# Final Report – Flight Booking Website

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| Team ID | LTVIP2025TMID57633 |
| 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

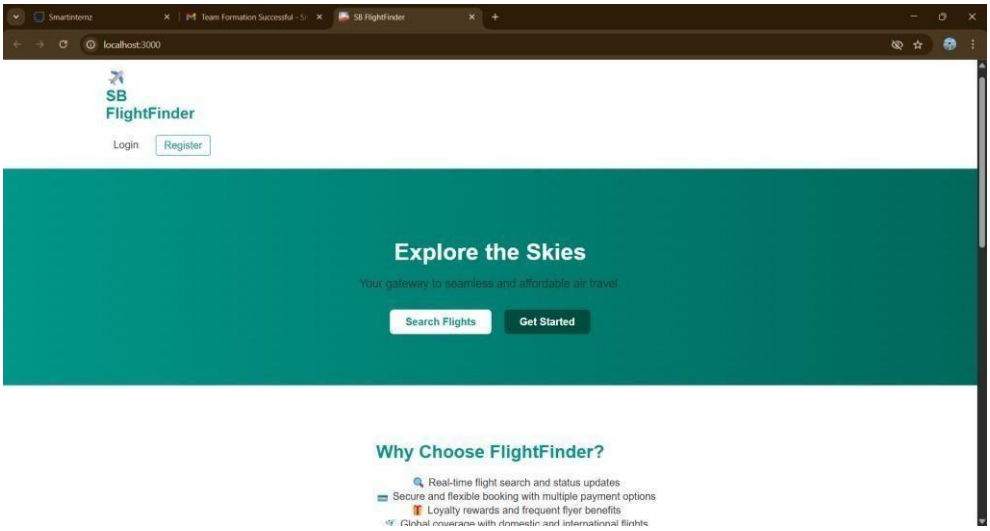
## 6.1 Performance Testing

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

