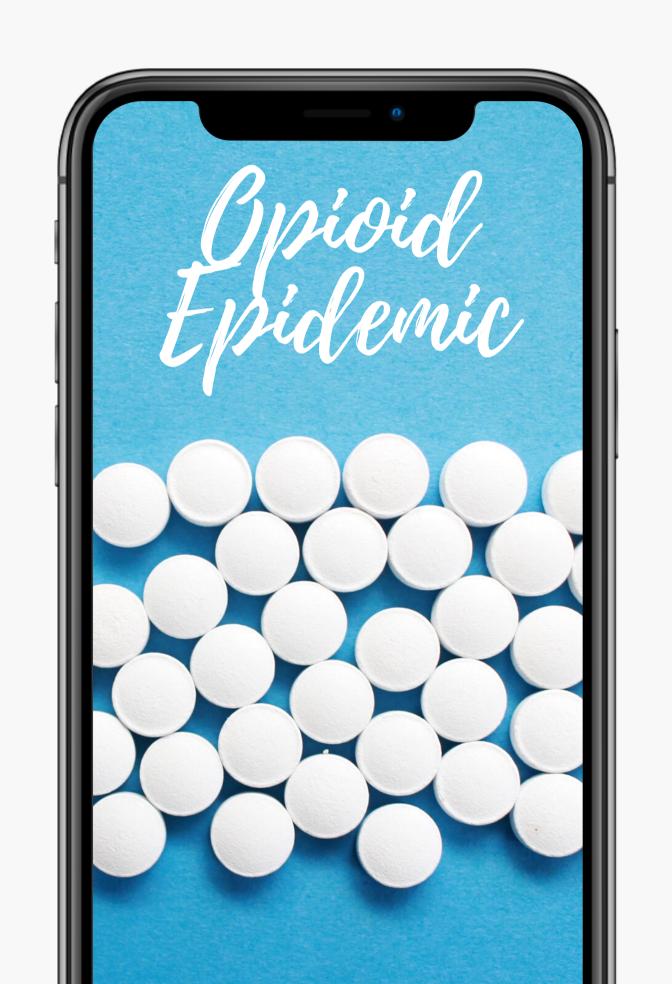
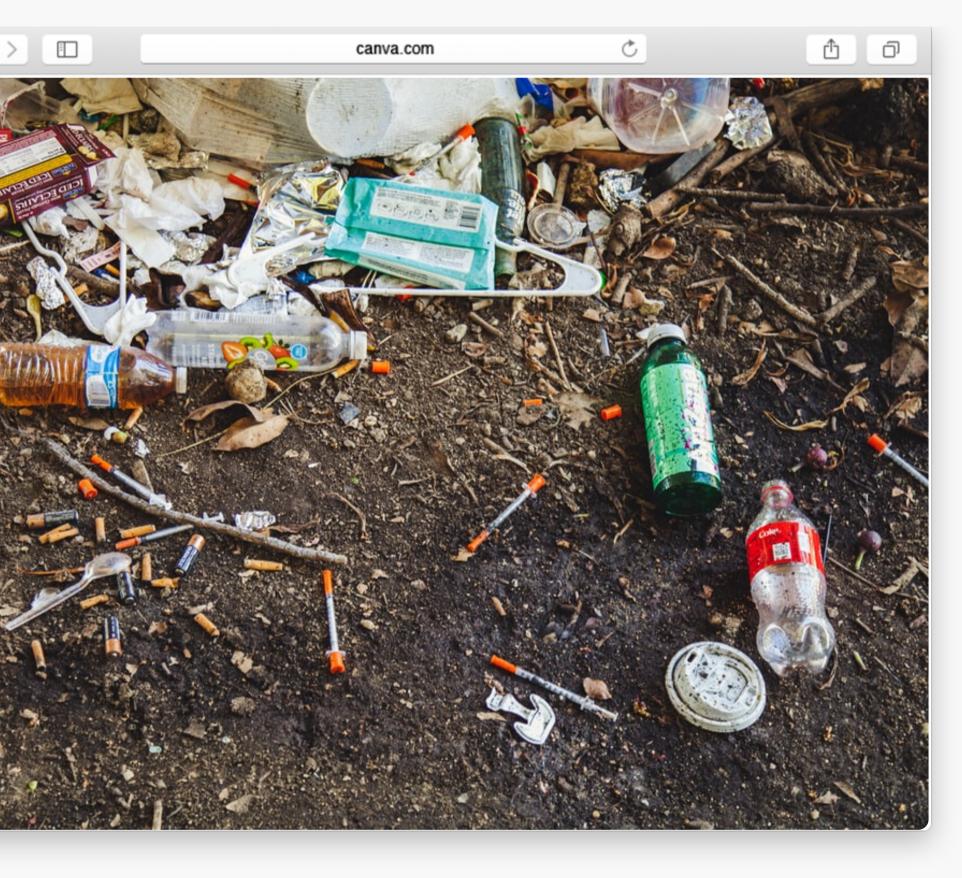


