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

Date	25 October 2022
Team ID	PNT2022TMID14066
Project Name	Project – Signs with smart connectivity for better road safety.
Maximum Marks	4 Marks

Technical Architecture:
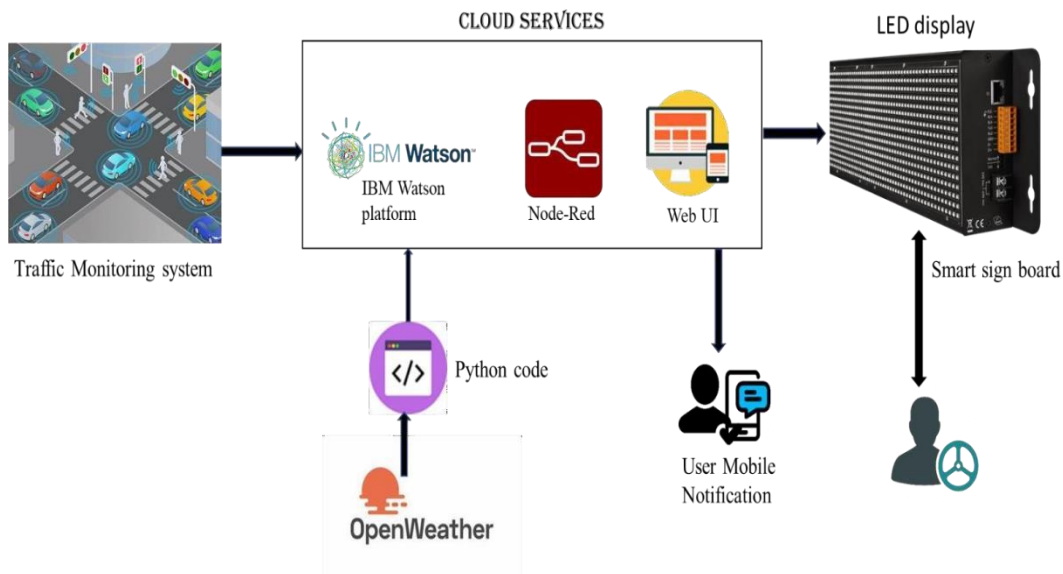
Guidelines:

1. To replace the static signboards, smart connected sign boards are used.

2. These smart connected sign boards get the speed limitations from a web app using weather API and update automatically.

3. Based on the weather changes the speed may increase or decrease.

4. Based on the traffic and fatal situations the diversion signs are displayed.

5. Guide(Schools), Warning and Service(Hospitals, Restaurant) signs are also Displayed accordingly.

6. Different modes of operations can be selected with the help of buttons.

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
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 Cloud ant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local File system
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, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Security Implementations	Strong security system that anyone without login credentials and hackers are not allowed to Enter the network.	Firewall, Firebase, cyber resiliency strategy
2.	Scalable Architecture	Easy to expand the operating range by increasing the bandwidth of the Network.	IoT, internet.
3.	Availability	Available anytime and everywhere 24/7 as long as the user is signed into The network.	IBM Cloud
4.	Performance	Supports a large number of users to access the technology Simultaneously.	IBM cloud