

ASSET TRACKING SOLUTION WITH BLE-ENABLED TAGS

BY

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GUIDED BY

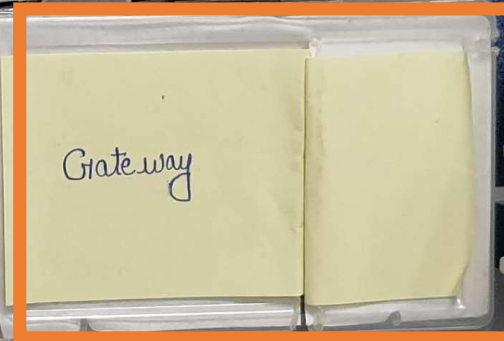
PROF. JOY KURI
PROF. HARESH DAGALE

M.Tech Project Demo Report

- Date: 17/06/2022
- Time: 2:00 P.M.
- Demo 1: VEHICLE MONITORING SYSTEM
 - One of the reviewers, Prof. Shyan G Srinivasa was present with Amit kumar Mistri and Prof. Haresh Dagale in the Embedded system lab-1, to view the vehicle OBD parameters in the MongoDB charts
 - The other reviewer , Prof. Utsav Bannerjee was present in the car along with Shubham kumar Saurav, to view the OBD parameters in the serial monitor. All the parameter readings received in the Master Gateway, were printed on the Laptop screen and displayed. Also the charts for these parameters were displayed to the reviewer.
- Demo 2: ASSET SECURING SYSTEM
 - Both the reviewers were present in the lab, and the asset securing system was explained and working demo was shown