By: Tasha, Raphaelle, Precious, Felipe and Cami

Agenda

- PROJECT SUMMARY
- DESIGN PROCESS
- SOLUTIONS
- DECISIONS MADE
- TRIALS AND
 TRIBULATIONS
- FUTURE WORK





Approximately 14,000 Opioid related deaths in 4 years

SOLUTION

Create a portable, discreet, non-intrusive and cost effective device that efficiently detects an overdose and sends a call for assistance within a timespan of less than three minutes.

Client Statement

Not intrusive

Stigma and discrimination

accurately detects an overdose

Device cannot inhibit drug use

Only 3 minutes until death

Durable and convenient for day-today use

Interpreted Need

No arterial blood gas test/Administration of Naloxone

Aesthetically pleasing and discreet

Accurate and Reliable

Device is not located on fingers or where users would inject

Sends alert and location so help can be there within 3 minutes

Strong, light-weight, compact, long battery life

CARNEGIE MELLON UNIVERSITY: "HOPEBAND"

- \$16-\$20 US
- Only detects oxygen concentration
- Accuracy is unknown
- wearability

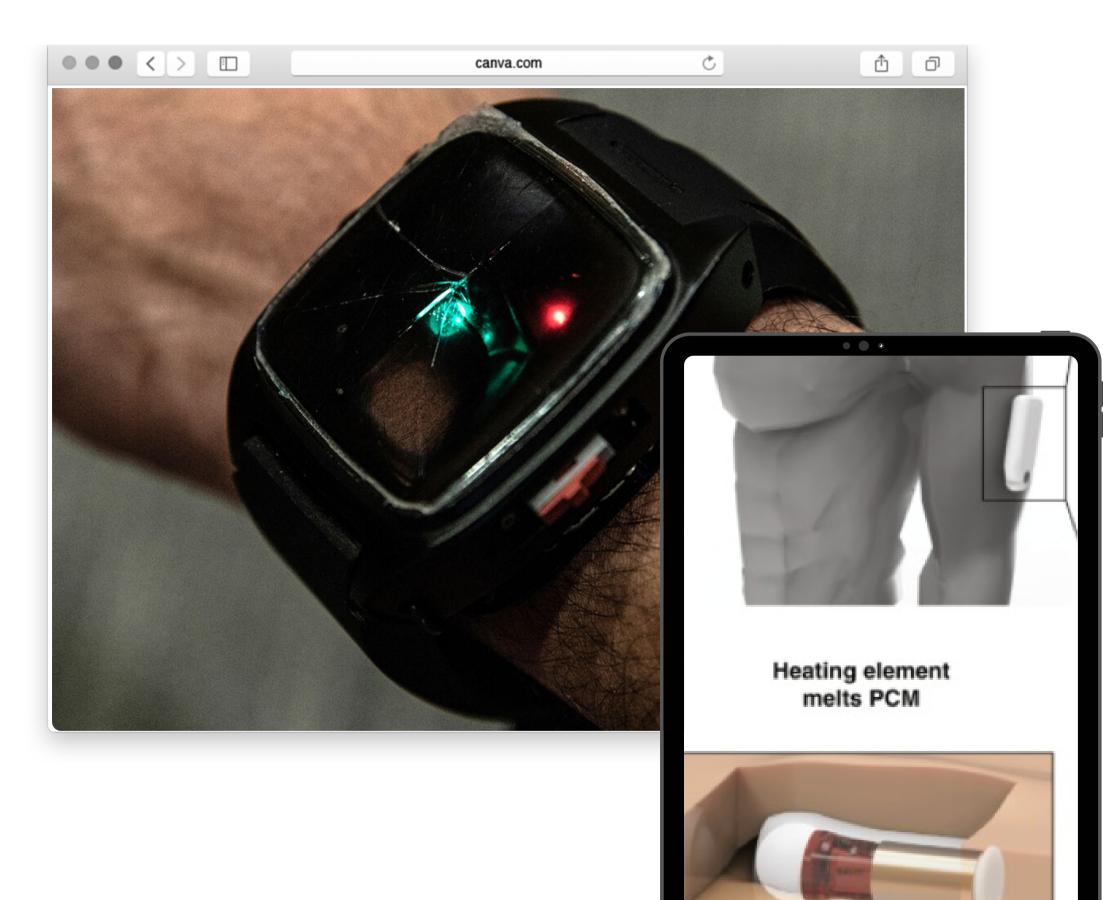
PURDUE UNIVERSITY

- \$20 US
- self administers narcon, intrusive
- Wearable Armband

SMARTWATCH P68

- \$33 US
- Wearable Armband
- Does not signal for help or send GPS location
- battery life of 5-7 days
- very light weight (.18lb)

Benchmarking



Design Constraints

Functional Requirement

Percentage error <=5 %
Monitoring time every 1.5
mins
Battery Life >= 1 day
GPS tracking
Override system

Non-Functional Requirement

Discrete
Aesthetically Pleasing
Easy to use

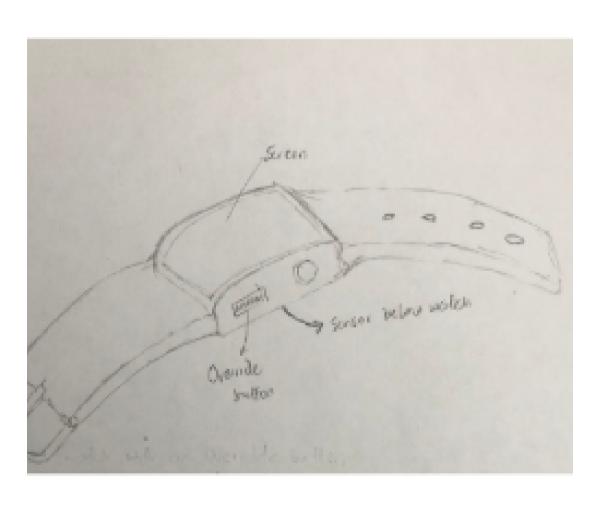
Constraint

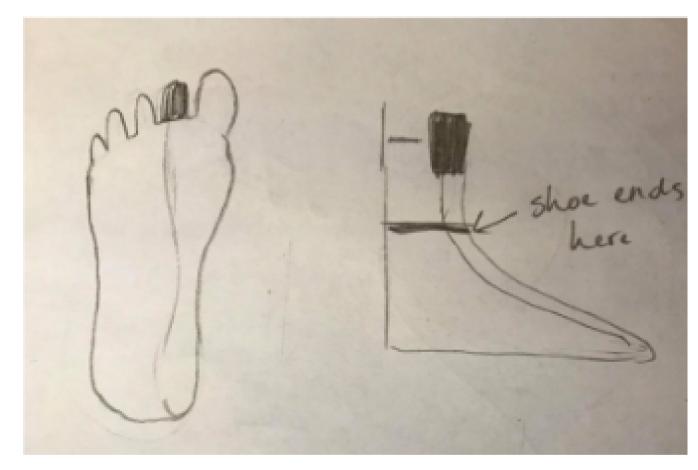
Size < 6.5 inches weight 0.9lb cost < 100\$

