Project Development -Delivery of Sprint-1

Date	29 Oct 2022
Team ID	PNT2022TMID26547
Project Name	Project -Smart farmer-IOT enabled smart Farming Application

Python Code:

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

ms=0
api_key = "a0db30a689a774b93ffcb58ef2eddfda"

base_url = "http://api.openweathermap.org/data/2.5/weather?"

city_name = 'Chennai, IN'

complete_url = base_url + "appid=" + api_key + "&q=" + city_name

status='motor off'
myConfig = {
   "identity": {
      "orgId": "17lsro",
```

```
        "typeId": "MyDeviceType",
        "deviceId":"12345"
    },
    "auth": {
        "token": "GkatKdiUS?UVHKvnAD"
    }
}


def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" %
cmd.data['command'])
    m=cmd.data['command']
    if(m=="MOTOR ON"):
        print("MOTOR  IS ON")
        global status
        status='motor on'
        myData={'temperature':temp,
'humidity':hum,'soilmoisture':sm_percentage,'status':status,'api_temperature':
api_temperature,'api_pressure':api_pressure,'api_humidity':api_humidity,'api
_weather_description':api_weather_description}
        client.publishEvent(eventId="status", msgFormat="json", data=myData,
qos=0, onPublish=None)
        print("Published data Successfully: %s", myData)


        time.sleep(2)


    elif(m=="MOTOR OFF"):
        print("MOTOR IS OFF")
```

```
        status='motor off'
        myData={'temperature':temp,
'humidity':hum,'soilmoisture':sm_percentage,'status':status,'api_temperature':
api_temperature,'api_pressure':api_pressure,'api_humidity':api_humidity,'api
_weather_description':api_weather_description}
        client.publishEvent(eventId="status", msgFormat="json", data=myData,
qos=0, onPublish=None)
        print("Published data Successfully: %s", myData)


        time.sleep(2)



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


while True:
    response = requests.get(complete_url)
    x = response.json()
    if x["cod"] != "404":




        y = x["main"]



        api_temperature = y["temp"]
```

```
        api_pressure = y["pressure"]


        api_humidity = y["humidity"]


        z = x["weather"]


        api_weather_description = z[0]["description"]

    temp=random.randint(-20,125)
    hum=random.randint(0,100)
    soilmoisture=random.randint(0,1023)#analog sensor
    sm_percentage=(soilmoisture/1023)*100
    sm_percentage=int(sm_percentage)
    myData={'temperature':temp,
'humidity':hum,'soilmoisture':sm_percentage,'status':status,'api_temperature':
api_temperature,'api_pressure':api_pressure,'api_humidity':api_humidity,'api
_weather_description':api_weather_description}
    client.publishEvent(eventId="status", msgFormat="json", data=myData,
qos=0, onPublish=None)
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
    time.sleep(2)
```

time.sleep(2)

client.disconnect()

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        client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
        print("Published data Successfully: %s", myData)

        time.sleep(2)
```

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    sm_percentage=int(sm_percentage)
    myData={'temperature':temp, 'humidity':hum,'soilmoisture':sm_percentage,'status':status,'api_temperature':api_temperature,'api_pressure':api_pressure,'ap
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
    time.sleep(2)

time.sleep(2)
client.disconnect()
```

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Running of Python Code