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

Date	03 October 2022
Team ID	PNT2022TMID31413
Project Name	Signs with Smart Connectivity for Better Road Safety
Maximum Marks	4 Marks

Technical Architecture:

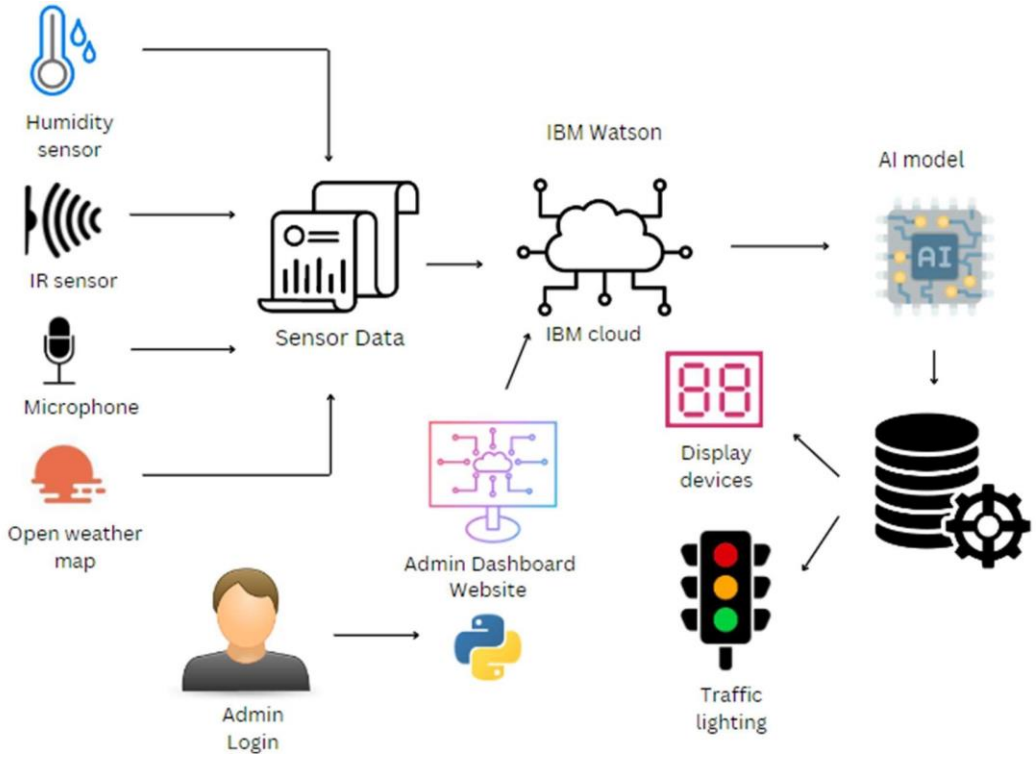

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Driver	Signs on the road	Python, IBM Cloud
2.	Weather based changes	Updating Signs on the board	Python, IBM Cloud, Weather API
3.	High Priority Vehicle	Give path to High Priority Vehicles	Python, IBM Cloud, Sensors

4.	Administration	Website for administration work	Python, (Flask Framework), IBM Cloud, API
5.	Database	Data about traffic intensity, weather etc.,	MySQL
6.	Cloud Database	Database Service on Cloud	IBM Cloudant
7.	File Storage	File storage requirements	IBM Block Storage
8.	Weather API	To get weather and process speed limits	IBM Weather API or OpenWeather API

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Frameworks used in IBM Watson	Python

2.	Security Implementations	Data are encrypted generally by IBM Cloudant for its data transfer. User passwords are hashed and saved	SHA-256 and IBM Cloudant specific securities
3.	Scalable Architecture	Nodes can be added easily and admin control can be scaled and it is completely dependent on the server capacity	Python
4.	Availability	The service is available all time as the nodes ie., the signs are connected and are connected to the cloud	Python, API
5.	Performance	Any number of nodes can be added and the data can be transferred to the signs for guiding the drives easily as process takes place at the cloud server	IBM Cloudant, IBM Watson