

PROJECT DEVELOPMENT PHASE

SPRINT 4

TEAM ID	PNT2022TMID44448
PROJECT NAME	Signs With smart connectivity for better road safety

WEB UI (to make the user interact with the software)

```
*project.py - C:\Users\PRIYA\Desktop\project.py (3.7.0)*
File Edit Format Run Options Window Help
import random
import imbiotf.application
import imbiotf.device
import requests,json
myConfig = {#configuration
    "identity":{
        "orgId": "w5704q",
        "typeId": "PNTIBM",
        "deviceId": "PNTIBM"
    },
    #API Key
    "auth":{
        "token": "WZi6IvG7x2rEYl?pc8"
    }
}
#Receiving callbacks from IBM IOT platform
def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" %cmd.data['command'])
    m=cmd.data['command']
client = wiot.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()
#openWeatherMap Credentials
BASE_URL = "https://api.openweathermap.org/data/2.5/weather?"
CITY = "Chennai"
URL = BASE_URL + "q=" + CITY + "&units=metric"+"&appid="+ "01df65417ab3968e3fc2a38c4aee27bb"
while True:
    response = requests.get(URL)
    if response.status_code ==200:
        data = response.json()
```

```
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m=cmd.data['command']
client = wiot.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()
#openWeatherMap Credentials
BASE_URL = "https://api.openweathermap.org/data/2.5/weather?"
CITY = "Chennai"
URL = BASE_URL + "q=" + CITY + "&units=metric"+"&appid="+"01df65417ab3968e3fc2a38c4aee27bb"
while True:
    response = requests.get(URL)
    if response.status_code ==200:
        data = response.json()
        main = data['main']
        temperature = main['temp']
        humidity = main['humidity']
        pressure = main['pressure']
        report = data['visibility']

    #message part
    temperature=random.randint(0,100)
    msg=random.randint(0,5)
    if msg==1:
        message="SLOW DOWN, SCHOOL IS NEAR"
    elif msg==2:
        message="NEED HELP, POLICE STATION AHED"
    elif msg==3:
        message="EMERGENGY,HOSPITAL NEARBY"
    else:
        message="DINE IN , RESTAURENT AVAILABLE"
```

Wokwi simulation is connected in IBM Watson

IBM Watson IoT Platform

731219205011@smartinternz.com
ID: w5704q

Browse Action Device Types Interfaces

Add Device

Search by Device ID

Device Simulator

Device ID	Status	Device Type	Class ID	Date Added
PNTIBM	Connected	PNTIBM	Device	31 Oct 2022 07:57

Identity Device Information Recent Events State Logs

Device ID: PNTIBM

Device Type: PNTIBM

Date Added: 31 Oct 2022 07:57

Added By: 731219205011@smartinternz.com

Connection Status: Connected

Connection Time: 10 Nov 2022 00:56

Client Address: 50.31.197.64 Insecure

IBM Watson IoT Platform

731219205011@smartinternz.com
ID: w5704q

Browse Action Device Types Interfaces

Add Device

Device ID	Status	Device Type	Class ID	Date Added
PNTIBM	Connected	PNTIBM	Device	31 Oct 2022 07:57

Identity Device Information **Recent Events** State Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
Data	{"temp":37.4,"humidity":86,"North":0,"South":0,...	json	a few seconds ago
Data	{"temp":37.4,"humidity":86,"North":0,"South":0,...	json	a few seconds ago
Data	{"temp":37.4,"humidity":86,"North":0,"South":0,...	json	a few seconds ago
Data	{"temp":37.4,"humidity":86,"North":0,"South":0,...	json	a few seconds ago
Data	{"temp":37.4,"humidity":86,"North":0,"South":0,...	json	a few seconds ago

Node-RED

node-red-miku-2022-11-04.eu-gb.mybluemix.net/red/#flow/8c49b93d9a2db2a3

Flow 1

debug

msg.payload

temperature

MESSAGE

sign

Speed

Visibility

IBM IoT

connected

temperature

Message

Sign

Speed

Visibility

```
11/14/2022, 7:09:11 PM node: 3fb1d3a16actb7df  
iot-2/type/Sign_BoardId/Board_t1ev1status/rmt/json :  
msg.payload : Object  
> { Temperature: 54, Message: "DINE  
IN, RESTAURANT AVAILABLE", Sign:  
"Right Diversion", Speed: "Slow",  
Visibility: "Clear Weather" }
```

```
11/14/2022, 7:09:13 PM node: 3fb1d3a16actb7df  
iot-2/type/Sign_BoardId/Board_t1ev1status/rmt/json :  
msg.payload : Object  
> { Temperature: 11, Message: "DINE  
IN, RESTAURANT AVAILABLE", Sign:  
"Right Diversion", Speed: "Moderate",  
Visibility: "Fog Ahead, Drive Slow" }
```

```
11/14/2022, 7:09:16 PM node: 3fb1d3a16actb7df  
iot-2/type/Sign_BoardId/Board_t1ev1status/rmt/json :  
msg.payload : Object  
> { Temperature: 83, Message: "DINE  
IN, RESTAURANT AVAILABLE", Sign:  
"Left Diversion", Speed: "Limit  
Exceeded", Visibility: "Clear  
Weather" }
```

```
11/14/2022, 7:09:18 PM node: 3fb1d3a16actb7df  
iot-2/type/Sign_BoardId/Board_t1ev1status/rmt/json :  
msg.payload : Object  
> { Temperature: 87, Message: "DINE  
IN, RESTAURANT AVAILABLE", Sign:  
"Right Diversion", Speed: "Limit  
Exceeded", Visibility: "Clear  
Weather" }
```

Node-RED Page (web UI) :

