

Project Development Phase Sprint I

Date	29 October 2022
Team ID	PNT2022TMID35906
Project Name	Signs with Smart Connectivity for better road safety

Sprint Targets

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Dynamic Speed Limit	USN-1	As a traveller, It is essential for me to know the speed limit	10	High	Rohinth Ram R V, Siva Chokkalingam S
Sprint-1	Priority Vehicle	USN-2	As a traveller, I should give way to priority vehicles	5	Low	Atchayapriya M, Deepa Jothi K
Sprint-1	Weather Speed Limit	USN-3	As a user, I should be aware of weather influence on speed limit for safer ride	5	Medium	Rohinth Ram R V, Siva Chokkalingam S, Atchayapriya M, Deepa Jothi K

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

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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 an
8
9 void callback(char* subscribetopic, byte* payload, unsigned int payl
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 wat
15 #define DEVICE_ID "4571" //Device ID mentioned in ibm watson IOT Plat
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"; // Se
23 char publishTopic[] = "iot-2/evt/Data/fmt/json"; // topic name and ty
24 char subscribetopic[] = "iot-2/cmd/command/fmt/String"; // cmd REPR
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
33
34

```

Simulation

```

humidity:63.00
Sending payload: {"temp":12.30,"humidity":63.00,"North":0,"South":0,"East":0,"West":1}
Publish ok
temp:12.30
humidity:63.00
Sending payload: {"temp":12.30,"humidity":63.00,"North":0,"South":0,"East":0,"West":1}
Publish ok

```

IoT Device – IoT Platform

4571

Connected

alert-device

Device

Oct 23, 2022 9:31 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
Data	{"temp":23.4,"humidity":63,"North":1,"South":0,...	json	a few seconds ago
Data	{"temp":23.4,"humidity":63,"North":1,"South":0,...	json	a few seconds ago
Data	{"temp":23.4,"humidity":63,"North":1,"South":0,...	json	a few seconds ago

Node Red

Node-RED

Successfully deployed

Deploy

filter nodes

Flow 2

common

inject

debug

complete

catch

status

link in

link call

link out

comment

function

function

switch

change

range

IBM IoT

connected

temp_fn

humidity_fn

Temperature

Humidity

timestamp

speed_calc

function

msg.payload

db_store

speed

msg.payload

High Priority

debug

all nodes

all

"East"

11/5/2022, 11:50:35 PM node: 414f84272ea2640
iot-2/type/alert-device/4571/evt/Data/fmt/json :
msg.payload : number
77.3

11/5/2022, 11:50:36 PM node: 99fae50d5b80232f
iot-2/type/alert-device/4571/evt/Data/fmt/json :
