Computer Science 805
Spring 2001
Project 2 – Ray Tracer

Due: Tuesday, 3/13/2001

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
- a link to a tar file containing your source code and makefile
- 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.

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