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Title: Project C: Spherical Shading Symposium

User's Guide:

Goal

My goal for this project was to correctly implement Gouraud Shading and Phong Shading, each with Phong lighting or Blinn-Phong lighting making 4 possible combinations. The idea was to have a slowly rotating sphere in the center of the world to showcase the lighting, have a ground grid and camera movement as with Project B, and comprehensive user controls for the light.

I was initially going to have the 3 jointed assemblies and phong materials, but if my grade calculations are correct I do not need those parts to get an A in the class and those were challenging so I decided not to implement them. I will of course take 0% on those two parts of the project, but I did do the shape distortion extra credit with the ground grid because it felt rather bare otherwise.

Instructions

- Use the arrow keys to rotate the direction you are facing in the world.
- Use w/a/s/d to move in the world.
- Select the shading and lighting method of your choice from the drop down menus.
- Input the XYZ coordinates of the light along with RGB values for diffuse, ambient, and specular light in the text boxes.
- Click the buttons to turn the aforementioned types of light on or off.
- Slide the slider left and right to alter the specular shininess of the sphere.

Results:

Pictures

Use the arrow keys to rotate and w/a/s/d to move

Shading Type:

Gouraud

Lighting Type:

Phong

Light X, Y, Z:

2

2

2

Diffuse R, G, B:

0.8

0.8

0.8

Diffuse Currently On

Ambient R, G, B:

0.1

0.1

0.1

Ambient Currently On

Specular R, G, B:

1

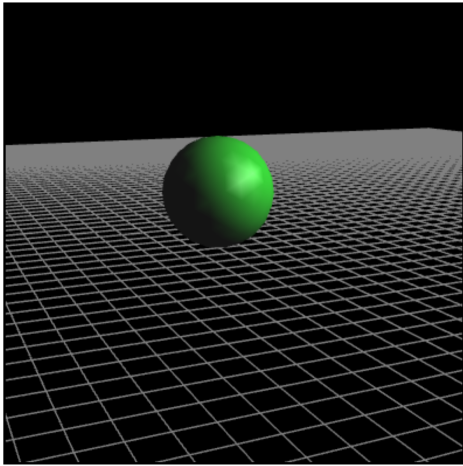
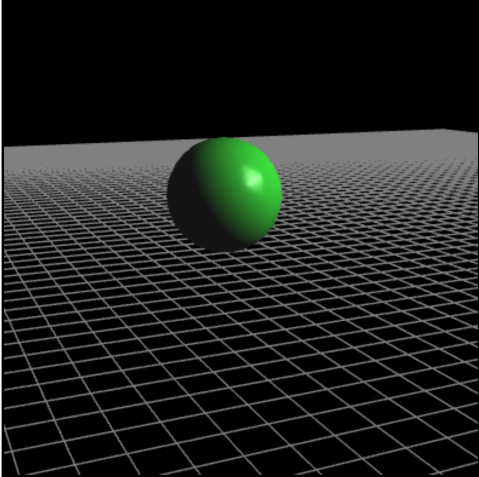
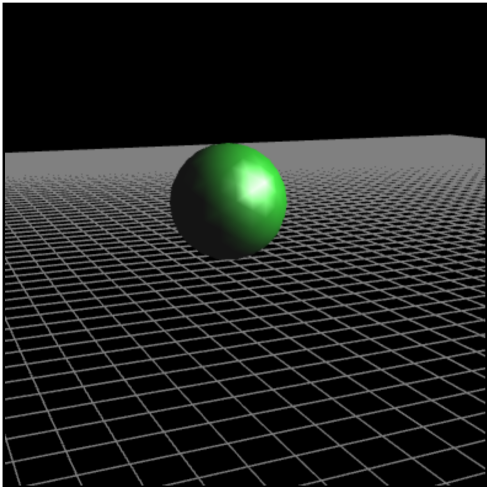
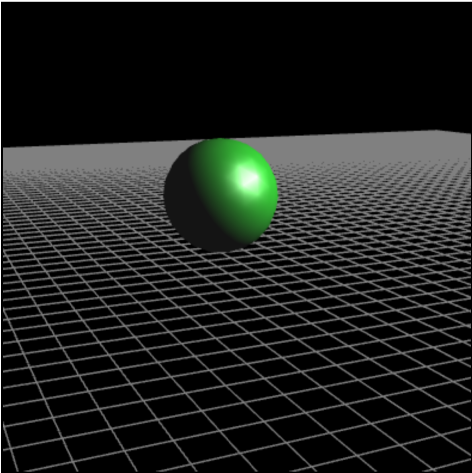
1

1

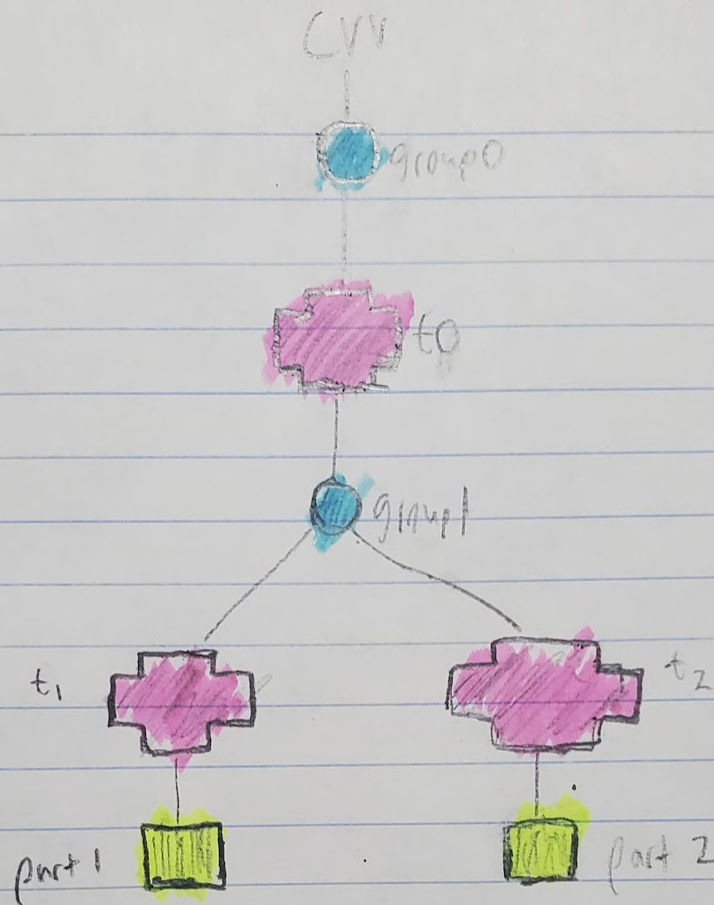
Specular Currently On

Specular Shininess:




Figure 1: Instructions

	Gouraud Shading	Phong Shading
Phong Lighting		
Blinn-Phong Lighting		

Scene Graph



LEGEND

-  Group Nodes
-  Transformations
-  Parts

- group0: Final Scene
- group1: Scene before Camera view
- t0 : Perspective/Look at transforms
- t1 : rotation, scale, translation
- t2 : scale
- part1 : Sphere
- part2 : Ground Grid