Devin White

CS 5610

Interactive Computer Graphics

Project 3-Shading

- What was implemented:
  - The triangular mesh appears to be drawn properly
  - The normals appear to have been calculated correctly, as shown by the colors
  - ~~Lighting/shading was started~~
  - **Revisions on Second Submission:**
  - Normals Were recalculated. glEnable(GL_DEPTH_TEST); Made the teapot no longer see through and look correctly
  - The lighting was finished.
  - The light can be moved(Only left and right slightly, I couldn't figure out how to move it up down, diagonally, etc.)
- What you could not implement.
  - ~~I couldn't figure out entirely how to get the lighting to work correctly. The light is there but it is neither at the correct angle /doesn't look right, and it certainly doesn't work as I'd expect with the blinn-phong equation.~~
  - **Revisions on Second Submission:**
  - As of the second revision, Everything in the project is implemented and looks correct
- Additional functionalities beyond project requirements.
  - ~~N/A I need to still finish the lighting.~~
  - **Revisions on Second Submission:**
  - Lighting can be moved using Ctrl + left click slightly, not completely implemented
- How to use your implementation.
  - Right click and scroll to zoom in and out
  - Left click and scroll to rotate. Left and right rotates left and right, up and down rotates up and down
  - P switches between orthogonal and normal transforms
  - F6 recompiles the shaders….I think(hard to test)
  - ESC exits the window
  - CTRL and left click slightly moves the lighting
- What operating system and compiler you used
  - Operating system: Windows 11
  - Programmed in Visual studio: used VS internal compiler(gl????)
- External libraries and additional requirements to compile your project.
  - Same as previous projects:
  - Required libraries:
    - FreeGlut
    - Glew
    - CyCodeBase

In addition, FreeGlut.dll and Glew.dll were required to be put in System 32. Libraries were put in folders next to the project along with the associated headers.
In addition, I used:

```
	#include <string.h>
	#define _USE_MATH_DEFINES
	#include <math.h>
//I had to put this to make it work...for some reason
#pragma comment(lib, "glew32.lib")
```

Screenshots of Completed second submission(Pictures of original submission follow)

Figure 1: Triangular Mesh Drawn

Figure 2: Mesh Drawn

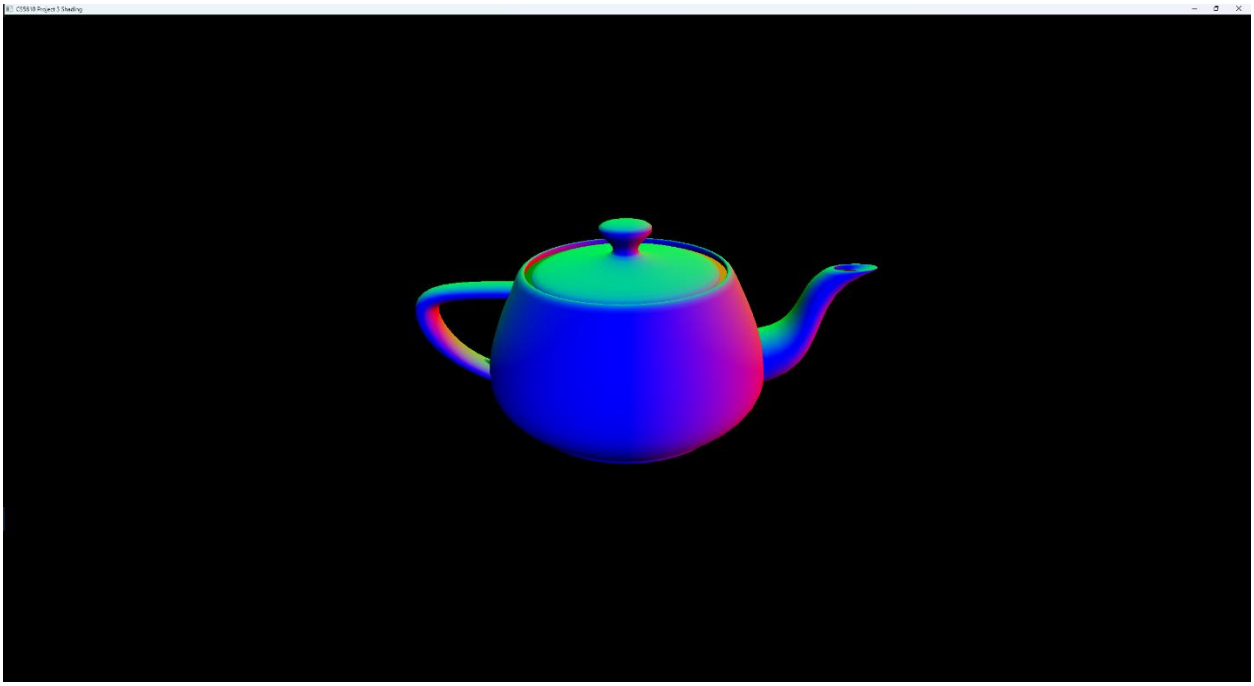
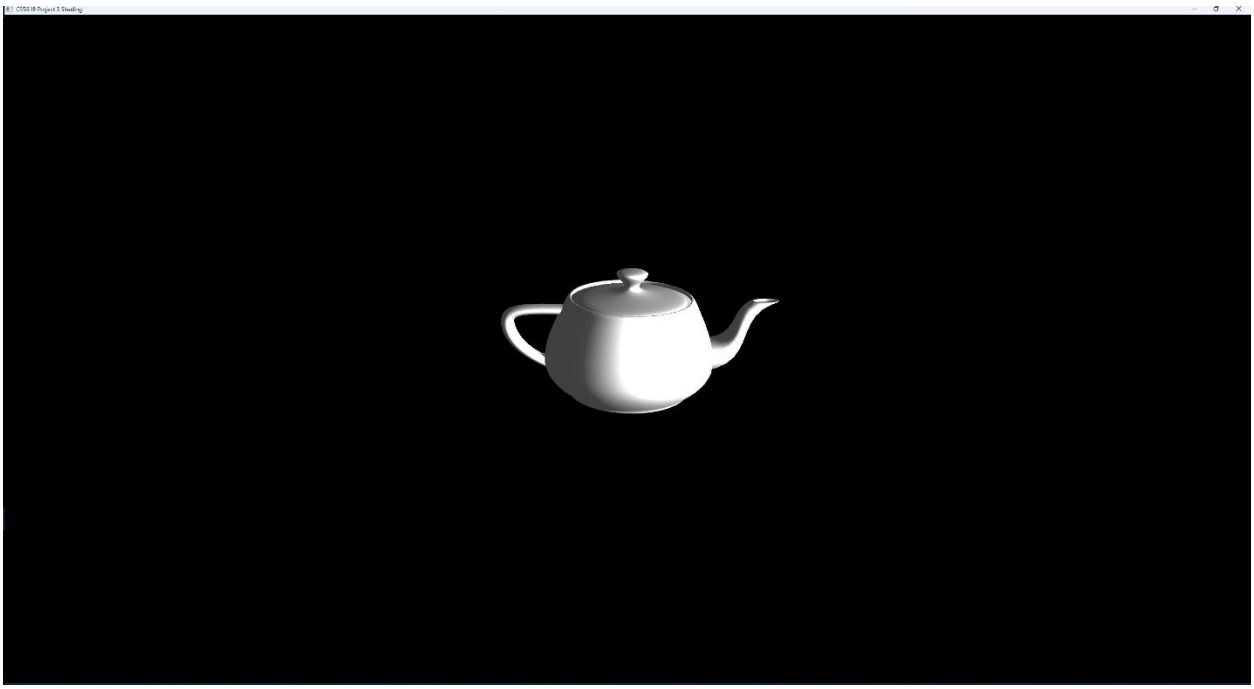


