ATULYA

ROBOISM

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Understanding the Problem

- One of the issues is to track the location of the package in cheap and efficient way.
- The safety and maintainence of the package if something happens that damages the product.
- Fire is one such issues.

Idea & Approach

The vehicle tracking system will send you the location to your mobile phone along with the Google map coordinate. You can request the location at any time & view the location on Google Maps installed on your mobile phone.

This is a cheaper solution than a two-way GPS communication system where the communication is done in both ways with GPS satellites. This project uses only one GPS device and two-way communication is achieved using a GSM modem. The GSM modem with a 4G SIM card is used for communication between the device and mobile phone.

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Components Required

1. **Sensors:** LM35
2. Arduino UNO
3. BreadBoard
4. SIM 900 GSM Module
5. Telecom Sim
6. Neo-6M GPS Module
7. Wires

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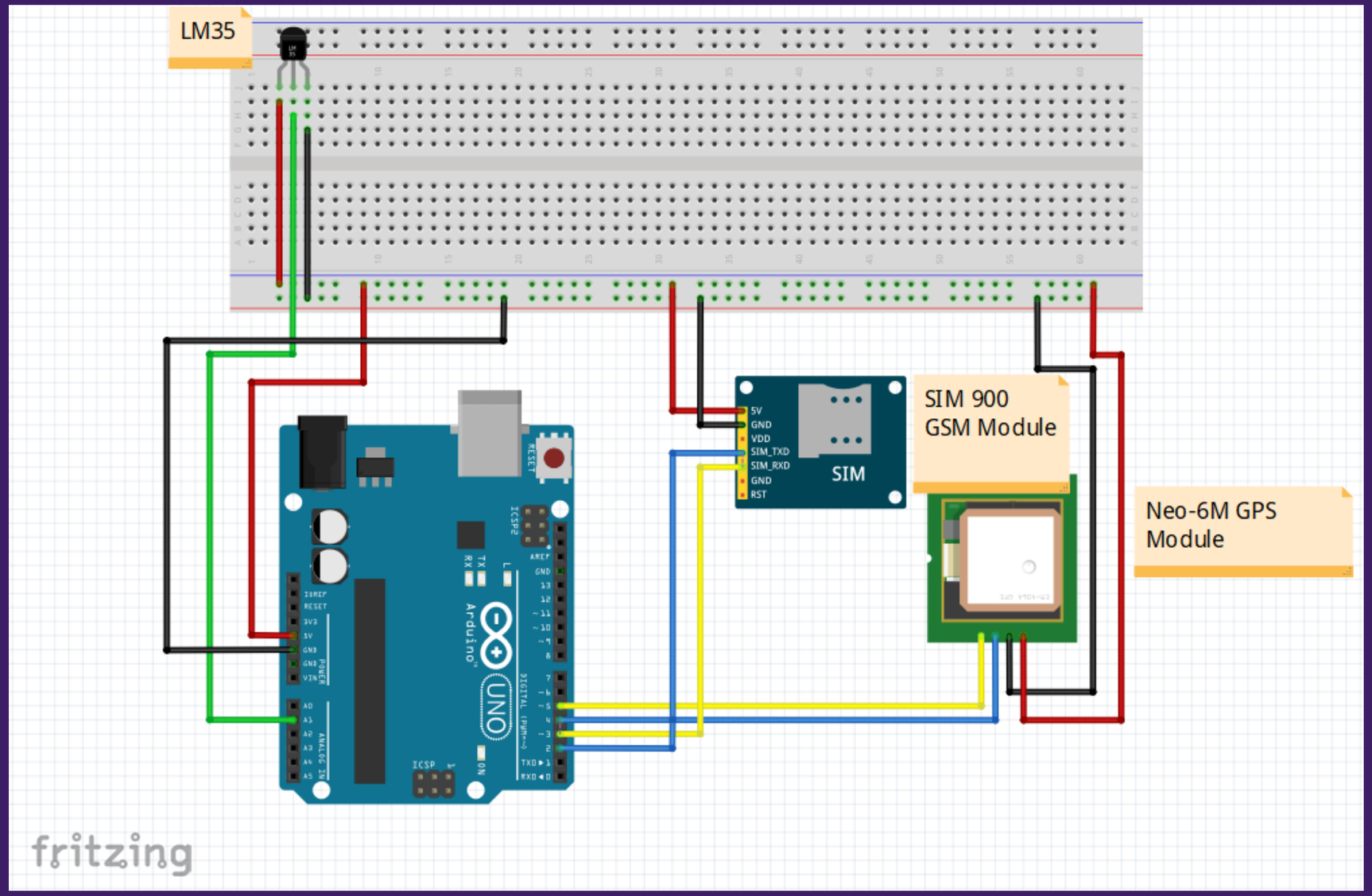
Circuit Diagram



