

## Assignment 3

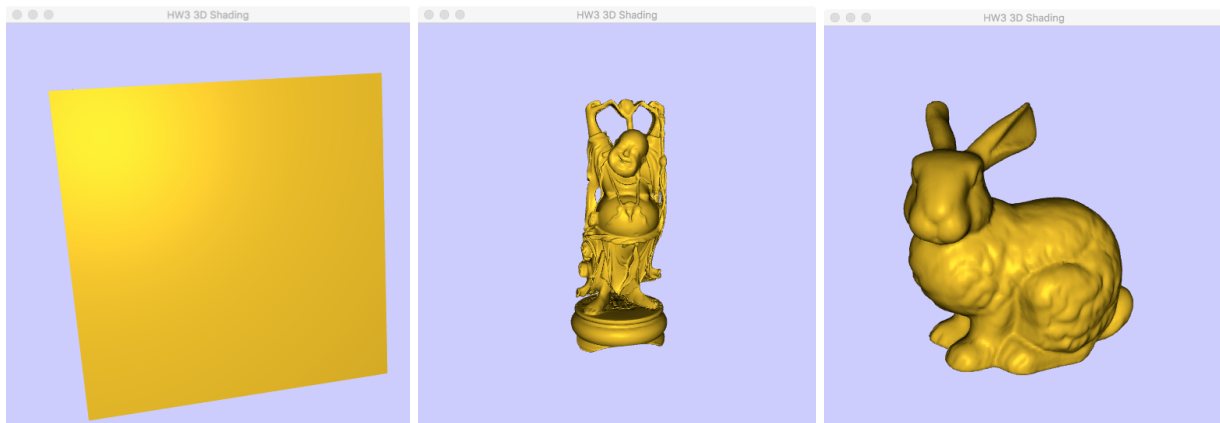
### Shading (80 pts)

Template code to get you started can be downloaded from:

[https://bitbucket.org/summateaching/assignment\\_3.git](https://bitbucket.org/summateaching/assignment_3.git)

For this assignment you are given a flat shading renderer of a few OBJ models (triangle meshes). You are to change the fragment shader from flat shading to Phong shading (ambient: 5pts, diffuse: 35pts, specular: 35pts). Change the material property (especially the specular material input) to verify your shader is correct. (5 pts) Give each model a different material.

Here are some examples of how the models should look with the default material:



A word on controls:

- Click dragging the mouse rotates the model (via a quaternion trackball, a possible topic later in the semester)
- Shift-drag zooms in on the model
- Alt-drag translates the object

(5 pts bonus) The light for this assignment is vector (i.e. the location light is at infinity). Make the light have a location in the scene. The light should transform with the user input.

Reference for OpenGL and GLSL:

<https://www.khronos.org/files/opengl-quick-reference-card.pdf>