Michael Warren

Senior Project

Summary

Summary of all scope changes

* Changed requirement 3.6’s success to be 3.8 – 4.2 seconds instead of a flat 4 seconds.

List of deliverables:

* Source Code
* Design Document and some images of design
* Requirements Specification

Discussion of how your work satisfies what you proposed

* Req. 3 fulfills the ray tracing of the proposed project.
* Req. 1 and 2 demonstrate the parallel and cluster computing portion of the proposed project.

Known bugs and recommended enhancements

* There is a known issue that when running the first set of tests that the 4 computer test takes exceptionally longer than it should. Other subsequent runs for the computer test run exceptionally fast as expected.
* Rendering for small images sometimes causes issues for the cluster version.
* Enable more shapes and materials.
* The speed of the underlying math could possibly be improved.
* User interface that allows a user to build a scene
* Push image writing from the client to the servers so virtually no data comes back to the client once it sends its requests.

Summary of what was accomplished

A functional cluster was constructed that distributes the load of computation. A functional ray tracer was built also that included shadows, shading, and reflections. You could also add planes, spheres, and boxes.

What you learned from doing the project

I learned about how ray tracing works and how to build a cluster. I also learned to make sure to scope a project to be within my abilities. I also learned that making sure that requirements need to be achievable.