Women's Safety System

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Introduction to Tools

Software

Arduino IDE 1.8.19:

- Arduino IDE is a free development environment for the Arduino platform that contains code editor, compiler and firmware transfer module to the card.

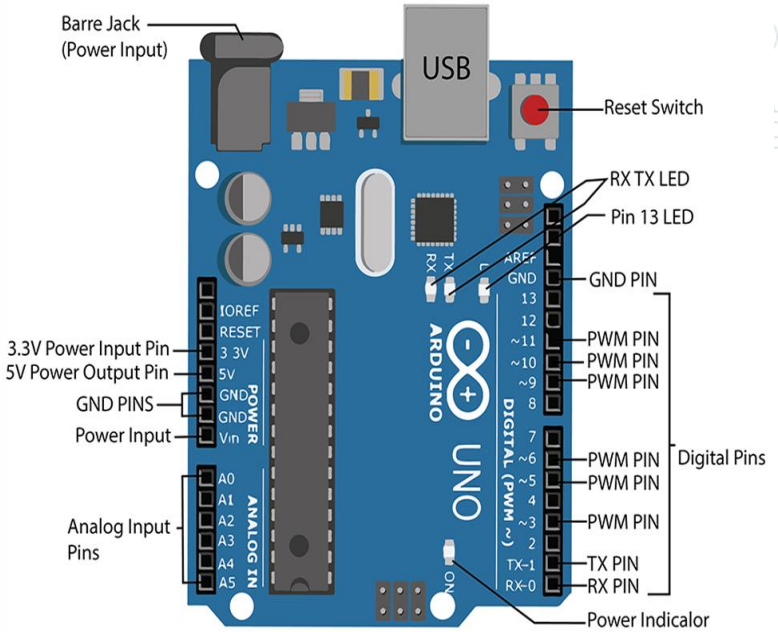
- It also makes it easy to write and upload the code to board.

Hardware

Arduino UNO

- In Arduino UNO the word "uno" means "one" in Italian and was chosen to mark the initial release of Arduino Software. The Uno board is the first in a series of USB-based Arduino boards.

- The board is equipped with sets of digital and analog input/output (I/O) pins that may be interfaced to various expansion boards (shields) and other circuits.



GPS Antenna

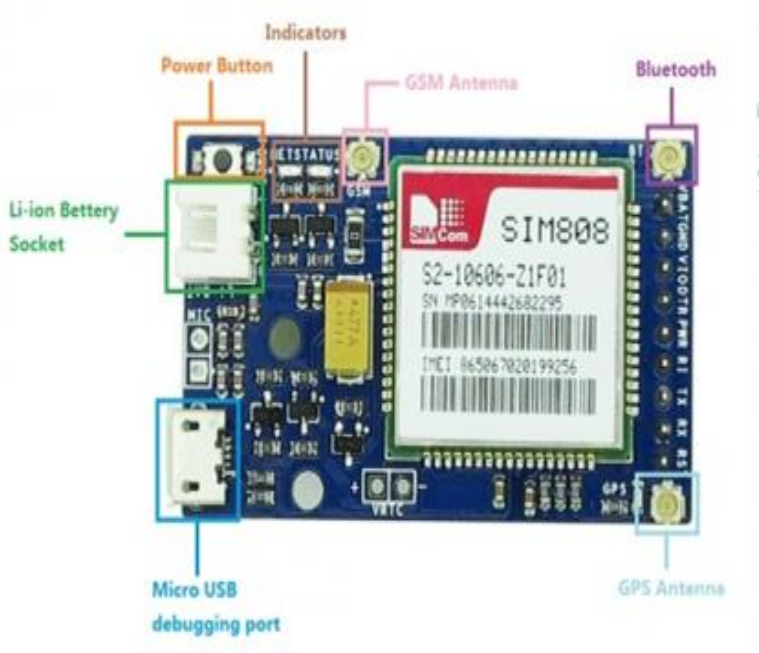
- GSM stand for Global System for mobile communications. It is integrated with a high performance GSM/GPRS engine, a GPS and BT engine.

