Carma

Connection and Safety, a Tap Away

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Background

Wearable Mode

- Pair Phone to Camera — • Paired through Wifi
- Set up Application — Choose people for communication
- Press Button on Camera — • Triggers live streaming • Sends stream to chosen people
- In case of Emergency — • Press panic button on application • Alerts chosen people by sending location and calls them

Car Mode

- Set Camera to Car mode — • Set through the app • Charged through Car port
- Loop Records — • Saves video in 5 second blocks • Overwrites oldest file every 30 seconds
- Collision — • Accelerometer is triggered • Files being recorded are flagged so they wont be overwritten
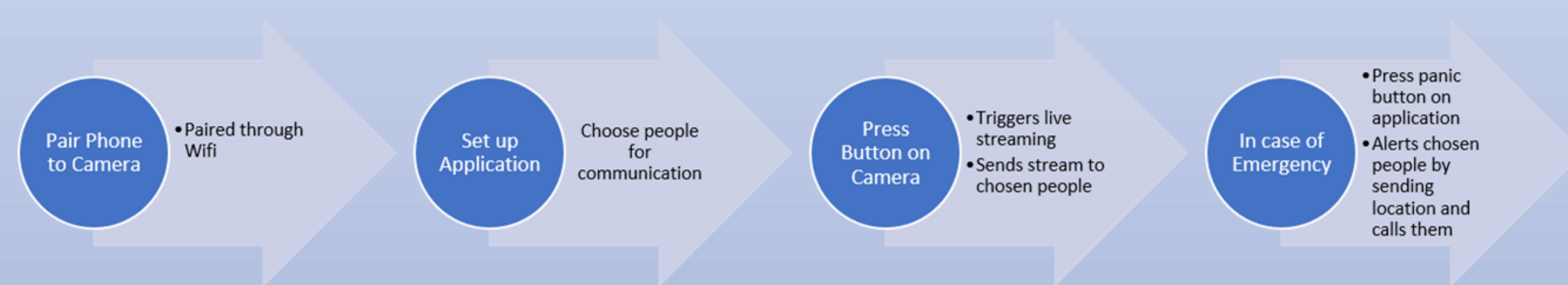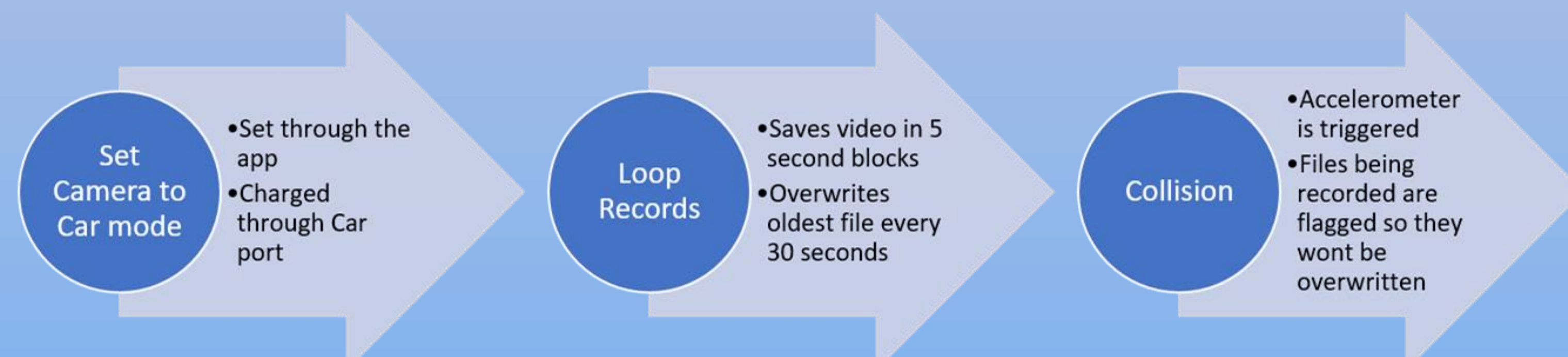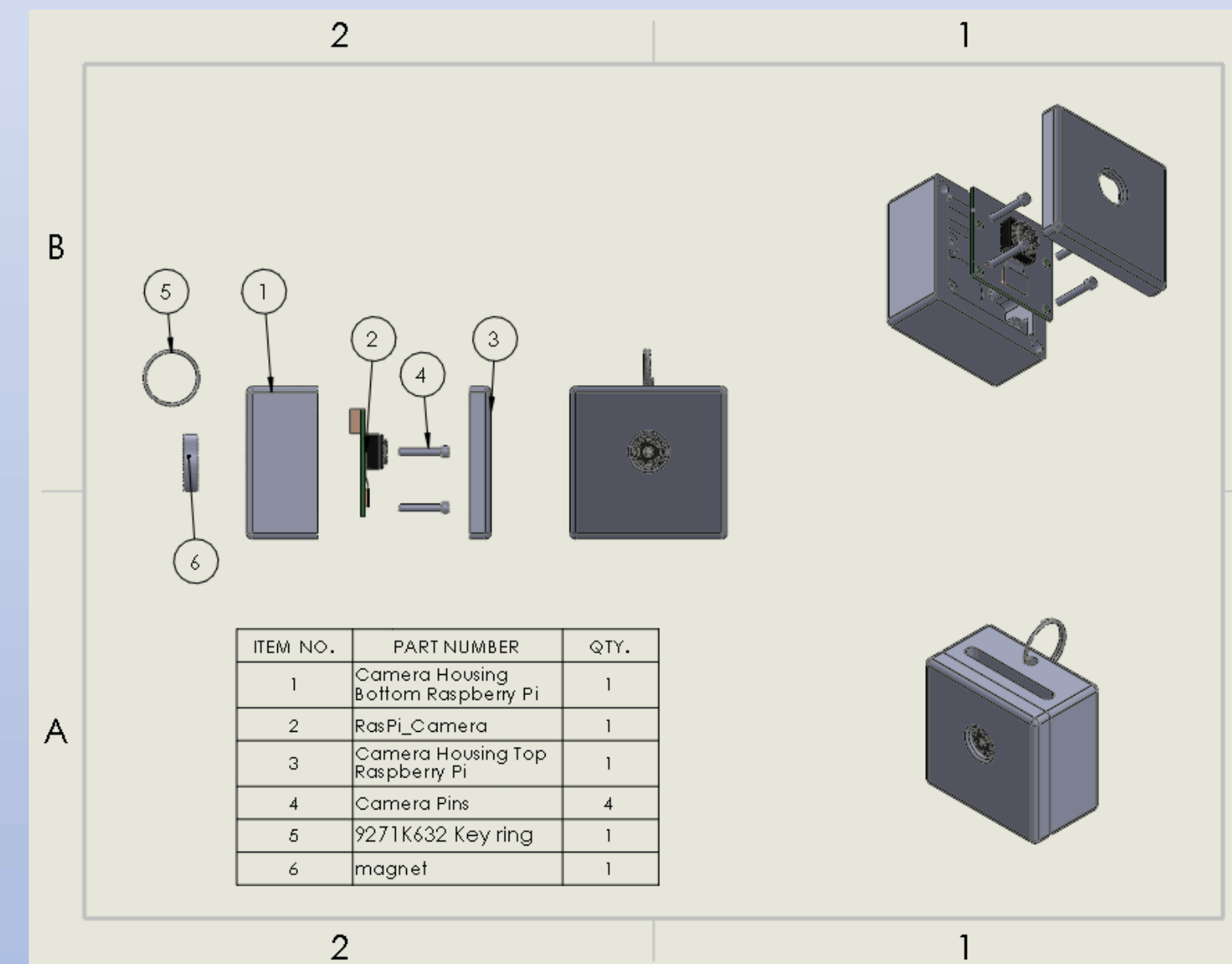
Overview

