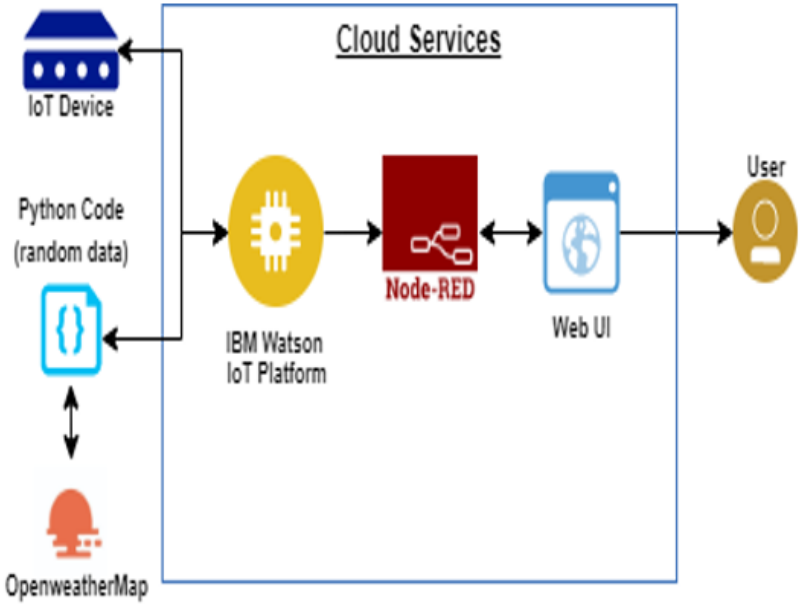
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID38206
Project Name	Project -Signs with Smart Connectivity for Better Road Safety
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2



Guidelines:

- *1. To override the static traffic signs, use the smart sign indicator boards. These connected smart signs use the Weather API to get speed limits from the web app and update automatically Depending on the weather, the speed may increase or decrease and the signs are posted depending on traffic and life-threatening situations. Orientation (schools), warning and service (hospitals, restaurants) signs are displayed accordingly Different operating modes can be selected using buttons)*
- *2. The IBM Watson IoT Platform acts as a intermediate to connect web applications to IoT devices, hence the creation of the IBM Watson IoT Platform.*
- *To connect an IoT device to the IBM cloud, create a device in the IBM Watson IoT platform and obtain device credentials*
- *Configure the connection security and create API keys for Node-RED services to access the IBM IoT platform.*
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Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How the user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript/Angular Js / React Js,python, C++
2.	Application Logic-1	Logic for a process in the application	Java/Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.

9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	TINKER CAD, NODERED, IBM WATSON, MURAL, MIRO, PYCHARM	Firewall, Firebase, cyber resiliency, strategy
2.	Security Implementations	Powerful security system for everyone's peace of mind No access data Hackers cannot access network	loT, internet
3.	Scalable Architecture	EASY TO EXTEND THE NETWORK WITH THE AID OF THE BANDWIDTH OF THE NETWORK	IBM Cloud

4.	Availability	Available every time and everywhere 24/7 so long as the consumer is signed into the network.	IBM Cloud
5.	Performance	AIDS MASSIVE RANGE OF USERS TO USE TECHNOLOGY	IBM Cloud