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**Final Project Reflection**

For my project, I decided to create my own scene using various items from around the house. I chose a diverse group of objects so that I could use different shapes in OpenGL to represent them. I also chose a combination of simple shapes that could be replicated using just one mesh and more complex objects that I used multiple shapes to duplicate. The objects that I chose also had different textures and colors. This allowed me to practice adding textures and creating materials for the objects. Some objects, such as the metal water bottle, are very reflective, which results in a lot of specular light. Other objects, such as the book, did not reflect much light. For virtual camera control, I used the keyboard and mouse as use input devices. Using the ProcessKeyboardEvents method in the ViewManager class, the user is able to use the ‘W’, ‘A’, ‘S’, and ‘D’ keys to move the camera forward, left, backward, and right, respectively. Functionality was added to allow the user to press the ‘W’ key to move the camera up, and the ‘E’ key to move the camera down. In addition, pressing the ‘O’ key now results in an orthographic projection, which preserves parallelism and sizes as the 3D scene is represented in a 2D space. The ‘P’ key will switch back to the original perspective projection, which simulates how the human eye sees the world. This creates a more realistic experience. Lastly, code was added to allow the mouse scroll wheel to increase and decrease the speed at which the camera travels around the scene. Including this functionality gives the user even more control over their own experience as they use this application. Each time the GLFW window is refreshed, the status of the keyboard events is checked. This method of controlling the camera around the OpenGL scene allows for a smooth feeling when traversing the atmosphere. The part of the project that I struggled with the most was the lighting of the scene. For a long time, I was unable to eliminate the shadows on top of my objects, and it was ruining the reality of my scene. However, after many session of trial and error, I believe that I have created lighting that is similar to the lightning in my original photograph.