Eric Henderson, Laura Moss, Nick Kamper, James Savage

CSSE463 Term Project Status Report

February 8, 2013

Eric Henderson and James Savage have been working on obtaining a depth map from a set of point pairs between images. The primary setback is that from that data alone, only distances relative to other point pairs can be found. More metadata is needed on our test images, such as the distance between cameras. Additionally, it is not clear how to create a depth map for the entire image based solely on the few interesting points that are obtained from the current algorithm, as they tend to be not very well distributed around the image, and it is hard to determine regions based on them.

In the past week, Laura and Nick have been working on improving the point matching algorithm. They found that our initial implementation was woefully inadequate, providing matches that generally did not correspond to the same point in reality. As such, they've worked on switching our code from using James and Eric's MDV interesting point detection to using MATLAB's Harris corner detection. These points provide much better variation that can easily be matched using our template-matching-inspired Gaussian point matching algorithm.

Laura and Nick have also been working on improving our Gaussian point matching algorithm. They switched from using color difference to using weighted dot products. In addition, they've switched to using RGB space for our point matching algorithm rather than grayscale.

Finally, they want to investigate other ways of determining matches aside from color data. They have been investigating the possibility of matching partial derivatives in addition to color data to provide yet another feature to match.