Final Report – Flight Booking Website

Team ID	LTVIP2025TMID58532
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

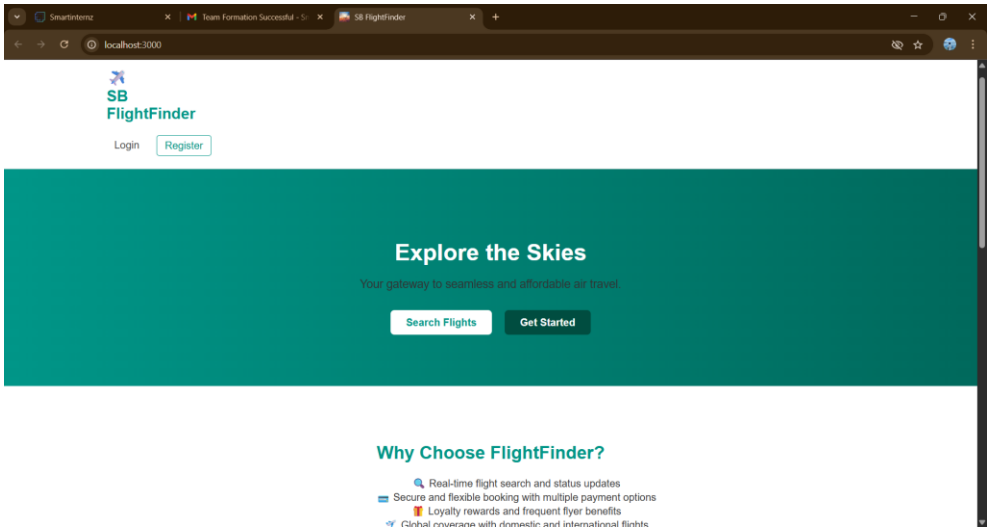
