

Final Report – Flight Booking Website

Team ID	LTVIP2026TMIDS47032
Project Title	Flight finder: navigating your air travel options

1. INTRODUCTION

1.1 Project Overview

The Flight Booking Website is a comprehensive web-based application that allows users to search, book, and manage flight reservations with real-time seat selection and secure online payment integration. It supports one-way and round-trip bookings and generates downloadable PDF tickets.

1.2 Purpose

The purpose of the project is to simplify and modernize the flight booking experience for users while providing an efficient admin interface to manage flights and monitor statistics.

2. IDEATION PHASE

2.1 Problem Statement

Traditional flight booking systems often lack modern UX, seat selection, and instant ticket generation, causing inefficiencies and user dissatisfaction.

2.2 Empathy Map Canvas

User needs include ease of booking, clarity in seat selection, and secure payments. Pain points include hidden charges, complex interfaces, and lack of transparency.

2.3 Brainstorming

The team discussed features like live seat maps, Stripe integration, mobile responsiveness, admin panel, and PDF ticket generation.

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

Search → Select Flight → Choose Seats → Pay via Stripe → Download Ticket → View Bookings

3.2 Solution Requirement

Functional: Search, book, manage flights, PDF ticket
Non-Functional: Secure, responsive, scalable

3.3 Data Flow Diagram

User → Frontend (React) → Backend (Node/Express) → MongoDB → Payment Gateway → Confirmation/Ticket

3.4 Technology Stack

Frontend	React.js, React Router DOM
Styling	CSS, Tailwind (optional), Icons
Backend	Node.js, Express.js
Database	MongoDB with Mongoose
Auth	JWT, bcrypt
Payment	Stripe
PDF	pdfkit (Node.js library)
Deployment	Frontend: Vercel, Backend: Railway

4. PROJECT DESIGN

4.1 Problem Solution Fit

The platform directly addresses the issue of complex flight booking by offering real-time interaction and simplified UI.

4.2 Proposed Solution

An integrated booking system with real-time seat selection, online payment, admin dashboard, and downloadable tickets.

4.3 Solution Architecture

Client (React) → API Layer (Express) → DB (MongoDB) + Payment (Stripe) + PDF Service

5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

Sprint 1: Auth + Search

Sprint 2: Booking + Stripe

Sprint 3: Admin + Polish

6. FUNCTIONAL AND PERFORMANCE TESTING

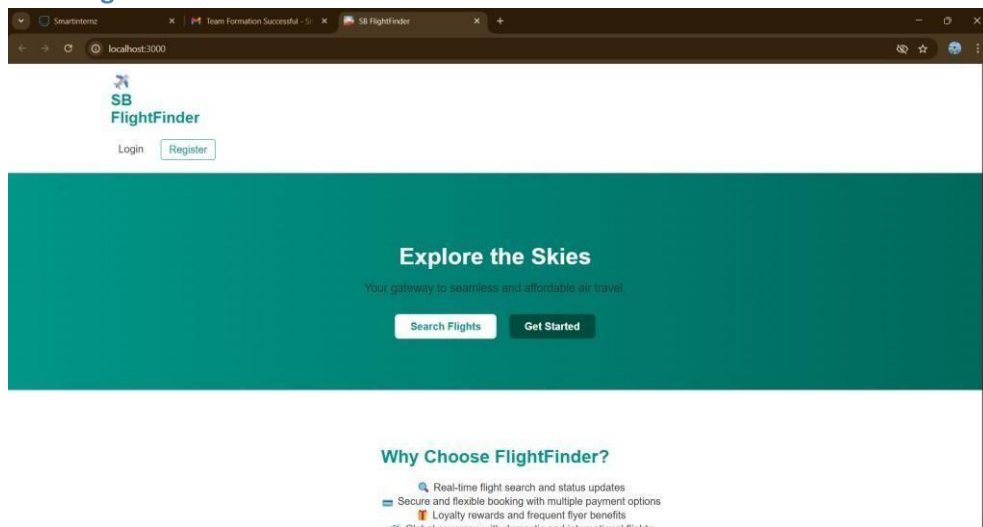
6.1 Performance Testing

Tested the app under load using sample user data. Verified API response times and payment success rates.

