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Comp Graphic and Visualization

7-1 Assignment

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Final Project Reflection

In the course project, the four objects I selected to render allowed for a variety of design experiments. The objects I chose include a helmet, water bottle, climbing cam and an arrow; this collection of objects allows for a variety of different textures and shapes to experiment with to provide for a vibrant 3D scene. I did have complications with understanding the texture coordinate system as applied the triangle primitives used as a skin for the various meshes as the triangle primitives did not match to a positive x and y axis as described in our reading, I was unable to understand the implementation for the sphere and cylinder header files and in such a case was forced into manually constructing these objects, and I reached an end when I could not grasp the implementation of light objects that was unresolved by course resources and 3rd party resources. A variety of experiments were available through the construction of my 3D scene.

Throughout the final project I utilized a standard navigation system. As is standard in 3D modeling movements we mapped to A, W, S, D for left, forward, backward, and right respectively, along with Q and E for up and down, and the cursor allows for changes to the camera’s perspective. Standard navigation paradigms were utilized in the construction of this program.

In this program, I implemented several modules to ensure an increased level of organization. For each object I implemented one or more modules relating to the construction of the object’s component meshes since I’ve found that one mesh can only utilize one texture. These individual object component mesh functions are used to describe the construct of an object’s component, e.g. the arrows fletching, using triangles primitives to describe the component’s surface. These mesh functions are reusable since that allow the user to alter positioning up one axis in most cases, e.g. the end points(circles) for the cam shaft can be adjusted along the x-axis. I’ve implemented several mesh generation functions to ensure well organized construction of 3D object components.