msg.payload : string[4]

11/5/2022, 11:50:37 PM node: 414f84272ea2640
iot-2/type/alert-device/4571/evt/Data/fmt/json :
msg.payload : number
77.3

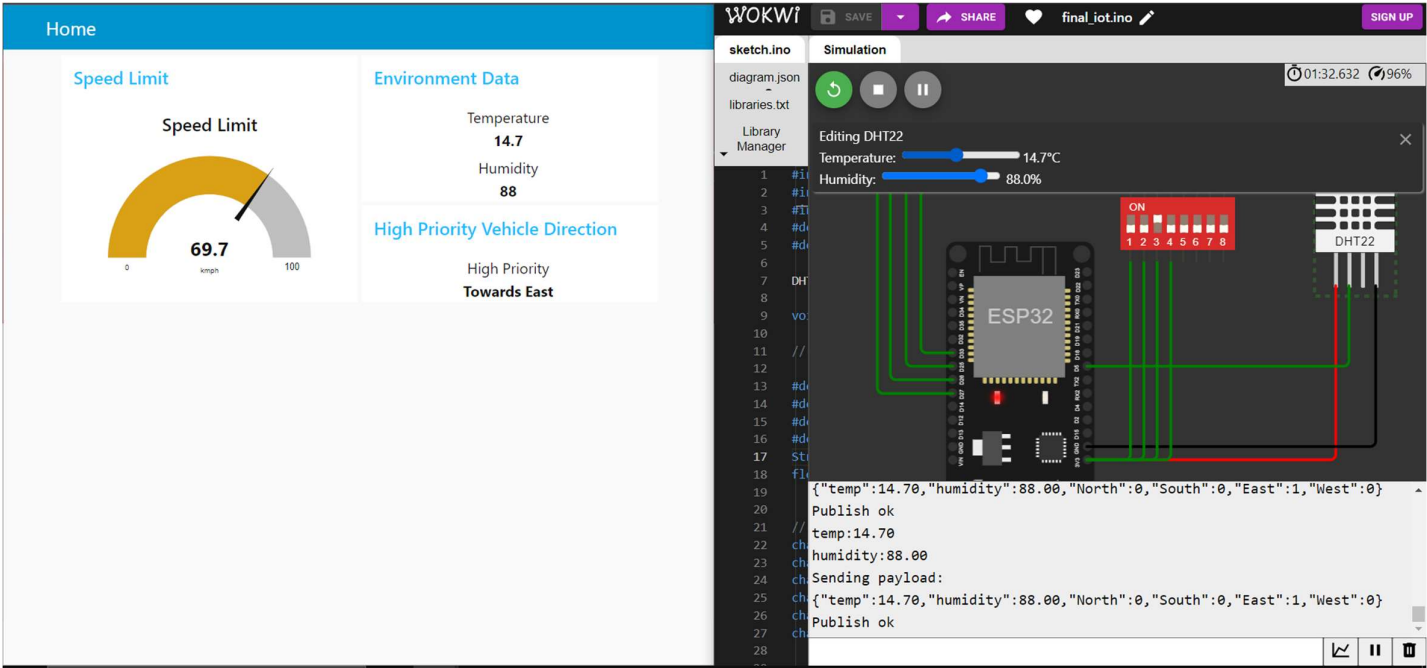
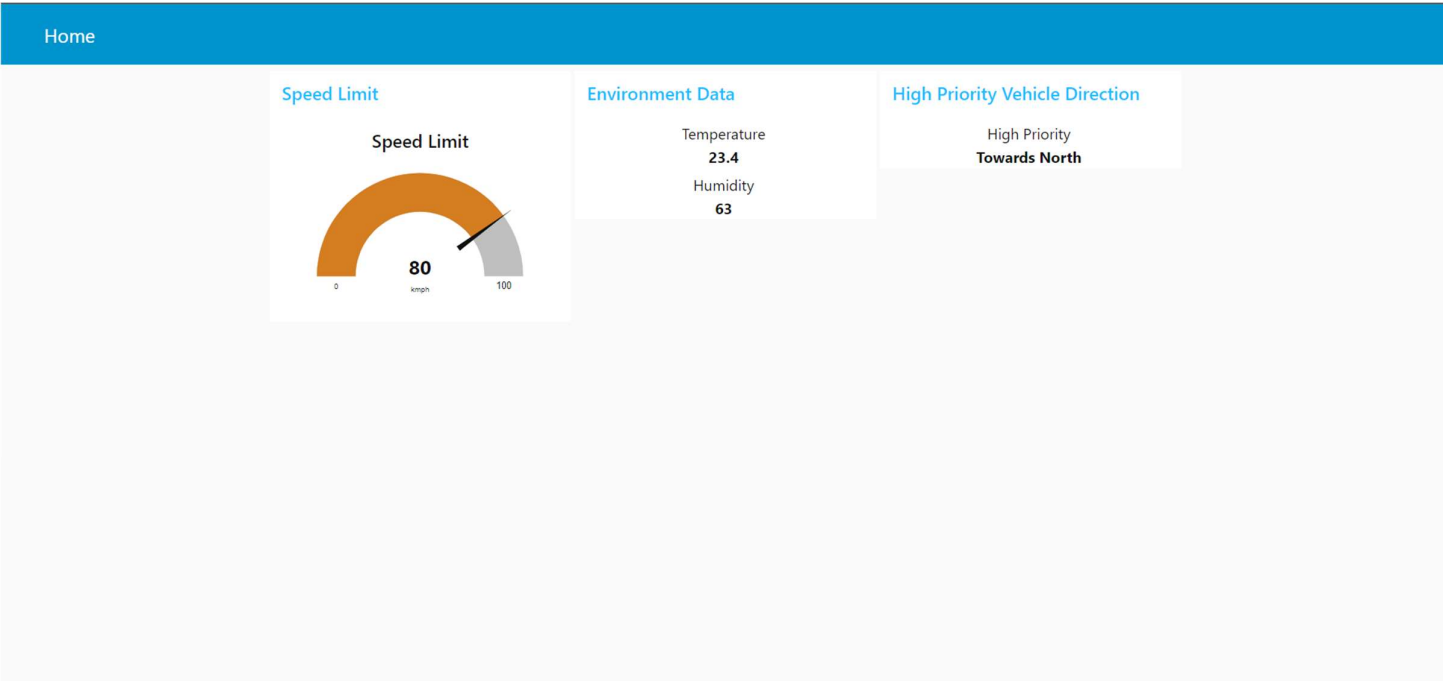
11/5/2022, 11:50:38 PM node: 99fae50d5b80232f
iot-2/type/alert-device/4571/evt/Data/fmt/json :
msg.payload : string[4]

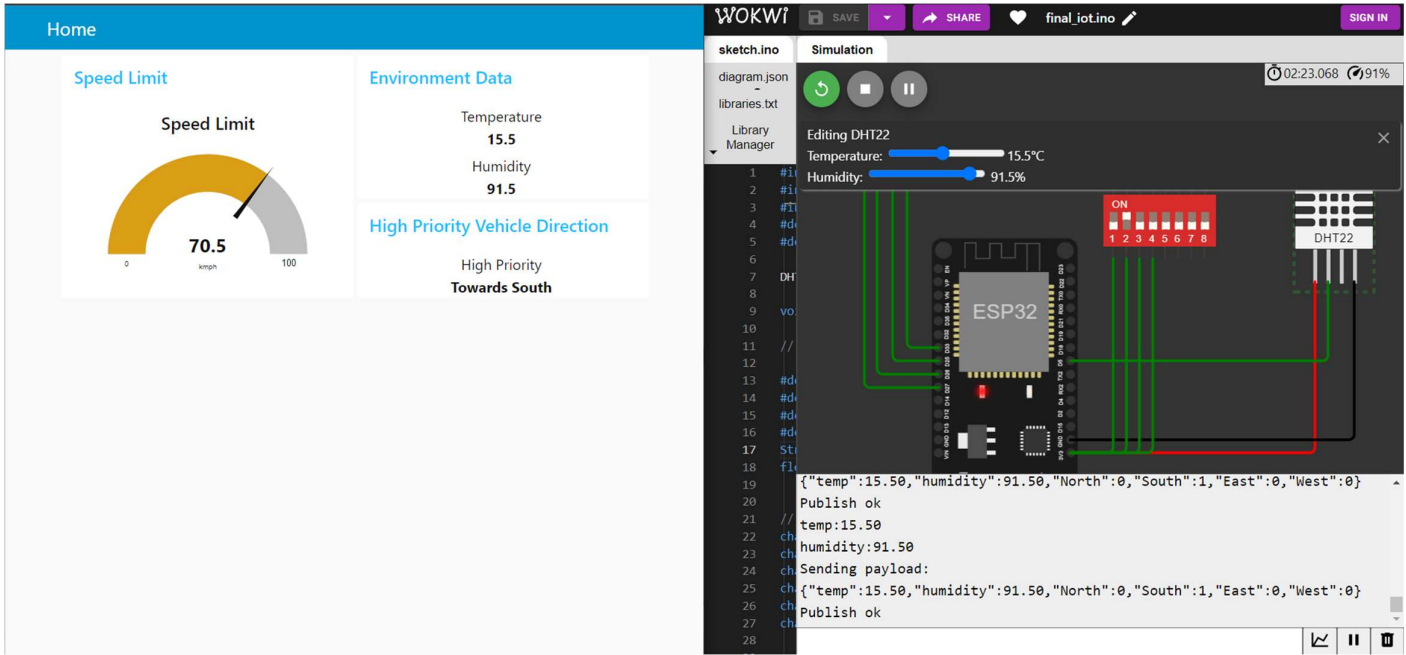
11/5/2022, 11:50:39 PM node: 414f84272ea2640
iot-2/type/alert-device/4571/evt/Data/fmt/json :
msg.payload : number
77.3

11/5/2022, 11:50:40 PM node: 99fae50d5b80232f
iot-2/type/alert-device/4571/evt/Data/fmt/json :
msg.payload : string[4]

"East"

Node Red Web UI





Cloudant Database

data_iot

Document ID Options {} JSON

All Documents Query Permissions Changes Design Documents

Create Document

_id	payload
060cc88d44faf11288e9cdfd7d8de45a	35
060cc88d44faf11288e9cdfd7d904e58	60
060cc88d44faf11288e9cdfd7d90c3f9	45.5
060cc88d44faf11288e9cdfd7d92a313	60
2314e7571ab5925365e082f191bb2c9c	52.5
26939bb99e5c84bed4f6a20342a22ab2	35
26939bb99e5c84bed4f6a20342a7ccd5	44
3ffa1240575d0cd0d7f848833802e389	55
48a3afbcb5f840466e09ed279d3c3451	53
48a3afbcb5f840466e09ed279d3c5b7c	53
48a3afbcb5f840466e09ed279d3c9545	53
52730057f2d5fde2d21dfaaaabc10dc8	55

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