

BYTE BACK

Smart Mosquito Zapper

Presented By **Team Wi-Fly**

The Networked Mosquito Zapper

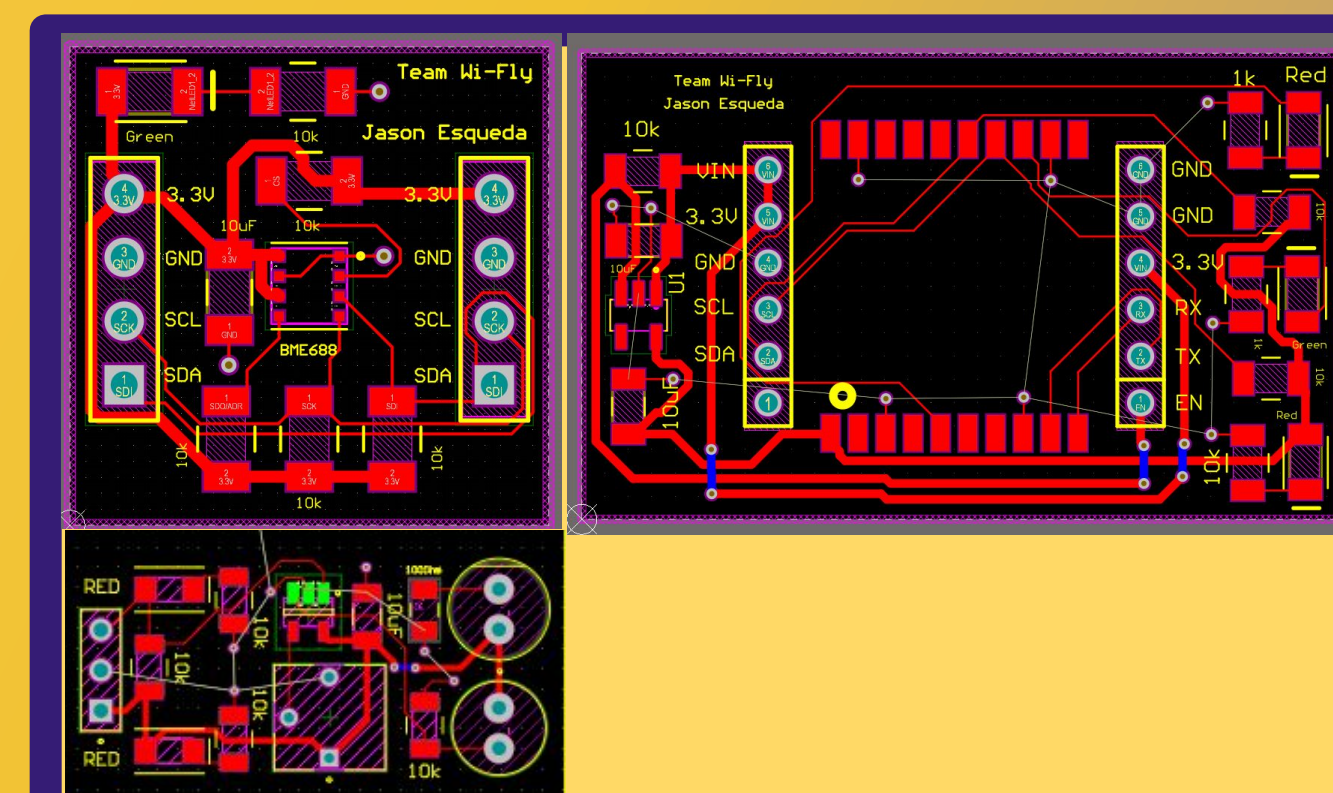
Features

- 1000 Volt Zap
- Solar Charging
- Multiple Attractants
 - UV LEDs
 - Speakers
 - Scent Lure

