Ray Tracer

Spring - 2023/2024

CNG 447 – Introduction to Computer Graphics

Homework 1 – Report

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RayTracer Program Execution Report

This report documents the execution process and outcomes of the raytracer program developed for our homework. The raytracer is designed to generate realistic images by simulating the behavior of light rays in a virtual environment.
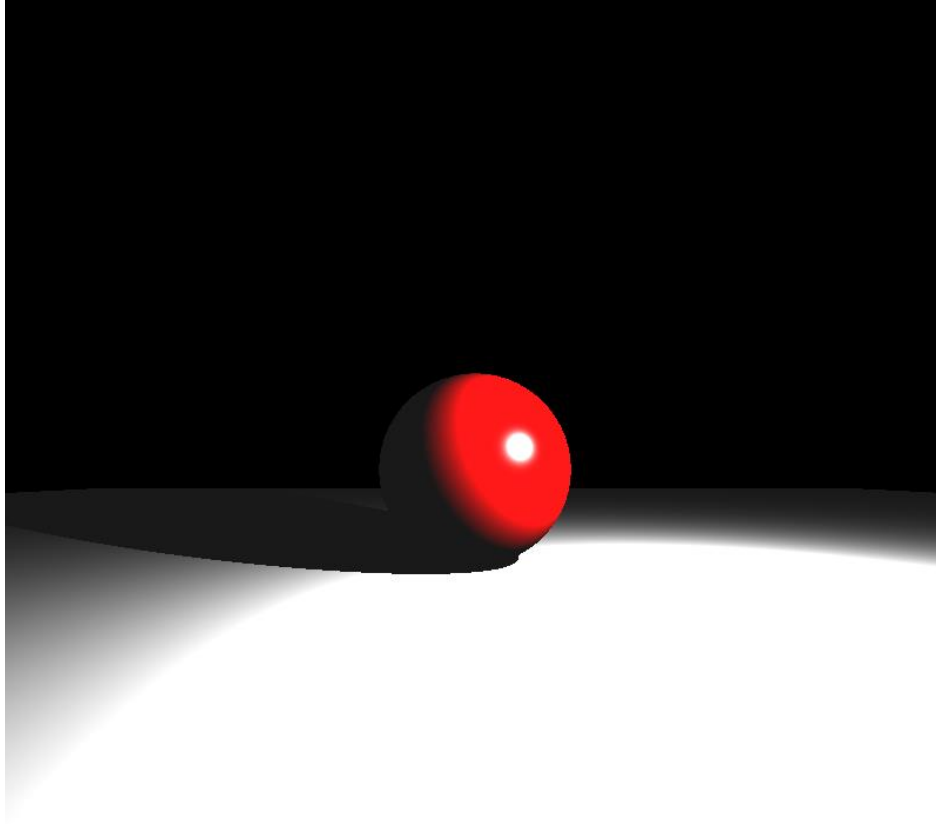
Execution Stages and Parameters and Outputs

1. The provided input file 1 "input1.txt" was used to generate the output.ppm below using the command: >g++ -O3 -o RayTracer RayTracer.cpp >./RayTracer input1.txt
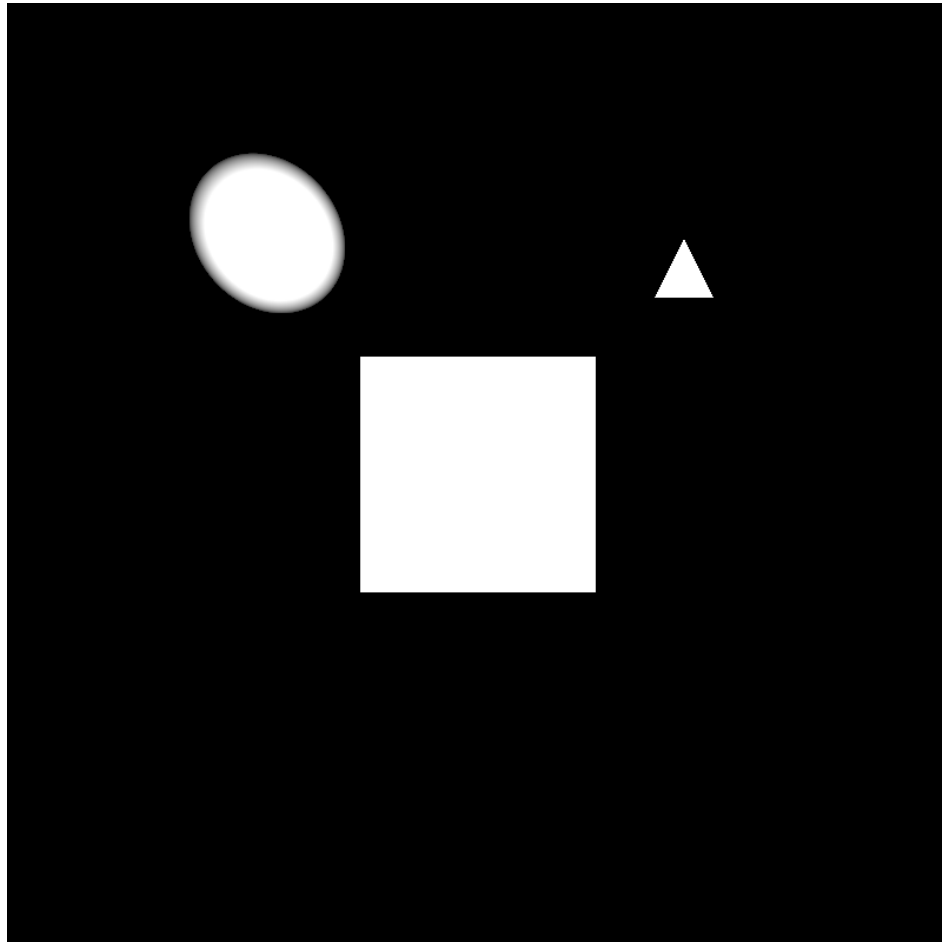
Figure 1 Inpu1.txt output file

2. The provided input file 2 "input2.txt" was used to generate the output.ppm below using the command: >g++ -O3 -o RayTracer RayTracer.cpp >./RayTracer input2.txt

Figure 2 Input2.txt output file

3. The provided input file 3 "input3.txt" was used to generate the output.ppm below using the command: >g++ -O3 -o RayTracer RayTracer.cpp >./RayTracer input3.txt

Figure 3 Input3.txt output file

Figure 4 Execution lines showcase

Encountered problems

For shadow calculations the slides said to multiply Shadow ray epsilon with (intersection point + shadow ray) however doing so would result in incorrect output but only multiplying shadow ray epsilon with shadow ray worked.

Thank you for this amazing homework; we thoroughly enjoyed it from start to finish.