Handheld AR

Group 09

Where we were

Had just received our equipment

Able to work with OpenCV, but struggling to work with the actual hardware

Where we are now

Downloaded OpenCV on to Raspberry Pis

Have code to recognize AR markers and draw a graphic around it

“Demo”:

```
def display(im, decObjs):

    for decObj in decObjs:
        points = decObj.polygon

        if len(points) > 4 :
            hull = cv2.convexHull(np.
            hull = list(map(tuple, np
        else :
            hull = points;

        n = len(hull)

        for j in range(0,n):
            cv2.line(im, hull[j], hul

    cv2.imshow("Results", im);
    cv2.imwrite("Output.png", im);
    cv2.waitKey(0);
```

Code of Interest:

Takes an image and a list of the markers that are found.

Draws a box around each decoded marker.

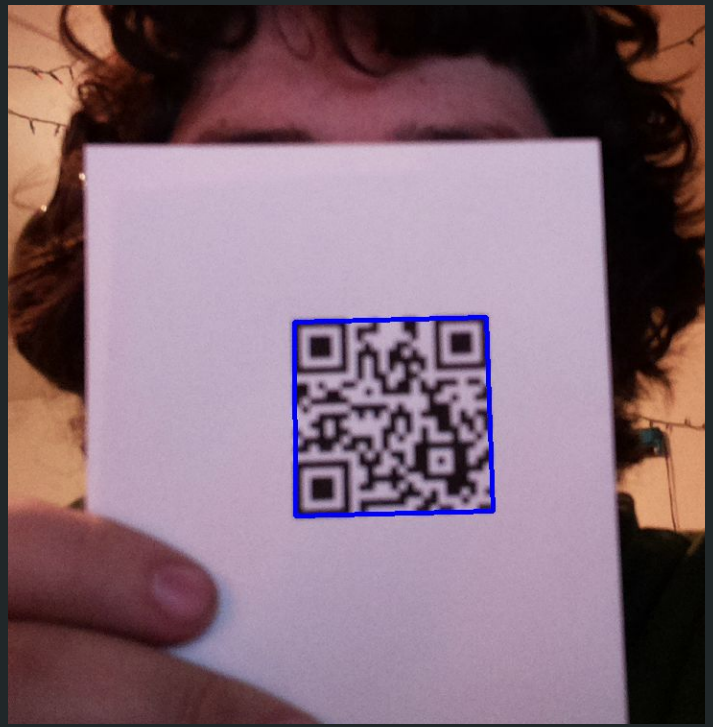
Shows and saves the resulting image.

“Demo”:

Outputs a list of all decoded objects.

When it’s not able to find the marker (and it can be finicky sometimes):

“Demo”:



Result of the blue box surrounding the marker.

“Demo”:

Example of output from the scanned marker.

```
>>> %Run opencv.py

Type:   QRCODE
Data:   b'https://youtu.be/dQw4w9WgXcQ'


>>>
```

Where we going

Using OpenCV to find the location and orientation of the camera

-Homography

Concerns

Worried about time constraints due to scope

Questions