

Computer Science 805
Spring 2007
Project 2 – Intermediate Ray Tracer

Due: Tuesday, 3/13/2007

Overview

For this project, you will continue work on your ray tracer. Your enhanced ray tracer must handle a larger variety of geometry, as well as reflection, refraction, and other intermediate object characteristics.

Description

Enhance your ray tracing code to support the following:

- boxes, polygons, and at least one quadric (cone, ellipsoid, etc.)
- inverse spherical mapping
- convex quadrilateral inverse mapping
- bump mapping
- reflection and refraction
- multiple light sources
- antialiasing
- external scene description file (format given on course webpage)
- arbitrary camera orientation and aspect ratio (e.g. 640x480)

Create several images that show and show off all of the features you implemented. Submit the scene files for grading purposes.

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

Additionally, you will give a short presentation in class showing some of the images you produced and discussing any interesting problems you uncovered and how you resolved them. Source code should be submitted by e-mail.

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