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4/5/2010
ENGG 8840

Project Goals & Steps

Topic: Generating and Deciphering Stereograms

Goals

1. Write a C program to Generate a Stereogram given a grayscale image.
   A.) This will likely be a program using the Random-Dot approach.
   B.) The Random Strip applied to create the illusion of depth will be hard-coded.
   C.) One image file in, One stereogram out.
2. Write a C program to Decipher stereograms given a grayscale stereogram.
   A.) This will leverage the Minimal-Area Minimization (MAM) based approach as discussed in Kimmel[1].
   B.) One stereogram in, One image file out.
3. Learn about stereograms.
4. Have fun!! ☺

Other:

1. Files will be handled as Raw data.
2. Images will be dealt with in Grayscale
3. Deliverables will include all source code for both programs as well as sample images which have been processed.

Necessary Steps

(By 4/13)

1. Write a C program to create random dot stereograms.
   A.) Verify required nature of input image (3D model, or any image?).

(By 4/27)

2. Write a C program to decipher 3D shape from Random Dot stereograms.
   B.) Verify mathematical process of Minimal-Area Minimization.

(By 5/3)

3. Write report.

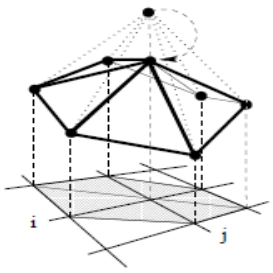

FIG. 2. The area of the six triangles is minimized by changing the $Z(i,j)$ candidate.

1. Kimmel, Ron. “3D Shape Reconstruction from Autostereograms and Stereo”. Technion, Haifa, Israel. 2000.