Brycen McEuen

Professor Martinez

CS499

November 18, 2025

**Artifact One Narrative**

The artifact I chose to enhance for the *Software Design and Engineering* category was my CS-330 Computational Graphics and Visualizations 3D scene. It’s an OpenGL application written in C++ and the original project for that is simply a desktop with a pencil, eraser, piece of paper, and a coffee cup. It also includes a basic lighting system to give it some more flare. I actually just took that class last term, so I worked on this project about a month ago. Since then, I’ve thought about what I could do to improve, which is why I chose to enhance it in this class.

This artifact demonstrates my ability to think creatively in a way that allows me to visualize an idea in a three-dimensional scene. Projects like these also take a lot of fine-tuning and adjusting, which shows my patience and persistence throughout the development process. For this project, I turned a simple desktop into a complete room, with windows, a door, a light, and a chair. I also improved the lighting system to give it a more realistic look and feel.

I believe I did meet my course outcomes that I selected in module one, because I organized my code better and added more comments, leading to improved communication, as well as demonstrated my ability to use innovative techniques and skills to bring my vision to life in a 3D scene.

Overall, the process for enhancing this artifact was challenging, but rewarding. Luckily, I was able to take the experience and knowledge that I gained throughout the initial project to support my further enhancements. It was basically the same process as before, just adding mesh objects, giving it a texture, and making sure the lighting looked correct. The biggest challenge is positioning everything so that it looks right, which can be a struggle, especially when dealing with dozens of different objects, with some of them having to be connected to each other in order to look like they are supposed to. The lighting was also a struggle because I don’t think the lighting system was working properly, so I had to almost wing it and just make it look as good as possible with the capabilities that it did have. With that said, I feel like I learned a lot more about 3D design than I had before, especially when it came to creating a full scale scene that required many objects, textures, and materials.

Some pictures of the enhanced version below:

A room with a desk and a chair

AI-generated content may be incorrect.

A computer generated image of a desk and chair

AI-generated content may be incorrect.A room with a desk and chair

AI-generated content may be incorrect.