

### Project Design Phase-II Solution Requirements (Functional)

Date	18 October 2022
Team ID	PNT2022TMID12941
Project Name	Signs with smart connectivity for better road safety

#### Functional Requirements:

Following are the functional requirements of the proposed solution.

FR no	Functional requirement	Sub requirement
FR 1	Website registration	Registration in weather forecast website through official mail
FR 2	Login confirmation	Confirmation via email
FR 3	Sensor integration	Placing sensors in adequate locations and connecting to IOT device
FR 4	Parameter input	Getting input from sensors and weather forecast platform
FR 5	Processing of input	Data conversion and comparison with threshold values.
FR 6	Actuation based on processing	Actuating events based on processing of input
FR7	Results	The actuation results are displayed in dashboard

#### PROJECT FLOW:

Through IOT sensor device, the traffic density data will be collected and given to IBM Watson IOT platform. From open weather web application, the weather details will be updated. Node red can be used to interface web application for sign board and IOT Watson platform. The data from IOT device and weather forecast website, will be used to actuate Web application dashboard to display signs or information based on received data.

To accomplish this, we have to complete all the activities and tasks listed below:

- Construct and set up IBM Cloud Services
- Create an IoT device and setup the IBM Watson IoT Platform. Create a Node-RED service.
- To create a web application, use the Node-RED Service.
- Create a Python script to sign up for IBM's IoT platform and upload input data.

