

Project Development Phase Sprint III

Date	12 November 2022
Team ID	PNT2022TMID35906
Project Name	Signs with Smart Connectivity for better road safety

Sprint Targets

Sprint-3	Login	USN-5	As an administrator, I should have an account on the website	7	Low	Atchayapriya M, Rohinth Ram R V
Sprint-3	Dashboard	USN-6	As an admin, I should be able to monitor and add sign nodes	13	Medium	Deepa Jothi K, Siva Chokkalingam S

Wokwi Simulation: <https://wokwi.com/projects/347494122536305235>

WOKWI
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```

1 #include <WiFi.h> //library for wifi
2 #include <PubSubClient.h> //library for MQTT
3 #include "DHT.h" // library for dht11
4 #define DHTPIN 5 // what pin we're connected to
5 #define DHTTYPE DHT22 // define type of sensor DHT 11
6
7 DHT dht (DHTPIN, DHTTYPE); // creating the instance by passing pin and type of dht connecte
8
9 void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);
10
11 //-----credentials of IBM Accounts-----
12
13 #define ORG "psh4py" //IBM ORGANITION ID
14 #define DEVICE_TYPE "alert-device" //Device type mentioned in ibm watson IOT Platform
15 #define DEVICE_ID "4571" //Device ID mentioned in ibm watson IOT Platform
16 #define TOKEN "12345678" //Token
17 String data3;
18 float h, t;
19
20
21 //----- Customise the above values -----
22 char server[] = ORG ".messaging.internetofthings.ibmcloud.com"; // Server Name
23 char publishTopic[] = "iot-2/evt/Data/fmt/json"; // topic name and type of event perform an
24 char subscribetopic[] = "iot-2/cmd/command/fmt/String"; // cmd REPRESENT command type AND
25 char authMethod[] = "use-token-auth"; // authentication method
26 char token[] = TOKEN;
27 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID; //client id
28
29
30 //-----
31 WiFiClient wifiClient; // creating the instance for wifiClient
32 PubSubClient client(server, 1883, callback, wifiClient); //calling the predefined client
33
34
35 void setup() // configuring the ESP32

```

Simulation

