Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	26-10-2022
Team ID	PNT2022TMID48642
Project Name	Signs with Smart Connectivity for Better Road Safety
Maximum marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	ESP 32 Board	It is the board in which the sensors are going to integrate.
FR-2	Sensors: • DHT22 • RADAR	**DHT22** – To sense the temperature and humidity of the road. **RADAR** – To detect the vehicle's existence
FR-3	Sensors: • Accelerometer Sensor • GPS Sensor • Gravity Sensor	These 3 sensors are used to intimate the road's condition as speed control, location tracking etc.,
FR-4	IBM Cloud Storage	To store the information gathered by the Sensors
FR-5	MQTT Protocol	To connect the cloud storage and Users Device

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The user who drives the car can easily identify the road condition and speed limits.
NFR-2	**Reliability**	It is reliable since all the sensors will sense the same thing and intimate the messages
NFR-3	**Performance**	Using this as a plug-in device in car will improve its performance by assuring the safety driving.
NFR-4	**Availability**	The user can get this as a plug-in device and it will help the user in a great manner
NFR-5	**Scalability**	The Road safety can be enhanced to a greater level since it has the ability to sense the weather condition, Road condition and vehicle detection.