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Code

Asset_Track_Manage | Arduino 1.8.19 (Windows Store 1.8.57.0)

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Asset_Track_Manage

```
#include <SoftwareSerial.h>
#include <TinyGPS.h>

TinyGPS mygps;
SoftwareSerial gps(4, 5);
SoftwareSerial gsm(2, 3);

int sensor = A1;
float gpslat, gpslon;
float temp, temp_alert_val, Temp_shut_val;
int sms_count = 0, fire;


void setup()
{
  pinMode(sensor,INPUT);

  gsm.begin(9600);
  gps.begin(9600);

  Serial.begin(9600);
  delay(500);
}
```

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Code

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```
void SetAlert()
{
  while(sms_count<3)
  {
    SendTextMessage();
  }
  fire = 1;
}

void CheckShutDown()
{
  if(fire == 1)
  {
    Temp_shut_val = CheckTemp();
    if(Temp_shut_val < 28)
    {
      sms_count=0;
      fire = 0;
    }
   }
}

void SendTextMessage()
```

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Asset_Track_Manage

```
void SendTextMessage()
{
  gsm.println("AT+CMGF=1");
  delay(2000);
  gsm.println("AT+CMGS=\"+911234567890\"\r");
  delay(2000);
  gsm.println("High Temperature(Fire Alert)");
  delay(200);
  gsm.println((char)26);
  delay(5000);
  gsm.print("Latitude :");
  gsm.println(gpslat, 6);
  gsm.print("Longitude:");
  gsm.println(gpslon, 6);
  delay(1000);
  gsm.write(0x1A);
  sms_count++;
}

void SendLocation()
{
  gps.listen();
```

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```
void SendLocation()
{
  gps.listen();
  while (gps.available())
  {
    int num = gps.read();
    if (mygps.encode(num))
    {
      mygps.f_get_position(&gpslat, &gpslon);
    }
  }
  gsm.listen();
    if (gsm.available() > 0)
    {
      String in = gsm.readString();
      in.trim();
      if (in.indexOf("Track Location") >= 0)
      {
        gsm.print("\r");
        delay(1000);
        gsm.print("AT+CMGF=1\r");
        delay(1000);
```

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Asset_Track_Manage

```
  }
  gsm.listen();
    if (gsm.available() > 0)
    {
      String in = gsm.readString();
      in.trim();
      if (in.indexOf("Track Location") >= 0)
      {
        gsm.print("\r");
        delay(1000);
        gsm.print("AT+CMGF=1\r");
        delay(1000);

        gsm.print("AT+CMGS=\"+911234567890\"\r");
        delay(1000);

        gsm.print("Latitude :");
        gsm.println(gpslat, 6);
        gsm.print("Longitude:");
        gsm.println(gpslon, 6);
        delay(1000);
        gsm.write(0x1A);
        delay(1000);
      }
  delay(100);
}
```

GitHub Link

https://github.com/alaykabir/RoboISM_IOT_Atulya

Resources

- https://www.pjrc.com/teensy/td_libs_TinyGPS.html
- https://www.realtimenetworks.com/blog/dos-and-donts-of-using-asset-tracking-tags

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THANK YOU