Office of Strategic National Alien Planning

Rasterizer

(RAST)

Project Team:
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Executive Summary

A current rasterizer at goo.gl/fh8Zr1 that I previously created needs some more efficency. There are a lot of moving parts within the code that I could paralellize. This will not be an easy task because of all of the possible data dependicincy issues.

Project Description

The project will be split into different secions. I will make the matrix muliplication, rasterizing, camera.. etc (all modules) running in parallel. This will not be so easy because there will be a lot of data dependencies and areas that could be optimized.

Highlevel Architecture

The architecture of the exisiting project is already built, it is split into it's own modules.

Main - Calls everything Screen - Uses matrix, camera, tirangles, lighting, and functions Triangle - uses matrix and functions Matrix - Standalone Lighting - Standalone IO - Standalone Camera - Matrix and functions

Optimization Plan

My optimizaion plan is as follows (and will be summarized on the following page).

I first plan to optimize my functions and matrix class initially, as these are the utilities that are utilized the most.

After that I plan to work on parallelizing the camera and triangle classes. This will take some time because there are a lot of optimizaions that could be made in triangle.

Lastly I will take on the two harder ones, which would be main and screen. They both have the most and hardest for loops to make parallel.

Project Schedule

Week	Milestone
5	Matrix
6	Functions
7	Camera
8	Triangle
9	Main
10	Screen