Interactive Computer Graphics Project 4

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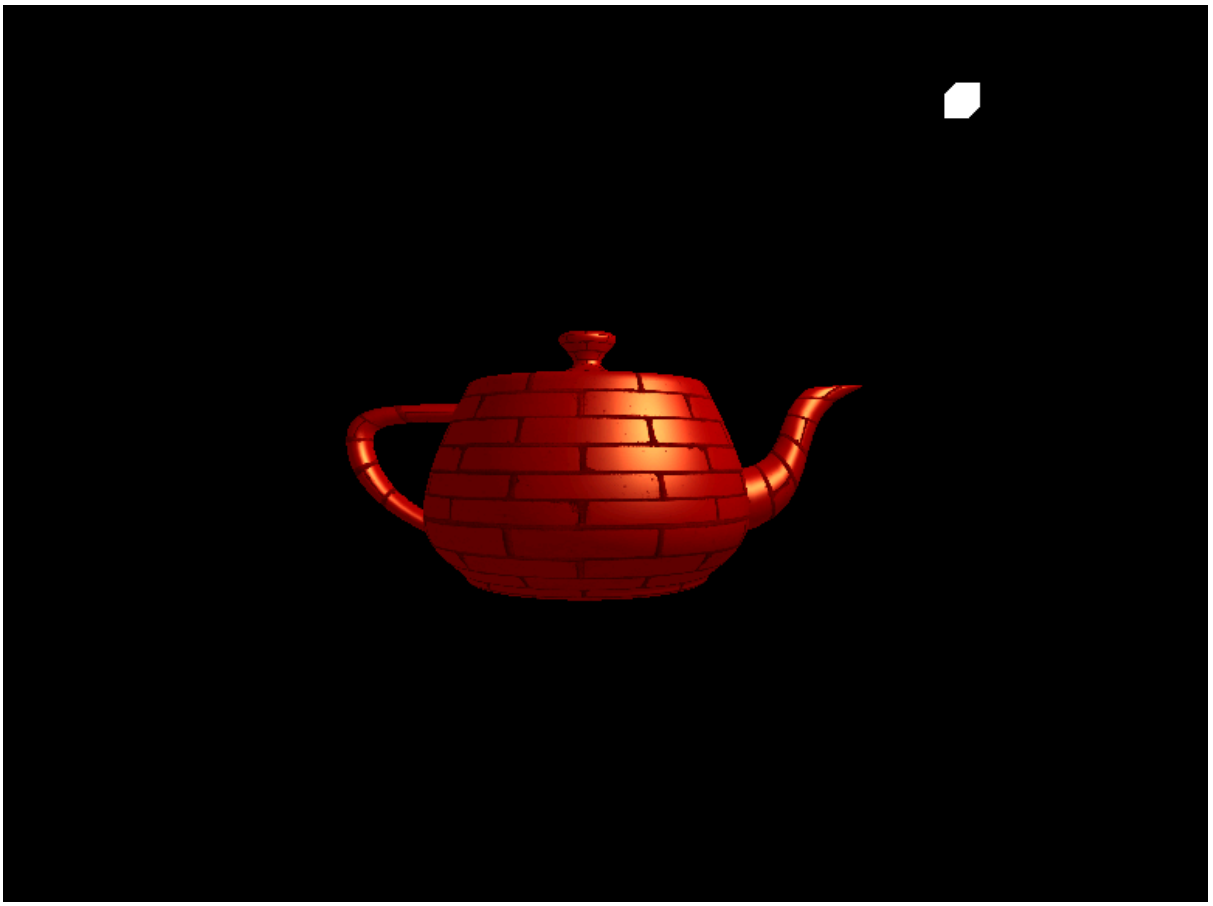
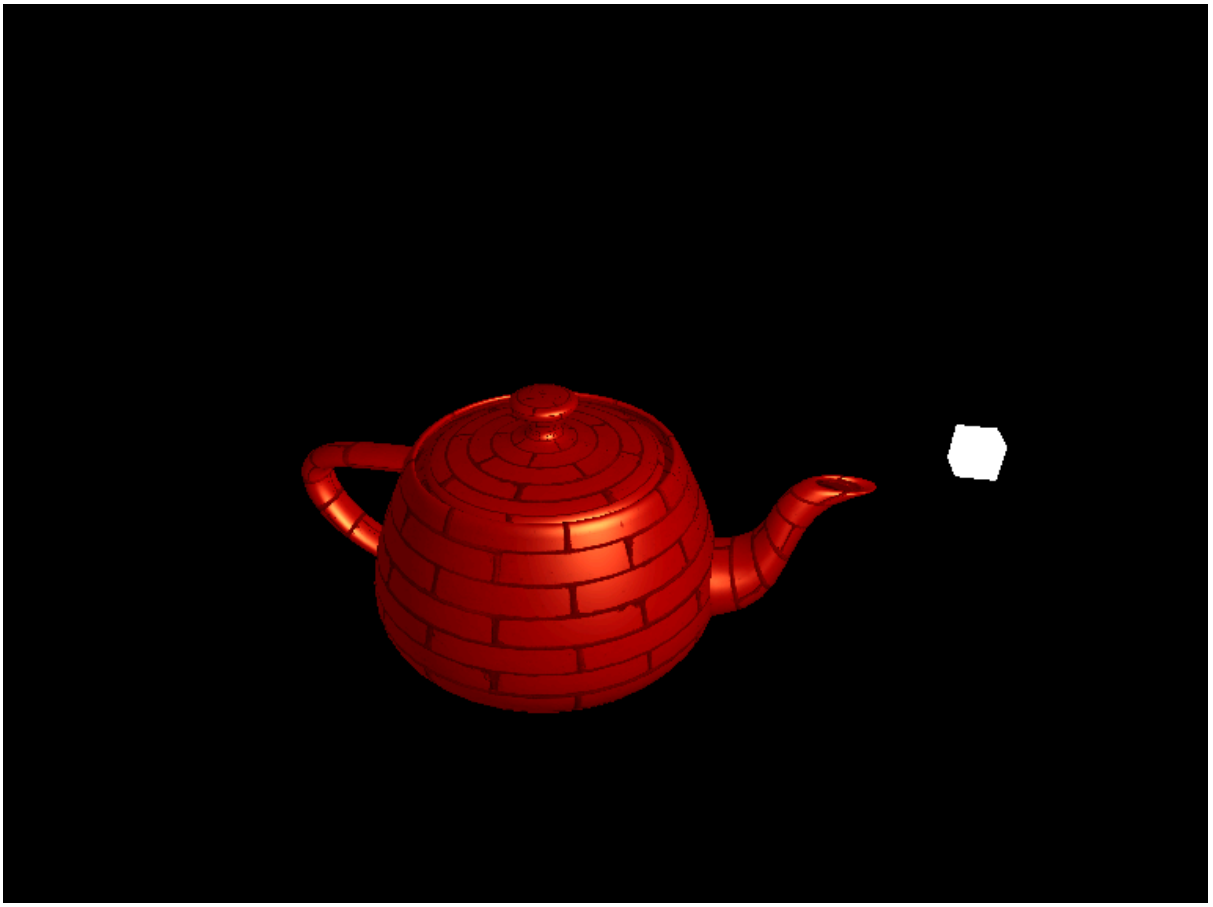
Features Implemented

