A

MINI PROJECT REPORT ON

WOMEN SAFTEY SMART SYSTEM

SUBMITTED TO SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE
IN THE FULFILLMENT OF THE REQUIREMENTS
FOR THE COMPLETION OF MINI PROJECT

OF

THIRD YEAR ENGINEERING

IN

ELECTRONICS & TELECOMMUNICATION

BY

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UNDER THE GUIDANCE OF

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CERTIFICATE

This is to certify that the Mini Project entitled

"WOMEN SAFTEY SMART SYSTEM"

Submitted By

Kartek Jadhav
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is a bonafide work carried out by them under the supervision of **Dr. D. G. Ganage** and it is approved for the partial fulfillment of the requirements of T.E. E&TC Engineering submitted to Savitribai Phule Pune University, Pune.

The Mini Project work has not been earlier submitted to any other institute or university for the award of degree or diploma.

Dr. D. G. Ganage	**Dr. M. B. Mali**	**Dr. S. D. Lokhande**
Guide	Head	Principal
Department of E &TC	Department of E &TC	SCOE, Pune

Place: Pune

Date:

ACKNOWLEDGEMENT

We are feeling very humble in expressing my gratitude. It will be unfair to bind the precious help and support which we got from many people in few words. But words are the only media of expressing one's feelings and my feeling of gratitude is absolutely beyond these words. It would be my pride to take this opportunity to say the thanks.

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Thank you all!

Kartek Jadhav

Atul Gorane
Abhijeet Gaikwad

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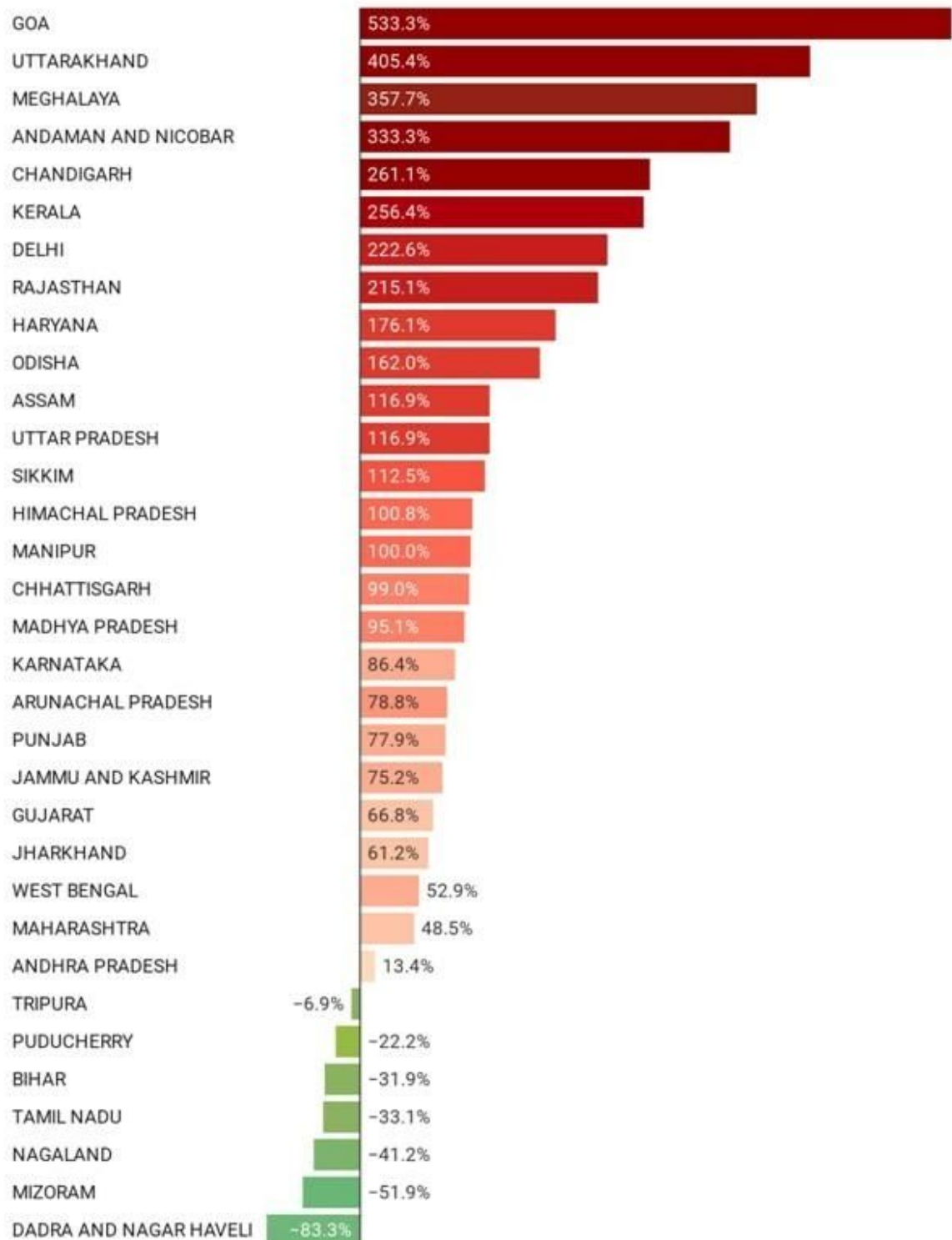
Chapter 1: Introduction

I.   INTRODUCTION

Women are the backbone of any economy primarily shaping future of the country. She who earlier stayed at home to attend her domestic duties is now maintaining work and home simultaneously, participating in the process of economic development on an equal footing with men. The Government of India, meeting a longstanding demand for gender parity in the workforce, has approved an amendment in The Factories Act 1948 to allow women employees to work in nightshifts. The amendment suggests that nightshift for women shall be allowed only if the employer ensures safety, adequate safeguards in the factory as regards occupational safety and health, equal opportunity for women workers, adequate protection of their dignity, honour and transportation from the factory premises to the nearest point of their residence are met. Nightshifts have been in existence for a long time, however for India it was only recently through an amendment to the Factories Act 1948 that it was allowed under the law for women to work nightshifts. Women are participating in almost all the spheres of economic activity. From village to city, we can see number of women workers and entrepreneurs contributing towards the national income of the country. Garment units already employ 60% of women workforce; and with growth in this industry the number this will go up tremendously. So far, the IT sector were employing women for late-night work hours but had no legal obligation to provide the above safety measures. There is no denying the fact that women in India have made a considerable progress in almost seven decades of Independence, but they still have to struggle against many handicaps and social evils in the male-dominated society. Many evil and masculine forces still prevail in the modern Indian society that resists the forward march of its women folk. With the onset of IT&BT industry, women work in night shifts.

