POWER EXPLORER

# INTERNET OF THINGS (IOT) BASED VEHICLE ACCIDENT PREVENTION AND EMERGENCY AID SYSTEM

TEAM : POWER EXPLORERS

TEAM ID: 1932

- The motivation behind our project is an attempt to make an embedded system based device which makes the passenger's journey even safer and more secure. Alert then before Mechanical and other disorder. Get notified with location during accidents and hospitalized injured people them rapidly. This product handles engine overheating alert, smoking alert, Alcohol detection to detect drunk driving. Vehicle Crushed detection, alert when gyroscopically problem occurs. During any unwanted occurrence occur this device gives a text with reason of accident and GPS ((Global positioning system) location to predefined number such as police stations and hospital. Now we upgrading it we installed IOT (Internet of things) on it so it will be upload real time data to server, we can track every vehicle.

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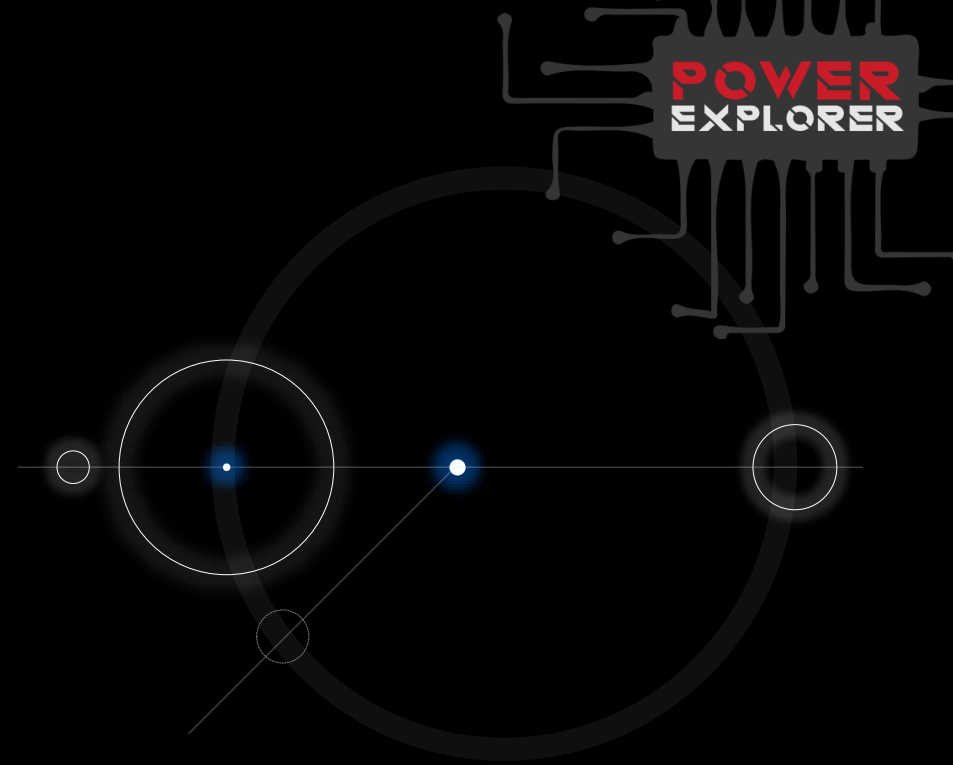
BACKGROUND

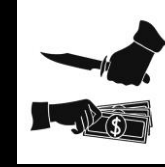# PROBLEM STATEMENT (Transport System)

- Unrecognized Driver
- Drunk Driving
- Run Expired Vehicle
- Vehicle robbery's
- Women harassment

- Over speed driving
- Lost vehicle tracking
- Unmonitored vehicle
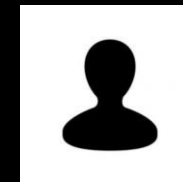- Illegal vehicle
- Delayed toll collection

- Delayed hospitalized system
- Delayed police service
- No Burn Alert
- Human / animals detection
- Unmanaged transport system

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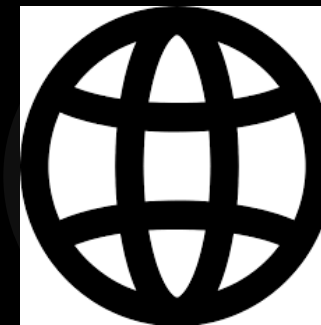# SOLUTION

Prevention

Real time Detection

Emergency Aid

THE SYSTEM

Hardware

A hardware that Detect information from sensors and sent information to server

Web

Database
A real-time database store data real-time and web app for monitor the hole system .

Mobile Apps

A smart apps for user. police , fire service , and hospital authority for detection and notify administrator .

SYSTEM BLOCK DIAGRAM

FIRST DRIVER NEED TO PUT HIS CARD TO VEHICLE FOR DRIVER RECOGNITION IF DRIVER IS VALID VEHICLE WILL START.

