**Games Development: Prototype Documentation**

**Game Overview & Origin**

The prototype we will be producing is a 3D First-Person Platforming game where the player will complete a minimum of five levels, each one unlocking a new mechanics that can allow further progression and increase the Difficulty of the game.

The idea for this game came from all of us wanting to create a simple 3D Platformer. But as we continued on, we had a few ways of improving the concept to make the project unique.

One idea was to make the levels accessible after each new key object is obtained. (i.e. when Grapple Hook is obtained, Level 2 will become reachable.)

Another idea was to also include mandatory key objects that effect the later Levels in what new obstacle is added. Making the later Levels a bit more challenging.

**Game Engine**

Our team has decided to work with Unreal Engine 4 as the engine of choice.

We chose Unreal over Unity as we have all had some experience with Unreal more than Unity and felt it would be a hassle to learn a new engine rather than use one we have some familiarity towards.

**Mechanics and Gameplay**

The main Player Character has a few noticeable functions such as the ability to jump, sprint, and use a Grappling Hook (Once obtained).

Another interesting ability the character has is to increase the distance after a jump by sprinting beforehand.

The character can’t naturally jump as high and won’t be able to fair in the later levels as they have greater elevation that can’t be reached via normal means. But with the Grappling Hook this problem becomes trivial as the later levels are semi-built around this Mechanic.

Each Level have their own obstacles that will either destroy the player’s character making them respawn at their current spawn/checkpoint. Or knock them off into a death barrier, again resulting in respawning.

After the player grabs the Key item in the Level, they have to return to the spawn point they came from. But the level will become more harder upon obtaining the Level’s Item.

**Quality Assurance**

For the Quality assurance side of things Louis Graham handled that he started by taking a step back and looking at the levels and seeing straight away what could be added / removed or changed to make the level better, once the levels where altered to help improve the general gameplay he then moved onto a methodology people in the Quality Assurance industry use which is one of the main ones used and that’s Functionality Testing, he tested all of the main features like teleporting and the use of a grappling gun.

He documented all of his tests within a Test Table that he created with what would need tested before they were initially implemented, he also added and adapted / changed tests as the production of the levels progressed.

Model of the Test Table shown below.

**Art and Audio Production**

For the Audio Production section Louis Graham handled all of the sounds and effects.

He studied multiple other games for their techniques on how they handle and implement their own sounds for levels, he then went away and used a software called Audacity to record some of his own and to edit some other effects and / or sound clips that was taken from an online repository such as FreedsoundFx or FreeSoundGG.

He created and / or edited a lot of sound effects such as Female and Male footsteps, Female and Male Breathing, Female and Male Grunting, Female and Male Jumping as well as Portal Ambient Noises, Portal Teleporting sounds and multiple different Types of Door effects wither it be Opening and closing or creaking.

**Level Concept Design and Description**

Level Select Hub – We chose to have a Hub area where the player would be spawned in to select each level,

First Level – Description

Second Level - Description

Third Level - Description

Fourth Level - Description

Fifth Level – Description

**Game Design Approach…**

This game’s level Design approach is based on a Linear Level Design. One of the reasons of doing this is because of the rules in the Game are pre-defined in in a way that requires the player to reach the fifth and final Level by completing each level chronologically from the First Level onwards. This Rule on its own creates the linear format for the player to follow as the Game cannot and will not progress without these steps taken.

Another reason of choosing this Approach is that it’s easier to create a Game in which the path to victory is already pre-determined for the player to get to. The only problem this causes is the restriction that the player may feel because of the lack of personal decision making based off of where they can go and when they go to it.

The Linear design can be seen on this Flow chart down below:



**Error/Problem Log**