# IOT BASED SAFETY GADGET FOR CHILD SAFETY MONITORING AND NOTIFICATION

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# FINAL CODE :

#include <WiFi.h> #include <WiFiClient.h> #include <PubSubClient.h> #include <ArduinoJson.h> #include<TinyGPS++.h> #define RXD2 16

#define TXD2 17 HardwareSerial neogps(1); TinyGPSPlus gps;

char arr[100];

const char\* ssid = "Redmi";

const char\* password = "krish@08"; #define ID "17cmwk"

#define DEVICE\_TYPE "Tracker"

#define DEVICE\_ID "gps1" #define TOKEN "childtracker1"

char server[] = ID ".messaging.internetofthings.ibmcloud.com"; char publish\_Topic1[] = "iot-2/evt/Data1/fmt/json";

char publish\_Topic2[] = "iot-2/evt/Data2/fmt/json"; char authMethod[] = "use-token-auth";

char token[] = TOKEN;

char clientId[] = "d:" ID ":" DEVICE\_TYPE ":" DEVICE\_ID;

WiFiClient wifiClient;

PubSubClient client(server, 1883, NULL, wifiClient); void setup() {

Serial.begin(115200); Serial.println(); wifi\_init();

}

long previous\_message = 0; void loop() {

client.loop();

String payload = getLocationPayload(); if(payload=="{}"){

return;

}

Serial.print("Sending payload: "); Serial.println(payload);

if (client.publish(publish\_Topic1, arr)) { Serial.println("Published successfully");

} else

{

Serial.println("Failed");

}

delay(2000);

}

void wifi\_init(){ WiFi.begin(ssid, password);

neogps.begin(9600,SERIAL\_8N1,RXD2,TXD2); while (WiFi.status() != WL\_CONNECTED) { delay(500);

Serial.print(".");

}

Serial.println(""); Serial.println(WiFi.localIP()); if (!client.connected()) {

Serial.print("Reconnecting client to "); Serial.println(server);

while (!client.connect(clientId, authMethod, token)) { Serial.print(".");

delay(500);

}

Serial.println("Connected TO IBM IoT cloud!");

}

}

String getLocationPayload(){ boolean newData = false;

for(unsigned long start = millis();millis()-start<1000;){

while(neogps.available()){ if(gps.encode(neogps.read())){ newData = true;

}

}

}

String payload; if(newData == true){ newData = false;

payload = locationPayloadGenerator();

}

else{

Serial.println("No data"); payload ="{}";

}

return payload;

}

String locationPayloadGenerator(){ String payload = "{}"; if(gps.location.isValid()){

float lat = gps.location.lat(); float lon = gps.location.lng();

payload = "{\"latitude\" : "+String(lat)+",\"longitude\" : "+String(lon)+"}"; create\_json(lat,lon);

}

return payload;

}

void create\_json(float lat,float lon){ StaticJsonDocument<100> doc; JsonObject root = doc.to<JsonObject>(); root["name"]="Child";

root["latitude"] = lat; root["longitude"] = lon; serializeJsonPretty(doc,arr);

}