Accident Tracking and Rescue System

Submitted in partial fulfilment of the requirements for the degree of

Bachelor of Technology

in

Electronics and Communication Engineering

By

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May 2022

DECLARATION

I hereby declare that the thesis entitled “Accident Tracking and Rescue System" submitted by us, for the award of the degree of Bachelor of Technology in Electronics and Communication Engineering to VIT is a record of bonafide work carried out by us under the supervision of Prof. Rajesh N.

I further declare that the work reported in this thesis has not been submitted and will not be submitted, either in part or in full, for the award of any other degree or diploma in this institute or any other institute or university.

Place: Vellore
Date: 22 April 2022.

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CERTIFICATE

This is to certify that the thesis entitled “Accident Detection and Rescue System” submitted by Katam Pavan Kumar Reddy(18BEC0655), K J Deepak Somesh(18BEC0920), Shiva Sai Anuraag Nalam(18BEC0657) ,SENSE, Vellore Institute of Technology, for the award of the degree Bachelor of Technology in Electronics and Communication Engineering with specialization in Internet of Things and Sensors, is a record of bonafide work carried out by them under my supervision during the period, 01-01-2022 to 31-05-2022, as per the VIT code of academic and research ethics.

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Date: 22 April 2022 — Signature of the Guide

Internal Examiner — External Examiner

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ACKNOWLEDGEMENTS

The members of this group would like to acknowledge all those who have helped with the completion of this project. First, we would like to extend our gratefulness to Professor Vidhyapathi CM, our teacher, for her valuable advice, continual support, suggestions and patience during the course of our project.

Our special thanks are also extended to our friends for their academic, moral support and furthermore their helpful assistance during the duration of our project. Finally, we would like to thank VIT to allow us to pursue our project.

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EXECUTIVE SUMMARY

The rapid rise of technology and structure has made our lives easier. The high usage of motorcars has also proportionally increased the business hazards and road accidents. lifetime of the people is under high threat. The detention in reaching the ambulance to the accident position and therefore the business traffic in between accident position and hospital increases the possibilities of death of the victim. to beat this problem our automatic rescue system involves the rescue.

The proposed system will help in detection of an accident within less time and same is being informed to the concerned authorities which will in turn help in reducing the time taken by the rescue team to reach the accident location. Road accidents can cause serious damage to the frame which may cause death in an exceedingly few cases. the most reason for the rise within the number of deaths and heavy injuries is because of improper medical treatment and not reaching the medical facility on time.

So there's a desire for a model which might automatically detect the accident and therefore the information should be passed to the concerned authorities. When this process is delayed it could cause serious injuries to passengers and eventually can cause death. So as to avoid this issue a model has been created to send a message to the concerned authorities in order that the rescue team can come to the respective accident location and provides initial medical care to the casualties.

In order to induce the precise location details we've got used GPS and GSM modules to fetch the latitude and longitude details. After fetching the latitude and longitude details the project will have a Wi-Fi module with a sim card installed in it. This sim card successively helps in sending the message to the precise mobile number which we've registered. other than sending the message to the concerned authorities, a buzzer has been installed within the device. The buzzer will make a sound when an accident has been detected.

So when the people nearby the accident location can hear the buzzer sound and may give the initial medical care. But this could be made further improved by creating a model which can send the message to the nearby station house and therefore the hospital with ambulance availability.

CONTENTS	**PAGE NO**
Acknowledgement	4
Executive Summary	5
Table of Contents	6
List of Figures	7
List of Tables	8
Abbreviations	9
Symbols and Notations	10
1. INTRODUCTION	11
1.1 Objective	11
1.2 Motivation	12
1.3 Background	13
2. PROJECT DESCREPTION AND GOALS	14
3. TECHNICAL SPECIFICATION	15
4 DESIGN APPROACH AND DETAILS (as applicable)	24
4.1 Design approach / Materials & Methods	24
4.2 Codes and Standards	25
5 SCHEDULE TASKS AND MILESTONES	36
6 PROJECT DEMONSTRATION	36
7 RESULT AND DISCUSSION (as applicable)	37
8 REFERENCES	45

List of Figures

Figure No.	Title	Page No.
1.2	No. of deaths due to accidents from 2005 to 2019	12
3.1	Arduino UNO	15
3.2	Block Diagram of Power Supply	16
3.3	16x2 LCD Display	18
3.4	MEMS Sensor	21
3.5	GSM Module	22
4.1	Block diagram	24
7.1	Device Start up	37
7.2	Registering Mobile Number	38
7.3	Status of registration	39
7.4	Wifi Status	39
7.5	Left Fall Detection	40
7.6	Right Fall Detection	41
7.7	Front Fall Detection	42
7.8	Back Fall Detection	43
7.9	Updates in Mobile Telnet app	44

List of Tables

Figure No.	Title	Page No.
3.3.1	Pin description of LCD	19
5.1	Timeline	36

List of Abbreviations

IOT	Internet of Things
GSM	Global System Mobile Communication
GPS	Global Positioning System
LCD	Liquid Crystal Display
MC	MicroController
MEMS	Micro-Electro-Mechanical Systems
Arduino IDE	Integrated development environment
USB	Universal Serial Bus
Wifi	Wireless Fidelity

Symbols and Notations

#	HASH
{}	BRACKETS
“”	QUOTATION MARK

1.INTRODUCTION

1.1 OBJECTIVE

- Nowadays everything will be based on IOT, it's the network of the physical objects that can be connected and change the communication themselves without the human intercourse. It has been formally defined as an “Structure of Information Society” because it has been used in all kind of mediums similar as Home Automation System, IOT home security model, jeer pi, home robotization, smart water metering.

- Therefore, the physical object which can be handed with an IP address to enable data transmission over an IOT system by embedding them with electronic tackle similar as detectors, Arduino software and networking gear.

- Since an outsized number of road accidents occur because of the driving force drowsiness. Hence this method is helpful in preventing many accidents, and consequently save some amount as well to reduce personal suffering. Here we use an Arduino controller to coordinate the small print from the accelerometer. GPS is employed to share location to service center simultaneously about the driving source.

- Of these details were collectively compared with normal data stored in the controller. If a miss match occurs it sends a symbol via IOT. and therefore the vehicle is going to be automatically stopped. Data is displayed using LCD.

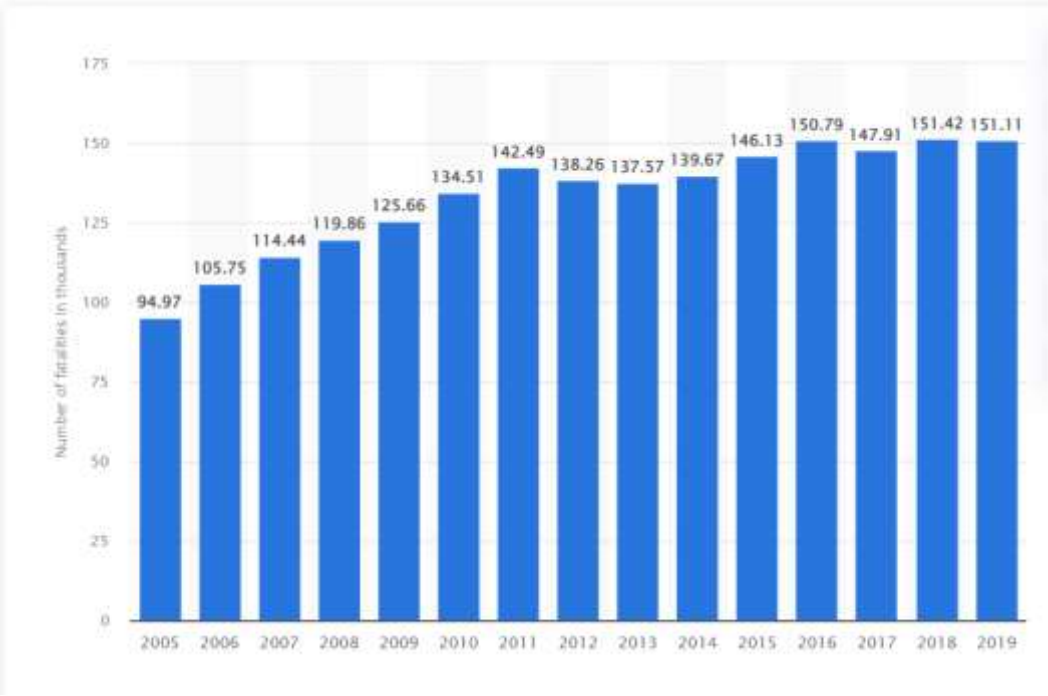
- The idea of this paper is to set in place a completely automated system design that will minimize the time gap between the circumstance of an accident and deployment of medical response. This can be done by combining accident discovery and emergency Medical Services systems.