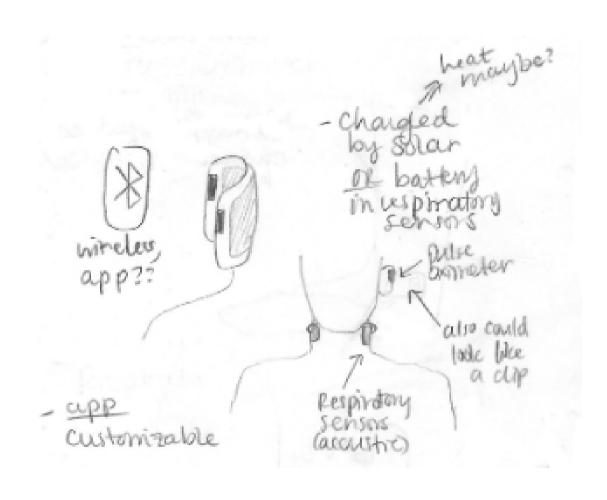
<u>Requirement By Priority</u> (5)highest (1) lowest

- (5) Able to Alert third-party in less than 3 mins
- (5) Accurate measurement of oxygen level
- (4) Does not inhibit drug use
- (4) Not intrusive
- (3) Aesthetically pleasing
- (3) Durable

