Developing Flight Delay Prediction Model using Machine Learning

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Proposed Solution Template

S.no	Parameter	Description
•	Problem Statement	There has been a massive increase in air traffic in the recent years. This traffic has led to huge amount of delays in ground and air. These delays are responsible for large economic and environmental losses. Predicting flight delays can improve airline operations and passenger satisfaction, which will result in a positive impact on the economy. The main objective of the model is to predict flight delays accurately in order to optimize flight and minimize delay.
•	Idea / Solution description	We can predict flight arrival delays using prediction model. 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 if the 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	We can create an app which shows all sorts of delays with precision and accuracy. We can connect or interact through visually intelligent system and make the app more simplified. Integration with airline booking system can be done to increase the efficiency . We can notify the user abut delays through SMS or mail.
•	Social Impact / Customer Satisfaction	Passenger groups include business people, tourists, civilians etc . Customers who are not satisfied with the delays can lessen their travel and this results in losses. By predicting flight delay customer experience is improved and customers will have a better and peaceful experience. It can help customer to

		* decrease their waiting time. * provide complimentary snacks for using our app in case of delay. * suggest customers with the best nearby hotel with reviews incase they have to stay. * entertain customers with movies and songs through our app or provide wifi.
•	Business Model (Revenue Model)	Through our application the revenue for the company will be in the form of advertisements. It also has the paid subscriptions which asks the user to pay for additional exclusive features.
•	Scalability of the Solution	The system can handle a large number of users. The scalability of this project includes incorporating a larger dataset for multiparty communication. 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 complete localized search and research can be conducted to accurately determine the arrival or departure delay. Integration

		with airline booking systems can yield good efficiency.