Overview

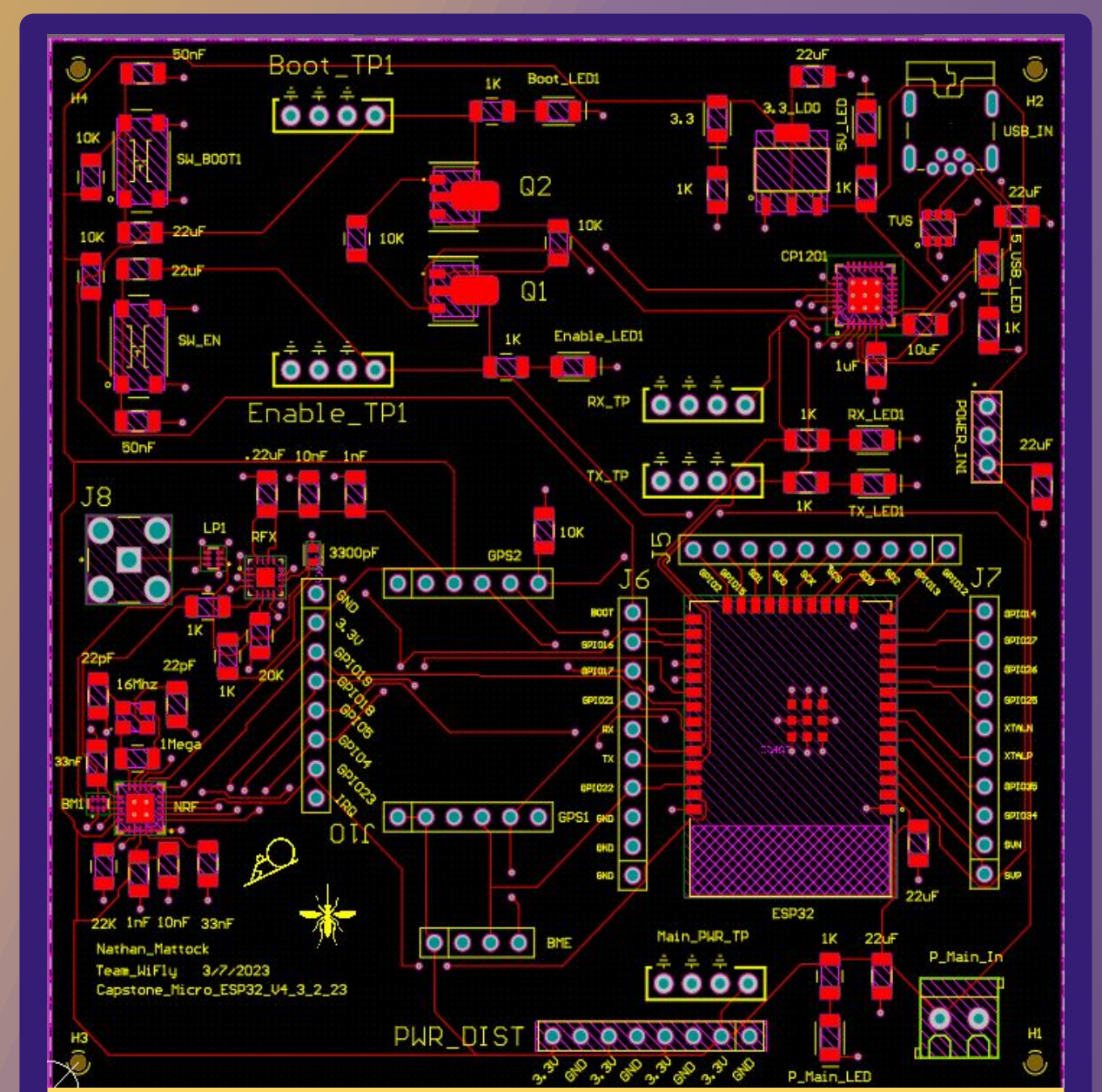
Byte Back is a research oriented mosquito zapper with a suite of attractants that counts kills and takes environmental data