It is the responsibility of the firm to provide office transportation to such employees. Now a days even though the companies provide the facilities for transportation, but the security of the women is not fully ensured as one of the incident occurred in the year 2007 at Pune where a girl working in the call centre was brutally raped by two of her cab drivers assigned by the company, not only this we have come across many of the same incidents in the recent times where the safety of the women cannot be fully ensured with the cab facilities provided by the companies.

State-wise rise in rape cases over seventeen years

Percentage increase in the number of cases reported in 2001 & 2017*

State	Percentage
GOA	533.3%
UTTARAKHAND	405.4%
MEGHALAYA	357.7%
ANDAMAN AND NICOBAR	333.3%
CHANDIGARH	261.1%
KERALA	256.4%
DELHI	222.6%
RAJASTHAN	215.1%
HARYANA	176.1%
ODISHA	162.0%
ASSAM	116.9%
UTTAR PRADESH	116.9%
SIKKIM	112.5%
HIMACHAL PRADESH	100.8%
MANIPUR	100.0%
CHHATTISGARH	99.0%
MADHYA PRADESH	95.1%
KARNATAKA	86.4%
ARUNACHAL PRADESH	78.8%
PUNJAB	77.9%
JAMMU AND KASHMIR	75.2%
GUJARAT	66.8%
JHARKHAND	61.2%
WEST BENGAL	52.9%
MAHARASHTRA	48.5%
ANDHRA PRADESH	13.4%
TRIPURA	−6.9%
PUDUCHERRY	−22.2%
BIHAR	−31.9%
TAMIL NADU	−33.1%
NAGALAND	−41.2%
MIZORAM	−51.9%
DADRA AND NAGAR HAVELI	−83.3%

*The latest available data from NCRB which was released in October 2019

Chart: Dipu Rai · Source: National Crime Records Bureau (NCRB) ·

The only solution to the problem can be taken in a such a way that, women should be assigned with a safety gadget that is portable and ensures her safety. Our project focuses on providing a Smart gadget based on IoT solutions that not only helps to woman escape the critical situations but also ensures to provide justice to the women by capturing the image of the culprit if in case any harassment occurs .

Swami Vivekananda, one of the greatest sons of India, quoted that, "There is no chance for the welfare of the world unless the condition of women is improved, It is not possible for a bird to fly on only one wing. " Therefore, the inclusion of "Women Empowerment' as one of the prime goals in the eight Millennium Development Goals underscores the relevance of this fact. Thus, in order to achieve the status of a developed country, India needs to transform its women force into an effective human resource and this is possible only through the empowerment of women.

1.1 Relevance / Significance

· About 10% of all the crimes committed in the country are those of women abuse.
· Women make up two-thirds of the estimated 876 million adults worldwide who cannot read or write.
· 30 lakh girl children were lost to female infanticide during 2001-2011.
· A woman is raped every 20 minutes in India.
· After 60 years of independence, 1 in 3 women in India are still illiterate.
· Only 39.5% women in India are economically active, compared to 80% in China.
· Of the 1.3 billion people who live in absolute poverty around the globe, 70 percent are women.
· 10.9% of the female population owns land, and among agricultural workers the figure drops down to 9.3%.
· Less than 40% of women give birth in a health facility

1.1.1 Domestic Violence

- One in three ever married women report having been slapped by their husband.
- Between 12 and 15 % report having their arms twisted, being pushed, shaken, kicked, dragged, or beaten up, or having something thrown at them.
- 10% report that their husbands have physically forced them to have sex.
- Around two-third of married women in India were victims of domestic violence and one incident of violence translates into women losing seven working days in the country.
- One in seven ever married women have suffered physical injuries as a result of spousal violence.
- For most women who have ever experienced spousal violence, the violence first occurred within the first two years of their marriage.

1.1.2 Female Foeticide

- Every year one in 25 female foetuses are aborted.
- There are only 762 girls for 1000 boys, and one in every four girls are aborted.
- There are instances of women getting pregnant 11 times in a matter of years just to have a boy.
- It is estimated that more than 10 million female foetuses have been illegally aborted in India.
- 30 lakh girl children were lost to female infanticide during 2001- 2011

1.1   Specifications

1.1.1 HARDWARE:

- Arduino Uno
- GSM Module
- GPS Module
- Buzzer
- LCD Display
- Vibration Sensor
- Crystal Oscillator
- Resistors
- Capacitors
- Transistors
- Cables and Connectors
- Diodes
- PCB and Breadboards
- LED
- Transformer/Adapter
- Push Buttons
- Switch
- IC
- IC Sockets

1.1.2   SOFTWARE

- Arduino Compiler
- MC Programming Language: C

Battery

12v rechargeable battery is used to power the circuit.

ATmega2560

ATmega2560 is a microcontroller board.It consists of 54 input/output pins, 16 analog pins, 4 UARTs, a 16 MHz crystal oscillator, a USB connection, a power

jack, an ICSP header, and a reset button.. It contains everything that needto support the microcontroller.It is simply connected with a computer with a USB cable or power it with a ACto-DC adapter or battery to get started. The ATmega2560 has 256 KB of flash memory for storing the, 8 KB of SRAM and 4 KB of EEPROM.

GPS Module

 The Global Positioning System is a location tracker.It , tracks the current location in the form of longitude and latitude. The GPS Coder Module will use this information to search an exact address of that location as the street name, nearby junction etc. which isdirectly connected to USART of the microcontrollerprovides reliable positioning, navigation, and timing services to worldwide users on a continuous basis in all weather, day and night, anywhere on or near the Earth. . In case if GPS is disabled then the system will only send the longitude and latitude through SMS. So, Internet is mandatory.