- The proposed design makes use of an accelerometer and a piezoelectric detector to spark the microcontroller, which retrieves the user’s position through the GPS. Communication between the IOT device and the database is done using GSM/ GPRS module. An Android app is designed to collect the applicable health information of the user, exigency contact information, and hospital details during original enrollment.

1.2. MOTIVATION

Number of road accidents that happen in India is highest among all the counties in the world. India accounts for around 11 percent of deaths in road accidents in the world whereas India has only 1 percent of world vehicles. Around one third of people die in road accidents which take place in India annually as per 2021 data from multiple sources.

Road accidents, a well-known word to most of the people irrespective of the age group. There are different scenarios where people die due to road accidents such as not following the safety measures, failure of parts in vehicles, improper roads, not having proper medical treatment in time and so on. There are many ways to avoid being hit by an accident but even though all the proper measures were taken to avoid them, there are some unexpected situations which in turn lead to road accidents. Because of this, there is a need for a device which is helpful for detection of road accidents and the information has to be sent to the respective authorities to save the lives of people.



1.2. Number of deaths due to road accidents from 2005 to 2019

1.3. BACKGROUND

The first similar systems couldn't conceivably have appeared before 1971. That was the time Intel introduced the world's first microprocessor. This chip, the 4004, was invented for the use in a line of business calculators produced by the Japanese Company Busicom. In 1969, Busicom asked Intel to design a set of custom integrated circuits-one for each of their new calculator models.

The 4004 was Intel's response rather than design custom tackle for each calculator, Intel proposed a general- purpose circuit that could be used throughout the entire line of calculators. Intel's idea was that the software would give each calculator its unique set of features.

The microcontroller was not given much attention at the initial stages of production, but the popularity of it increased rapidly in the coming years. Previously embedded systems consisted of unmanned space examinations, motorized business lights, and flight control systems. In the 1980s, embedded systems still rode the swells of the microcomputer age and it brought microprocessors into every part of our household kitchens such as chuck machines, food processors, and microwave ovens, living apartments (boxes, stereos, and remote controls), and workplaces

We have to accept the fact that the number of embedded systems will definitely continue to increase rapidly in the coming relentlessly. Currently there are promising new embedded bias that have enormous request eventuality; light switches and thermostats that can be central computer, intelligent air- bag systems that do not inflate when children or small grown-ups are present, pal-sized electronic organizers and particular digital assistants(PDAs), digital cameras, and dashboard navigation systems. Easily, individualities who retain the chops and desire to design the coming generation of bedded systems will be in demand for quite some time

2. PROJECT DESCRIPTION AND GOALS

The project helps in detection of an accident and inform the concerned authorities to facilitate with the necessary medical equipment to save the lives of people. In order to give power supply to the system we have used 12v power supply. Initially for the power supply we have used a step down transformer to get the desired voltages of 12v and5v for the circuit. This is because of the different voltage specifications of the components. After converting the voltage, we have used a rectifier to convert AC current into Dc current for the circuit followed by a voltage regulator to regulate the voltage. Voltage regulator is used to control the flow of power supply capacity.

This project involves two stages. The first stage comprises detection of an accident followed by the second step consists of a rescue system. So when the accident has happened in the initial stage, for the detection of an accident, MEMS sensor is used to detect the accident location. MEMS is an accelerometer sensor. Whenever the tilt is applied to the MEMS sensor, then a balanced mass makes a potential difference within the electric potential. This can be measured like a change within capacitance. Then that signal can be changed to create a stable output signal in digital, 4-20mA or VDC.

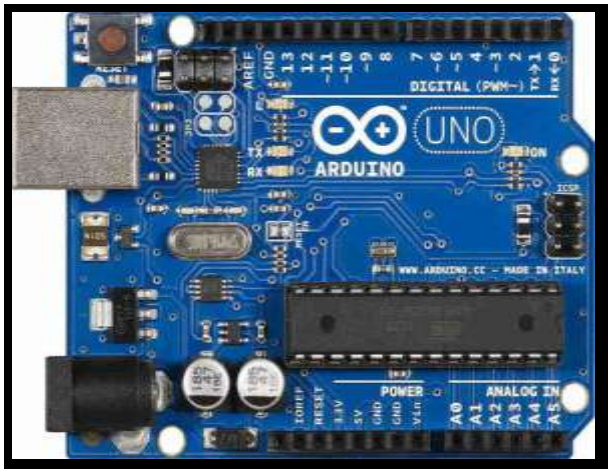
To detect the accident there is an accelerometer detector present in this rescue system and the GSM module sends dispatches about the position to the separate guardian and rescue platoon. With the help of an accelerometer detector signal, a severe accident due to an obstacle can be honored. Microcontroller used sends the alert communication through the GSM module including the position to a guardian or a rescue platoon. So, the emergency help platoon can incontinently trace the position through the GPS module, after entering the accident position information, action can be taken incontinently. This accelerometer grounded accident discovery system is powered by an Atmega 328 microcontroller; it consists of a display, accelerometer detector, GSM module and alarm. This automatic rescue system design is useful in detecting the accident. Our goal is to reduce the death rate due to accidents using our prototype.

3. TECHNICAL SPECIFICATIONS

ARDUINO UNO:

A microcontroller based on ATmega328. It has 14 digital input/output pins, 6 analog input pins, a 16MHz ceramic resonator, a USB connection, a power jack, an ICSP header, and a reset button.

It includes everything which is required to support the microcontroller. Connect the Arduino to a computer with a USB cable or power the Arduino with an AC-to-DC adapter or battery to get started. The ATmega328 provides UART TTL (5V) periodical communication, which is available on digital legs 0 (RX) and 1 (TX). An ATmega16U2 on the board channels this periodical communication over USB and appears as a virtual com harborage to software on the computer.



3.1. Arduino UNO

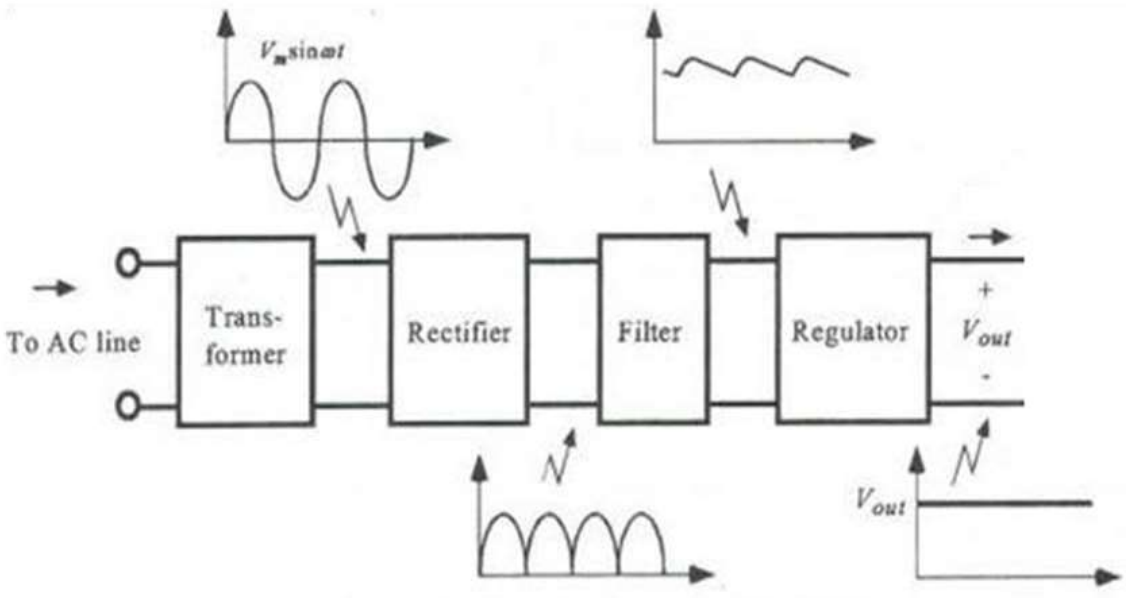
Atmega 16U2 replace the 8U2."Uno"means one in Italian and is named to mark the forthcoming release of Arduino1.0. The Uno and interpretation1.0 will be the reference performances of Arduino, moving forward. The Uno is the rearmost in a series of USB Arduino boards, and the reference model for the Arduino platform; for a comparison with former performances, see the indicator of Arduino boards.

