

# GEO TRACER

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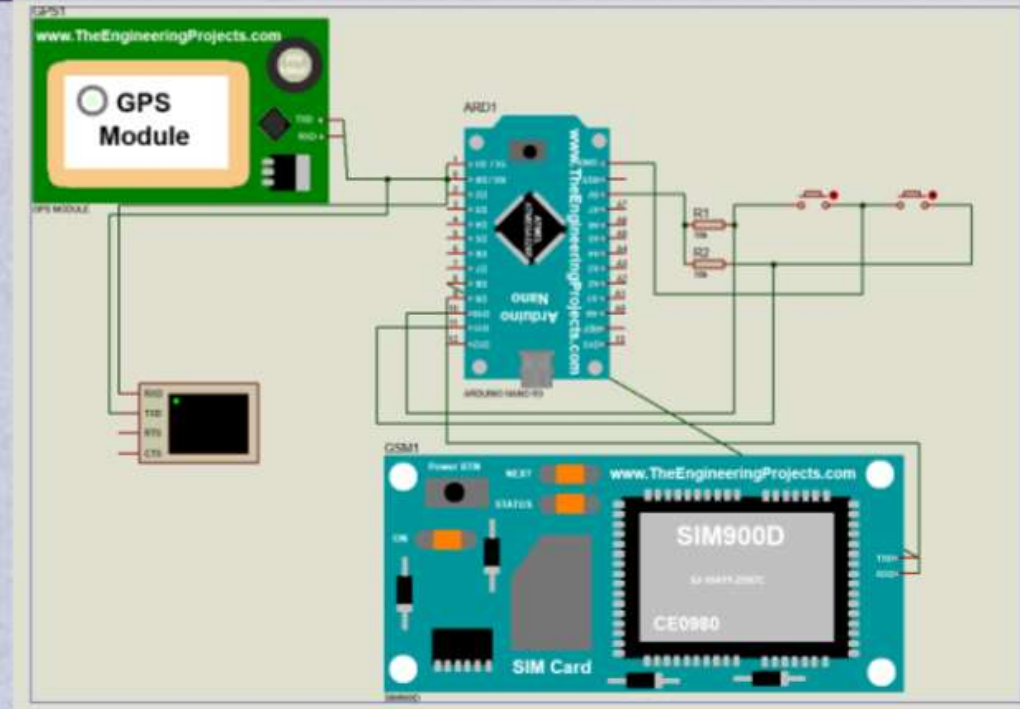
# Geo Tracer

- 1-Initial Design
- 2-Challenges faced
- 3-Hardware Interconnections
- 4-Software & codes



# Initial Design

- Sim Module
- GPS tracker
- Arduino NANO
- Battery
- Buzzer
- LCD display





# CHALLENGES FACED

- No availability of Hardware components.
- Sim Module was not PTA approved.
- LORA WAN frequency problems.
- Arduino NANO to Node MCU
- User interface connectivity problems.
- Data reading and writing issues.



# Hardware Interconnections

- Battery --> inputs step-down converter (regulate voltage)
- Battery --> switch
- Outputs of step down converter --> power of NodeMCU & GPS Module
- Ground of GPS Module --> negative output of step down converter
- Rx-TX of GPS Module --> D2 & D1
- ThingSpeak & JAVA Script





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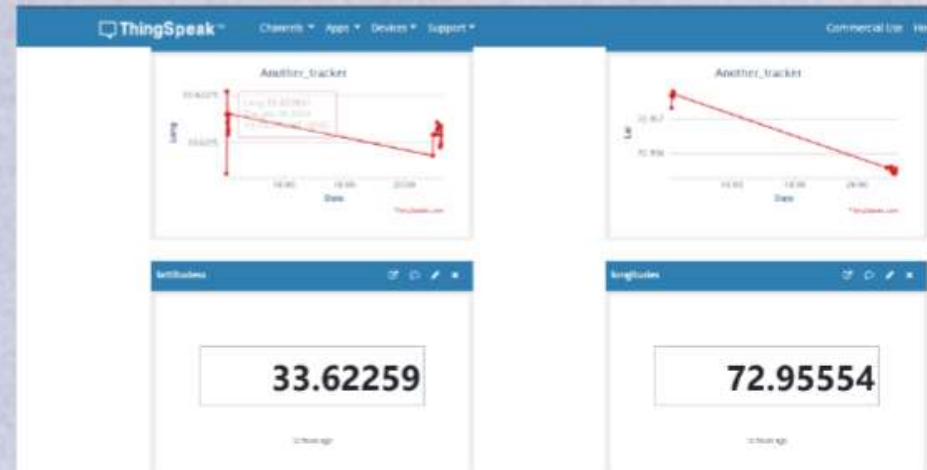


