David Robey

CS330 – T1188

10/11/2022

Final Project Written Response

When I first started this class, I constructed a 3D scene using a mouse pad, a box, a pill bottle, and an empty roll of tape. The pill bottle was going to be the complex object and I thought it would be rather simple to have 2 cylinders stacked together. The mouse pad was going to work for a plane, where everything sat on top of it, the box was going to be another simple 3d primate as well as the duct tape I thought would work as a toros. I ran into issues with trying to get the toro to look proper that it would need to be less of a toros and more of two cylinders connected to each other over the top. I was rather disappointed with this so I ended up changing that object to a simple pyramid.

When I first started working on this, I started with the hardest object, the cylinders, that I had the worst time trying to get to work. And it took days of research for me to have them function properly and build them into the scene. After trying to place them into their own functions and trying to get them to work, it was causing way more issues with logic. Finally, I opted to just have them all under the same UCreateMesh function that accepted an integer so it knew which object to create a mesh for. This essentially made it a lot easier for me to test new code without having any other objects on the scene or deleting objects from the scene. I found that I had to create multiple vao’s and in respect to that I create multiple nIndices as well as vbo’s for each of the objects.

The scene is meant to be viewed on a monitor as an output device. Where the input was taken from the mouse and keyboard. This is handled in the camera.h file as well as the source.cpp. The source.cpp gets the input from the mouse and keyboard, that sends it to the camera.h file, and then sends the information to the renderer. This checked on each scene.

Unfortunately, there isn’t a whole lot of extra functions I created for this. I decided to go with what worked. When it came to modularity though, I will say the UCreateMesh feature was heavily modified for testing and creating individual 3d objects by just commenting out one or adding another into the main function. The Urender was also modified extensively so that it supported camera movement as well as drawing the multiple objects.

I feel like I accomplished a lot, and wish I had a lot more time to really learn it better. It was a real challenge, especially on the 3rd week when I was trying to get a cylinder to work, and again during the textures week.