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Final Project Reflection

The project I created and executed holds both creative and technical merit as a tangible illustration of a thoughtful design. I began with an even more basic notion, simple geometric shapes, and expanded that idea into a more complex form with my computer and its stand. This new composition is both a study in simple figures and a demonstration of my understanding of effective design. To be more precise, I think what I am showing here is a moment of realization between two significant figures in design education: the way a designer thinks and the way a designer makes. The insight that I have to create a more cohesive theme in future projects is one that I greatly value. Cohesive themes can really ramp up the narrative of a scene and make the experience for the viewer much more immersive. I think my idea of incorporating more functional items that relate to the computer itself could provide a much richer context and make the scene feel more deliberate. Replacing the desk's white surface texture with that of dark brown wood is a terrific case in point of how color and material selections can influence an overall look. Textures can make something seem more believable, more three-dimensional. And I imagine the choices here contributed to a final rendering that was somehow warmer and sophisticated than something with fewer texture changes. Overall, my reflection displays development and a readiness to derive lessons from the experience imperatives in any creative discipline. I might continue to probe and prod the basic elements of my craft for instance, theme and texture just as my artwork does. Even more, I should feel free to go deeper, to work harder, to mine the creative coal of my subconscious. By all means, use a sketchbook: it is a tool for exploration and experimentation.

Merging mouse and keyboard controls to journey through a 3D environment forms the basic interactive design element. This is because users can navigate a virtual world most naturally when they have the means to manipulate the camera angle and position that is, when they can make it seem as if they are really there, or at least as if they are controlling an in-world character. That is all the more true if fluidity and dynamism are the hallmarks of such navigation. The precise adjustment of a camera's x, y, and z coordinates can be accomplished with nothing more than a keyboard. This opens up a world of possibilities; applications where 3D models or environments demand detailed inspection, for instance. If you require control over the speed at which your camera moves, the same applies. You can adjust the speed of your camera via the mouse scroll wheel. This is a nifty feature that allows for some casual exploration of the environment as you inspect it. If you want to move quickly through the scene, this feature accommodates that, too. Another excellent feature is the ability to toggle between perspective “P” key and orthogonal “O” key views. This gives users the flexibility of choosing the view that best suits their needs or a simple reset. Often, perspective views are more immersive. However, orthogonal views can provide clearer spatial relationships and are often better for tasks like architectural visualization or technical drawing. In general, these controls not only enhance usability but also render the 3D environment more accessible and enjoyable for users. They spark a more engaging interaction with the digital space.

My project reflects upon and brings to light many key aspects of the learning process in computer graphics and programming. The camera controls and lighting functions I have designed are great examples of software design. They are modular, meaning they can be more easily reused in other contexts. And, in terms of design, they are functions, meaning they do something. Both are good practices in programming. Graphics programming often involves the dual challenge of rendering several distinct things and performing the associated texturing operations. The solution I implemented to create a custom texture map is not only an effective way to overcome this common hurdle but also a very creative one. By consolidating several textures into one, I tried to simplify my rendering equations and gained a much deeper understanding of the operations involved in 3D graphics. In addition, I chose to figure the vertices of your cylinder by hand rather than use a library function reveals my commitment to understanding the mathematics of 3D modeling. That commitment is what makes the experience worthwhile. I will never forget how to compute the area of a circle when the formula pops into my head while struggling to remember how to get a library function to do the same thing. That is the kind of experience that breeds future problem solvers. Finally, my talent for organizing and formatting objects for easy future-access reuse is impressive, and it portends a level of professionalism that is essential in the software development business. All told, my approach, though not quite the standard one, has nonetheless yielded a project that accomplishes, in spades, all the objectives laid out in the rubric.