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

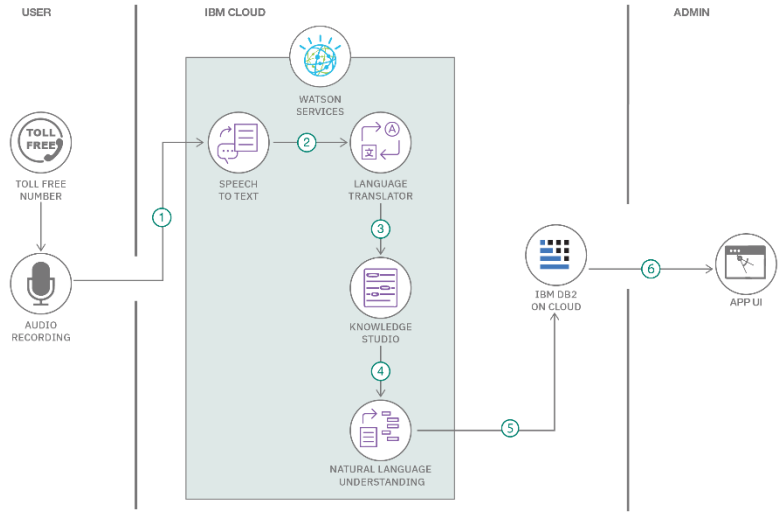
Date	03October 2022
Team ID	PNT2022TMID53940
Project Name	SMART SOLUTION FOR RAILWAYS
Maximum Marks	4 Marks

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:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. 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.
2.	Document upload and verification	Upload Documents like Aadhar, passport ec for identification	Java / Python, Aadhar API
3.	Registration	Registration with email, or by creating a new account	APIs of different mail services.
4.	Train tracking	Track whereabouts with a particular train,	Google Maps API.
5.	Database (Local)	A local database, sent to the TTR for ID verification	MySQL, Adhaar API
6.	Database (Full)	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	Amenities	Order amenities from selected restaurants that deliver to the train	
8.	Emergencies	Look for hospitals nearby in times of emergencies	Google maps API, Python
9.	Checking	Purpose of External API used in the application	Aadhar API, etc.
10.	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
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of	Technology used

S.No	Characteristics	Description	Technology
		load balancers, distributed servers etc.)	
5.	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