6.1 Performance Testing

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

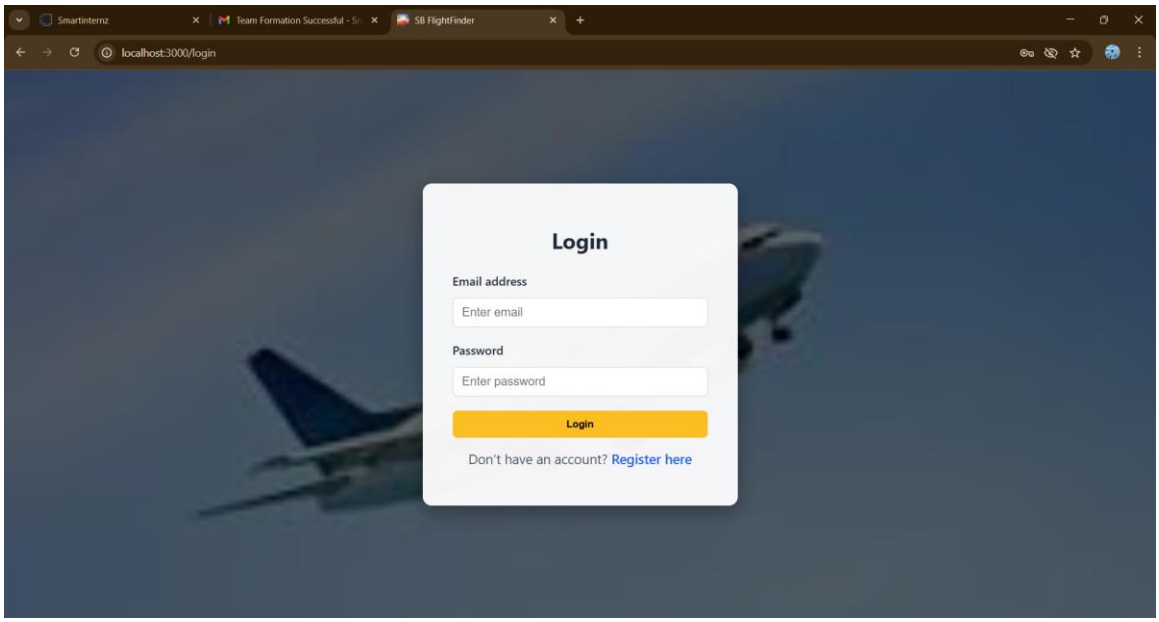
7. RESULTS

7.1 Output Screenshots

