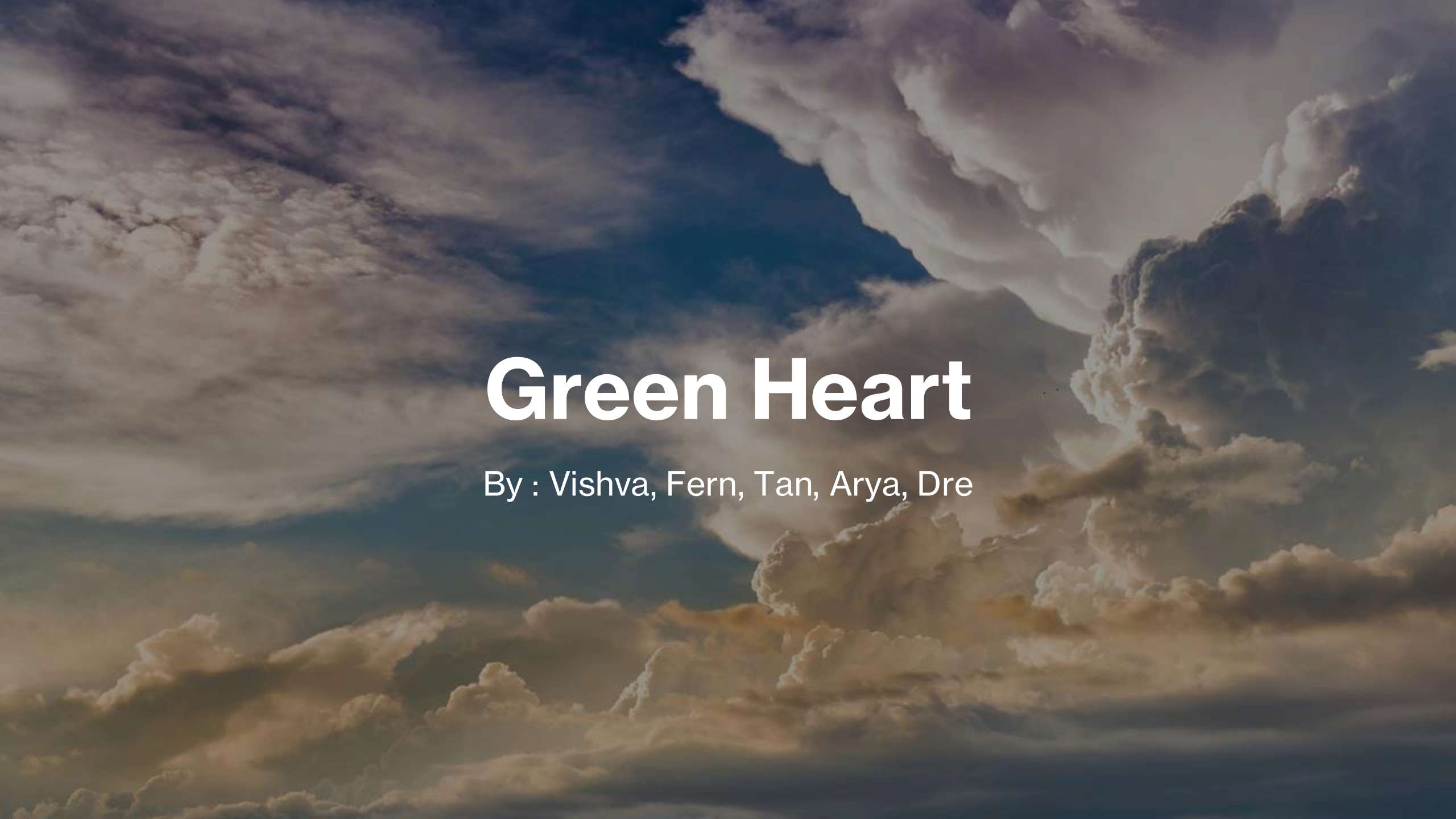


Green Heart

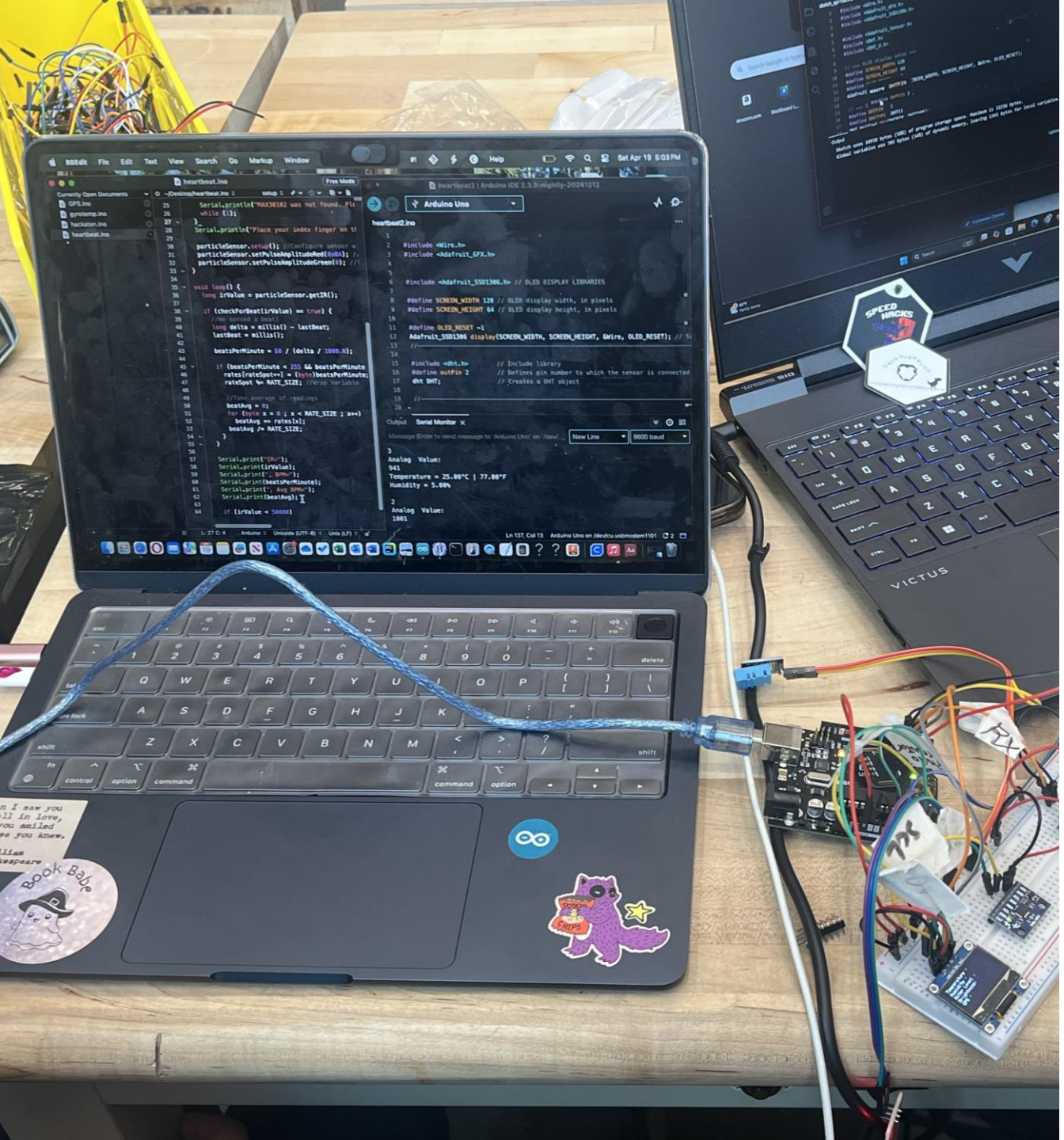
By : Vishva, Fern, Tan, Arya, Dre

Problem

As the issue of climate change, polution, and global warming starts to increase it is important for scientists to gather data about these new environmental issues on the enviornment itself and human populations

For example:

- A new factory is created in a city that increases polution our device can be modified to keep track of the human population by tracking water presence, light exposure, animal heart rate, temperature, geographic location, movement, and humidity. We can then use that data to push legislators to enact changes to proctect the area's population
- As the issue of climate change starts affect more parts of the world it is important to track how it changes ecosystems and local wildlife patterns. Our device can be used to moniter rising sea levels and other local phnomanon. It can be attached to wildlife in a non invasive way to measure migration patterns, animal heartrate andplaces that are no longer visited by wildlife due to human intervention.