GSM Module

GSM module is used to establish communication between a computer and a GSM-G\PRS system. Global System for Mobile Communication(GSM) SIM card is inserted within the mobile device to send and receive the messages victimisationGPRS.The GSM SIM card number is registered with the system. With increasing usage of GSM, network services square measure expanded on the far side speech to include several alternative custom applications, machine automation and machine to machine communication. It operates at either the 900MHz-1800MHz frequency band.

IoTModule(ESP-12E)

 The Internet of things(IoT) has evolved due to convergence of multiple technologies,real-time analytics, machine learning, commodity sensors, and embedded systems the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit.IoT is that the network of the physical devices, vehicles, buildings and alternative things embedded with physics, software, sensors, actuators and network property that modify to gather and exchange information.TheIoT allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration.

Neuro Stimulator

Neuro Stimulator is the purposeful modulation of the nervous system's activity using invasive or non-invasive means. Neurostimulation technology will improve the life quality of these United Nations agency square measure severely unfit or littered with profound losses to numerous sense organs in addition as for permanent reduction of severe, chronic pain which might would otherwise need constant (around-the-clock), high-dose opioid medical aid. In this electric shock generator is an electronic device that produces voltage around 1200mv & current of 3microamp. It consists of AC to DC converter, generator and a web or grid. These devices provide neurologists new ways that to treat patients with a good vary of disorders. Now- a-days medical device companies are coming out with dynamic neural stimulators that have a bit of "brain" themselves.

Vibration Sensor

Vibration sensors square measure sensors for activity, displaying, and analyzing linear speed, displacement and proximity, or acceleration. Vibration but delicate and neglected by human senses could be telltale sign of machine condition. Abnormal vibration indicative of issues with associate degree industrial machine are of detected early and repaired before the event of machine failure. Vibration analysis is employed as a tool to seeinstrumentation condition similarly because specific location and sort of issues.

Buzzer

A Buzzer or electronic device an audio signalling device, which can be mechanical, mechanical device or electricity. Usually piezospeakers(buzzers) are used "piezi buzzer" is basically a tiny speaker that you can connect directly to an Arduino. The piezo buzzer produce sound based on reverse of the piezoelectric effect. These buzzers can be used to alert a user of an event corresponding to a switching action, counter signal or sensor input.

LCD

Liquid Crystal Display screen is associated in nursing electronic display module. A 16x2 LCD display is basic module and it is commonly used in various devices and circuits. These modules areaunit most popular over seven sections and different multi segment LEDs.LCDs area uniteconomical; simply programmable and don't have any limitation of displaying special & even custom characters (unlike in seven segments), animations and so on.The command register will stores the command instructions given to the LCD. A command is an instruction given to LCD will do a predefined task like

initializing it, clearing its screen, setting the cursor position, controlling display etc.

Crystal oscillator

A crystal oscillator is an electronic oscillator circuit that uses the mechanical resonance of a vibrating crystal of piezoelectric material to create an electrical signal with a precise frequency.

1.2 Advantages

Advantages of the Proposed System

• It is an all-in-one system. Hence no need to carry multiple devices.
• GPS tracking feature tracks the user lively when you are the move a㊾er triggering the emergency button.
• When the battery is running low, it automatically sends the location the pre-stored contacts.
• The second distinct feature is, it also detects the hidden cameras which help in our privacy.
• The device works without internet connectivity.

Chapter 2: Literature Review

LITERATURE SURVEY

A. "Smart Security Solution for the Women safety is based on Internet of Things (IOT)." This paper focused on the security of women. They are build one smart band which is contains three sensors that is temperature sensor, pulse rate sensor and unusually motion detected by the motion sensor. This smart of security band is continuously communicate with smart phone. The system can be perform the real time monitoring of desired area and detect the violence of good accuracy. This an advance system which can detect the location and health condition of person that will enable us to take action accordingly based on electronic gadgets like our sensors. In which we are using concept of IOT so it can detect real time situation of women in critical situation. This idea is completely safe and comfortable and easy to use.

B. "Smart Security girls system".
 This paper focuses on a security system that is designed solely to serve the purpose security women to that they never feel helpless while facing such social challenges. In this paper they gives information about various module like GSM shield (SIM900A), Atmega328 board, Arduino Board, GPS(GYGPS6MV2) tracking, Screaming alarm (ADR 9600), a set of pressure sensor for activation and power supply unit.

C. "An autonomous wireless body area Network Implementation towards the internet of Things (IOT) connected Healthcare Application" This paper describes about wearable sensor nodes with the solar energy harvesting. This paper contain information about various sensor which are used for the monitoring of health condition of person. Also they are developed one web based smartphone application to display the sensor's node data.

D. "A Survey on Wearable sensor based system for women health issues are monitoring and the prognosis"
In this paper they are build one wearable health monitoring system which is useful to checking the health condition of patients. In this paper they gives information about sensors and working range of sensors and Bluetooth.

E. "Design and Development of the Women safety and Defence Smart watch Prototype."
This paper purposes idea of interaction between user and technology. They are developed one Smart Watch which communicate with GPS system. Also they are develop one system which contain electric shock generator module, screaming alarm module, voice recognition module which is useful for women security. They are build one smart band which is contains three sensors that is temperature sensor, pulse rate sensor and unusually motion detected by the motion sensor. This smart of security band is continuously communicate with smart phone. The system can be perform the real time monitoring of desired area and detect the violence of good accuracy. This an advance system which can detect the location and health condition of person that will enable us to take action accordingly based on electronic gadgets like our sensors. In which we are using concept of IOT so it can detect real time situation of women in critical situation. This idea is completely safe and comfortable and easy to use.

F. "Smart Security girls system".

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CONCLUSION

In our system we developed one women self-security smart band which contain temperature sensor, heartbeat sensor and panic button. In this systems, sensors are continuously communicate with smartphone by using GSM and GPS modem. It send emergency message automatically to the relatives, friends and nearby police station. Our system is more efficient than other systems.