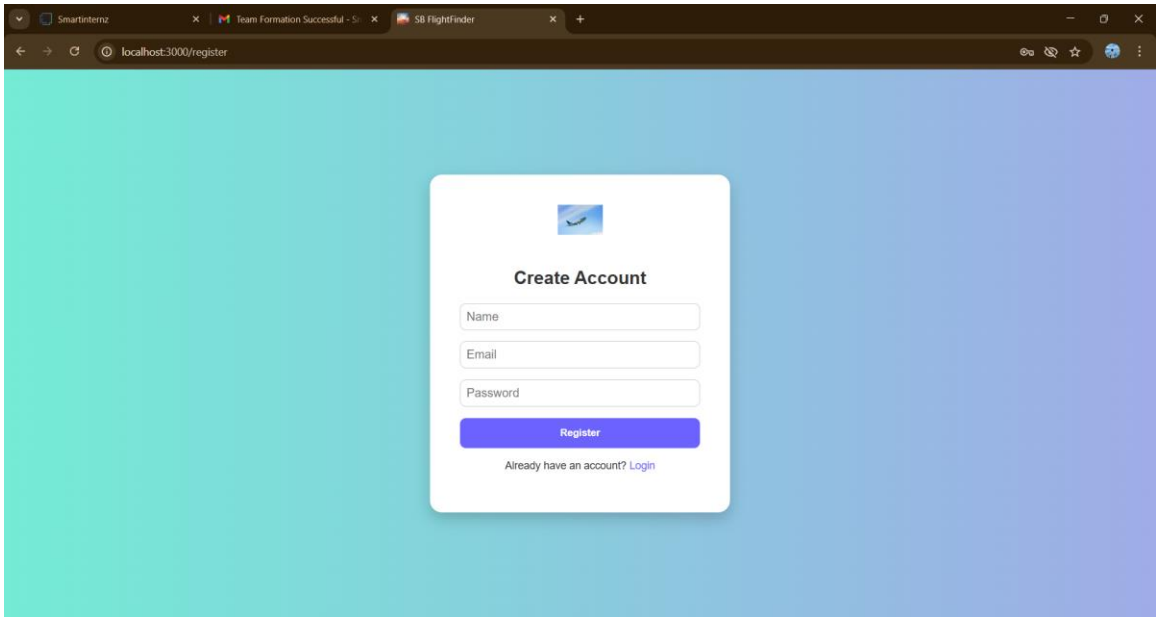
1. Home Page



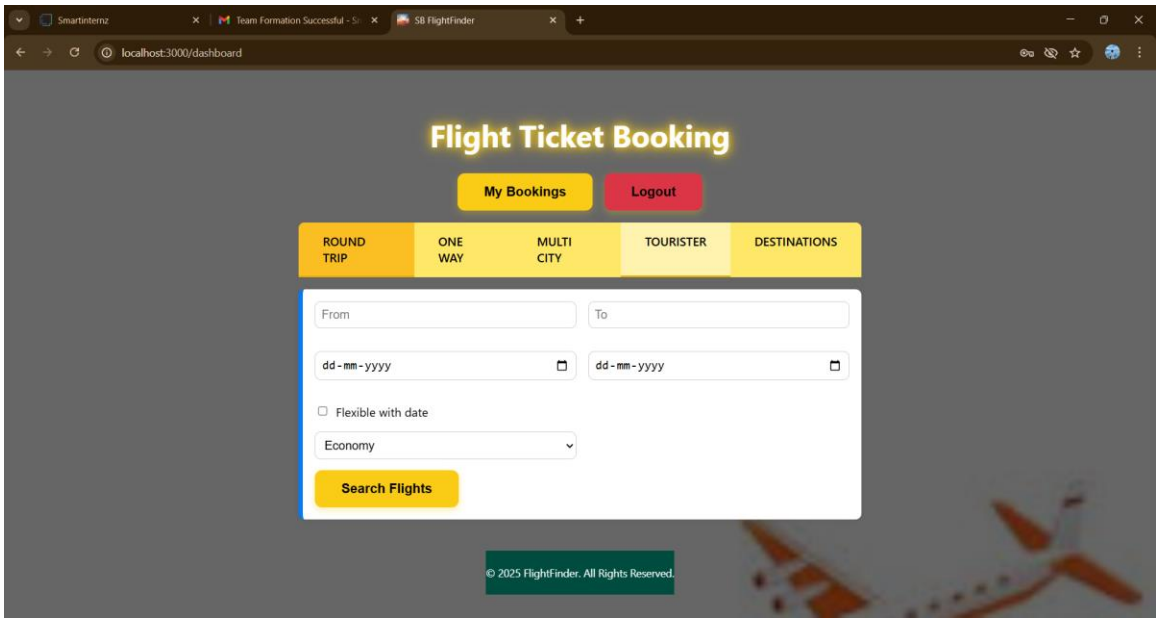
2.Login Page



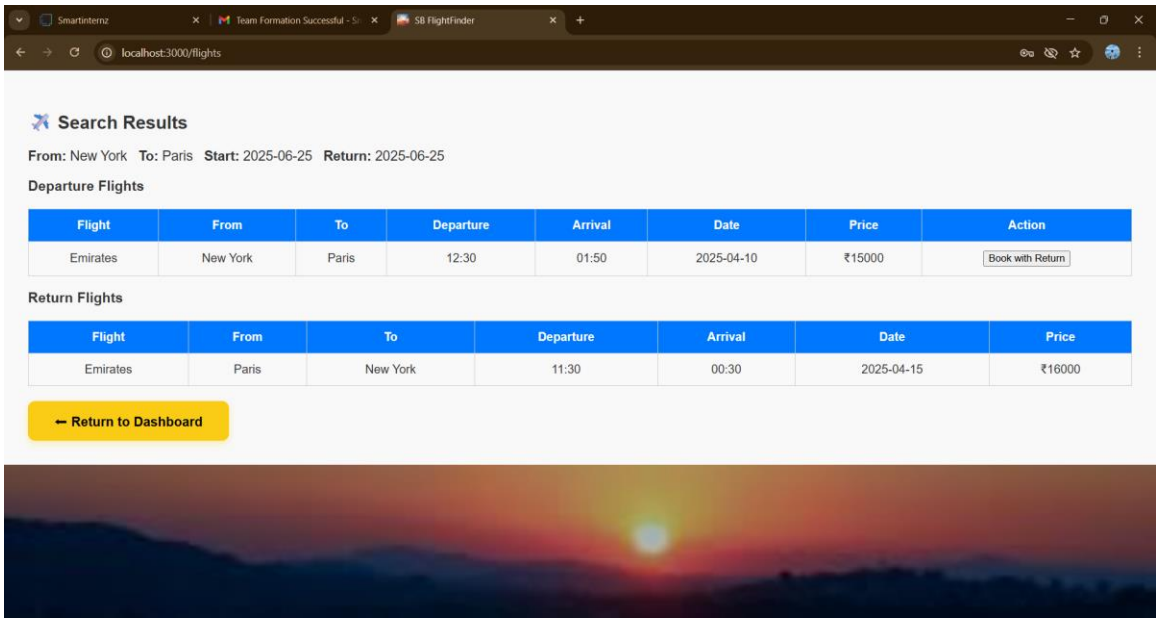
