



# Nemi: The Self Defense Glove

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## Motivation

The world is a dangerous place for women.

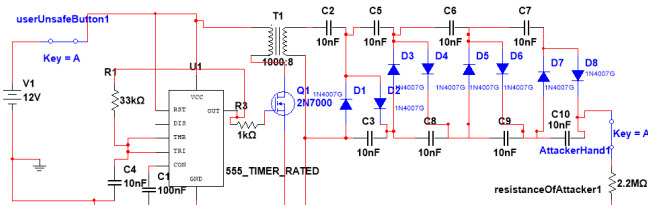
- 1 in 3 women have experienced sexual violence
- 1 in 2 women have experienced sexual harassment
- 1 in 5 women have experienced stalking
- 1 in 20 women have experienced sexual assault

## Project Goals

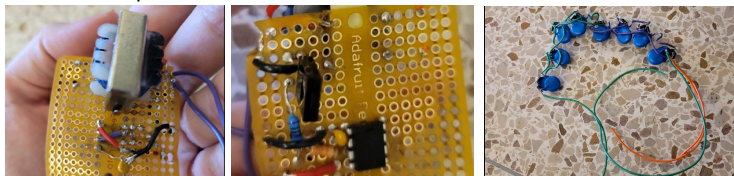
The goal of the product is to protect the user in a variety of dangerous situation by creating a solution that is:

- Discrete and concealable
- Durable
- User friendly
- Comfortable while aesthetically pleasing
- Low cost
- With GPS tracking capabilities to locate the user after discharge

## Circuitry and Product



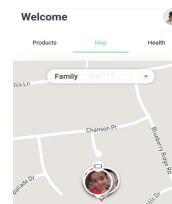
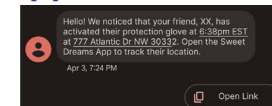
The Multisim schematic above is of the stun gun circuit used in the glove. The main components are the 555-timer coupled with the MOSFET to produce AC voltage to input into the step-up transformer. The output of the transformer goes through eight stages of voltage doublers (four are shown in the schematic above) resulting in a 40K voltage that will discharge on the attacker upon contact.



The circuits in the pictures above are the final stun gun. The leads will be connected to studs attached to the outside fabric of the glove to make contact with the attacker. The base of the glove can be seen in the picture below. The circuits will be attached, covered in additional fabric and studs to create the product displayed today.



## App Functionality



Check out our website for all functionalities!

## Conclusions

- Glove is connected to app through Bluetooth
  - Trigger from glove's use sends alert text message
  - 40kV and 3-5 mA are discharged from stun gun circuit
- Future Considerations for our product include:
  - Placing stun gun circuit on polished PCB
  - Registering a SMS Short Code to send alert messages instead of users' phone number
  - Registering a Google Map API to utilize additional features (ideal for private services)
  - Adding a GPS to the glove
  - Making app more interactive with self-defense tips, guides, and video tutorials