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CS 330

13 August 2024

Final Project Reflection

The scene that I chose which was to replicate my desk, was because I spend a lot of time at my desk. And I thought it would be cool to replicate it in a 3d world with OpenGL. The objects I chose to replicate was the monitor, keyboard, trackpad, and my soda. I chose these objects as it would give the most detailed representation of my desk in real life. For most of the monitor I chose to use a box as the box represents the monitor the best with the shape. I also had to use a cylinder for the back base of the monitor as it fit the best. With the keyboard I decided to use boxes as well, I was able to find a keyboard graphic on the internet and used that to replace the keyboard so it showed like a real one. I then used another box for my trackpad and cupholder as they are both squares. I then used a cylinder for my soda can as it fit it the best. There were a few things I had to add to the program to ensure it met the required functionality. One of these was the perspective and orthographic displays. This was the hardest part of the assignment for me, I had to ensure the Boolean value was correct and the correct dimensions of each display.

Navigating a 3D scene can sometimes be difficult as you might not know exactly how to navigate it. For this project, I added a lot of ways to be able to control the camera and navigate through the scene. The user can use the keys WASD to be able to move forward, backward, left, and right. The user can also use the QE keys to be able to go up and down in the scene. The mouse cursor controls the look of the camera and the scroll wheel allows you to speed up or slow down how fast the camera moves. The user also has the ability to change between perspective and orthographic displays by using the keys P and O.

Some custom functions I added to the program was to add the object materials. This allowed me to customize how the light would reflect off of the object. I also was able to add some custom textures to ensure the scene matched as best it could to my actual desk. With all of this code someone could take my code and make their own scene by just replacing the objects, textures, and light.