Chapter 3: Design and Development

3.1. Block Diagram and Description
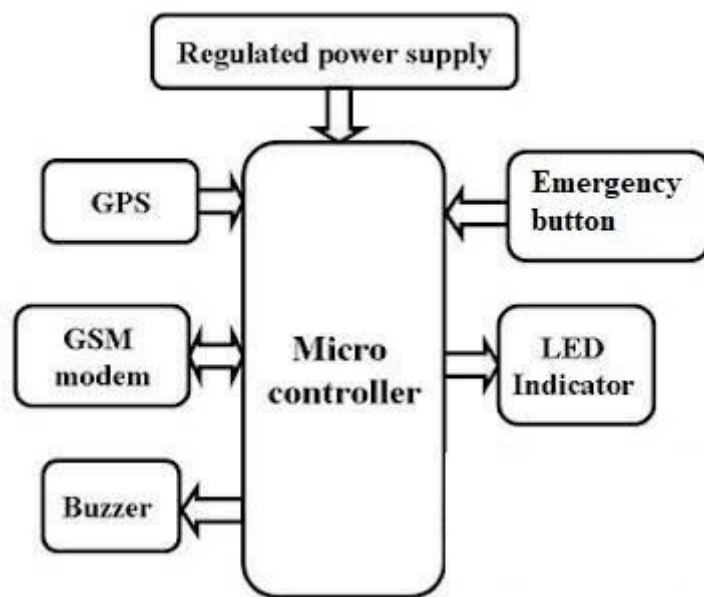
Description:

Here, we have used the microcontroller ATMEGA328P to which the following components have been interfaced:

1. GPS Module.
2. GSM Module.
3. LED.
4. Buzzer.

We employ a light emitting diode for testing the functionality of the power supply circuit. Here we use a 5 volts LED which is connected in series with the power supply circuit to verify the functioning of the power supply. The GPS module provides the coordinates of the current location to the microcontroller and this location is then sent as an SMS to the emergency contact numbers through the GSM module and the inserted SIM card. The buzzer rings if the emergency
Button is pressed as an acknowledgement of the message being sent.

3.2. Selection of Components criteria
3.2.1 ATmega328p:

An Arduino is ATmega328p's ready to use structure. It is such a board, and contains a microcontroller, typically an 8-bit ATmega328p . As an Arduino comes in a complete package

form which includes the <u>5V regulator</u>, a burner, an oscillator, a microcontroller, <u>serial communication</u> interface, LED and headers for the connections. You don't have to think about programmer connections for programming or any other interface. In active mode, the current is 0.2mA
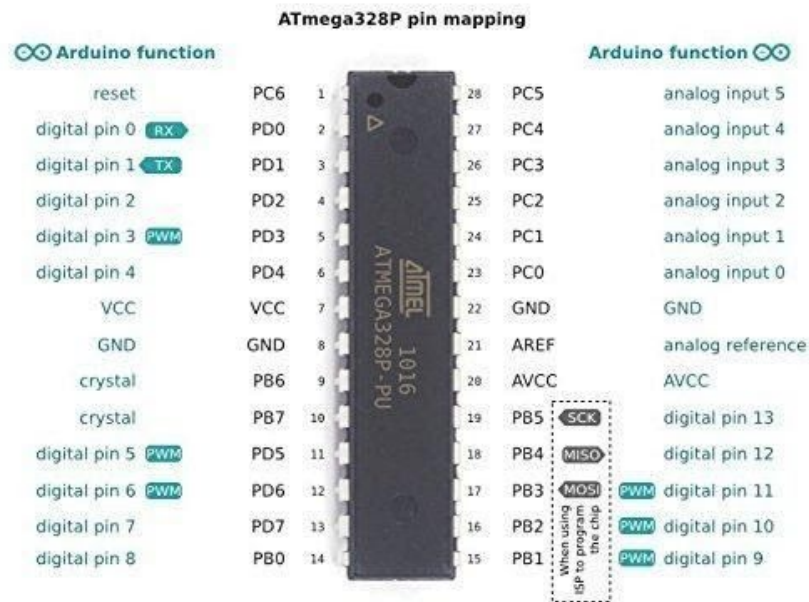
Fig 3.2.1 ATmega328p

3.2.2 GSM Module:

GSM (Global System for Mobile Communications, originally Groupe Spécial Mobile), is a standard developed by the European Telecommunications Standards Institute (ETSI).

It was created to describe the protocols for second-generation (2G) digital cellular networks used by mobile phones and is now the default global standard for mobile communications – with over 90% market share, operating in over 219 countries and territories.

The SIM900 is a complete Quad-band GSM/GPRS solution in a SMT module which can be embedded in the customer applications. Featuring an industry-standard interface, the SIM900 delivers GSM/GPRS 850/900/1800/1900MHz

performance for voice, SMS, Data, and Fax in a small form factor and with low power consumption. With a tiny configuration of 24mm x 24mm x 3 mm, SIM900 can fit almost all the space requirements in your M2M application, especially for slim and compact demand of design.

Features:

- SIM900 is designed with a very powerful single-chip processor integrating AMR926EJ-S core
- Quad - band GSM/GPRS module with a size of 24mmx24mmx3mm
- SMT type suit for customer application
- An embedded Powerful TCP/IP protocol stack
- Based upon mature and field-proven platform, backed up by our support service, from definition to design and production
- SIM900 General Specification:
- Quad-Band 850/ 900/ 1800/ 1900 MHz
- GPRS multi-slot class 10/8
- GPRS mobile station class B
- Compliant to GSM phase 2/2+
- Class 4 (2 W @ 900 MHz)
- Class 1 (1 W @ 1800MHz)
- Dimensions: 24x24x3mm
- Weight: 3.4g
- Control via AT commands (GSM 07.07 ,07.05 and SIMCOM enhanced AT Commands)
- Supply voltage range : 3.4V to 4.5V
- Low power consumption: 1.0mA(sleep mode)
- Operation temperature: -40°C to +85 °C.
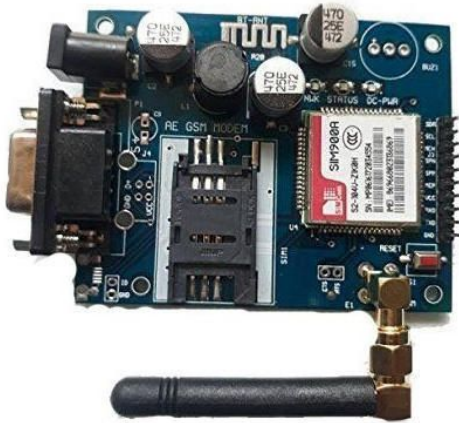
Fig 3.2.2 GSM/GPRS Module with SIM900 processor.