IF GAS LEAKAGE, FIRE, EMERGENCY BUTTON PRESSED DEVICE WILL NOTIFY OUR CLOUD SERVER. SERVER GIVE A WARNING NOTIFICATION TO NEARBY POLICE STATION. BY USING POLICE APP POLICE CAN SEE THE LOCATION OF VEHICLE. ALSO FIRE SERVICE HOSPITAL AUTHORITY WILL BE NOTIFIED. FOR TOLL COLLECTION SYSTEM WE USE NFC, EACH DRIVING LICENSE WILL INCLUDE A BANK ACCOUNT. DRIVER CAN PAY TOLL AND OTHER CHARGES USING HIS DRIVING LICENSE
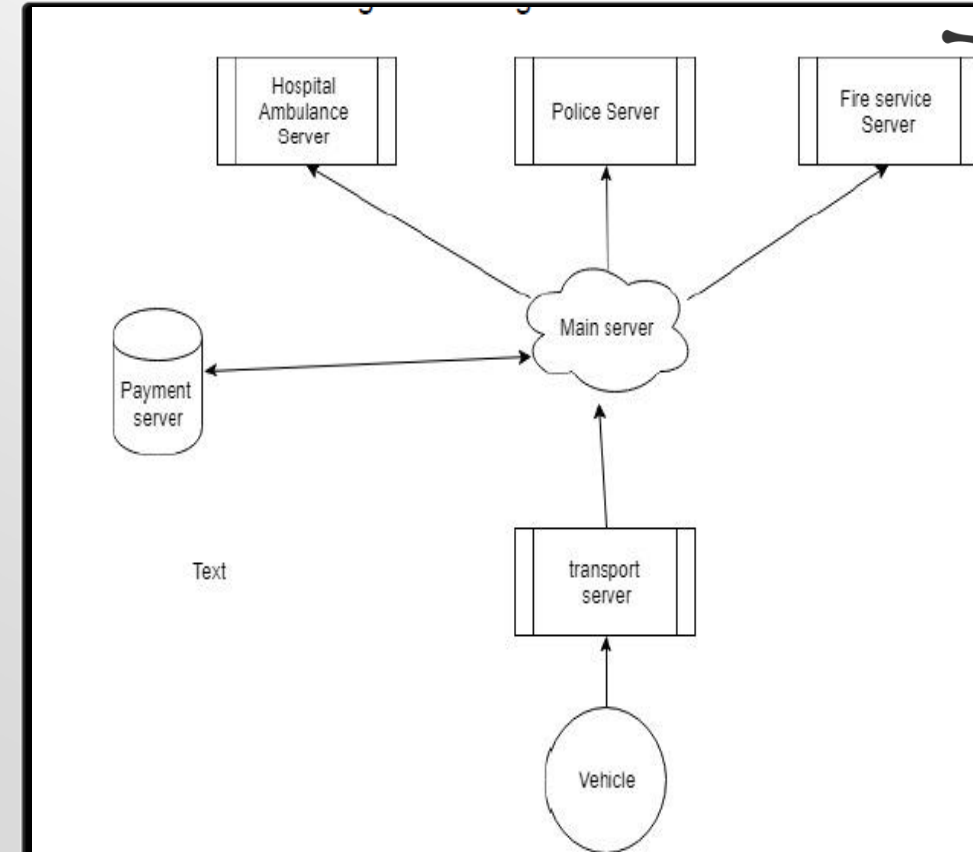

Fig: Over all Block Diagram

HARDWARE

HARDWARE INCLUDES

- 1:Rfid, NfC, Finger Print Authentication

- 2:Smoke, Gas, Fire detection

- 3:A –Gps for real time tracking

- 4: Gsm and Rf communication

- 5: speed limiting using rotary encoder

- 6: Gyroscope for axis detection

- 7: Emergency Button for Notify Police

- Women/ Child harassment, Robbery , illegal driving , Rough driving

- 8: A pressure transducer for detection of crush
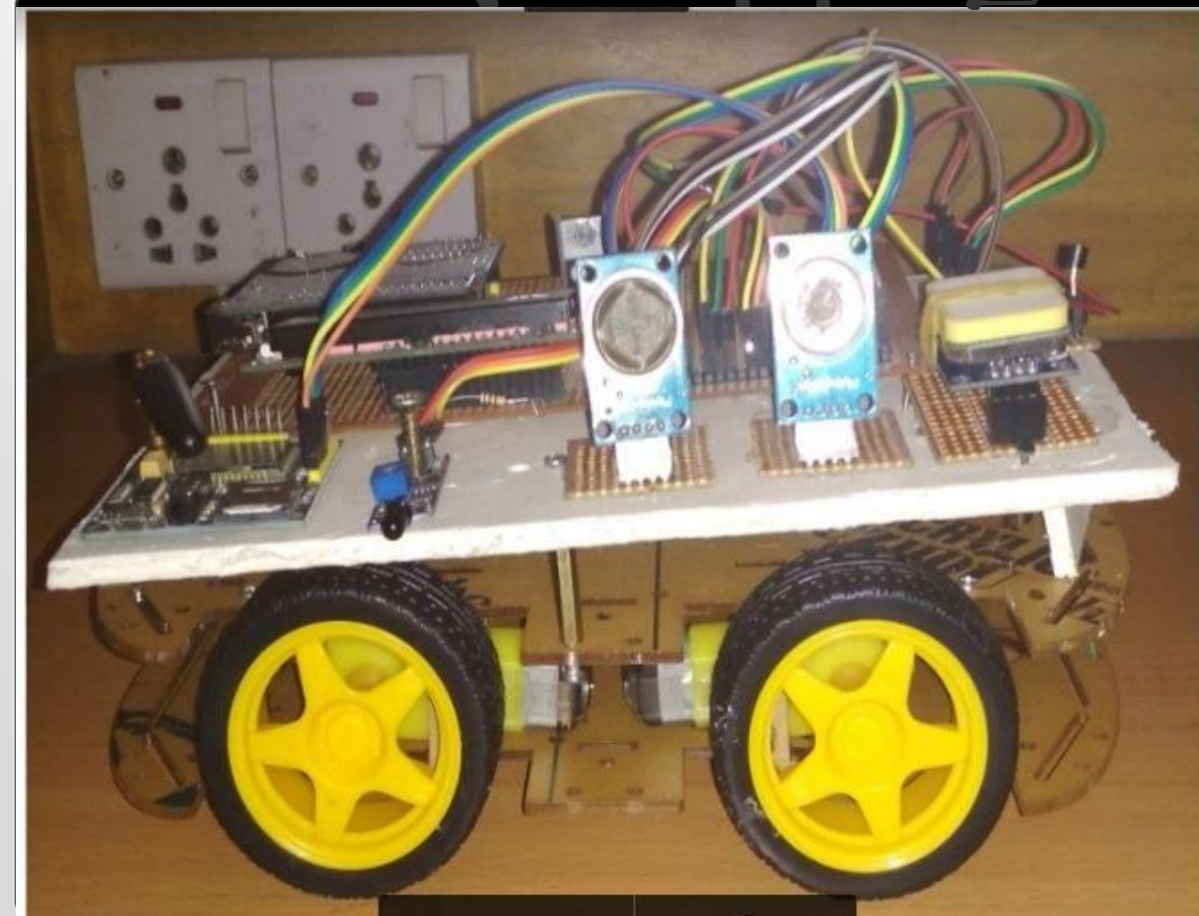
HARDWARE DESIGN