Carma's Cam1 will be able to capture a video stream as JPEG's that will be sent through wifi by the Raspberry Pi, to our server. Once it is received by our servers, it identifies the account that it is associated to the received stream. Then it sends the stream to the phone numbers that account chose, as well as their gps location.
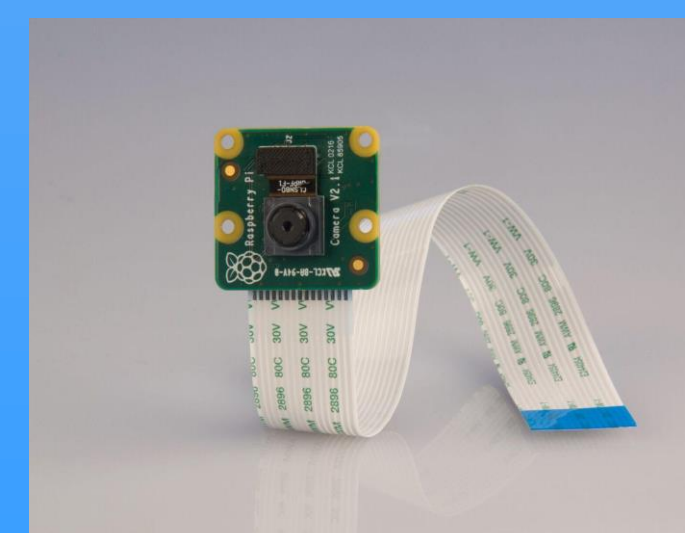
Carma Cam1 Overview