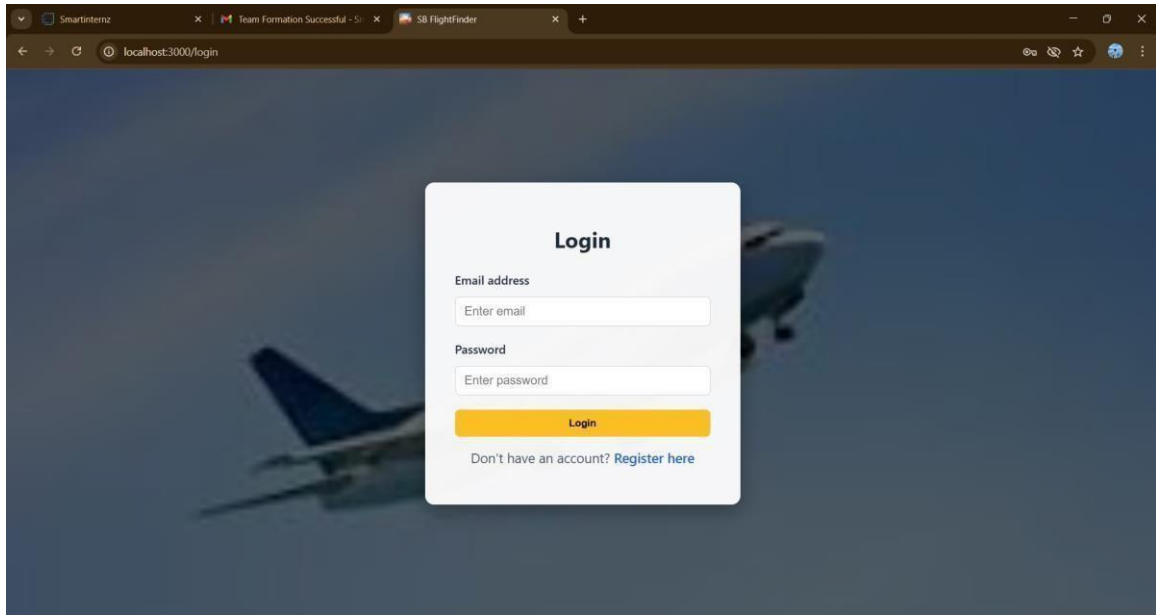
7. RESULTS

7.1 Output Screenshots

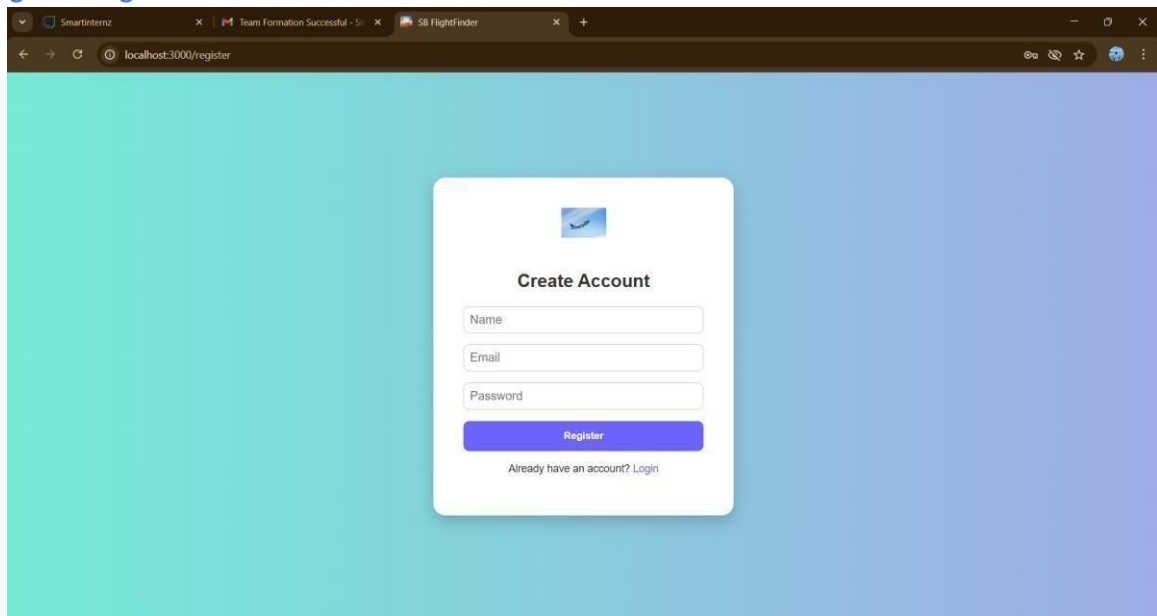
1. Home Page



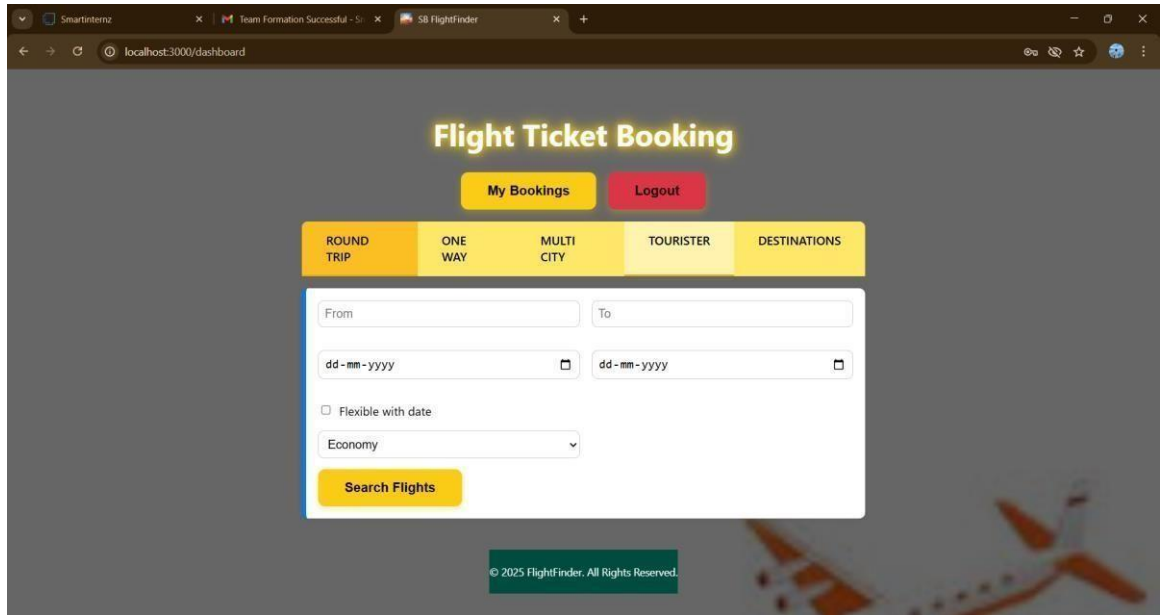
2. Login Page



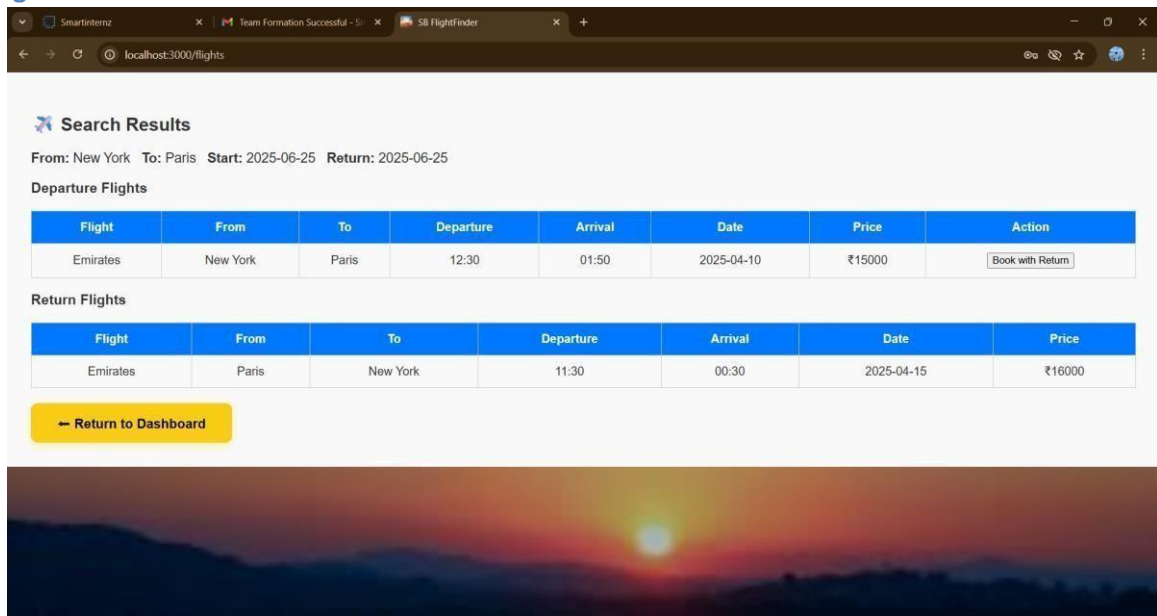
3. Register Page



4. Dashboard



5. Flight search



6. booking page

✈️ Book Your Flight

Emirates

From: New York
To: Paris
Date: 2025-04-10
Departure: 12:30
Arrival: 01:50
Price: €15000

Emirates (Return)

From: Paris
To: New York
Date: 2025-04-15
Departure: 11:30
Arrival: 00:30
Price: €16000

