Project Design Phase-I
Proposed Solution

Date	17-10-2022
Team ID	PNT2022TMID37095
Project Name	Developing a Flight Delay Prediction Using Machine Learning.

PROPOSED SOLUTION :

S NO	PARAMETER	DESCRIPTION
1.	Problem Statement (Problem to be solved)	● To propose an flight delay prediction system based on the machine learning model and attempt to predict the flight delays from available flight based schedule data, whether data etc.
2.	Idea / Solution description	● Collect various factors based on climatic conditions, existing flight schedules, airline information etc, ● Flight Delay Prediction model using the principal component analysis such as Random Forest Algorithm and Gradient boosting classification is employed. ● Firstly, the Flight Delay is calculated using the previous flight delay data by arithmetic index method. ● Secondly, the principal component analysis (PCA) is applied to the dataset. ● Thirdly, to predict the Flight Delay, different regression algorithms are used to the PCA output. ● Finally, the Gradient Boosting Classifier is utilized to classify the flight delay status.

3.	Novelty / Uniqueness	• In this prediction, the main uniqueness is utilization of PCA and gradient booster trees. • Pilot related information and airline related information are given.
4.	Social Impact / Customer Satisfaction	• This work can help the passenger to plan accordingly if they can predict the delay beforehand • Accurately predicting these flight delay allows the airline to make alternate arrangements. •
5.	Business Model (Revenue Model)	For Analyzing the metrics of each flight delay and on correct prediction , a charge of Rs 999 will be collected.
6.	Scalability of the Solution	• The solution is highly scalable as we use Machine learning techniques. • Automated system can be build to aid the customer, to collect flight details and quickly analyze and predict the flight delay.