

Due: Wednesday October 31st, 23:59

Assignment 5—Environment Mapping

In a nutshell

Add cube mapping to your renderer to support environment mapping of distant geometry and of reflections.

Details

1. Scene
 - A quad Q , a diffuse object D , and a reflective object R ; D and R lie on Q , and D is close to R (i.e. R and D are almost touching); Q is textured with a black and white grid
 - An environment map
 - i. Build a cube map from the Uffizi cross texture, courtesy of Paul Debevec: http://www.debevec.org/Probes/uffizi_cross.tif
 - ii. Extra credit: build a cube map from your own photos 2%, with your own software 5% (total)
2. Rendering
 - Distant geometry is rendered with cube map
 - Q and D are rendered according to your prior assignments
 - R is rendered by reflecting Q and D in R the cube map
3. Path
 - Define a path that shows your scene
 - Let the user be able to render your path by clicking a button on the GUI
 - Make a popular format movie of 5 seconds, 30 frames per second, 640 x 480 resolution, square pixels from images rendered along the pat.

Turn in

Use WebCT to upload zip archive with:

- Source code, including project/workspace/makefiles
- Movie file
- Code should compile, use relative paths
- Include all non-standard libraries (archive size should be <50MB)
- A short REPORT.{pdf|doc} file that describes your user interface, and the extra credit completed, and that includes 3 of your best images.