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SNHU

CS-330

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I got excited when I learned that I would be working with the system itself and getting hands-on learning unlike my last few courses. When I was selecting my scene, I did not mean to select one that would be so challenging I did not think about how the scene would translate at the time of selection and ran into a few challenges later in developing the scene. Some challenges that I found were finding usable textures that were free, making textures that would reflect some of the light properly, and moving the scene around to make it feel more like the picture.

I chose to do the modeling with two shapes, those being a box and a prism. The box was perfect to use for the model of the house itself and the prism was good for the roof. Interestingly I had to make the roof out of multiple prism layers to make the texture look correct on the roof. I also decided to use boxes for the garage doors, the door, the windows, and the two rooms above the roof. I chose the boxes for the door and garage doors because of the shape that I needed, I think that resizing them was for the best and it made them look better with that shape instead of using a plane, which made it look like a sticker on the house floating close to the house. The windows were also boxes resized because of the same reasons as the doors. Programing these things was a lot of trial and error, loading the scene and leaving the scene, then changing the size or position, then repeat. This was a little tedious and repetitive, but this was the best way to get the scene looking properly.

The virtual scene has a few different inputs, there are keyboard inputs and mouse inputs for navigation. The keyboard inputs include common WASD movement W being for forward movement, A for left movement, D for right movement, and S for backward movement. Other keyboard inputs include Q, E, O, and P, Q is the input for upward movement, E is the input for downward movement, O is the input to put the camera into orthographic view, P is the input to put the camera into perspective view. The mouse inputs are the yaw and pitch inputs, moving the mouse around will change where the camera is looking at the scene. Lastly the scroll wheel controls the camera to slow down or speed up, scrolling backwards speeds the movement up and scrolling forwards speeds the movement up.

The custom functions within the code are organized by use, so all of the keyboard functions are together, all of the mouse functions are together and scroll wheel functions are separate. The functions in the scene manager are separated into organized sections, the textures are together, the materials are together, and the lighting is together. Last organization done is having the meshes organized by the sections in the scene. I have the box for the house alone, the main roofing is all together, the secondary roofing and upstairs boxes are together with their respective windows, then the door and the garage doors are also organized separately. The organization process was important to ensure that when I was building the scene, I could keep what I was doing organized and readable.