

PROJECT DEVELOPMENT PHASE

SPRINT-2

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| Team ID | PNT2022TMID39342 |
| Date | 4 November 2022 |
| Project Name | Hazardous Area Monitoring for Industrial Plant powered by IoT |

ALGORITHM:

- Import Packages
- Create 'myConfig' location
- Implement the `wiotp.sdk.device.DeviceClient`
- Run a while Loop
- Get temperature and humidity sensor readings
- Display data

CODE:

```
#IBM Watson IOT Platform
#pip install wiotp-sdk
import wiotp.sdk.device
import time
import random

myConfig = {
    "identity": {
        "orgId": "hj5fmy",
        "typeId": "NodeMCU",
        "deviceId": "12345"
    },
    "auth": {
        "token": "12345678"
    }
}

def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()
```

```

while True: temp=random.randint(-
20,125) hum=random.randint(0,100)
myData={'temperature':temp, 'humidity':hum}
client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0,
onPublish=None)
print("Published data Successfully: %s", myData)
client.commandCallback = myCommandCallback time.sleep(2)
client.disconnect()

```

SENSOR CODE:

```

#include <dht.h>

#define dht_apin A0 // Analog Pin 0 is connected to DHT sensor #define mqt_apin
A1 // Analog Pin 1 is connected to MQT 135 sensor dht DHT;
int sensorValue;

void setup(){

  Serial.begin(9600); //Serial port to communicate with Python code
  Serial1.begin(9600); //Serial port to communicate with Wearable device through
  Bluetooth (HC-05)

  delay(500); //Delay to let system boot }
void loop(){

  DHT.read11(dht_apin); // read analog input pin 0(DHT11) sensorValue =
  analogRead(mqt_apin); // read analog input pin 1(MQ135)

  //Send Humidity status to Python Code

  Serial.print("Current humidity = ");
  Serial.print(DHT.humidity);
  Serial.print("% ");

  //Send Temperature status to Python Code

  Serial.print("temperature = ");
  Serial.print(DHT.temperature);
  Serial.println("C ");

  //Send AirQuality sensor value to Python code

  Serial.print("AirQua=");

```

```
Serial.print(sensorValue, DEC);  
Serial.println(" PPM");  
//Send signals to the Wearable
```

```
Serial1.println("H T A");  
Serial1.println(DHT.humidity);  
Serial1.println(DHT.temperature);  
Serial1.println(sensorValue, DEC);
```

```
delay(100); // wait 100 milliseconds for next reading }
```