interactions with weapons, have a dungeon level near completion, create a menu and interact with it, and create a single enemy character.

1. Describe any trade-offs and alternatives that you expect to encounter.

None

1. How will you maintain team code ownership?

* Each individual will have their own individual user stories that will have their own code applied to.
* At the top of each file, we will make sure to comment when that file was worked and by whom.
* We will communicate through discord when we will be pushing or pulling code and what changes were made.

1. Other questions that you add based on your domain.

None

#### Sprint 5

1. What changes to in the high-level design occurred last sprint? (Note it here, update the design and fill the change log.)

None

1. What is your strategy or goal for this sprint? (short)

Our strategy for the next sprint is too first figure out how to operate git and Unity together without as many conflicts as we had in sprint 4. Our goal for the next sprint is to create another dungeon level, create the database to load and save player data, start a game and be able to play through a dungeon, and have an intro scene for the story.

1. Describe any trade-offs and alternatives that you expect to encounter.

None

1. How will you maintain team code ownership?

* We will continue to work on the project on the separate branches and labeling code as we go to know who and when someone worked on a file.
* Discord will be our primary means of communication if changes within the same file are needed to avoid any git conflicts.

1. Other questions that you add based on your domain.

None

#### Sprint 6

1. What changes to in the high-level design occurred last sprint? (Note it here, update the design and fill the change log.)

None

1. What is your strategy or goal for this sprint? (short)

Our primary goal for this sprint is to go through, polish up, and tweak the majority existing features we currently have implemented. In addition, we will begin to sketch out the concept for the second dungeon, fix bugs found within the first dungeon, and start the implementation of our save and load system through the use of a JSON database.

1. Describe any trade-offs and alternatives that you expect to encounter.

None

1. How will you maintain team code ownership?

* We will continue to work on the project on the separate branches and labeling code as we go to know who and when someone worked on a file.
* Discord continues to be our primary means of communication if changes within the same file are made.

1. Other questions that you add based on your domain.

None

#### Sprint 7

1. What changes to in the high-level design occurred last sprint? (Note it here, update the design and fill the change log.)

No high level changes.

1. What is your strategy or goal for this sprint? (short)

Our goal for this upcoming sprint is to completely finish dungeon level one and have a seamless transition between the menu, the intro cut scene and the first dungeon. Then start on dungeon level 2.

1. Describe any trade-offs and alternatives that you expect to encounter.

We may have to limit ourselves to just 2 dungeon levels instead of the initial 3 we planned.

1. How will you maintain team code ownership?

* Each individual will have their own individual user story that will have their own code applied to.
* At the top of each file, we will make sure to comment when that file was worked and by whom.
* We will communicate through discord when we will be pushing or pulling code and what changes were made.

1. Other questions that you add based on your domain.

None

#### Sprint 8

1. What changes to in the high-level design occurred last sprint? (Note it here, update the design and fill the change log.)

No high level changes.

1. What is your strategy or goal for this sprint? (short)

Our goal for this upcoming sprint is to improve on dungeon level 1 and make changes that will improve the gameplay for the user. Additionally, we hope to have most of the next dungeon complete and possibly have the final boss added in as well.

1. Describe any trade-offs and alternatives that you expect to encounter.

We will try and change out the weapon mechanics for the user. They are currently very fidgety and not as responsive as we would like, so we will try to employ a different method that will offer more responsive attacks and animations.

1. How will you maintain team code ownership?

* Each individual will work on separate parts of the project with code files commented.
* At the top of each file, we will make sure to comment when that file was worked and by whom.
* We will communicate through discord when we will be pushing or pulling code and what changes were made.

1. Other questions that you add based on your domain.

None