Hardware

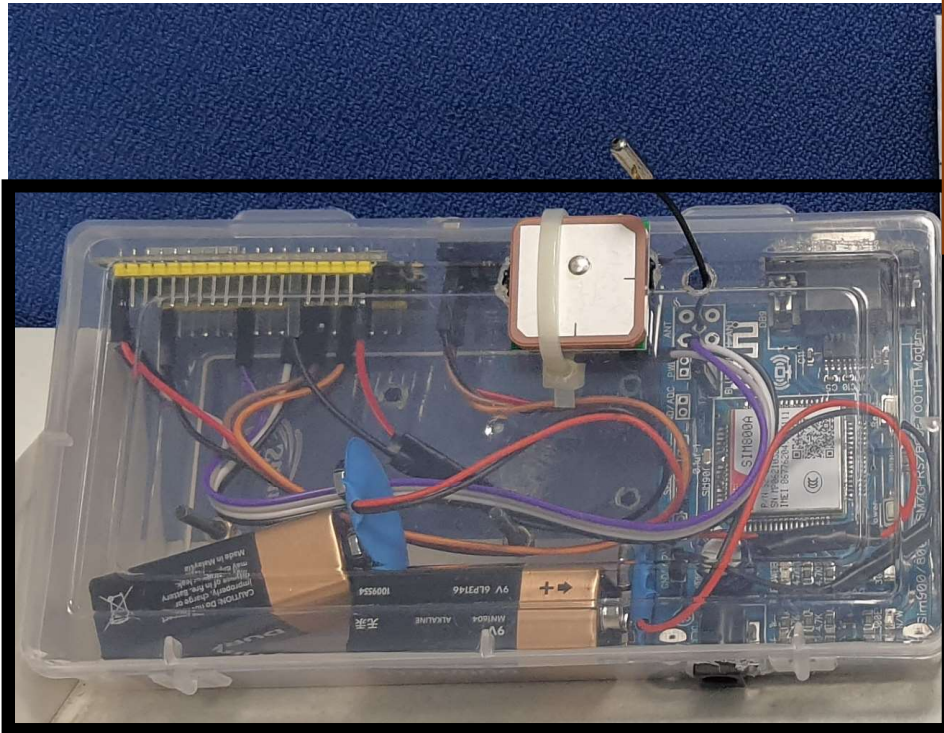
Authorization Card



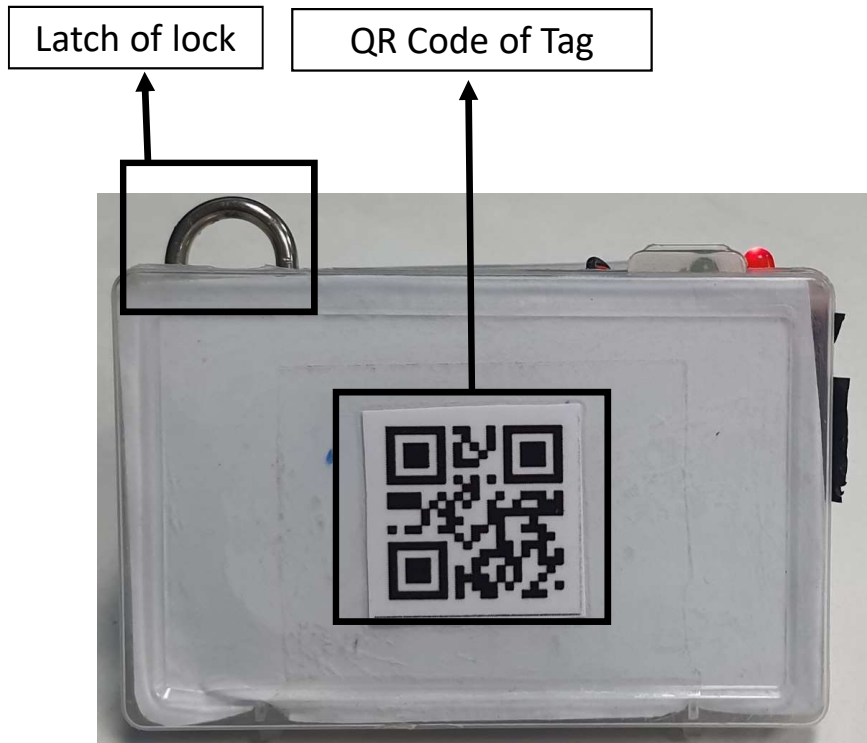
MASTER GATEWAY

BLE GATEWAY

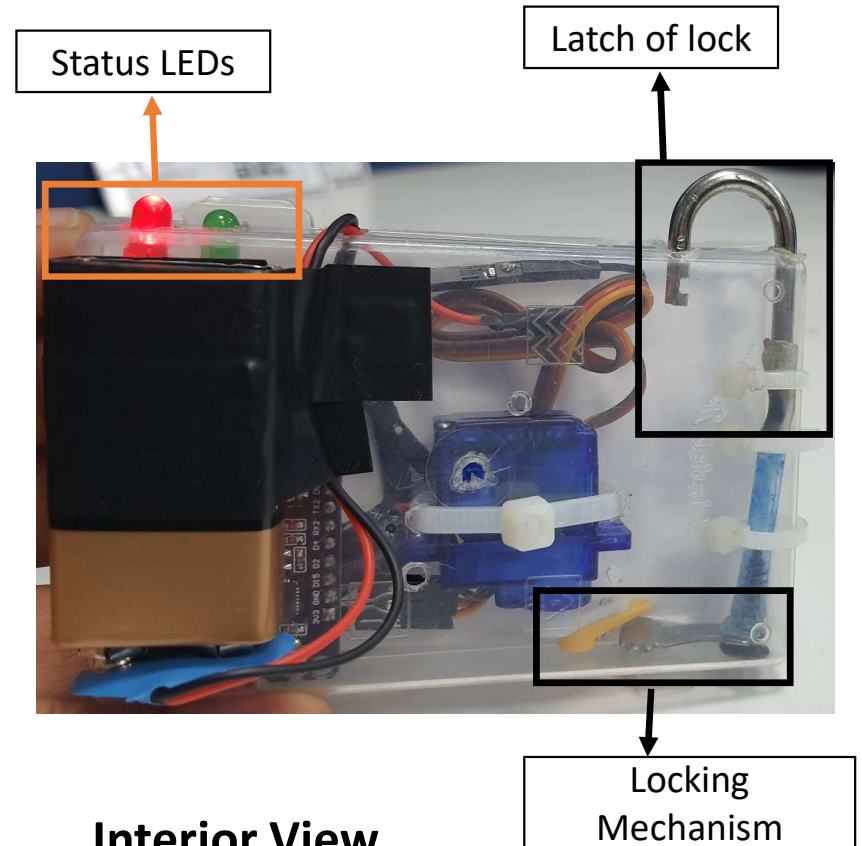
TAG



TAG

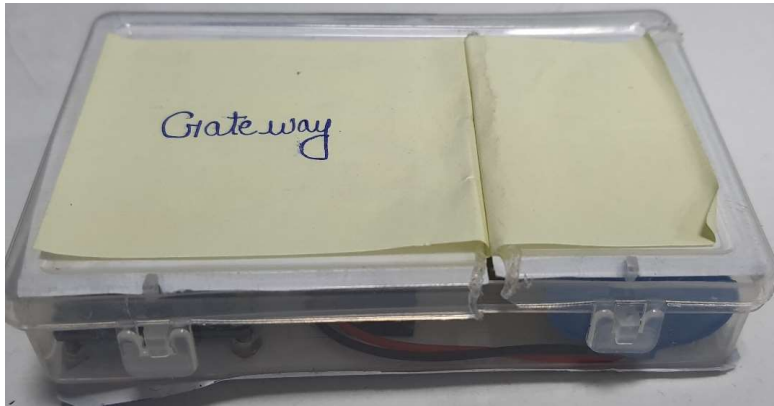


Exterior View