- GPS is a space-based radio-navigation system consisting of a constellation of satellites broadcasting navigation signals and a network of ground stations and satellite control stations used for monitoring and control.

GSM SIM808

- GPS is an acronym for Global Positioning System. It is a global navigation satellite system that provides location, velocity and time synchronization.

- GSM SIM808 is designed with power saving technique so that current consumption is as low as 1mA in sleep mode.



Feasibility Analysis

- Feasibility study is essentially a process for determining the viability of a proposed initiative or service and provides a framework and direction for the development and delivery of system.

- There are mainly three types of feasibility study carried out for a system.

1. Operational Feasibility
2. Technical Feasibility
3. Economical Feasibility

Operational Feasibility

- This system is very easy to operate and can satisfy the requirement of organization as necessary.

- The proposed system is also working on to solve the problems of user as and when required. Thus., we can say that the system is operationally feasible.

Technical Feasibility

- Current technologies are sufficient for this system also project is feasible within the current technical resources.

- Technologies used for the system are feasible and works well for the system. Hence., we can say that the system is technically feasible.

Economical Feasibility

- The hardware requirement in the system is not much costly when bought individually.
- System has nominal expenditure thus., we can say that system is economically feasible.

Future Enhancement

- The project has covered almost all the requirements in the system. However we can make more improvements to make system even more reliable and society friendly.

- We are going to inspect the repetitive location that the message is received from and by that database we can have better security services in the particular region.

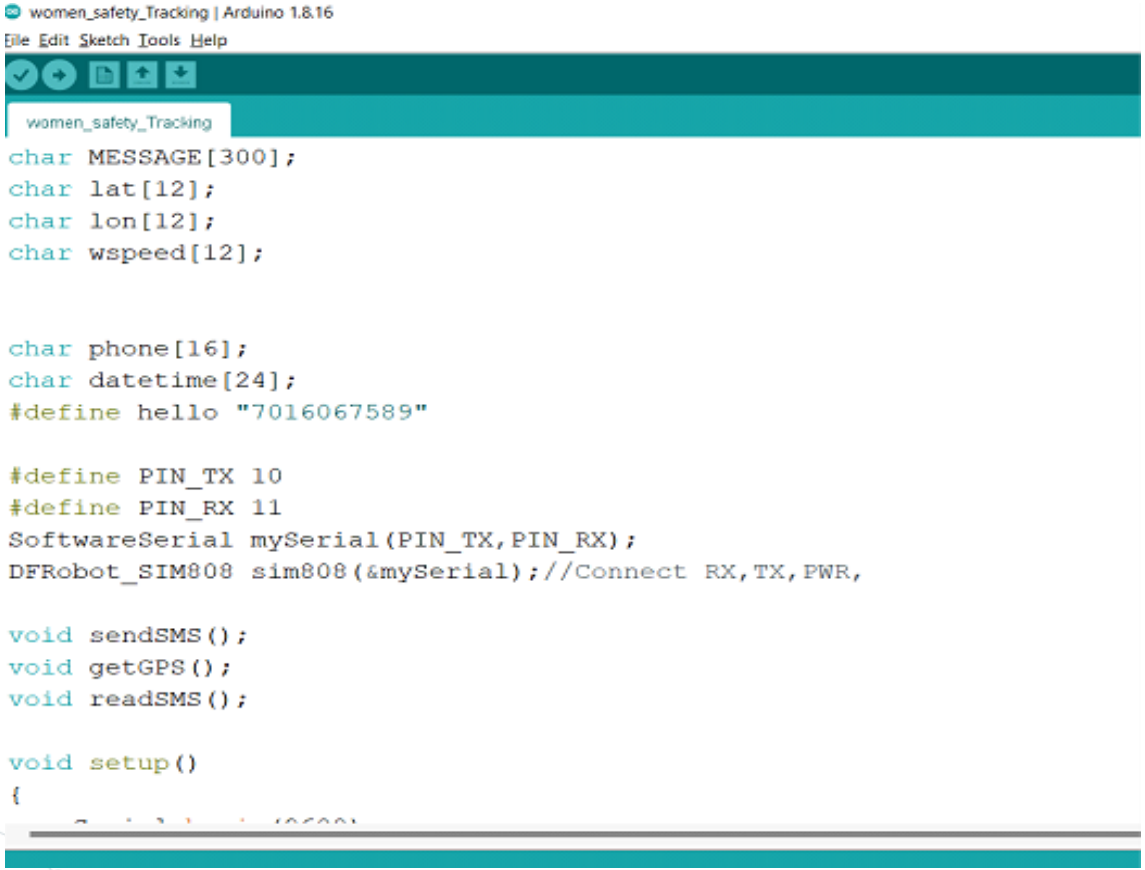
- In the particular system while our working we found out that network connectivity is major issues so we are going to work on that in near future.

