Project Design Phase-I
Proposed Solution Template

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S. No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	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
2.	Idea / Solution description	Providing an as accurate as possible prediction for the delaying time of flight to the passenger with the help of an Web Application and Machine Learning algorithms
3.	Novelty / Uniqueness	We will create different features to build our model for predicting the departure delays on flights. We will use those features from our data set that significantly contribute in the prediction. We will break all our variables into their subcategories such as numerical and categorical
4.	Social Impact / Customer Satisfaction	Flight delays not only irritate air passengers and disrupt their schedules but also cause a decrease in efficiency, an increase in capital costs, reallocation of flight crews and aircraft, and additional crew expenses
5.	Business Model (Revenue Model)	Nowadays, Airline ticket prices and delays in the flight have become unpredictable. Ticket prices are dynamic and change significantly for the same plane and even for the same class of seats. Airline companies implement various algorithms to change the prices dynamically, so as to maximize their revenue. Because of tough competition among airline services, these models are not available to the general public. Also, the flight gets delayed because of various

		micro and macro factors. The major factors that affect the airlines are air route situation, delay of the previous flight, aircraft capacity, air traffic control, airline properties, etc. There is a need to predict the flight delays and flight prices of airlines to save both 'Time and Money.'
6.	Scalability of the Solution	This proposed approaches exhibited more accuracy than others in calculating delay occurance and magnitude in both the whole-network. It is hoped that the techniques put forward in this work will enable airline companies to accurately predict delays, improve flight planning, and prevent delay propagation.