3.2.3 GPS Module:

At any given time, there are at least 24 active satellites orbiting over 12,000 miles above earth. The positions of the satellites are constructed in a way that the sky above your location will always contain at most 12 satellites. The primary purpose of the 12 visible satellites is to transmit information back to earth over radio frequency (ranging from 1.1 to 1.5 GHz). With this information and some math, a ground based receiver or GPS module can calculate its position and time. The GPS signal contains two frequency components: link 1 (L1) and link 2 (L2). The center frequency of L1 is at 1575.42 MHz and L2 is at 1227.6 MHz These frequencies are coherent with a 10.23 MHz clock. These two frequencies can be related to the clock frequency as $L1_c$ 1575.42 MHz = 154 × 10.23 MHz and $L2_c$ 1227.6 MHz = 120 × 10.23 MHz. These frequencies are very accurate as their reference is an atomic frequency standard. When the clock frequency is generated, it is slightly lower than 10.23 MHz to take the relativistic effect into consideration.

Fig 3.2.3 GPS Module

3.2.4 Light Emitting Diode(LED):

Features:

- Forward drop: 1.8-2.2V_{DC}
- Max current: 20mA
- Suggested using current: 16-18mA
- Luminous Intensity: 150-200mcd

Fig 3.2.4 LED

3.3 Design calculations

Voltage Rating Of all Components

1. ATmega328P:6-20V
2. LED:5V
3. GPS Module:3-4.3V
4. GSM Module:3.4V to 4.5V

Current Rating of all components

1. ATmega328P -0.3mA
2. LED:20mA
3. GPS Module:25mA acquisition, 20mA tracking
4. GSM Module:
   a. Off mode: <100uA
   b. Sleep mode: <2.0mA
   c. Idle mode: <7.0mA (average)
   d. Communication mode: 350 mA (average,GSM)
   e. Communication mode: 2000mA (Typical peak during TX slot,GSM)

Some components require 5V DC supply Hence IC7805 i.e. voltage regulator is used to convert 15V supply from bridge rectifier output to 5V DC supply.

Total current required to drive the circuit =0.3mA+20mA+25mAmp+2000mAmp

=2045.3mA=2.045mA.

3.3.1 Power Supply:

Design the 5V and 2.5-amp DC power supply using 230V AC supply
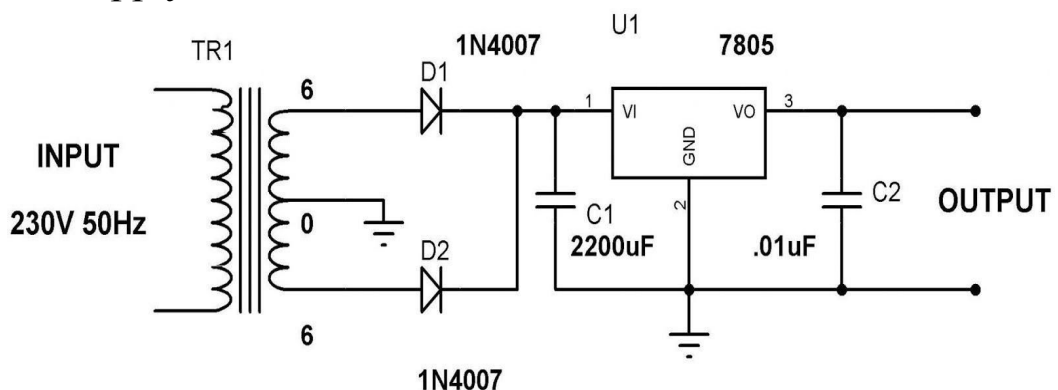
$V_0 = 5V$ $I_0 = 2.5A$

$V_{in} = 230 \ V_{rms}$ $T_a = 25^0C$

Load Regulation<= 0.1%

Line Regulation<=0.1%

Output Ripple<=$2mV_{P-P}$

%load Regulation = $([V_{NL} - V_{FL}] / V_{FL})*100$

%line Regulation = $(\ V_o / \ V_{in})*100$▽△

Vin is greater than V_0 By Drop out voltage

$V_{in(min)} = V_0 +$ drop out voltage + 1 V margin

$\qquad$ =5V+2V+1V

$\quad V_{in(min)} = 8V$

$\quad$ RR=20log10[Vin $_{ripple(max)}$ /V$_{out \ ripple}$]

$\quad$ For 7805, RR=62

$\quad$ 62=20log10[Vin $_{ripple(max)}$ /$2mV_{P-P}$]

$\quad$ Vin $_{ripple(max)}$ = 1258=x/2mV

$\quad$ x = 2517 mV

$\qquad$ =2.5V

$\quad$ Vin $_{(max)}$ =8V+2.5V=10.5V

$\quad$ Vin $_{(max)}$ = Vin $_{(min)}$ +Vrpp $_{(max)}$

$\qquad\qquad$ =8V+1.25V

$\qquad\qquad$ =9.25V

$\quad$ RR=20log10[Vin $_{ripple}$ / V$_{out \ ripple}$]

$\quad$ Vin $_{ripple}$ =2.5V

$\quad$ Vin $_{ripple(max)}$ = Vin $_{(max)}$ / 2fCRL

$\qquad\qquad$ = I$_L$ / 2FC

$\qquad\quad$ C $\ $ =I$_L$ / [2F* Vin $_{ripple(max)}$]

C=2.5/(2* 50*2.5)

