Facial Recognition Home Security Automation

Demo 2

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Why?

- Security should never be obtrusive
- Create an intuitive system that leads to no worries with minimal user input

Utilize Facial Recognition to make everyday home use simple, and have a mobile app to adjust for changes to routine

Features

Ease

Recognized face approaches front door

- Arducam sends image to database through Arduino Base Unit
- Captured Image matches library of recognized faces
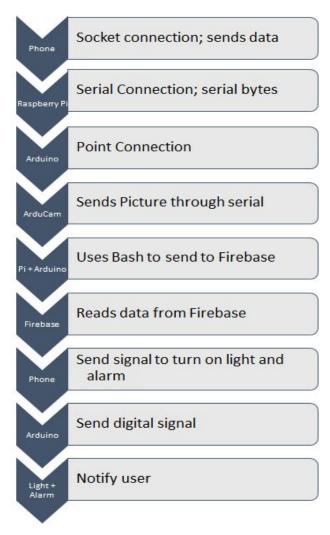- Alarm not engaged

Secure

Unrecognized face approaches front door

- Arducam sends image to database through Arduino Base Unit
- Captured Image does not match library of recognized faces
- Alarm rings

Control

Manual control through mobile app

- Manually enable and disable lights, alarm, and camera
- Add users to system

Our System

Stage	Action
Phone	Socket connection; sends data
Raspberry Pi	Serial Connection; serial bytes
Arduino	Point Connection
ArduCam	Sends Picture through serial
Pi + Arduino	Uses Bash to send to Firebase
Firebase	Reads data from Firebase
Phone	Send signal to turn on light and alarm
Arduino	Send digital signal
Light + Alarm	Notify user

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Product Roadmap

04 Take Picture
Be able to take pictures remotely and view them from the mobile app
Feb 17th - Mar 22nd

06 Lights and Alarm control
Be able to control the lights and alarm through the mobile app and have the alarm and lights triggered from the gyroscope. Mar 10th - Apr 1st

03 User Creation and profiles
Functionality to add multiple users and privileges.

Feb 20th - Mar 20th

07 Facial Recognition
Have the software ready to use and able to recognize different faces.

Mar 20th - Apr 17th

01 Mobile App UI
Have the mobile app UI fully completed.
Feb 1st - Mar 10th

08 Build Final demo
Put together the final model to simulate and demo the entire system.
Apr 7th - Apr 22nd

05 Motion sensor Functionality
Allow the ABU to take a picture when the motion sensor is triggered.
Mar 1st - April 1st

02 Mobile App Functionality
Have the mobile app functional features complete
Feb 1st - Apr 15th

Feb | Mar | Apr | May

2019