SPRINT 3

Date	9 NOV 2022
Team ID	PNT2022TMID50622
Project	Personal Assistance for Seniors who Are Self-Reliant

Iot device program :

```
#include <WiFi.h>//library for wifi

#include <PubSubClient.h>//library for MQtt

#include <LiquidCrystal_I2C.h>

#include "DHT.h"// Library for dht11

#define DHTPIN 15     // what pin we're connected to

#define DHTTYPE DHT11   // define type of sensor DHT 11

#define Buzzer 2

DHT dht (DHTPIN, DHTTYPE);// creating the instance by passing pin and typr of dht connected

void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);



//-------credentials of IBM Accounts------


#define ORG "1l6lvg"//IBM ORGANITION ID

#define DEVICE_TYPE "nodeMCU"//Device type mentioned in ibm watson IOT Platform

#define DEVICE_ID "12345"//Device ID mentioned in ibm watson IOT Platform

#define TOKEN "?nUW@lkY)OglhHt)i6"     //Token

String data3="";



//-------- Customise the above values --------

char server[] = ORG ".messaging.internetofthings.ibmcloud.com";// Server Name

char publishTopic[] = "iot-2/evt/Data/fmt/json";// topic name and type of event perform and format in which data to be send
```

```
char subscribetopic[] = "iot-2/cmd/command/fmt/String";// cmd  REPRESENT command type AND COMMAND IS TEST OF FORMAT STRING

char authMethod[] = "use-token-auth";// authentication method

char token[] = TOKEN;

char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client id

LiquidCrystal_I2C lcd(0x27,16,2);


//----------------------------------------

WiFiClient wifiClient; // creating the instance for wificlient

PubSubClient client(server, 1883, callback ,wifiClient); //calling the predefined client id by passing parameter like server id,portand wificredential

void setup()// configureing the ESP32

{

  Serial.begin(115200);

  dht.begin();

  pinMode(Buzzer,OUTPUT);

  delay(10);

  Serial.println();

  wificonnect();

  mqttconnect();

}


void loop()// Recursive Function

{

  if (!client.loop()) {

    mqttconnect();

  }

}

void PublishData(float temp, float humid) {

  mqttconnect();//function call for connecting to ibm


}
```

```
void mqttconnect() {
  if (!client.connected()) {
    Serial.print("Reconnecting client to ");
    Serial.println(server);
    while (!!!client.connect(clientId, authMethod, token)) {
      Serial.print(".");
      delay(500);
    }

     initManagedDevice();
     Serial.println();
  }
}
void wificonnect() //function defination for wificonnect
{
  Serial.println();
  Serial.print("Connecting to ");

  WiFi.begin("Wokwi-GUEST", "", 6);//passing the wifi credentials to establish the connection
  while (WiFi.status() != WL_CONNECTED) {
    delay(500);
    Serial.print(".");
  }
  Serial.println("");
  Serial.println("WiFi connected");
  Serial.println("IP address: ");
  Serial.println(WiFi.localIP());
}

void initManagedDevice() {
  if (client.subscribe(subscribetopic)) {
    Serial.println((subscribetopic));
```

```
    Serial.println("subscribe to cmd OK");
  } else {
    Serial.println("subscribe to cmd FAIBuzzer");
  }
}

void callback(char* subscribetopic, byte* payload, unsigned int payloadLength)
{

  Serial.print("callback invoked for topic: ");
  Serial.println(subscribetopic);
  for (int i = 0; i < payloadLength; i++) {
    //Serial.print((char)payload[i]);
    data3 += (char)payload[i];
  }

  Serial.println("Medicine Name: "+ data3);
  if(data3 != "")
  {
    lcd.init();
    lcd.print(data3);
digitalWrite(Buzzer,HIGH);
delay(20000);
digitalWrite(Buzzer,LOW);
  }
  else
  {
digitalWrite(Buzzer,LOW);
  }
data3="";
}
```