- Diffuse texture obtained from mtl file associated with teapot.obj
- Parsed mtl file to get all ambient, diffuse and specular properties
- Used LodePNG to decode PNG textures
- Vertex buffer created for texture coordinates
- Both diffuse and specular textures applied to teapot, using all the material properties given in the mtl file

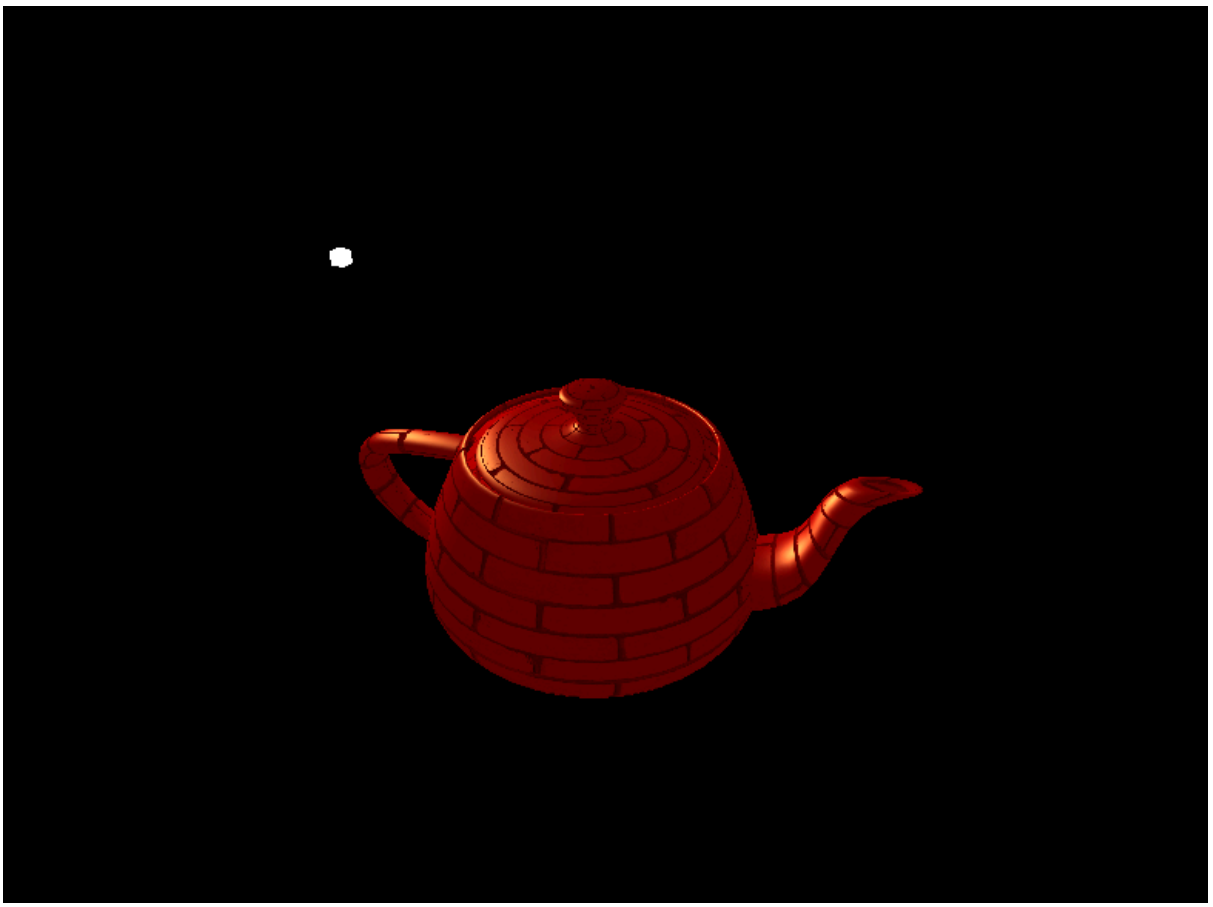
Screenshots:



From another angle:



Rotate light to a different position:



How to use

- “Esc” closes the window.
- “P” switches between perspective and orthographic projection
- Left mouse button (and drag) controls camera angles
- Right mouse button (and drag) controls camera distance
- Drag left mouse button while holding CTRL key rotates the light object
- “F6” recompiles shaders

Operating System and Compiler notes

Operating System: Ubuntu 22.04.1 LTS (through WSL on windows)
Compiler: I used a Cmake build, which uses gcc to compile.

The project files can be built by running the script ./build.sh.
./run.sh then runs the program from the build folder.

External libraries:

GL, glut and GLEW are linked as specified in the cmakelists.txt file:

```
target_link_libraries(project4 GL)
```

```
target_link_libraries(project4 glut)
target_link_libraries(project4 GLEW)
```