Interior View

GATEWAY



Exterior View



Interior View

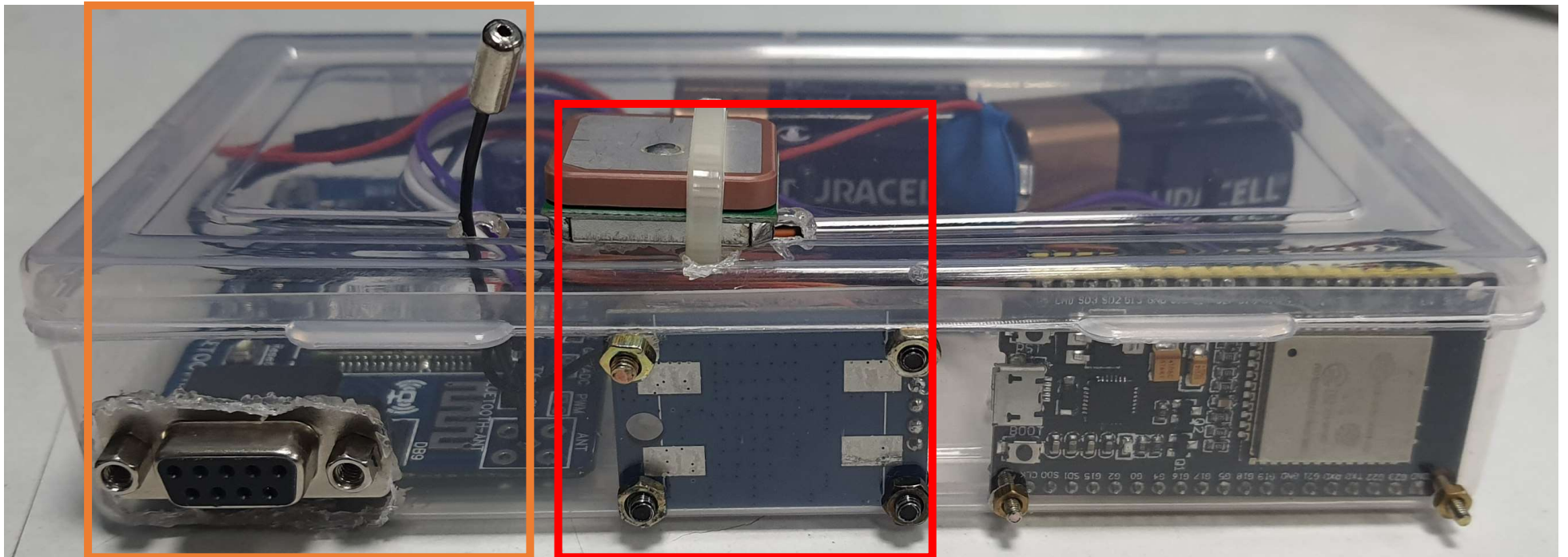
Authorization Card



OBD Scanner



MASTER GATEWAY



GSM Module

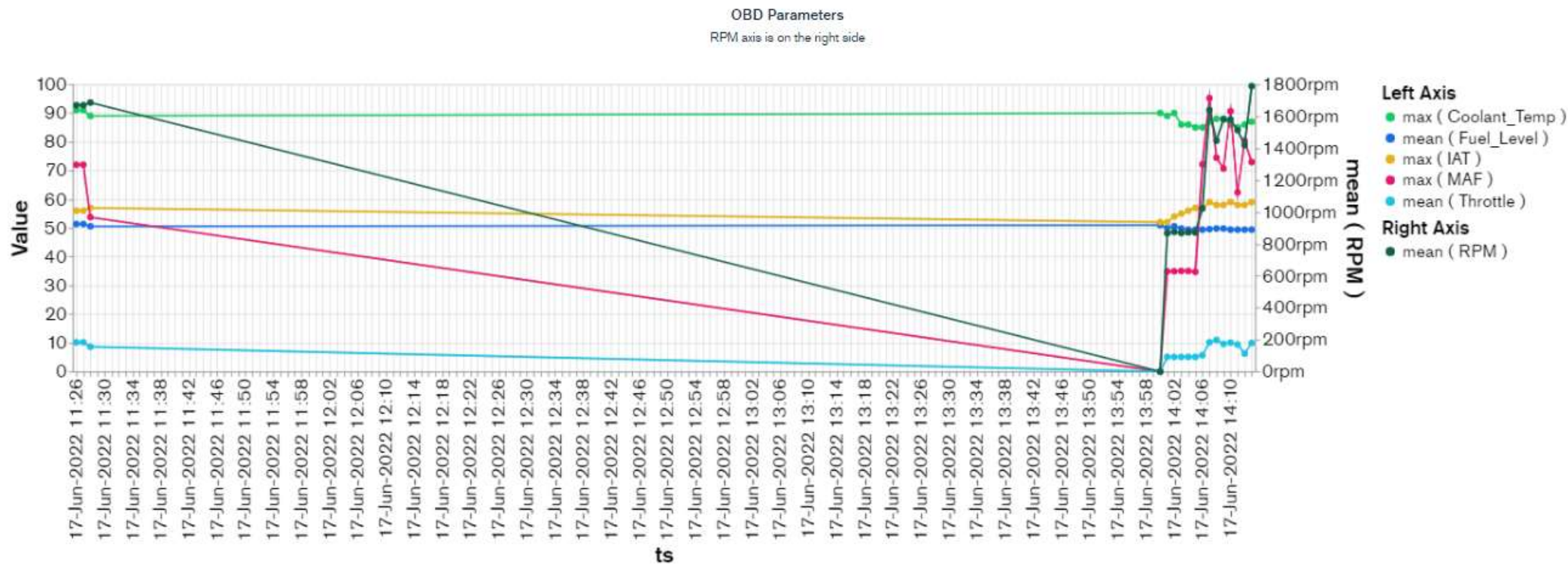
GPS Module

Complete Setup



