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

Date	03 October 2022
Team ID	PNT2022TMID17819
Project Name	Trip based modelling of fuel consumption
Maximum Marks	4 Marks

Technical Architecture:

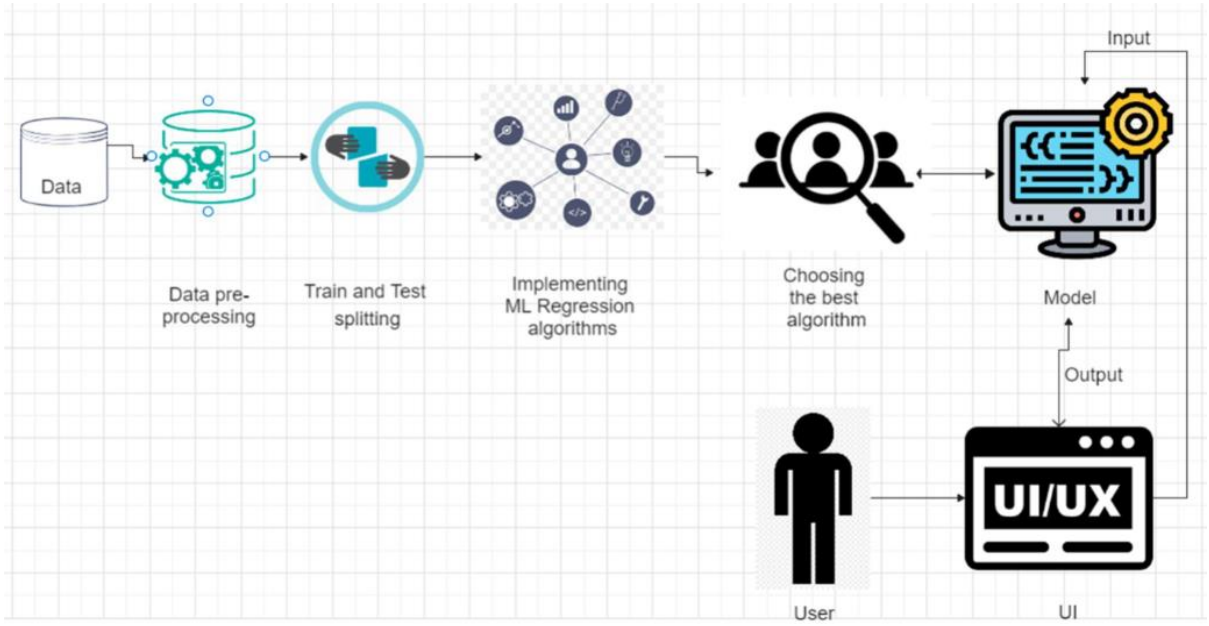

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User interacts with the portal through the user interface	HTML, CSS, JavaScript
2.	User registration	New users register into the portal	Python
3.	User login	User logins into the portal through his/her user credentials	Python
4.	Database	The details collected from users for prediction are stored in a database where columns are mostly varchar type or float type	MySQL
5.	Cloud Database	Database Service on Cloud to store data in cloud	IBM DB2
6.	External API	Weather API used to provide input to discrete parameters like rainy, sunny etc	IBM Weather API
7.	Machine Learning Model	Various Machine Learning models are tested and the most accurate one is used	Linear regression, Random Forest, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	CSS framework, Backend framework	Technology of Opensource framework
2.	Security Implementations	User authentication, Session handling	Encryptions
3.	Scalable Architecture	Delivering report to user through email	IBM APIs are used for this
4.	Availability	Load Balancers could be used to increase availability of portal	IBM Cloud Hosting
5.	Performance	The application must handle up to 100 requests per second	Load balancers