ITEM NO.	PART NUMBER	QTY.
1	Camera Housing Bottom Raspberry Pi	1
2	RasPi_Camera	1
3	Camera Housing Top Raspberry Pi	1
4	Camera Pins	4
5	927TK432 Key ring	1
6	magnet	1

Hardware / Key Components

Raspberry Pi 3
Raspbian Jesse OS
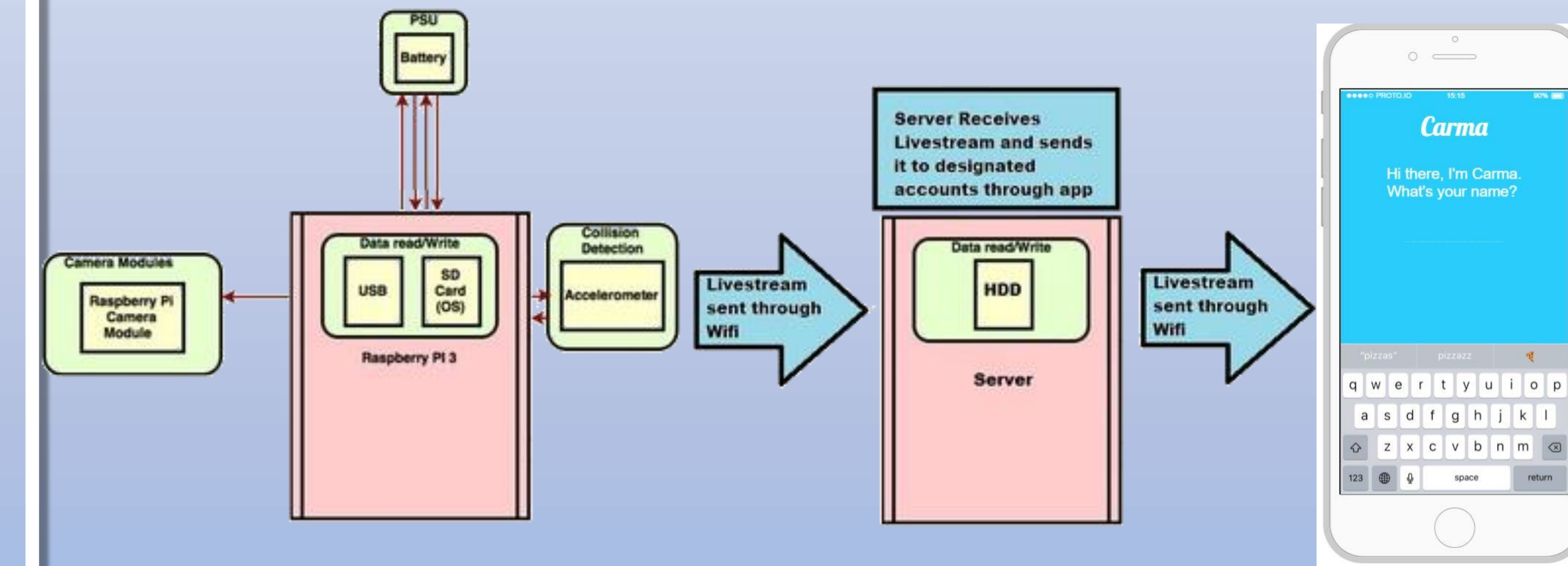802.11n Wireless Lan
Micro SD Card Slot