Chart for OBD parameters

- Keeps updating automatically in every 30 seconds



Serial monitor output for OBD parameters



```
responseByte_0: 56
responseByte_1: 17
responseByte_2: 0
responseByte_3: 0
responseByte_4: 0
responseByte_5: 0
responseByte_6: 0
responseByte_7: 0
RPM: 1102.00

OBD String generation complete, current OBD payload is:

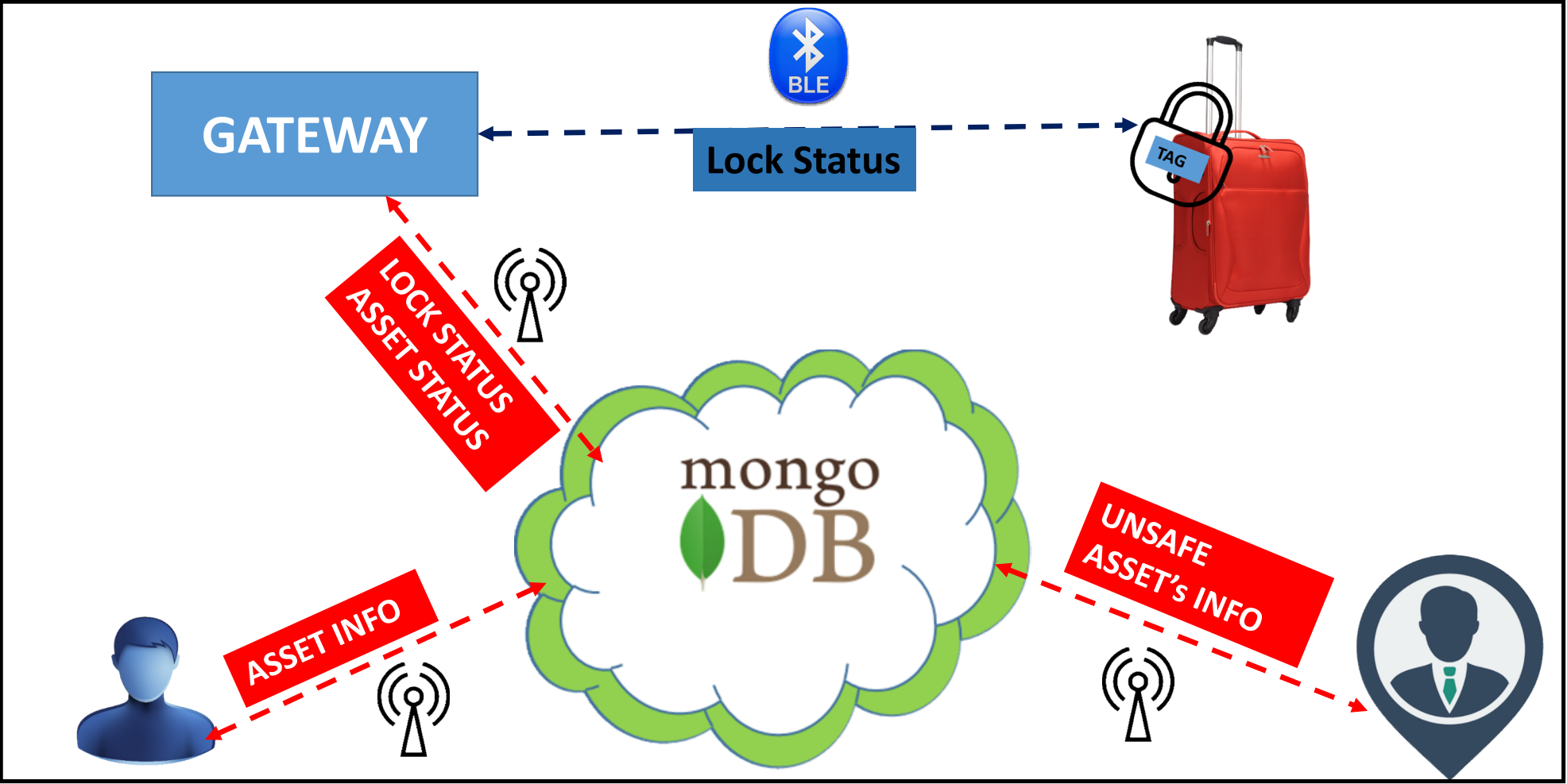
{"IAT":"59.00","MAF":"57.82","Fuel_Level":"49.41","Throttle":"6.67","RPM":"1102.00","Coolant_Temp":"85.00"}
```