- In addition to that we shall also work on designing a much smaller device. As it would be much better for the purpose of the system.

- We would also like to include the facility to call with a single press of button. And capture image or record video once the button is pressed.

- It would also be best for the system to have voice recognition, pulse sensors and more features to have the better performance of the system.

Screen Layout (Code)



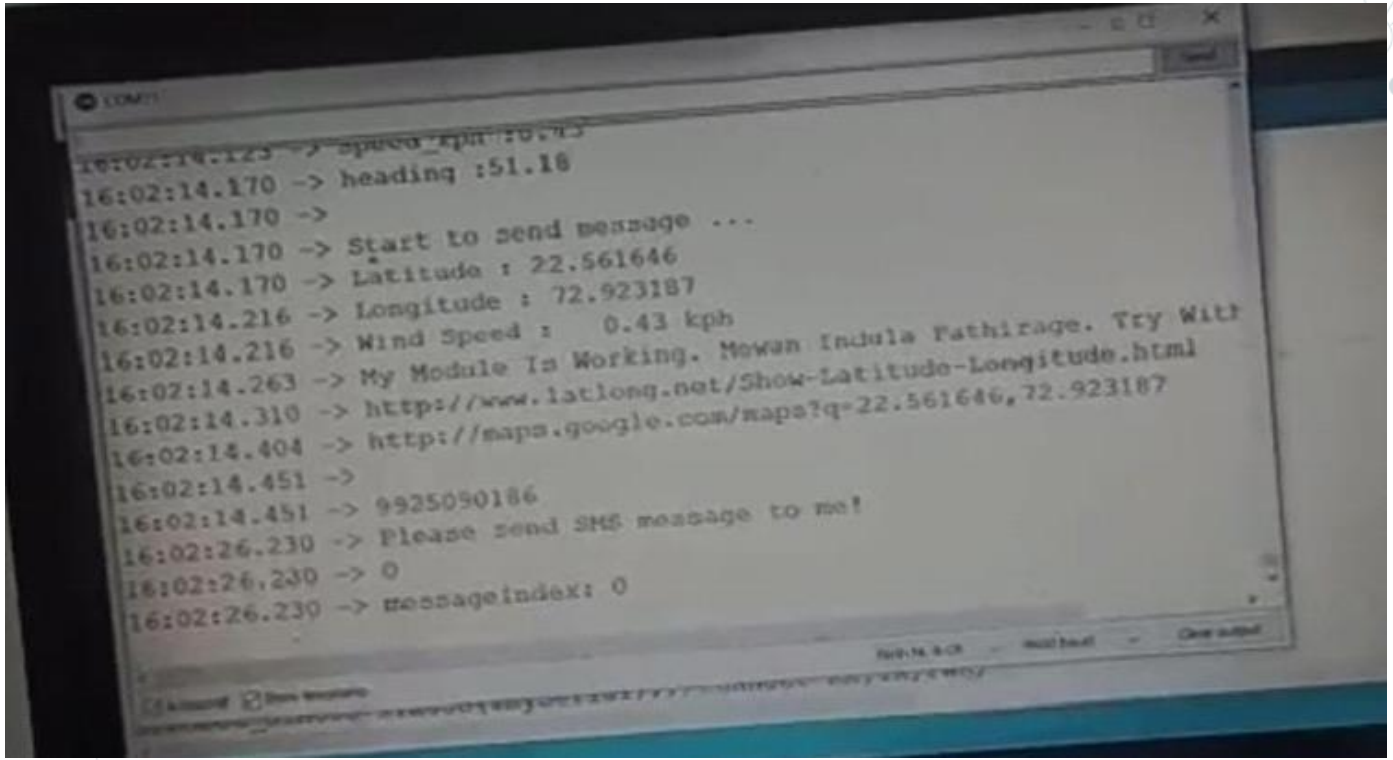
women_safety_Tracking

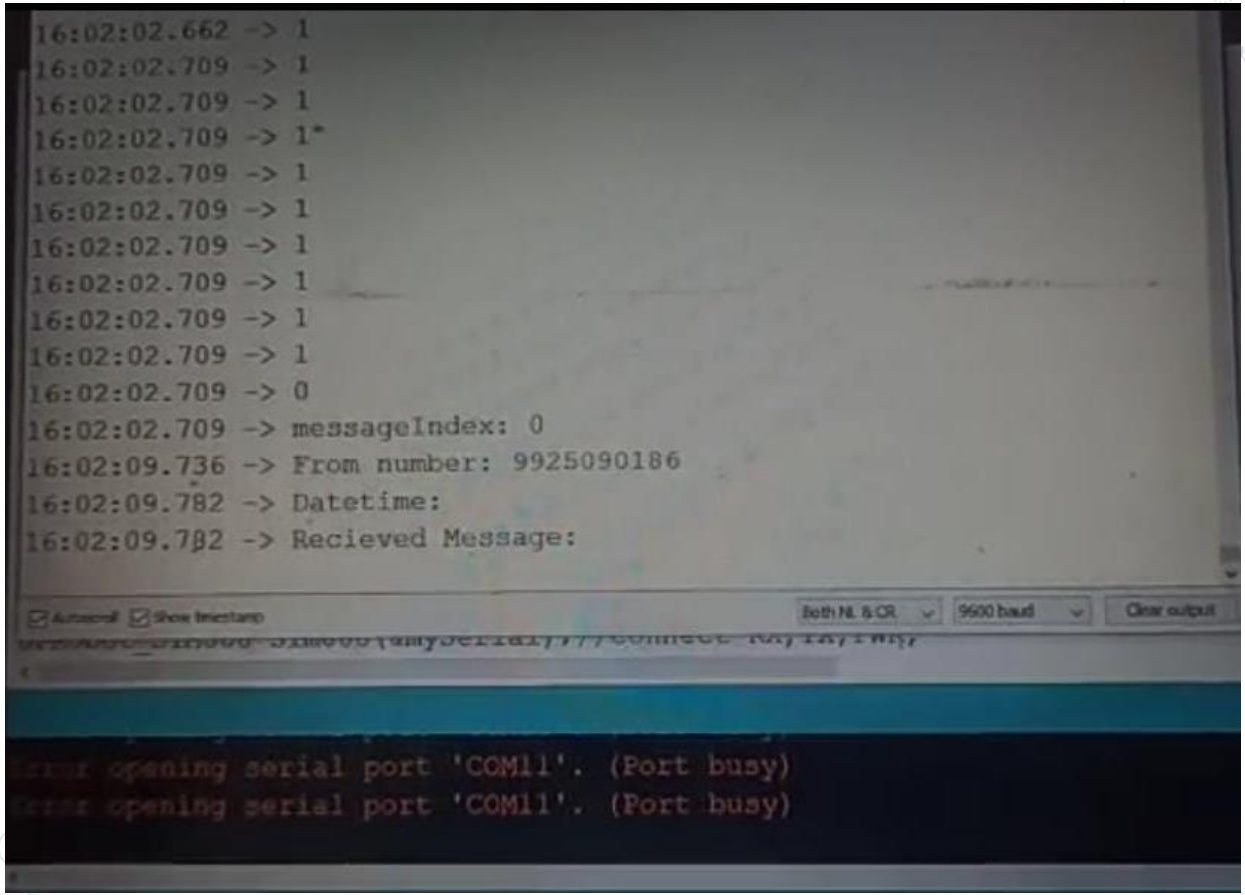
```
  //******** Initialize sim808 module *************
  while(!sim808.init())
  {
      Serial.print("Sim808 init error\r\n");
      delay(1000);
  }
  delay(3000);

  Serial.println("SIM Init success");

  Serial.println("Init Success, please send SMS message to me!");
}

void loop()
{
  //************ Detecting unread SMS ************************
   messageIndex = digitalRead(2);
   Serial.println(messageIndex);

   //************ At least, there is one UNREAD SMS ***********
   if (messageIndex == 0)
   {
```

