Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	15 October 2022
Team ID	PNT2022TMID07489
Project Name	Developing a flight delay prediction model using machine learning
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Signup	● Registration through UserID/Password ● Registration through Gmail ● Registration through Phone number
FR-2	User Confirmation	● Confirmation via Email ● Confirmation via OTP
FR-3	User Login	● Login with UserID/Password ● Login with gmail ● Login with phone number/OTP
FR-4	Search Flight	● Get the entered flight details
FR-5	Predict Delay Time	● Feed the details to the model and find prediction ● Display the received prediction
FR-6	Predict Delay Accuracy	● Get the accuracy of delay ● Display the accuracy
FR-7	Notify the user	● Send prediction results to mail ● Notify 30 minutes before flight arrival/departure
FR-8	Get feedback	● Get descriptive feedback ● Get ratings from user
FR-9	User Logout	● Logout of the application

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	● An app tour would be shown to the users. ● To guide new users who search flights, in the search box where the user needs to type the flight details, ● a message such as Try "BOM MAA" or "Mumbai Chennai" will be displayed.
NFR-2	**Security**	● During registration, a 2 factor authentication through mail would confirm if the user is reliable. ● The user would be able to login to the app only with his credentials. ● He would be allowed to change the password only after a 2-factor authentication and a notification would also be sent to his mailbox to indicate the change.
NFR-3	**Reliability**	● There is a 75 percent chance under optimal condition that the application won't experience critical failure ● There is 80 percent restoring capability even if the system fails.
NFR-4	**Performance**	● The application load time would take 3 seconds or less with a WiFi/LTE connection. ● Time taken to predict the delay would be no more than 5 seconds.
NFR-5	**Availability**	● Duing any new update/maintenance, a message would be displayed in the application 48 hours before the scheduled time regarding the same. ● The functional requirement 'Search flight' function may not be available when all the flights are canceled as in case of pandemic or in war stricken areas.. ● The user gets the prediction result through mail. ● If there is any problem with the model, the user would receive an alert that there is an issue in the prediction and the system would get back within 10 mins. ● The system would be available to use during the other times.
NFR-6	**Scalability**	● Though it is out of scope keeping our implementation in mind, the system can be made scalable enough to support 1,000,000 visits at the same time while maintaining optimal performance. ● It can also be scaled to predict delays with international flights and delays due to weather by training the model with appropriate data, given that it must be available.