☒ Autoscroll ☐ Show timestamp

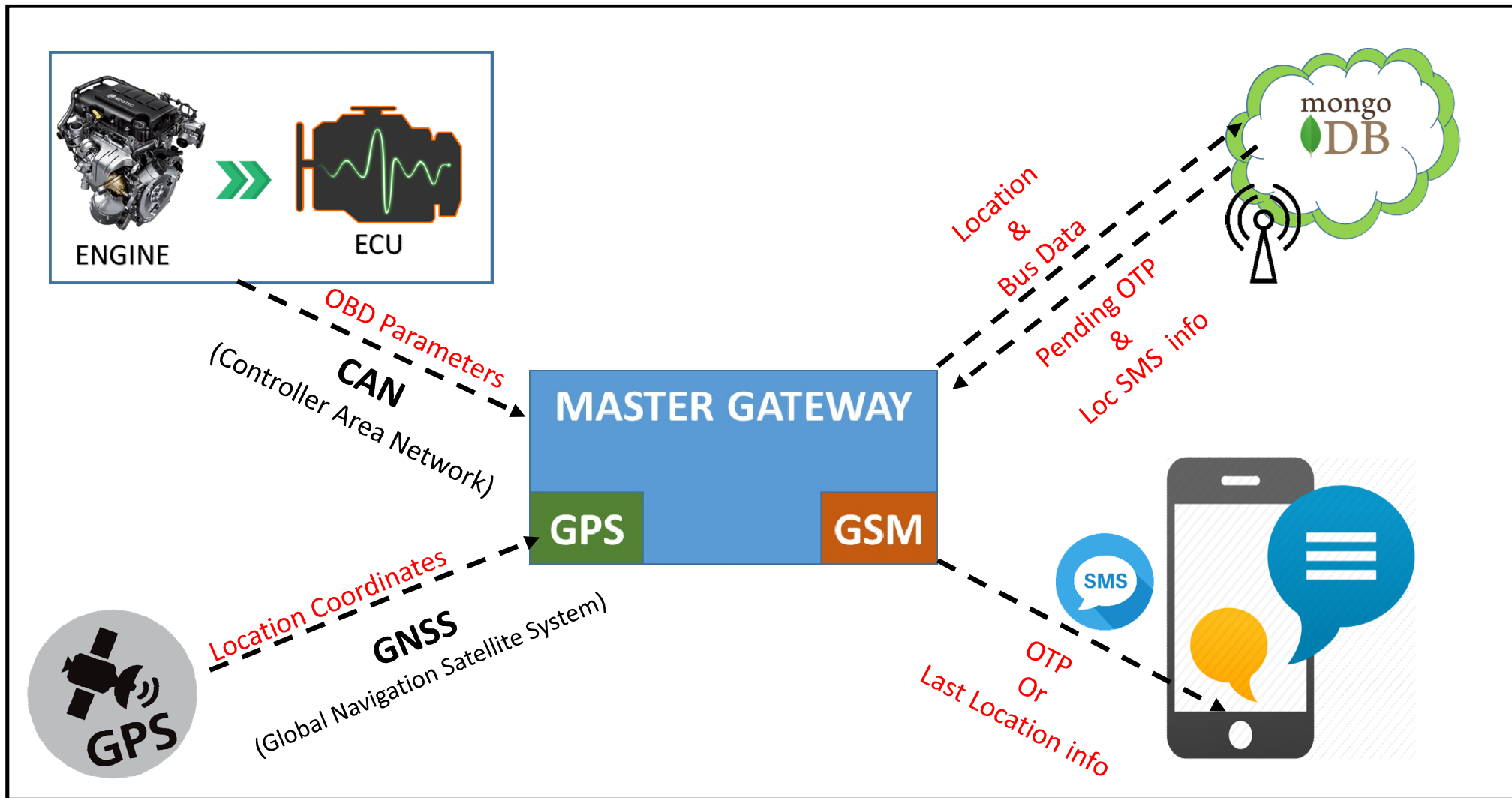
No line ending ▼ 115200 baud ▼ Clear output

The following slides were used during demo.

