

HW4 Milestone

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We have made a basic camera module. The camera has been set up in the similar way as mentioned in the test scenes. We set up the co-ordinate system at the camera position and shoot rays onto the scene, which currently consists of only a plane quadrilateral, with its specific pixel color. Only the rays which lie in the vicinity of the field of view are considered. So the camera shoots the rays in the direction of scenes, but within the image size.

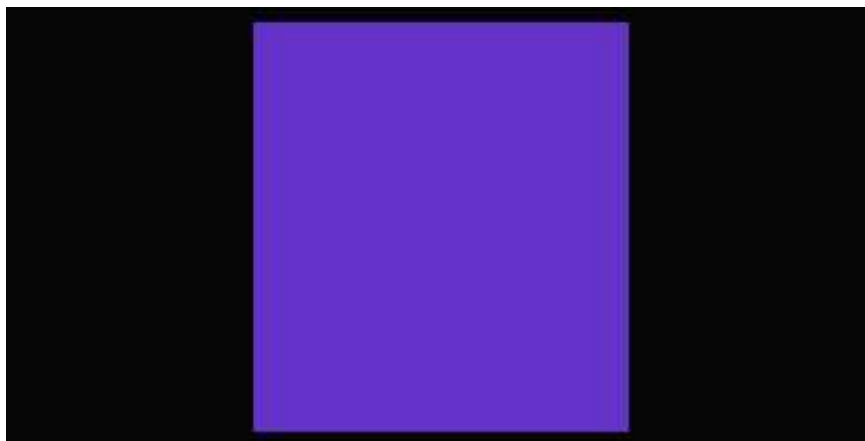
We have written a basic ray-quadrilateral code by using the efficient algorithm as mentioned in the paper “An Efficient Ray-Quadrilateral Intersection Test” by Ares Lagae and Philip Dutre . This algorithm does not consider the rays which are parallel to the quadrilateral or which intersect the quadrilateral outside the plane. The intersection calculations are only performed when both of the above conditions are not met.

We have created the camera and quadrilateral with the same values as given in “scene1_test”

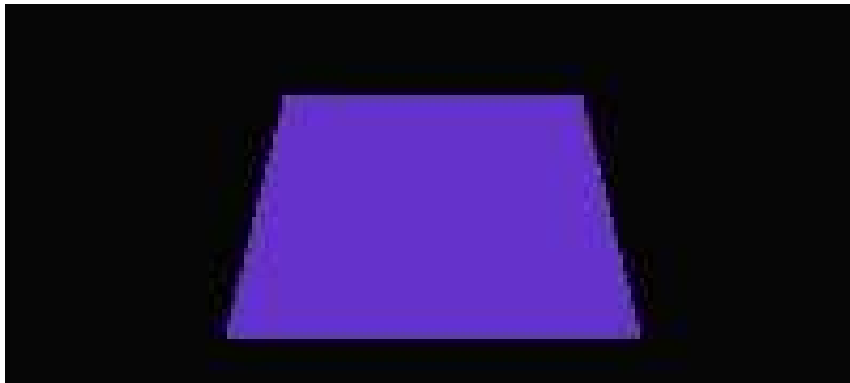
The basic camera positioning and the ray-quad intersection test have been performed and for the later stage we aim at working with the light, shading, reflections and shadows of the quadrilateral, that has been drawn, before multiplying objects in the scene and doing recursive ray tracing. We aim at making this quadrilateral realistic first before moving on to the other objects in the scene. Also we are looking forward to creating a text file and a parser code to read values of the objects from this text file.

The screenshots of the quadrilateral with different camera positions are given below:

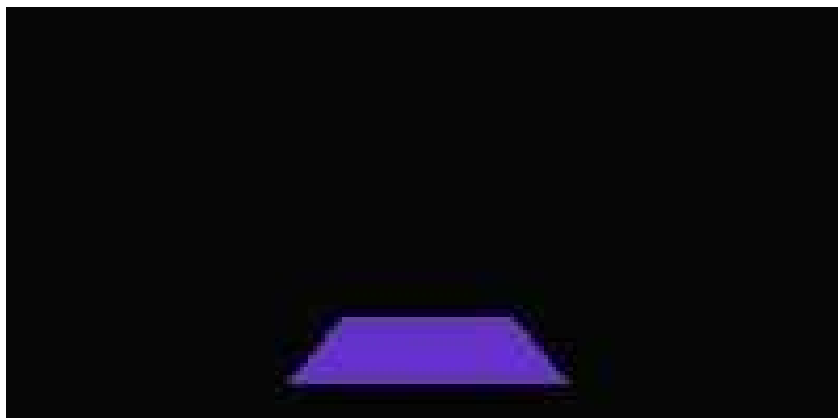
1. #camera 0 0 4 0 0 0 1 0 30



2. #camera 0 -3 3 0 0 0 0 1 0 30



3. #camera -4 0 1 0 0 1 0 0 1 45



4. camera -4 4 4 1 0 0 0 1 0 30

