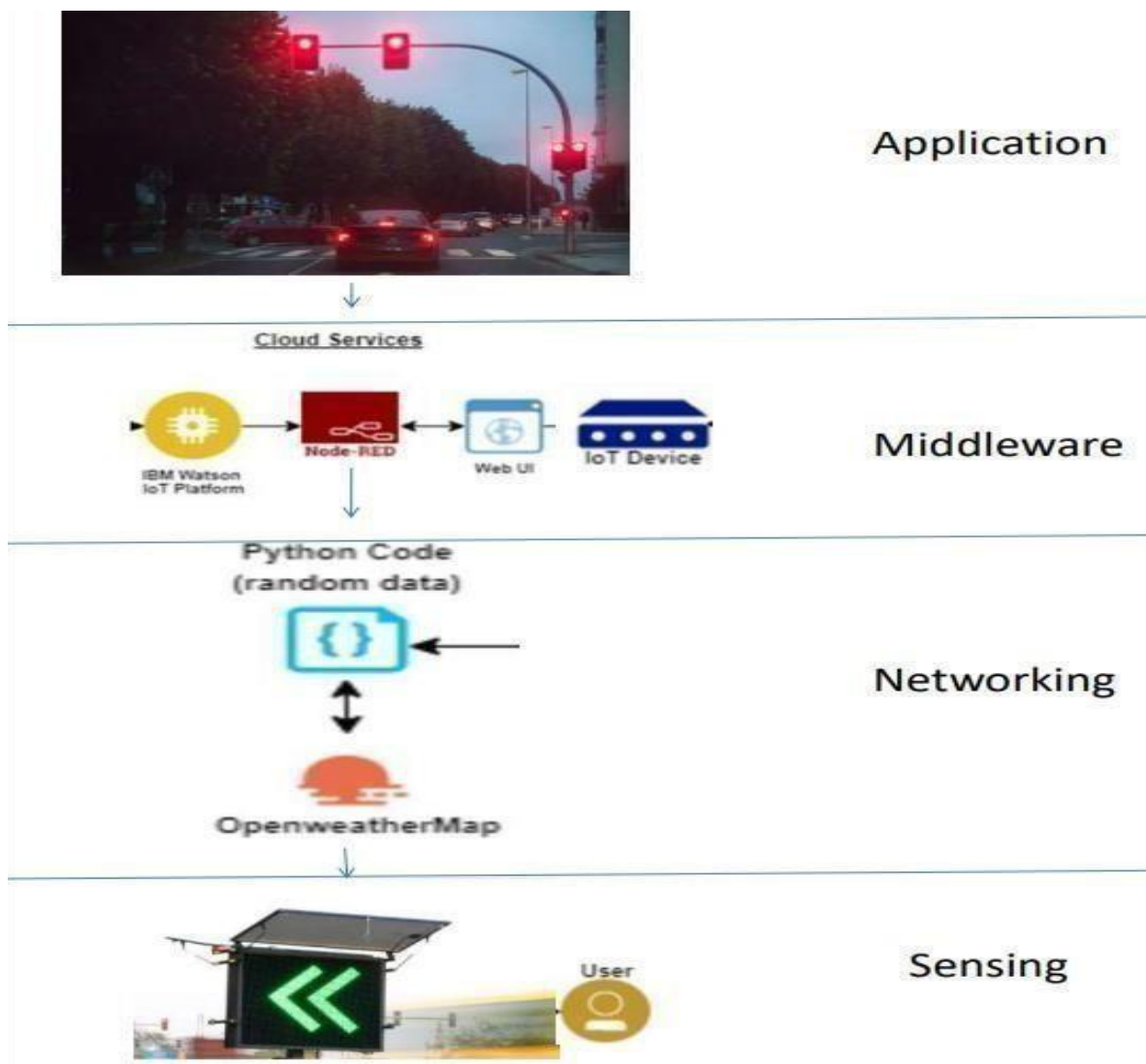


Project Design Phase-II
Technology Stack (Architecture & Stack)

| | |
|----------------|--|
| DATE | 18 October 2022 |
| TEAM ID | PNT2022TMID21273 |
| TOPIC | Signs with Smart Connectivity for Better Safety |
| MARKS | 2 Marks |



GUIDELINES:

- To replace the static signboards, smart connected sign boards are used.
- These smart connected sign boards get the speed limitations from a web app using weather API and update automatically.
- Based on the weather changes the speed may increase or decrease.
- Based on the traffic and fatal situations the diversion signs are displayed.
- Guide(Schools), Warning and Service(Hospitals, Restaurant) signs are also displayed accordingly.
- If there is rainfall then the roads will be slippery and the speed limit would be decreased.
- There is a web app through which you can enter the data of the road diversions, accident prone areas and the information sign boards can be entered through the web app. This data is retrieved and displayed on the sign boards accordingly.
- Different modes of operations can be selected with the help of buttons.

Table 1 :

| S.No | Component | Description | Technology |
|-------------|---------------------|--|-------------------|
| 1. | User Interface | User can able to access the feature through the digital sign boards placed at fixed distance | IoT,Python |
| 2. | Application Logic-2 | IBM Watson is a data analytics processor that uses natural language processing, for processing vast stores of data | IBM Watson |
| 3. | Application Logic-3 | A flow based programming tool for wiring together hardware devices , api , online services | IBM Node red |
| 4. | Cloud Database | IBM Cloud provides solutions that enable higher levels of compliance, security, and management, with proven architecture patterns and methods for rapid delivery for running mission critical workloads. | IBM Cloud |
| 5. | External API-1 | The OpenWeatherMap API currently provides a wide variety of weather data including current weather, forecasts, history record | Open weather API |

Table 2 : Application characteristics

| S.No | Characteristics | Description | Technology |
|------|---------------------------|--|---------------------------|
| 1. | Security Implementation s | Has a strong security to the database that cant be accessed without a particular credentials | cyber resiliency strategy |
| 2. | Scalable Architecture | The architecture is connected with the help of Internet .The range of operation can be increased by increasing bandwidth | 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 |