CS 5610/6610 - Spring 2022 - Interactive Computer Graphics

Project 5 - Render Buffers

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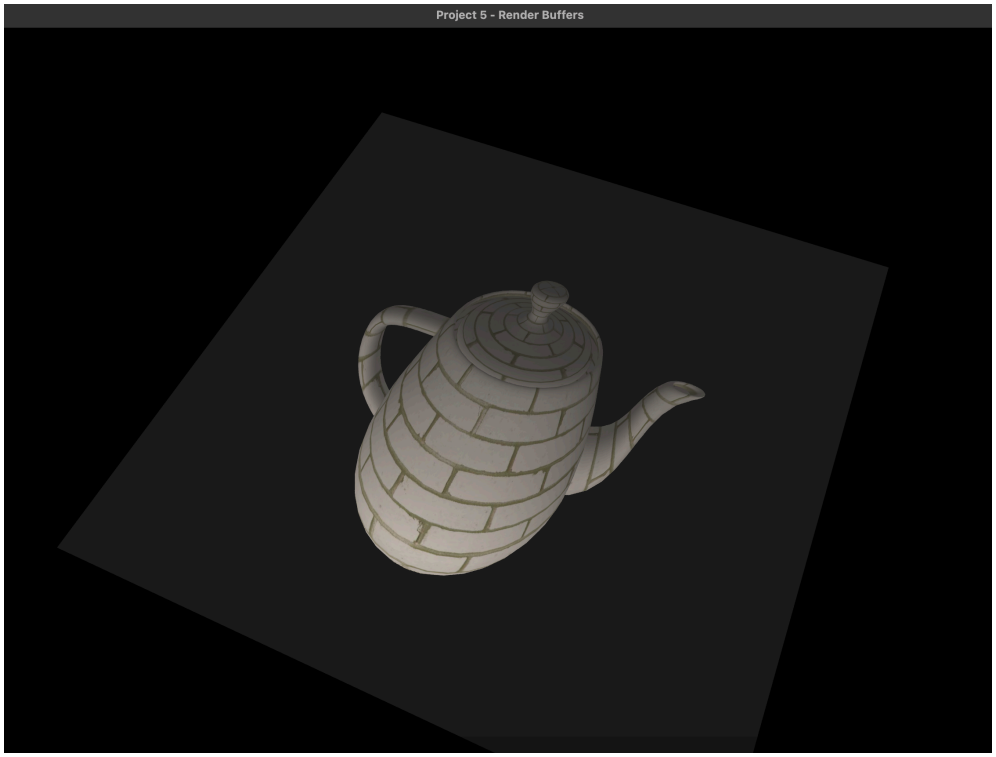
Project Screenshots: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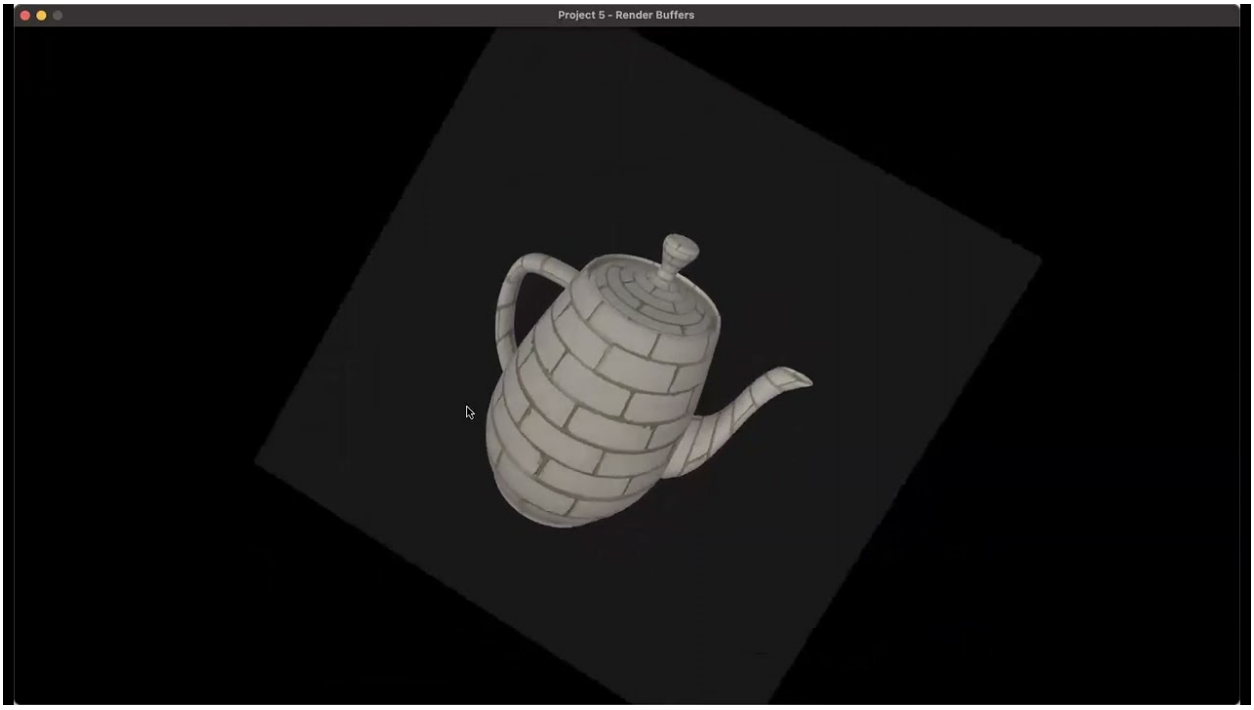
Video:



Implemented Features:

- The object was rendered using the diffuse texture as specified in the mtl file
- The object file can be specified as the first command line argument.
- The object is first rendered to a texture using a render buffer.
- The rendered texture is displayed on the plane.
- A constant color is added to the plane to distinguish it from the background.
- The rendered texture uses bilinear filtering for magnification and mip-mapping with anisotropic filtering for minification.

Development Environment:

OS: OS X 12.01
IDE: XCode 13.2.1
Compiler: clang++

External Libraries and Dependencies:

- C++
- OpenGL
- glfw
- GLEW
- glm
- cyCodeBase

All the libraries and dependencies can be found in the include and lib folder inside the project directory.

Steps to Compile and Run the Project:

- Run the below command in the project directory (inside the Project1 folder).

```
clang++  -std=c++11 -stdlib=libc++ -arch x86_64 -o run renderbuffers/
main.cpp renderbuffers/lodepng.cpp lib/libGLEW.2.2.0.dylib lib/
libglfw.3.3.dylib -framework OpenGL -I include -L lib
```

```
./run teapot.obj
```

Run the below command to run the executable.

- Alternatively, the project can be open in X Code and running on Rosetta.