**Artifact Selection**

The artifact I have chosen to focus on for the category of software design and engineering is a project I created in CS-330 Computational Graphics and Visualization. I worked on this project in June of 2023. The purpose of the program is to recreate a three-dimensional scene using code in Visual Studios.

**Artifact Enhancement**

I have chosen to include this artifact in my ePortfolio because it was by far the most challenging project I have worked on in my academic program at SNHU. When I created this project, my focus was to create a program that ran and met the requirements of the class. I have made various improvements to the structure of the code for this enhancement. The code was originally 769 lines long with many code blocks not used or comments from the instructor. There was also broken code used for lighting that was never implemented. Those items were removed, and the length of the code is now 663 lines. The comments clearly identify the purpose of each code block. I also labeled each VBO/VAO to identify the purpose. The flow of the code is now much easier to follow and understand with constant spacing and naming conventions.

**Course Objectives**

The focus of this enhancement is the overall quality of the code. Good quality code is easy to read and understand. It also follows a single code style throughout. After performing the code review from milestone one, I found that the code was very disorganized, cluttered with unnecessary blocks, and poorly commented. Well designed code should be easy to follow and share among others.

**Reflection and Challenges**

I have enjoyed cleaning up this project. The changes made did not affect the output displayed, but I was able to see that the memory usage did decrease by one MB. This is not very significant but is a start in correcting performance issues with this program. I found that reading through the code gave me some ideas of how I would like to further enhance this since I will be using this same code for my next category.

A screenshot of a graph

Description automatically generated