3.Register Page



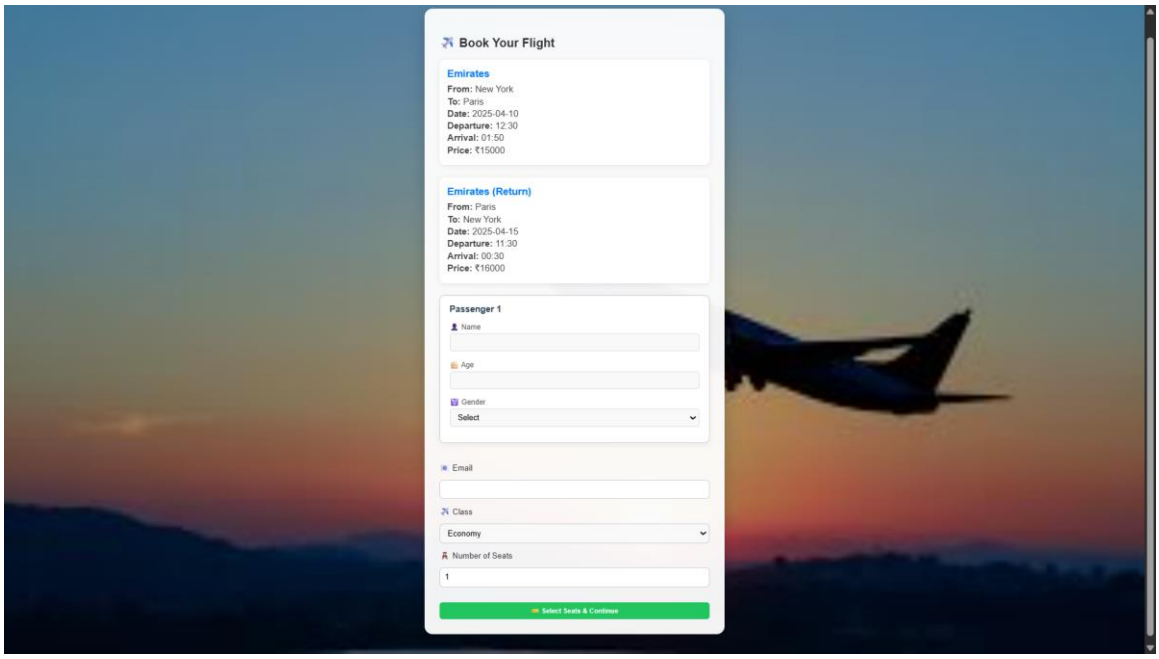
4. Dashboard



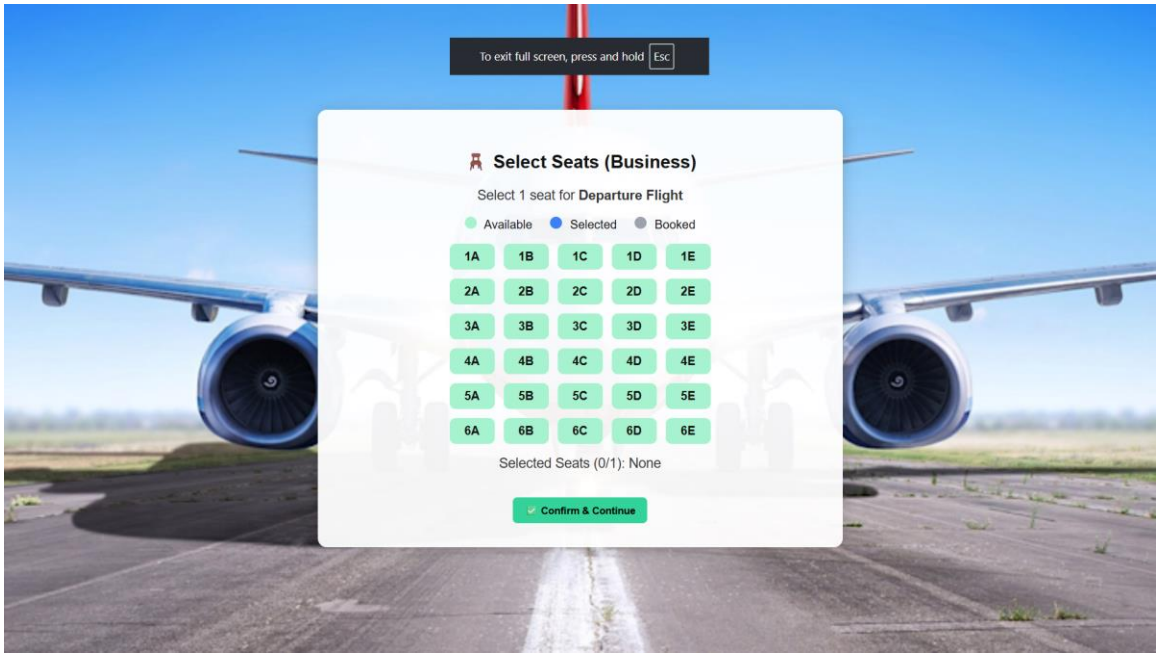
5.Flight search



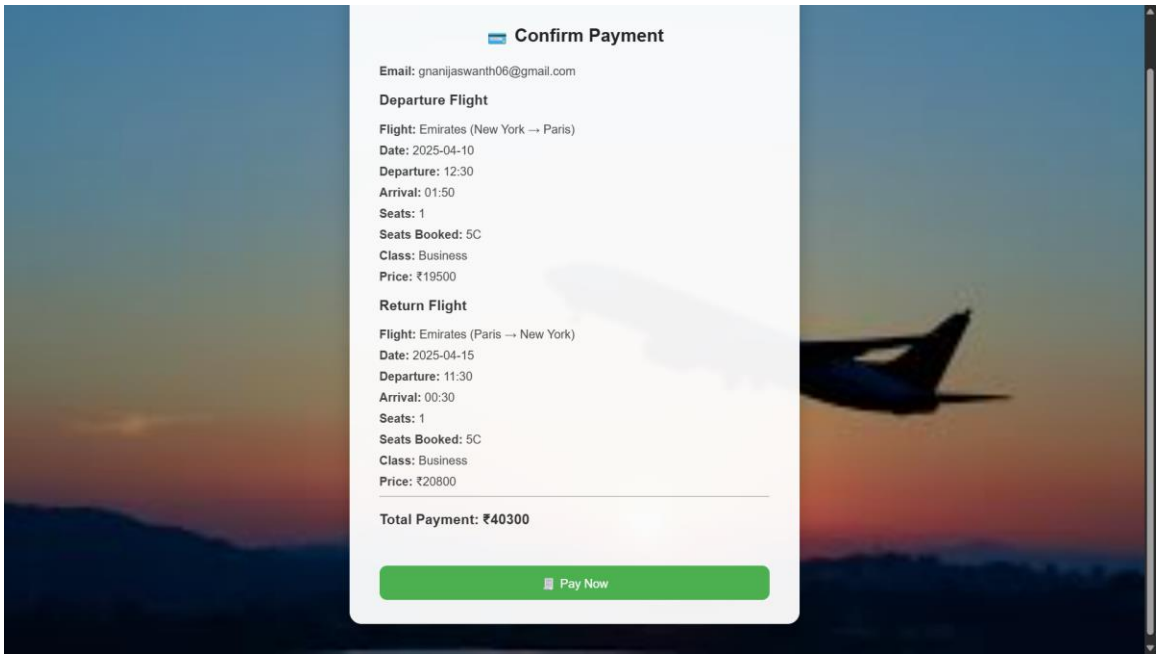
