

# CS6610 PROJECT 4 – Textures

## Varsha Alangar

### Implemented features:

All the requirements as well as the additional requirements for CS6610 listed in the Project 4 has been implemented.

1. The diffuse texture image *filename* was obtained from the mtl file.
2. The *png images* for the diffuse texture and the specular texture were decoded successfully using the LodePNG library.
3. The vertex buffer for the texture coordinates was also generated and bound.
4. The diffuse texture with the diffuse color was displayed on the object.
5. The specular texture with the specular color was also displayed on the object.

### Using the above implementations:

As in the previous assignments:

*CTRL + Left mouse button*: Rotates the light around the teapot object.

*Left mouse button*: Hold the left mouse button down and drag the cursor to change the camera angle (rotation)

*Right mouse button*: Hold the right mouse button down and drag the cursor to change the camera distance (zoom-in and zoom-out)

**OS Used: Windows 10**

**IDE: Visual Studio 2013**

### Libraries and dependencies:

All the libraries used in the project are included under the *lib* folder within the zip file. They include: opengl32.lib, glu32.lib and freeglut.lib

All the header files are included within the GL folder contained in an include folder within the zip file. They have been included as *#include <GL/gl.h>*, *#include <GL/freeglut.h>*, *#include <GL/vmath.h>*, *#include <GL/glfw3.h>* in the code. All the header files from cyCodeBase recommended for use are included in the cyCodeBase folder in the same include folder that holds the GL folder. The lodepng.h and lodepng.cpp files required to load the PNG images are present in the imageLoader folder of the include folder.

All the DLLs required are placed in the Debug folder of the zip file.

The source code itself was created and compiled in Visual Studio and is available as *main.cpp* in Shading folder along with the solution.

The executable is available in the Debug folder.

## Requirements to compile the project:

Unzip the project zip file and open the solution in Visual Studio.

In the properties of the project, link to the libs, dlls and header files. Make sure to choose “All configurations” in the properties window before adding the dependencies.

As mentioned earlier, all the required libraries, dlls and header files are available in the lib, Debug and include folders respectively of the zip file.

**Please let me know if there is any issue in running the code.**

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## Screenshot of output:

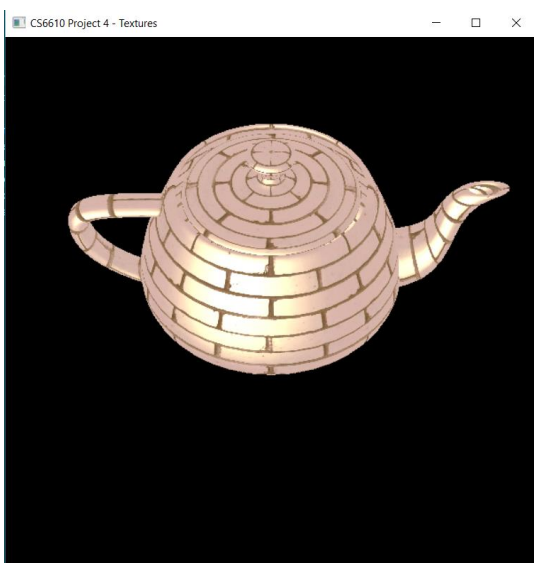
Diffuse texture



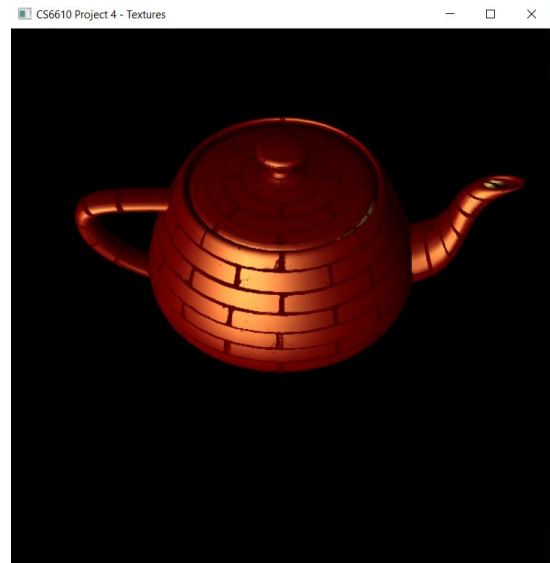
Specular texture



Without diffuse component



With diffuse component



Rotating lighting and teapot:

