Team Name- STUPENDOUS
(T-10)

PROBLEM : Better and faster emergency care during accidents and vehicle impact.

OVERVIEW

In current situation it requires someone to call the emergency service and delays in calling for care , results in loss of life . During accidents while we have sophisticated technology that opens airbags with this device and service the call is automatically made and emergency care can be provided promptly. add functionality that can start recording and inform the closest emergency service care of the incident o Share Location, situation within the accident spot , broadcast images, videos to all the nearby Emergency Vehicle.

Working of the Project

- We will have this device connected with an **Accelerometer** that will detect the change in speed as well as the vibrations produced due to the Accident.

- The device will be consisting of **GPS, GSM, Wi-fi , RF and Camera modules**.

- As soon as the accident is reported , device will send the **GPS data** to a cloud server using the **GSM and Wi-Fi modules** and activates a trigger in the car for the passenger. (to stop ,if not required)
- **Camera Module** gets activated and it will start sending images of the accident spot to the **Cloud** in real time.

Working of the Project

- At the same time application(installed on emergency vehicles) reads the data in real time and give a warning to all the ambulances police vans, etc in the near by area.
- Also a **SMS** will be sent to the relatives of accident victim.
- Application has its self database with which all the matching is done on servers.
- As soon as the application get the alert, minimum distance is shown to emergency van to reach the accident spot with its **Images** so as to analyse the extent of damage caused.
- Additionally this device also enables a person to get alerted whenever his/her car is being stolen or whenever any attempt to break the windshield is detected.
  In case of any theft with the cloud we can reverse track the driver and car's GPS coordinates.

PROTOTYPE

The front end will be highly Simple and will be developed keeping in mind the smooth functioning of whole project.. We had analyzed the data on a large scale for every entry for which all the required details are checked. This System will automatically sends the signal to the Required part and upload it on cloud and display on applications in real time.

TECHNOLOGIES USED:

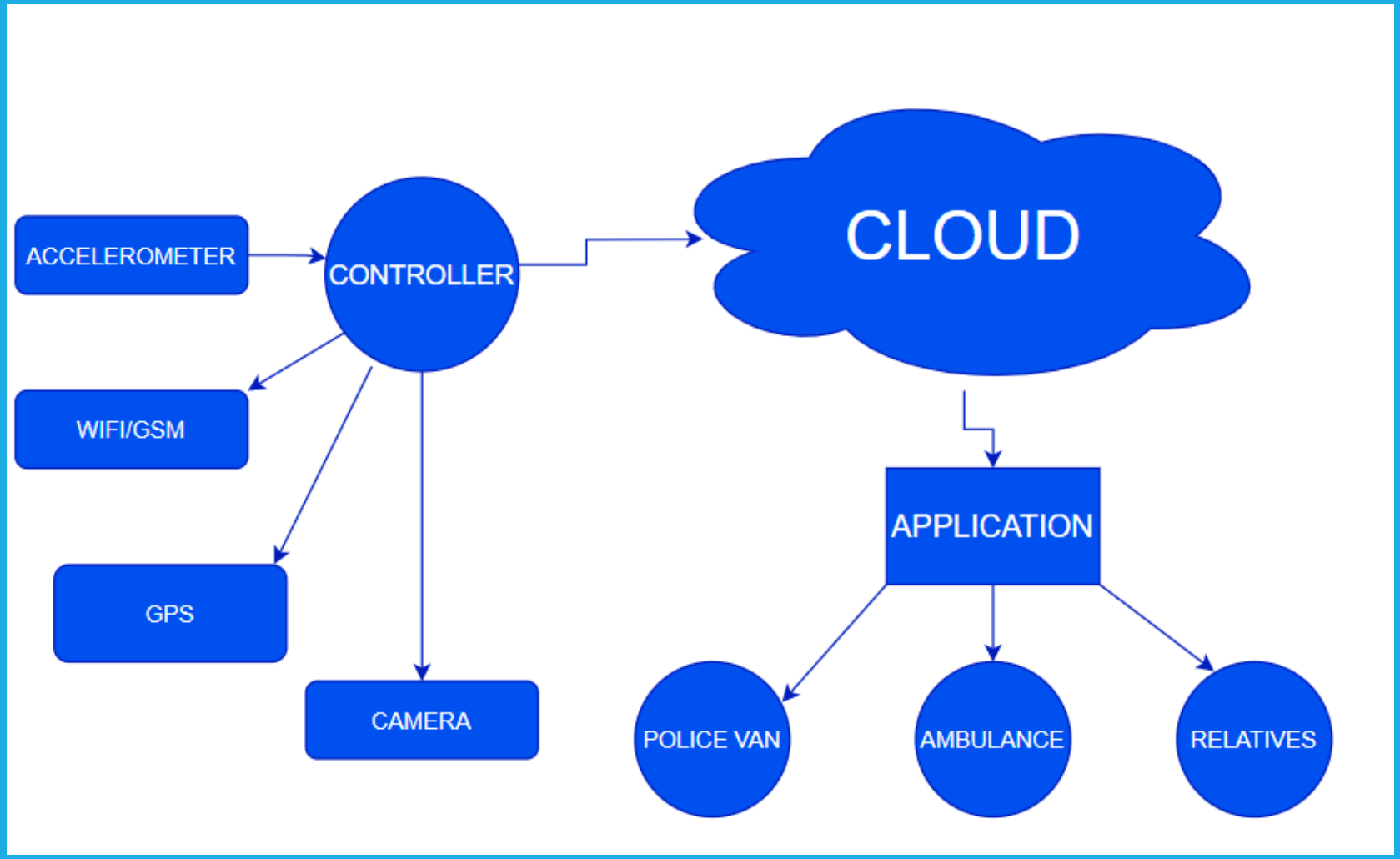
FRONT-END TECHNOLOGIES

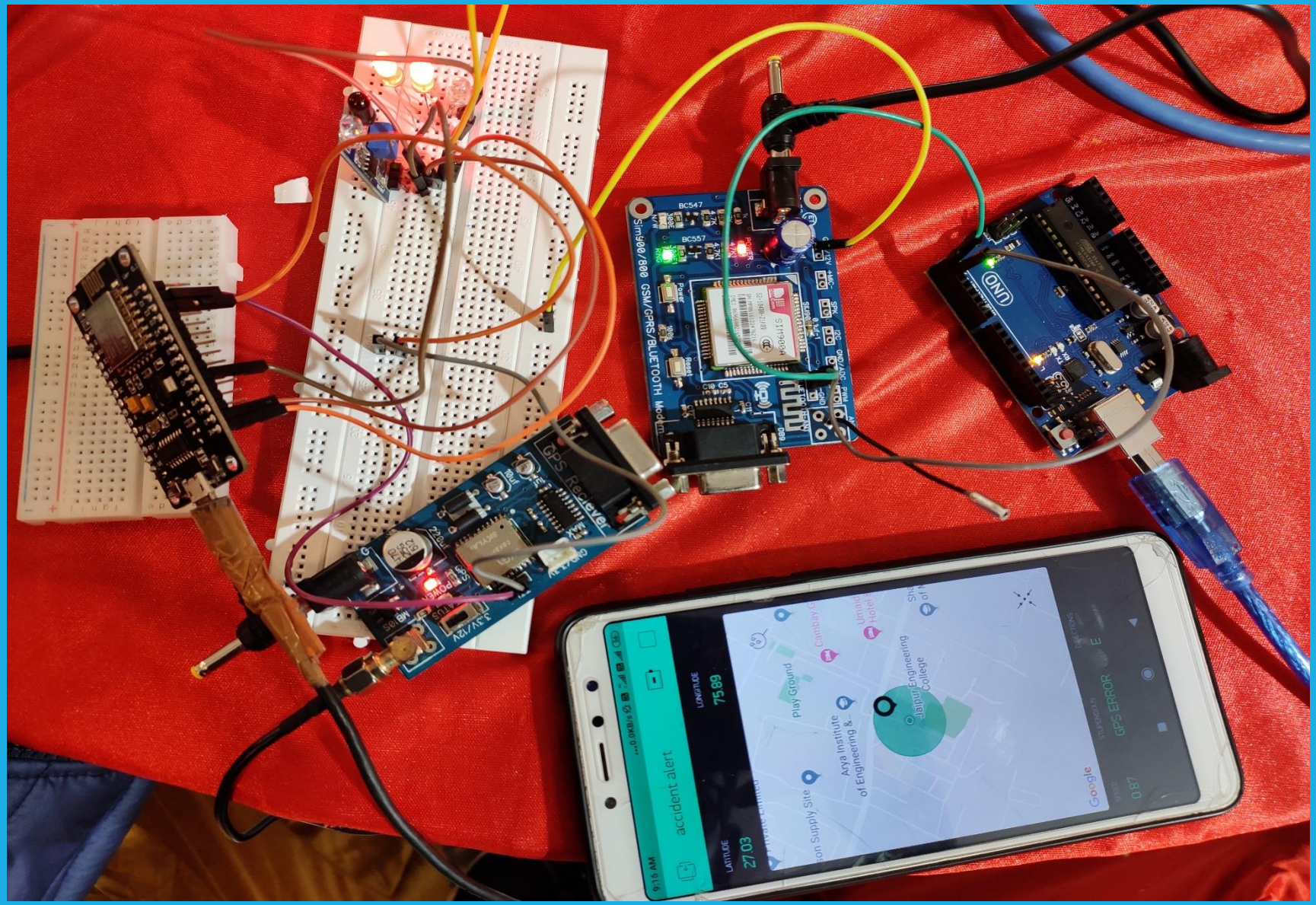
- System on Chip(SOC) (installed on both train and crossing)
- Mobile Application
- Web Dashboard

BACK-END TECHNOLOGIES

- ✓ Internet of Things(the whole
- ✓ communication between the devices on train and level crossing).
- ✓ Cloud Computing(the whole processing on the cloud).
- ✓ GPS(To fetch the real time location)
- ✓ GSM(To upload and receive the data from cloud).
- ✓ ML and AI.

FLOWCHART

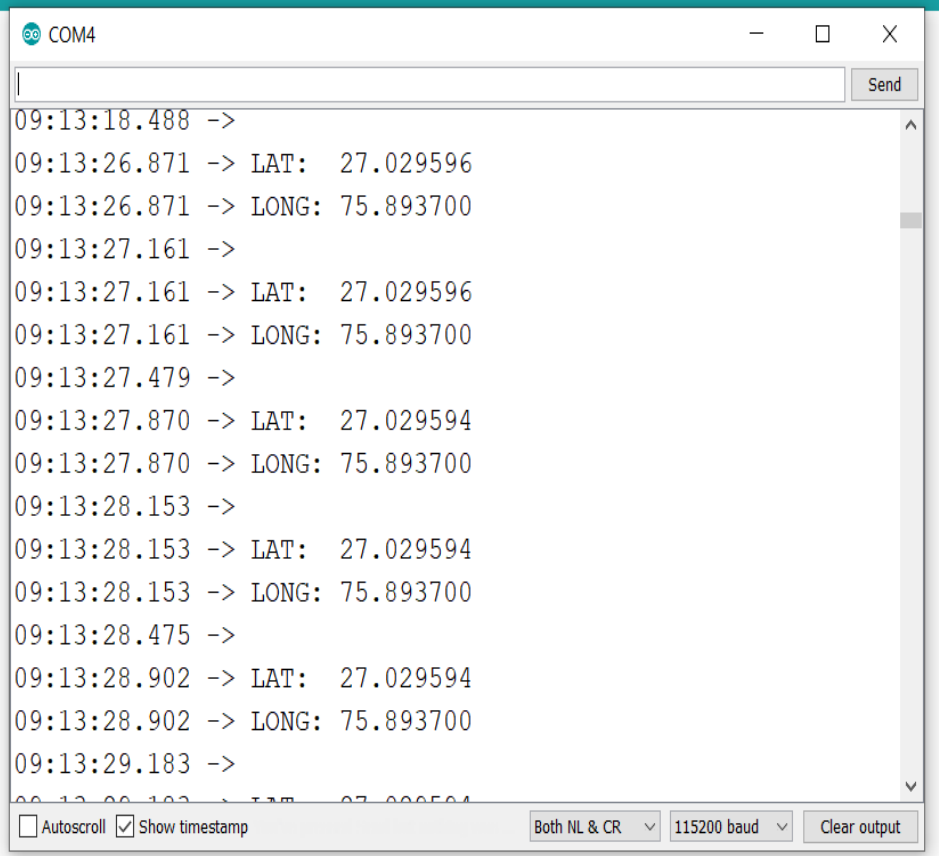

ACCELEROMETER
CONTROLLER
CLOUD
WIFI/GSM
APPLICATION
GPS
CAMERA
POLICE VAN
AMBULANCE
RELATIVES


BC547
BC557
GPS Receiver
accident alert
LATITUDE
27.03
LONGITUDE
75.89
GPS ERROR
Play Ground
Arya Institute of Engineering &...
Jaipur Engineering College
Google

