ECE462 Computer Graphics – Spring 2019

Project 2 Proposal: Environment Mapping

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1. Complexity Requirement
   - Perspective projection
   - Lighting
   - Texturing

2. Procedure
   - Create an environment map with either cube or sphere map texture
   - Create a reflective image that uses normal
   - Control degree of lighting exposure to the object
   - Allow for some (interactive) rotational movement

3. Explanation
   - After experimenting with either cubemap texture or spheremap texture, the objective is to implement an environment mapping with reflective object that has been applied a texture map. For a cubemap, six 90-degree directional(+/- x,y,z) images will be applied, while for a spheremap, it could either be flat rectangular or a spherical image. As for the object at the center, the user will have a number of options for its shape to choose from. If time allows, dynamically moving objects could be added around the main object. The main object could either constantly rotate or it could be rotated interactively by the user input.

- Feedback

You implemented environment mapping. This is a tough task to get right, and everything seemed to work very well. The user could choose between several scenes (environments) and reflective objects, and also control various other properties of the scene. I suppose the one minor criticism is that it may have been interesting to include some moving objects in the scene that get reflected as they pass by the main object. In any case, this was a very impressive project.

Grade: A+/A (97)