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CS-330 Comp Graphic and Visualization

Final Project Reflection

One of the main reasons I chose the specific objects in my scene was to strike a balance between mild challenge and simplicity. I wanted objects that would be interesting to recreate in a 3D space without requiring an excessive amount of time to model.

When setting up the camera controls and navigation for the 3D scene, my goal was to make the controls intuitive for anyone familiar with using a keyboard and mouse in a 3D environment. The **‘W’, ‘A’, ‘S’, and ‘D’** keys are used for movement within the space, while the mouse controls the camera’s orientation. The **‘Q’** and **‘E’** keys move the camera vertically — upwards and downwards, respectively.

Two of the less conventional keybindings are **‘O’** and **‘P’**. Pressing **‘O’** switches the view to an orthographic projection, resetting the camera to its starting position and disabling free camera movement. Pressing **‘P’** switches the view back to perspective, restoring full camera control. Additionally, the mouse scroll wheel adjusts the camera movement speed — scrolling up increases speed, while scrolling down decreases it.

To keep the code modular and easy to maintain, I created several custom functions. One example is **LoadSceneTextures()**, which simplifies the process of importing and applying textures to objects in the scene. Another key function is **DefineObjectMaterials()**, which sets the lighting values for each object. This modular approach makes it easy to add new materials or adjust existing ones quickly, streamlining the object creation process.