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

Date	13 October 2022
Team ID	PNT2022TMID0209
Project Name	Developing a Flight Delay Prediction Model using Machine Learning
Maximum Marks	4 Marks

Table- 1: Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	The user interacts with the application using Web UI	HTML, CSS, JavaScript, BootStrap, JQuery, ReactJS
2.	Data Processing	The data from the dataset is used for training the model to predict the delays	Pandas, Numpy, Matplotlib, Seaborn, Python Flask
3.	Cloud Database	The dataset is stored on IBM Cloud	IBM Cloud
4.	Machine Learning Model	ML Models are used to predict the flight delays	Sklearn, ML Algorithms- Logistic Regression, SVM, Random Forest, Decision Tree
5.	Notifications/ Email	The user will receive frequent updates on flight location	SendGrid

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks used	SendGrid, Python Flask, BootStrap, JQuery, ReactJS
2.	Security Implementations	Request authentication using Encryptions	SSL Certificates, Encryptions
3.	Scalable Architecture	The scalability consists of 3- tiers	Web Server- HTML, CSS, Javascript Application Server- Python Flask Database Server- IBM Cloud
4.	Availability	The application is available for cloud users	IBM Cloud Hosting
5.	Performance	5000 object read requests per second	IBM Load Balancer, CDN

Technical Architecture: