Project Development Phase
Delivery of Sprint 3

Date	17 November 2022
Team ID	PNT2022TMID30997
Project Name	Project –Gas leakage monitoring and alerting system for industries
Marks	20 marks

Code:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random



#Provide your IBM Watson Device Credentials
organization="vh5b9d"
deviceType="Raspberry"
deviceId="0330"
authMethod="token"
authToken="123456789"

# Initialize GPIO



def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("Light  is on")
    elif (status == "lightoff") :
        print ("Light is off")
```

```
    elif status == "sprinkleron":
        print("Sprinkler is OFF")
    elif status == "sprinkleron":
        print("Sprinkler is ON")
    #print(cmd)




try:
        deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method": authMethod, "auth-token": authToken}
        deviceCli = ibmiotf.device.Client(deviceOptions)
        #.....


except Exception as e:
        print("Caught exception connecting device: %s" % str(e))
        sys.exit()


# Connect and send a datapoint "hello" with value "world" into the cloud as an event of type "greeting" 10 times
deviceCli.connect()


while True:
    #Get Sensor Data from DHT11


    temp=random.randint(0,100)
    Humid=random.randint(0,100)
    gas=random.randint(0,100)


    data = { 'temp' : temp, 'Humid': Humid, 'gas' : gas }
    #print data
```

```
        def myOnPublishCallback():
            print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, "Gas_Level =
%s %%" %gas, "to IBM Watson")


        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
        if not success:
            print("Not connected to IoTF")
        time.sleep(1)


        deviceCli.commandCallback = myCommandCallback


# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

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```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random


#Provide your IBM Watson Device Credentials
organization = "vq4nsy"
deviceType = "PNT2022TMID47483"
deviceId = "PNT2022TMID47483DEVICEID"
authMethod = "token"
authToken = "0vZoxRf6LrhADWKjb!"

# Initialize GPIO


def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="alarmon":
        print ("Alarm is on")
    elif (status == "alarmoff") :
        print ("Alarm is off")
    elif status == "sprinkleron":
        print("Sprinkler is OFF")
    elif status == "sprinkleron":
        print("Sprinkler is ON")
    #print(cmd)



try:
        deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-metho
        deviceCli = ibmiotf.device.Client(deviceOptions)
        #.....................................

except Exception as e:
        print("Caught exception connecting device: %s" % str(e))
        sys.exit()

# Connect and send a datapoint "hello" with value "world" into the cloud as an event of type
deviceCli.connect()

while True:
        #Get Sensor Data from DHT11
```

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```
Published Temperature = 59 C Humidity = 25 % Gas_Level = 66 % to IBM Watson
Published Temperature = 85 C Humidity = 100 % Gas_Level = 56 % to IBM Watson
Published Temperature = 65 C Humidity = 73 % Gas_Level = 13 % to IBM Watson
Published Temperature = 48 C Humidity = 38 % Gas_Level = 38 % to IBM Watson
Published Temperature = 54 C Humidity = 2 % Gas_Level = 26 % to IBM Watson
Published Temperature = 80 C Humidity = 72 % Gas_Level = 39 % to IBM Watson
Published Temperature = 48 C Humidity = 32 % Gas_Level = 72 % to IBM Watson
Published Temperature = 16 C Humidity = 2 % Gas_Level = 14 % to IBM Watson
Published Temperature = 3 C Humidity = 29 % Gas_Level = 84 % to IBM Watson
Published Temperature = 22 C Humidity = 3 % Gas_Level = 22 % to IBM Watson
Published Temperature = 28 C Humidity = 58 % Gas_Level = 23 % to IBM Watson
Published Temperature = 100 C Humidity = 57 % Gas_Level = 68 % to IBM Watson
Published Temperature = 37 C Humidity = 65 % Gas_Level = 30 % to IBM Watson
Published Temperature = 85 C Humidity = 9 % Gas_Level = 13 % to IBM Watson
Published Temperature = 68 C Humidity = 24 % Gas_Level = 36 % to IBM Watson
Published Temperature = 52 C Humidity = 62 % Gas_Level = 4 % to IBM Watson
Published Temperature = 83 C Humidity = 22 % Gas_Level = 98 % to IBM Watson
Published Temperature = 37 C Humidity = 79 % Gas_Level = 66 % to IBM Watson
Published Temperature = 80 C Humidity = 56 % Gas_Level = 63 % to IBM Watson
Published Temperature = 8 C Humidity = 89 % Gas_Level = 56 % to IBM Watson
Published Temperature = 28 C Humidity = 72 % Gas_Level = 20 % to IBM Watson
Published Temperature = 48 C Humidity = 76 % Gas_Level = 37 % to IBM Watson
Published Temperature = 52 C Humidity = 25 % Gas_Level = 90 % to IBM Watson
Published Temperature = 20 C Humidity = 50 % Gas_Level = 85 % to IBM Watson
Published Temperature = 59 C Humidity = 10 % Gas_Level = 3 % to IBM Watson
Published Temperature = 10 C Humidity = 55 % Gas_Level = 5 % to IBM Watson
Published Temperature = 97 C Humidity = 55 % Gas_Level = 87 % to IBM Watson
Published Temperature = 46 C Humidity = 73 % Gas_Level = 79 % to IBM Watson
Published Temperature = 92 C Humidity = 92 % Gas_Level = 82 % to IBM Watson
Published Temperature = 36 C Humidity = 11 % Gas_Level = 27 % to IBM Watson
Published Temperature = 71 C Humidity = 1 % Gas_Level = 48 % to IBM Watson
Published Temperature = 26 C Humidity = 6 % Gas_Level = 21 % to IBM Watson
Published Temperature = 97 C Humidity = 96 % Gas_Level = 54 % to IBM Watson
Published Temperature = 18 C Humidity = 63 % Gas_Level = 73 % to IBM Watson
Published Temperature = 85 C Humidity = 66 % Gas_Level = 75 % to IBM Watson
Published Temperature = 48 C Humidity = 76 % Gas_Level = 27 % to IBM Watson
Published Temperature = 89 C Humidity = 83 % Gas_Level = 57 % to IBM Watson
Published Temperature = 60 C Humidity = 23 % Gas_Level = 17 % to IBM Watson
Published Temperature = 2 C Humidity = 7 % Gas_Level = 10 % to IBM Watson
Published Temperature = 7 C Humidity = 53 % Gas_Level = 47 % to IBM Watson
Published Temperature = 17 C Humidity = 60 % Gas_Level = 74 % to IBM Watson
Published Temperature = 46 C Humidity = 2 % Gas_Level = 97 % to IBM Watson
Published Temperature = 90 C Humidity = 68 % Gas_Level = 30 % to IBM Watson
Published Temperature = 82 C Humidity = 8 % Gas_Level = 64 % to IBM Watson
Published Temperature = 90 C Humidity = 65 % Gas_Level = 0 % to IBM Watson
Published Temperature = 45 C Humidity = 75 % Gas_Level = 6 % to IBM Watson
```