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

Date	18 October 2022
Team ID	PNT2022TMID44312
Project Name	Project – Flight Delay Prediction Using 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

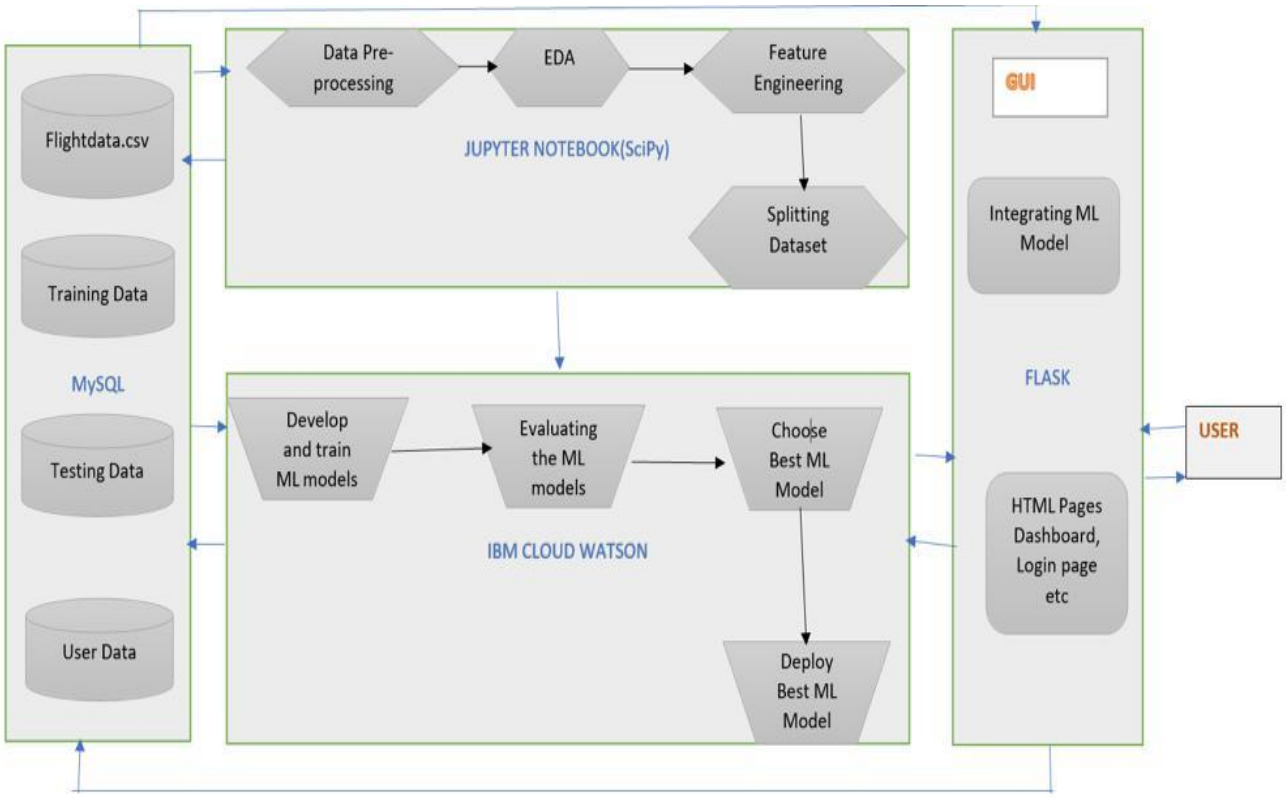

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application	HTML, CSS, Flask
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Data processing	To clean data	Pandas, NumPy, Matplotlib etc.,
5.	Database	Store data	MySQL
6.	File Storage	Storing files	IBM Block Storage
7.	External API-1	External API used in the system	IBM Weather API
8.	External API-2	External API used in the system	Email API
9.	Machine Learning Model	Purpose of Machine Learning Model	Evaluation and prediction model
10.	Infrastructure (Server / Cloud)	Application Deployment	IBM Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source software is that by which the source code or the base code is usually available for modification or enhancement	Python - flask
2.	Security Implementations	The security measures can be grouped into two types; standardized screening techniques, which all passengers must undergo and elevate-risk	Encryptions, SHA2
3.	Scalable Architecture	Screening for which only a sub-set of passengers are selected	Python
4.	Availability	Does not affect the performance even though used by many users	IBM cloud
5.	Performance	High delay prediction accuracy	Python, Flask