We use a microcontroller for
Getting data from all the sensors,
After that it upload user
Information to database.
During accident occurs it also
Upload valid information to
Database
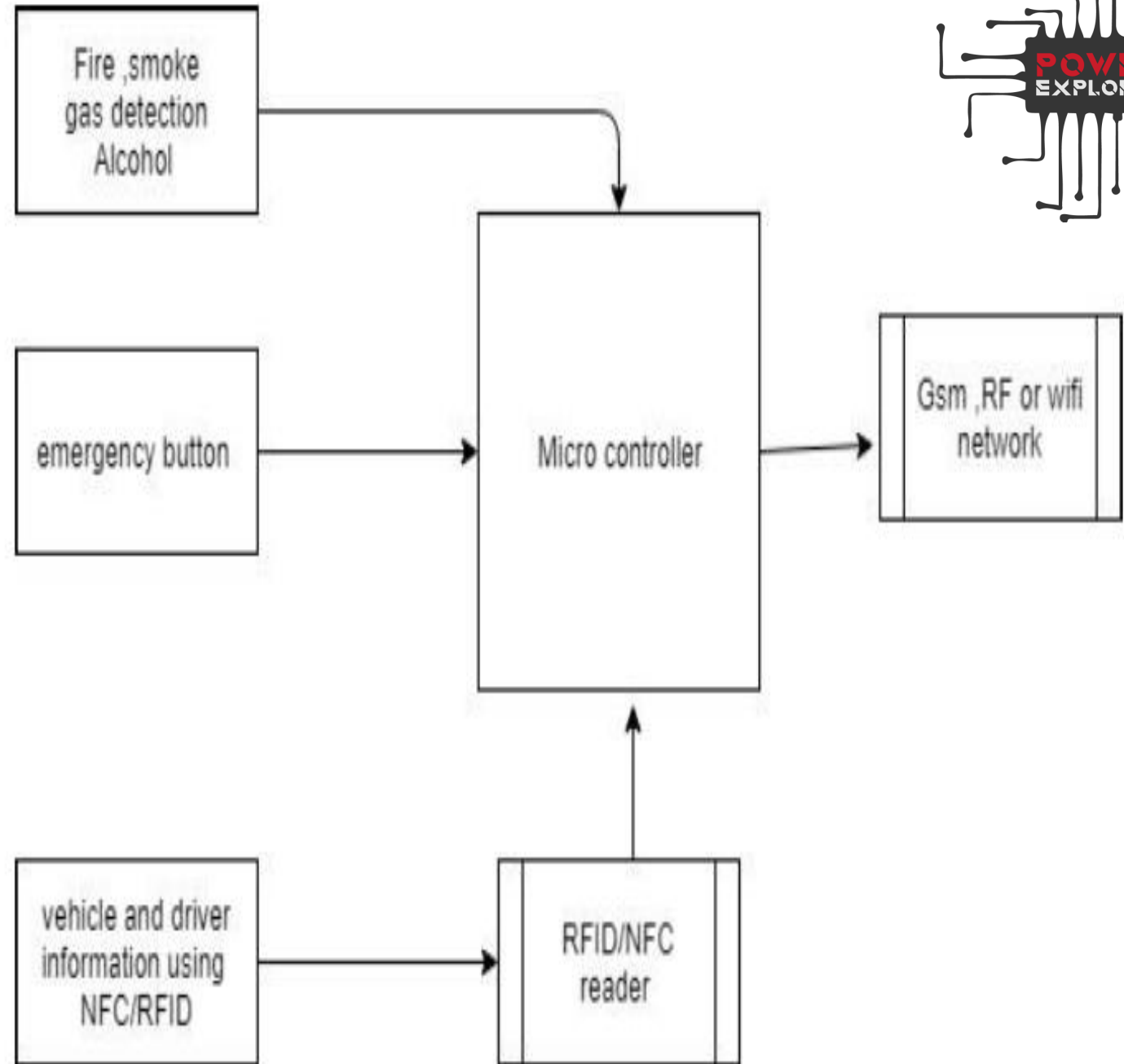
REAL-TIME TRANSPORT MONITORING AND MAPPING

