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

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Date	25 October 2022
Team ID	PNT2022TMI54414
Project Name	Machine Learning Based Vehicle Performance Analyzer
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	Enter no of Cylinders	Based on the car
FR-2	Enter Torque power	Based on the car engine power
FR-3	Enter Weight	weight based on the car model
FR-4	Enter Acceleration	acceleration depends upon the usage
FR-5	Enter Model year	model year depends upon the car exact release model

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Vehicle's fuel consumption is influenced by external and internal factors.
NFR-2	**Security**	Road conditions, weather and traffic
NFR-3	**Reliability**	predicting the fuel efficiency with the XG Boost model outperforming all other models by constantly predicting
NFR-4	**Performance**	performance is low only when there is low fuel efficiency repeatedly but in comparison with other models developed XGBoost model's performance is exceptional and the values obtained for RMSE, MAE and R2 is also acceptable.
NFR-5	**Availability**	car, the model is not limited only to that class and can be generalized for any vehicle with the driving data and vehicle characteristics available.
NFR-6	**Scalability**	to improve the fuel economy by considering the characteristics that substantially influence the fuel efficiency.