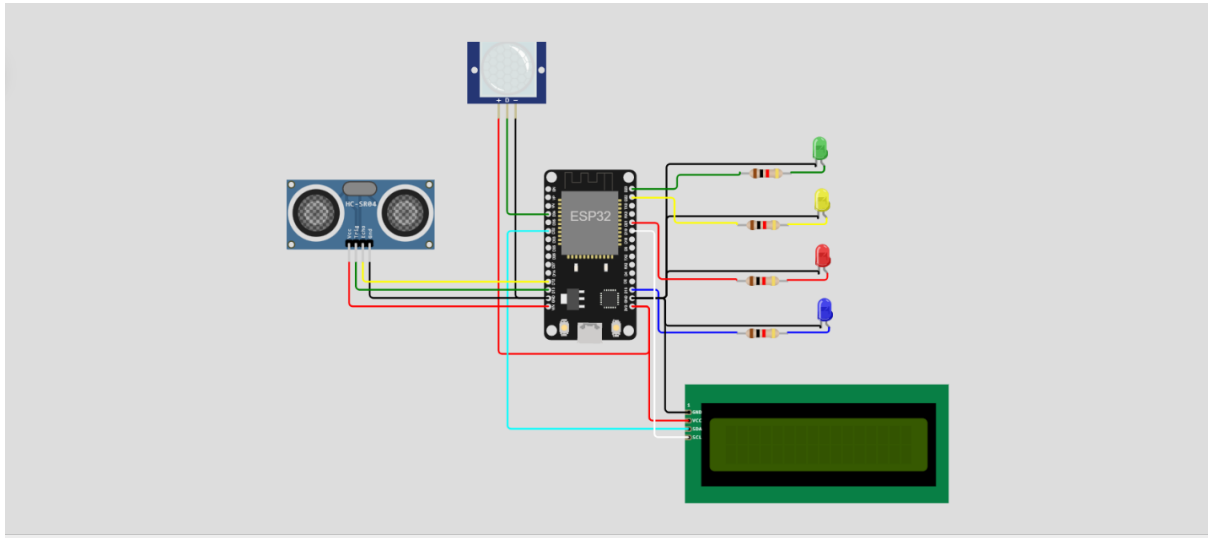


## SPRINT-2

Team id	PNT2022TMID33244
Project Name	Smart Waste Management System For Metropolitan Cities

### Circuit Diagram:



### Simulation with output:

WOKWI

esp32-blink.ino diagram.json libraries.txt Library Manager

```
1 #include <WiFi.h> // library for
2 #include <PubSubClient.h> // library for
3 #include <LiquidCrystal_I2C.h>
4 LiquidCrystal_I2C lcd(0x27, 20, 4);
5
6 //----- credentials of IBM Accounts -----
7
8 #define ORG "xnt2bc" // IBM organisatio
9 #define DEVICE_TYPE "sprint" // Device type mer
10 #define DEVICE_ID "sprint26" // Device ID mentio
11 #define TOKEN "Sprint26" // Token
12
13 //----- customise above values -----
14
15 char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
16 char publishTopic[] = "iot-2/evt/data/fmt/json";
17 char topic[] = "iot-2/cmd/led/fmt/String";
18 char authMethod[] = "use-token-auth";
19 char token[] = TOKEN;
20 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;
21
22 //-----
23
24 WiFiClient wifiClient;
```

Simulation

02:46.563 100%

Sending distance: 31.98  
Publish OK  
No motion detected

Sending payload: {"High Alert!!":"31.98left" }  
Publish OK

Sending distance: 31.98  
Publish OK

## Simulation connected to IBM Watson:

The screenshot shows the IBM Watson IoT Platform dashboard. The 'Browse' tab is active, displaying a list of devices. The device 'sprint26' is selected, showing its details. The 'Recent Events' tab is active, displaying a table of events.