Modification 3 of the board has the following new features:

•1.0 pinout added SDA and SCL pins that are near to the AREF pin and two other new pins placed near to the RESET pin, the IOREF that allow the securities to acclimatize to the voltage handed from the board. In future, securities will be compatible both with the board that use the AVR, which operate with 5V and with the Arduino Due that operate with3.3 V. The alternate bone is a not connected pin, that's reserved for coming purposes.

POWER SUPPLY:

The input to the circuit is applied from the regulated power supply. Thea.c. input i.e., 230V from the mains supply is step down by the motor to 12V and is fed to a therapy. The affair attained from the rectifier is a throbbingd.c voltage. So, in order to get a pured.c voltage, the affair voltage from the rectifier is fed to a filter to remove anya.c factors present indeed after rectification. Now, this voltage is given to a voltage controller to gain a pure constant dc voltage.



3.2. Block Diagram of Power supply

Step down Transformer:

A Stepdown Transformer is the one which reduces the output voltage that means it functions for converting high voltage with low current into a low voltage with high current. Generally, DC voltages are needed to operate varied electronic stuff and these voltages are 5V, 9V or 12V. But

these voltages can not be attained directly. Therefore, thea.c input available at the mains force i.e., 230V is to be brought down to the needed voltage position. This is done by a motor. Therefore, a stepdown motor is employed to drop the voltage to a required position.

Depending on the different areas occasionally, voltages are stepped down to 230v or 440v for the safety reasons.

But to make this reduction in voltages a reality, the number of turns on secondary

winding or coils is kept lower than the primary winding or coils that eventually affect in lower voltage being convinced at the secondary output of the motor.

Rectifier:

The output from the motor is fed to the rectifier. It convertsA.C. into throbbing. D.C. The therapy may be a half wave or a full surge rectifier. In this design, a bridge rectifier is used because of its graces like good stability and full wave rectification.

The process is known as rectification, since it"straightens"the direction of current. Cures have numerous uses, but are frequently plant serving as factors of DC power supplies and high-voltage direct current power transmission systems. Depending on the type of interspersing current force and the arrangement of the rectifier circuit, the output voltage may bear further smoothing to produce a uniform steady voltage.

Filter:

Capacitive filter is used in this design. In power supplies, capacitors are used to smooth (filter) the throbbing DC affair after rectification so that a nearly constant DC voltage is supplied to the load. The palpitating output of the rectifiers has an average DC value and an AC portion that's called ripple voltage. Filter capacitors reduce the quantity of ripple voltage to a position that's respectable. In a filter circuit the capacitor is charged to the peak of the remedied input voltage during the positive portion of the input. When the input goes negative, the capacitor begins to discharge into the load. It removes the ripples from the output of rectifier and smoothens theD.C. Output entered from this filter is constant until the mains voltage and load is maintained constant.

Still, if either of the two is varied,D.C. voltage entered at this point changes. Thus, a controller is applied at the output stage.

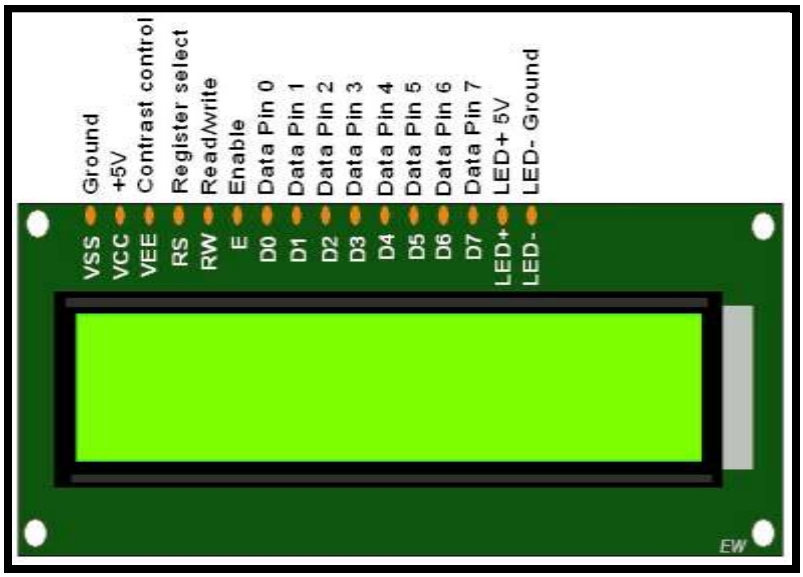
Voltage Regulator:

As the name itself implies, it regulates the input applied to it. A voltage regulator is an electrical regulator designed to automatically maintain a constant voltage level. The voltage regulator monitors the current drawn by the load and increases or decreases the voltage accordingly to keep the voltage level constant.

LCD/DISPLAY:

Liquid Crystal Display also called as LCD is very helpful in providing user interfaces as well as for debugging purpose. A 16x2 LCD display is a very basic module and is very commonly used in many devices and circuits.

A 16x2 LCD can display 16 characters per line and there are 2 lines. In this LCD each character is displayed in a 5 x 7 pixel matrix. The 16 x 2 alphanumeric dot matrix display is capable of displaying 224 different characters and symbols. This LCD has two registers, namely, Command and Data.



3.3 16x2 LCD Display

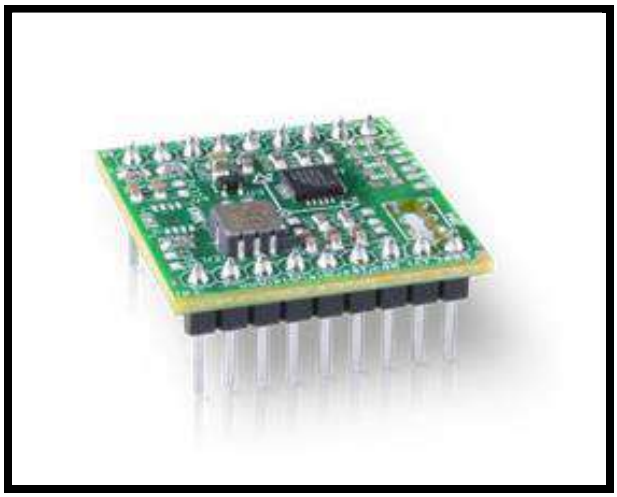
Pin No.	Name	Description
1	**VSS**	Power supply (GND)
2	**VCC**	Power supply (+5V)
3	**VEE**	Contrast adjust
4	**RS**	0 = Instruction input 1 = Data input
5	**R/W**	0 = Write to LCD module 1 = Read from LCD module
6	**EN**	Enable signal
7	**D0**	Data bus line 0 (LSB)

8	**D1**	Data bus line 1
9	**D2**	Data bus line 2
10	**D3**	Data bus line 3
11	**D4**	Data bus line 4
12	**D5**	Data bus line 5
13	**D6**	Data bus line 6
14	**D7**	Data bus line 7 (MSB)
15	**LED+**	Back Light VCC
16	**LED-**	Back Light GND

3.3.1. Pin Description of LCD

MEMS SENSOR:

These sensors are used to detect as well as measure the external stimulus like pressure, after that it responds to the pressure which is measured with the help of some mechanical actions. MEMS are cost-effective, and high accuracy sensors and these are used to serve an extensive range of industrial applications. The MEMS IC fabrication can be done with silicon, where slight material layers are placed or else it is fixed on a silicon substrate. After that selectively fixed away to leave microscopic 3D structures like diaphragms, beams, levers, springs, and gears.



