

Sweet Dreams

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# Initial Design Ideas

Self Defense jewelry

- taser ring

  - shock attacker

- ring will be taser, bracelet is battery pack

- flash ring

  - bright light to be able to blind attacker

  - light in ring, battery pack in bracelet

## Meeting Minutes 1

9/17

Team Name: Sweet Dreams

Beginning Team Skills Matrix

Decide to be assigned an adviser

General discussion of product and expectations

## Product Design Brainstorming

Current idea:

Taser:

Source of the shock will be where a gemstone is  
on a normal ring

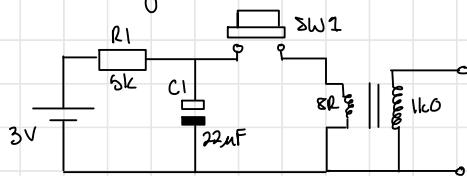
Battery pack:

in bracelet

heart monitor?

How will the taser circuit work?

Trick gum circuit? :



resistor

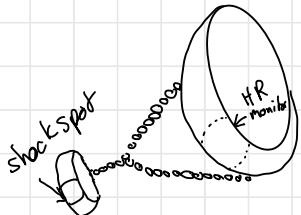
capacitor

switch (button)

transformer

Mathis

# Initial Sketches



I don't think that a good idea to add the clock for possible issues with Fitbit & Apple Watch

## Meeting Minutes 2

QFD is due next week

Laura is working on the Gantt Chart

Using a Teams channel for communication along with the groups General discussion of engineering and customer requirements

Potential Competitors:

- Knockout Brand
- defenderring.com
- invisawear.com

9/24

## Meeting Minutes 3

10/6

First Meeting With Dr. Hasler

Going through introduction and information

### Project Discussion

- Goals
- Application
- Testing

Simple Circuits

- ↳ Flush out specific subsystems
- ↳ Begin thinking of test protocols

Kathy

## Budget

Cost Per Unit (Parts only)  
\$ 46

The bracelet will be modeled after a Fitbit which is about \$20 worth of parts however we will not be doing a watch face which will save some money on parts

## Meeting Minutes 4

10/15

### Discussion

What is the project?

→ Finish research and brainstorming this semester

Flush out full ideas

How is everything going to be tested?

## Meeting Minutes 5

11/5

Second Meeting with Dr. Hsler

For Stun Gun Circuit:

- Instead of focusing on discharge current focus on charge and voltage
- What should the voltage be?
- Add a clearer circuit
- Research what capacitor rating we need
- Desired current range: 1-3mA

### Testing:

- Start with lab bench testing
- Then find volunteers to test on

### Things to consider:

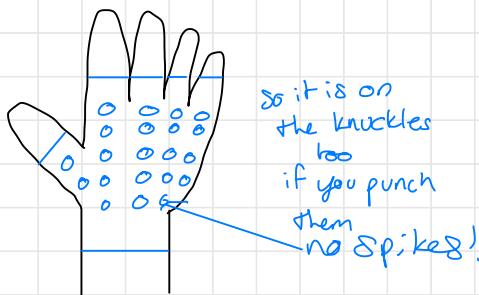
• Resistance of the human body:

- Sweaty vs Dry
- Fat vs skinny
- Skin vs clothing

Kathy

# Redesign

1 / 11



## Meeting Notes 6

1 / 12

Present: EH, KW, KR, RC, HE  
LK, CS

During Meeting:

Determined Leadership Roles

Changed design to a glove set up

### Tasks:

- Component List 1 / 19
- Presentation prep 1 / 30
- Taser circuit 1 / 19
- Presentation Set up 1 / 19

## Meeting Notes 7

1 / 19

Present: KR, RC, HE, LK, CS

Reviewed After the feet!

### Tasks:

- Testing Circuit 1 / 21

- Covered in the meeting
- Powerpoint has been started
- Pressure sensors have been selected
  - one large for the back of the hand
  - a few for the fingers

*Martijn*

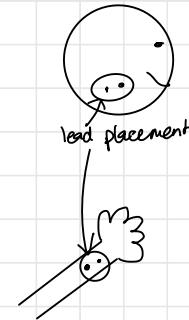
# Testing 1/21

Lara's Resistance  $F \rightarrow F = 2.2 \text{ M.J2}$   
 Same Hand = 1.3

KW Resistance  $F \rightarrow F = 2 \text{ M.J2}$   
 same hand = 2.6 M.J2  
 $F \rightarrow \text{Wrist} = 30 \text{ M.J2}$   
 max dist?

