

Project Initialization and Planning Phase

Date	03 July 2024
Team ID	739659
Project Name	Trip Based Modeling of Fuel Consumption in Modern Fleet Vehicles Using Machine learning
Maximum Marks	3 Marks

Define Problem Statements (Customer Problem Statement Template):

The project's goal is to create a prediction model that can reliably calculate fuel consumption per trip based on factors including driving style, vehicle attributes, and road conditions. With the aid of machine learning algorithms, the model will pinpoint the major variables affecting fuel efficiency and produce accurate forecasts. By doing this, driving habits will be improved, resulting in economical fuel consumption and less environmental effect. The finished product will be an invaluable resource for fleet managers, drivers, and other transportation specialists.

It's critical to forecast trip-based fuel usage to maintain both environmental sustainability and cost-effectiveness. Route conditions, driving behavior, and vehicle specs all affect this usage. Conventional techniques for calculating fuel use are frequently inaccurate and time-consuming; however, machine learning provides effective substitutes by examining data to find trends and generate precise forecasts. methods such as decision trees and regression can optimize driving practices, ensuring fuel efficiency and reducing costs in transportation

COMPONENTS	DESCRIPTION
I'm Trying to	Accurately predict the fuel consumption for a trip
but	I'm struggling with the variability of the data
beacuse	the different modern high fleet vechiles have different speed and distances covered
which makes me feel	uncertain about the reliability and generalizability of my predictions

Reference: <https://miro.com/templates/customer-problem-statement/>

Example: Predicting the fuel consumption

<u>I am</u>	<u>trying to</u>	<u>but</u>	<u>because</u>	<u>which makes me</u> <u>feel</u>
A travels manager	Transport Load and supply	Does not know the fuel it takes for it	There are different kinds of vehicles	frustrated

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	A travels manager	Transport Load and supply	Does not know the fuel it takes for a trip	There are different kinds of vehicles	frustrated
PS-2	Vehicle driver	Go on a trip with a group of people	The fuel gets completed	With speed varies How much is needed is not known	worried