*Space Runner*

**4.0 Software Development Plan**

**4.1 Plan Introduction**

This Software Development Plan provides the details of the planned development for Space Runner, a mobile based platformer that has procedurally generated level layouts. The project will make use of skills garnered over the course of my career at Loyola Marymount University.

**4.1.1 Project Deliverables**

Project Proposal: A description of the project to our class and a justification for its existence. This was given on Week 3.

Requirements Specification Document: A description of the requirements that our product must satisfy, we wrote this to define the minimum viable product. This was turned in on Week 5.

Software Development Plan: A detailed plan for the completion of our product, this document includes the organization of our team and a summary of the previous deliverables.

**4.2 Project Resources**

To complete the project and deliver it in its entirety, I need my own computer to code on and install Unity, the game engine software that I will be making the game in.

**4.2.1 Hardware Resources**

|  |  |  |
| --- | --- | --- |
|  | Development | Execution |
| **PC**  OS: Windows 10  GPU: Nvidia graphics card  PnP: Mouse, keyboard, monitor,  speakers/headphones  **Smart-Phone**  Touch Screen  Speakers | X  X  X | X  X  X  X  X |

**4.2.2 Software Resources**

|  |  |  |
| --- | --- | --- |
|  | Development | Execution |
| **PC**  OS: Windows 10  Engine: Unity 5.4  VCS: Git  **Smart-Phone**  App Store | X  X  X | X  X |

**4.3 Project Organization**

Major Functions:

Graphic Designer: Creating in-game graphics and animations

GUI Designer: Creating the user interface in game

Combat Designer: Develop combat between the AI and the player

AI Designer: Develop enemy types and movement/attack patterns

Balance Tester: Balance and check the game for bugs

Movement Designer: Design movement for player character

Procedural Generation: Cause game to flow from screen to screen fluidly with enemies,

obstacles, gems, and layout

**4.4 Project Schedule**

**4.4.1 PERT Chart**



**4.4.2 Task / Resource Table**

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Time Est.** | **Resource Est.** | **Difficulty 1-5** |
| Character Movement & Combat | 3 Weeks | Unity | 4 |
| Enemy Design | 2 Weeks | Unity | 3 |
| Gem Creation & Collection | 1 Week | Unity | 1 |
| Art & Animation | 2 Weeks | Unity & Pyxel | 4 |
| Sound Design | 2 Weeks | Unity & Audacity | 2 |
| Level Design | 2 Weeks | Unity | 2 |
| Procedural Generation | 2 Weeks | Unity | 3 |
| Menu and UI | 1 Week | Unity | 1 |