3.4 MEMS(micro-electro-mechanical-system) sensor

The MEMS fabrication needs numerous ways which are used to construct other semiconductor circuits like oxidation process, prolixity process, ion implantation process, low- pressure chemical vapor deposit process, sputtering, etc. Also, these detectors use a particular process like micromachining.

Whenever the tilt is applied to the MEMS detector, also a balanced mass makes a difference within the electric eventuality. This can be measured like a change within capacitance. Also that signal can be changed to produce a stable output signal in digital, 4-20mA or VDC.

These sensors are fine results to some operations which don't demand the maximum delicacy like artificial automation, position control, roll, and pitch dimension, and platform leveling.

GSM:

GSM is a mobile communication modem. It is a widely used mobile communication system in the world. GSM is an open and digital cellular technology used for transmitting mobile voice and data services operates at the 850MHz, 900MHz, 1800MHz and 1900MHz frequency bands. There are various cell sizes in a GSM system such as macro, micro, pico and umbrella cells. Each cell varies as per the domain in which the implementation of the GSM is going to be done. There are five different cell sizes in a GSM network which are macro, micro, pico and umbrella cells. The coverage area of each cell varies according to the implementation environment.

3.5 GSM module

There are varied cell sizes in a GSM system similar as macro, micro, pico and umbrella cells. Each cell varies as per the perpetration sphere. There are five different cell sizes in a GSM network macro, micro, pico and umbrella cells. The content area of each cell varies according to the perpetration terrain.

Time Division Multiple Access

TDMA technique relies on assigning different time places to each user on the same frequence. It can fluently acclimatize to data transmission and voice communication and can carry 64kbps to 120 Mbps of data rate.

WIFI:

A wireless network uses radio waves, just like cell phones, televisions and radios do.A small device known as a wireless transmitter, or hub, is required; this device receives information from the internet via your home broadband connection. This transmitter (often referred to as a Wireless Access Point, or WAP) then converts this information into radio waves and emits it, effectively creating a small, local area around itself, within which your devices can receive these radio signals if they are fitted with the correct kind of wireless adapter. When you send information back to the internet – by clicking on a link or sending an email, for example – the process works in reverse; your device sends information via a radio signal to the wireless transmitter, which converts the signal and communicates it back via the broadband connection.

ARDUINO SOFTWARE:

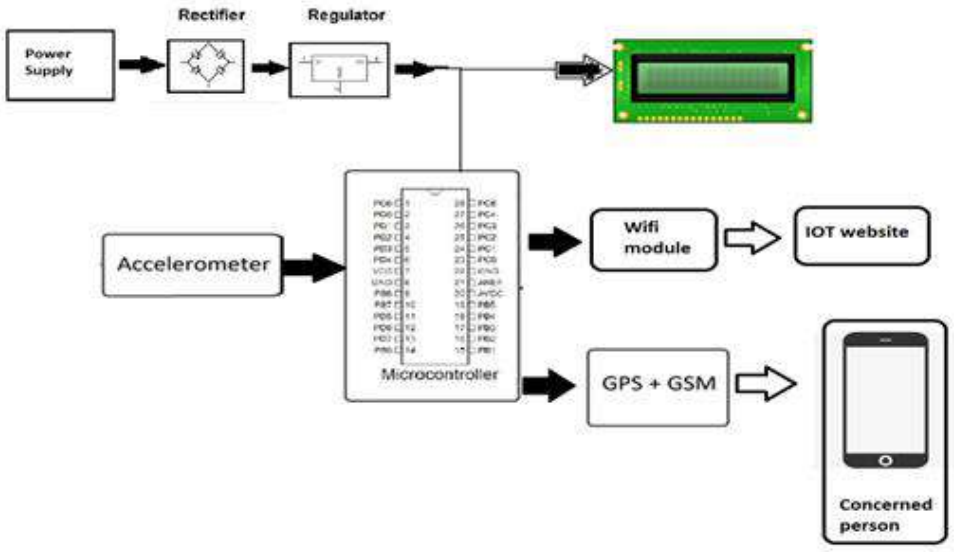
Arduino IDE is required to program the Arduino UNO board.

4. DESIGN APPROACH AND DETAILS

4.1. DESIGN APPROACH / MATERIALS AND METHODS

Whenever the tilt is applied to the MEMS detector, also a balanced mass makes a difference within the electric eventuality. This can be estimated like a change within capacitance. Also that signal can be changed to produce a stable affair signal in digital, 4-20mA or VDC. These detectors are fine results to some operations which don't demand the maximum delicacy like artificial automation, position control, roll, and pitch dimension, and platform leveling.

The SIM card mounted GSM modem upon entering number command by SMS from any cell phone sends that data to the MC through periodical communication. While the program is executed, the GSM modem receives command‘ STOP’to develop an affair at the MC, the contact point of which are used to disable the ignition switch. The command so transferred by the user is grounded on an suggestion entered by him through the GSM modem‘ALERT’a programmed communication only if the input is driven low. The complete operation is displayed over a 16 × 2 LCD display.



4.1. Block diagram

4.2. CODE AND STANDARDS

```
#include <studio.h>

#include <SoftwareSerial.h>

#include<LiquidCrystal.h>

#define buz 5

LiquidCrystal lcd(13, 12, 11, 10, 9, 8);

int serialRx = 2;

int serialTx = 3;
```

Initializing software serial RX TX. ESP-01 RX goes to this port, TX goes to Port 2

```
int d = 0;

float s;
```

ESP-01 CH_PD pin 7 Must go to 3.3v, not +5v to enable operation as UART (AP). UNO R3 has enough power to make it work. So no other connections required.

```
String inMsg ;

int sensorPin1 = A0;

int LEDPin = 4;

int responseTime = 10; //communication timeout

SoftwareSerial portOne(serialRx, serialTx); // communications port to ESP-01

String Msg = ""; // to collect Analouge input data
```

Initializing variable to collect strings and variable LEDpin to assign pin to LED. setting maximum number of pins for the Analouge inputs.

```
void setup(void)
{
lcd.print("VEHICLE ACCIDENT");
lcd.setCursor(0,1);
lcd.print("RESCUE USE IOT");
delay(2000);
String  msg ="" ;
delay(200);
//AT+CWSAP=<ssid>,<pwd>,<chl>,<ecn>[,<max conn>][,<ssid hidden>]
// Open AP Port
pinMode (sensorPin1, INPUT); // sensor pin INPUT
pinMode(LEDPin,OUTPUT);
pinMode(buz, OUTPUT);
digitalWrite(buz,LOW);
digitalWrite(LEDPin,LOW);
lcd.clear();
Serial.println("Setup is done!");
// delay(2000);
}
```

To setup the initial startup of device

```
void loop(void)
{
int sensorThres = 120;
```

```
int statusSensor1 = digitalRead(sensorPin1);
Serial.println(statusSensor1);
Serial.println("\n");
lcd.setCursor(0,0);
lcd.print("STATUS::");
if(portOne.available()>0){
inMsg = readFromWifi();
Serial.print("Received msg inside loop = ");
inMsg.toUpperCase();
Serial.println(inMsg);
// Messages in CAPITALS
if (inMsg.endsWith("HELLO") )
{
Serial.println ("Wifi says : Hello");
sendData("Wifi says : Hello\r");
Send_inputs();
}
```

Send confirmation of Command + CR

```
else if (statusSensor1>500 )
{
lcd.clear();
lcd.print("ACCIDENT DETECTED");
delay(1000);
```

```
lcd.setCursor(0,1);
lcd.print("ALERT.....");
delay(1000);
digitalWrite(buz,HIGH);
lcd.clear();
lcd.print("GPS VALUES SEND..");
delay(1500);
digitalWrite(buz,LOW);
digitalWrite(LEDPin,LOW);
sendData("ACCIDENT DETECTED\r");
sendData("GPS VALUES:16.4828922,79.3659632\r");
lcd.clear();

}
```

If Sensor value is greater than 500 then accident is detected. it shows up the message inside the LCD and sends the message and gps coordinates.

```
else if (statusSensor1<500)
{

lcd.setCursor(0,1);
lcd.print("NORMAL POSITION");
digitalWrite(buz,LOW);
digitalWrite(LEDPin,HIGH);      If just LEDON turn on Pin 13
delay(1000);
```

```
lcd.clear();

}
```

