Jordan Stelivan

CS 330

Professor Phillips

08/21/22

Final Project Reflection

For my final project I’ve set up a scene with a rectangular box, light box, Cylinder cup, and Pedestal with an orb. Now, my skills with OpenGL are limited so some of the proper implementation of shapes is not quite correct. With what I’m capable of now, I’ve chosen to represent the cylindrical cup as an octagon. This allows the object to retain the same general shape, and allows me to show the deviation in a smaller base towards a larger top. I was also unable to properly render a sphere, and have chosen to leave the sphere out for now. However, I do plan on adding it in the future!

Aside from that, the basic shapes of each object are represented with various triangles using the glDrawElements function. I think this is a good way to render the shapes within the scene as it is a very consistent way to put the shapes together.

The program has a few different features for navigation! Including moving around the scene in a 3d space. All of the cardinal directions are possible, including up and down. The user can also swap from perspective in 3d to orthogonal in 2d. I’ve added a zoom function as well using the scroll wheel.

As for lighting, the scene is lit with little ambient light and one key light source that rotates around the scene. The user can stop this light using the ‘K’ key and resume the light’s rotation using the ‘L’ key. I had originally used a static light positioned in the back of the subject, but decided against it as I wanted the scene to be more dynamic.

Most of the functions within the program are completely reusable within other code as well. I actually developed most of this code over the course of the semester throughout various assignments. The program is also rather modular given its ability to accept different functions aside from what is currently present. Should you choose, there is a possibility to add more functions based on other key press input. Which is something I plan to experiment with in the future as well!