Project Design Phase-II Technology Stack (Architecture & Stack)

Date	15 October 2022
Team ID	PNT2022TMID15449
Project Name	Machine Learning Based Vehicle Performance Analyzer
Maximum Marks	4 Marks

Technical Architecture:

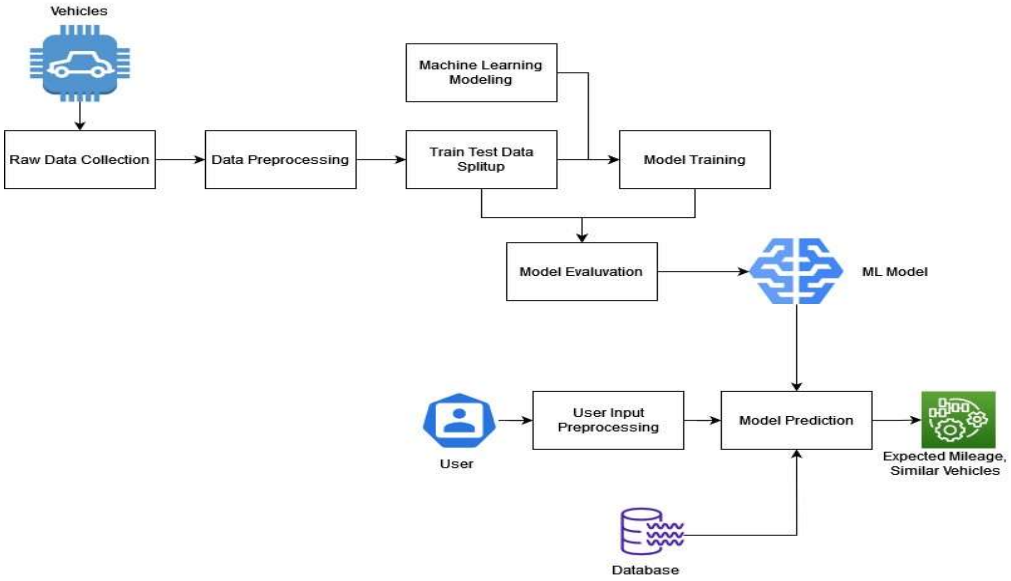

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The user interacts with the application through a Web Application that is responsive to the device that is being used.	HTML
2.	Get User Data	The process collects the user input data that is collected via a form to the server as a text	HTML
3.	Model Prediction	Use the data collected from the user to make classification of vehicle	IBM Watson ML
4.	Send User Report	Users Report will be Displayed in the Users Interface Login.	HTM
5.	Database	Database contain user information such as name, email, vehicle basic information, mileage predicted over time.	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2
7.	External API-1	Vehicle Details Database	https://api.auto-data.net/
8.	Machine Learning Model	The machine learning model is used to predict mileage from the user inputs	Classification Modelling.
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Core i5, 8GB RAM Cloud Server Configuration.	Local, Docker

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	To provide a set of APIs to build UI tests, the Spectatio framework implements app-specific interfaces and helpers while extending the existing standard helper class and importing the utility helper classes.	JavaScript, Python
2.	Security Implementations	Identity and Access Management, OAUTH, WAF	IBM Cloud
3.	Scalable Architecture	3 Tier Architecture, Model-View-Controller implementation.	Model - SQL DB, View - Controller - Flask Server
4.	Availability	Proxy servers, Load Balancers to help balance traffic among servers to help improve uptime	IBM Cloud load balancers
5.	Performance	The frontend is detached from the Business logic server reducing requests sent to the server.	HTML