Solutions





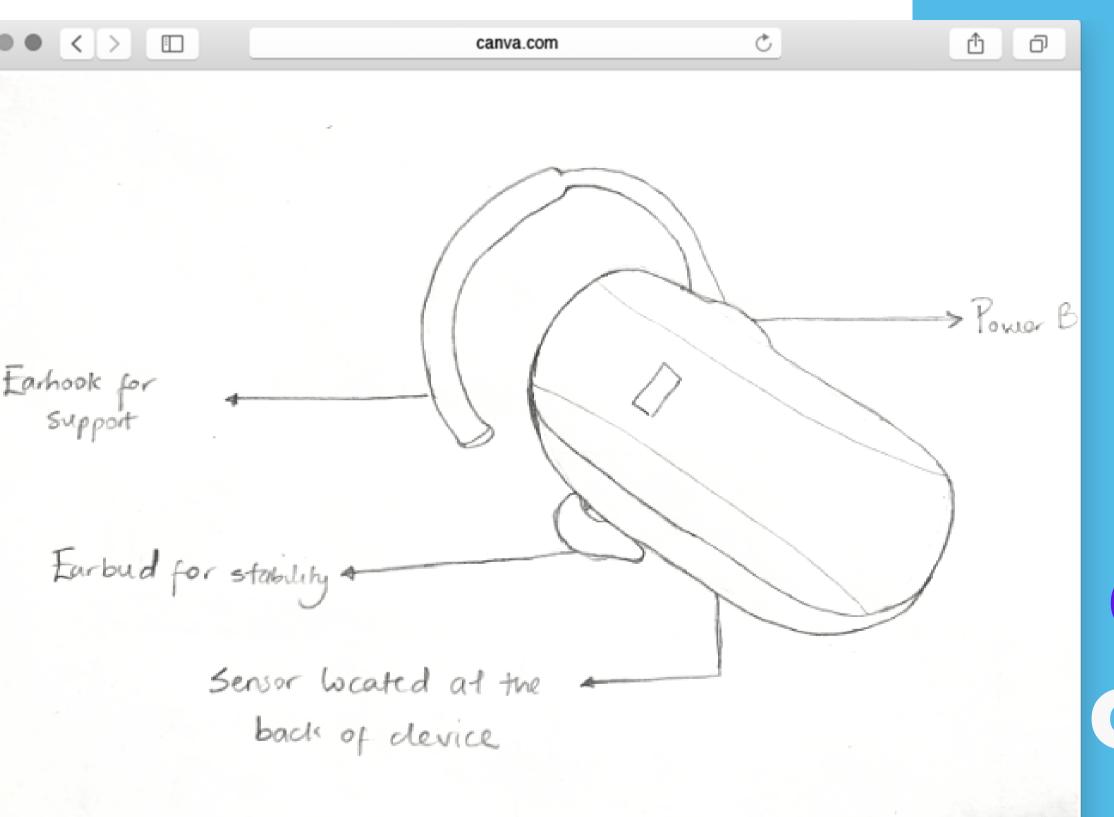


Watch/Bracelet
Device

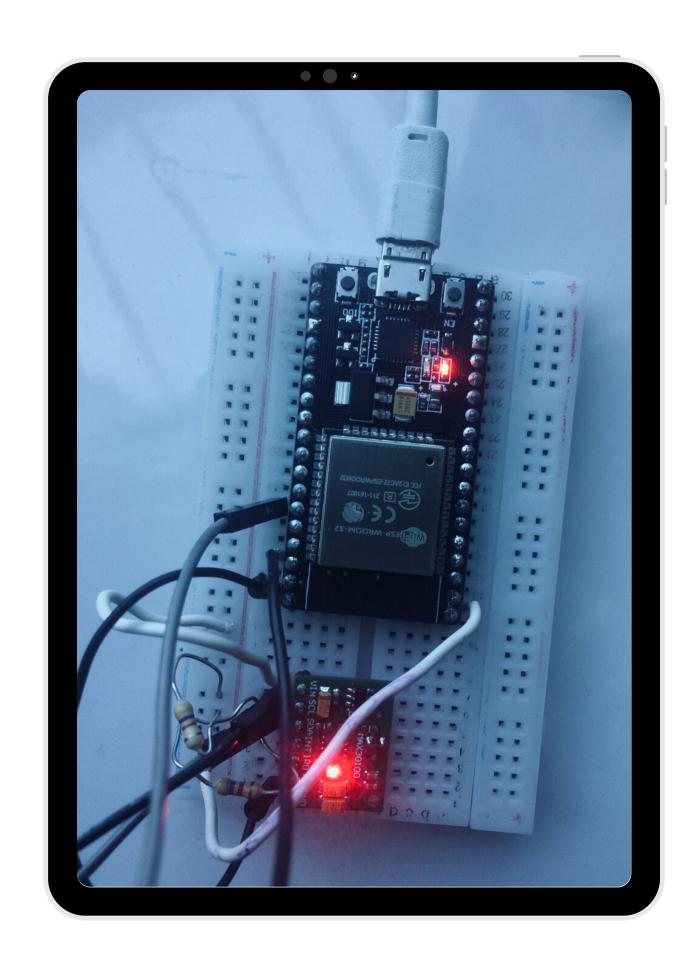
Toe Sock Device

Sensor Focused

Device



This concept saccurate convenient & appealing for our audience



Hardware

Prototype I

- Hardware schematics(for arduino Nano)
- Algorithm and code for oximeter

Prototype II

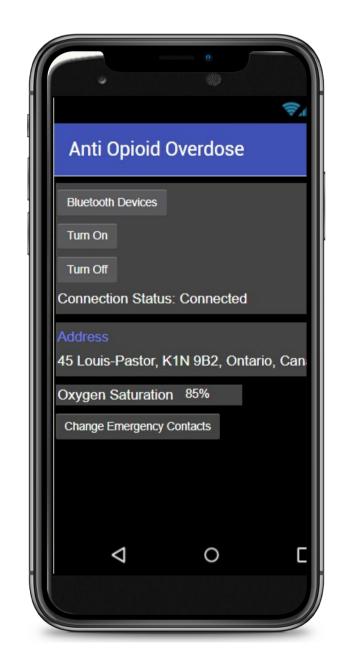
- Hardware schematic(for esp32)
- Hardware connection with arduino software(code included)
- -test of oximeter