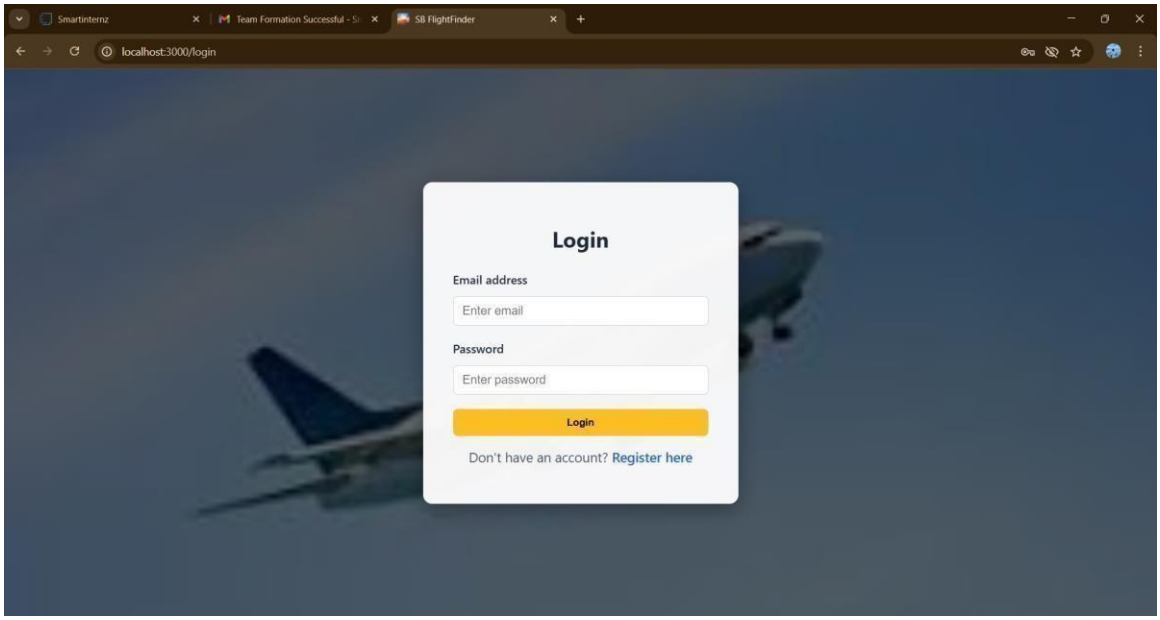
# 7. RESULTS

## 7.1 Output Screenshots

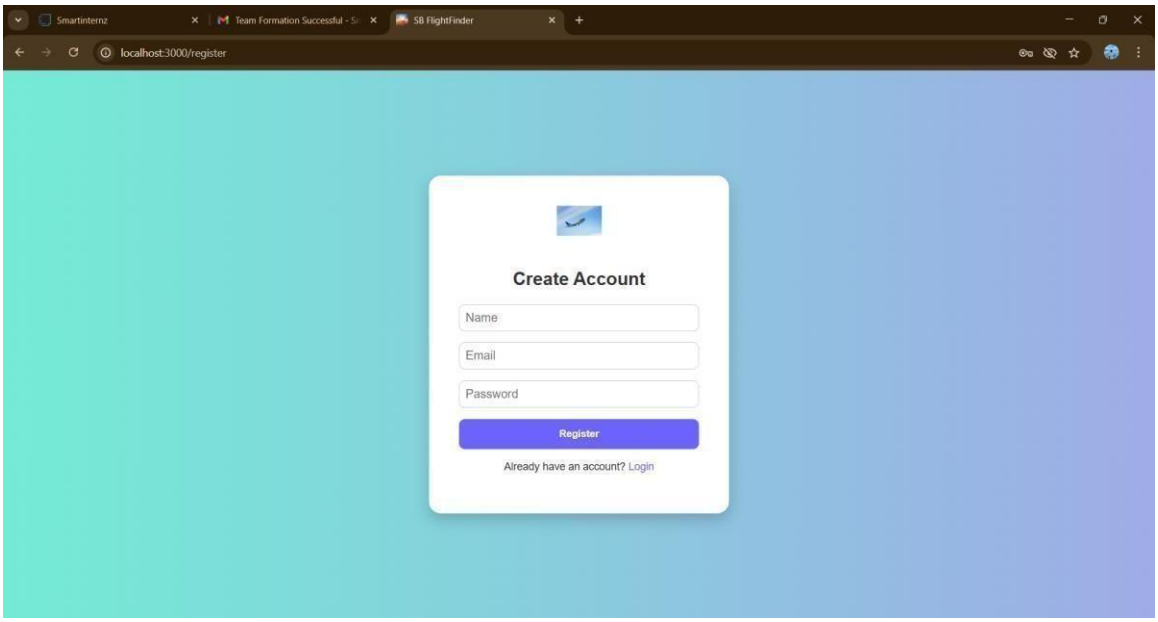
### 1. Home Page



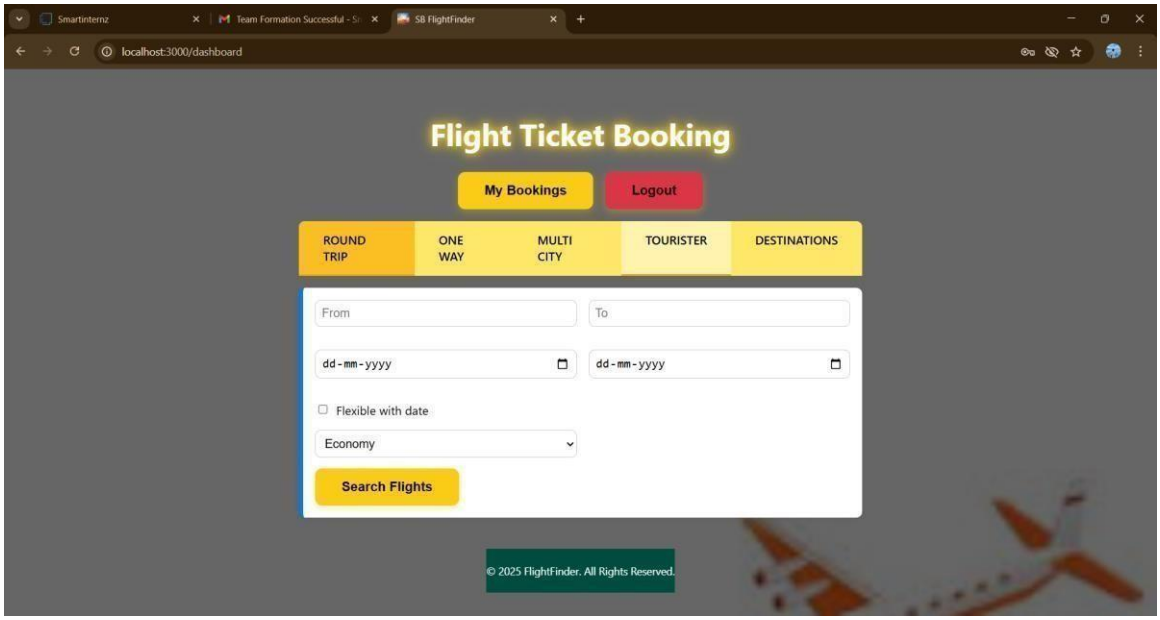

