

Specialisms Reflective Report

Objectives

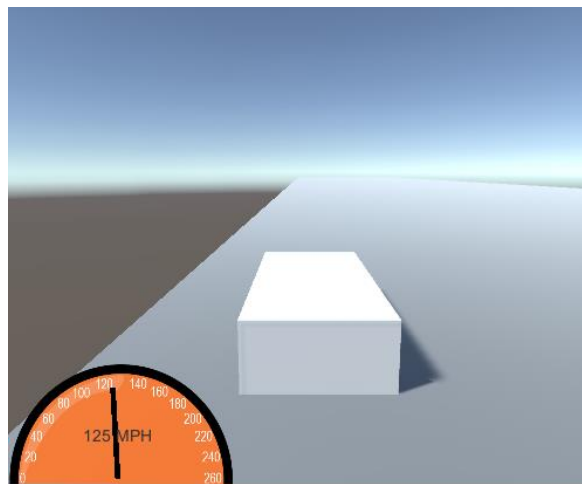
My objective is to improve my programming skills and knowledge. As I have had only little experience programming in the past, I have chosen simpler briefs. This will allow me to work on other projects outside of university. This also some-what guarantees that I will finish at least three briefs. My chosen briefs are: Speedometer, Instanced Scrolling Material and an In Game FPS Counter.

Brief 1 – Speedometer

The objective was to create a speedometer that would show the speed on an object (MPH). This would be shown by an arrow on a speedometer pointing towards the current speed and number on the speedometer that would show the specific speed of the object. This speedometer could be used to display the speed of a vehicle, the speed of a character, it can also be used to show the speed of which an object is falling. I began by setting up my unity scene with a cube a ground and UI.

During the process of making the speedometer one of the biggest problems I encountered was the speedometer not displaying the speed of the object even though I had set everything up correctly. It wasn't until I dropped the object in the scene off of the ground and into the void that I realised the speed wasn't being displayed as I was translating the object in opposed to adding force to it, therefore the speed could not be measured. To fix this I changed my movement script, it was translating the object in a forward direction, therefore the cube was just slowly being moved in a specific direction by changing its current position. However, when I changed the movement script to 'AddForce' it would instead be adding force to the object in a forward direction, the speedometer could then use force to calculate the current speed of the cube.

As a whole this was a great learning experience for me and I learned a lot, which in turn helped me produce my solo mobile game. If I were to do this brief again, I think I would improve the UI and experiment with different top speeds.

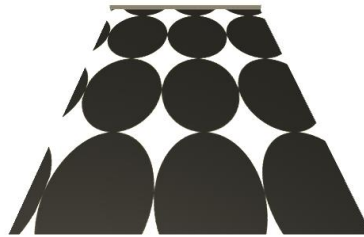


Brief 2 – Instanced Scrolling Material

My objective for this brief was to make a script that could scroll a material that was applied to an object. This script would also come equipped with a way for any user to change the direction and speed of which the material is scrolling. This script can be used for materials such as conveyor belts, waterfalls and boost pads.

During this brief I didn't experience any noticeable problems however I decided to change the texture that was being scrolled as I felt that it didn't represent the purpose of the instanced scrolling material as it was indistinct and blurred. The pattern I changed it to was black circles on a white background as this pattern was more distinct and made it easier to see the direction that the pattern was scrolling in.

If I were to do this brief again, I would produce more materials that could be scrolled. I would also put them a variety of different game objects so people who use this package have a better idea of its purpose. I would also implement a random speed feature as it would give textures such as water, lava or toxic waste a more realistic feel as these liquids don't always flow at a fixed rate in reality. I would also add an option to change the colour whilst the material is scrolling as it could be used to add additional detail to the material. For example, water becoming cloudy or clear. This colour change would also be put on an adjustable timer so it could be changed according to what the individual who uses this package wants.

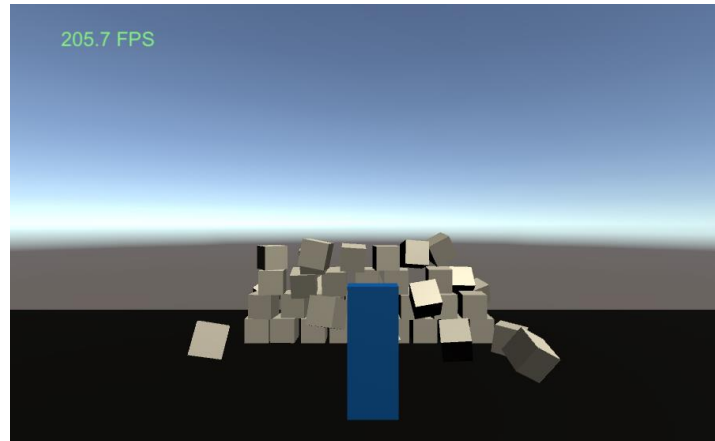


Brief 3 – FPS COUNTER

My objective for this brief was to make an in-game FPS Counter, to do this I had to make use of unity's UI system. The requirements for this brief were to make an in-game FPS counter that would keep track of the current frames during play.

When doing this brief, I didn't run into many problems however I was concerned with the high fps rate I was getting until I realised that it was so high because my scene was empty. I added a few cubes and made them fall in an attempt to decrease the frames per second.

If I were to do this brief again, I would find a method of dropping and increasing the frames drastically such as putting it into a scene with a lot of assets or having many particles be emitted at the same time and slowly decrease the number of particles being emitted to show the frame rate increase. I would also add a CPU, GPU and RAM usage percent indicator. Another thing I would include in this package is the ability to move the FPS counter anywhere on the screen as it may interrupt or block gameplay or other UI elements.



Conclusion

In conclusion I enjoyed doing every brief as I learned a lot of new skills and techniques. In addition, each brief helped me improve upon my solo mobile game as I produced a racing game. I am also happy with how each brief turned out as I believe I completed them all successfully. Doing these briefs also showed me how something seen as a small part of a game such a speedometer can have such an impact on a game as a whole.

It also taught me that not everything is going to work first time and even when it appears to be in working order the slightest interaction with it, whether intentional or not can show faults in the component you have made. This has also shown me that these components can be implemented into many different types of games, for example if my IPP wasn't a mobile game I would have implemented all three of these components into it, however as it was made for mobile, I didn't want the small screen to be cluttered.

Overall, I felt that I have learned a lot throughout this entire process and that these briefs have helped me gain skills that I can apply when making games in the future.