Project Initialization and Planning Phase

Date	15 July 2024
Team ID	739791
Project Title	Flight Delay Prediction using Machine Learning.
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

This project proposal outlines a solution to address the problem of flight delays faced by passengers, airlines, and airport authorities. This system aims to provide accurate and timely predictions of potential flight delays, thereby improving passenger experience by using machine learning in it.

Project Overview	
Objective	The primary objective of this project is to develop a machine learning-based flight delay prediction system. This system aims to provide accurate and timely predictions of potential flight delays, thereby improving passenger experience, optimizing airline operations, and enhancing airport efficiency.
Scope	• Developing a machine learning model for flight delay prediction. • Integrating the model with real-time data sources (e.g., weather conditions, air traffic control information).
Problem Statement	
Description	Passengers often face the inconvenience of unanticipated delays, leading to missed connections, disrupted travel plans, and increased travel costs. For airlines, delays result in operational inefficiencies, increased fuel and labor costs, and a decline in customer satisfaction and loyalty.
Impact	Solving these issues will result in Operational Efficiency, Reduced cost, customer Retention.
Proposed Solution	
Approach	Employing Machie Learning techniques to analyze and predict flight delays enhancing the overall efficiency and reliability of air travel.

Key Features	Real-Time Delay Predictions, User Notifications, Alternative Travel Options, Resource Management for Airports.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	e.g., 2 x NVIDIA V100 GPUs
Memory	RAM specifications	e.g., 8 GB
Storage	Disk space for data, models, and logs	e.g., 1 TB SSD
Software		
Frameworks	Python frameworks	e.g., Flask
Libraries	Additional libraries	e.g., scikit-learn, pandas, numpy
Development Environment	IDE, version control	e.g., Colab Notebook,VScode
Data		
Data	Source, size, format	e.g., Kaggle dataset.