

**Project Design Phase-I**  
**Proposed Solution Template**

Date	01 November 2023
Team ID	Team-592109
Project Name	Airline Review Classification Using Machine Learning
Maximum Marks	2 Marks

**Proposed Solution Template:**

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

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	In today's interconnected world, the airline industry serves as a critical catalyst for global travel and business. As air travel becomes increasingly accessible, the quality of service provided by airlines plays a pivotal role in shaping passenger experiences. The increase of social media platforms, travel websites, and online forums has given rise to a wealth of user-generated content, including airline reviews. We need to extract actionable insights from this vast pool of unstructured text and

		provide airlines with valuable information for refining their services and elevating passenger satisfaction.
2.	Idea / Solution description	We use various machine learning classification models such as Decision Tree Classifier, Random Forest Classifier, XGBoost Classifier, among others, to process and categorize the unstructured text data from airline reviews. The process involves a multi-step approach like data collection, data preprocessing, Model training and evaluation etc.
3.	Novelty / Uniqueness	Instead of just classifying reviews as positive, negative, or neutral, consider analyzing specific aspects within the reviews (e.g., seat comfort, food quality, customer service) and associating sentiments with each aspect. This detailed analysis provides more granular insights for the airlines.
4.	Social Impact / Customer Satisfaction	By classification of the airline reviews we can find the problems faced by the passengers by finding the negative reviews of airlines and it helps to improve service quality for air travelers, fostering better customer experiences, and potentially influencing airlines to make service enhancements.
5.	Business Model (Revenue Model)	The business revolves around offering the sentiment analysis tool as a service to airlines,

		charging for access to an API, or providing analytics reports to airlines for a fee.
6.	Scalability of the Solution	The solution's scalability lies in its ability to efficiently process growing volumes of airline reviews by employing optimized model training techniques, ensuring real-time processing of incoming reviews, and continuous improvement through periodic model updates.