MAT594G Realistic Image Synthesis (Fall 2011)
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Homework: #1

Non-Traditional Projection Method

For my non-traditional projection method I altered the image plane to exhibit a checker board style surface where (i, j) for all odd values have a z component of -0.5. All even components in the plane have a z component of 0. You can think of it like a waffle.

When a ray hits the plane at an odd pixel it is hitting it at -0.5 in the z direction. This makes a dark spot for that pixel as can be seen in the video output.mpg. I spun the eye to the left and a little back in the z direction. There are some artifacts showing up in the video as a result of the translation from ppm to mpg. I didn't have time to debug this.

Overall I would have liked to implement something more complex like a fisheye lens as my image plane. Maybe in the next assignment.

Notes

I spent about 20+ hrs on this assignment due to some mis calculations initially. I think it was worth the time spent though. I feel that I got a lot out of it. The most time consuming part was translating the theory to code. My C++ was a little rusty.

movie1.mpg is the eye moving away from the sphere.
movie2.mpg is the non-traditional projection method.