Lab 09: Normal Mapping and WebGL
April 23rd, 2018

1 Launch a webserver

You can launch a webserver from this directory with ‘python -m SimpleHTTPServer‘ and then navigating to ‘localhost:8000‘

2 Editing the handout code

All the code you will edit is in ‘app.js‘
Right now it simply loads images brick.png and bump.png, makes a rectangle, and then draws brick.png on the rectangle.

3 Your Job

- load the bump.png image into the fragment shader
- load a uniform which resembles the point light into the fragment shader
- calculate the color based on the bump map value (rgba) for that pixel and the light position

4 Bonus

- let interactivity change the position of the light
- (see http://www.cs.tufts.edu/comp/175/shaderdemo/index.html for interactivity)
- ”green screen” the texture with another texture, by replacing the pixels colored like the grout with colors from psychedelic.png

5 Resources

- https://webglfundamentals.org/webgl/lessons/webgl-fundamentals.html
- https://webglfundamentals.org/webgl/lessons/webgl-shaders-and-glsl.html
- https://webglfundamentals.org/webgl/lessons/webgl-3d-textures.html
- https://webglfundamentals.org/webgl/lessons/webgl-data-textures.html