Car Seat Alarm

Project purpose: to be able to alarm guardian or civilians that a child has been left in a car.

Project goal statement: to alert that a child has been left in the car to the guardian or civilians.

Group Members

Name: Raeshawn Bart email:bartrn@mail.uc.edu

Name: Nick McClorey email: mcclorns@mail.uc.edu

Advisor: David Tashjian

Project Goals

We want to build an monitoring system that will alert parents if they forget their children in the backseat of a car.

This will be accomplished by:

- Monitoring the child's seatbelt to know if the child is present
- Monitoring the parent's seatbelt to know if the parent is present
- Starting a timer when the parent leaves the car
- If the child is not removed in a given time, the parent will be alerted
- Alert could be the car alarm, a phone notification or an alarm attached to the parent's keys

Broader impacts

- Prevents death of child in car that been a upcoming concern among people
- Setting off a alarm when child is in car preventing risk of health

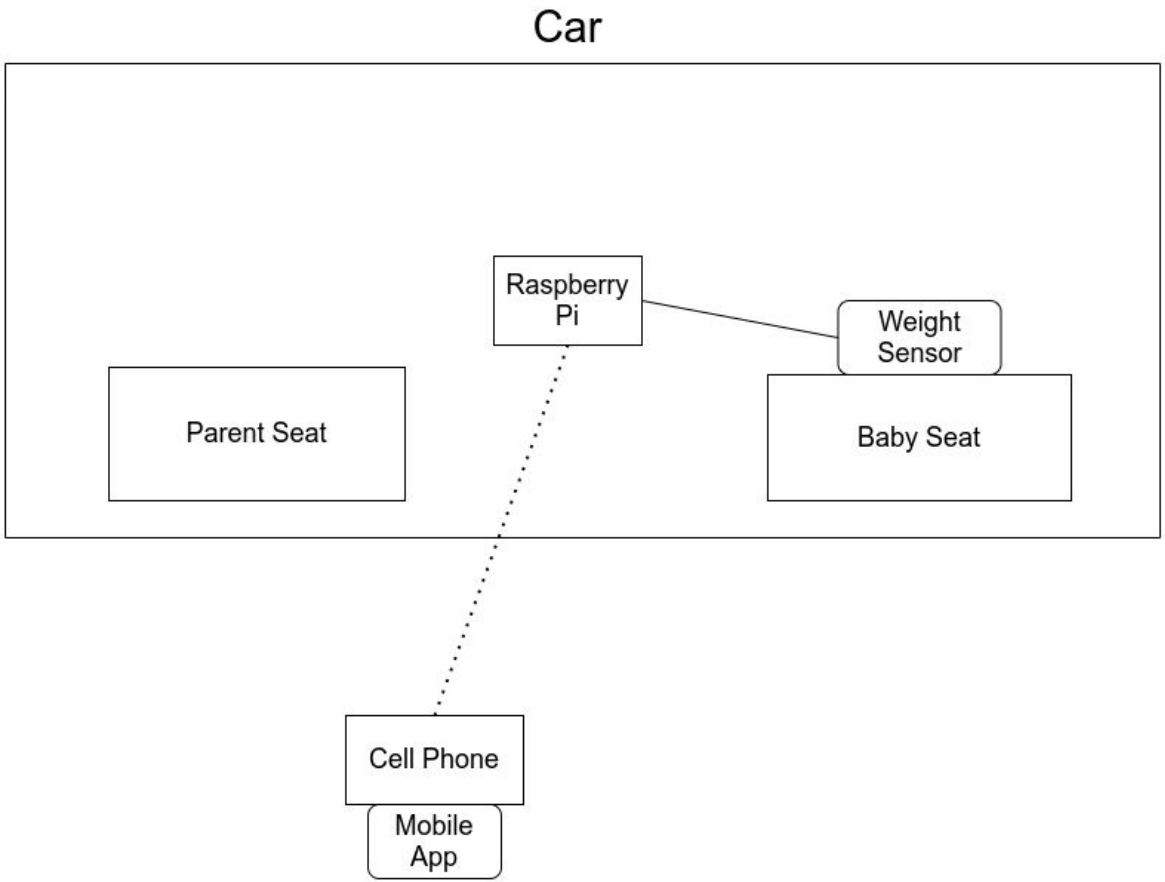
Milestones

- Reading weight in car seat
- Communication between Raspberry Pi and Mobile App
- Creating alert on user’s phone

Technologies

- Raspberry Pi 3
  - Communicates wirelessly with user's phone
  - Uses GPIO pins to read weight in baby's car seat
  - **Amazon Link**
- Python and Flask
  - Interfaces with GPIO pins to read weight sensor
  - Creates REST API for monitoring car seat
- HostAPD
  - Enables creation of Local LAN
  - https://w1.fi/hostapd/
- Android Studio
  - Creates mobile app for communicating with Raspberry Pi
  - Alerts user if child is left in car
  - Android Studio Download

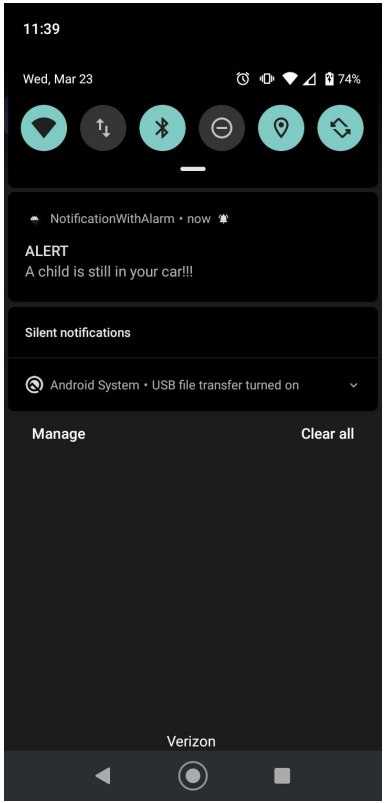
Design Diagram



Results

- All components have been purchased
- Raspberry Pi can create LAN
  - This allows a wireless connection to work anywhere
  - Mobile app will connect to this network for communication
- Mobile app has been created
- Working prototype has been created

Results - Pictures



Challenges

- Material cost
- Implementation without public disturbance
- Powering circuit board in the car without technical error
- Making mobile app compatible
- Figure out a solution to include the possibility of the child moving around and creating a weight error.