Camera Module V2
Capable of 1080p 30fps
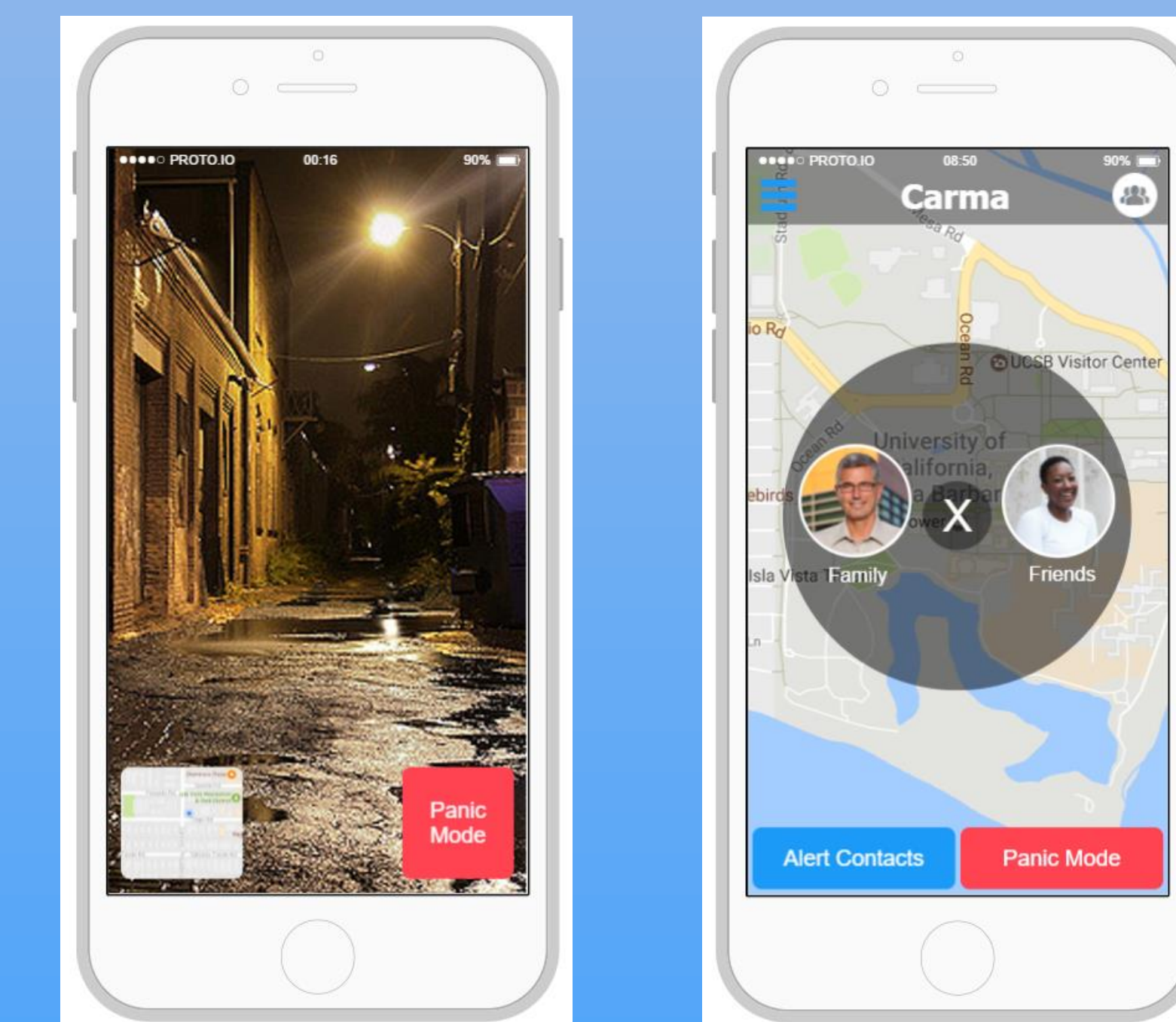Connected with Ribbonwire
Integration with pi via Picamera
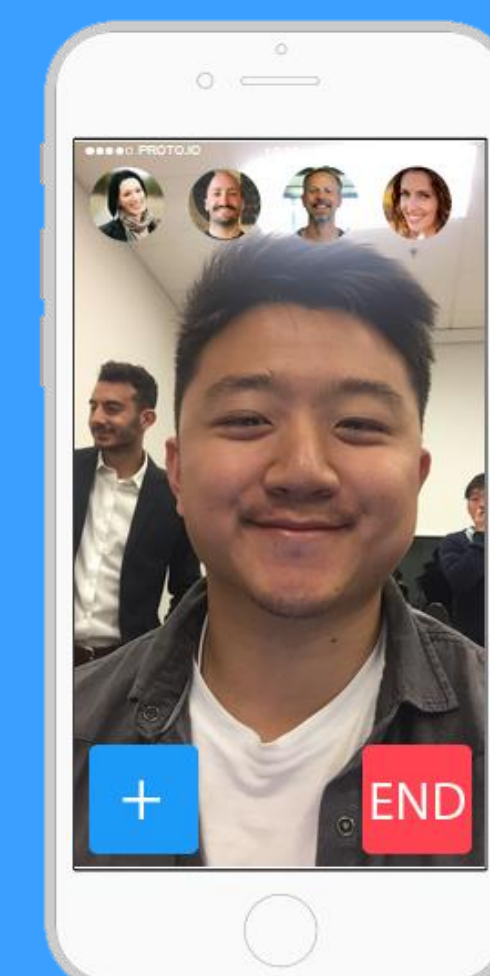
Apps
Connect to RTSP data stream, authenticate, and stream video in real-time.

System Block Diagram

Key Result

- Users send out signal of emergency
- Family and friends receive notification
- Livestream 720p video
- GPS
- Wifi
- Latency

Conclusion

We now understand the importance of finding product market fit prior to designing a product. Future iterations of this product would include creating a PCB to function with our current app. We learned that the costs and problems associated with creating a hardware product makes a hardware startup difficult. Thus, moving forward, the software team will focus on app development

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