# 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***:

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| 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.