Passenger 1

👤 Name

🗓 Age

🏠 Gender

Select

✉ Email

✈ Class

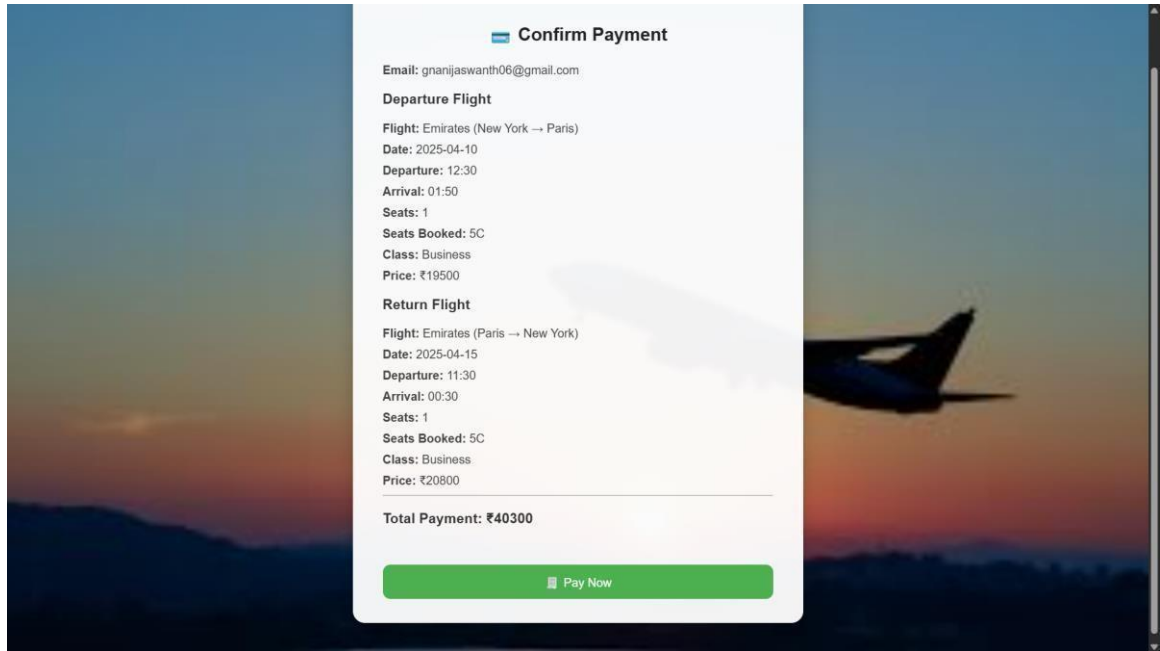
Economy

🛋 Number of Seats


1

➡ Select Seats & Continue

The image is a screenshot of a flight booking application's seat selection interface. The background is a high-quality photograph of a large commercial airplane on a runway, viewed from a low angle looking down the center of the runway. Overlaid on this is a white, rounded rectangular modal window. At the top of the modal, there is a dark grey bar with the text "To exit full screen, press and hold" followed by a button labeled "Esc". Below this, the heading "Select Seats (Business)" is displayed with a small airplane icon to its left. Underneath the heading, the text "Select 1 seat for Departure Flight" is centered. A legend below the text shows three categories: "Available" with a green circle, "Selected" with a blue circle, and "Booked" with a grey circle. The main