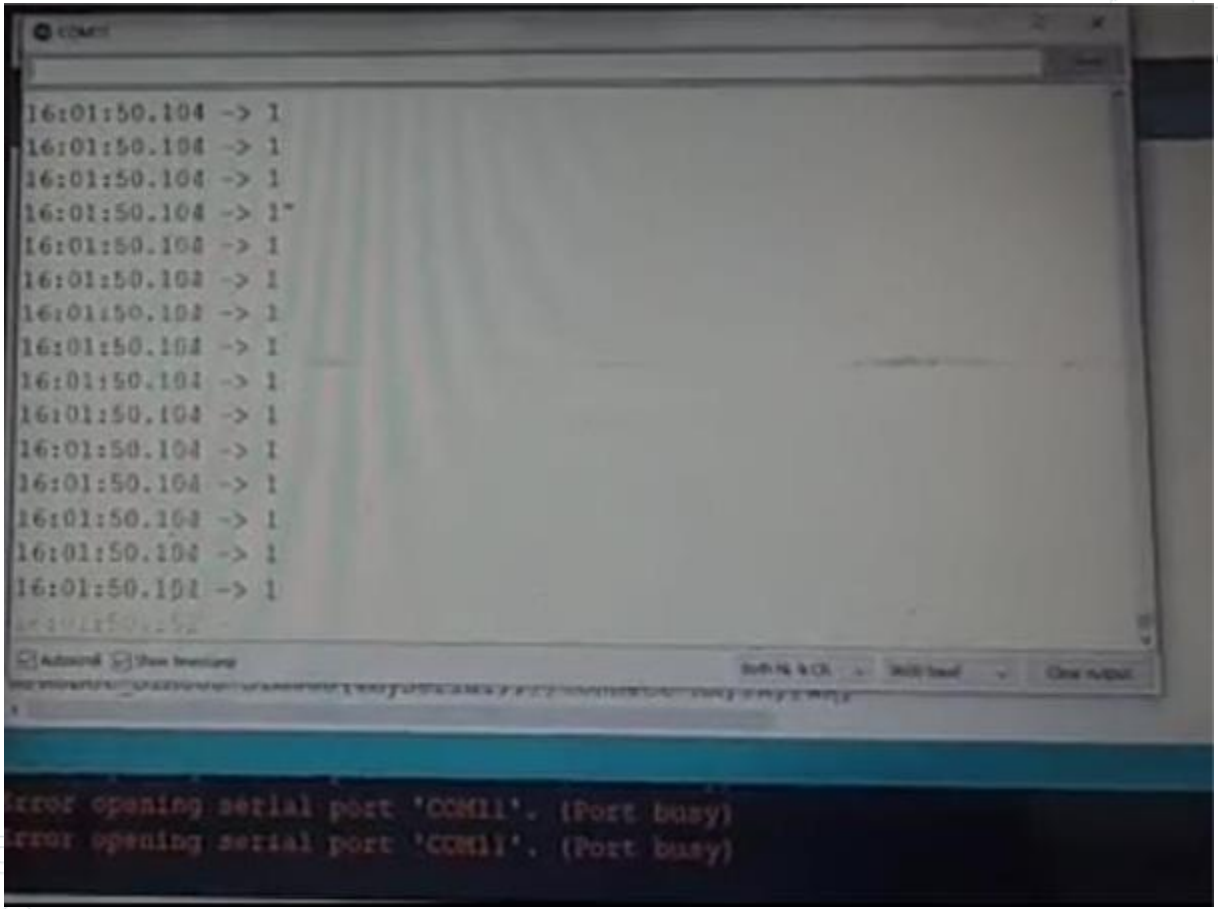
Functions used in Code

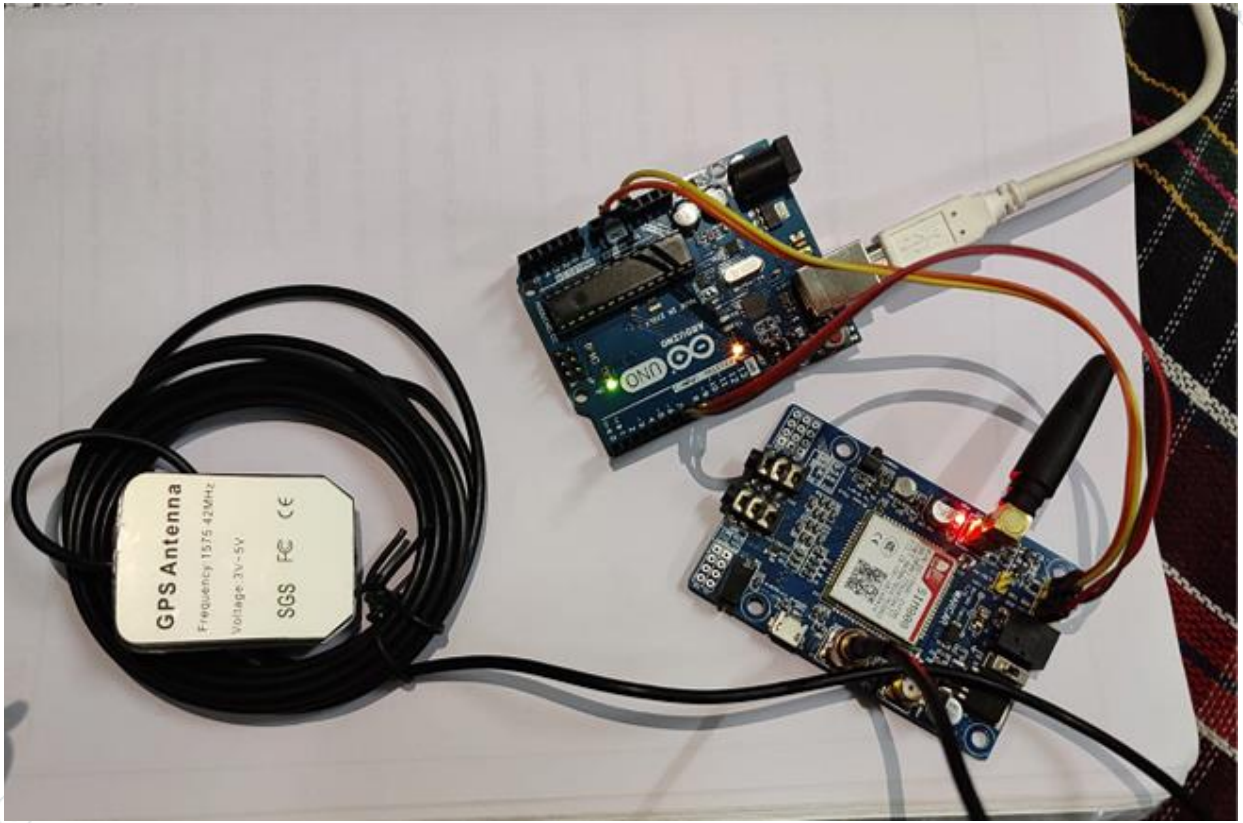
mySerial()	Used for communication between Arduino board and computer or other devices.
sendSMS()	Use serial monitor to type in SMS messages to different phone numbers.
getGPS()	It will get and print the values we want.
readSMS()	Read SMS messages and prompt them to serial monitor.
setup()	It is called when a sketch starts.
serial.print()	It statements to print the text and values you want to see.
delay()	It waits for moving on to the next line.
serial.println()	Prints data to serial port as human-readable ASCII text.
digitalRead()	It is used to read the logic state at pin.

