

Project 3: PathTracer

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Generating Camera Rays

Fully implemented

Intersecting Triangles and Spheres

*Was fully implemented. I'm unsure how, but it appears there was a regression sometime after the implementation of task 4 and during the implementation of task 7. Attached is the source of the last known working task 2, for what it's worth. Didn't have time to dive deeper into why.

Implementing a Bounding Volume Hierarchy

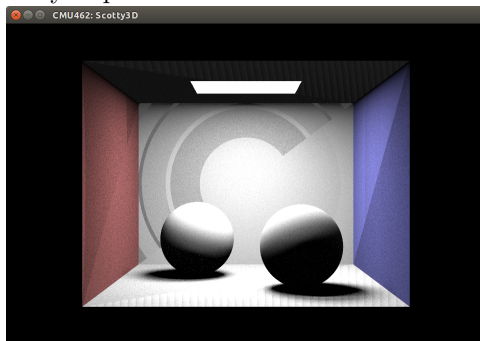
Fully implemented

Implementing Shadow Rays

*Almost! I think I'm handling some edge case incorrectly while tracing shadows. It looks like almost every *other* triangle in the mesh has a kind of shadowy noisiness, and the shadows are a bit too dark. The discrete bands and hard lines in the shadows probably indicate some kind of rounding min/max error of some sort.

Adding Path Tracing

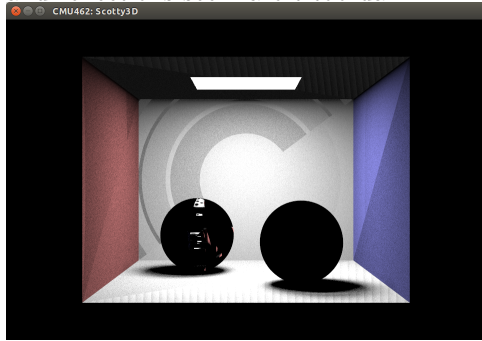
Fully implemented



Adding New Materials

Incomplete. Glass material does not seem to spit out any reasonable `Spectrum` values, resulting in spots that are just too dark. Mirror material seems to output a somewhat reasonable output, though the specularities

and reflections seem a bit too dark.



Infinite Environment Lighting

Incomplete. I completed part 1 (uniform sampling). I was able to get an accurate mapping and interpolation of the image map (for part 2), but did not have time to fully implement the light importance sampling to actually light the scene with.