```

{"temp":16.10,"humidity":76.50,"North":1,"South":0,"East":0,"West":0}
Publish ok
temp:16.10
humidity:76.50
Sending payload:
{"temp":16.10,"humidity":76.50,"North":1,"South":0,"East":0,"West":0}
Publish ok

```

IoT Device – IoT Platform

IBM Watson IoT Platform

2019504571@smartinternz.com
ID: psh4py

Browse Action Device Types Interfaces

Add Device +

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
0001	Disconnected	edge-device-1	Device	Nov 5, 2022 8:56 PM	

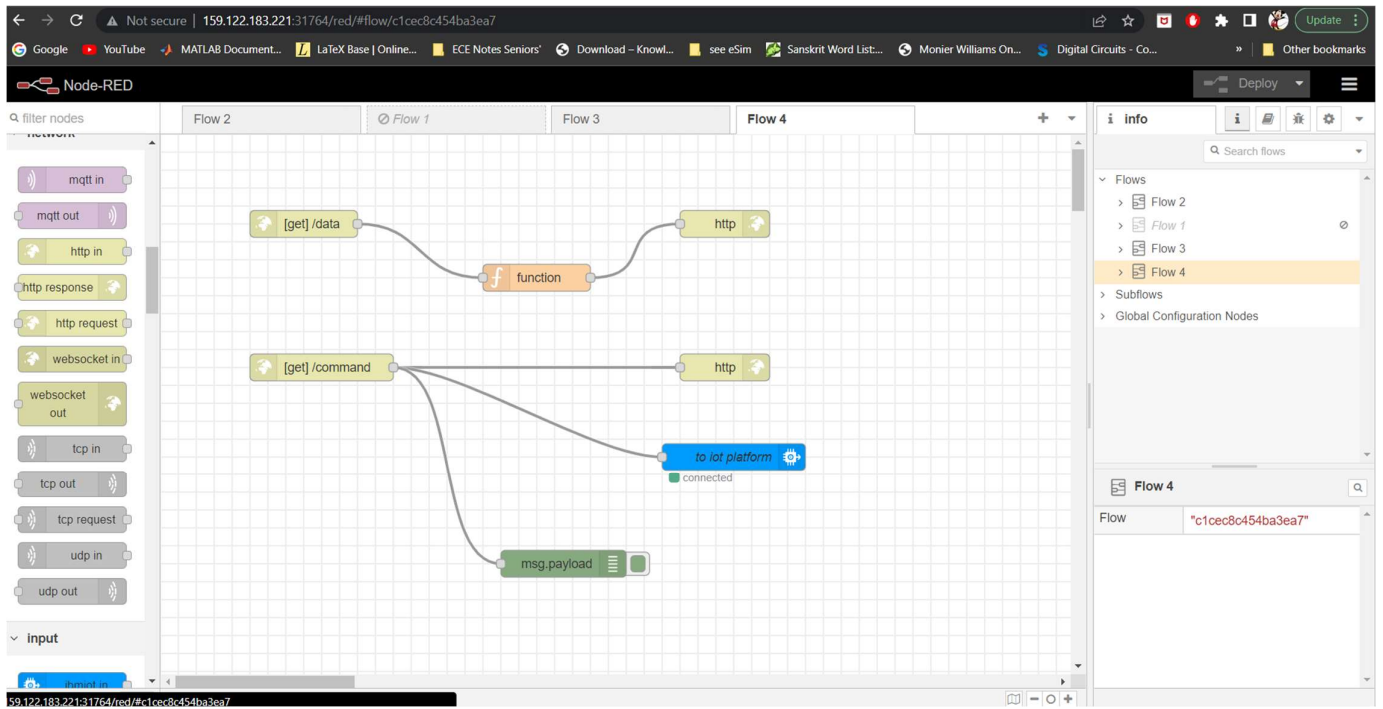
Identity Device Information Recent Events State Logs

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

Event	Value	Format	Last Received
rnd_number	{"Lane_1":5,"Lane_2":83,"Lane_3":30,"Lane_4":...	json	a few seconds ago
rnd_number	{"Lane_1":59,"Lane_2":59,"Lane_3":94,"Lane_4":...	json	a few seconds ago
rnd_number	{"Lane_1":93,"Lane_2":88,"Lane_3":49,"Lane_4":...	json	a few seconds ago
rnd_number	{"Lane_1":2,"Lane_2":61,"Lane_3":21,"Lane_4":...	json	a few seconds ago
rnd_number	{"Lane_1":70,"Lane_2":11,"Lane_3":69,"Lane_4":...	json	a few seconds ago

1 Simulation running

Node Red – Connect with MIT AppInventor



