

Advance Computer Graphics Assignment 2

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1 Introduction

Hereby we would like to represent our assignment 2 for Advance Computer Graphic course at Utrecht University. We have implemented, the BVH traversal. As a result of misunderstanding the assignment description, we aimed to build the RE on GPU and perform the BVH traversal on GPU.

The CPU scene currently support triangles, cubes, sphere and meshes.

The GPU scene currently supports only triangles.

1.1 BVH Traversal

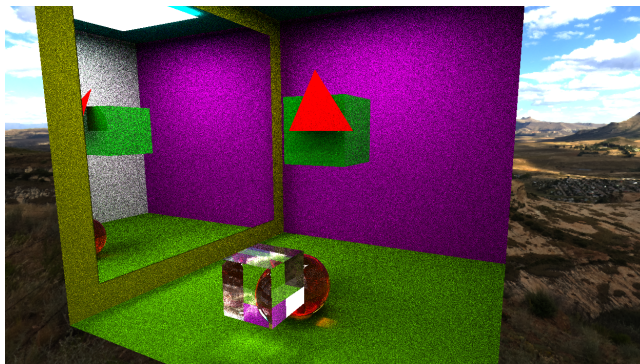


Figure 1: BVH RE Traversal with 100 Frames

2 Bonus

2.1 GPU

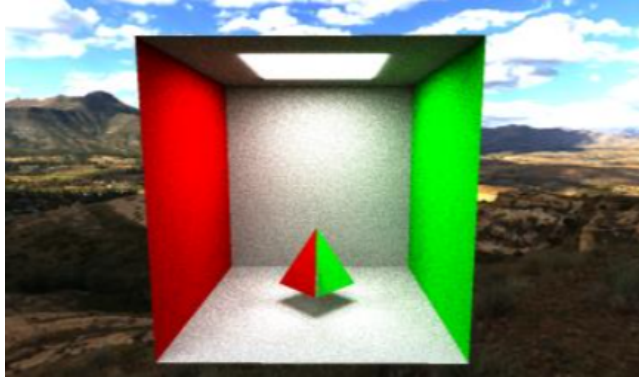


Figure 2: GPU render

Point For Improvement

We built the simple version of the BVH (article 1). Yet, during our GPU As we experimented, we noticed a strange phenomenon. A scene with 18 triangles had only 3 BVH nodes, where the right and left children of the root nodes had the same AABB coordinates. A specific scene construction was the main cause of this phenomenon. Due to a lack of time, this was not fixed for ththis submission, butll be for the following.