Games Engineering Coursework

Doors of Perception

Roderick Ewles 40330977

# Introduction

## Overview

The inspirations for the game, in terms of mechanics, were Super Mario World and Risk of Rain. Both of these games rely on power ups or items that the player unlocks to change how they interact with the world. However the twist mechanically would be the inability to harm the enemies, forcing the player to try to chain their abilities to get around the enemies rather than killing them.

The inspirations for the game’s theme and story are Aldous Huxley’s “The Doors of Perception” and “Heaven and Hell”, as well as Jeremy Narby’s “The Cosmic Serpent”. The idea being that the player has an altered state of perception which has lead to them being locked up as mad. However they aren’t mad they just see things differently (i.e. perceiving themselves and medical staff as abstract shapes). While they are physically restrained they are being led on a journey to free their mind by two snake “spirit guides”.

## Scope & Content

The Game is a platformer with power ups that allows the player to change the attributes of their character. These powers must be used in varying combinations to complete the levels. The player will be able to change their speed and jump height as well as growing and shrinking. Aside from the snakes the game is supposed to be abstract and symbolic. The AI is simple but can be challenging. Essentially it attempts to follow the player wherever they go. The AI movement is such that the power ups can be used (with some challenge) to get around the enemies. There are several routes through the levels to encourage different strategies and power ups.

# GDD Changes

The first major change to the gdd mechanically is collecting the power ups. Instead the player can use all four from the start. This was due to time and the fact that the game concept had to be changed. In addition to this all of the enemies in this implementation are hostile; some enemies were going to be added in the background and non-hostile so that their dialog could inform the player of the story but I ran out of time.

Another change was to simplify the UI so there is now no indication of which power ups are active. Instead an audio cue is given. This leads to less clutter on the screen, and it was found during testing that the player knows what power ups are active. This is due to the fact that they are either visual or change the player’s interaction. A health system was also scrapped as the games setting evolved from an Alice in Wonderland inspired game to a more abstract representation of similar themes. The player is being caught when they bump into enemies was now going to represent the main characters mental journey being disrupted by the mental health staff who don’t understand him. Also rather than wonder land the platforms are now supposed to represent the main character’s fractured stream of consciousness.

# Software Design (State & Sequence Models at the end of the report)

## Player Functionality

The Player functions were developed first. The increased speed and low gravity are implemented in the player physics component. So long as the relevant key or controller button is held down and movement is attempted the new interaction will occur. If a power up unlock system an external Boolean variable would be used to toggle them active or not.

Shrink and grow were more challenging. Re-scaling the shape was ok; changing the size of the player’s collider was more challenging. Currently the code for this is in the level, if I had more time I would have tried to make this a separate component that can be added to the player.

## Enemy AI

The enemy AI is simple but it can become quite challenging as it hunts the player through the level. Essentially the y direction changes on a timer or when the move the enemy is trying to make is invalid. The