

PROJECT DEVELOPMENT PHASE

SPRINT-2

Date	17 November 2022
Team ID	PNT2022TMID04551
Project Name	Signs with Smart Connectivity for Better Road Safety

SPRINT-2:

- In sprint-2, we have developed a python code to get data from open weather api and upload to Watson cloud.
- We have also implemented a condition such that speed is calculated based on humidity.
- This helps in reducing accidents ,to avoid clashes and to promote safe driving experience.

PYTHON CODE:

```
Users > aswanth > @ IBM wat > ...
1 #IBM Watson IoT Platform
2 #pip install wiotsdk
3 import wiotsdk.device
4 import time
5 import random
6 import requests
7 import json
8 from datetime import datetime
9 import time
10 myConfig = {
11     "identity": {
12         "orgId": "2twix2",
13         "typeId": "Nodencu",
14         "deviceId": "12345"
15     },
16     "auth": {
17         "token": "SxjoPt-qLEBp9IApX"
18     }
19 }
20
21 def myCommandCallback(cmd):
22     print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
23     mcmd.data['command']
24
25 client = wiotsdk.device.DeviceClient(config=myConfig, logHandlers=None)
26 client.connect()
27 api_key = "528a86c2c07e0b806230f3e039d5f808"
28 weather_url = "http://api.openweathermap.org/data/2.5/weather?q=" + 'Chennai' + '&appid=' + api_key
29
30
31 while True:
```

```
32
33 while True:
34     response = requests.get(weather_url)
35     wea = (variable) weather_data: Any
36     if weather_data['cod'] == 200:
37         kelvin = 273.15
38         t = int(weather_data['main']['temp'] - kelvin)
39         h = weather_data['main']['humidity']
40         c = weather_data['weather'][0]['description']
41         time.sleep(3)
42         temp = str(t) + '°C'
43         humid = str(h) + '%'
44         Climate = c
45         Location = "Chennai"
46         if (h < 40):
47             Speed = '180' + 'kmph'
48         elif (h < 50 and h > 40):
49             Speed = '75' + 'kmph'
50         elif (h > 50 and h < 60):
51             Speed = '50' + 'kmph'
52         elif (h > 60):
53             Speed = '40' + 'kmph'
54         myData = {'temperature': temp, 'humidity': humid, 'c': Climate, 'l': Location, 's': Speed}
55         client.publishEvent(eventId='status', msgFormat='json', data=myData, qos=0, onPublish=None)
56         print("Published data Successfully: %s" % myData)
57         client.commandCallback = myCommandCallback
58         time.sleep(5)
59         client.disconnect()
```

IBM IoT WATSON PLATFORM:

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes tabs for 'Service Details', 'IBM Watson IoT P', 'Node-RED : node', 'Node-RED Dash', 'Getting Started v', 'MIT App Inventor', 'traffic wallpaper', and 'Inbox (3,301)'. The main header shows the user 'aswin.t@gmail.com' with ID '2twix2' and an 'Add Device' button.

The left sidebar contains icons for various platform features. The main content area is titled 'Browse' and includes a search bar for 'Search by Device ID'. A 'Device Simulator' toggle is visible in the top right of the main area.

The device list table shows the following data:

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
12345	Connected	Nodemcu	Device	18 Nov 2022 14:34	
NODEMCU	Disconnected	MCU	Device	17 Nov 2022 15:11	

The detailed view for device '12345' shows the 'Recent Events' tab. It includes a message: 'The recent events listed show the live stream of data that is coming and going from this device.' Below this is a table of events:

Event	Value	Format	Last Received
status	{\"temperature\":\"27°C\",\"humidity\":\"69%\",\"c\":\"ha...	json	a few seconds ago
status	{\"temperature\":\"27°C\",\"humidity\":\"69%\",\"c\":\"ha...	json	a few seconds ago
status	{\"temperature\":\"27°C\",\"humidity\":\"69%\",\"c\":\"ha...	json	a few seconds ago

The bottom of the interface shows 'Items per page 50' and '1-2 of 2 items'.