Project Development: Delivery of Sprint 2

Node-red

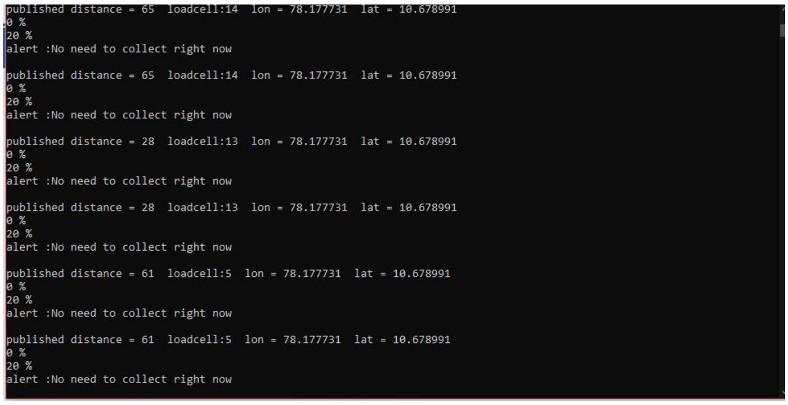
Date	5th November 2022
Team ID	PNT2022TMID30606
Project name	Smart waste management system for metropolitan cities
Marks	

Garbage1 creation:

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

# watson device details

organization = "46x7xk"
devicType =  "Garbage"
deviceId = "Garbage1"
authMethod= "token"
authToken= "123456789"

#generate random values for randomo variables (temperature&humidity)



def myCommandCallback(cmd):
   global a
   print("command recieved:%s" %cmd.data['command'])
   control=cmd.data['command']
   print(control)

try:
      deviceOptions={"org": organization, "type": devicType,"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()


deviceCli.connect()

while True:

   ultrasonic= random.randint(10,70)
   loadcell= random.randint(5,15)
   data= {'dist':ultrasonic,'load':loadcell}


   if loadcell < 13 and loadcell > 15:
        load = "90 %"

   elif loadcell < 8 and loadcell > 12:
        load = "60 %"
```

```
    elif loadcell < 4 and loadcell > 7:
        load = "40 %"
    else:
        load = "0 %"

    if ultrasonic < 10:
        dist = ' 90 %'


    elif ultrasonic < 20 and ultrasonic >11:
        dist = '60%'

    elif ultrasonic < 60 and ultrasonic > 41:
        dist =  '40 %'
    elif ultrasonic < 80 and ultrasonic > 61:
        dist =  '20 %'





    if load == "90 %" or ultrasonic == "90 %":
        warn  = 'alert :' ' Dumpster poundage getting high, Time to collect :)'

    elif load == "60 %" or ultrasonic == "60 %":

        warn = 'alert :' 'dumpster is above 60%'
    else :
        warn = 'alert :' 'No need to collect right now '
    def myOnPublishCallback(lat=10.678991,long=78.177731):
      print("")
      print("published distance = %s " %ultrasonic,"loadcell:%s " %loadcell,"lon = %s " %long,"lat = %s" %lat)
      print(load)
      print(dist)
      print(warn)

    time.sleep(5)


    success=deviceCli.publishEvent ("IoTSensor","json",warn,qos=0,on_publish= myOnPublishCallback)

    success=deviceCli.publishEvent ("IoTSensor","json",data,qos=0,on_publish= myOnPublishCallback)



    if not success:
      print("not connected to ibmiot")
    time.sleep(5)




    deviceCli.commandCallback=myCommandCallback
#disconnect the device
deviceCli.disconnect()
```

Output:



```
published distance = 65  loadcell:14  lon = 78.177731  lat = 10.678991
0 %
20 %
alert :No need to collect right now

published distance = 65  loadcell:14  lon = 78.177731  lat = 10.678991
0 %
20 %
alert :No need to collect right now

published distance = 28  loadcell:13  lon = 78.177731  lat = 10.678991
0 %
20 %
alert :No need to collect right now

published distance = 28  loadcell:13  lon = 78.177731  lat = 10.678991
0 %
20 %
alert :No need to collect right now

published distance = 61  loadcell:5  lon = 78.177731  lat = 10.678991
0 %
20 %
alert :No need to collect right now

published distance = 61  loadcell:5  lon = 78.177731  lat = 10.678991
0 %
20 %
alert :No need to collect right now
```