CSE306 Assignment 1: Raytracer

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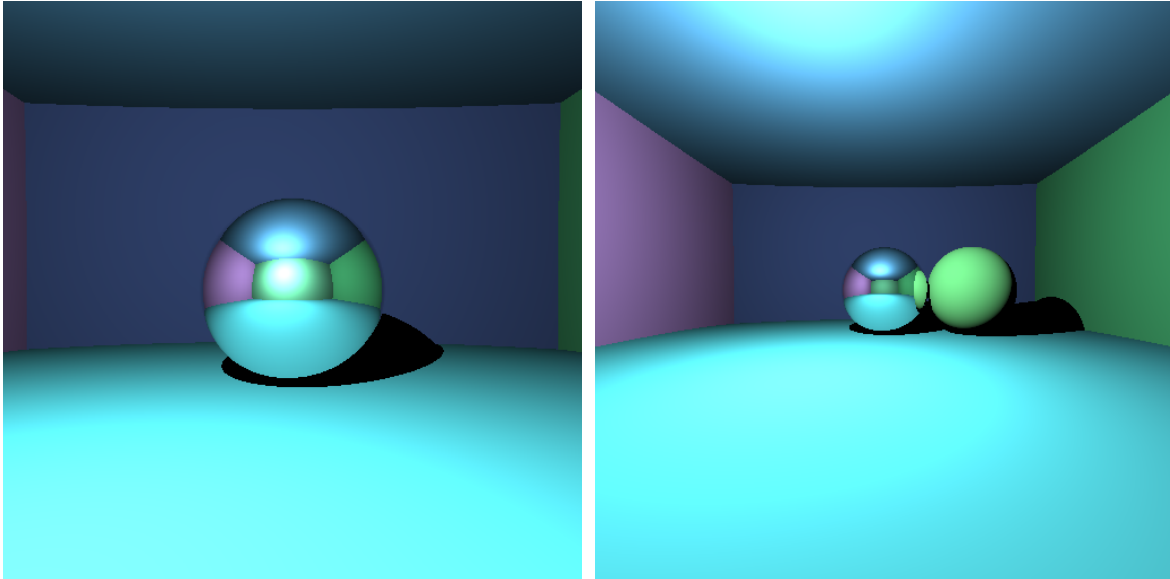
Contents

1   Introduction

This report covers the first assignment as part of the CSE306 Computer Graphics class. This class project focuses on Ray Tracing.

2   Diffusion, mirror surfaces, and direct lighting on spheres

Over the first two weeks, we focused on creating scenes, and experimenting with placing different spheres. Our first spheres were solid blocks of colour, and then we played with mirror spheres and transparent spheres.

The work I did for the first two session can be found under the "Ray Tracer/Part One" directory on my GitHub. Here are a few images generated from this.
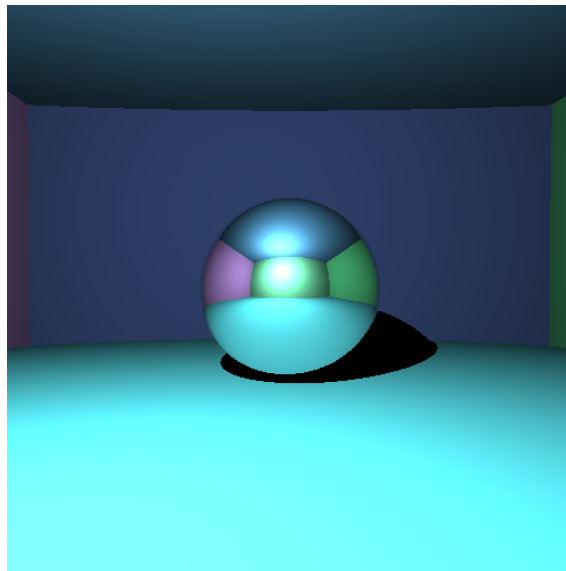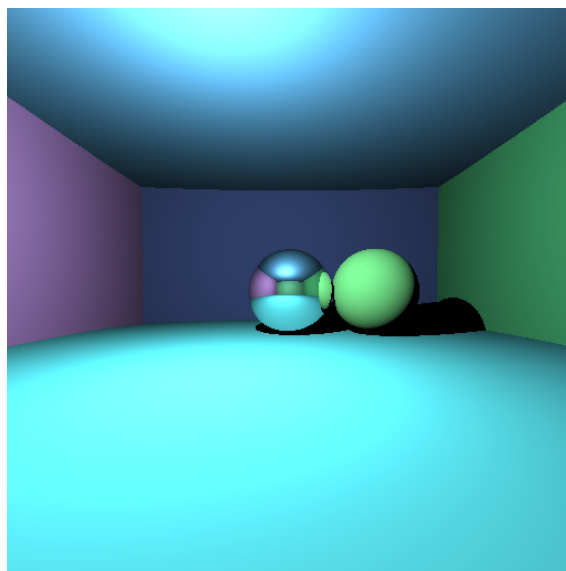

Figure 1: A mirrored ball

Figure 2: A mirrored ball next to a colored ball

3 Ray mesh intersection: adding a cat

The second part was focused on inserting a cat, which would take a lot more work as it was not as simple as a sphere.

