



//IOT Based Realtime GPS Tracking

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//Android Mobile Application Download Link:

<https://play.google.com/store/apps/details?id=com.akifagoelectronics.akifagotracker>

//

//Purchase a device ID and replace it with the xxxxx value found above void setup(String deviceId = "xxxxx"); and upload code.

//For more information, contact us using any of the means below:

//Website: <https://www.akifagoelectronics.com>, <https://www.akifagoelectronics.com.ng>

//WhatsApp Chat: +2347031011012

//Email: [akifagoelectronics@yahoo.com](mailto:akifagoelectronics@yahoo.com)

//

//

#include <SoftwareSerial.h>

#include <TinyGPS.h>

#include <EEPROM.h>

```
TinyGPS gps;
SoftwareSerial gsm(2, 3);

int gpsLed = 4;
String latitude = "";
String longitude = "";
String deviceID = "xxxxx"; //Change xxxxx To Purchased device ID
int provider = 0;
int select = 8;
int airtelLed = 5;
int mtnLed = 6;
int count = 0;
//
void setup() {
  Serial.begin(9600);
  gsm.begin(9600);
  pinMode(gpsLed, OUTPUT);
  pinMode(airtelLed, OUTPUT);
  pinMode(mtnLed, OUTPUT);
  pinMode(select, INPUT);
  delay(10000);
  provider = EEPROM.read(0);
  if(provider > 2){
    provider = 1;
    EEPROM.write(0,1);
    digitalWrite(airtelLed,HIGH);
  }
  if(provider == 2){
    digitalWrite(mtnLed,HIGH);
  }
  if(provider == 1){
```

```

    digitalWrite(airtelLed,HIGH);
}
count = provider;
delay(1000);
}

void loop() {
if(digitalRead(select)== HIGH){
    count++;
    if(count == 3){
        count = 1;
    }
    if(count == 2){
        provider = 2;
        digitalWrite(airtelLed,LOW);
        digitalWrite(mtnLed,HIGH);
        EEPROM.write(0,2);
    }
    if(count == 1){
        provider = 1;
        digitalWrite(mtnLed,LOW);
        digitalWrite(airtelLed,HIGH);
        EEPROM.write(0,1);
    }
    delay(500);
}
else{
    bool newData = false;
    unsigned long chars;
    unsigned short sentences, failed;
    // For one second we parse GPS data and report some key values

```

```

for (unsigned long start = millis(); millis() - start < 1000;)
{
  while (Serial.available())
  {
    char c = Serial.read();
    // Serial.write(c); // uncomment this line if you want to see the GPS data flowing
    if (gps.encode(c) // Did a new valid sentence come in?
        newData = true;
    }
  }
  if (newData)
  {
    float flat, flon;
    unsigned long age;
    gps.f_get_position(&flat, &flon, &age);
    //
    latitude = String(flat == TinyGPS::GPS_INVALID_F_ANGLE ? 0.0 : flat, 6);
    longitude = String(flon == TinyGPS::GPS_INVALID_F_ANGLE ? 0.0 : flon, 6);
    //
    digitalWrite(gpsLed, HIGH);
    //
    if(provider == 2){
      sendDataMTN();
    }
    if(provider == 1){
      sendDataAirtel();
    }
  }
  if (!newData){
    //
    digitalWrite(gpsLed, LOW);
  }
}

```

```

    //
  }
}

void sendDataAirtel(){
  gsm.println("AT+CSQ");
  delay(1000);
  gsm.println("AT+CGATT?");
  delay(1000);
  gsm.println("AT+SAPBR=3,1,CONTTYPE,GPRS");
  delay(1000);
  gsm.println("AT+SAPBR=3,1,APN,internet.ng.zain.com");
  delay(1000);
  gsm.println("AT+SAPBR=3,1,USER,internet");
  delay(1000);
  gsm.println("AT+SAPBR=3,1,PWD,internet");
  delay(1000);
  gsm.println("AT+SAPBR=1,1");
  delay(1000);
  gsm.println("AT+HTTPIPINIT");
  delay(1000);
  gsm.println("AT+HTTTPARA=CID,1");
  delay(1000);

  gsm.println("AT+HTTTPARA=URL,www.akifagoelectronics.com.ng/AEC78TGPSTRA2CK/dataUpdate_
  one.php?id=" + String(deviceID) + "&latitudeValue=" + String(latitude) + "&longitudeValue=" +
  String(longitude));

  delay(1000);
  gsm.println("AT+HTTTPACTION=0");
  delay(1000);
  gsm.println("AT+HTTPTERM");
}

```

```

    delay(1000);
}

void sendDataMTN(){
    gsm.println("AT+CSQ");
    delay(1000);
    gsm.println("AT+CGATT?");
    delay(1000);
    gsm.println("AT+SAPBR=3,1,CONTYPE,GPRS");
    delay(1000);
    gsm.println("AT+SAPBR=3,1,APN,web.gprs.mtnnigeria.net");
    delay(1000);
    gsm.println("AT+SAPBR=3,1,USER,web");
    delay(1000);
    gsm.println("AT+SAPBR=3,1,PWD,web");
    delay(1000);
    gsm.println("AT+SAPBR=1,1");
    delay(1000);
    gsm.println("AT+HTTPIPINIT");
    delay(1000);
    gsm.println("AT+HTTTPARA=CID,1");
    delay(1000);

    gsm.println("AT+HTTTPARA=URL,www.akifagoelectronics.com.ng/AEC78TGPSTRA2CK/dataUpdate_
one.php?id=" + String(deviceID) + "&latitudeValue=" + String(latitude) + "&longitudeValue=" +
String(longitude));

    delay(1000);
    gsm.println("AT+HTTTPACTION=0");
    delay(1000);
    gsm.println("AT+HTTPTERM");
    delay(1000);
}

```