

CMSI 402 SENIOR PROJECT LAB
Project Status Report #8

Name: Mark S. Kolich
Date: Tuesday, April 12, 2005
Project: Silhouette (Real-time Shape Recognition)
Period: March 15, 2005 through April 12, 2005
Project Goals: Silhouette will implement a known shape detection algorithm and package it into a powerful and easy to use open-source application written in Java. The application will be developed to highlight the performance of the algorithm using a live JPG stream from an Axis network-camera.

Accomplishments

- I've successfully completed my vector extracting algorithm which uses a unique "line-walking" algorithm to walk along a line (line of pixels). The algorithm uses the slope of a line to determine which pixels it must trace.
- I've integrated my vector extraction algorithm into my application, and configured it to paint the extracted vectors on the real-time camera stream (demo during status report presentation).
- I've implemented the shape selector tool, which allows users to select which shapes they'd like to scan for on the real-time camera stream (demo during status report presentation).
- I ran through my entire source-tree to ensure that ALL Java files are properly documented, have an appropriate file header, and contain meaningful comments.
- Completed the implementation/test plan portion of my software development notebook.

Plans

- A few minor bugs have been discovered within my vector extraction algorithm. I'll be working on correcting those within the next day in or so.
- Use extracted vector information to scan for shapes, specifically squares.
- Write a quick method which scans for and eliminates unnecessary vectors. For example, imagine two vectors were detected, (3,4)-->(4,5) and (4,5)-->(6,7).

Because these two vectors share a common mid-point (4,5), we must compute their slopes, and if they are similar, then we can conclude that there is a single vector from (3,4)-->(6,7).

Risks

- Currently, my only most substantial risk is implementation time. I've made a significant amount of progress on my development notebook, and shape detection algorithms over the past few weeks. I hope to have my project completed by the deadline!