As I worked on this section, I noticed my computer was particularly slow. For this reason, I really wanted to implement the BVH to make it more efficient, but this proved very difficult. I had to rely on a lot of help from online research (mainly forums lick Stack Overflow) to understand how to do this

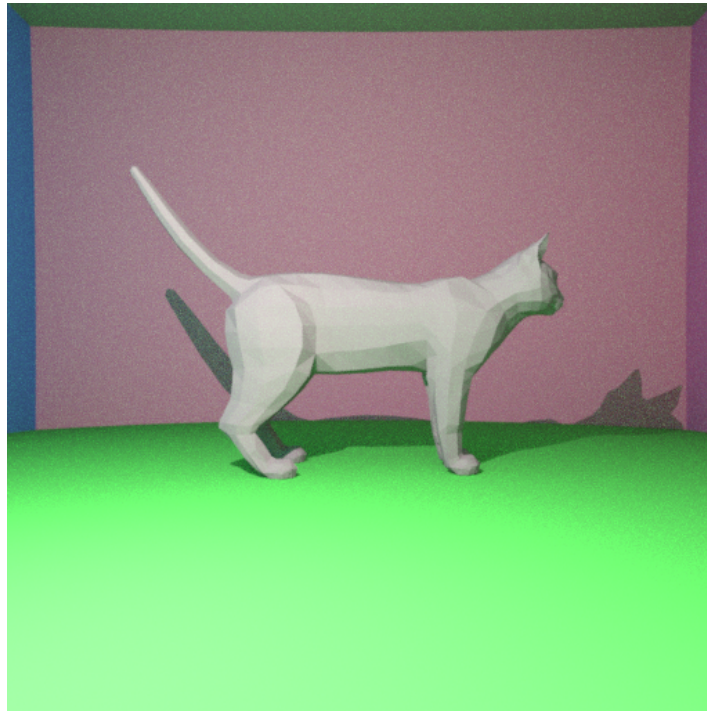And, this madde me forget to focus on the cat, which is why it is not perfect.

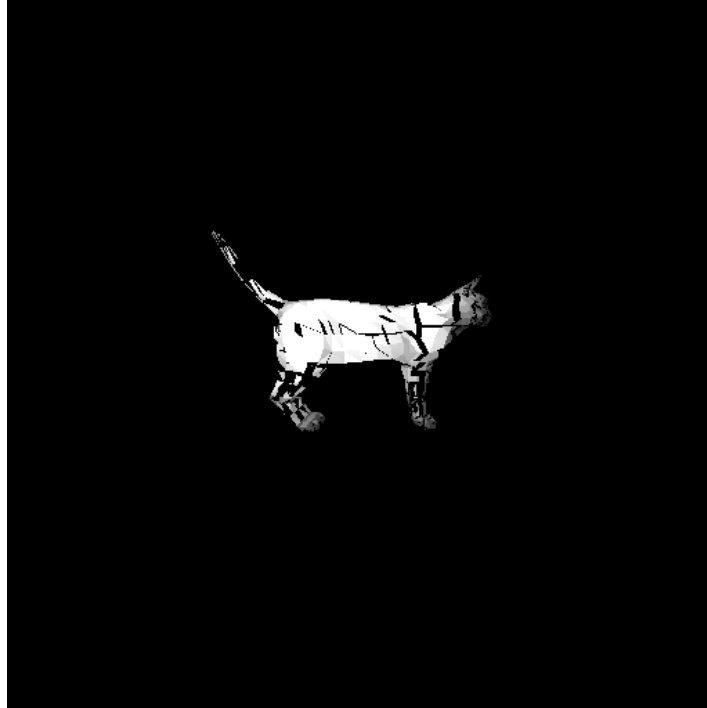**Figure 3**: The target cat to achieve from the course
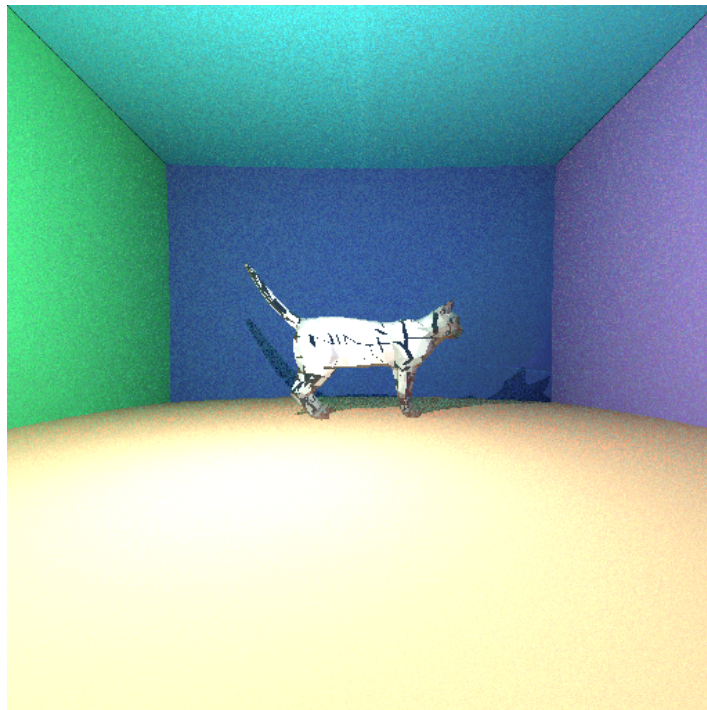
Figure 4: The cat I obtained

Figure 5: My cat in a room