part of the modal is a 6x5 grid of seat selection buttons. The buttons are labeled 1A through 6E. All buttons in the grid are green, indicating they are available. Below the grid, the text "Selected Seats (0/1): None" is displayed. At the bottom of the modal is a green button with a white checkmark icon and the text "Confirm & Continue".




7.transaction page


← New business sandbox  To exit full screen, press and hold **Esc** **Card**

Flight: Emirates (New York → Paris)
₹40,300.00

Email: gnanijaswanth06@gmail.com

Card information


4242 4242 4242 4242 

06 / 28 123 

Cardholder name

John


Country or region

India 

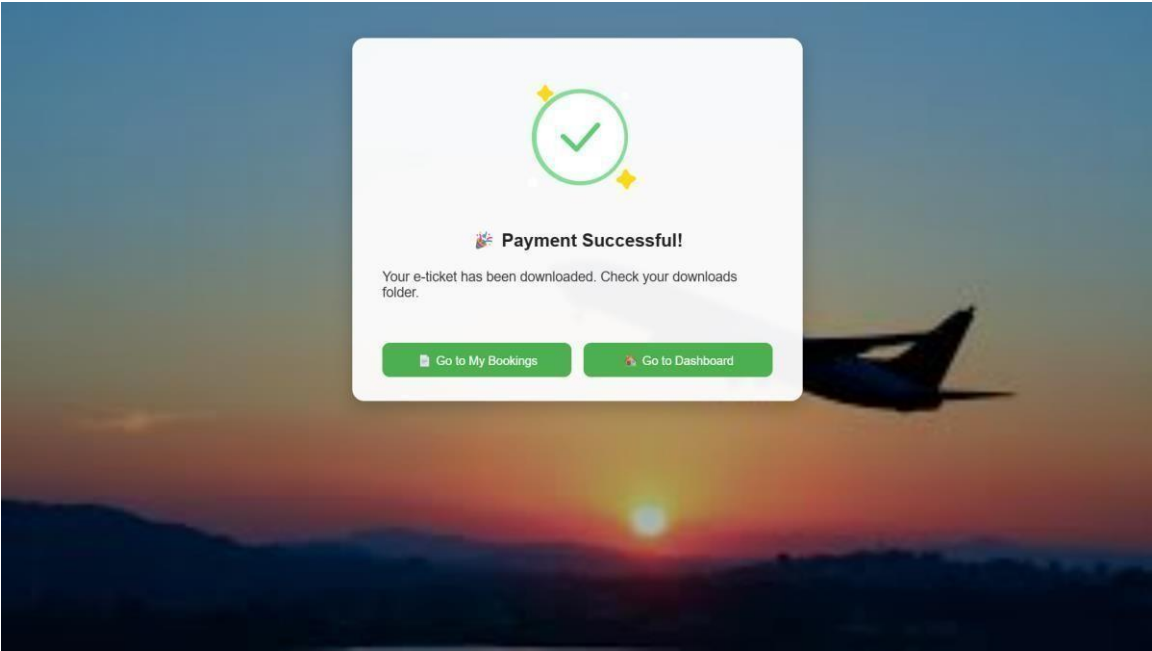
☐ Save my information for faster checkout
Pay faster on New business sandbox and everywhere Link is accepted.

Pay

Notwithstanding the logo displayed above, when paying with a co-branded eftpos debit card, your payment may be processed through either card network.