6.booking page



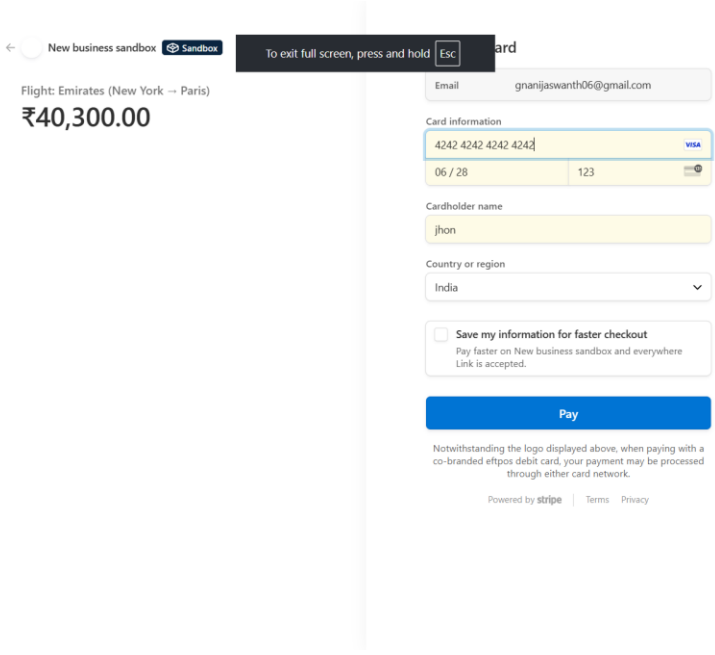
6.seat selection page



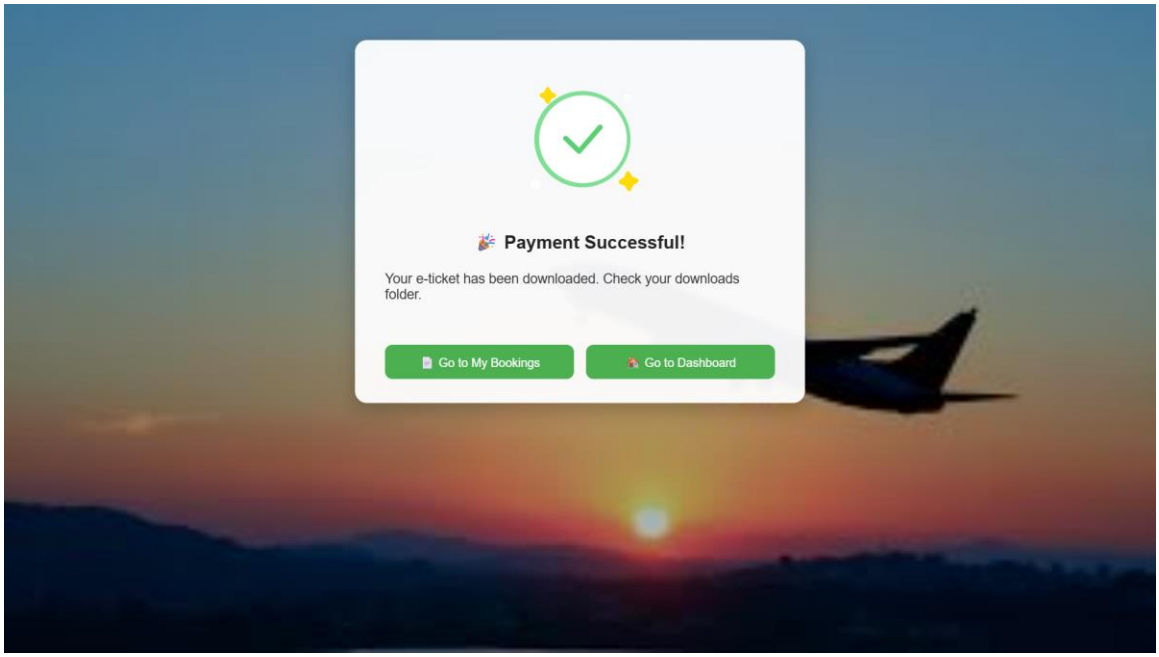
7.payment page