If less than 500 than its in normal condition.

if Command is to set a Number. Setting d to next letter after command and string starts with zero

```
else if (inMsg.indexOf("LEDONN",0)>6 )

{

d = inMsg.indexOf("LEDONN",0)+6;

int a = 0;

int dt = inMsg.length();
```

if there is a 4 digit number after command

```
if ( d+3 < dt){

a = inMsg.substring(d, d+4).toInt();

String msg ="ERROR";
```

set all LEDs on or off, returns Binary string as confirmation

```
if ((a > 0) & (a < 1024) ) {

msg = SETLEDS(a) ;

}

msg = "Wifi says : LEDONN="+msg+"\r";

sendData(msg );

Send_inputs();

}
```

```
}
// delay(9000);
}
inMsg="";
delay(800);
}
void sendToWifi(String command, const int timeout)
{
String response = "";
Serial.print("Sent command to ESP8266-E12: ");
Serial.print(command);
delay(50);
portOne.println(command);
long int time = millis();
while( (time+timeout) > millis())
{
while(portOne.available())
{
char c = portOne.read();
response+=c;
}
}

Serial.print("Response from ESP8266-E12: ");
Serial.print(response);
```

```
}

String  readFromWifi()
{
char arrayInMsg[100];
String tempStr;
int count =0;
while( portOne.available() > 0 ){

arrayInMsg[count]= portOne.read();
delay(80);

get out if you see CR or LF

if ((arrayInMsg[count]=='\n') or (arrayInMsg[count]=='\r')) break;

changed character array comparison or it causes errors

count++;
}
arrayInMsg[count] = '\0';
tempStr = String (arrayInMsg);
tempStr.trim();
Serial.print(tempStr);
return tempStr;
```

```
}
void sendData(String str)
{
String len="";
len+= str.length();
```

Setup command to send str data length to channel 0

```
sendToWifi("AT+CIPSEND=0,"+len,responseTime);
delay(1000);
```

Sending String str with 0 closing the transmission and return to AT mode

```
sendToWifi(str,responseTime);
delay(1000);
do {
delay(1000);
} while (portOne.available()==0);
```

wait until response data "sent" or "failed"

```
}

String  SETLEDS(int long pulse) {
pulse= pulse << 4; // move numbers up to pin 4
```

```
String response2 = "" ;
for ( int x = 13; x >3 ; x--)  {
```

comparing pulse with bit number of Digital output port

```
if (pulse & (1 << x)) {
digitalWrite(x,HIGH);
response2 = response2 + "1";
Serial.print("1");
}
else {
digitalWrite(x,LOW);
response2 = response2 + "0";
Serial.print("0");
}
}
Serial.println("");
return response2;
}
// Send Analouge data
void Send_inputs()
{
delay (1000);
```

replacing Msg with Analouge input string

```
Msg = Sensor_Read();
Msg = "Analouge Reads 0-7:"+ Msg + "\r";
sendData(Msg);
}
```

Reading all analog inputs routine

```
String Sensor_Read()
{
String response3 = "" ;
for (int y = 0; y < s; y++)
{
String an = "A" + String(y,DEC);
```

Turn string into a Analouge Input pin number and add value to string

```
int f = an.toInt();
response3 = response3 + String(analogRead(f),DEC);
if (y < s-1)
{
response3 = response3 +",";
}
}
for (int y = 0; y < s; y++)
```

```
{
String an = "A" + String(y,DEC);
int f = an.toInt();
response3 = response3 + String(analogRead(f),DEC);
if (y < s-1)
{
response3 = response3 +",";
}
}
return response3;
}
```

5. SCHEDULE, TASKS AND MILESTONE

S.no	Month	Task
1.	Jan	Identifying the problem statement and finding the possible implemented solutions.
2.	Feb	Finding the gap in previously implemented models and making our own model, working on the prototype of the model.
3.	Mar	Coding and implementation
4.	Apr	Implementation of the other extra features and paperwork.
5.	May	Paper work and Final Report.

5.1 Timeline

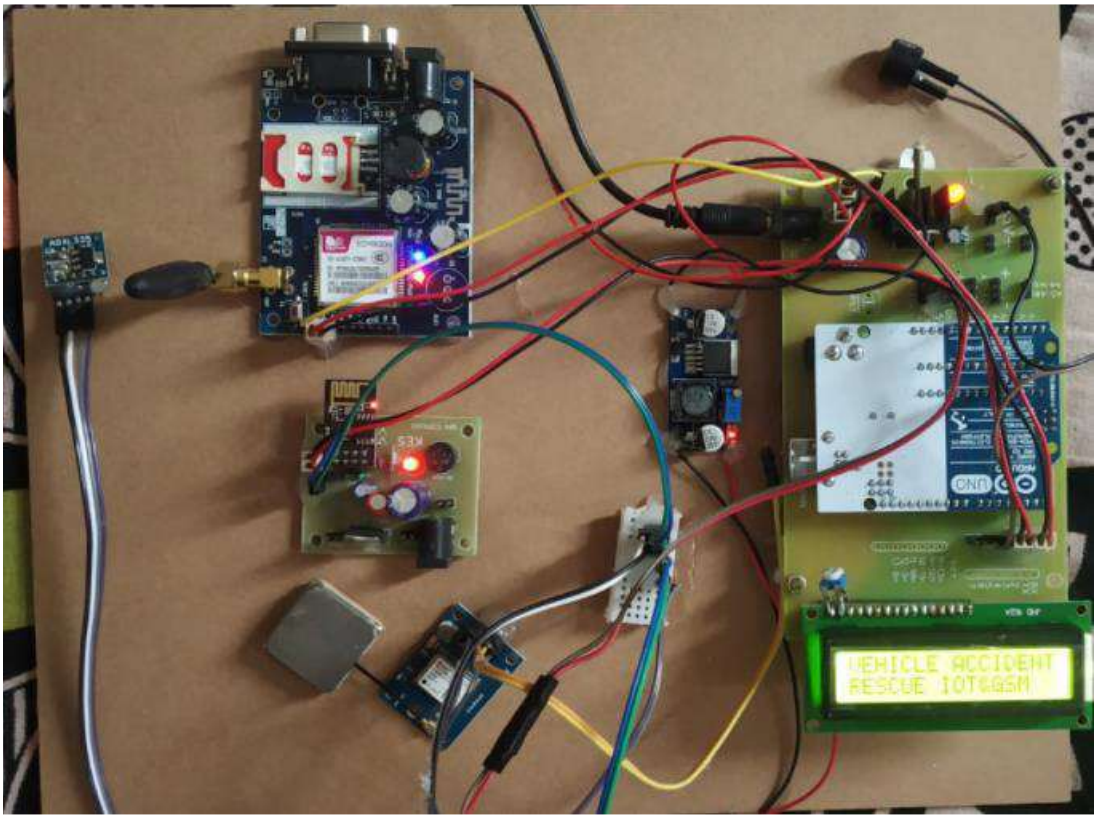
6. PROJECT DEMONSTRATION

https://drive.google.com/drive/u/0/folders/1gq3RK-hwVq6tkqP_MHVe3ECjMrlPMZfP?hl=en