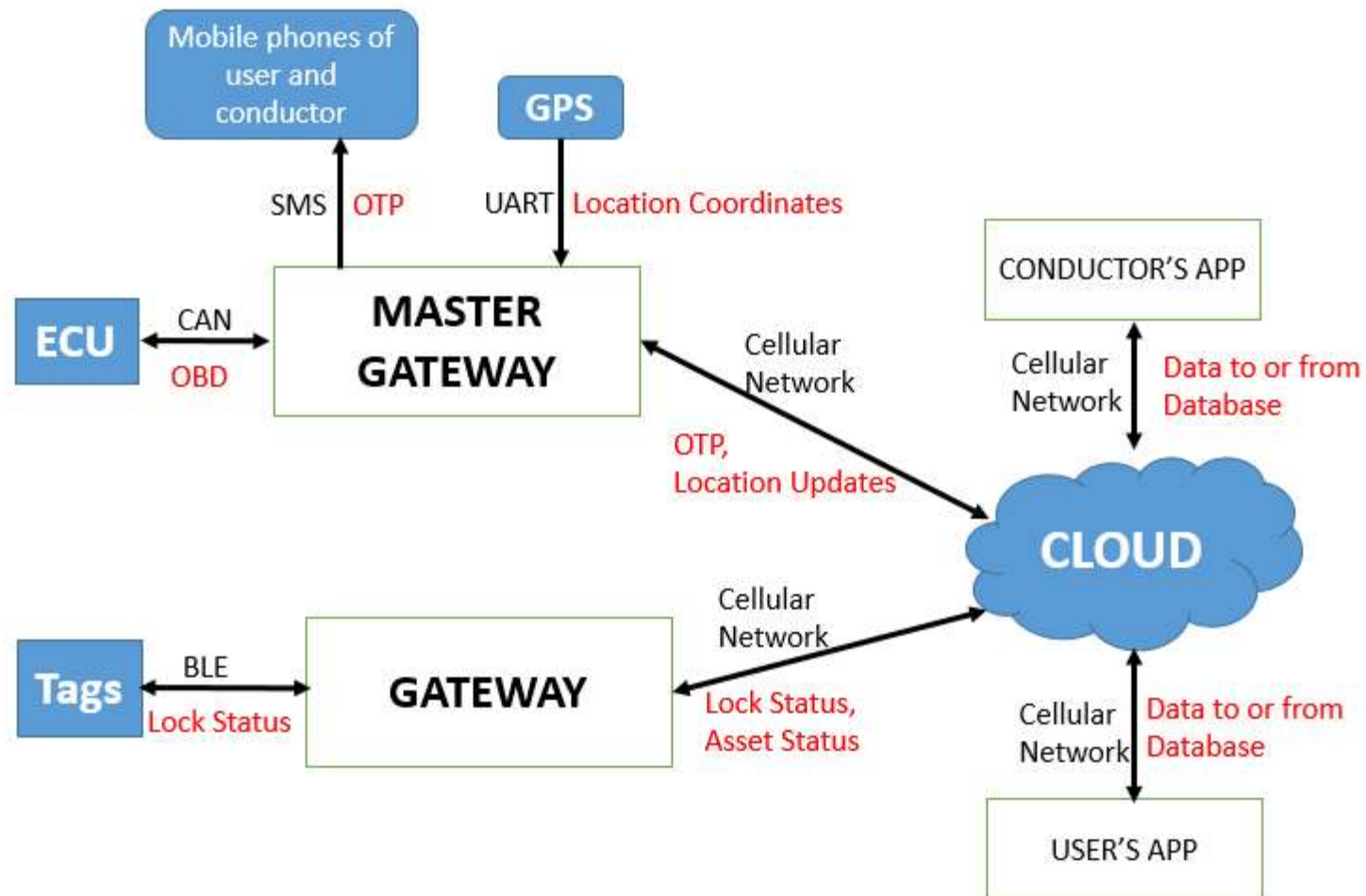
ASSET SECURING SYSTEM



VEHICLE MONITORING SYSTEM



COMPLETE ARCHITECTURE



Check Parameters for Demo

❑ Vehicle Monitoring System:

- MongoDB document addition test
- MongoDB chart update Test
- MongoDB Raw Data check from Serial Monitor{To be performed in car}
- Location Update Check

❑ Asset Tracking System:

- Addition of entry through User App and Conductor App
 - Password mismatch check
 - QR mismatch check
 - OTP mismatch check
 - Correct entry check
- Logging in the Apps
 - Forgot Password check
 - Password mismatch check
- Monitoring the Asset status
 - Safe Condition: Status & Alarm check in Software and Hardware
 - Unsafe Condition: Status & Alarm check in Software and Hardware
 - Query and Passenger removal check
 - Lock/Unlock and status check in Gateway and Tag
- Removal of entry through User App and Conductor App
 - Password mismatch check
 - Re-login failure after removal check

THANKS