Powered by  [Terms](#) [Privacy](#)

8.confirmation page

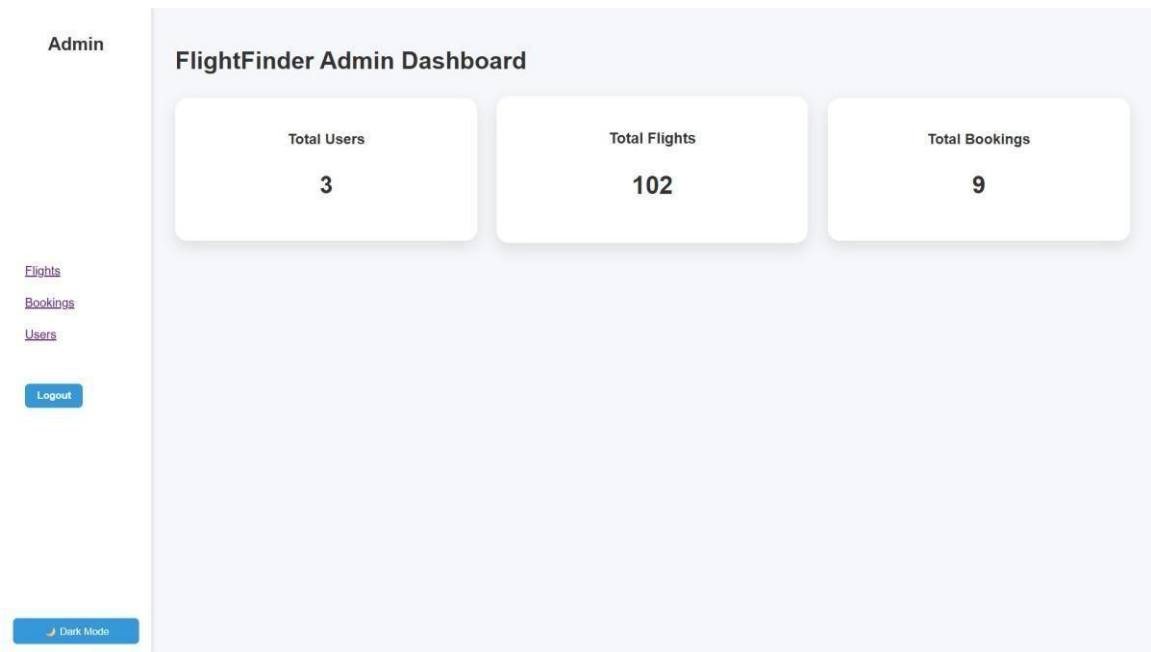


9.my bookings page

My Flight Bookings					
Flight	From	To	Date	Seat	Status
Emirates	New York	Paris	4/10/2025	1	Confirmed
Emirates	New York	Paris	4/10/2025	1	Confirmed
GoAir	Hyderabad	Delhi	7/7/2025	1	Confirmed
Emirates	New York	Paris	4/10/2025	1	Confirmed
Emirates	New York	Paris	4/10/2025	1	Confirmed
GoAir	Hyderabad	Delhi	7/7/2025	1	Confirmed
Air India	Hyderabad	Delhi	7/2/2025	1	Confirmed
Singapore Airlines	Hyderabad	Delhi	6/29/2025	1	Confirmed
Emirates	New York	Paris	4/10/2025	1	Confirmed

Back to Dashboard

10.admin dashboard page



8. ADVANTAGES & DISADVANTAGES

Advantages:

- Live seat selection
- Secure payment via Stripe
- Admin dashboard with stats

Disadvantages:

- Requires internet
- Stripe may not be supported in all regions

9. CONCLUSION

The project demonstrates how a modern web-based flight booking platform can simplify travel planning and management for users and airline staff.

10. FUTURE SCOPE

- Add email ticket delivery
- Offer travel insurance add-ons
- Support international payment options

11. APPENDIX

Source Code: Included in GitHub repository

Dataset: Not applicable

GitHub Link: <https://github.com/Balaji130606/Flight-finder-.git>

Demo Link: <https://drive.google.com/file/d/1ZmkUTuRu-FvLU7QLDUgFpDC8S7dyrfRe/view?usp=drivesdk>