Creating a 3D scene was significantly more challenging than anticipated. My 3D scene included a snow globe, screwdriver, Rubik’s cube, and coffee cup. The further I got into the project, the more challenges arose and the more simplifications I needed to make based on my skills. Simplifications in objects, designs, and textures needed to be re-evaluated further into the project as I proceeded.

The coffee cup and Rubik’s cube were simple objects that were not too difficult to design. The Rubik’s cube provided challenges due to the texture and design of the Rubik’s cube. I simplified the Rubik’s cube into a singular cube, but to give the texture and aesthetic of color schemes, I looked at my cube and drew a picture in paint that corresponded to different colors. While this was an elementary solution to my problem, a more complex solution could have been devised that allowed for the color and texture scheme to make more sense. The screwdriver was significantly hard to make, and I decided to orient it on top of the Rubik’s cube. It is the combination of two pyramids to help develop Phillip’s head and cylinders and spheres to create the body. Lastly, the snow globe was simplified into a sphere, which was not too difficult to design and implement.

Navigation around the scene was implemented using the WASD keys for forward, backward, left, and right motion, while the QE keys were utilized to control the camera upward and downward. The mouse was an input device that allowed users to look around the scene as well as scroll to adjust the movement speed of the camera. This allowed for an immersive experience in my designed scene.

Regarding best practices, my code is clear, compiles correctly, and has significant in-line comments that help an outside user understand what the code is accomplishing. Camera controls, textures, lighting considerations, and object design are clearly defined and commented on for ease of understanding. The structure of the source code is in a manner that flows smoothly and allows for a segmented approach to understanding.

Overall, I think my project is good considering I am a novice at OpenGL. This class, and this project, really tested my skills as a programmer by exposing me to not only a coding language that I hardly use but to OpenGL in a manner that I had never considered nor tried before.