**Wesley Blackwell**

**CS 330 Reflection on Project**

I will begin by saying that this course was very difficult for me personally. My approach to this project was not very practical due to a lack of understanding. After many hours of researching and studying, I decided to use primitive shapes in the same method a toddler uses wooden blocks of different shapes. This would have been an excellent theme for the project had I understood the application functionality earlier on. I created a cube, pyramid, and cylinder and used those shapes to build bottles, a candle, and a cuboid on top of the suede plane surface.

Applying textures was pretty straightforward. Most of the difficulty came in the initial setup of the application. Setting up the code blocks for the vertex array objects became more clear after we worked on normal. I am still not one hundred percent on what everything is but the webinar postings were monumental and pivotal in me learning the material. Once I learned how to set up a new environment properly, I encountered a reoccurring issue with Visual Studio. The application stopped producing an executable file for some reason. I had to reinstall the application on two computers. Only one recovered, and in the end had the issue again. After all of that, I used one of my assignments that actually ran to finish the rest of the project. I did not really grasp the camera section of this project. It works but I don’t understand exactly what is happening or how to adjust it. My goal was to change the button schemes for panning, zooming, orbiting, and focusing. I could not get the buttons to work. This is when I started encountering issues with Visual Studio for the second time. After having a working camera and a cube, I started working on translation, rotation, and scaling. Toward the end of the project, I became increasingly better able to use translation and rotation. Scaling is a useful too but I do not fully understand how to use it inside of the loops.

Navigation in my scene can be done using the mouse and the left Alt key on the keyboard. As I said before, I could not grasp the camera tools as well as I would have liked due to problems with the Visual Studio application. Given a better situation in this class, I would have loved to make my application more modularized than I did. The draw method was reused many times but, I would have liked to have modularized the shapes and provided locations as input in the call to draw. There are so many possibilities with coding for organization. I did my best to keep the code in blocks of similar or related code. For example, all of the texture code was in a section and each texture was separated from the others for readability. The light block I made was also kept in blocks. Some of the blocks are in different parts of the code but are relatable sections. Initializing the light is kept with other initializations, for example.

Creating a shapes class would have been a cool thing to incorporate into this project if there was enough time to do it. The workload is pretty hefty in this course. That would have been a cool feature to keep the code organized and easier to follow. If I could have moved all of the indices and structure plans for each shape into their own file and class, then I would have had an easier time with the modularization of other parts of the code. In the end, I got it done and the scene resembles my picture somewhat.