Figure 3 Shading Implemented

Figure 4 Shading with the light moved using Ctrl+Left click



Here are some screenshots of the Original implementation(First Submission) for posterity:

Figure 1: Triangular meshes drawn

Figure 2: Normals shown

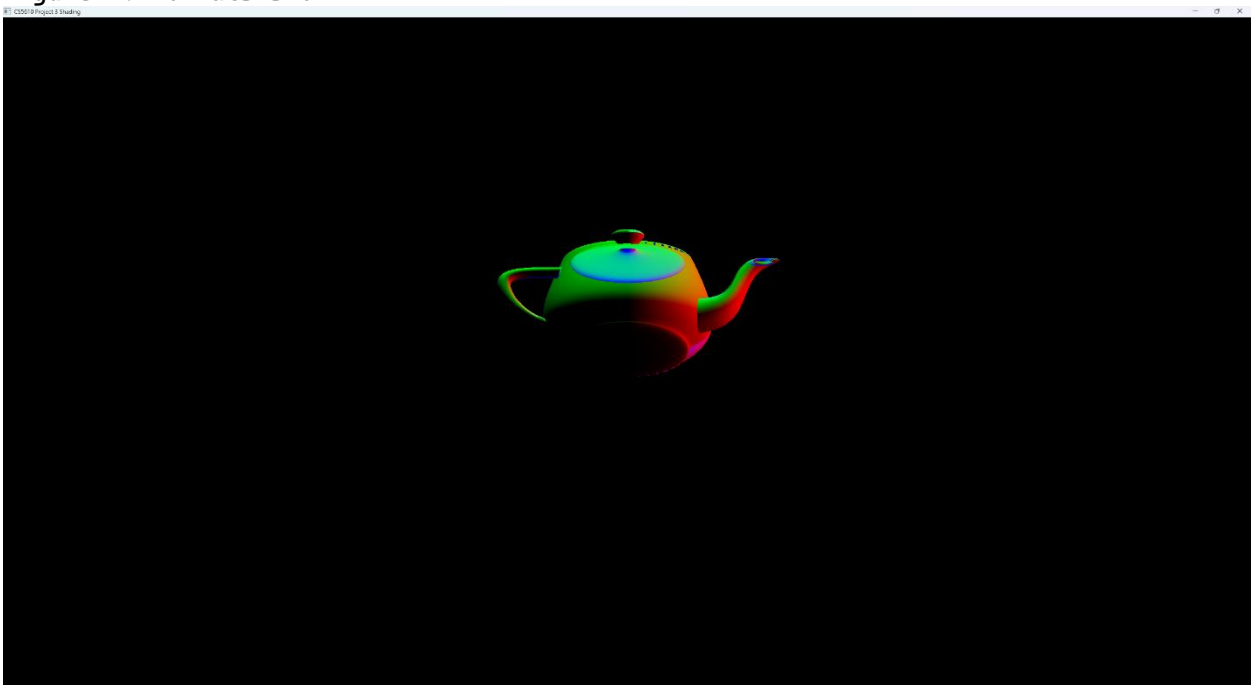


Figure 3: Lighting started(unfinished)