DH2323 Computer Graphics with Interaction
Lab 2 : Raytracer

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Total pages: 2

1 Introduction

The purpose of this lab is to learn how to build a raytracer and use it to render an image of a 3D environment that consists of triangular shapes. The lab also includes light models, shading and camera movement.

2 Problem statement

Given a model of a room the assignment is to build a raytracer that can handle

3 Method

3.1 First implementation

As a first step we built our raytracer to send a ray thru each pixel on the screen and fining the closes intersection with the predefined model of the room, then it render that pixel to be the color of the intersected shape. If the ray did not hit any shape we render the pixel to be black. See the output of this in figure 1.

3.2 Camera movement

Next step was to implement an interactive environment were the user with the help of the keyboard should be able to move and rotate the camera. Rotations is implemented by increasing or decreasing an angle and then updating the rotation matrix `R`.

4 Result

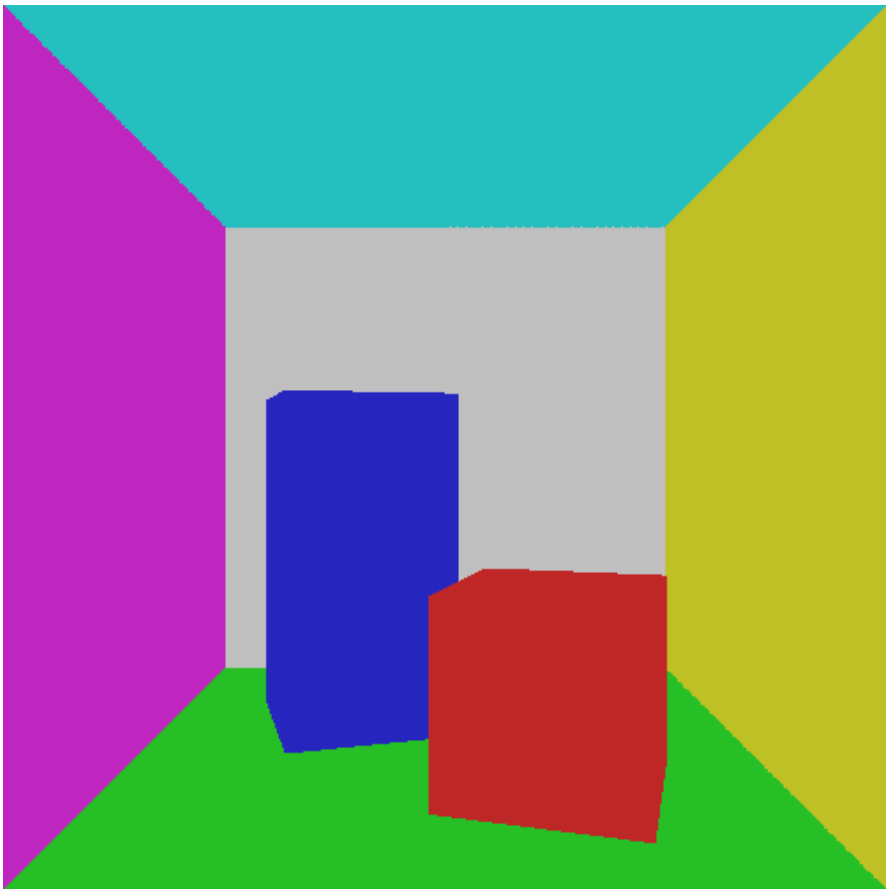

Figure 1: Output from first run