PROJECT DEVELOPMENT
DELIVERY OF SPRINT - 4

Date	12 November 2022
Team ID	PNT2022TMID33440
Project Name	Smart Farmer – IOT Enabled Smart Farming Application

Receiving commands from IBM cloud using Python program

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

#Provide yourIBM Watson Device Credentials
organization = " nicw4y"
deviceType = " NodeMCU"
deviceId = "12345"
authMethod = "token"
authToken = "123456"

# 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)
         #.....................................
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(90,110)
Humid=random.randint(60,100)
Mois=random. Randint(20,120)
    data = { 'temp' : temp, 'Humid': Humid ,
'Mois': Mois}
       #print data 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")

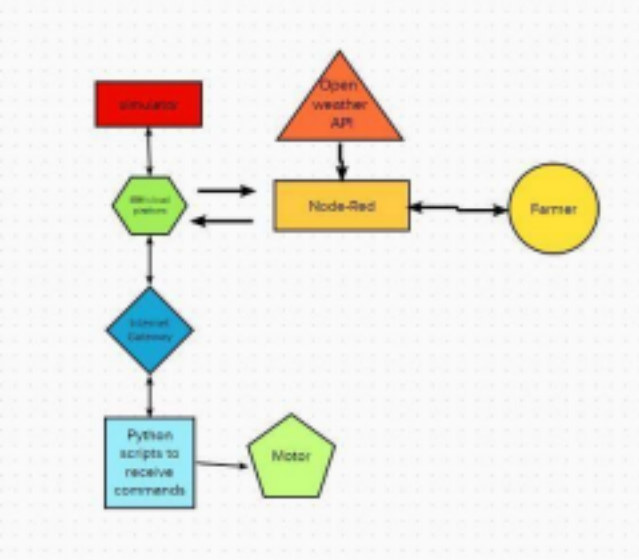
time.sleep(10)

deviceCli.commandCallback = myCommandCallback #

Disconnect the device and application from the cloud

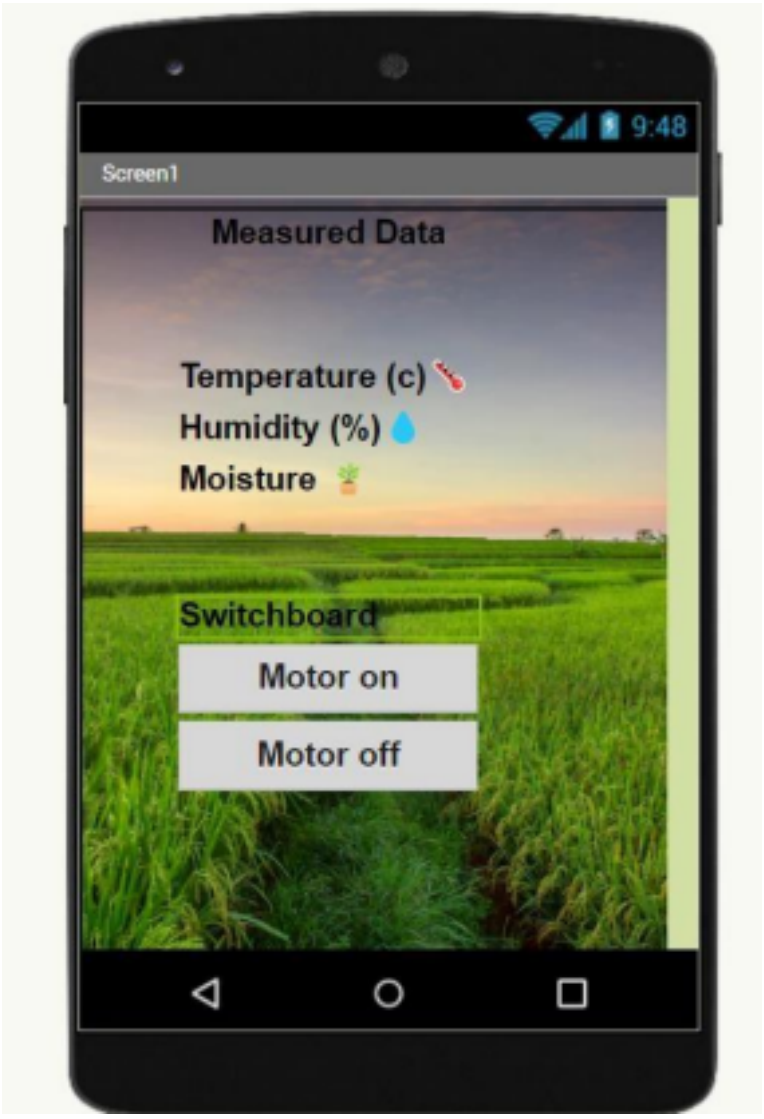
deviceCli.disconnect()

Flow Chart



Observations & Results


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:abod: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


9:48
Screen1
Measured Data
Temperature (c)
Humidity (%)
Moisture
Switchboard
Motor on
Motor off