Sensing Boards



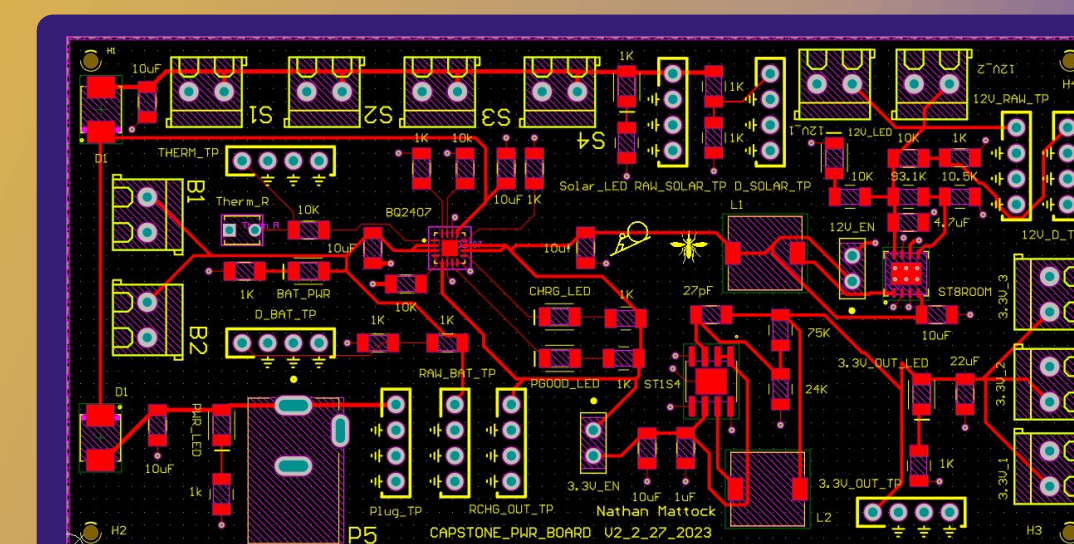
Infrared Sensor: Detects mosquitoes entering the device
BME: Records pressure, temperature, and humidity
GPS: Acquires global position of module

Processing Board

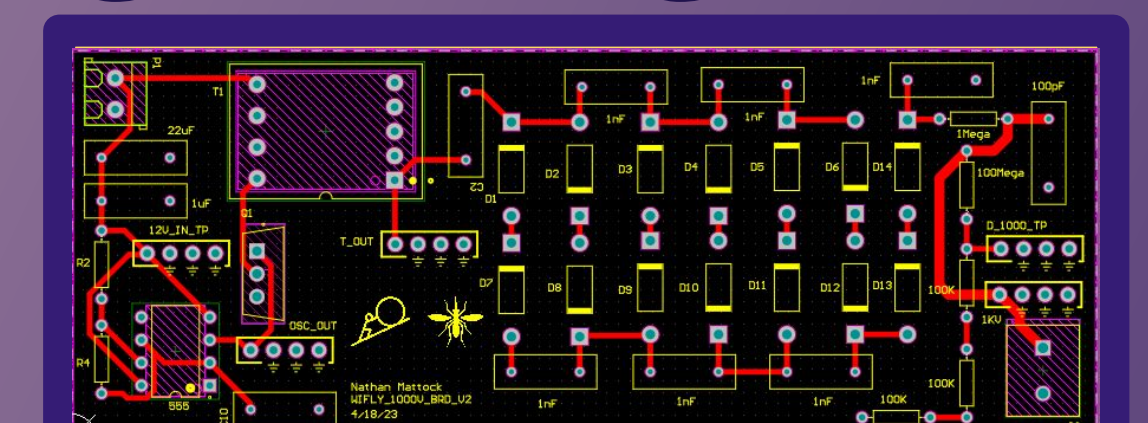


ESP32: Allows WiFi functionality and dual cores
Radio: Allows communication between units at 100 feet

