

Computer Science 805

Spring 2002

Project 2 – Ray Tracer

Due: Tuesday, 3/12/2002

Overview

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

Description

Enhance your ray tracing code to support the following:

- planes, polygons, and at least one quadric (cone, ellipsoid, etc.)
- inverse spherical mapping
- convex quadrilateral inverse mapping
- reflection and refraction (i.e., transparent objects, reflective objects, translucent objects, etc.)
- shadows
- bump mapping
- checkerboards

For the scene description language, you can use the povray format or one of your own choosing. I will provide a povray scene file parser; otherwise, you must write your own parser.

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 will should be submitted by e-mail.

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