CS-330 Comp Graphic and Visualization

7-1 Project

SNHU

Hanna Rawson

**Reflection**

Unlike many other projects I've worked on before, I approached this one differently. When attempting to organize everything in a 3D setting and recreate the image from a 2D representation, I made use of several novel design techniques. I wouldn't claim that I adhered to a specific design process because I don't frequently try this. When it comes to something like this, where you have to pay attention to an object's colors and textures just as much as its utility, I'm not a very creative person.

Our class progressed from creating basic text-based terminal applications over the course of six weeks to producing fully immersive light-based 3-dimensional sceneries. That's a pretty fantastic achievement that highlights how advanced computers are. While my final project does not perfectly match my original concept, in my opinion I did a good job. I had a hard time implementing the lighting, but all requirements are present. I could definitely improve the overall code, but the end result provided an organized product.

A picture containing Word

Description automatically generated

Graphical user interface

Description automatically generated with medium confidenceA computer screen capture

Description automatically generated with medium confidence

When I first started working on this project, my major goal was to provide code that I could simply upgrade. This became increasingly crucial as I completed lessons and had to include the required features into my application. For instance, I devoted a significant amount of work each week on updating the appropriate vertices for the texture of the normals in my forms class. The vectors I had designed made it simple to generate the objects in my universe and were readily changed to support this new capabilities. Overall, it simply took me longer to fully comprehend the new concepts than it did to create the code to put them into practice. Despite my minimal knowledge of OpenGL/GLSL, I believe I have established a strong foundation. However, there is always opportunity for development and improvement. I chose my items because of all the multiple shapes to create the objects, a few primitive shapes and one with two primitive shapes together. I have a cube, with four sides, and an orange/clementine is a sphere. I also have a snuff can that is a cylinder. My table base and table leg is used as the two primitive shapes together.

Going forward, I believe this would be something I could not only work on to get better at, but also apply to projects that call for making 3D objects. I believe the most important lesson I took away from programming was the necessity to break down code into multiple classes rather than an ever-expanding main method. I believe splitting out larger tasks into numerous smaller ones would help me write cleaner, more legible code as well as provide me the ability to refactor it in the future without having to fully tear everything apart and start over.

It was absolutely helpful for me to develop specific skills before being required to finish the entire project to break the job up into smaller incremental iterations that each contributed to the final product. Future use of this strategy will be very advantageous. Even though I adore video games, which frequently employ 3D computational graphics, I can clearly understand why some of them take a long time to produce given the labor-intensive nature of making these from scratch. In the future, I'd argue that visualizations like these might be used in a variety of contexts, including marketing and advertising, video games, and CGI for movies. In terms of my own career path, I'd really like to make video games, but I think I'd lean more toward the practical than the aesthetically pleasing.