Rendering

CS 775: Advanced Computer Graphics - Assignment 1, Part 2

Due Date: 14/3/2014 (Part 2)

1 Description

In this assignment you will translate the scene you made for your raytracer into a RIB file and use Pixar's PRMan to render the scene. You will also produce new versions of the scene with PRMan that show more advanced illumination effect.

2 To do

1. Implement a recursive ray-tracer

    (a) Translate the scene(s) for your raytracer to RIB files and render with PRMan.

    (b) Compare the output of your raytracer with the PRMan output in an html report.

    (c) Add indirect illumination (color bleeding) to the scene.

    (d) Add caustics to the scene.

    (e) Add area lights and soft shadows.

    (f) Add a texture (image or procedural) to at least two objects in your scene

    (g) Render the scene with PRMan's raytraced method and point-based method.

3 Method of Submission

1. A Tar-Gzipped archive of all the RIB files and texctures has to be submitted. It should run on the system in ViGIL.

2. A html report page on the assignment that should contain some details about what you implemented and images of the results that you generated.

3. A README file with a declaration that the assignment has been done by you and not plagiarized from anywhere, and a statement specifying if you are using any *late days* or not.

4. Submission will be through the submission portal, which will be enabled later.

4   Marking

The assignment will be marked as follows:

- Translated RIB scene - 20 marks
- For the next items, half the marks are for a point-based rendered version and half for a raytraced rendered version
- Indirect illumination - 10 marks
- Caustics - 10 marks
- Area lights and Soft Shadows - 10 marks
- Textured Objects - 5 marks
- HTML report with images of rendered results - 10 marks
- Viva during Demo - 15 marks
- Total : 80

5   Late submission policy

1. Each student gets 3 late days in total over the entire duration of the course. If a student chooses to use a late day for a submission the late submission penalty will not apply (for that day only).

2. This means, for example, if you turn in three assignments one day late, they could all be counted as on-time. Or, if you turn in a single assignment four days late, it could be considered only one day late.

3. Late days are not divisible; as soon as a submission is 1 minute late, you must use a full late day. If you are working on a task in a group, then every late day you take will cost each partner one late day.

4. When submitting an assignment, a student must state whether she is using free late days, and if so, how many. This should be stated in the README file. If you do not state it, we will assume that you are going to use the late day elsewhere and want to take the usual penalty scheme.

5. The usual penalty scheme will follow a policy of graceful degradation with a 25% penalty for each day's delay (i.e., zero marks if the assignment is more than three days late after the due date.)

6. If the late days have been all used up, then the penalty scheme will apply for each additional late day for the assignment submission.

7. Unused late days are not available for cashing, or for donation to a needy soul.