Games Specialism: Practical Portfolio – Alfie

Link – [Alfie - Programming Portfolio](https://stulsbuac-my.sharepoint.com/:f:/g/personal/s4213368_lsbu_ac_uk/ErvFolgqn6VBqMHKd6UgA34B1z2itZnfO6yowUeDursr3w?e=fcrgbc)

Reflective Statement:

When starting this project, I decided that the first programming micro brief I wanted to respond to would be the rolling road system. I wanted to choose this brief due to feeling that I had a basic understanding of the scripts I would need in order to create this effect. Firstly, I decided to make a capsule that I would (using the material creator) make yellow so I could have it differentiate itself from the ground tile I would need to make later, I would then rename it in the inspector to “Player”. Next, I needed to add a Rigid body to the player so the object would have physics, then using the constraints tab I would freeze the rotation to stop the character from falling over. Adding to this I would create a new plane object that I would rename to “ground tile”, I wanted to use this as the floor that the player would move on and needed to make a script to spawn them in. I then went back to my player capsule and created a script that would give me left and right control over the object while also adding a public float that would let me control the speed, I also made it so the player would constantly move forward without intervention and added tis scrip to the player capsule. Next, I created two separate scrips, one that would spawn the ground tile I created under the player and another that would remove them from behind the player. An issue I came across during this was the tile deleting too early making the player fall, I would get around this by creating an empty object and calling it “next spawn point”, this would be placed at the end of the ground tile and be used as the trigger for spawning the next tile in my script. Finally, I created a scrip that would make the game camera follow the player as it advanced along the ground, I then added it to the main camera in the hierarchy. Throughout the creation process of this brief I feel I learnt valuable skills such as how I can create a basic movement system for a character, as well as how to properly use triggers to create a ground spawning system. And finally how to make the Unity camera follow the player throughout a level in third person which is something I will be sure to use in the future.

After this the second programming micro brief I decided that I wanted to respond to would be the instanced scrolling material. I started this project by fist creating a new scene within Unity and creating a plane object in the hierarchy. Next, I needed to find a water texture that I would apply to the object, I used google imaged and found one that I would download and import it into Unity and apply it to the object. I then created the scrip that would make the newly applied texture scroll across the object. An issued I came across when creating this was making the speed and direction editable, I solved this by creating two public floats called scroll speed X and Y which solved the problem.

Throughout this project I feel I have learned some valuable skills within Unity, one of these being the texturing process and how I can use scrips to enhance them. This was an aspect of Unity that before this project I had not had much experience in, but now I feel much more comfortable with the process and the scripting that would be required to complete it.

Finally, after completing the previous two the last programming micro brief that I decided I wanted to do would be the in game FPS counter. I began by first making a new scene with the unity project and creating a capsule that I would then rename in the hierarchy to “player”. Next, I needed to create a basic character controller script so I could show off the FPS in game as the player moves around. I did this and created many different floats to customise the speed and jumping of the player, then added the component to the player capsule. Finally, I added the main Unity camera to this component to make it first person. Next, I began on the FPS counter where I first created a scrip that would calculate what the games FPS actually was and how often it would update on the players screen. An issue that I came across during this was how I could make the FPS appear on the player’s screen. In order to solve this, I needed to create a new camera in the hierarchy called “UI camera” and attached it to the canvas that was showing the updating FPS count. This fixed the issue and made the UI show at the top of the player screen. I would say that the main thing I have learned throughout this project would be the creation of UI components in Unity, I had not ever created a UI for a game and I feel this is information will use in the future.

In conclusion, these many micro briefs have taught me valuable lessons and skills when it comes to programming as well as giving me experience with problem solving. I feel that with some of the micro briefs I could have better utilised my time to improve and expand on some features within them, this is something I know I will need to work and improve on for any future projects I work on.