**PROJECT DEVELOPMENT PHASE SPRINT-2**

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| Date | 21 November 2022 |
| Team ID | PNT2022TMID15027 |
| 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

}