

Simple World In Unity

Module Code: **CS3VR16**

Assignment Report Title: **Simple World In Unity**

Student Numbers: **28010336**

Date Completed: **14/11/2021**

Actual hours spent for the assignment: **24 hours**

Assignment evaluation (3 key points):

- 1) Learning how to use Unity was interesting.**
- 2) I personally found the assignment quite time consuming.**
- 3) I understood how to use the inbuilt Unity tools.**

Brief Overview

My world contains a basic house on a forest/grass/rock terrain. The house has a front door and several interior objects that the user is be able to interact with. It also has a window which the user will be able to use. The terrain consists of a mountain, rocks, lots of trees, grass and a stone ground which represents a forest.

Purpose of the world

The purpose of the world is to show the luxuries of living in a house. They get to experience normal day-to-day activities in the house without going through any trouble. So, the world showcases some of the activities, such as having a comfy sofa to relax in. Even in a forest, people are able to have an easy life in terms of experiencing normal day-to-day activities.

I have listed features, which the user is able to interact with, below:

- Front door which they can open and close.
- A ball which they can throw at the target.
 - This is an additional feature, and it is a game element. The gaming element is to throw the ball at the target.
 - The ball is heavy and hence cannot be thrown very far.
 - When the user goes near the ball, they automatically pick it up.
- TV which they can turn on, off, play and pause.
 - This is where my student number is displayed.