C=0.01 mF

$\quad$ $V_{dc} = 2V_m$ /pi $\qquad$ output of rectifier

3.3.2 Rectifier:

$PIV = V_{in(max)}$ + factor of safety

$= 9.25 + 15\%$ of $V_{in(max)}$

$= 10.66V$

Average forward current

$I_0 = I_L + 15\% \ I_L$

$I_L = 2.875 \ A$

$V_{s(rms)} = [\ V_{dc} + V_{pp} + V_{rect} + V_{drop}] / [1.414 * 0.9]$

$V_{line(H)} = 230 + (10\%$ of $230)$

$V_{line(H)} = 230 - (10\%$ of $230)$

$V_{s(rms)} = [\ 8 + 2 + 2.5 + 1.4] / [1.414 * 0.9]$

$Vp_{(rms)}/Vs_{(rms)} = N1/N2$

$N1/N2 = 17.24$

3.4 Code

```
String inputString3="";
String Longitude="";
String Latitude="";
int SMSPIN=8;
void setup() {
Serial.begin(9600);
inputString3.reserve(200);
Longitude.reserve(20);
Latitude.reserve(20);
pinMode(SMSPIN,INPUT);
}
void loop() {
ReadSerialData();

delay(100);
}
void ReadSerialData() {
char inChar;
inputString3="";
do{if(Serial.available()){inChar=(char)Serial.read();}}while(inChar!='$');
```

```
do{if(Serial.available()){inChar=(char)Serial.read();inputString3=inputString3+
inChar;}
}while(inChar!='\n');
if(inputString3[2]=='R' &&inputString3[3]=='M' &&
inputString3[4]=='C'){CheckForLatitude();}
}
void CheckForLatitude()
{
int i=0;
char DataType;
Longitude="";