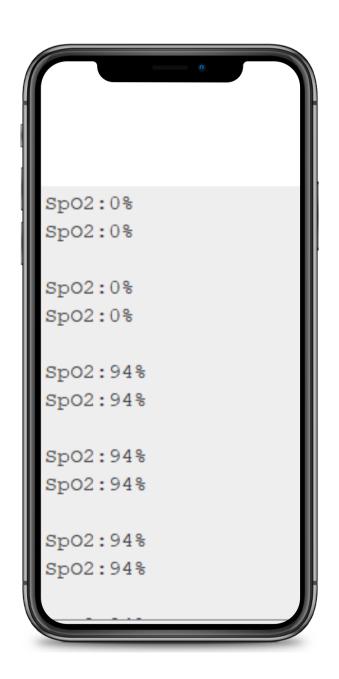
*faulty sensor



Software







Prototype I

- Wire framing for the app
- Pseudo code for the app

Prototype II

- Build the app using MIT App Inventor
- Setup the the GPS and Bluetooth

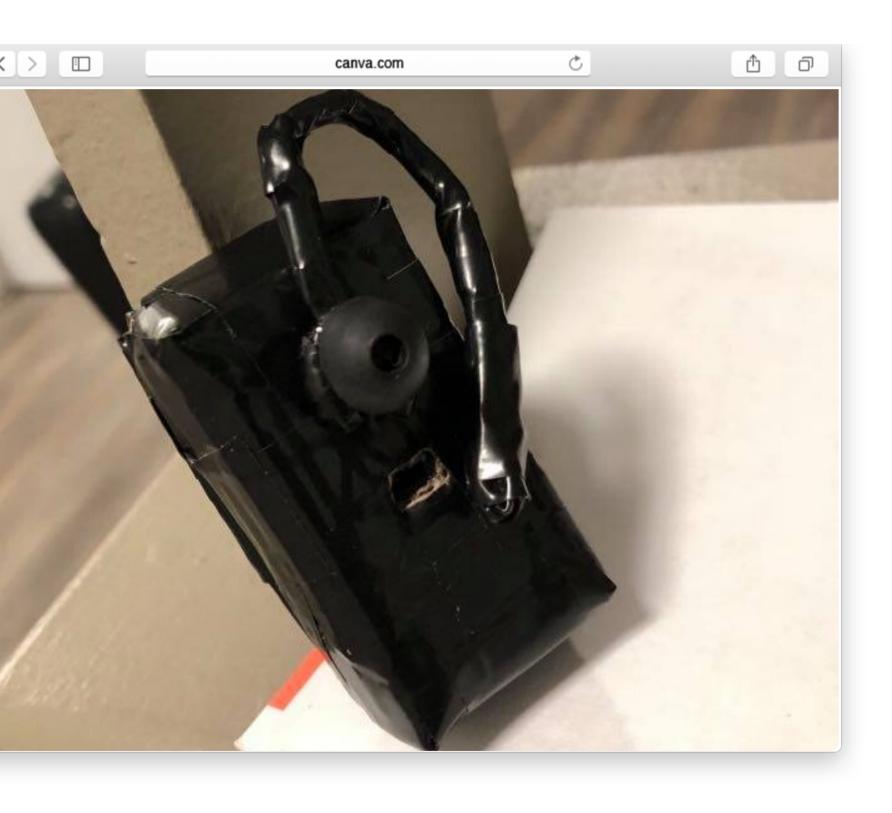