Screen Layout (Code)

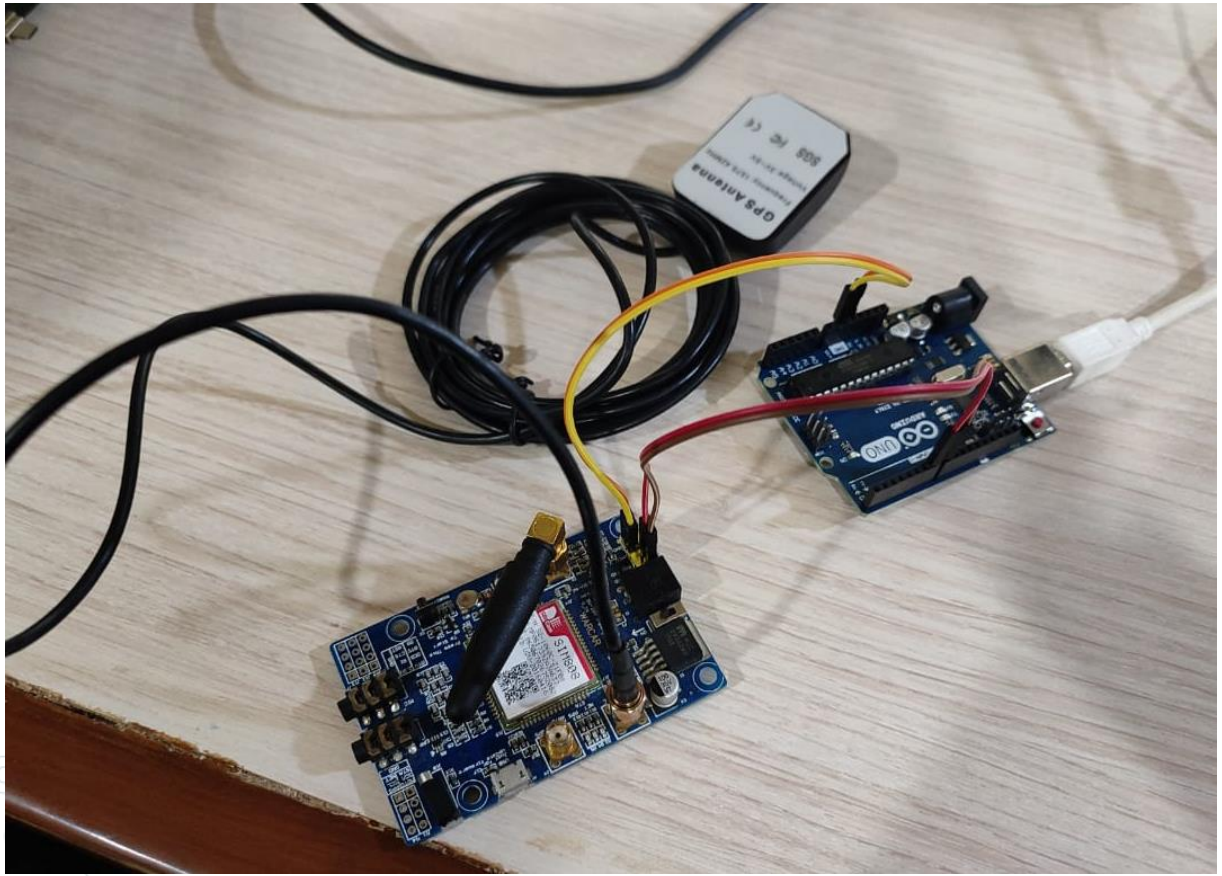


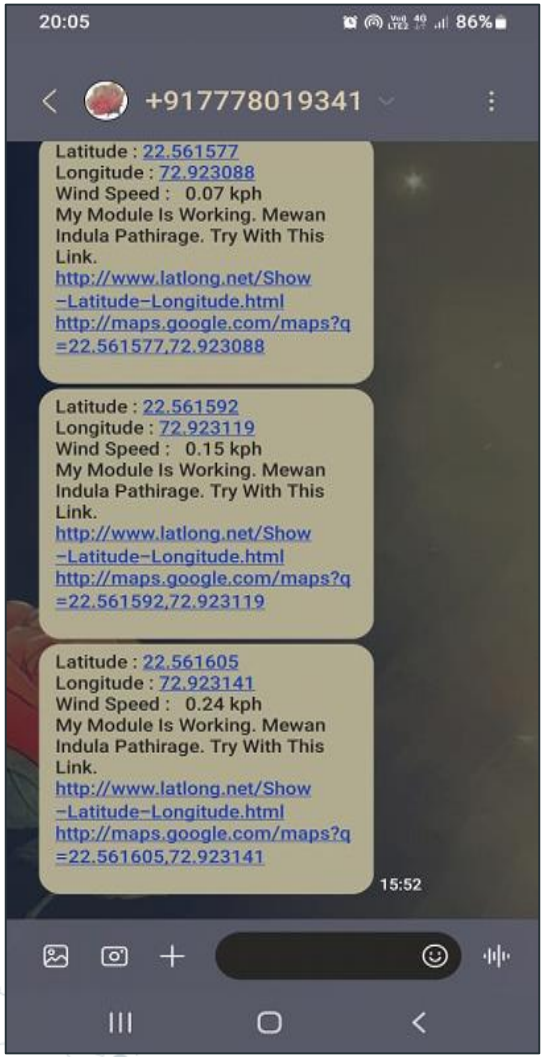

16:02:02.662 -> 1
16:02:02.709 -> 1
16:02:02.709 -> 1
16:02:02.709 -> 1
16:02:02.709 -> 1
16:02:02.709 -> 1
16:02:02.709 -> 1
16:02:02.709 -> 1
16:02:02.709 -> 1
16:02:02.709 -> 1
16:02:02.709 -> 0
16:02:02.709 -> messageIndex: 0
16:02:09.736 -> From number: 9925090186
16:02:09.782 -> Datetime:
16:02:09.782 -> Recieved Message:
Both NL & CR
9600 baud
Clear output
opening serial port 'COM11'. (Port busy)
opening serial port 'COM11'. (Port busy)


16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.104 -> 1
16:01:50.101 -> 1
Autoscroll
Show timestamp
Error opening serial port 'COM11'. (Port busy)
Error opening serial port 'COM11'. (Port busy)


GPS Antenna
Frequency:1575.42MHz
Voltage:3V~5V
SGS
UNO

Connection




20:05
86%
+917778019341
Latitude : 22.561577
Longitude : 72.923088
Wind Speed : 0.07 kph
My Module Is Working. Mewan Indula Pathirage. Try With This Link.
http://www.latlong.net/Show-Latitude-Longitude.html
http://maps.google.com/maps?q=22.561577,72.923088
Latitude : 22.561592
Longitude : 72.923119
Wind Speed : 0.15 kph
My Module Is Working. Mewan Indula Pathirage. Try With This Link.
http://www.latlong.net/Show-Latitude-Longitude.html
http://maps.google.com/maps?q=22.561592,72.923119
Latitude : 22.561605
Longitude : 72.923141
Wind Speed : 0.24 kph
My Module Is Working. Mewan Indula Pathirage. Try With This Link.
http://www.latlong.net/Show-Latitude-Longitude.html
http://maps.google.com/maps?q=22.561605,72.923141
15:52


20:54
68%
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Sardar Patel University
MOTA BAZAAR
Shastri Maidan,
Cleardekho Optical
5.0 (1)
Shop No. G-2 Bakrol Square Complex, Bakrol Rd, ...
Optician · 38 min
Closes soon · 21:30 · Opens 10:30 Tue
In-store shopping
Directions
Start
Call

Model Video

Thank You