Latitude="";
do{i++;}while(inputString3[i]!=',');
do{i++;}while(inputString3[i]!=',');
i++; DataType=inputString3[i];i++;
do{i++;Latitude=Latitude+inputString3[i];}while(inputString3[i]!=',');
i++; Latitude=Latitude+inputString3[i];i++;
do{i++;Longitude=Longitude+inputString3[i];}while(inputString3[i]!=',');
i++; Longitude=Longitude+inputString3[i];i++;
Serial.print("Data Type:");Serial.println(DataType);
Serial.print("Latitude:");Serial.println(Latitude);
Serial.print("Longitude:");Serial.println(Longitude);

int GSMValue=digitalRead(SMSPIN);
if(GSMValue==HIGH){SendSMS("7995953860");}

}
void SendSMS(String Number)
{
lcd.setCursor(0,1);
lcd.print("SMS Sending");
Serial.println("AT");
delay(1000);
Serial.println("AT+CSMP=17,167,0,0");
delay(1000);
Serial.print("AT+CMGS=");Serial.print("'");Serial.print(Number);Serial.println('
"');
delay(3000);
Serial.println("Urgent Help:");
Serial.print("Latitude:");Serial.println(Latitude);
Serial.print("Longitude:");Serial.println(Longitude);
Serial.print((char)0x1a);
```
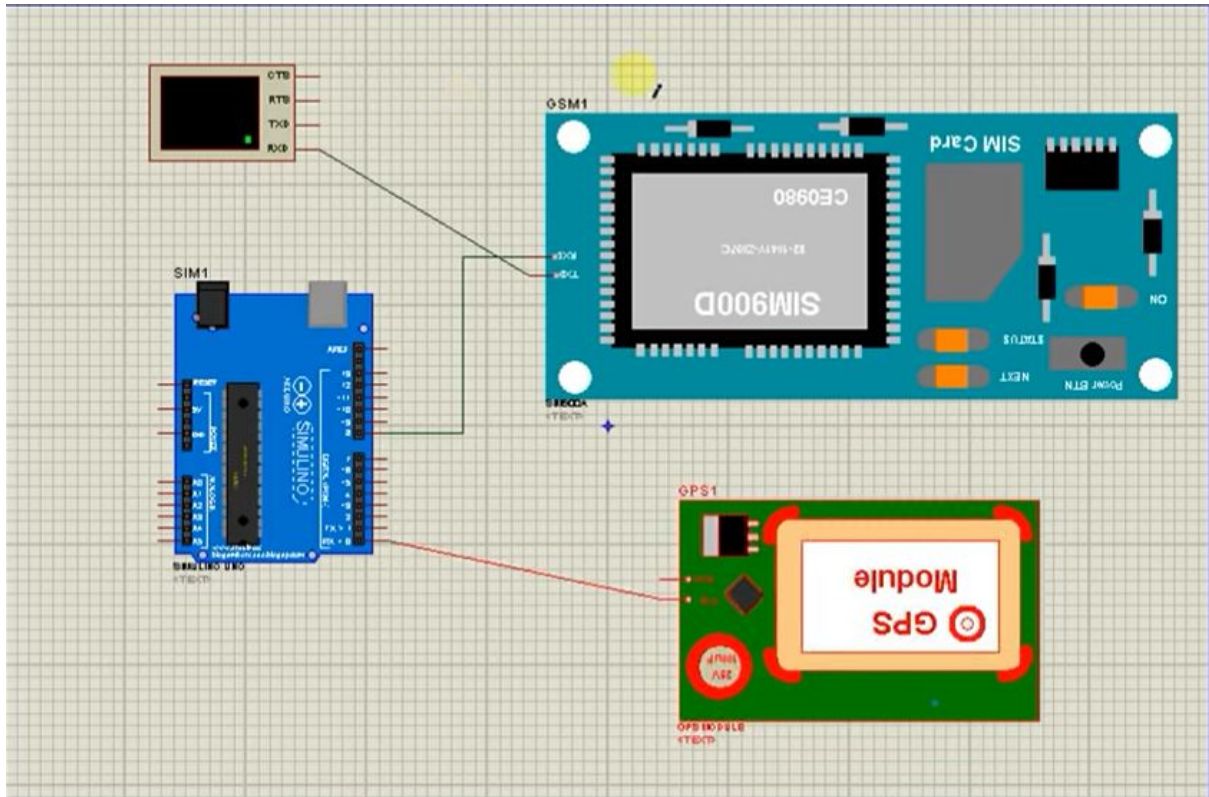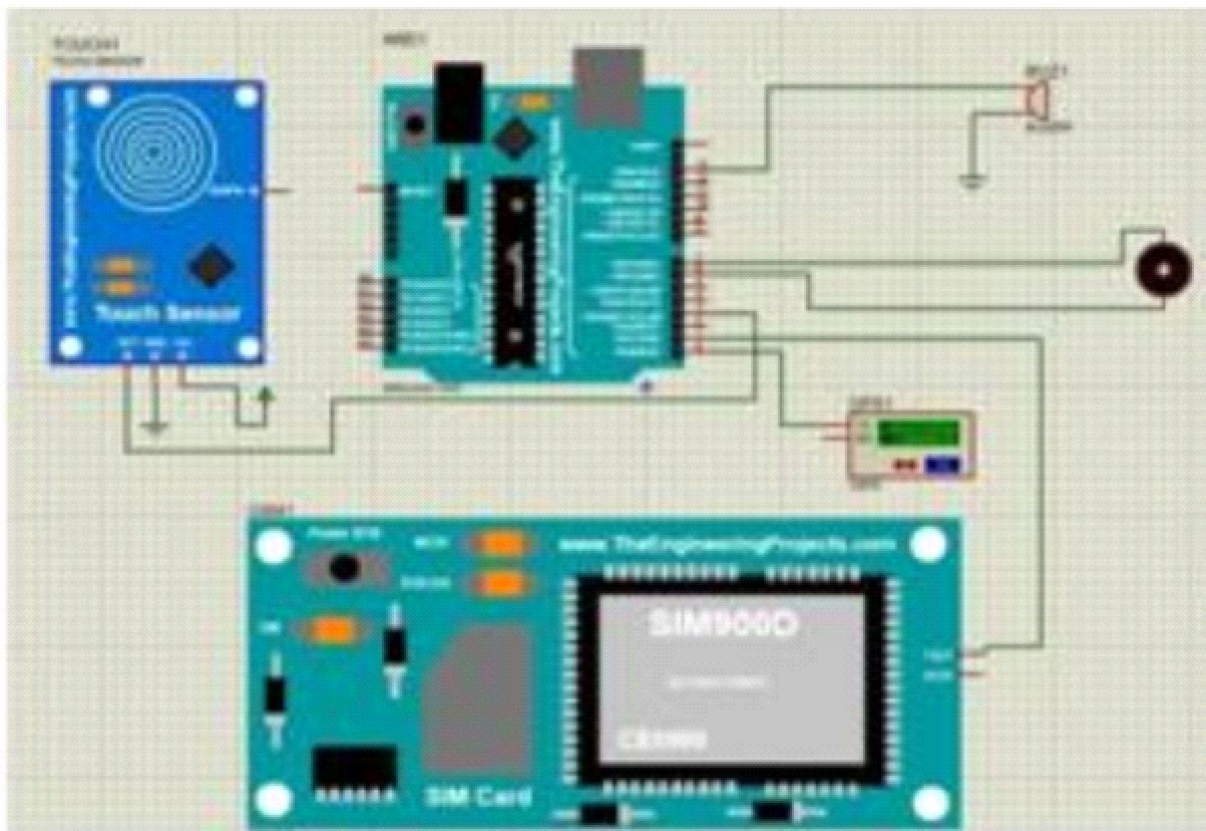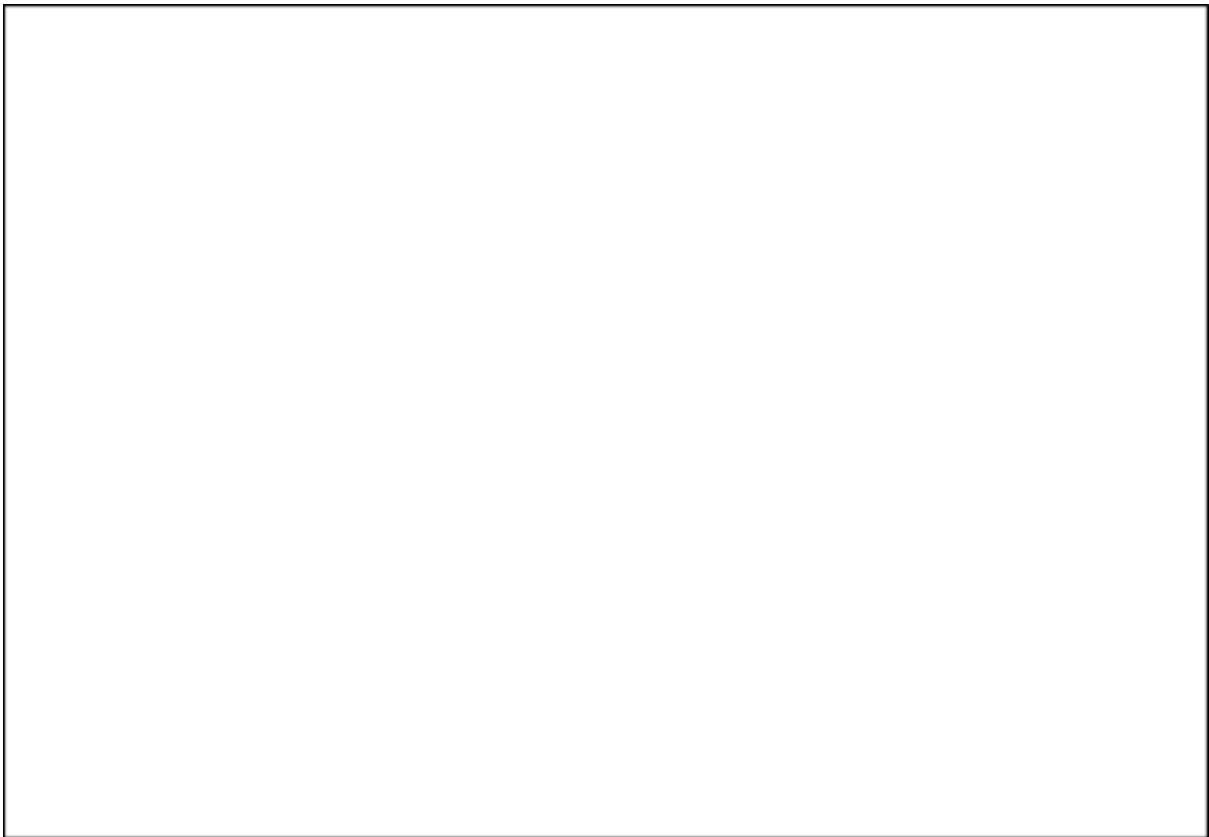
```
delay(10000);
}
```

