Report week 7

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1 Point set registration problem

- Working on code for refining 3D keypoints.
- Analyzed different ways of estimating the keypoints.
  - Iterativeley, by modelling each keypoint as a node in a graph, and limbs as edges
  - Analytically, by trying to find a transform for the constrained set of points M so they are as close to the observed set of points S as possible. (I did not find a transform, since we have too many degrees of freedom.)
  - Updated code to use Eigen for efficiency and readability
- Started working on an alignment node for calibrating the kinects. Using pre existing feature extraction and matching methods from PCL. Some of the results found here might be helpful for the above problem.

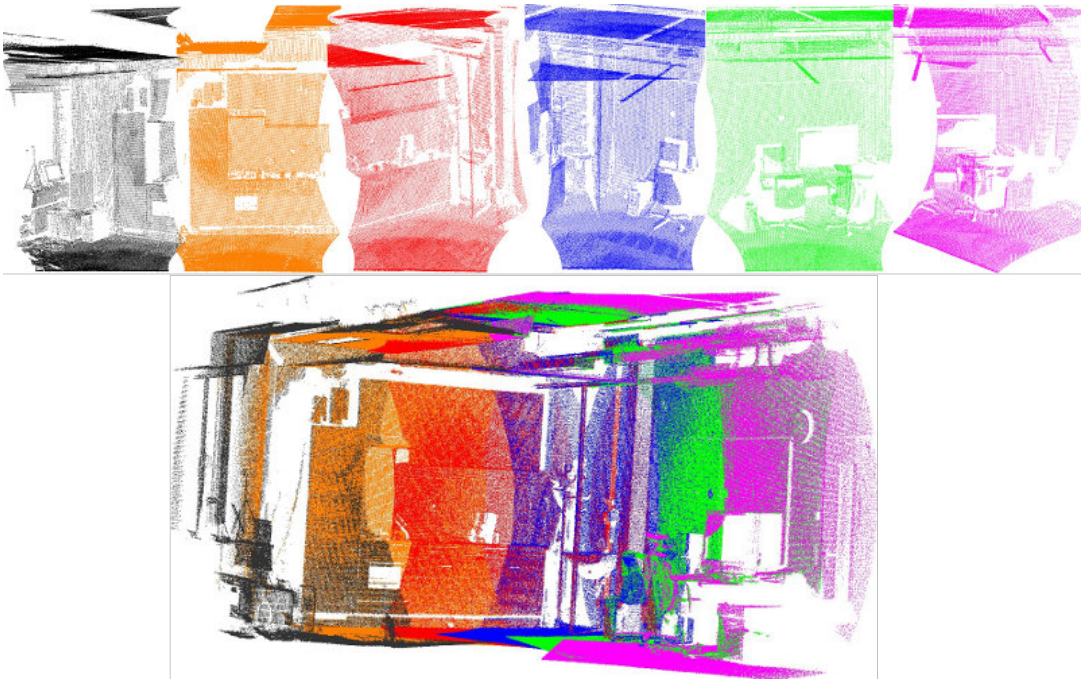

Figure 1: PCL has many algorithms for aligning point clouds, however, I haven't found a premade method for just getting the transformation directly.

1.1 Next week

- Finish point cloud registration, and combine poses from potentially n cameras