CS-330

Final Project  
Logan Riedell

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As I was creating my 3D scene, I focused on making a reasonable and useful workspace. The selected objects—a laptop, a stack of books, a coffee mug, and a whiteboard—are standard tools for offices or study. The situation revolves mostly on the laptop, which stands for efficiency and work. Books serve to establish the intellectual atmosphere of the space by suggesting that it is somewhere for study or research. The coffee mug adds a personal, worn-in touch that enhances the relevance of the setting. Not least of all, the wall-mounted whiteboard suggests that this is a space for idea generation and organization, therefore including a practical element. Every item in the scene strengthens the overall story that captivates and convinces the viewer.

The design of the setting gains still another essential component from the meticulous attention to detail in the textures and materials used on every object. To more accurately mimic genuine materials and enhance picture realism, I deliberately put a gloss on the laptop screen and a matte finish on the coffee mug. These minute differences in material properties create visual contrast and draw attention to specific areas of the picture. By carefully selecting the colors and reflectance of every element, I was able to control the way light interacts with the items therefore enhancing the richness and depth of the image.

I developed basic mouse-and- keyboard controls to allow people negotiate the 3D world. With the mouse, the user may pan and turn the camera to see the scene from many angles. Keyboard inputs allow complete navigation control and four-direction movement—forward, backward, left, and right. Users of this environment can interact with the scene and extensively probe it as though they were there.

I created systems to handle specific tasks in the scenario such that the code stayed neat and modular. SetGlassMaterial is one use of material properties to provide objects with glasslike look. Keeping glossy or translucent objects looking uniform all around the picture is significantly easier with this feature. Another important consideration is the object positioning function, which controls the location and orientation of every object without having each one to be manually turned and its coordinates modified. These new tools enabled me to ease management and change of the code as well as streamline it. This modular architecture increases the efficiency and scalability of the program by letting future development and improvements simpler to deploy.