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Cs330 Project Reflection

My initial proposal for what I wanted my 3D scene to consist of was a bit more complicated than what I ended up with. As the term moved away and the project along with it I paired my original idea down and chose to work with more straightforward shapes, with fairly straight lines, that could be built with a combination of just a few shapes. I did this because I know that my coding abilities are not particularly strong, and I also found myself battling time moreso than ever during this term. Making this decision made it easier to get a scene that met all of the requirements, with solid textures, good lighting, and well made objects. I chose to focus on the laptop because it was 2 meshes with identical dimensions, placed in different ways to create the open laptop. I also wanted to have something that would need to involve some degree of manipulation when it came to getting the lighting and materials right to make the screen appear as if it was a light source. The water bottle was chosen because it was a good way to a metallic texture with a slightly reflective surface and also to implement several shapes into one object. I then chose the mouse as I was able to modify the bread shape that was on the OpenGl Sample code that we started the term with to create a mouse that mimicked the shape of my own. Programming these came with some challenges, but I was able to make everything work by utilizing all of the resources given to me throughout the term, including the weekly coding assignments as well as the OpenGl Sample that was given to us at the start. I frequently went back and forth to these other assignments to see how certain objects interacted with one another and then would implement those findings into my project.

The use can navigate the scene in a fairly straightforward manner. The mouse will control the direction that the camera faces. The mouse scroll button is supposed to increase or decrease the speed of the camera but I couldn’t quite get that working. The ‘W’ and ‘S’ keys move the camera forward or backward respectively; the ‘A’ key moves the camera to the left and ‘D’ key to the right; ‘Q’ moves the camera up and ‘E’ moves it down. I added multiple options for views for the scene. ‘1’ shifts to a front facing orthographic view, ‘2’ shifts to a side facing orthographic view, ‘3’ shift to a top down orthographic view, and ‘4’ shifts to a perspective view. The user can also hit the ‘ESC’ key at any point to exit the scene.

The most useful functions that were utilized in this project were the texture and the object materials functions. Having both of these meant that as I was building my shape meshes, I could add the same texture or material to multiple shapes that were making up a larger object without having to separately write the code each time. Outside of that I didn’t really create any functions for this project.