Screenshot of world in play mode



Figure 1: In the forest, house in the distance

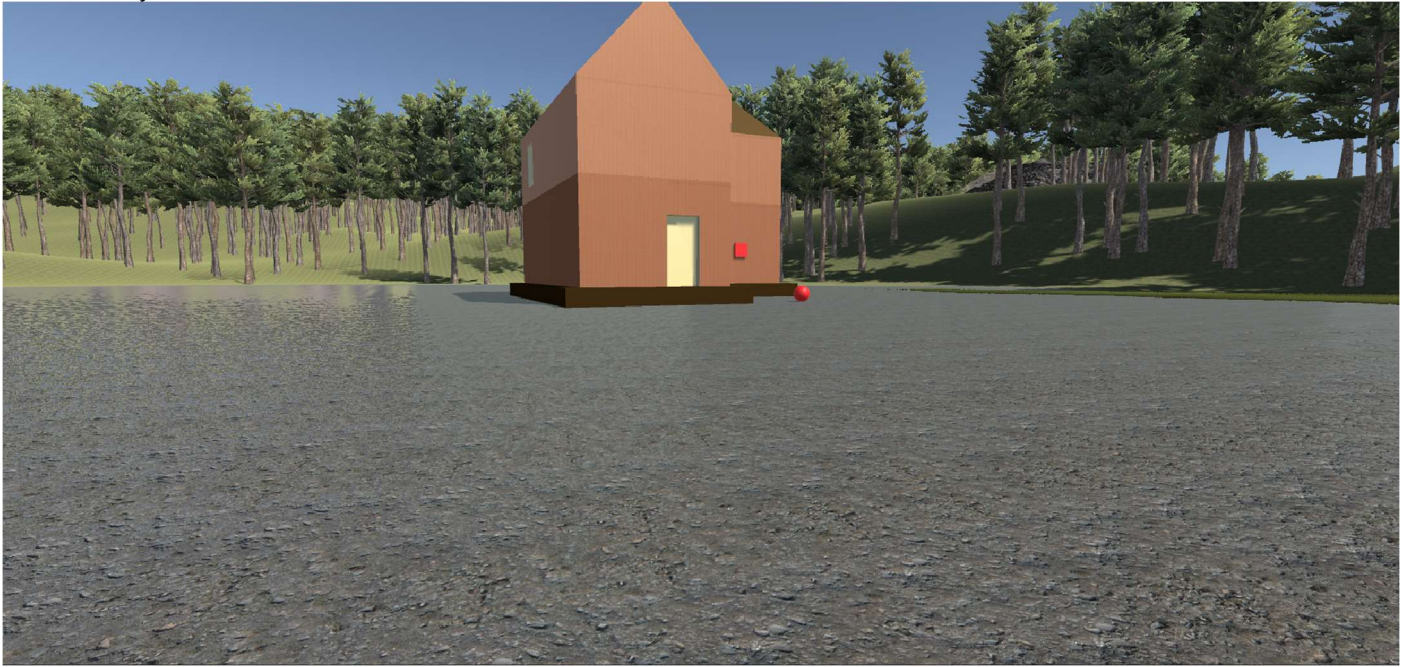


Figure 2: House close up

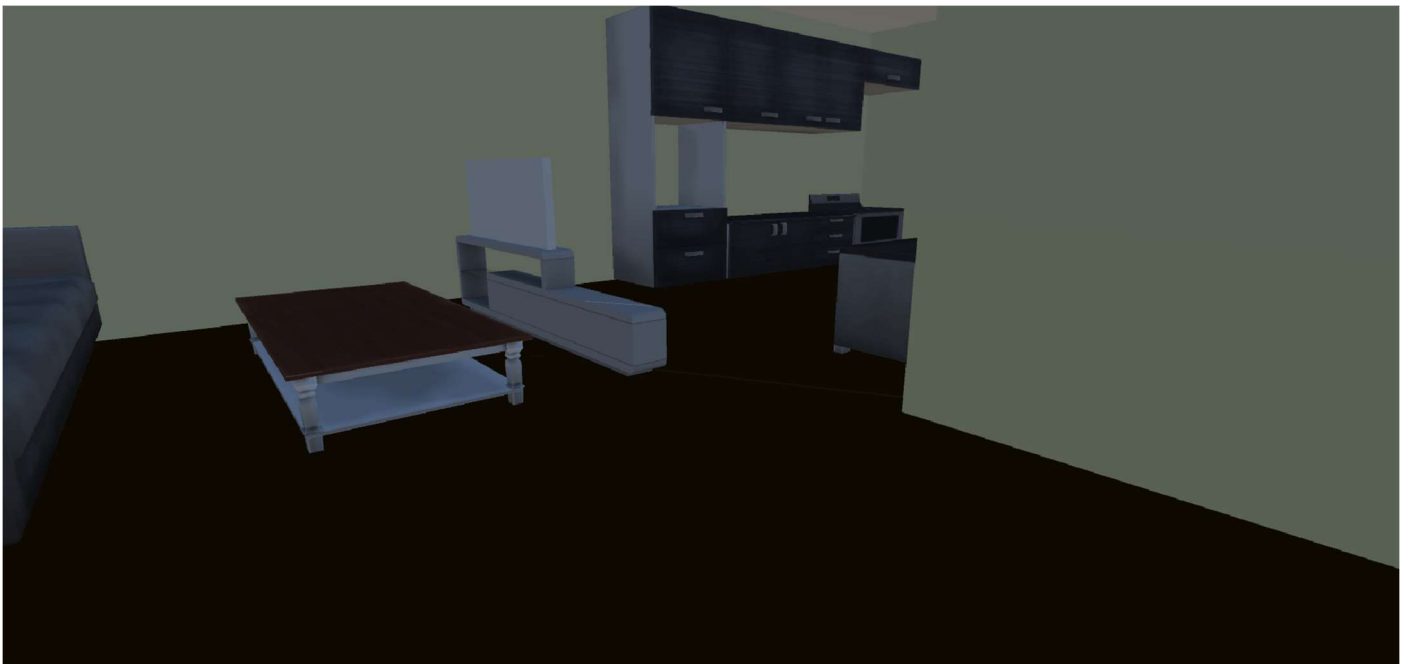


Figure 3: Inside the house

Commands

WASD or Arrow Keys – Move to the front, left, backwards and to the right.

Spacebar – Jump.

When near the front door:

E – Open and close the front door.

When near the TV:

E – Turn on and off the TV.

Q – Play and pause.

When near the ball:

E – Drop the ball.

Left mouse click – Throw the ball.

Sources Used

There are assets that have been downloaded from the Unity Assets store and used in the virtual world. Mainly textures and interior building objects were exported from the store. Assets were also used for first player mode.

- Standard Assets (for Unity 2018.4)
- Toon Furniture
- TV Furniture
- Low Poly Bathroom Pack
- Handpainted Forest Pack Life

There are some extra assets that have been downloaded and imported, but none of them have been used in the world.

Overview Of Scripts

Script	Object	Description
FrontDoor	Front Door Hinge object	Adds the functionality to the front door. If E is pressed down, the Boolean variable will be set to true, and the animation will start playing.
TV	TV object	Adds the functionality to the TV. If E or Q is pressed down, some of the values in the Boolean variables will change, allowing the user to interact with the TV.
Ball	Ball object	Adds the functionality to the ball. If E is pressed down or the mouse has been clicked, some of the values in the Boolean variables will change, allowing the user to interact with the ball.

Reflection

This assignment introduced modelling and intractability of a 3D virtual world to my programming experience. Learning how to use the Unity environment and the inbuilt tools was quite fascinating. However, it was quite time consuming as Unity is the first game engine that I have used. I can now understand how the interface of 3D games like Minecraft is built and how the game works. Therefore, I found the assignment even more intriguing. To conclude, I have gained a lot of knowledge and will use the experience that I have gained in future gaming programming which is where I would like to make my career.