Project Design Phase-I
Proposed Solution

Team ID : PNT2022TMID41512

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	In our day-to-day life vehicles play an integral part in all our lives. We are lagging in servicing it because we are preoccupied with our daily tasks which have a direct impact on the environment. To improve the performance and efficiency of our vehicle, it must be properly serviced and maintained. So, to remind the owner about vehicle maintenance, we have created Vehicle Performance Analyzer using machine learning.
2.	Idea / Solution description	To improve the vehicle's performance efficiency, it is critical to analyse the factors using a variety of well-known machine learning algorithms such as linear regression, decision tree, and random forest. Automotive traction batteries' range, durability, and longevity are "hot topics" in automotive engineering. And now we'll look at mileage performance. We will create models using various algorithms and neural networks to solve this problem. We'll then see which algorithm accurately predicts car performance and its efficiency. This can significantly reduce system fuel consumption and increase efficiency.
3.	Novelty / Uniqueness	There are a few works that analyse vehicle performance using very few vehicle parameters, whereas, in our idea, we use the number of cylinders, displacement, horsepower, weight, model's year and country of origin to determine vehicle performance. We anticipate that as more data is added to fit the model, the sensitivity of our measure will increase. Because our model will be exposed to more possible scenarios, it will be able to find more data that is similar to the previously unseen ones.

4.	Social Impact / Customer Satisfaction	The main objective of this Vehicle performance analyser is that it helps in major reduction of emissions from the vehicles. The reduced amount of poisonous gas emission will definitely improve the quality of air in our environment. By using this Vehicle Performance Analyser customers can know the technical status of their own vehicle. It provides the customer to maintain good quality of the vehicle by enhancing the engine performance, taking care of the interior, regular tire maintenance and also improves the driver safety whereas vehicle gives service alerts which provides better driving experience.
5.	Business Model (Revenue Model)	This System will provide detailed information about the vehicle performance and very user-friendly interface to use. By being informative and unique, it attracts more customers leading to higher revenue. As it plays a vital role in maintaining the efficiency of the vehicle and also in saving the environment from global warming it has a greater impact on the competitive business world.
6.	Scalability of the Solution	Irrespective of the vehicle type or the count of vehicles, this system will analyse the performance of the vehicle and also gives periodic service alerts, when performance of the vehicle degrades. Multiple users can also access the system at same time, it processes the results without any delay.