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CS-330 Comp Graphic and Visualization

Final Project

6/23/2024

For this project I decided to do four objects from the reference image I chose. Those objects were a cup, bowl, glass bottle, and lantern. I chose these because I felt they gave me a good mix of both complex and simple objects to recreate. The most complex of these objects to make was the glass bottle since it had three distinct points, the bottom, the tapered transition to the neck and the neck. The cup and the bowl were relatively easy to make since they were the same basic shape just different sizes. Most of the objects were really brought to life with the use of custom textures that I created from scratch in photoshop. This is really evident in the lantern. Using custom textures as a way to bring 3D objects to life is a really common practice since you can turn a simple shape into something much more complex with relatively low memory consumption.

Users can navigate the scene by using the WSAD keys to move around and the E and Q keys to move up and down. The mouse can be used to look around the scene and the scroll wheel controls the speed of the camera. Additionally, the user can use the O and P keys to switch between orthographic and perspective views.

For the final project I attempted to make each object its own void function but ran into an error where it would only draw the last shape. For instance, I used two half spheres for the bowl and the cup, but it would only draw whichever one was stated last. So, I had to revert to my original method of drawing all shapes in the same void function. Each shape as its own function would have made the code easier to read and understand but I couldn’t make it work like how it was in the sample project.