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CM163 Homework 3 Part C

3/4/18

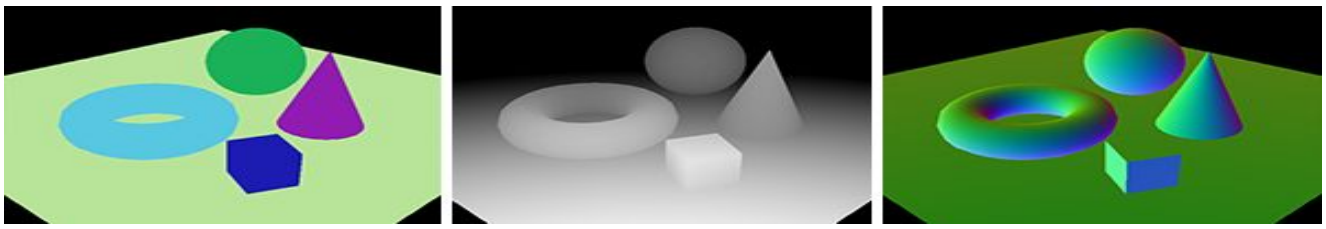
Part 1:

Deferred Rendering

Deferred rendering is a technique used to speed up the calculation of lighting. In the normal rendering process, lighting is calculated in one pass inside the vertex and fragment shaders. In deferred rendering though, the calculations for lighting are skipped until a second pass through the shaders. On the second pass, data textures for each pixel are passed in to the shaders, allowing them to know the color, depth, and normal. With this information, we are able to calculate how the light would affect a specific pixel. Each light then runs through every pixel, and determines what the lighting should be on that pixel, generating the final output.

To implement this, I think you would do something similar to what we did with the Game of Life shaders. One pass through is done, and rendered to a buffer target. From this result you store textures describing the color, depth, and normals for each pixel. Then you could pass those textures into the lighting shader, and use the information from them to find the final color of each pixel.

Here's an image of what the information textures might look like:



Part 2:

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