# SOFTWARE

- Arduino IDE with following Libraries:
  - Tiny GPS++
  - ThingSpeak Header
  - ESP8266WiFi.h
- ThingSpeak IoT Cloud
- Visual Studio Code for Web



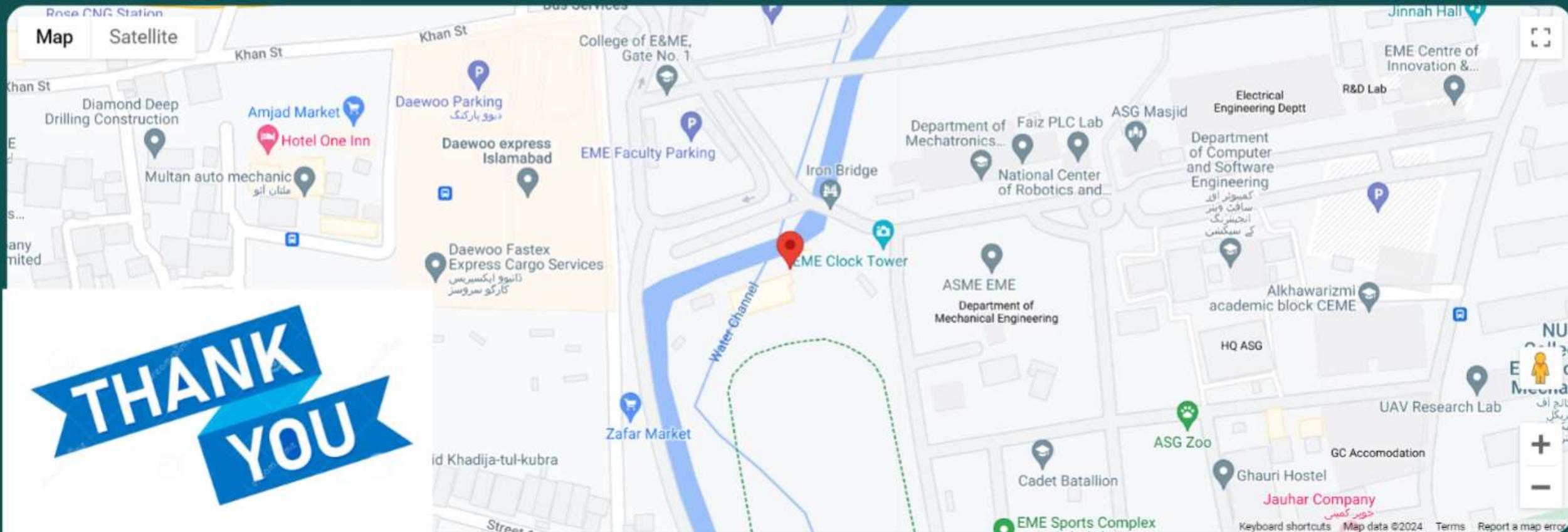
```
sketch_jan10a.ino
1 #include <TinyGPS++.h>
2 #include <SoftwareSerial.h>
3 #include "ThingSpeak.h"
4 #include <ESP8266WiFi.h>
5
6 /*
7  * This sample sketch demonstrates the normal use of a TinyGPS++ (TinyGPSPlus) object.
8  * It requires the use of SoftwareSerial, and assumes that you have a
9  * 4800-baud serial GPS device hooked up on pins 4(rx) and 3(tx).
10  */
11 static const int RXPin = D4, TXPin = D2;
12 static const uint32_t GPSBaud = 9600;
```





Hanging Around At Visitor Center? Well, WE Have Eye On You :)

# Geo Tracer



THANK  
YOU