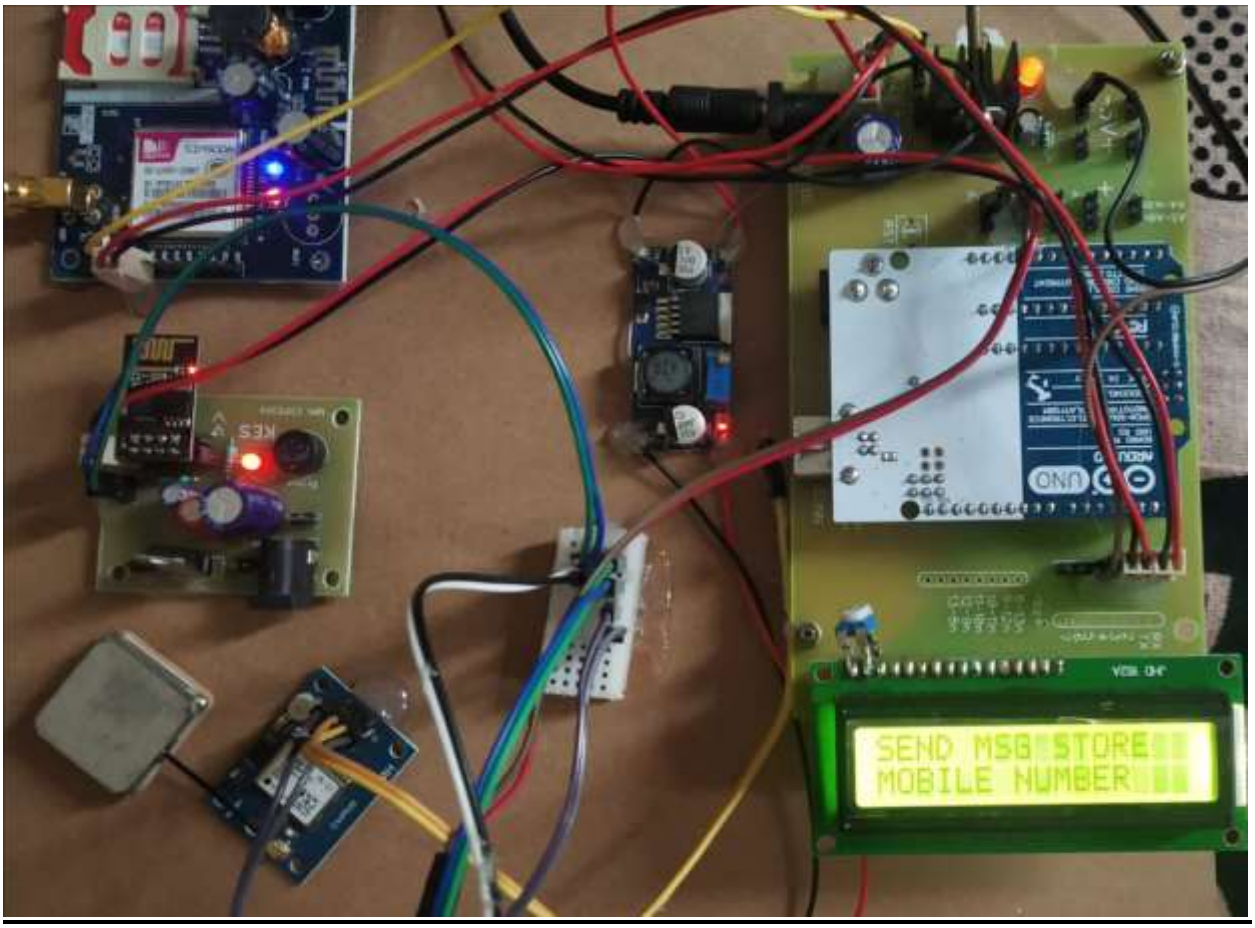
(We made a video on working of the project. we request you to download the video and refer it.)

7. RESULTS AND DISCUSSIONS

This is the main outline of the project where we can see a display on the LCD screen (Stating as VEHICLE ACCIDENT AND RESCUE IOT AND GSM) when we switch on the power supply.

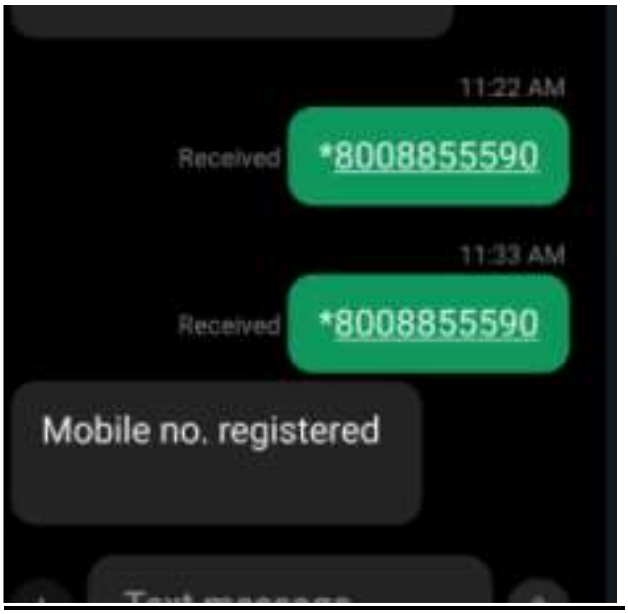


7.1. Device start up

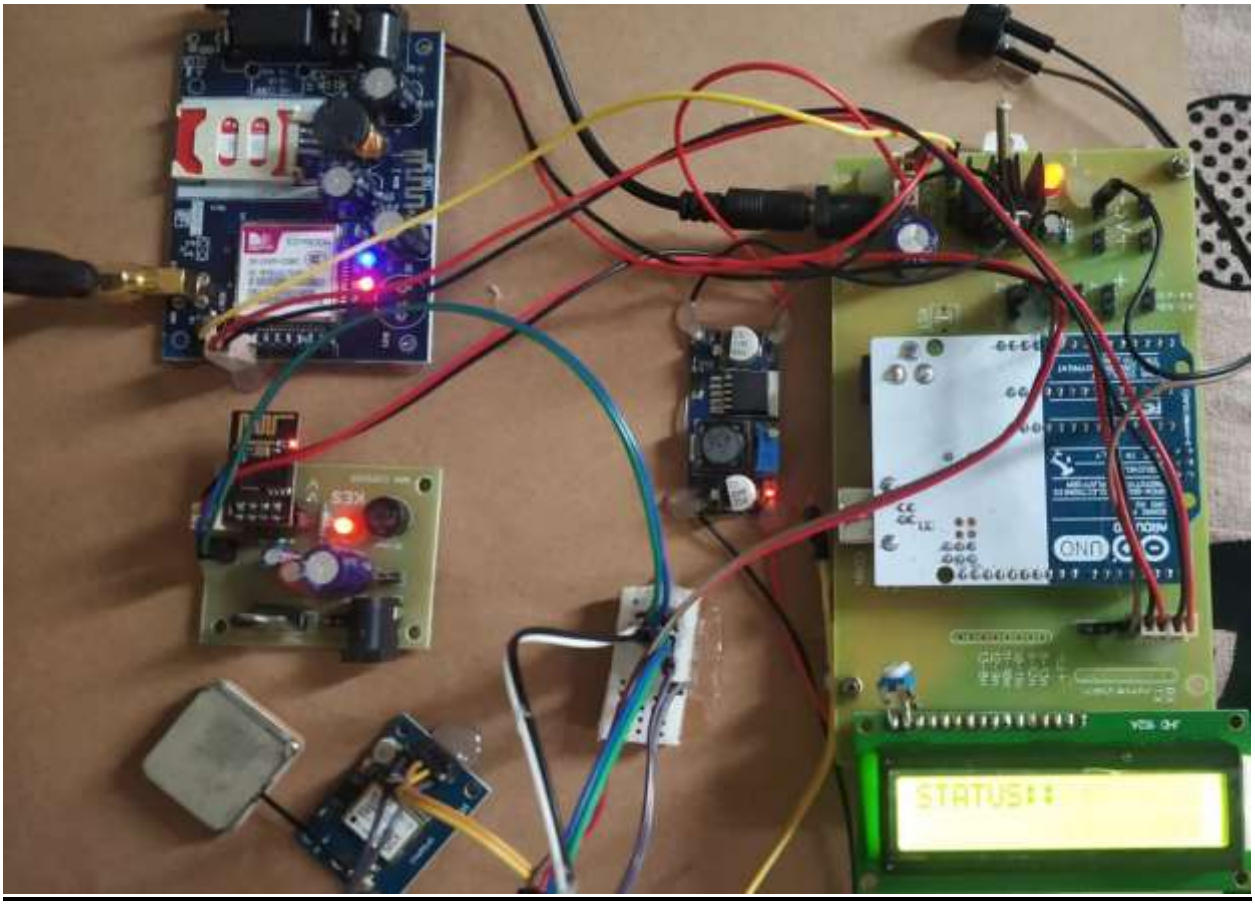


7.2. Registering mobile number

After sending the mobile number which we want to register to the GSM module, we will receive a message stating that the mobile number is registered and LCD screen will display as STATUS:

