

Reflective Report

I was mid-way through the first year of University starting Semester 2 and we were told to pick a specialism to pick from, I chose programming as it was the most comfortable for me out of the rest of the options as I was not necessarily creative. In our first programming lesson we were told that as year one students we must pick three project briefs to complete, having roughly two weeks for each of them. Based on the time we were given I felt really confident in being able to meet the requirements as I felt two weeks would be plenty of time to complete them. There were multiple options to pick from and I started with the briefs underneath Beginner as it was my first year, I wanted to start off with the briefs that I believed were going to be the easiest as by the next year I would have a better understanding on how to engage, plan and complete the briefs that I perceived to be harder.

With the In Game FPS Counter brief, it required an on screen frame counter as well as the values being averaged over a second so that they would be readable with extra credit wanting an on screen graph to show the data. My idea was to start off the week by researching YouTube and forums on ways I would be able to attempt this brief, and then finishing the first week by having the minimum requirement done then using the second week to fix any problems as well as try to attempt the extra credit. From this brief I learned how I could test any games I make in the future allows you to see which parts of the game are causing Unity to lag, this is helpful in optimising games so that they can be run on multiple machines regardless of the users hardware limitations, as well as teaching me more about obtaining and storing values to then use in other scripts. I also learned a lot more about the line renderer since it was my first time using it and how I could plot points onto it. For this brief I added a game object which has a basic movement controller to allow you to navigate the scene, and I have the FPS counter script on an empty game object containing a canvas with four textmeshpro texts which allows you to display the current, average, minimum and maximum FPS as well as on the script being able to change the target fps amount, as well as select the text objects you want to use for the GUI. I decided to use textmeshpro instead of the standard text component as occasionally the standard text can be very blurry and low quality making it very hard to read which is not something that I want as I want the FPS value to be very clear. With this brief I was able to complete the minimum requirements as it would show values every second and was displayed on screen however I was not able to complete the extra credit work as for some reason it worked when I put in 5 values myself but when I replaced those with a list of values obtained from the data history of the fps values it would fail to run because of this I had to comment out this code so that it would run properly which made me a bit disappointed as I was so close to achieving it. From this project I know that I need to have a look at the line renderer in more detail and see what it can be used for. Next time I would have completed the basic requirements a lot more faster giving me more time to solve the issues I had with the extra credit requirement.

For my second brief I chose the Instanced Scrolling Material brief that required a texture to be able to scroll to give it the appearance that it is moving, being able to customise the parameters and keep the speed independent of the frame rate. With extra credit requiring that any additional materials be destroyed when the scene unloads. I started by researching how I would get a texture to scroll in the first place, by placing it on a quad I was able to offset the texture with the public vectors in which you could control the speed and direction the texture went in by using positives and negatives and making the number smaller or larger. From this brief I was able to learn how to manipulate textures which in this case would mean someone would not have to spend time animating which reduces time if you were making a game. This brief was probably the hardest one for me because it did not have any UI centric parts to it so I was out of my comfort zone and there was not much online about it however it does work as intended and could be used as a background for a dodging mobile game as a road or as a background element in a 2D Platformer.

For my final brief I chose the Speedometer brief, which required me to convert meters per second into miles per hour and for extra credit to display it on a rotary dial. The Speedometer would allow you to see how fast an object is travelling which is useful to display for any vehicle games especially if you have a speed limit. I decided for this brief to go from a top down perspective so I needed to research and find a car script that would match, after implementing the car script I added a sprite I found online to it instead of a grey quad so it would be more believable. To display the values I added a reference to the text object I had created in a canvas, I was able to use the standard text component this time as it didn't come out blurry, I then created a variable which would be included in what was displayed in the text object, this was determined by getting the objects velocity magnitude which I was able to get by using a rigidbody on the object and then multiplying it by 2.237 which is the conversion rate of mps to mph. By the time I had completed this process it was the end of the two weeks given for the brief, so I did not have enough time to complete the extra credit part of the brief. I was happy to be working on another brief that required the usage of UI as it is something I enjoy in programming but also disappointed that I did not really have a chance to attempt the extra credit part as there seemed to be a lot of resources online about radial bars and sliders which I could have scripted with the MPH value. If I were to be doing this brief again, I would have tried to do the car script and MPH script in the first week to give me an entire week to try and work on a rotary dial.

Across these three briefs the major issue I have faced is time management often spending too much time on something therefore not being able to complete the extra requirements as I mentioned in my introduction this was something I wanted to find out so I could make changes to better help myself next year, from this report I understand that I should be looking at these briefs the day before the scheduled lesson so that I can give myself an extra day or two and understand better what is required as well as trying to complete the minimum requirements during the first week. I should also communicate more with my lecturer especially if I am not able to find any resources online to help with the issues I am facing rather than hitting a roadblock.

