COMP313 Assignment 1 Report

Ollie Franklin

Links

GitHub repository
https://github.com/OllieFranklin/COMP313_A1

Demonstration video
https://www.youtube.com/watch?v=l0C8WpBRzWw

Game Description

What is the main action in the game?

The game I have created is a platformer game with a speedrunning element. The goal of the game is to get to the end of the level in the shortest possible time, by jumping across platforms and avoiding obstacles. The game includes a timer, which informs the player of exactly how quickly they completed a level. This makes the game more replayable, as players could compete with themselves and others to try to reduce their time. The level is intentionally designed to include more difficult routes that can be taken, which would result in quicker times. The level features moving platforms, a spinning arm to avoid, and a jump boost power-up, which allows the player to jump higher for a period of time.

What was the hardest part of the game to get working in Unreal?

The part of the game that I found the hardest was the player character, which I created as a C++ class. The player character has a first-person mesh consisting of the player's arms, and a third-person mesh which is invisible to the first-person camera. I imported animation sequences for the first-person mesh, and created an animation blueprint which determined when each animation should play. The animation assets I used were for a first-person shooter, so the hands were positioned as if they were holding a gun. I didn't want my character to hold a gun, so I used a baguette asset I found instead. This was the part of the character I had the most difficulty with, as I couldn't figure out how to access the first-person mesh (which had been defined in C++) from blueprints. I eventually figured out how to make properties in C++ accessible to blueprints, and attached the static mesh for the baguette to a socket in the player's skeleton.

What is the most interesting part of the game?

The most interesting part of my game is the jump boost power-up. When the player collides with the power-up, their maximum jump height variable is temporarily increased, which means they can jump much higher for a short period of time. This allows them to complete the last section of the level. Using this jump boost to its full effect, the player can actually skip a huge section of the map, and jump straight to the final platform, although this is very difficult. This gives the level a higher skill cap, making it more fun to replay. Collecting the jump boost also plays a sound and displays an icon in the HUD, which gives feedback to the player as to the effect and duration of the power-up. The duration of the jump boost is designed so that a normal player would have to wait a second or two for it to run out, before making the next smaller jump. This adds a level of difficulty for newer players to overcome, and also makes another smaller time-save possible, where the player can skip the small jump.