### 2.Login Page



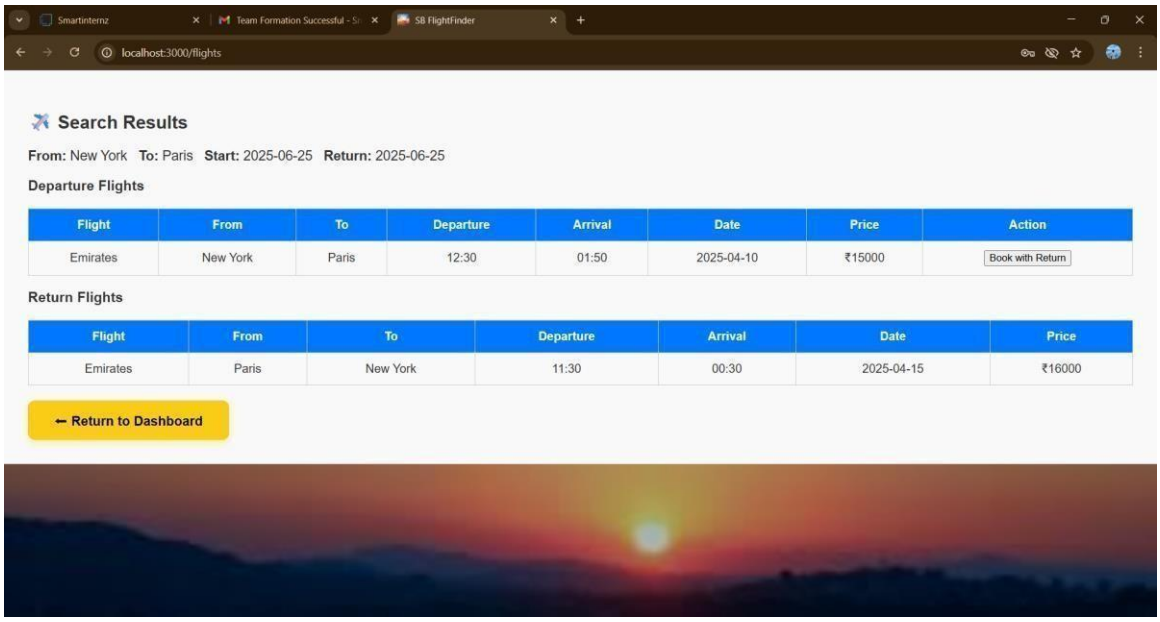

## 3.Register Page



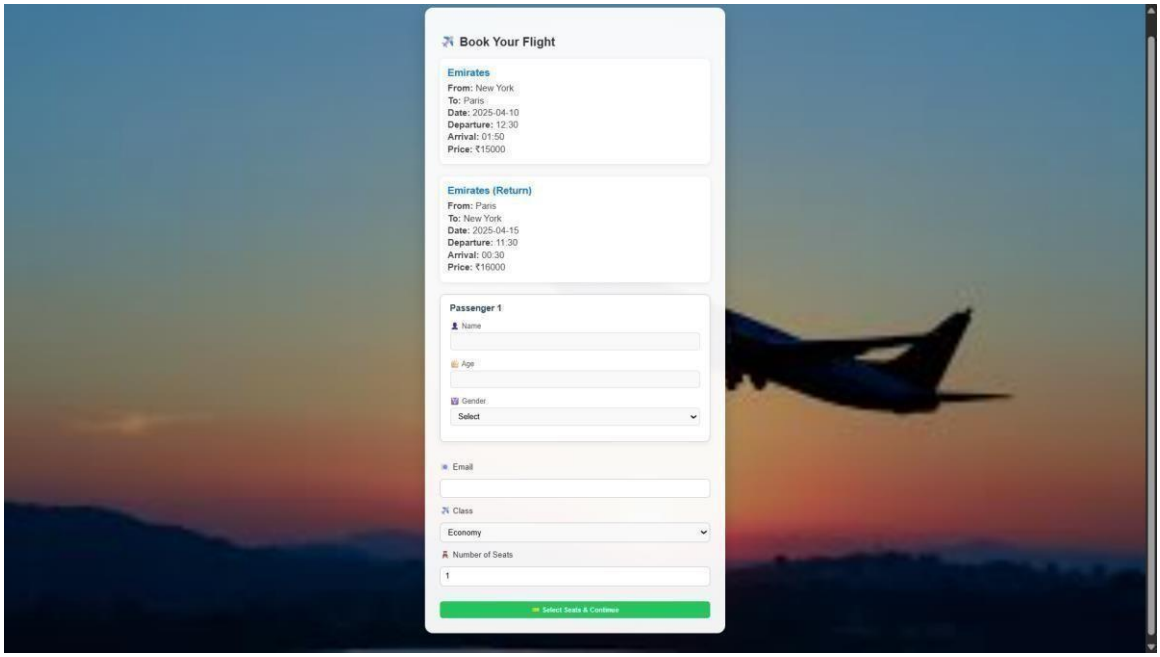

## 4. Dashboard



