**Project Design: FlightFinder:Navigating your air travel options.**

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| Date | 30-06-2025 |
| Team ID | LTVIP2025TMID53188 |
| Project Name | FlightFinder:Navigating your air travel options. |
| Maximum Marks | 2 Marks |

**Proposed Solution**

The goal is to create a full-stack web application that allows users to search, compare, and book flights based on various parameters such as source, destination, date, and price. The system should offer a seamless user experience with real-time flight data, booking functionality, and user management.

🧩 Solution Components

1. Frontend (Client-side)

Technology: React.js, Bootstrap, CSS, JavaScript

Features:

Flight search form (source, destination, date, number of passengers)

Flight listing with filters (price, airline, duration)

Booking form and confirmation page

User registration/login

Responsive UI (mobile + desktop)

2. Backend (Server-side)

Technology: Node.js, Express.js

Features:

RESTful API endpoints for:

Searching flights

Booking flights

User authentication (Login/Register)

Admin operations (adding/editing flights)

Middleware for validation and authentication

CORS setup for frontend-backend communication

3. Database

Technology: MongoDB

Collections:

users – stores user data (with hashed passwords)

flights – stores flight data (airline, route, timings, prices)

bookings – stores user bookings

Operations:

CRUD operations for flights (by admin)

Create and fetch bookings for users

4. Authentication & Authorization

JWT (JSON Web Tokens) for secure authentication

Role-based access (user/admin)

5. Deployment

Frontend: Vercel or Netlify

Backend: Render or Railway

Database: MongoDB Atlas (cloud)

Version Control: Git + GitHub