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CS 499

SNHU

Macho - Narrative

In this application, I’ve modelled my dog’s head using openGL libraries, engineered an openGL context, lighting model, and user operable camera, and constructed tools to manipulate the model’s location and lighting using an open source GUI library (Dear ImGui). This was a final project previously submitted for CS 330 Computer Graphics. I’ve included this in my portfolio because it displays my ability to design software using well-founded and innovative techniques, skills, and tools.

Since originally being submitted, the artifact has been improved significantly. Freeglut, the library originally used to create the window and read user input, is considered deprecated by most openGL developers. So much so that Dear ImGui did not provide c++ language bindings for it. Because of this, I rewrote the program to use GLFW, a well-supported API. After rewriting the window, camera, and input functions I coded the Dear ImGui tools that allow a user to manipulate the model and lighting. It also gives the user the ability to reset the lighting and model values to the default settings and displays a help box with the camera controls.

This project was a great learning experience for me. It’s my first application where I’ve incorporated an open source library. It is also the first application that I’ve been able to create a fully functional executable that I can package and ship. I am also very proud of the logic used throughout the code, particularly the functions that calculate the normals for each triangle.