

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

Date	28October 2022
Team ID	PNT2022TMID45631
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	Drivers and number of passenger on the vehicle	Number of passenger on the vehicle are noted
FR-2	Predicting vehicle speed using sensors	IR sensor, Proximity sensor etc.
FR-3	Pre-processing the speed of vehicle	Determination of Moving Vehicle speed using Image Processing
FR-4	Classification of sensor	A few examples of analog sensors are: accelerometers, pressure sensors, light, and sound sensors. Digital Sensors (also known as electronic or electrochemical sensors) convert the data transmission, digitally. Examples include digital accelerometers, pressure, and temperature sensors
FR-5	Building and training the system	The proposed system uses a set of ultrasonic sensors and has two modules: one for vehicle monitoring and other for priority management.
FR-6	Testing the model	In this phase, we tested the accuracy of the models with the test dataset that was formed in previous phase and the most accurate model is figured out.

**Non-functional Requirements:**

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

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	It is simpler and possible to predict speed of the vehicle, accident at an earlier stage. Because that it benefits all kinds of people, it is a life saving option.
NFR-2	<b>Security</b>	Predict speed of the vehicle, accident helps to saves the life.
NFR-3	<b>Reliability</b>	This approach offers excellent performance and scalability, making it more dependable.

NFR-4	<b>Performance</b>	It provides accuracy of over 90%. Thus, it has a high performance rate.
NFR-5	<b>Availability</b>	By having few basic data set of people we can predict the accident ,speed of the vehicle
NFR-6	<b>Scalability</b>	It has more efficiency in detecting speed of the vehicle ,accident than any other models.