CS 330: Project Reflection

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The objects I chose for my project were a round water diffuser, a wine glass, a bottle of pills, and a Christmas tree decoration because these were all objects I have at home, and which met the requirements for the project; the wine glass is made up of different shapes. I will admit that I was apprehensive about working with the wineglass in particular because of the time constraints that exist with an eight-week course, but I managed to understand some things and I was able to make a wine glass shape that I was proud to turn in for the assignment. Once I understood the basics of making the wine glass, the other shapes weren’t too difficult to work with and, as a matter of fact, I enjoyed working on the bottle of pills in particular. I did have a bit of difficulty placing the shapes in their respective positions because it took some time getting accustomed to the idea of working within a three-axis grid. Overall, I enjoyed the challenges brought on during my first ever interaction with OpenGL because I learned many new and interesting concepts that I’m sure will help me out with other projects in the future.

A user can navigate my 3D scene by using their mouse to move around the scene or to zoom in and out of it by using the mouse scroller. I was also able to offer the letters A, S, D, W, Q, and E as ways to allow users to further navigate through the 3D scene. These letters allow a user to move left, right, up, down, and also to zoom in and out, all in conjunction with the mouse to give a different feel and fluidity to the camera’s movement. I am satisfied that the camera’s movement makes it feel as though the viewer is walking through the 3D scene themself, mimicking the sort of steady pace of someone walking around an art piece at a museum or even walking through a city scape that might have buildings with shapes that distantly echo those of my 3D scene. The option to use the selected keyboard inputs and the option to use the mouse offer intuitive and easy interaction with my 3D scene.

Some of the functions that I use in my program allowed me to use one simple shape, for example a cylinder, to continue making more complex shapes. These same functions allowed me to combine different shapes to make a new element, such as a wine glass, by simply copying and pasting the function and then modifying some of the variables to meet my needs. Other functions allowed me to quickly change the texture applied to my objects and also allowed me to easily change textures when the need came up. One of the functions that I had to work with a lot was one that allowed me to precisely place an object within my 3D scene. Changing the values within these functions allowed me to visually understand how the three planes work together to place an object within the 3D world. There were also functions that allowed me to control the way the way the light falls on objects and how their textures interact with the light.