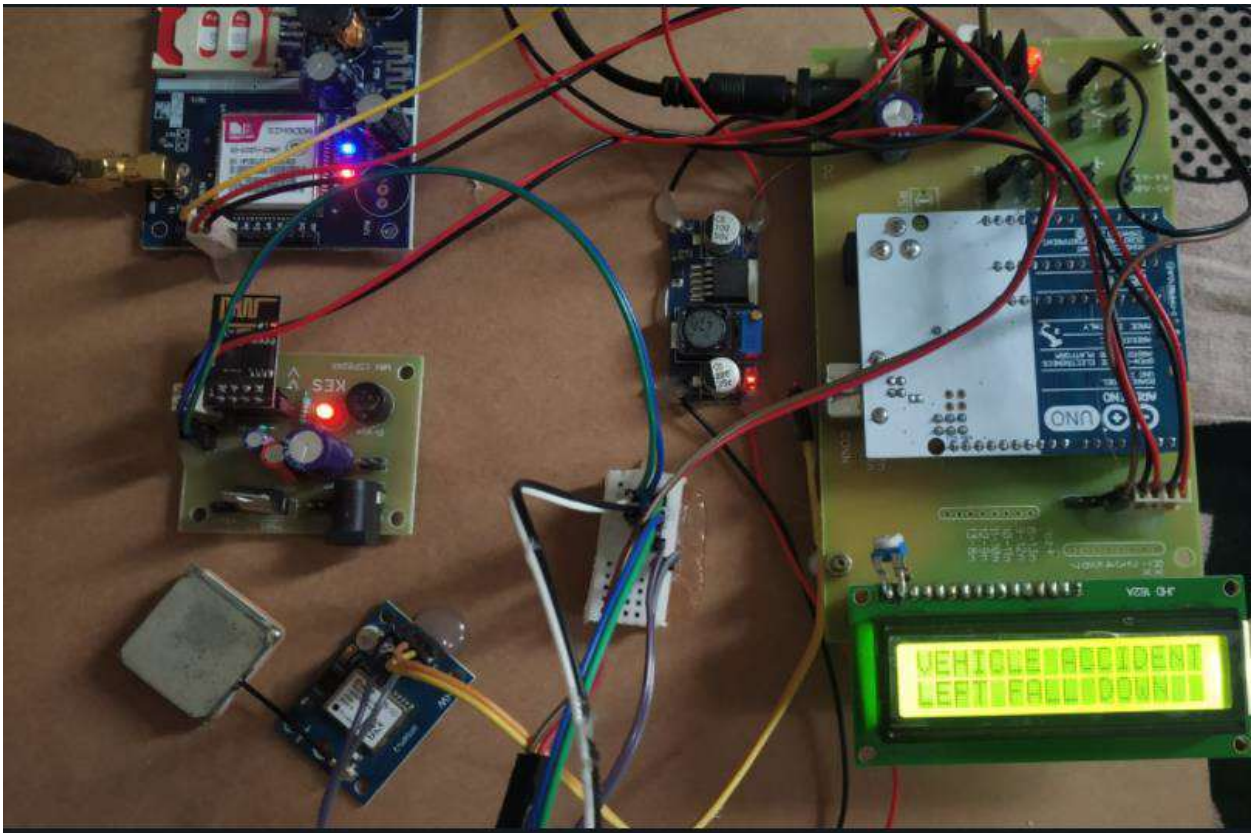


7.3. Status of registration

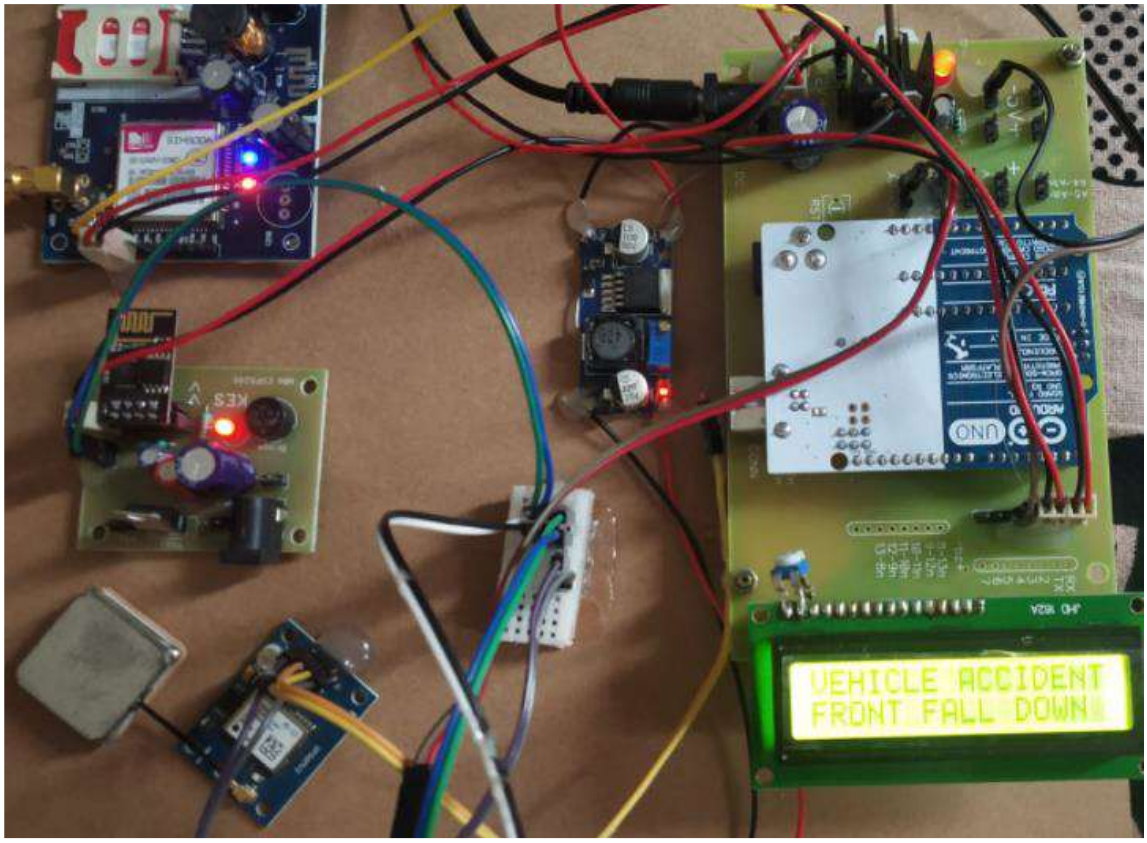


7.4. Wifi Status

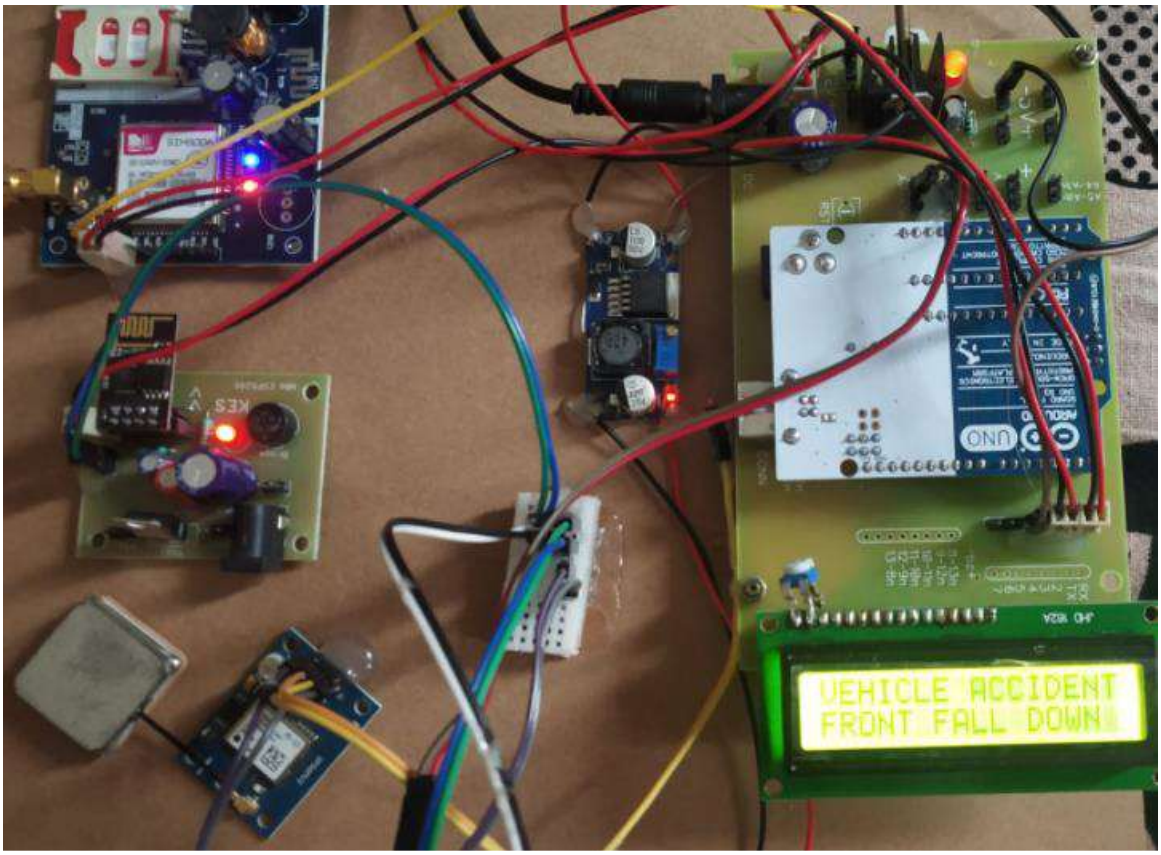
Then we need to connect the phone and the wifi module using mobile telnet app where we will receive messages both in telnet app as well as in the normal messenger. Then accordingly the LCD will display the direction of the occurrence of the accident (Left,right front and back respectively).



