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

Date	03 October 2022
Team ID	PNT2022TMID06371
Project Name	Project - Developing a flight delay prediction model using machine learning
Maximum Marks	4 Marks

Technical Architecture:

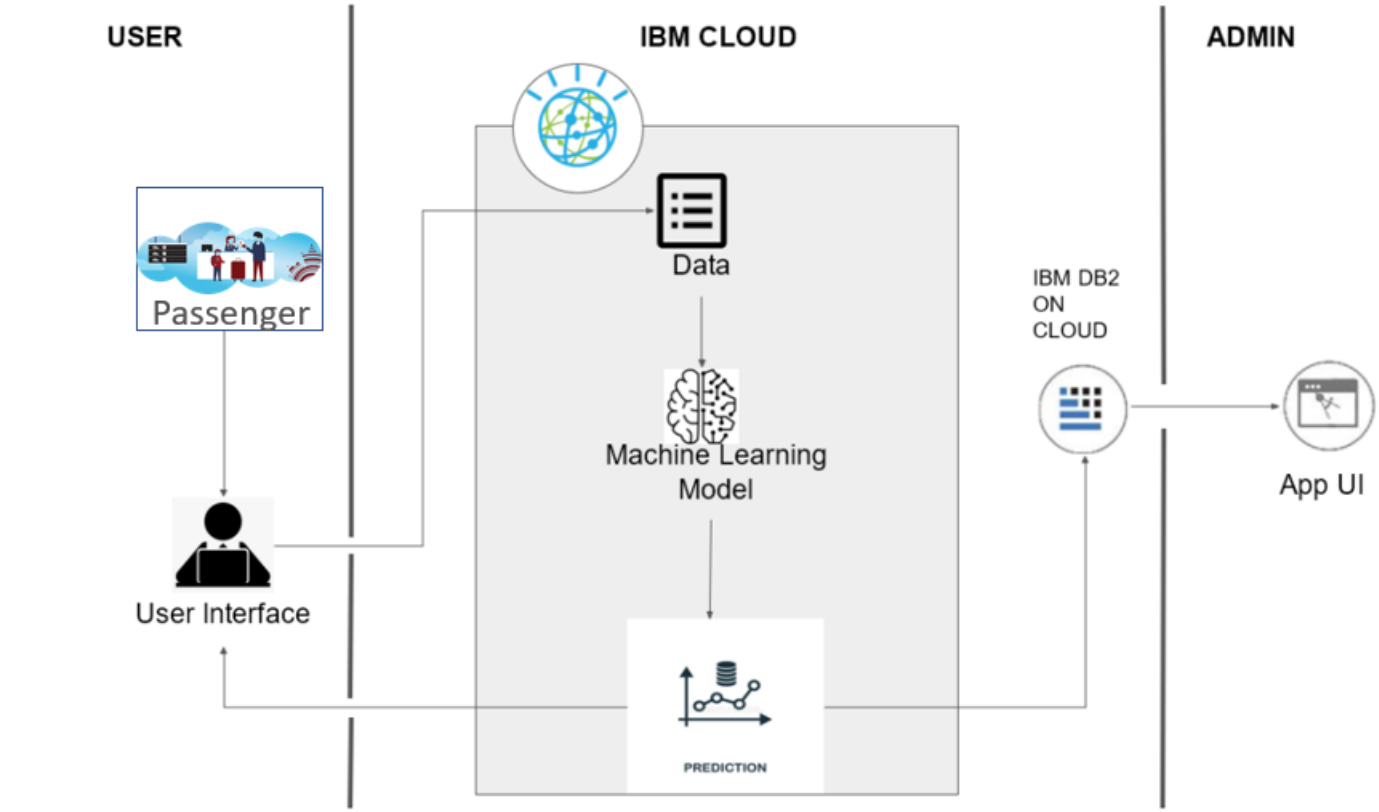

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User can interacts with application through Web UI.	HTML , CSS , JavaScript , Bootstrap , Flask
2.	Application Logic-1	The user can enter the data in it is sent for the machine learning model for the prediction	Java / Python
3.	Application Logic-2	The application is directly deployed in the IBM cloud	IBM Watson STT service
4.	Database	The user credentials are stored ,which is used to send notification of any updates	MySQL
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
6.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
7.	Machine Learning Model	The model is used to predict whether the student is eligible or not.	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	To create an user friendly interface and to route the data to machine learning model	Flask
2.	Security Implementations	Authorization access scenarios and definitions, hand-over procedures for patient records between wards	IBM Watson STT service
3.	Scalable Architecture	Horizontal scaling is provided by adding more machines to the pool of servers. Vertical scaling is achieved by adding more CPU and RAM to the existing machines.	IBM Watson STT service
4.	Availability	The web dashboard must be available to US and IND users 99.98 percent of the time every month during business hours EST & IST.	IBM cloud and browsers
5.	Performance	The landing page supporting 5,000 users per hour must provide 6 second or less response time in a Chrome desktop browser, including the rendering of text and images and over an LTE connection.	APM technology