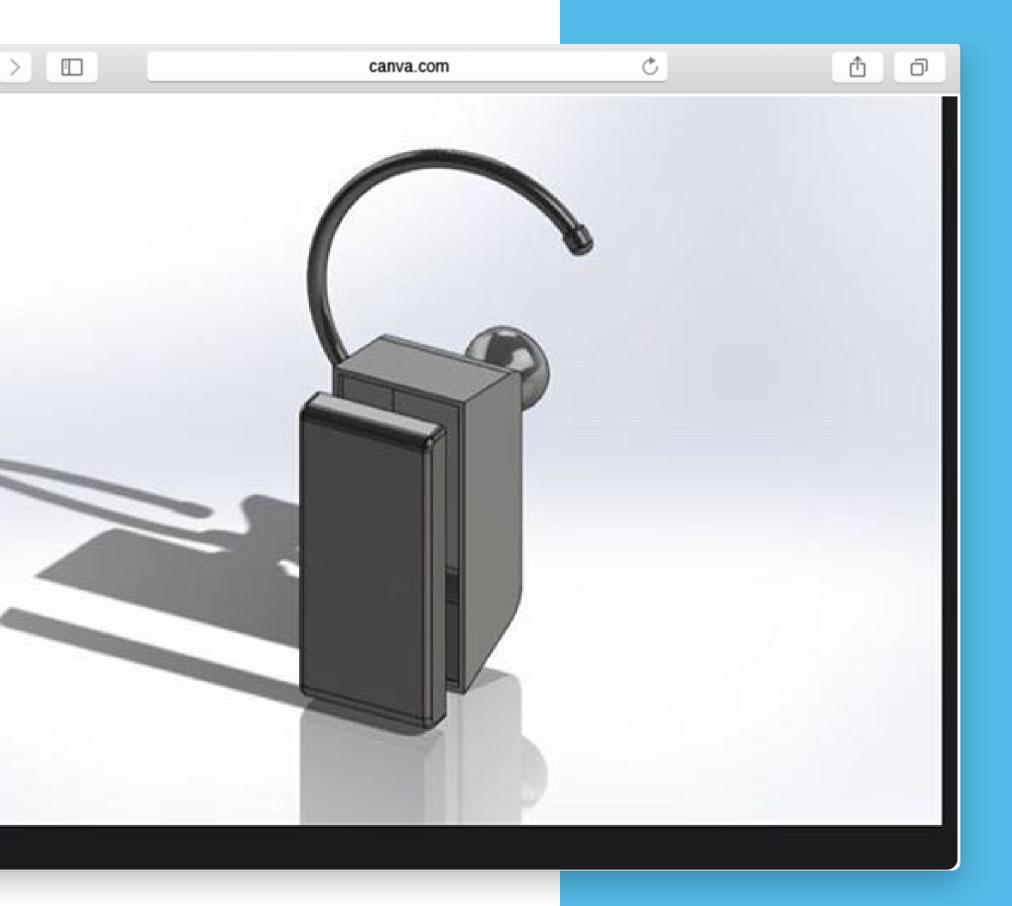
Final Product

Due to Circumstances





- Manufacture the new casing
- Test the component as a whole
 - plastic casing
- Completion final prototypes
- IFTTT, send texts by using the user's location



