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

Date	27 june2025
Team ID	LTVIP2025TMID59882
Project Name	TrafficTelligence: Advanced Traffic Volume Estimation with Machine Learning
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Reference:https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/

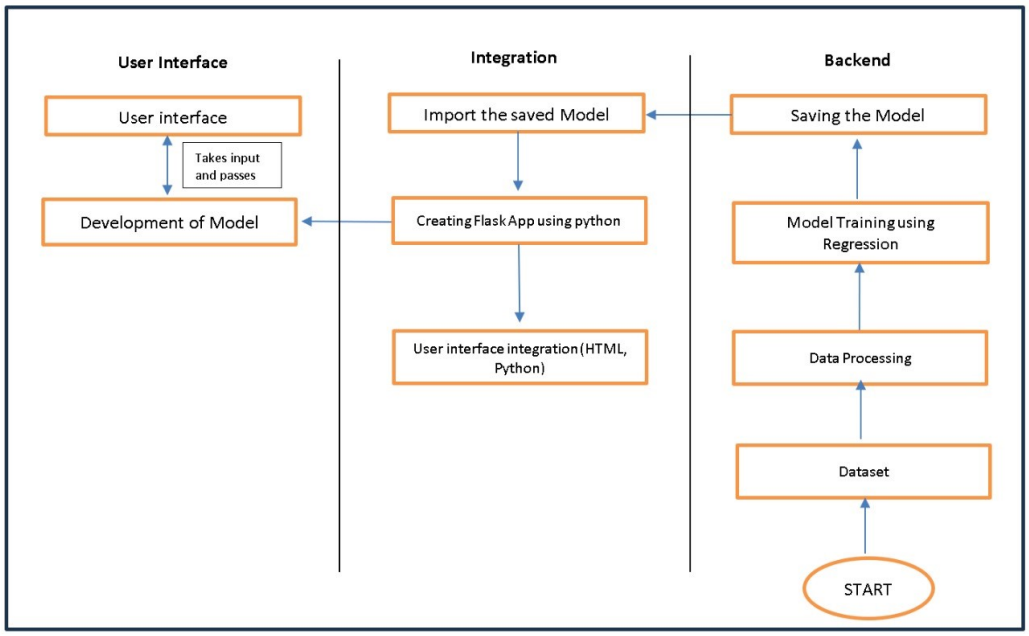

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Critical element designed for both Traffic Managers and everyday users, ensuring an intuitive and informative experience.	HTML, CSS, JavaScript
2.	Application Logic	Involves a robust backend system responsible for processing, analyzing, and managing traffic data.	Python
3.	Database	Involves the storage and management of diverse traffic	File Manager, csv

		data for analysis.	
4.	File Storage	Involves managing diverse types of data, including raw traffic data, machine learning models, and configuration files.	Local System, Google Drive
5.	Frame Work	It is a crucial part of our program as it is responsible for connecting the frontend with the backend.	Python Flask
6.	Machine Learning Model	The machine learning model is responsible for predicting future outcomes based on available data.	Machine learning model created using regression algorithms
7.	Infrastructure (Server / Cloud)	Involves a combination of servers and cloud services to support the computational and storage needs of the application.	Local

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Using cameras to collect data and to make models for specific locations.	Python's Flask
2.	Scalability	Immediate classification of produce as healthy or rotten.	Computer vision, dynamic databases.
3.	Performance	Regular performance testing, monitoring, and optimization are integral components of the development and maintenance processes, ensuring that TrafficTelligence consistently delivers timely and efficient traffic volume estimations.	R squared, Root mean squared error, Root Mean Square deviation.
4.	Availability	Website can be made available all time in a webserver. This makes the website running without any issues.	High speed Linux based webservers.

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d