

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

Date	13 October 2022
Team ID	PNT2022TMID24018
Project Name	Project – 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	User Guidance	<ul style="list-style-type: none"> These smart sign boards will provide road safety guidance. Speed limitations will be recommended based on the data acquired from the open weather map API which includes following subtasks : <ol style="list-style-type: none"> Weather data will be continuously received using communication protocols like HTTP and MQTT. Based on the weather condition (eg.heavy rainfall,more fog)speed recommendation will be provided. During Traffic and fatal situation diversion symbols are displayed which includes the following subtasks: <ol style="list-style-type: none"> Information will be gathered from the road safety control. Based on that diversion symbols are provided. Recommendation regarding the prohibition of use of sound horn near Hospitals and speed limitation while crossing school area using GIS.
FR-2	User visibility	<ul style="list-style-type: none"> Small video description will be provided for quick understanding . Background colours will change based on daytime and night time .(brightness will also be adjusted)
FR-3	Continuous support	<ul style="list-style-type: none"> Continuous support will be provided through regular updation using IBM CLOUD SERVICE. Since it is regarding road safety uninterrupted power supply and internet connection will be made.

FR-4	Product installation	<ul style="list-style-type: none"> The sign board will be installed on the better view position for user convenience .
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Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	In comparison to normal sign boards the usability of smart connected sign boards are very simple which provides clear and defined data.
NFR-2	Security	Data displayed is under control and cannot be edited or controlled by any others.
NFR-3	Reliability	Reliably exact data will be gathered and provided so the user can follow the guidance completely.
NFR-4	Performance	The performance will be more accurate , on timing, more specific to the relevant situation, very fast and continuous updation will also be made.
NFR-5	Availability	This product designed 24 hrs availability , that the developer can access anywhere and it is all time during the travel.
NFR-6	Scalability	More changes can be made in future with many features and more sensors can be interfaced and the gathering information will sent to the control panel.