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CMPEN/EE 454

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**Project 2: Camera Projection Project**

Part 1: Project Summary:

In this project we had the task to perform forward and inverse camera projection and perform all sorts of calculations along the way. The process of forward camera projection is the action of taking a 3D image and perform all sorts of transformations so that it would produce a 2D image. Inversely for inverse camera projection it consists of taking that 2D image and perform transformations, (in this case triangulation) to reconstruct a 3D image form the 2D image.

Part 2: Procedural Approach:

The team’s approach was

Part 3: Experimental Observations:

Some of the experimental observations

Part 4: Quantitative Results:

The performance of the project was mainly evaluated by comparing and calculating the sum of squares difference between the original 3D points given before any forward and inverse camera projections against the 3D reconstruction after triangulation for our inverse camera projection. Some of the results are:

Part 5: Qualitative Results:

The performance of the project was mainly evaluated by comparing and calculating the sum of

Part 6: Algorithm Efficiency:

The algorithm efficiency has been determined by

Part 7: Epipolar Visualization:

Below you can see the result when calculating the epipolar lines and placing them for both images.

Part 8: Team Members Contributions:

Joshua Zapusek:

Josue Perez:

Aziz Boudy: