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7-1 Final Project

For my final project I attempted to re create my desk area I use when working on school work or working from home for work. Due to me underestimating the difficulty of getting the scene to look like the picture I had to make some design changes in the set up and eventually removed some objects from the picture to make it simpler for me to replicate. I believe even though I reduced the amount I recreated I was able to meet all requirements for the project. I have four separate objects with four total different shapes to make these objects. Starting with the desk that everything sits on a plane made the most sense to place all other objects on. Then for my laptop and phone I used different sized cubes to model them appropriately. Finally, I had my coffee cup comprised of a cylinder and a torus for the handle. I was able to accomplish this scene by modularizing my code and having functions work together to recreate my scene.

I was also able to successfully apply two lights in my scene one overhead light and one spotlight that circles around scene. I was able to make the light adjust shadows of the surrounding objects as it rotates. I also added movement to the camera and the lights that the user can use to adjust the scene. Starting with the camera to mover it the user just needs to use W, A, S, and D to move the camera in, left, out and to the right. Also using q and e to move the up and down. I also added the functionality with v and b to change from perspective to ortho camera view. But I also added the functions to allow the user to control the camera with the mouse. Moving the mouse in the direction will move the camera in the same direction. Also spinning the mouse wheel will speed up or slow down how fast the camera moves with the commands given.

In my program I have many functions working together that make the whole scene work. One benefit with using these functions is the ability to be able to reuse functions in future projects. For example, I used 2 separate functions to create and destroy my functions, my textures, and my object meshes. I also separated my shapes into a separate cpp file to better organize it. My shapes would then be called from their function into the scene builder cpp/function to create each individual object and maneuver them around the scene. Then this would be called to the main function/cpp file to pass through the create window function that would bring everything together and represent it to the user. The separation of the code into functions makes it easier for future use when having to write new code. For example if I wanted create another scene I could use my functions again and make adjustments with them to create a new scene instead of having to start over again.