Project Development Phase
Delivery of Sprint 4

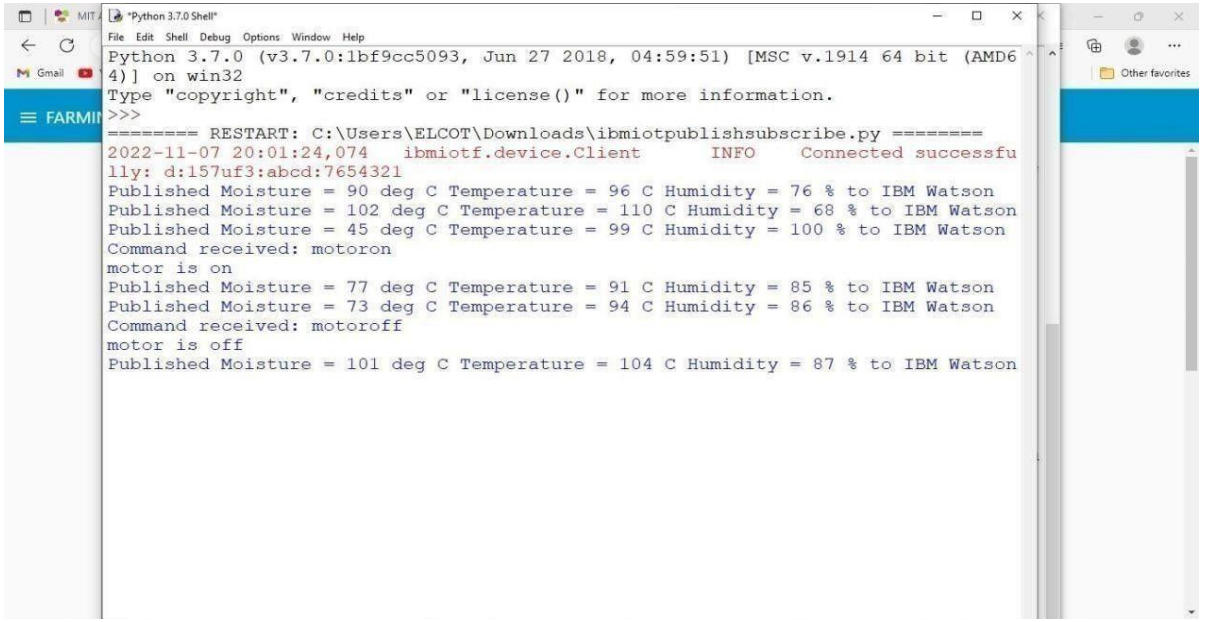
Date	15 November 2022
Team ID	PNT2022TMID14459
Project Name	SmartFarmer – IoT Enabled Smart Farming Application

```
Import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = " 62bxw0"
deviceType = "Smartfarming"
deviceId = "1234"
authMethod = " use-token-auth"
authToken = "12345678"
# Initialize GPIO
```

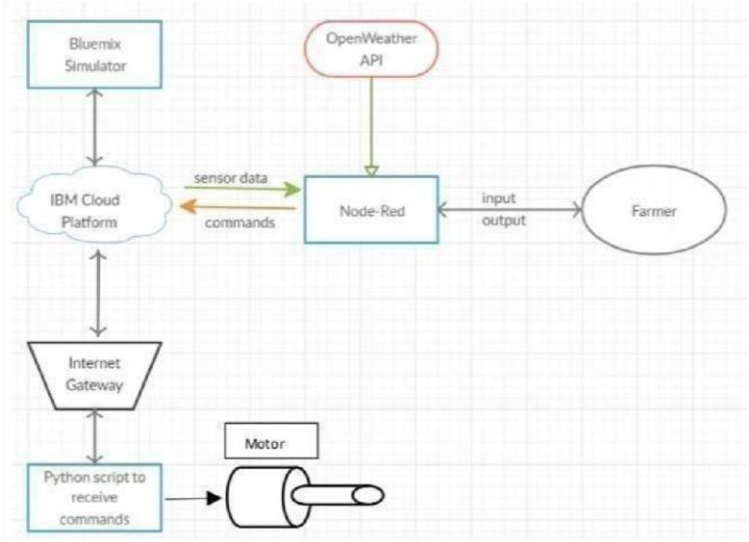
```
Def myCommandCallback(cmd):
        print("Command received: %s" % cmd.data['command'])
status=cmd.data['command']
if status=="motoron":
        print ("motor is on")
elif status == "motoroff":
        print ("motor is off")
else :
        print ("please send proper command")

try:

       deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method":  authMethod, ”auth-token": authToken}
deviceCli = ibmiotf.device.Client(deviceOptions)
        print("Caught exception connecting device: %s" % str(e))
sys.exit()
while True:
      #Get Sensor Data from DHT11
```

```
temp=random.randint(90,110)
Humid=random.randint(60,100)Mois=random. Randint(20,120) data = { 'temp' : temp, 'Humid': Humid,
‘Mois’: Mois}
def myOnPublishCallback( ):
    print ("Published Temperature = %s C" % temp, "Humidity = %s %%"  %Humid, “Moisture =%s deg c” % Mois “to IBM Watson")
success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,on_publish=myOnPublishCallback)
if not success:
    print("Not connected to IoTF")
time.sleep(10)
deviceCli.commandCallback = myCommandCallback
deviceCli.disconnect()
```


ibmiotpublishsubscribe.py - C:\Users\ELCOT\Downloads\ibmiotpublishsubscribe.py (3.7.0)
File Edit Format Run Options Window Help
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "157uf3"
deviceType = "abcd"
deviceId = "7654321"
authMethod = "token"
authToken = "87654321"
# Initialize GPIO
def myCommandCallback(cmd):
print("Command received: %s" % cmd.data['command'])
status=cmd.data['command']
if status=="motoron":
print ("motor is on")
elif status == "motoroff":
print ("motor is off")
else :
print ("please send proper command")
try:
deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method": authMe
deviceCli = ibmiotf.device.Client(deviceOptions)
#.....
Ln: 22 Col: 21


Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
======== RESTART: C:\Users\ELCOT\Downloads\ibmiotpublishsubscribe.py ========
2022-11-07 20:01:24,074 ibmiotf.device.Client INFO Connected successfully: d:157uf3:abcd:7654321
Published Moisture = 90 deg C Temperature = 96 C Humidity = 76 % to IBM Watson
Published Moisture = 102 deg C Temperature = 110 C Humidity = 68 % to IBM Watson
Published Moisture = 45 deg C Temperature = 99 C Humidity = 100 % to IBM Watson
Command received: motoron
motor is on
Published Moisture = 77 deg C Temperature = 91 C Humidity = 85 % to IBM Watson
Published Moisture = 73 deg C Temperature = 94 C Humidity = 86 % to IBM Watson
Command received: motoroff
motor is off
Published Moisture = 101 deg C Temperature = 104 C Humidity = 87 % to IBM Watson
Gmail
Other favorites

FLOW CHART



OBSERVATION AND RESULTS