REAL-TIME TRANSPORT MAPPING MAP: A MAP APPS IS REPRESENT REAL-TIME TRANSPORT MONITORING SYSTEM. IF A ACCIDENT OCCUR AT ANYWHERE THIS SYSTEM WILL NOTIFY THE LOCATION WHERE ACCIDENT IS OCCUR.
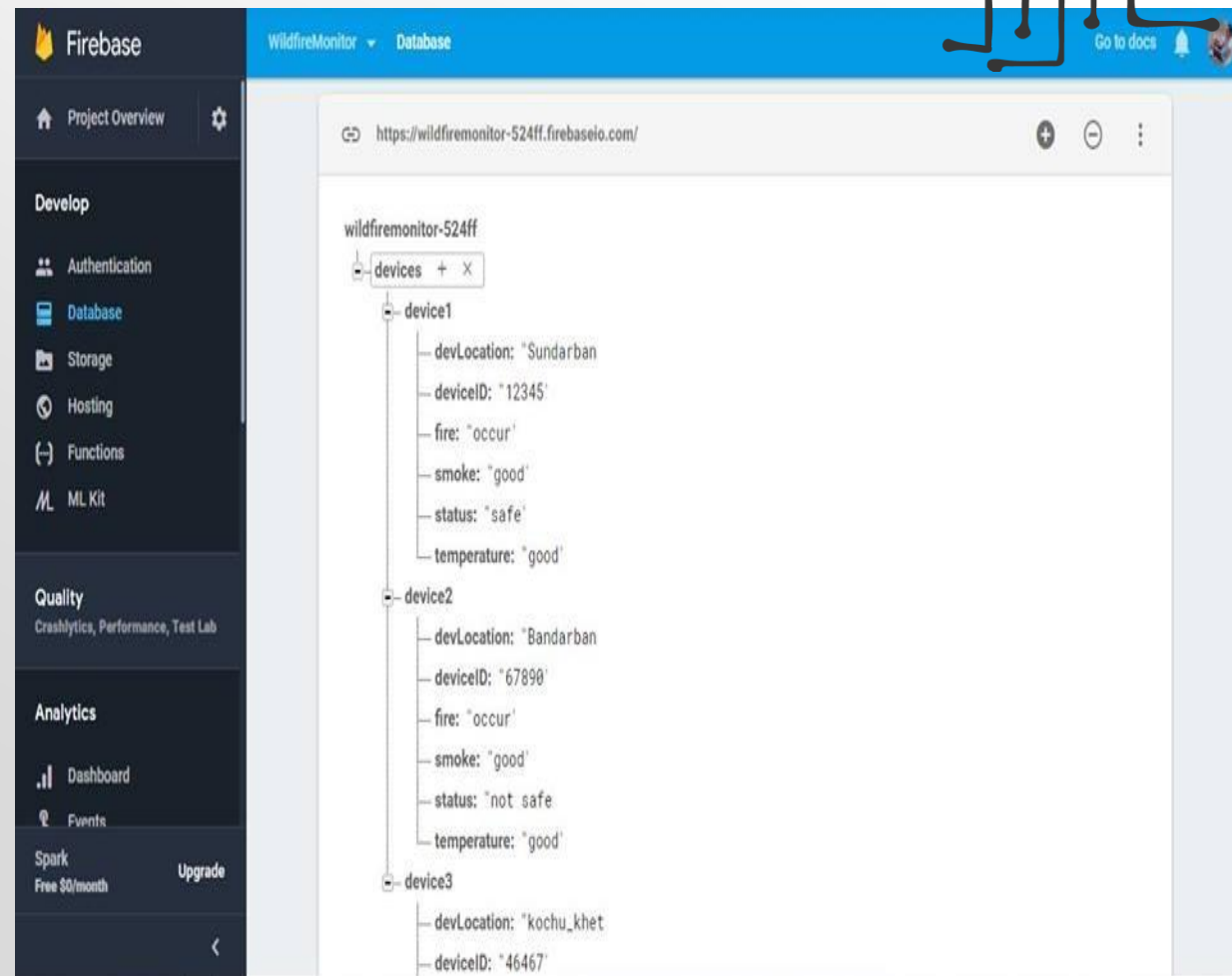
Device Id	device location	Curret Status
46467	Rangpur	unsafe
67890	Bandarban	safe
12345	Sundarban	Good

Map View

REAL-TIME DATABASE

A DATABASE WILL REPRESENT ALL OF INFORMATION , THAW WHO IS DRIVING , WHERE IS DRIVING, ACCIDENT OCCURRED OR NOT .

