Take Infinity
Project Proposal

Title: Infinity Ray Tracer

Team Name: Take Infinity

Team Members: Anil Ramakrishna, Srikanth Madhava, Uthara Thelagar, Tanmay Patil, Himanshu Joshi

Objectives: Our goal is to build a fully functional ray-tracing graphics library with features such as implicit and explicit geometry rendering, shadows, reflection, refraction, etc. We also plan to create a short animation of scene using our library.

Approach: We plan to build a bare-bone raytracer and iteratively add features to it. Our reference is the graphics training website scratchapixel.com along with several online publications and reports that we cite in our final report.

Task Breakdown:

Name	Tasks
Uthara	Main concept, design, implementation, skeleton tracer, shadows, shading, reflection, look development. Domain architect.
Himanshu	SW Architecture, Skeleton Tracer, Shader, Multiple Object Intersection, Github, Cross Platform Support, Documentation.
Tanmay	Explicitly Modeled Object Parser, OctTree Optimization for complex object rendering, s-t and Normal Interpolation.
Anil	Animation, Refraction, Reflection, Shadow calculation, Debugging, Code Refinement, Documentation, Report generation.
Srikanth	Texture Mapping (Explicit and Procedural), Anti-Aliasing, Website, Animation, Report generation.

Expected time of completion: December 5th

Expected Results: We hope to have a fully functional and efficient ray tracer and gain the technical knowhow of building such a system.