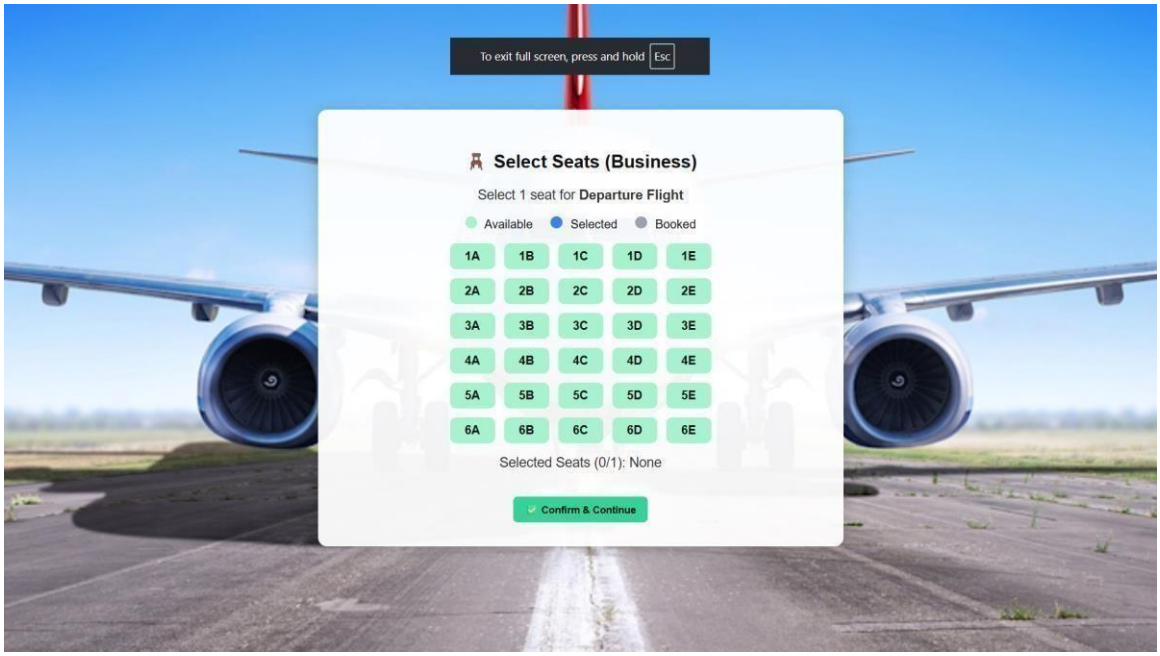

## 5.Flight search



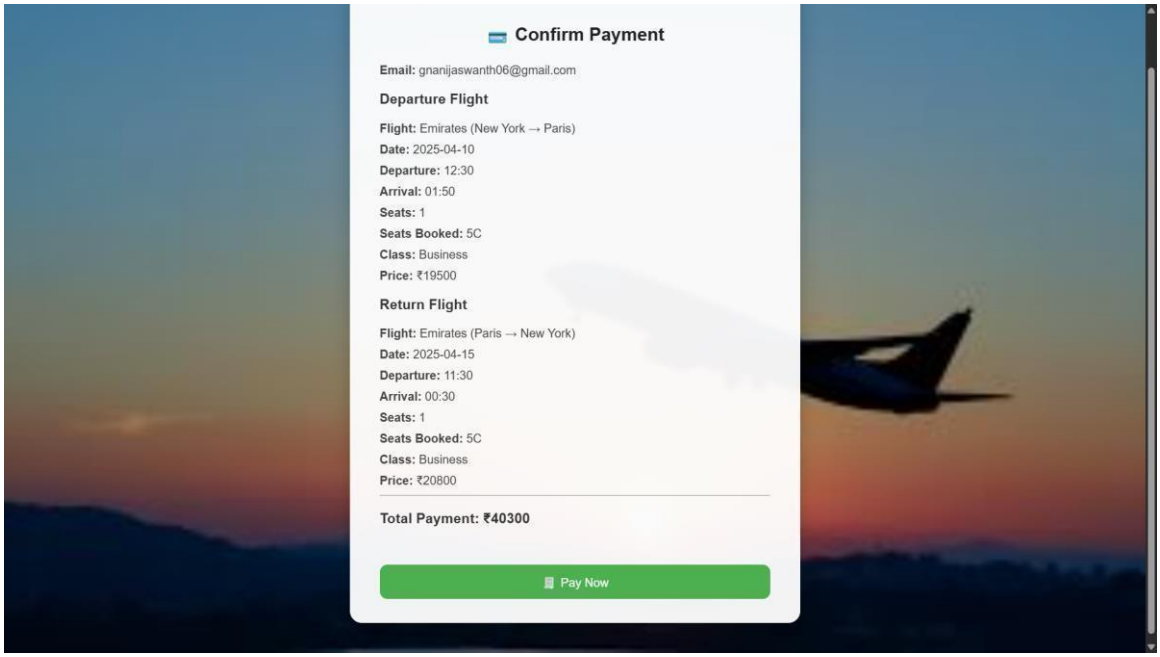

## 6.booking page



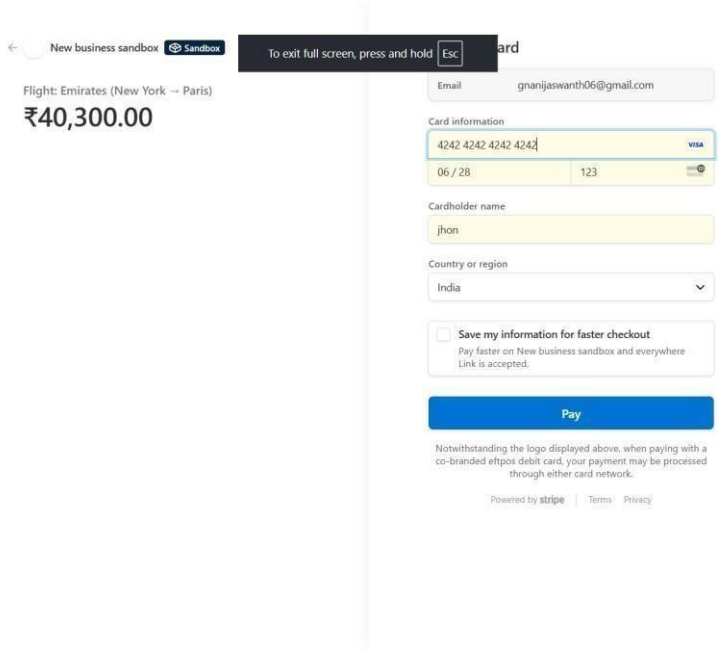