PUSH NOTIFICATION

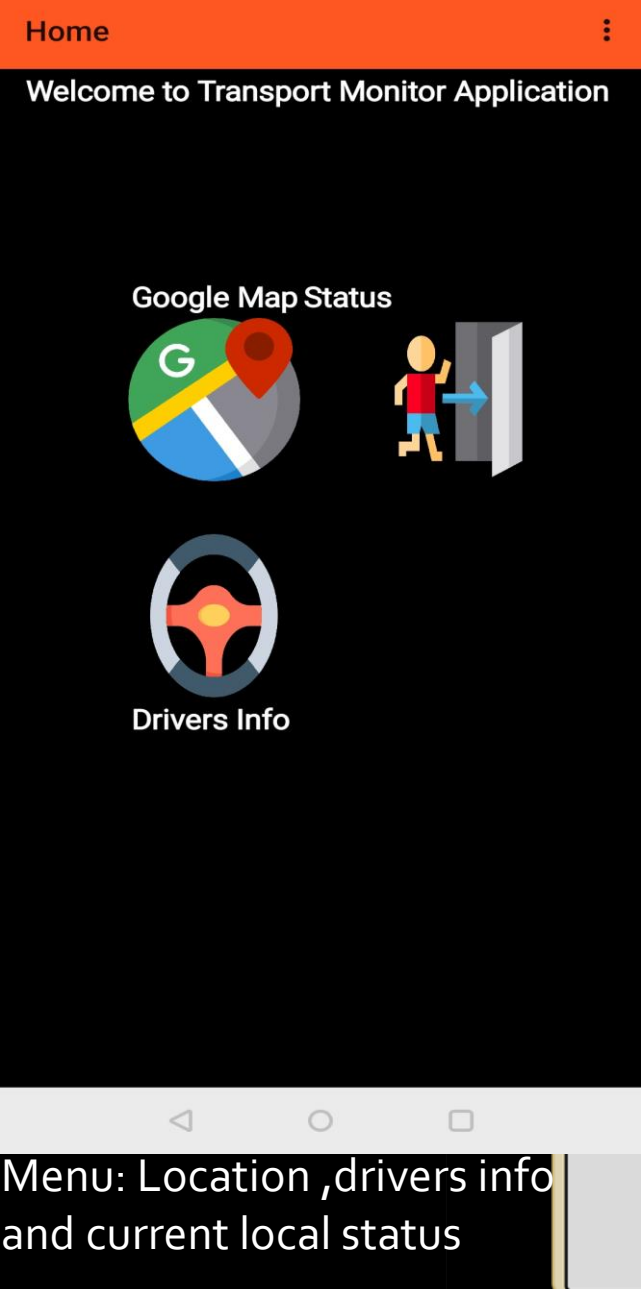A SMART APPLICATION WILL NOTIFY THE POLICE , FIRE SERVICE AND HOSPITAL AUTHORITY

If any accident is occurred nearby police