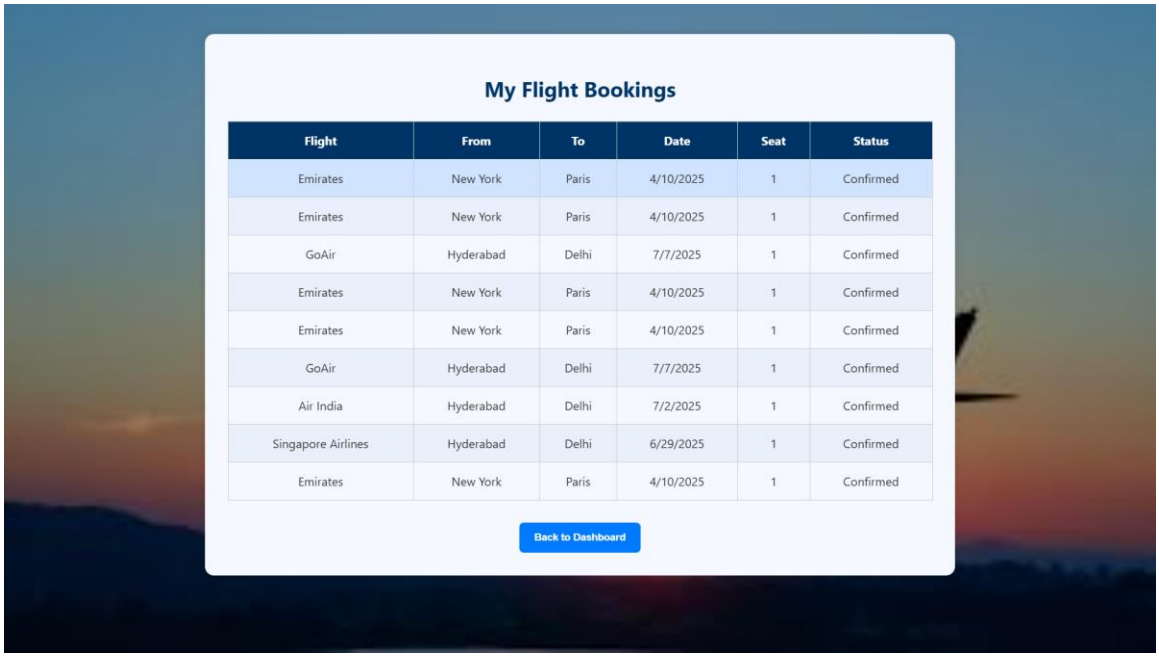
7.transaction page



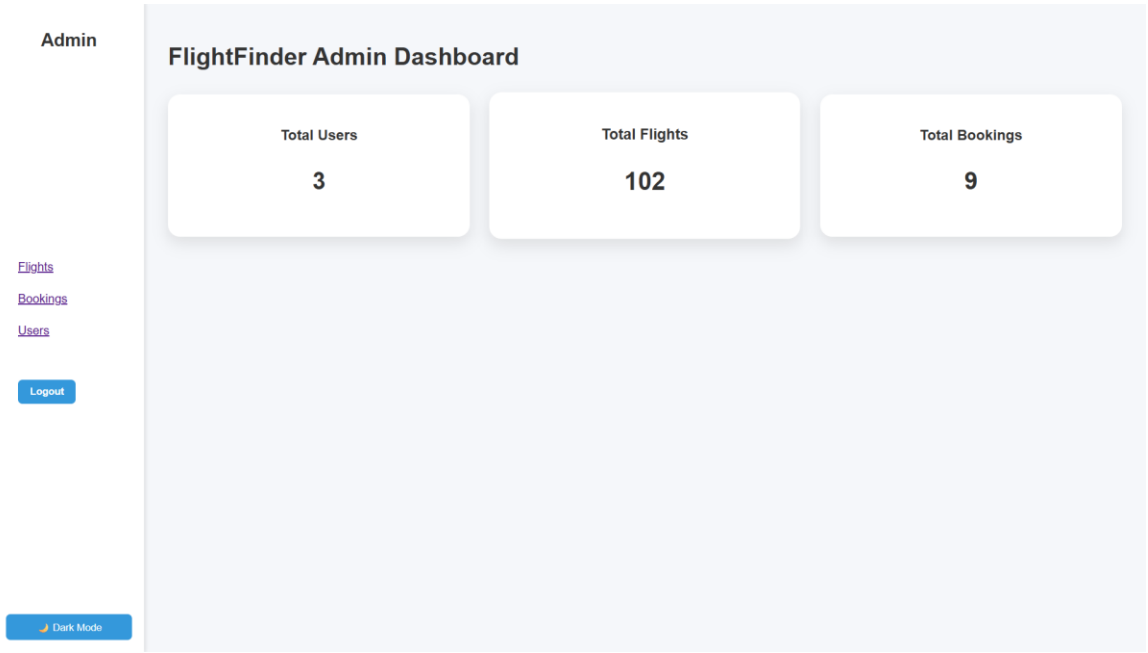
8.confirmation page



9.my bookings page



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/gnani0605/SB-FLIGHTFINDER
Demo Link: https://drive.google.com/file/d/1ZmkUTuRu-FvLU7QLDUgFpDC8S7dyrfRe/view?usp=drivesdk