Developer Documentation

The shape recognition software is fully functioning. It can recognize shapes, list how many shapes there are, distinguish between triangles and squares, find centroids, and find the coordinates of the centroids. There are three images that will appear with the code is ran. From left to right is the original image the camera is capturing, a black-and-white image depicting the thresholds of the processed image, and the image the camera is capturing but with blue outlines around shapes and informative labels. Below the middle image is two track bars and two textboxes. The first adjusts the image brightness, and the second adjusts the image threshold.

* ***Environment***: It works best in a well lit room with the camera pointed at a non-reflective surface. Otherwise, adjusting the threshold track bar should compensate.
* ***Prerequisites***: Have a webcam plugged in to the laptop/computer.
* ***Protocols***: Start the program by clicking “Start” (or pressing F5) in Visual Studio. Shutdown the program by closing the window.
* ***Known Anomalies/ Bugs***: The initial brightness and threshold values aren’t displayed in the text boxes. Under “File”, clicking “Run ARM” doesn’t do anything. Under certain lighting conditions, the program identifies triangles as squares. Adjusting the threshold bar resolves that.