station , fire service and hospital will notified by smart apps . By using this apps the will know where is accident is occurs . So injured people served by police fire service , hospital service .
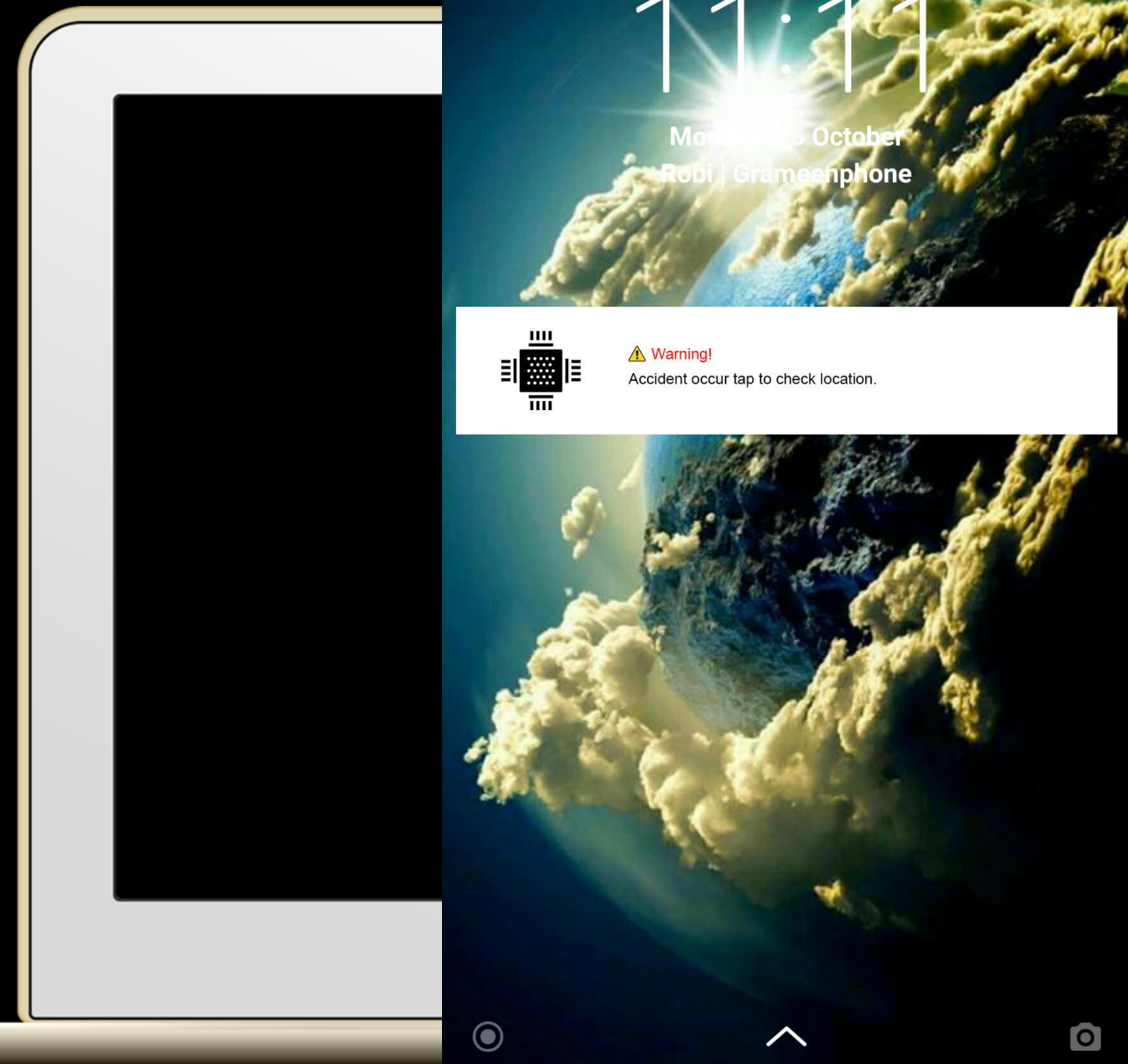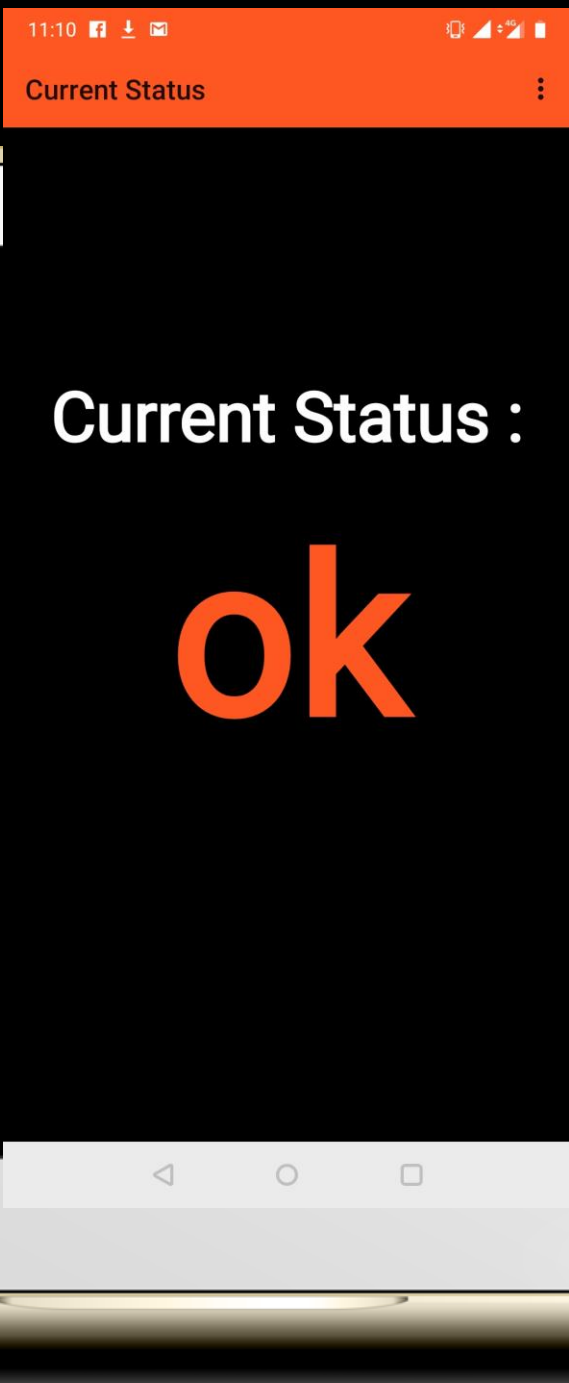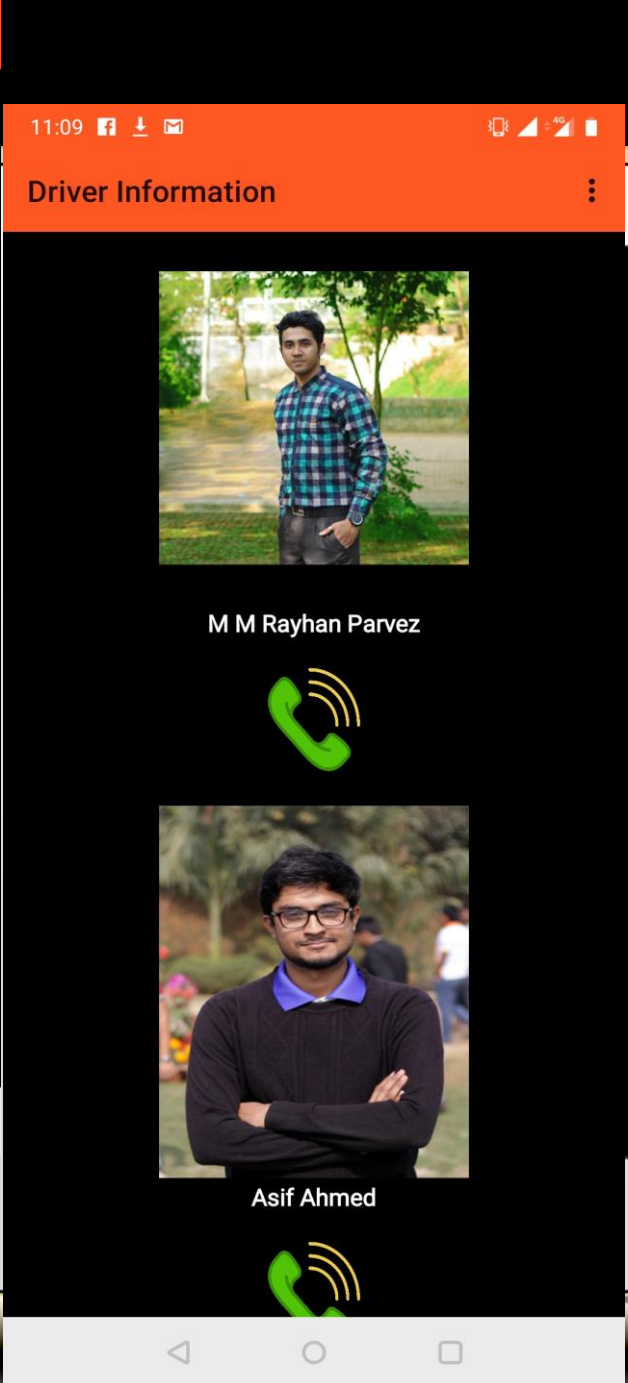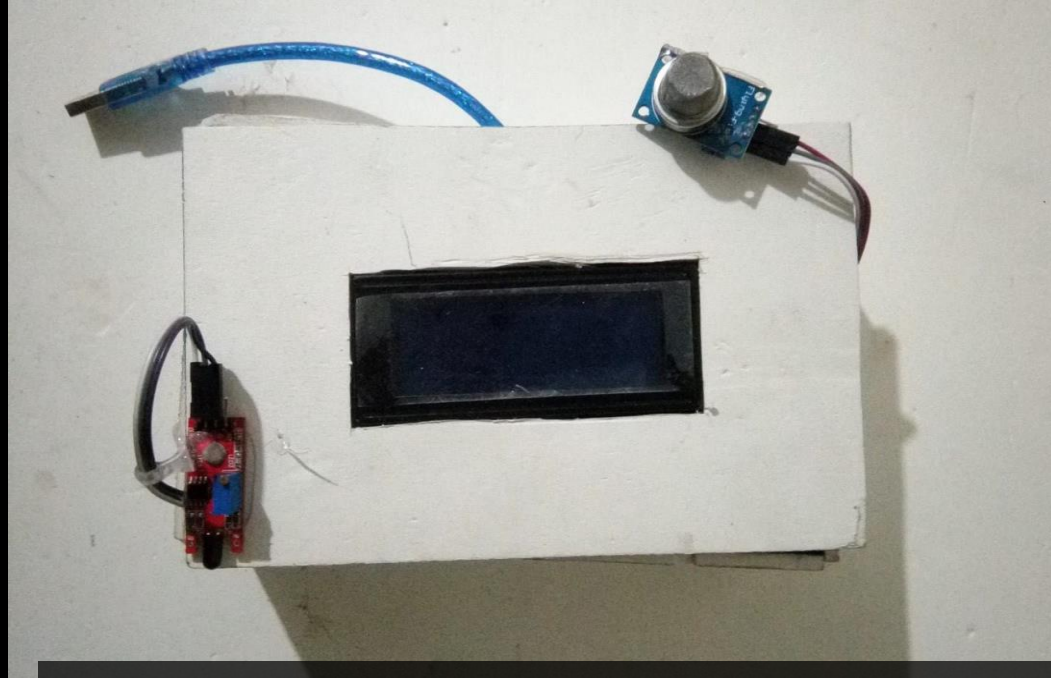
Feature of apps

