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**PROGRESS REPORT ON THE 2F SCANNER**

**PROJECT DESCRIPTION:**

The 2F Scanner is a facial/fingerprint recognition device that allows a user to save biometric information for logging into an android software application. It requires a raspberry pi and a pi-camera. OpenCV is an open source library for computer vision. OpenCV library was used to develop an algorithm that enabled the full functionality of the pi-camera.

**PROJECT ACHIEVEMENT:**

PCB Soldering – I completed the soldering of the provided sensor components to my PCB and had it tested successfully before mounting it on to the raspberry pi. Although, the PCB sensehat was later discovered to be completely irrelevant to 2f Scanner.

I successfully designed and built a plastic case for my device using the help of Kelly from the Parts’ Crib. Since the pi-camera was a delicate part of the device, I had to design a covering for its protection.

Also, the facial detection has been successfully implemented. When initialized, the pi-camera is able to detect whether the object in front of it is a person. It takes a picture regardless but how the picture is saved determines if the object is a person.

**PROJECT BUDGET:**

The whole project has been really inexpensive. To date, I have spent $21.63 for the Arducam pi-camera, $44.00 for the Raspberry Pi 3, and $7 for the 8GB SD card. No extra costs whatsoever.

**PROBLEMS ENCOUNTERED:**

The following are some of the problems I encountered while developing the 2f Scanner:

1. I destroyed a trace on the PCB board, so I had to re-solder it in a way that reconnects the trace.
2. The code for the facial detection was written in python, I have little experience with python programming language so I had to use online sources to gather a source code.
3. The OpenCV library I used, was completely unknown to me.
4. Even with online resources and a successful functionality of facial detection, I struggled to develop a successful function of facial recognition.

**TO-DO:**

Upon success of facial recognition functionality, I would have to set up a database for saving the pictures taken and link it to the already set android application database.

**PROJECT PROPOSAL CONSIDERATIONS:**

The 2F Scanner is supposed to be a dual function device that allows for facial or fingerprint recognition but due to the amount of time left as a result of the strike and other circumstances, it would be developed to perform a facial recognition function only. Otherwise, the project is at an 80% completion stage.

To further details about blog see: <https://goziethelegion.github.io/Legion/>

For repository, see: <https://github.com/goziethelegion/Legion>

For project proposal, see: <https://github.com/goziethelegion/Legion/blob/master/ProposalContentStudentNameRev02.xlsx>

For project budget, see: <https://github.com/goziethelegion/Legion/blob/master/RealPartBudget.xlsx>