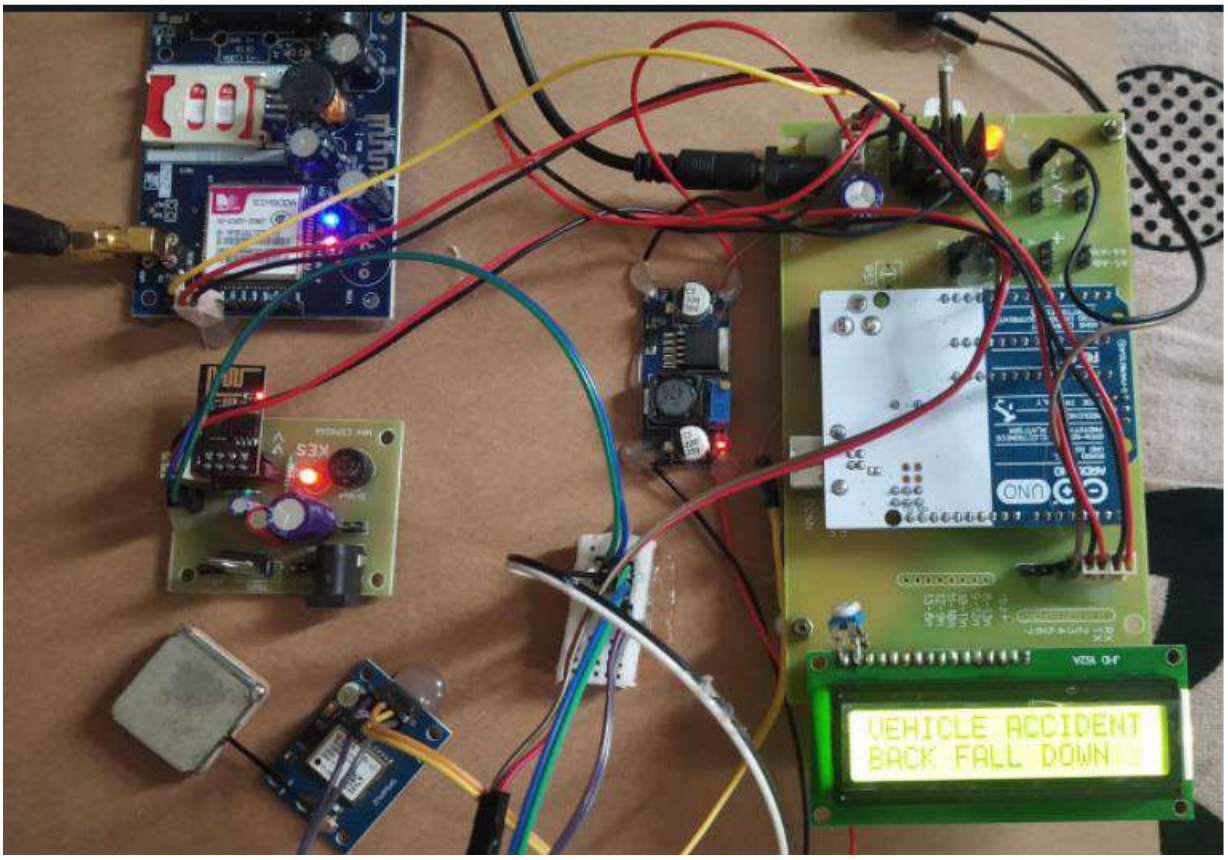
7.5. Left fall down detection



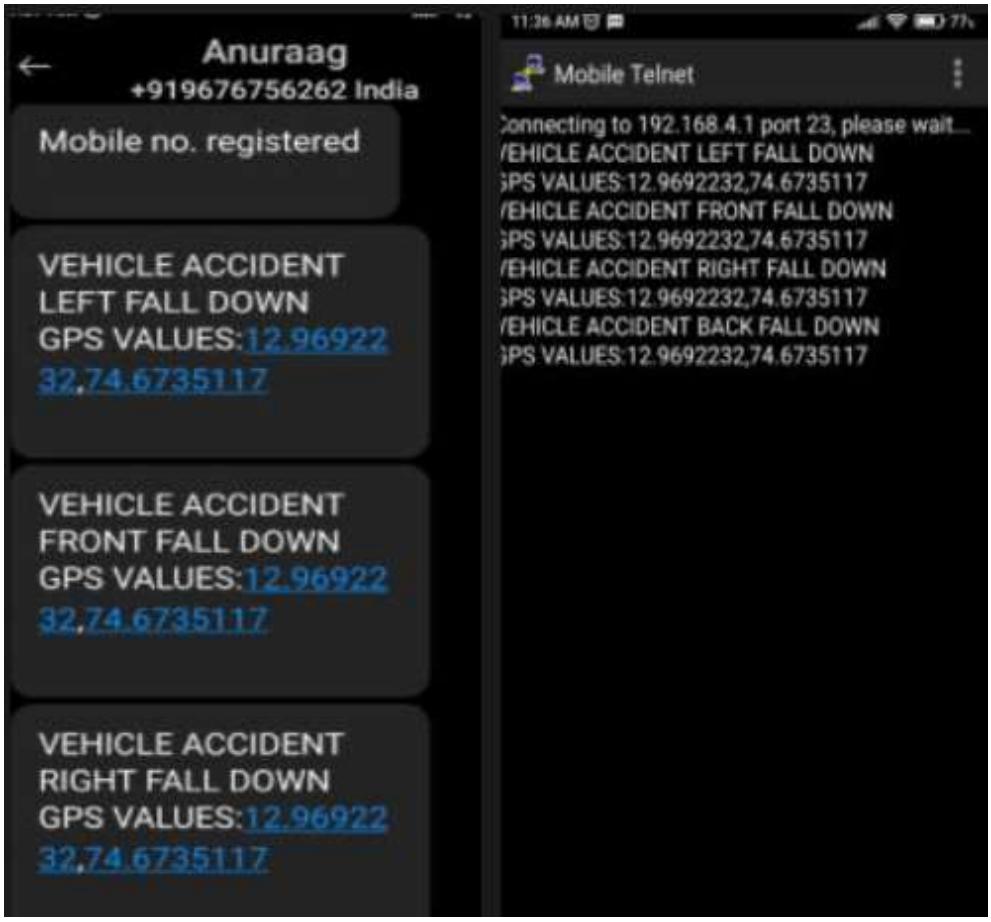
7.6. Right fall detection



7.7. Front fall detection



7.8. Back Fall detection



7.9. Updates in Mobile Telnet app

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