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CS-330

SNHU

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The scene that I had chosen was a relatively simple one, a desk with a few objects on top of it, however what I liked about the scene was that the types of objects that were on the desk were appealing to me because they had a little bit of creativity that could be used to make them. The objects that I selected inside of my scene to create were a desk, a cup sitting on a plate, a notebook with a pen on top of it, a pen/pencil holder with a pen inside of it, and a stapler. To meet the requirements on needing at least two objects to have textures added to them, I made sure to add textures to a majority of my scene. I used a wood type finish texture for my desk, for the cup I used a ceramic type of texture, for the notebook I used a leather texture, and for the stapler I used a orange plastic texture. For this total of 6 different objects, I used roughly 23 different shapes to create the scene. Inside of my scene, light comes only from one single light source, and that is based off of my original scene picture that I used to help me turn it into a 3D landscape, and in that original picture was sunlight coming through a window, so that's roughly where I placed the scene lights, to try and replicate that sunlight coming through the window.

When it comes to navigating the 3D scene its quite simple. Your standard W S A D keys are using for your forward, backwards, left, and right directions, in that order. However, there is also the ability to move up and down with Q and E. The mouse also plays a part where you are able to move it to change your view, I went ahead and sped up the mouse sensitivity from the default to make it better to use so its not moving so slow. Also locking the frame made it easier to navigate without your cursor jumping off the window constantly. The mouse scroll wheel can also help you increase or decrease your movement speed while navigating the 3D scene. Another thing that was done to improve the camera function was the ability to switch between two different projections, orthographic and perspective.

Rather than just throwing everything in your main function, creating functions and modularizing the application was done by making sure to organize the creation of shape meshes in separate function, as well as the textures for the objects, the scene lighting, and the object materials all being put into their own respective functions, helping the program’s code be readable and easily changed. Another way that the code was kept organized and modular was by also putting the camera and movement functionality into multiple different functions, making things like this reusable so you're program isn't trying to just run a hundred lines of code in one while loop, rather this way its organized and not so jumbled.