Power Board High Voltage Board



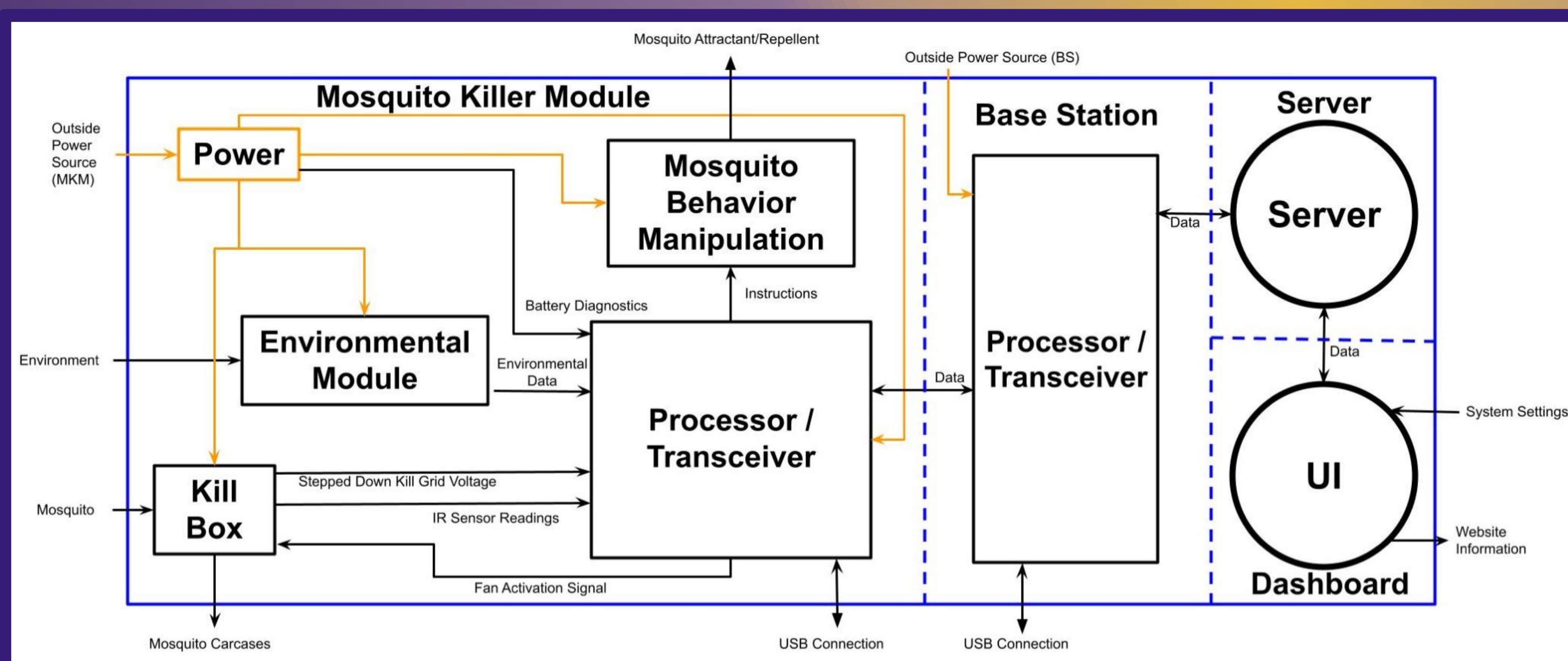
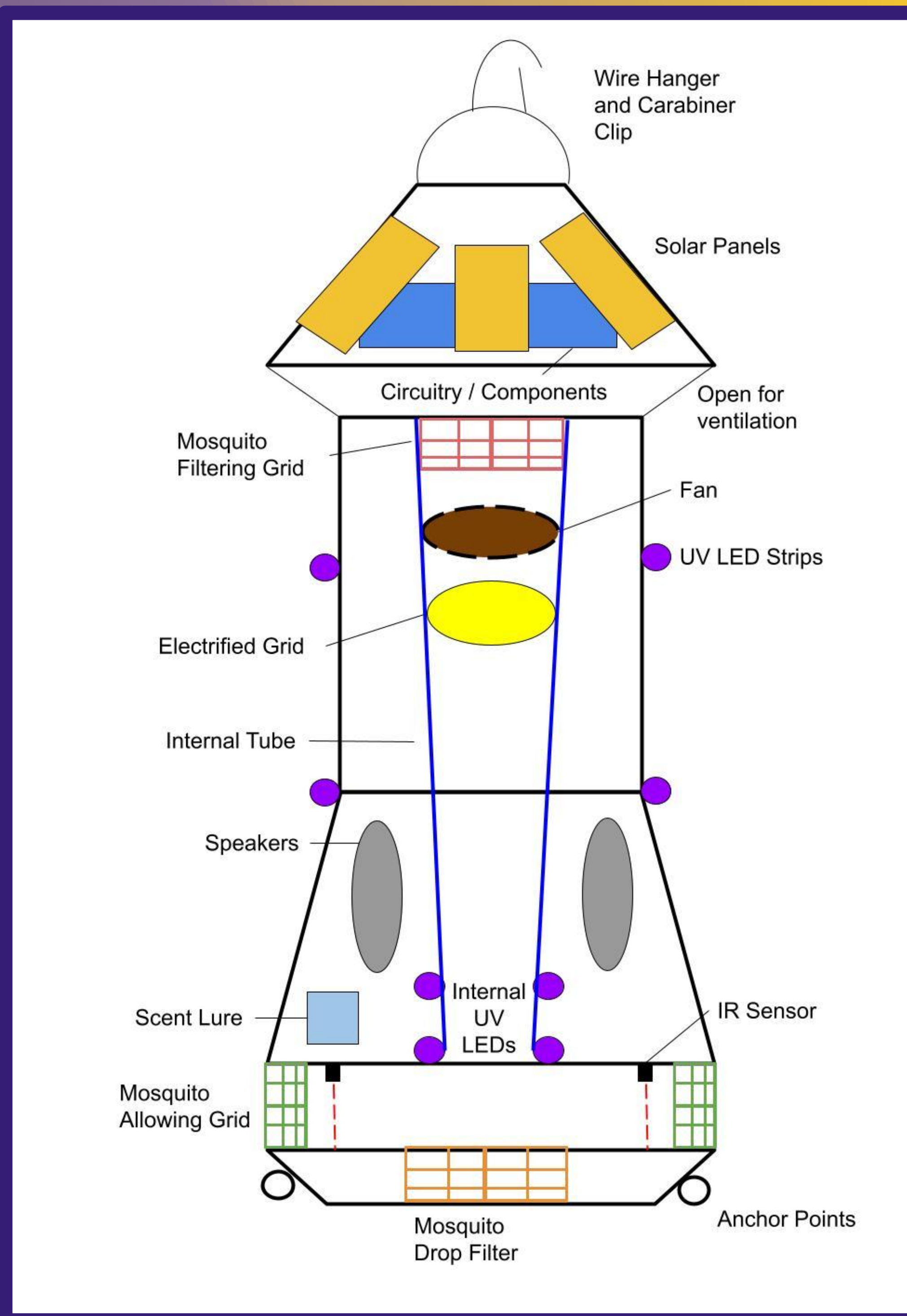
Converts to 3.3V & 12V.
Battery can be charged.
Board can either charge or discharge battery based on input voltage.



Takes DC 12V as input.
Creates AC signal from 555 Timer.
Transformer is 1:18.
Modified FlyBack Converter.

Our Journey

- High Voltage is difficult!
- How are we going to power this thing?
- Hand assembly of custom printed circuit boards can lead to inconsistencies.



Data Collection

- Kill Count
- GPS Location
- Pressure
- Temperature
- Humidity
- Battery Levels

Special thanks to our sponsor Professor Eric Bogatin and our technical advisor Tyler Davidson

Joshua Dinerman, Nathan Mattock, Noah Schwartz, Jason Esqueda, Tommy Ramirez