Project Design Phase-II

Technology Stack (Architecture & Stack)

Project Name: TrafficTelligence - Advanced Traffic Volume Estimation with Machine Learning

Team ID: 591643

Technical Architecture:

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

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Traffic Data API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Prediction Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	TensorFlow, PyTorch, scikit-learn, XGBoost, Keras
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Secure APIs, Access Controls, Data Encryption.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Model Training and Deployment: TensorFlow, PyTorch, or scikit-learn
4.	Availability	Justify the availability of application	Auto-Scaling, Load Balancing
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Throughput, Model Accuracy