

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

Date	31 October 2022
Team ID	PNT2022TMID09856
Project Name	Signs with smart connectivity for better road safety
Maximum Marks	4 Marks

Technical architecture:

Figure: Smart road safety system

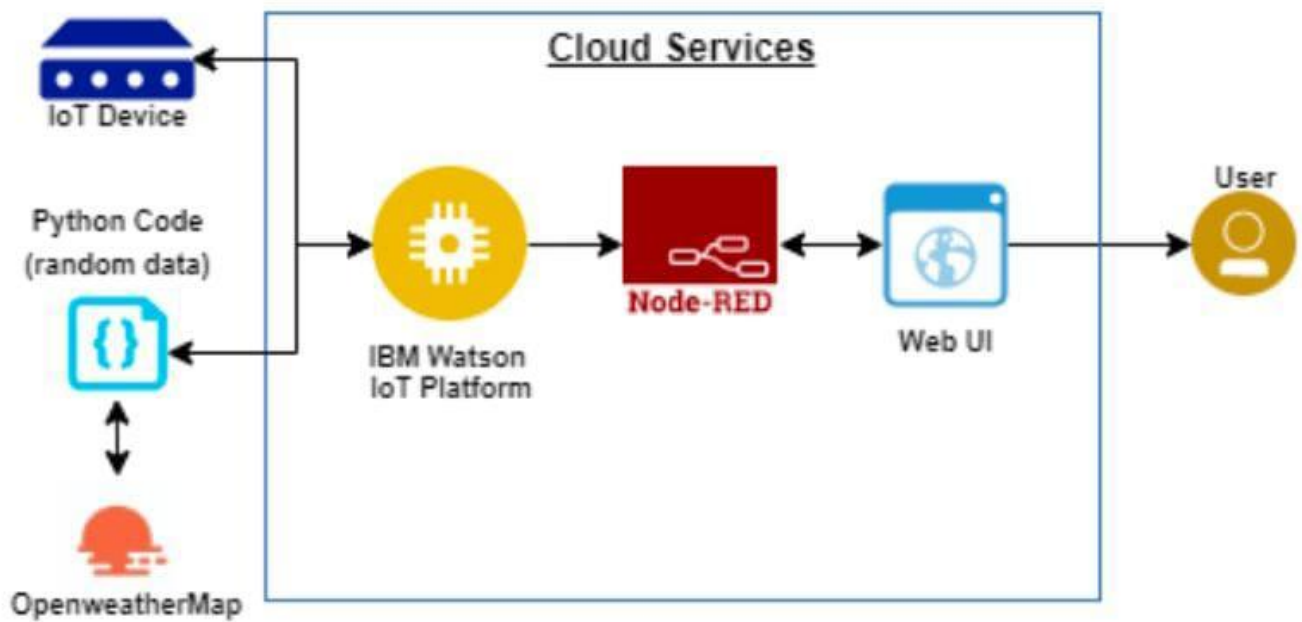


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User has to register and we can able to view the other device. ex: using web UI, mobile app etc.,	HTML, CSS, JavaScript
2.	IOT Application Logic-1	Owner's device should be connected to the system	Python
3.	IOT Application Logic-2	Owner's device should be in on condition	IBM Watson STT service
4.	IOT Application Logic-3	If any accident is happen means the alarm will notify the all department	IBM Watson Assistant
5.	Database	Data type can be any form such as text, User defined blob of data sent from cloud IOT core device etc.,	SQ lite, In Flux DB
6.	File Storage	File with be labelled with what they contain and how long they should be kept	IBM Block Storage or Local File system
7.	External API-1	Purpose of External API used in the device is to use the internet for communicating and conducting allotted operations efficiency.	Aadhar API, etc.
8.	Machine Learning Model	IOT and machine learning delivers insights otherwise hidden in data for rapid automated response and improved decision making	Object Recognition Model, Danger prediction Model etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Device that removes much of the manual work needed to write and configure code. It provides rapid development ,is easy to setup and has a strong support base	IOT Zeta for nonstop streaming of detecting of road incidents
2.	Security Implementations	Alert notification Enabled with GPS module received in owner mobile.	e.g. SHA-256, Encryptions of data regarding gas level, firewalls, Antivirus, data loss prevention etc.,
3.	Scalable Architecture	If a problem arises owner can see the problems and check the accident count	Multiple Data store Technologies , Reliable, Micro services Automated Bootstrapping
4.	Availability	Sensor will detect the vehicle on road	GSM module, raspberry pi

S.No	Characteristics	Description	Technology
5.	Performance	*the alert notification is sent to the owner without any delay *immediate actions are taken after detection.	High durable device battery