

Computer Science 805
Spring 2005
Final – Photon Mapping

Due: Friday, 5/6/2005

Overview

For this project, you will implement photon mapping for rendering with your ray tracer.

Description

Write a program to implement global illumination based on photon mapping. Since photon mapping is a two step process, you will need to write a program solely for creating the photon map, then augment your ray tracer program to use the photon map during rendering.

Sample code for the photon mapping textbook will be distributed to help you with the project. You will need to modify this code and adapt it to your ray tracer.

Once complete, create and render scenes which will show off the features of photon mapping (caustics, color bleeding, etc.). Try shooting various numbers of photons (500-50,000) to compare the quality of the resulting rendered images.

Submission Requirements

You should create a web page with the following:

- your name, the date, and a title/description of this project
- several scenes of your own design and the resulting images your code produces
- any accompanying comments describing your source code
- instructions on how to compile and run your code
- any interesting problems you encountered and how you resolved them

Please e-mail me the tar'ed and compressed source code, along with a makefile.

You will be graded on the source code you submit and the web page presenting your results.