Event	Value	Format	Last Received
data	{"Warning!!":"0.00left"}	json	a few seconds ago
data	{"High Alert!!":"71.96left"}	json	a few seconds ago
data	{"Warning!!":"0.00left"}	json	a few seconds ago
data	{"High Alert!!":"71.96left"}	json	a few seconds ago
data	{"Warning!!":"0.00left"}	json	a few seconds ago

0 Simulations running

## IBM Watson connected to Node-Red:

The screenshot shows the Node-RED interface. The 'Edit ibmiot in node' dialog is open, showing the configuration for the 'IBM IoT' node. The 'Properties' tab is active, showing the following settings:

- Authentication: API Key
- API Key: sprint
- Input Type: Device Event
- Device Type: All or +
- Device Id: All or device id e.g. ab12cd231a21
- Event: All or +
- Format: All or json
- QoS: 0
- Name: IBM IoT
- Service: registered

The 'debug' tab is also active, showing a log of events received from the device. The log shows the following events:

- 11/17/2022, 9:11:56 PM: node: 91cb14208dab9ad3: iot-2/type/sprintId/sprint26/ev/data/fmt/json: msg.payload: Object
- 11/17/2022, 9:11:58 PM: node: 91cb14208dab9ad3: iot-2/type/sprintId/sprint26/ev/data/fmt/json: msg.payload: Object
- 11/17/2022, 9:11:59 PM: node: 91cb14208dab9ad3: iot-2/type/sprintId/sprint26/ev/data/fmt/json: msg.payload: Object
- 11/17/2022, 9:12:00 PM: node: 91cb14208dab9ad3: iot-2/type/sprintId/sprint26/ev/data/fmt/json: msg.payload: Object
- 11/17/2022, 9:12:02 PM: node: 91cb14208dab9ad3: iot-2/type/sprintId/sprint26/ev/data/fmt/json: msg.payload: Object
- 11/17/2022, 9:12:02 PM: node: 91cb14208dab9ad3: iot-2/type/sprintId/sprint26/ev/data/fmt/json: msg.payload: Object
- 11/17/2022, 9:12:02 PM: node: 91cb14208dab9ad3: iot-2/type/sprintId/sprint26/ev/data/fmt/json: msg.payload: Object

Service Details - IBM Cloud

Node-RED | node-red-tpskl-2022-10-30.mybluemix.net

IBM Watson IoT Platform

node-red-tpskl-2022-10-30.mybluemix.net/red/#flow/bb8705feb0f167f5

Incognito

Node-RED

Deploy

filter nodes

Flow 1

Flow 2

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change

msg payload

debug

```
11/17/2022, 8:22:10 PM node: 91cb14208dab9ad3  
iot-2/tpsprint/dsprint26/evldataa/fmtljson : msg.payload : Object  
> { High Alert!!: "31.98left" }  
11/17/2022, 8:22:11 PM node: 91cb14208dab9ad3  
iot-2/tpsprint/dsprint26/evldataa/fmtljson : msg.payload : Object  
~object  
Warning!!: "0.00left"  
11/17/2022, 8:22:12 PM node: 91cb14208dab9ad3  
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~object  
High Alert!!: "31.98left"  
11/17/2022, 8:22:13 PM node: 91cb14208dab9ad3  
iot-2/tpsprint/dsprint26/evldataa/fmtljson : msg.payload : Object  
~object  
Warning!!: "0.00left"  
11/17/2022, 8:22:14 PM node: 91cb14208dab9ad3  
iot-2/tpsprint/dsprint26/evldataa/fmtljson : msg.payload : Object  
> { High Alert!!: "31.99left" }  
11/17/2022, 8:22:15 PM node: 91cb14208dab9ad3  
iot-2/tpsprint/dsprint26/evldataa/fmtljson : msg.payload : Object  
> { Warning!!: "0.00left" }  
11/17/2022, 8:22:28 PM node: 91cb14208dab9ad3  
iot-2/tpsprint/dsprint26/evldataa/fmtljson : msg.payload : Object  
> { High Alert!!: "31.99left" }
```

Service Details - IBM Cloud

Node-RED | node-red-tpskl-2022-10-30.mybluemix.net

IBM Watson IoT Platform

node-red-tpskl-2022-10-30.mybluemix.net/red/#flow/bb8705feb0f167f5

Incognito

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