3.5 Circuit diagram

Chapter 4

Result and Discussions
4.1. Simulation and result

1. Short message Service [SMS] sent to the predefined Contact and predefined mobile no: Switch 1 Output An SMS alert is sent to the predefined contact the input is by pressing the switch. The output is

sent to the predefined contacts. The output is shown as "EMERGENCY SITUATION HELP ME and it is normally decoded as in the form of Latitude and Longitude parameters. [1333326.000, A, 1257.7700N, 080003.5286, E, 283.54, 130319, A*6A] and the detected location is identified by using GOOGLE MAPS. A buzzer output Alarming signal is used as a panic Switch A temperature sensor for sensing the body temperature and a limit if it mainly reaches below the threshold[20 C] .A Voice recognizer output signal is used to send the message with I'M Kidnapped Emergency Pls help me an output signal is shown in the predefined contact Number/Relatives Voice Recognizer is used to send the input by Voice as "HELP ME" and output is mainly sent to the predefined contact number and relatives. The output is sent to the relatives by "I'M KIDNAPPED EMERGENCY PLS HELP ME" as location is normally sent in the form of latitude and Longitude and the detected location is normally identified by using GOOGLE MAPS. [1333326.000, A, 1257.7700N, 080003.5286, E, 283.54, 130319, A*6A]
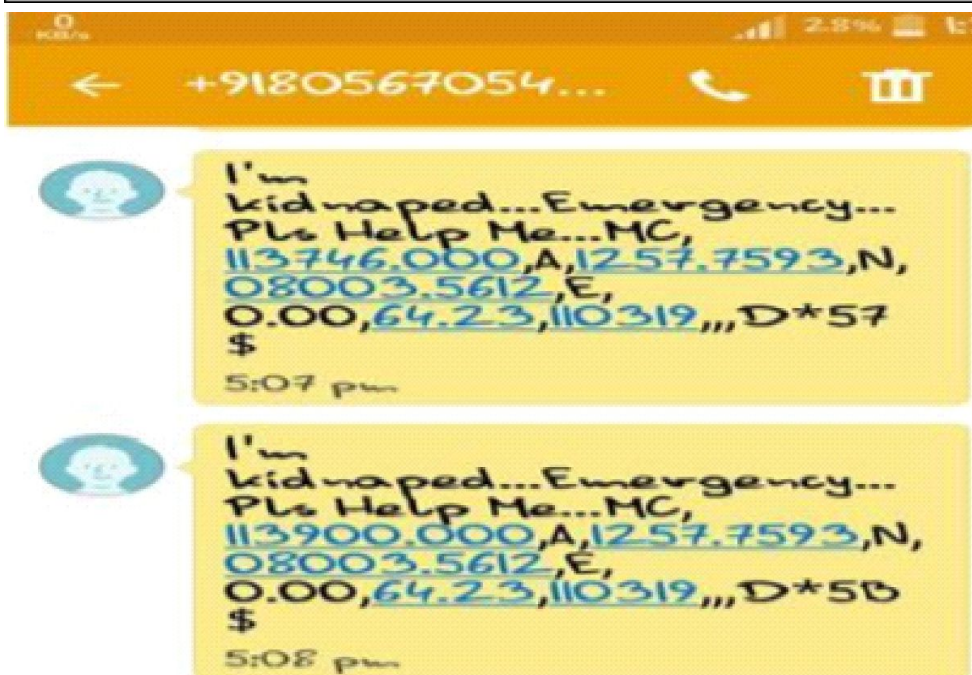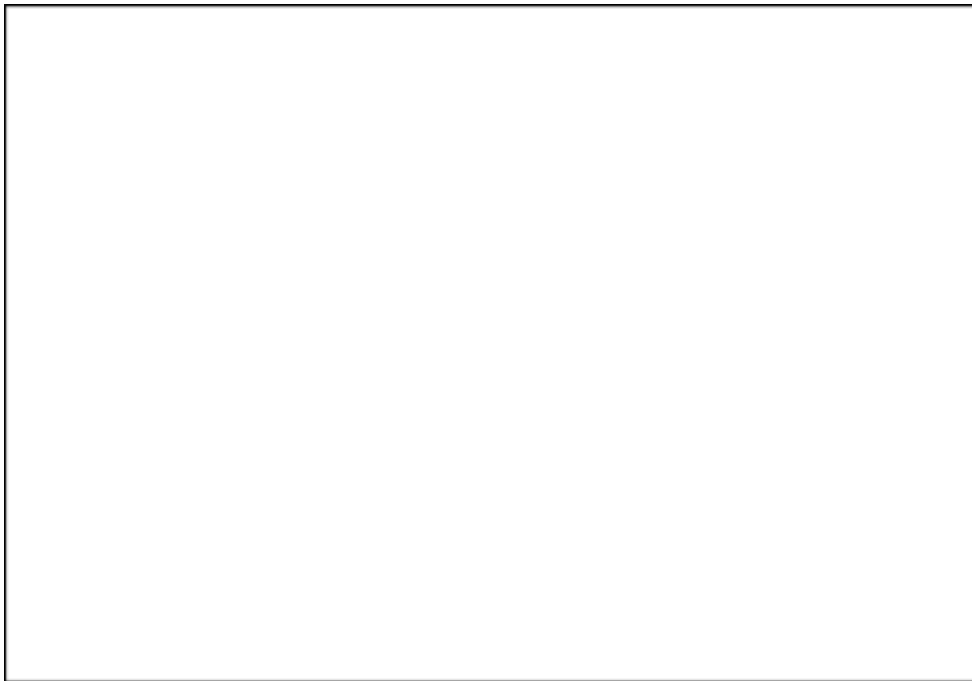
4.2. Physical board testing, PCB testing

- Problems faced during setup
- Not able to load the software programs into the actual hardware via bootloader.
- There was overlapping of copper lines while etching.
- Also, due to heavy voltage and heavy current supply, components were damaged while testing.

- Breakage of Microcontroller legs because of mishandling.

Chapter 5

Conclusion and Future Scope

5.1 Conclusion

The effort behind this project is to design and implement a gadget which is user friendly and compact in itself so that the user will be able to access the device immediately during any sort of emergency. It stores the data provided by the users such as emergency telephone numbers and notifies the recipient whenever the user sends an alert .The device provides an advantage of personal security and an emergency response system which is helpful for women in the incidents of crime. The crime rate all around the world against women is increasing day by day and this device will help in curbing the rate by some percent.

5.2 Future Scope

Fingerprint sensors can be interfaced with the device which will activate it with the specific user's fingerprint only thus preventing false alarms to a certain extent. The kit size can be reduced using advanced technology such as nano materials .

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