

## FINAL CODE

```
#include <SoftwareSerial.h>
#include <TinyGPS.h>
#include <TinyGPSPlus.h>
#define GPS_RX_PIN 2
#define GPS_TX_PIN 3
#define SIM900A_RX_PIN 7
#define SIM900A_TX_PIN 8
#define GPS_BAUD_RATE 9600
int pulseSensor = A1;
int buzzerPin = 12;
int pulse;
int pulseRate;
int pulse_threshold = 110;
float latitude, longitude;
TinyGPSPlus gps;
String message = "";
unsigned long last_update_time = 0;
SoftwareSerial gpsSerial(GPS_RX_PIN, GPS_TX_PIN);
SoftwareSerial gsmSerial(SIM900A_TX_PIN, SIM900A_RX_PIN);
void setup()
{
  pinMode(buzzerPin, OUTPUT);
  Serial.begin(9600);
  gpsSerial.begin(GPS_BAUD_RATE);
  gpsSerial.listen();
  readGPS();
```

```

    gsmSerial.begin(9600);
}
void sendSMS(String message)
{
    gsmSerial.print("AT+CMGF=1\r\n");
    delay(1000);
    gsmSerial.print("AT+CMGS=\"+918668070191\"\r\n");
    delay(1000);
    gsmSerial.print(message);
    delay(1000);
    gsmSerial.write(0x1A);
    delay(1000);
}
void loop()
{
    readGPS();
    sendLocationUpdate();
    checkPulseSensor();

}
void readGPS()
{
    while(1)
    {
        while (gpsSerial.available() > 0)
        {
            gps.encode(gpsSerial.read());

```

```

    }
    if (gps.location.isValid())
    {
        Serial.print("LATTITUDE="); Serial.println(gps.location.lat(), 6);
        Serial.print("LONGITUDE="); Serial.println(gps.location.lng(), 6);
        latitude=gps.location.lat();
        longitude=gps.location.lng();
        break;
    }

}

}

void checkPulseSensor()
{
    pulse = analogRead(pulseSensor);
    pulseRate = map(pulse, 0, 1023, 0, 220);
    Serial.print(pulseRate);Serial.print(" , \n");
    if (pulseRate > pulse_threshold)
    {
        //Serial.println(" message initiated ");
        digitalWrite(buzzerPin, HIGH);

        message = "ALERT: High pulse rate detected at
http://www.google.com/maps/place/" + String(gps.location.lat(), 6) + "," +
String(gps.location.lng(), 6);

        sendSMS(message);

        Serial.print("\n");

        Serial.println("SMS sent successfully ");
        delay(100);
    }
}

```

```
}  
else  
{  
    digitalWrite(buzzerPin, LOW);  
}  
delay(100);  
}  
void sendLocationUpdate()  
{  
    if (millis() - last_update_time >= 300000)  
    {  
        message = "http://www.google.com/maps/place/" + String(gps.location.lat(),  
6) + "," + String(gps.location.lng(), 6);  
        sendSMS(message);  
        Serial.print("\n");  
        Serial.println("after 5 minute the message sent ");  
        last_update_time = millis();  
    }  
}
```