My scene was placed on my workbench with some random 3D printed objects I plan to melt down and recycle along with some hardware I have from a different project. The scene included a cylinder, some cubes, a washer, and two screws. The screws were picked mainly because I knew they would fulfill the need for a complex object. The cylinder was one as well with the advice from the instructor to put a torus on top to give the illusion of it being hollow. My original plan was to create the cylinder and use a black texture with a separate cylinder to be in the middle of the first cylinder. That way you can see the void in the cylinder, however that wouldn’t have looked as good as the torus option. Considering all the 3D printed objects were black I needed to use a separate texture. I figured since this was my work bench, I could’ve imagined it being a case where they were parts for some metal working. That way the screws, washer, and 3D objects would be similar. I decided that it would be too plain to have everything flat on the ground. It took a bit of time to make it look nice in the program with the positioning, but it looks better if the environment looks alive than if everything was laid out. The textures could’ve been different and looked better on the 3D objects, but I couldn’t decide on what texture.

For the camera movement we used WASD and the arrow keys for the basic left, right, back, and forward movement. We used WASD since it was the most common thing we use for basic navigation. This is what I noticed most people use for navigation. I also added the arrow keys for the left, right, back, and forward movement. This way in case there are extra options for accessibility or if someone is more used to using the arrow keys. For moving the camera up and down we used Q and E for the WASD movement. We used Q for moving up and E for moving down. This was the closest option to WASD that sounded good to use. For the arrow key section, we used Page Up and Page down. This seemed the most logical decision for that area as it has up and down on the key. At least this way the user has options depending on what they are more used to. To change the view into a 2D view you can press O. Pressing O will change it into the Orthographic view. Pressing P will change it back to the Perspective view. We picked those two options since O for Orthographic and P for Perspective. We also made sure that there was an easy way to close the program. For that function we used the esc key to close the program. We also included a way to increase the speed of movement with the scroll wheel. If you scrolled away/up from you then it would increase the rate of movement. On the other side of that, if you scrolled towards/down from you then it would decrease the rate of movement. It has a minimum and maximum speed so you can’t break the program. If you ever got lost or wanted to go back to the starting spot for the camera, you can press R to go back to the starting spot. This seemed like a wise idea to implement so that you have an easier time navigating.

For the functions we used tutorials and guides on how to incorporate best practices. For those functions we had clear notes for most things implanted. For example, we had each object commented out with clear sections and what the function will be used for. The objects we made sure to section off so we can easily go back and add/remove with ease. It also makes it easier if we ever wanted to make changes to them. The functions can be reused easily with some small modifications so it can be reused.