2/9/15 Monday

Talked about our progress so far, and what we need to do. After researching some BGS techniques that involve compressive sensing (1), we decided to make BGS as trivial as possible so that we can focus our efforts on more important aspects of the project like CGH and CS.

In terms of CGH, we decided the problem is in the webcam that we were using. The images from this webcam (Creative Live! Cam Sync HD) was much too noisy and low-quality for our needs. We ordered a new camera (Logitech HD Pro Webcam C920) which produces better quality images according to some demo videos we’ve seen.

2/10/15 Tuesday

Had the Big Problem talk with both sections today. Everyone seemed to agree with our conclusion that BGS should be our secondary concern. We are leaning towards magnetic lasso technique, where we take input from user to determine the object of interest.

2/11/15 Wednesday

Found a source code for lasso in MATAB. I had to write another short script (img2col.m) to convert an image file to two column vectors (x and y coordinates) which is the required input format for this script. I tried this on the sample images provided in MATLAB, and it works great (2).

2/12/15 Thursday

Camera came in, and we took new images. Images are much clearer (3). Using these new images, I was able to test BGS with lasso, and after some fiddling around, the result looks quite promising (4).

We did more research on the camera matrix, and we might need an image of a calibration board at each angle from where the images were taken. This is obviously very intrusive for the user, so we must find a way to avoid this. The only way to do this, it seems, is to really understand the camera matrix and calculate it with measurements of angles and distances alone. We found a new MATLAB GUI to find the camera matrices, and this seems promising also.