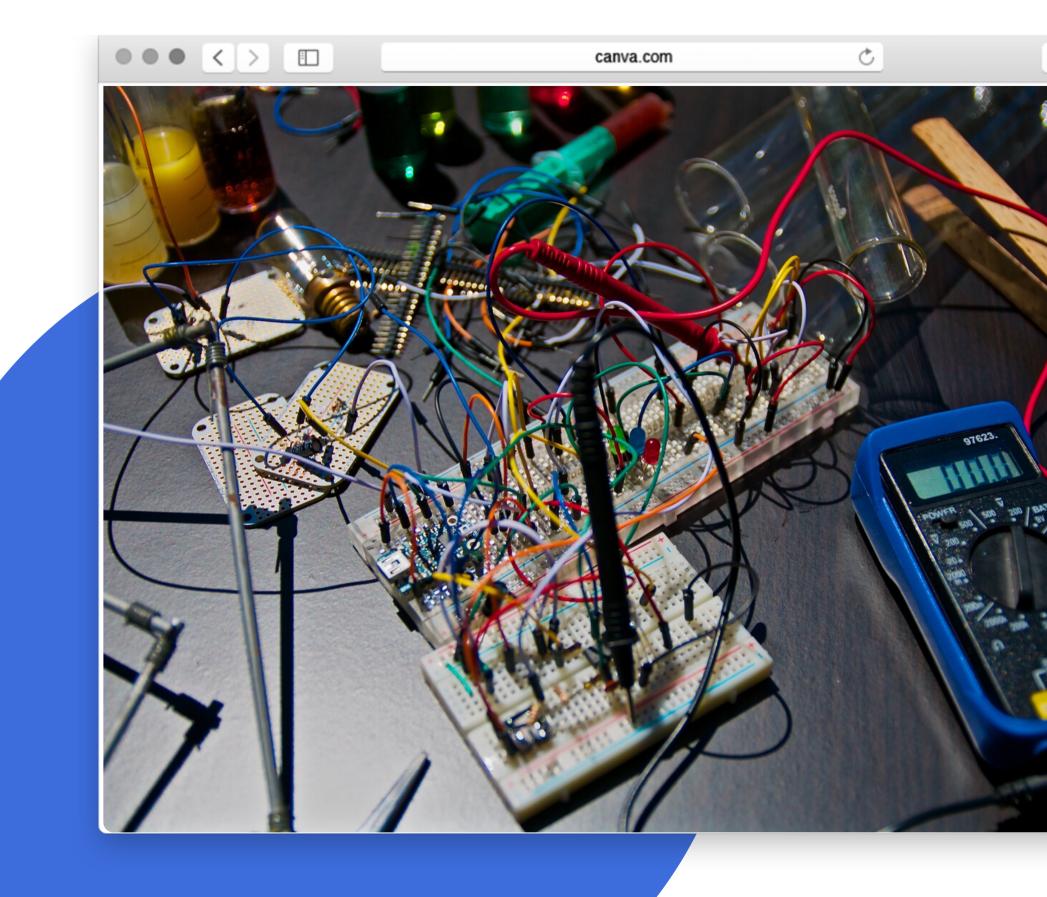
FUTURE WAY ORK

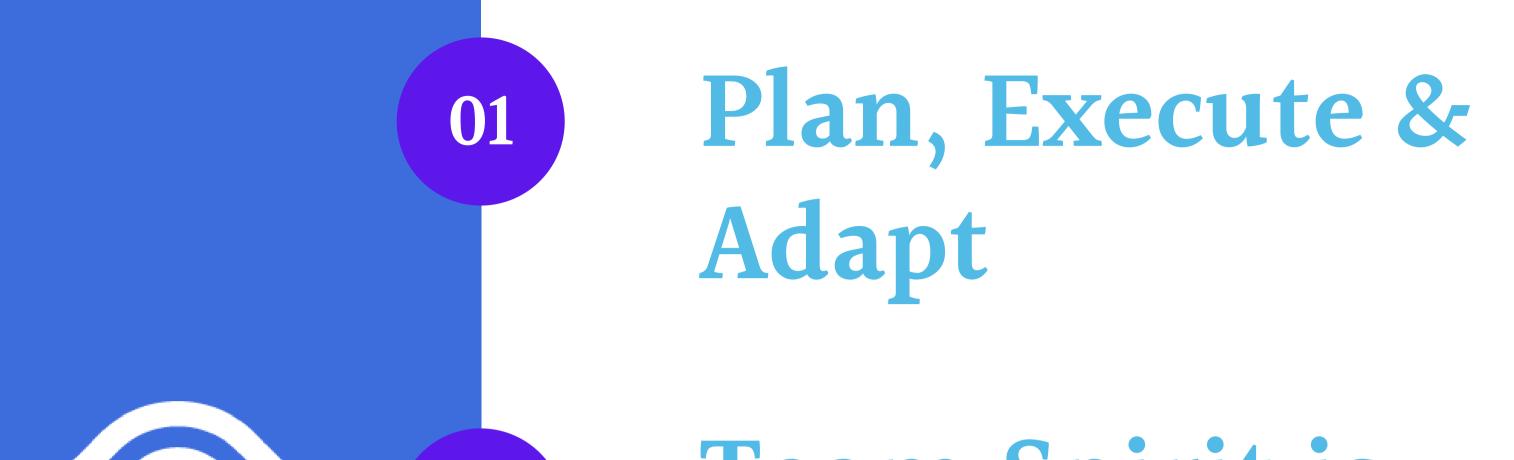
Further Developments

- Look into hearing aid battery
- Alert with sound/music
- Addition feature app
 - ability to see your vital trends
 - custom message
 - development of UI/UX
- Replace sensor with GY-Max30100

Trials δ Tribulations

- Scheduling Meetings
- Sensor Malfunction
- Setup Hardware and Software
 - Design issue with hardware
 - Software only run on some computers
 - Compatible code
 - Testing
- Timing/Planning
 - -Task dependencies
- Covid -19





03

Team Spirit is key

Diversity