Edit function node

Delete

Cancel

Done

⚙️ Properties

⚙️

📄

🖨️

🔍 Name

Name

📄

⚙️ Setup

On Start

On Message

On Stop

1 msg.payload = {

2 "temp":global.get("temp"),

3 "humid":global.get("humid"),

4 "speed":global.get("speed"),

5 "n":global.get("n"),

6 "s":global.get("s"),

7 "e":global.get("e"),

8 "w":global.get("w"),

9 "res":global.get("res"),

10 "l1":global.get("l1"),

11 "l2":global.get("l2"),

12 "l3":global.get("l3"),

13 "l4":global.get("l4"),

14 "optimal_lane":global.get("optimal_lane")

15 };

16 ^

17

18 return msg;

Output from Node red:

← → ↺ Not secure | 159.122.183.221:31764/data

🔍 Google

📺 YouTube

📄 MATLAB Document...

📄 LaTeX Base | Online...

📄 ECE Notes Seniors'

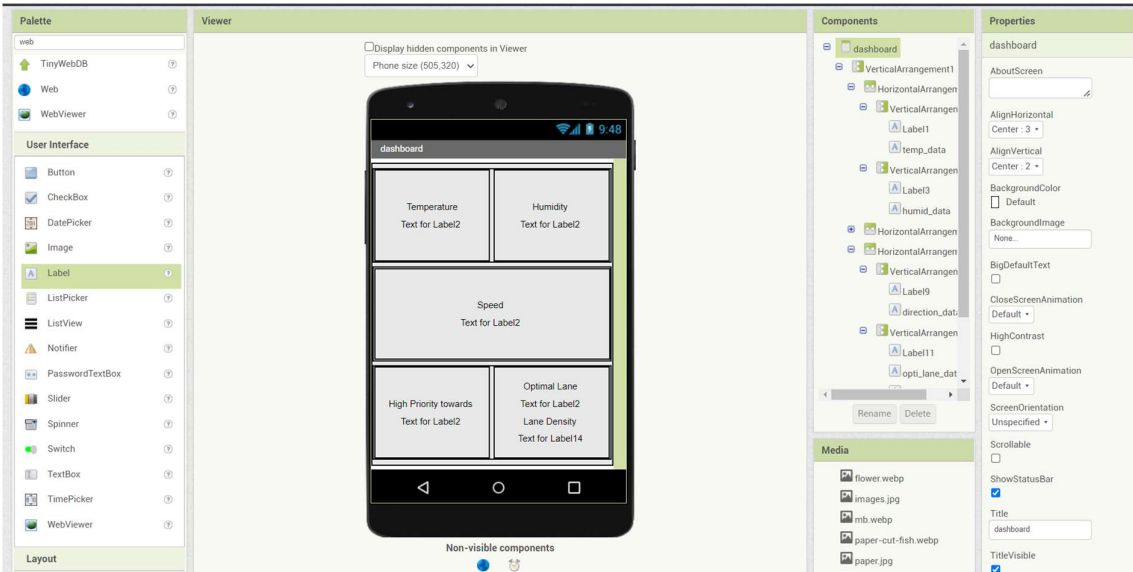
📄 Download – Knowl...

📄 see eSim

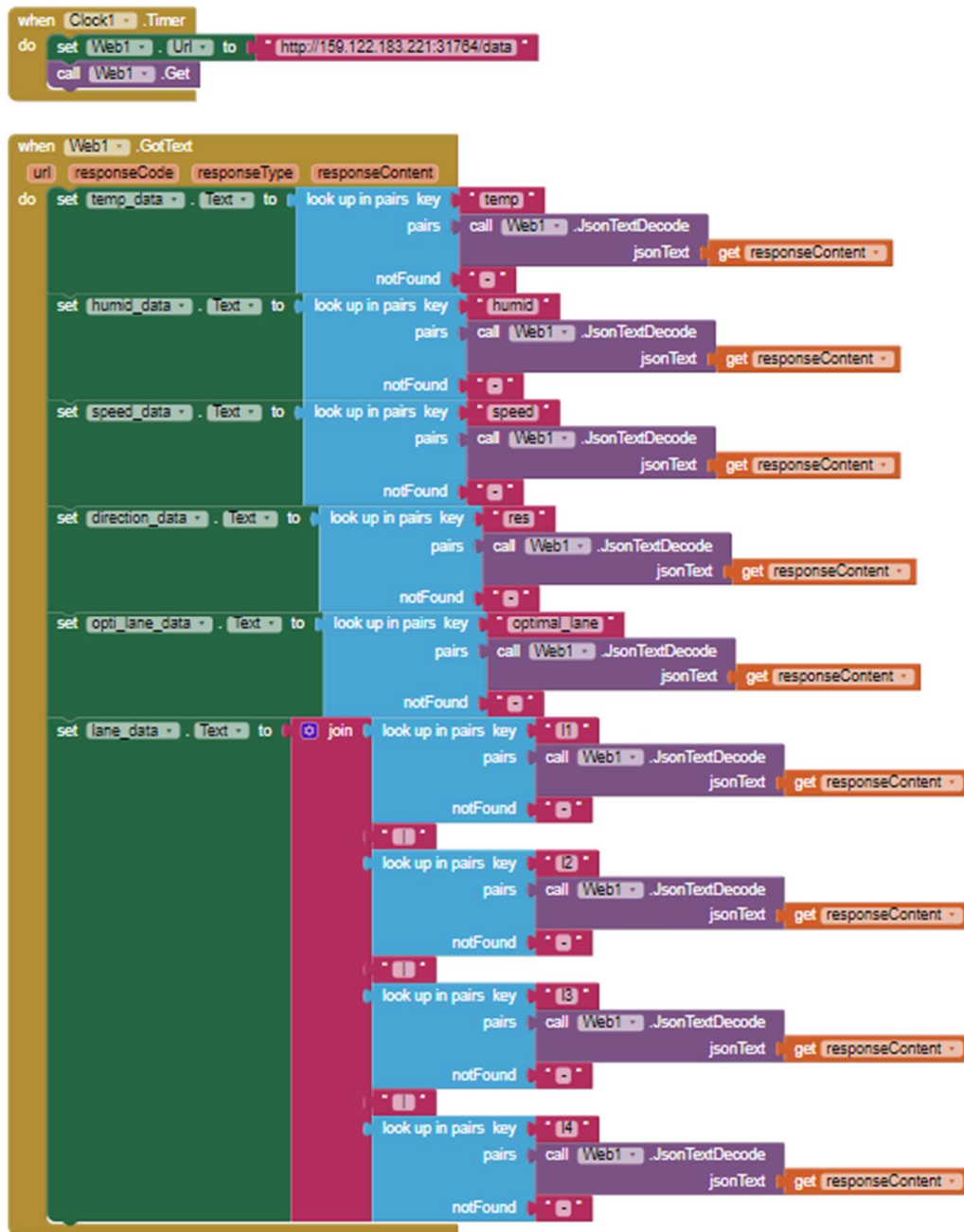
📄 Sanskrit Word List...

{ "temp":14.9,"humid":86,"speed":80,"n":0,"s":0,"e":0,"w":1,"res":"West","l1":69,"l2":99,"l3":19,"l4":40,"optimal_lane":"Lane 3" }

MIT App Inventor UI design:



MIT App Inventor Backend design:



Sprint 3 delivery:

(OUTPUT) Display from MIT App:

