Reflection

When reflecting on the final project, the development choices that I choose could have been simplified and would have saved me time and stress. The objects that I wanted to do were a set of Chinese meditation balls, in their case, which would need the shapes of a cube and spheres to render. Another shape that I wanted to incorporate was an hourglass that used cones for the sand containers, planes for the tops and bottoms, and cylinders for the rods that connected the top and bottom on all four corners. The other two objects were to be empty crystal alcohol containers that had a sphere for caps, hexagon bodies, and tapered necks, which could be created with cylinders, cones, and spheres.

When thinking about the development choices of shapes involved in the scene, I did get lost in trying to develop a function to render a cone, and in hindsight I wish I didn't waste the time and instead utilized a pyramid, since that was one of the required shapes. The cones were to be used for the hourglass, but pyramids could have also been used and looked just as good. All that would have been need is to translate one of the pyramids on top of the other, in other words, flipped one over the other so that they connected at the same tip.

Some of the custom functions that I created to accomplish what work I got done was to create a function to render spheres. The function allowed me to render spheres and position them based on parameters to the function. The spheres were sued to create the Chinese meditation balls and were to be used as top caps for the serving decanters. Other functions were needed was the cylinder function that took parameters for the y-axis (height), radius, and x-axis and z-axis for placement.

When designing how the camera moves through the scene, the user can change the camera’s perspective by using the mouse, and they can change the camera’s coordinates by using the “a, s, d, w, q, e” keyboard buttons. Theses buttons allow for the first-person view in the 3D rendering to walk forward, backwards, to the side, or to go up or down. While the user is moving about the scene, there is a light that is overhead, in rotation, projecting light to show that the surfaces of the materials are reflective, which grabs the user’s attention to details that make scene come alive.

In conclusion, this project was very challenging, and I wish I was more flexible on improvising replacements shapes to get the job done. However, I did learn a lot and have come to appreciate how programming GPUs is an artform.