Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID
Project Name	Project - Machine Learning based Vehicle Performance Analyzer
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	**Problem Statement (Problem to be solved)**	To analyse a vehicle's performance with respect to the various data collected from the vehicle and using Machine learning algorithm to find the difference between the ideal/new vehicle of the same kind. The application allows the user (either the everyday customer or workshop owners) to analyse a vehicle using the onboard data such as total drive mile and etc., to analyse the performance of the vehicle in order to enhance or repair purposes without having to spend hours on testing or taking the vehicle apart. The algorithm will allow to the user to know which aspect of the vehicle needs a check-up and should be taken care of most.
2.	**Idea / Solution description**	Updating a details dataset of cars/vehicle of any desire with ideal specification sheet in format of .excel or .csv file. Train the algorithm to receive the data from the user onboard data and compare to analyse performance for the said vehicle.
3.	**Novelty / Uniqueness**	This system allows a wide range of vehicles to be set up for analysis. The ML allows for faster and swappable data set to be trained for various different vehicles and expected performance in various different regions. This allows varied performance analysis depending on the vehicle's region of use. For example, the battery life of a car is dependent on the temperature of the surroundings; suspension depends on the type of terrain the vehicle most frequently visits or raids on.

4.	**Social Impact / Customer Satisfaction**	This method is highly feasible and does not require any heavy new equipment to be carried over. Being extremely cost effective allows it to be consumer pleasing and can be modified with various datasets allowing It to be used in various regions around the world. With recent e-vehicle trend and even gas cars come to the market with digital control and computer data allows getting onboard data a lot easier without any extra gadget to be placed in the vehicle. The model can also be specifically trained for other features and heavy vehicles if needed. For eg: Military vehicles.
5.	**Business Model (Revenue Model)**	Can be a monthly subscription feature for using the cloud controlled ML software / or paid application with dedicated UI and cloud (similar to adobe applications).
6.	**Scalability of the Solution**	Complexity of the model can be increased by adding various different types of vehicles and considering age and wear of the vehicle as considerable parameter. Data from recent repairs can also be added to account for increase or decrease in performance. This application can also be paired with insurance claiming software for faster and efficient account claiming.