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

Date	03 October 2022
Team ID	PNT2022TMID11613
Project Name	Project –Flight delay Prediction
Maximum Marks	4 Marks

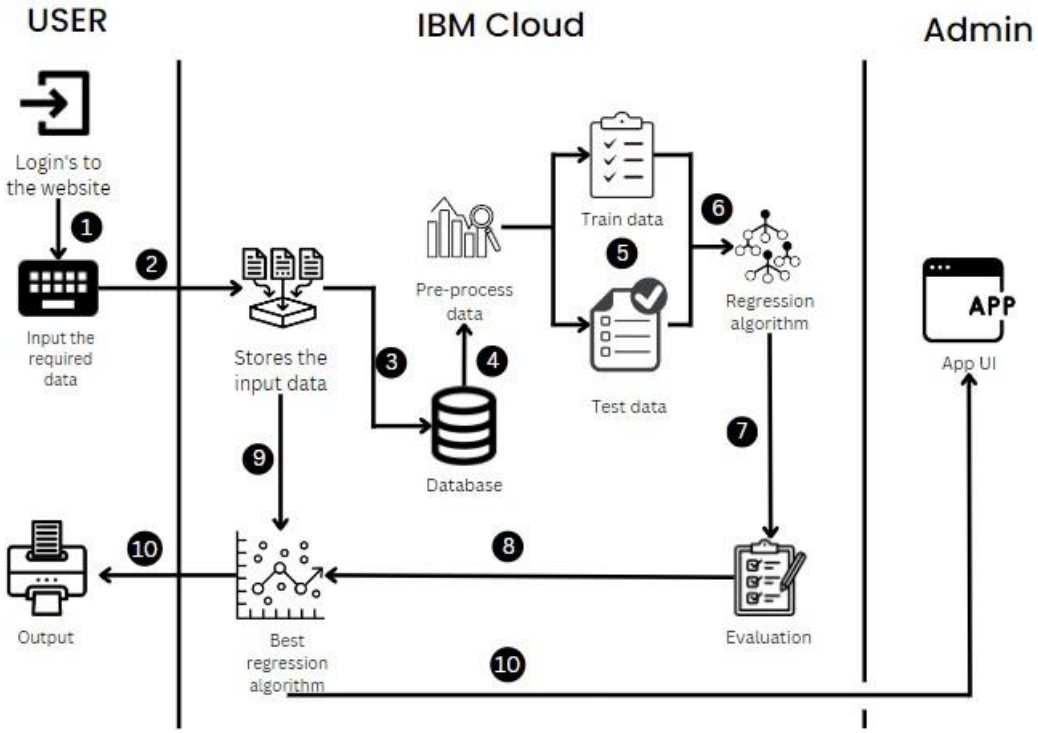

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The user will interact via the webpage only	HTML, CSS
2.	Application Logic-1	Data storage from the website	Flask (via python)
3.	Application Logic-2	Data pre-processing the evaluating the best model	Python with machine learning libraries
4.	Application Logic-3	Cloud to deploy all the services	IBM cloud
5.	Database	All the data are stores in MySQL and mostly used data's are INTEGER, VARCHAR, DATE	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2
7.	File Storage	File storage requirements	IBM Block Storage
8.	External API-1 (Optional)	It uses artificial intelligence that understand the customer requirement's	IBM Watson Assistant
9.	Machine Learning Model	Purpose of Machine Learning Model	Random forest algorithm, etc.
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: 1st we will test the entire system in local DB with the default flask IP address (localhost). Cloud Server Configuration : Using IBM Cloud we will move our entire project to the Cloud for seamless process	Local, IBM Cloud, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python, Flask
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Encryptions, IAM Controls, etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	IBM Cloud
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	IBM Cloud
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	IBM Cloud