

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 advisor

General discussion of product and expectations

Product Design Brainstorming

Current idea:

Taser:

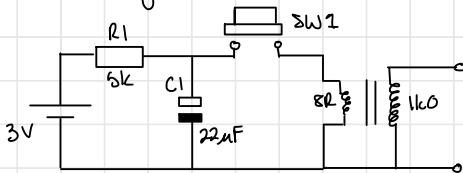
Source of the shock will be where a gemstone is on a normal ring

Battery pack:

in bracelet
heart^{rate} monitor?

How will the taser circuit work?

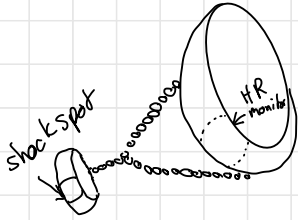
Trick gum circuit?:



resistor
capacitor
switch (button)
transformer

Philip

Initial Sketches



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

Meeting Minutes 2

9/24

QFD is due next week

Laura is working on the Gantt Chart

Using a Teams channel for communication along with the groupme

General discussion of engineering and customer requirements

Potential Competitors:

- Knockout Brand
- defenderring.com
- invisawear.com

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

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Budget

Cost Per Unit (Part 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. Hasler

For Stun Gun Circuit:

→ Instead of focusing on discharge current focus on charge and voltage

→ What should the voltage be?

→ Add a cleaner 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

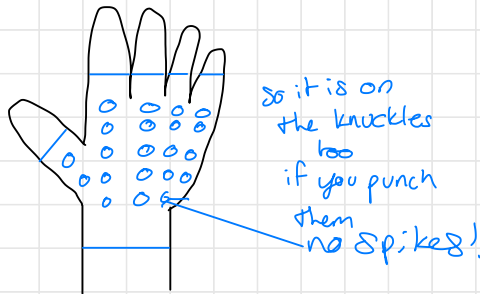
• Fat vs skinny

• Skin vs clothing

Whit

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 Setup 1/19

Meeting Notes 7

1 / 19

Present: KR, RC, HE, LK, CS

Reviewed After the fact!

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

Tasks:

- ✓ Testing Circuit 1/21

Kristin

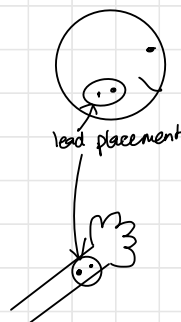
Testing 1/21

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

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

Testing 1/24

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



Meeting Minutes 8

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

During meeting

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

1/24

Task:

- ☒ Work on slides for the presentation
1/30
- ☒ Prep for question quarter back
1/30

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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

↳ OSH 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

Katie

Meeting Minutes 12

2/16

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

Discussion: - Task Updates
- Parts ordered

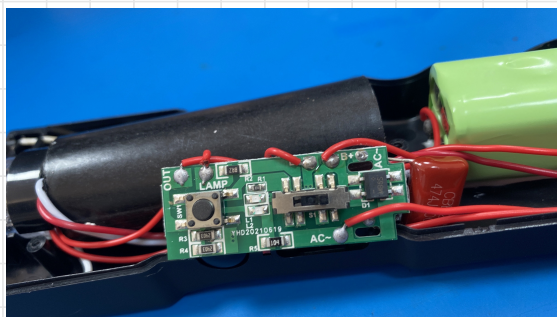
Tasks

☑ Research Brain Limits 2/23

☑ PCB Coverings 2/23

Testing 2/25

Dismantelling Stun gun



Safety pin allows for
disconnect from battery
to transformer

Katzen

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 micro controller 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: - reviewed 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 studs
- ☒ test studs
- ☒ update slides

March 16 Meeting Minutes 15

3/16

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

Discussion: - Finalizing the circuit
- testing components

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, KR, KW, 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, KR, KW, 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, KR, KW, 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

Kristy

April 20 Meeting Minutes 19

4/20

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

Discussion: - Building prototype

Team To Do's:

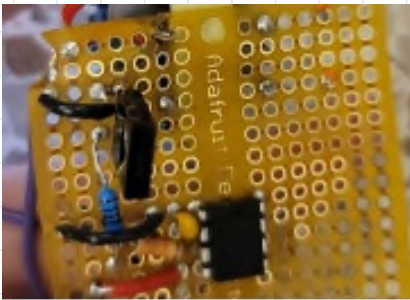
- ✓ film video presentation 4/22
- ✓ prep for expo 4/26
- ✓ finish prototype 4/21

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



Kristine