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

Date	28 june 2025
Team ID	LTVIP2025TMID33102
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

Example: Order processing during pandemics for offline mode

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

Guidelines:

Include all the processes (As an application logic / Technology Block)
Provide infrastructural demarcation (Local / Cloud)
Indicate external interfaces (third party API's etc.)
Indicate Data Storage components / services
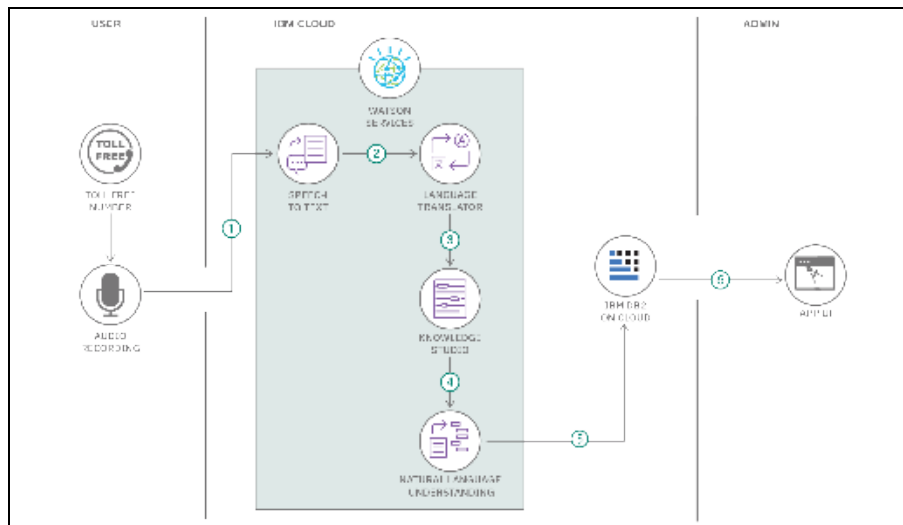Indicate interface to machine learning models (if applicable)

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.
	Application Logic-1	Logic for a process in the application	Java / Python
	Application Logic-2	Logic for a process in the application	IBM Watson STT service
	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.

S.No			
2.			
3.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
4.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
5.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
6.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
7.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
8.	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	Technology of Opensource framework
	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
	Scalable Architecture	Justify the scalability of architecture (3 –tier, Micro-services)	Technology used
	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used

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