Log in panel

Menu: Location ,drivers info and current local status

PRODUCT
SMALL AND SMART DESIGN FOR EASY INSTLLATION EVERY WHERE
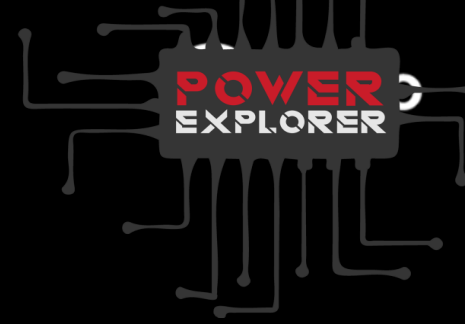
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Unique
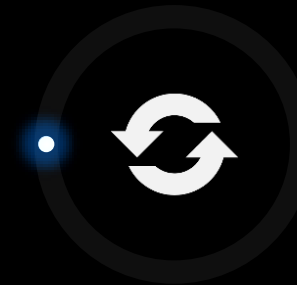
First to Market

Tested

Authentic

Business Model

Business model of our system

Research

Finance

Invest

Risk Management

Plan to do minimize risk:

1-Find out matching product

2-Low market price
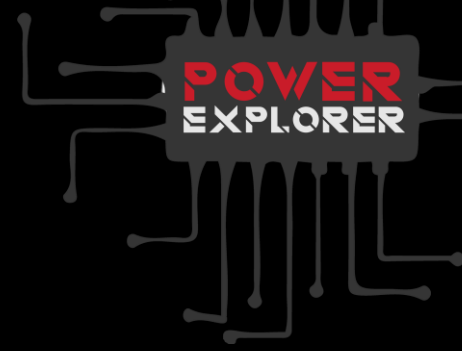
3-Limited production

Find out
matching
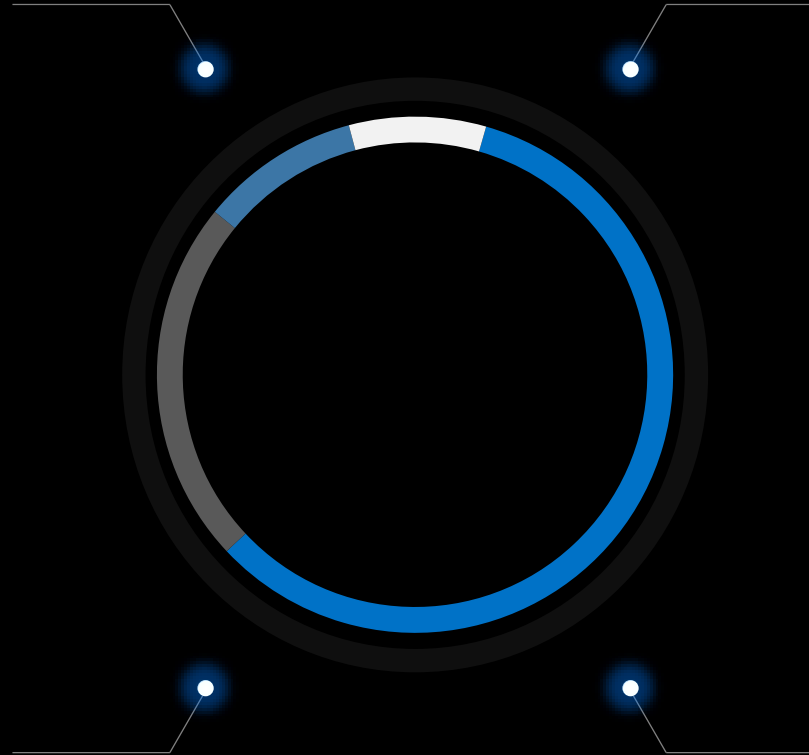product

Low market
price
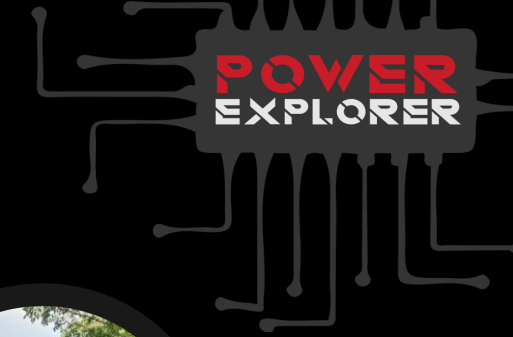

Limited
production

Funding

Fund Category

Self founding .

Fund Category

Other investor loan

Fund Category

Internatiional Loan

Fund Category

Other orggovt and non ggovt

Bank

Team

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MD ANAET ULLAH

Team Leader

Circuit design, Sensor analysis, Network modelling.

MD SADHAN SARKER

Software Leader

Database, web

MD SHAKHAWAT HOSSEN

Hardware
Network design, Circuit data analysis .

NEROPOM PANDIT

Android
Android apps design and development

ACHEIVMENT & HONOUR

Now We are making discussion with Ministry of road transport & Bridge , Bangladesh

1st Runners up

BASIS

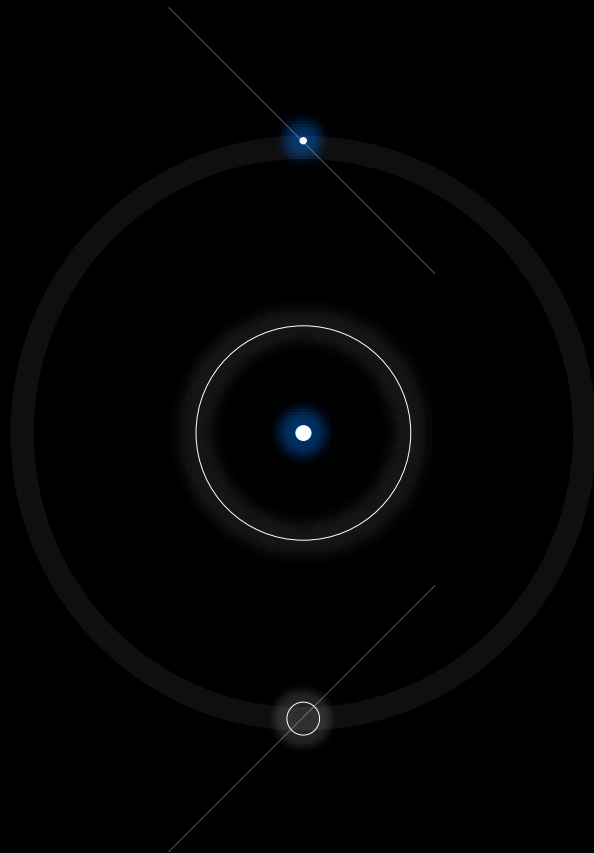BASIS Soft Expo- 2018 Innovation
Award

2nd Runners up

IEEE KUET

Micro Innovator ; Organized By IEEE,
KUET

Finalist

IEEE SS12

NSBM green university , homagama,
Sri Lanka

THANK YOU

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