Prototype

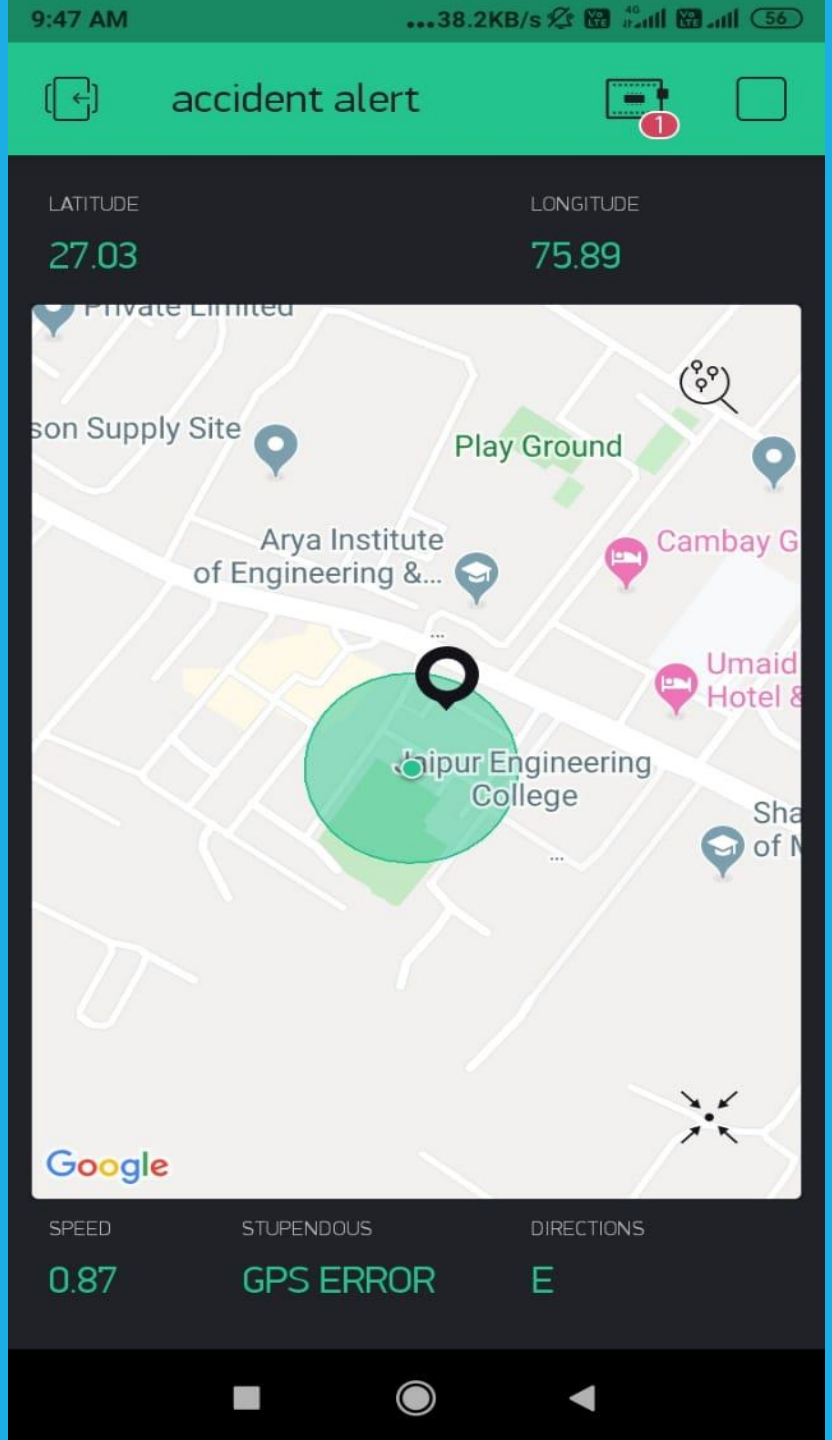
Complete_hackathon_with_Blynk_Sensor_NodeMCU_GPS

```
#include <TinyGPS++.h>
#include <SoftwareSerial.h>
#define BLYNK_PRINT Serial
#include <ESP8266WiFi.h>
#include <BlynkSimpleEsp8266.h>

static const int RXPin = 4, TXPin = 5;
static const uint32_t GPSBaud = 9600;
int a=13;
TinyGPSPlus gps;
WidgetMap myMap(V0);
SoftwareSerial ss(RXPin, TXPin);

BlynkTimer timer;
float spd;
float sats;
String bearing;

char auth[] = "RuiuXjdjHNad9nWFLkjXD2675k21LUTB";
char ssid[] = "Aditya Bansal";
char pass[] = "1357924680";

unsigned int move_index = 1;
```



Editor window & Serial Monitor

Application Dashboard



ADVANTAGES

- The project is mobile.
- It is feasible and easy to install.
- It is cost efficient.
- It does not replace the existing mechanism but modifies it.
- It enables a person to get alerted whenever his/her car is being stolen
- In case of any theft with the cloud we can reverse track the driver and car's GPS coordinates

Thank you

Team Details
Team Leader- Aditya Bansal
Member 1- Vikas Gupta
Member 2- Uma Shankar Agarwal