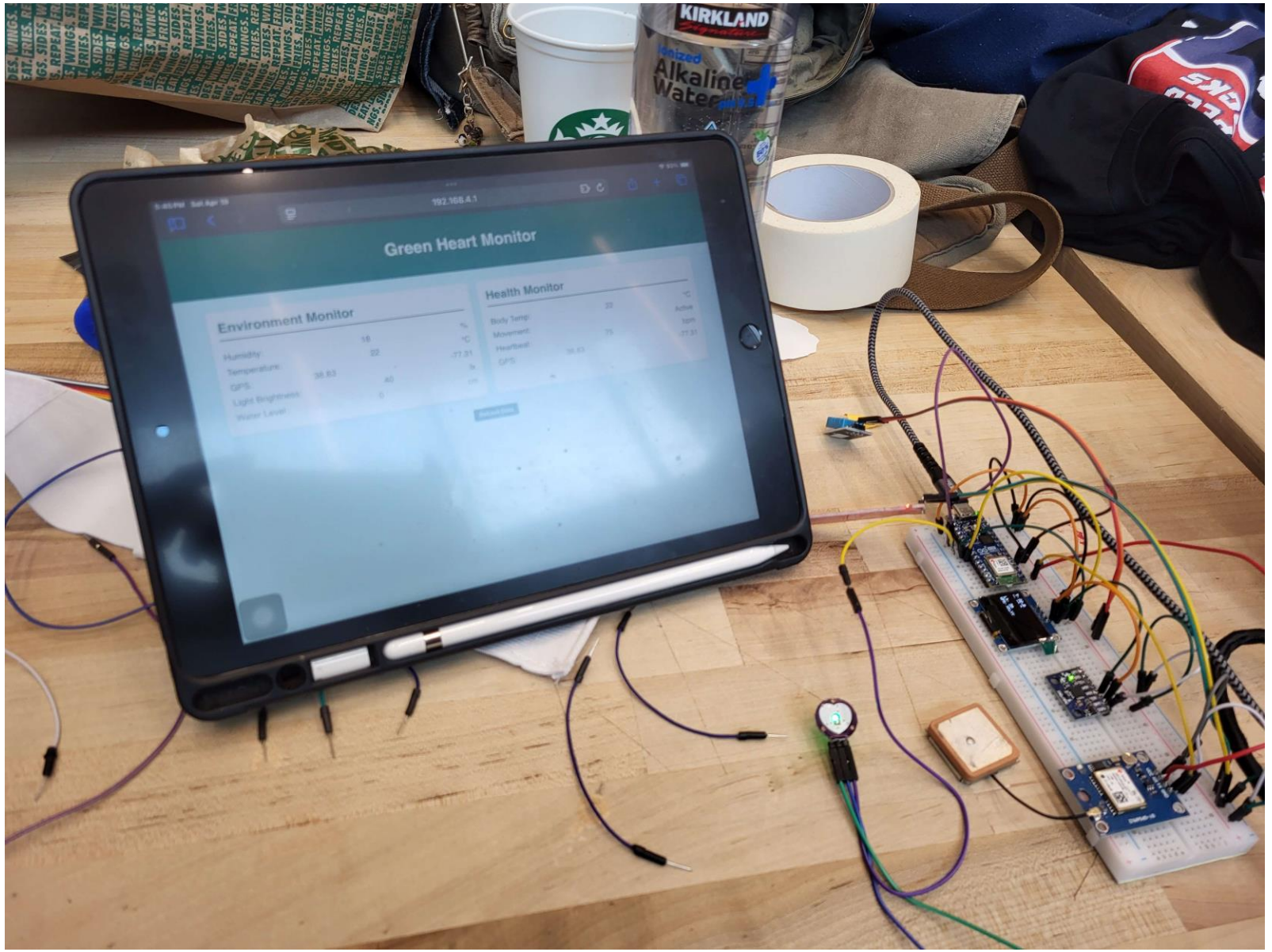
Our mission

Our device was designed with the goal of health and environmental monitoring, doubling as both a health and environment tracker that can tell you the quality of the environmental factors such as temperature, humidity, and water level, HB GPS body temperature

We also set out to create a web server that would allow for real time access to data from gathered from the sensor

Parts list

- Arduino Nano ESP32 - $20
- Temperature/Humidity Sensor (EHT11) $0.65
- Accelerometer/IMU (GYI521) $6
- Pulse Sensor $1.75
- GPS Sensor (NEO-6M) $5
- Photoresistor $0.40
- Water Level Sensor $0.12
- Breadboard + jumpers $1.50
- 9V battery $2.50



Achievements

We created an effective IoT network with five sensors that communicates with a website hosted on an Arduino ESP32 that display information from the network

Future Plans

Integrate with cloud storage platforms for remote data logging and historical analysis. By logging the data, we would be able to implement some form of data visualization to assess trends in the data.