Project Report

FlightFinder: Navigating Your Air Travel Options

Team Details

Team ID: LTVIP2025TMID59290

Team Size: 4

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Project Duration: 02-June-2025 to 28-June-2025

1. INTRODUCTION

1.1 Project Overview

FlightFinder is a user-centric web application designed to revolutionize the flight ticket booking experience. It allows users to explore, compare, and reserve flights easily, offering intuitive search options, smart filters, and secure bookings.

1.2 Purpose

The goal is to simplify and digitize the flight booking process with customization, usability, and backend support.

2. IDEATION PHASE

2.1 Problem Statement

How might we create a convenient, fast, and personalized platform to search and book flights?

2.2 Empathy Map Canvas

Says: “I want quick bookings.”
Thinks: “Hope I get a direct flight.”
Does: Searches for flights online.
Feels: Anxious about delays.

2.3 Brainstorming

Ideas: AI fare prediction, Flight delay notifications, Multi-language support.
Final scope: Search, Filter, Seat selection, Booking.

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

1. Open app
2. Search flights
3. Filter
4. Select flight
5. Pick seat
6. Payment
7. Confirmation

3.2 Solution Requirement

Functional: Login/Register, Search, Filter, Seat selection, Payment, Confirmation
Non-Functional: Secure, Responsive, Scalable

3.3 Data Flow Diagram

Level 0: User → Search → View → Book → Confirm
Level 1: Auth, Flight API, Booking logic, Payment

3.4 Technology Stack

Frontend: React.js, Tailwind CSS
Backend: Node.js, Express.js
Database: MongoDB
Tools: Git, Postman, Figma, Netlify

4. PROJECT DESIGN

4.1 Problem-Solution Fit

The app simplifies booking by resolving confusion through clean flow and secure actions.

4.2 Proposed Solution

Real-time filters, seat selection, confirmation with ticket view.

4.3 Solution Architecture

Frontend (React)
→ Backend (Express APIs)
→ Database (MongoDB)

5. PROJECT PLANNING & SCHEDULING

5.1 Timeline

Requirement: 02–03 June
Design: 04–06 June
Frontend: 07–12 June
Backend: 13–18 June
Testing: 19–24 June
Deployment: 25–28 June

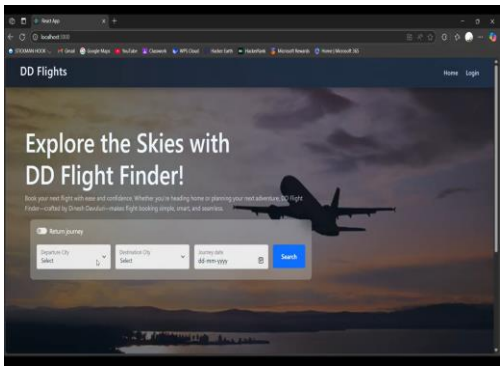
6. FUNCTIONAL AND PERFORMANCE TESTING

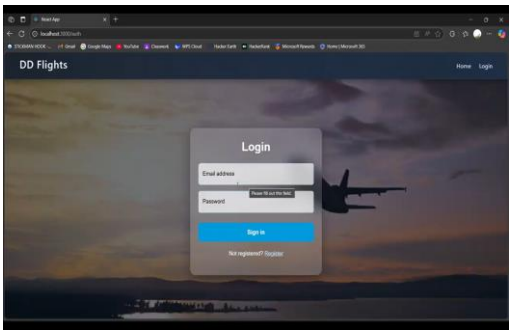
6.1 Performance Testing

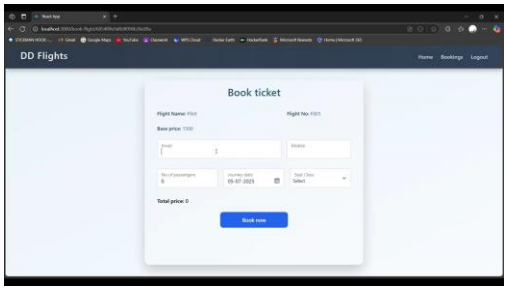
Tool: Lighthouse
Performance: 91
Accessibility: 95%
Avg. Load: 1.7s
Concurrent Users: 50

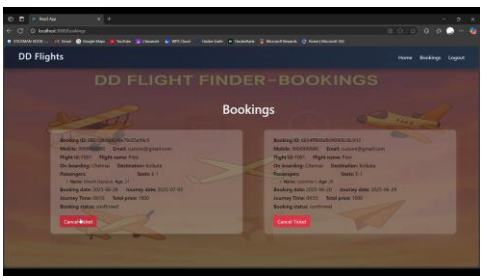
7. RESULTS

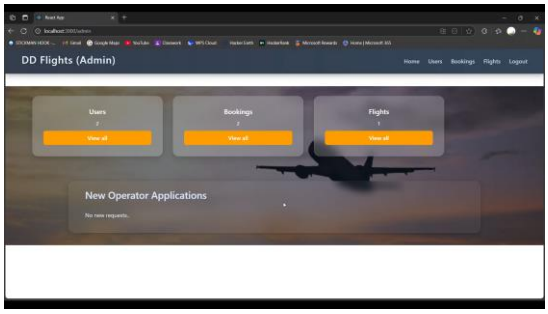
7.1 Output Screenshots

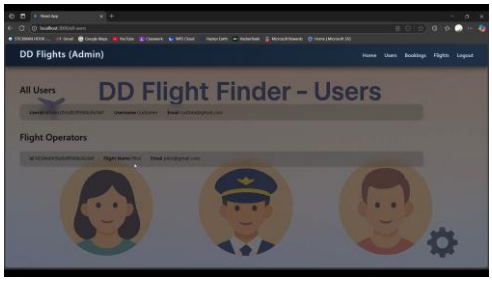












8. ADVANTAGES & DISADVANTAGES

Advantages:

- Clean UI
- Real-time filters
- Responsive

Disadvantages:

- No mobile app
- Depends on external APIs

9. CONCLUSION

FlightFinder offers a smooth and secure booking experience tailored for real-world travel scenarios.

10. FUTURE SCOPE

AI fare prediction, mobile app, loyalty integration, multi-language

11. APPENDIX

Source Code: https://github.com/DineshDavuluri/FlightFinder

Demo Video:
https://drive.google.com/file/d/1RzGIXwahdWaGrKTjTyRuRIvMlB8w8mSH/view?usp=drivesdk