Project Initialization and Planning Phase

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| Date | 15 March 2024 |
| Team ID | SWTID1720078183 |
| Project Name | Predictive Modeling For Fleet Fuel Management Using Machine Learning |
| Maximum Marks | 3 Marks |

**Define Problem Statement :**

Efficiently managing and predicting fuel consumption is crucial for enhancing fuel economy, optimizing operational costs, and preventing fraudulent activities in fleet management. This project aims to develop a robust machine learning model to accurately predict fuel consumption for fleet vehicles based on gas type and other available data. By addressing the challenges of identifying relevant data points, handling incomplete or inconsistent data, and building an accurate predictive model, the solution will provide actionable insights for fleet managers. The project also includes developing a user-friendly web application to integrate the machine learning model, enabling real- time fuel consumption predictions, seamless data entry, and result visualization. Successful implementation will empower fleet managers to make data-driven decisions, optimize fuel usage, reduce costs, and prevent fraud.

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| **Problem Statement (PS)** | **I am (Customer)** | **I’m trying to** | **But** | **Because** | **Which makes me feel** |
| PS-1 | Fleet Manager | Optimize fuel consumption and prevent fraudulent activities within my fleet | I lack accurate predicti ons of fuel consum ption based on various factors | Fuel consumptio n depends on several internal and external factors which are not all measured or available for analysis | Frustrated due to inefficiencies and potential losses in fuel costs |
| PS-2 | Fleet Manager | Accurately predict fuel consumption for better | Current method s are inadequ | Fuel consumptio n is influenced | Concerned about inefficiencies and potential fraudulent activities |

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|  |  | management and cost- saving | ate and do not conside r all measura ble factors | by various internal and external factors |  |
| PS-3 | Fleet Manager | Utilize technology to streamline fuel consumption predictions | Existing solution s are not tailored to conside r all relevant factors in predicti ng fuel usage | There is a lack of comprehen sive tools that integrate multiple data points for accurate predictions | Anxious about potential financial losses and inefficiencies in fleet management |