# Testing 1/24

	Cheek	Arm	Temple
KR	6 M.J2	40 M.J2	4.3 M.J2
KW	5.5 M.J2	10 M.J2	5.6 M.J2
LK	7 M.J2	6.5 M.J2	5.5 M.J2
RC	5 M.J2	30 M.J2	7.1 M.J2
EH	5.7 M.J2	10 M.J2	6.2 M.J2
CS	9 M.J2	42 M.J2	6.6 M.J2
HE	0.9 M.J2	3 M.J2	0.5 M.J2
Volunteer	5.2 M.J2	19 M.J2	



## Meeting Minutes 8

Present: KR, KW, EH, RC,  
 HE, LK, CS

11/24

### Task:

Work on slides for the presentation  
 1/30

Prep for question quarterback  
 1/30

### During meeting

- Continued to work on the proposal
- Decided to have a switch to turn on and off the stun gun  
 $\hookrightarrow$  will also trigger the text message

*M. H.*

# Question Quarterback Prep

1/30

Elizabeth: Website

Story behind Why

Name

Katie R: Circuit Diagram

Budget

Lara: Microcontroller

Rahda: User and Design Requirements

Christine: Code + Pseudo code

Katie W: The Difference  
Testing

## Meeting Minutes 9

2/1

Present: KR, KW, RC, LK, CS, EH, HE

Presentation practice

↳ Notes:

We are team Sweet dreams and we have created  
a stun gun glove

We are using the lowest resistance currently

## Meeting Minutes 10

2/2

Present: KW, KR, HE, EH, CS, LK, RC

Presentation Practice

Task for the next week

Research Flexible PCB 2/9 2/8

↳ OST PARK has Flex PCBs to order

↳ 28 day turnaround must be ordered soon

## Meeting Minutes 11

2/9

Present: KR, KW, RC, LK, CS, EH, HE

Discussion:- Task Updates

- Parts ordered

Task:

Outline Final Report 2/16

*Kathy*

# Meeting Minutes 12

2/16

Present: KR, KW, RC, LK, CS, EH, HE

Discussion: -Task Updates

- Parts Ordered

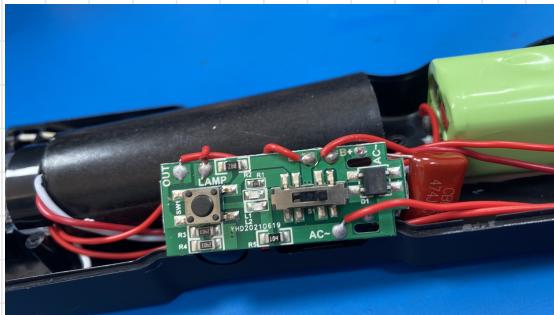
## Tasks

Research Brain Limits 2/23

PCB Coverings 2/23

## Testing 2/23

Dismantelling Stun gun



Safety pin allows for disconnect from battery to transformer

Katry

## March 2nd Meeting Minutes 13

3/2

Present: EH, CS, HE, KR, KW, LK, RC

Discussion: - Finalizing the circuit  
- Overall layout of tasks

Team To Do's: Due 3/9

- finalized boost converter circuit
- work on app in Visual Studio
- finalize microcontroller setup research
- Research sending the GPS location via text
- Order through hole parts

Individual To Do's:

- research using surface mount on bread board

## March 9 Meeting Minutes 14

3/9

Present: EH, CS, HE, KR, KW, LK, RC

Discussion: - received website  
- Finalizing the circuit  
- testing components

Team To Do's: Due 3/16

- test microcontroller
- add multiple phone numbers for text
- Work on schematic
- order parts

Individual To Do's:

- pickup shots
- test shots
- update slides

## March 16 Meeting Minutes 15

3/16

Present: EH, CS, HE, KR, KW, LK, RC

Discussion: - Finalizing the circuit  
- testing components

Kathy

Team To Do's: Due 3/30

- Work on app + software
- build + test breakout board

Individual To Do's:

- begin expo powerpoint + poster

# March 30 Meeting Minutes 16

3/30

Present: EH, CS, HE, LR, LW, LK, RC

Discussion: - Finalizing the circuit  
- testing components

Team To Do's: Due 4/6

- Work on app
- test software
- test breakout boards

Individual To Do's:

- Continue powerpoint
- Continue poster
- begin final report

# April 6 Meeting Minutes 17

4/6

Present: EH, CS, HE, LR, LW, LK, RC

Discussion: - Finalizing the circuit  
- testing components

Team To Do's: Due 4/13

- Work on app
- test software
- test breakout boards

Individual To Do's:

- Continue powerpoint
- Continue poster
- continue final report

# April 13 Meeting Minutes 18

4/13

Present: EH, CS, HE, LR, LW, LK, RC

Discussion: - Finalizing the circuit  
- testing components

Team To Do's: Due 4/20

- Work on app
- test software
- test breakout boards

Individual To Do's:

- Finish powerpoint
- Finish poster
- continue final report
- begin sewing prototype

Kathy

# April 20 Meeting Minutes 19

4/20

Present: EH, CS, HE, LR, KW, LK, RC

Discussion: - Building prototype

## Team To Do's:

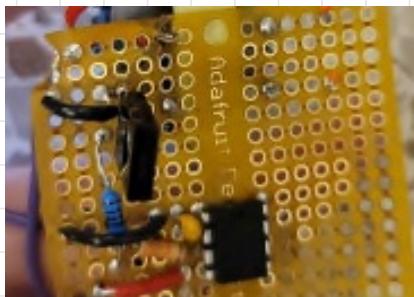
- film video presentation 4/22
- prep for expo 4/26
- finish prototype 4/21

## Individual To Do's:

- Finish powerpoint
- Finish poster
- Continue final report
- finish sewing prototype

## Expo

Spoke with attendees and judges to inform them about Nemi the self defense glove



Katrina