Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID15570
Project Name	Project - Developing a Flight Delay Prediction Model using Machine Learning
Maximum Marks	2 Marks

Proposed Solution Template:

S.no	Parameter	Description
•	Problem Statement	In recent years there is an increase in growth in air traffic and on the ground. An increase in air traffic growth has also resulted in massive levels of aircraft delays on the ground and in the air. These delays are responsible for large economic and environmental losses. The main objective of the model is to predict flight delays accurately in order to optimize flight and minimize delay.
•	Idea / Solution description	Using a machine learning model, we can predict flight arrival delays. The input to our algorithm is rows of feature vector like departure

		date, departure delay, distance between the two airports, scheduled arrival time etc. We then use decision tree classifier to predict if the flight arrival will be delayed or not. A flight is considered to be delayed when difference between scheduled and actual arrival times is greater than 15 minutes. Furthermore, we compare decision tree classifier with logistic regression and a simple neural network for various figures of merit.
•	Novelty / Uniqueness	Creating a mobile/web app which depicts flight weather delays to customers with a very high accuracy.Connecting to user through visually mimalistic and intelligent and friendly user interface.Integration with airline booking system to increase efficiency.Notifying the passenger about the delay through textual message. Informing the booked taxi person about the delay.
•	Social Impact / Customer Satisfaction	Passenger groups include business people,tourists,civilians etc .Customers who are dissatisfied or disengaged

		inevitably result in fewer passengers and less money. By predicting flight delay customer experience is improved and customers will have a peaceful journey. It can help customer to *avoid spending time waiting for flight *Provide complimentary snacks for using our app in case of delay. *Suggest customers with the best nearby hotel with reviews about the hotel. *Entertain customers with movies and songs through our app.
•	Business Model (Revenue Model)	Through our application the revenue for the company will be in the form of ads.Makes the user know about what are all the good things and trending ways to invest money safely and securely.
•	Scalability of the Solution	The system can handle a large number of users. The scalability of this project includes incorporating a larger dataset.The above methodology can be performed on the data collected for the recent years, owing to the population rise in

		recent years leading to increase in the number of flights. To obtain a detailed analysis, a more thorough localized search and scrutiny must be conducted to accurately determine the arrival or departure delay.Integration with airline booking systems to increase efficiency.