## 6.seat selection page



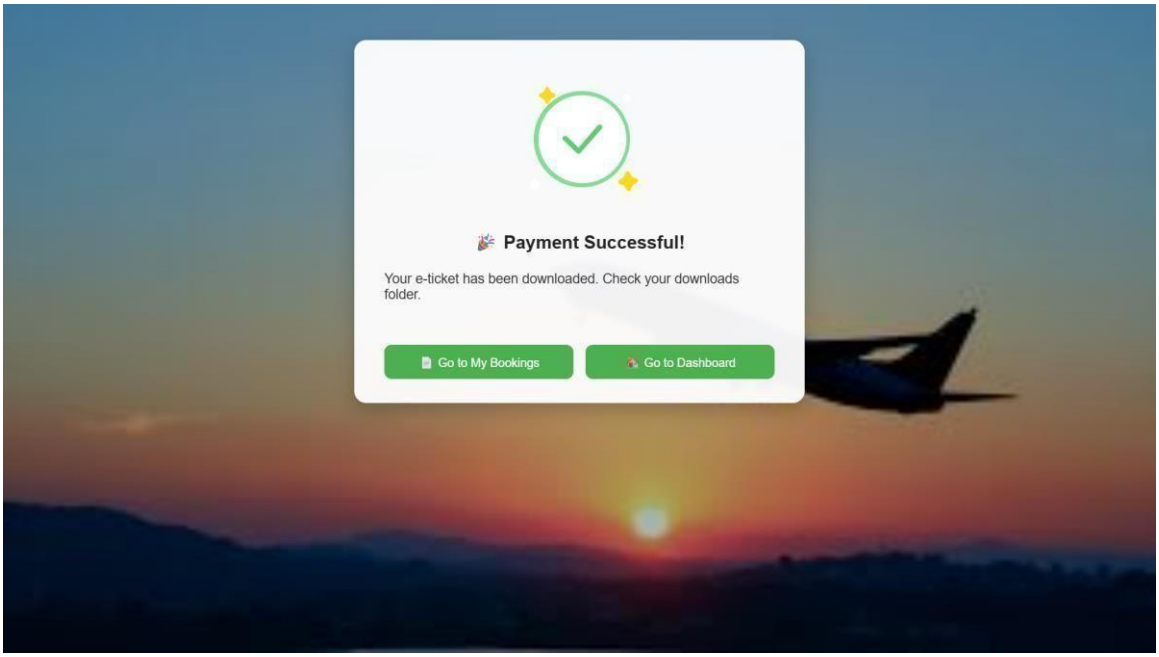

## 7.payment page



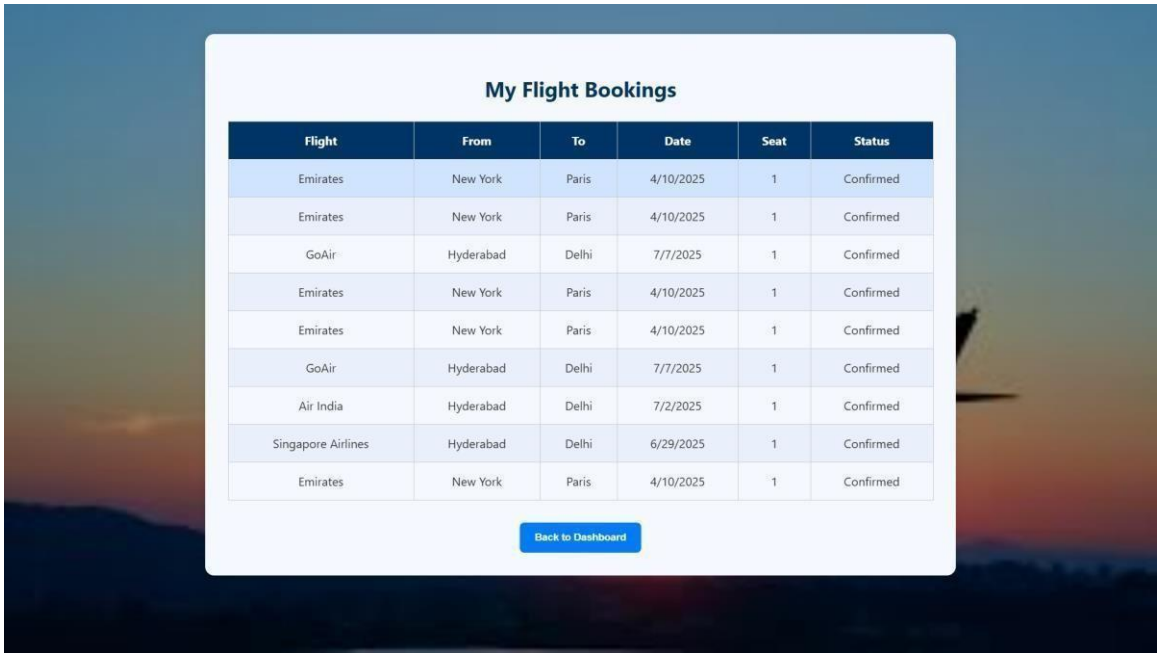

## 7.transaction page



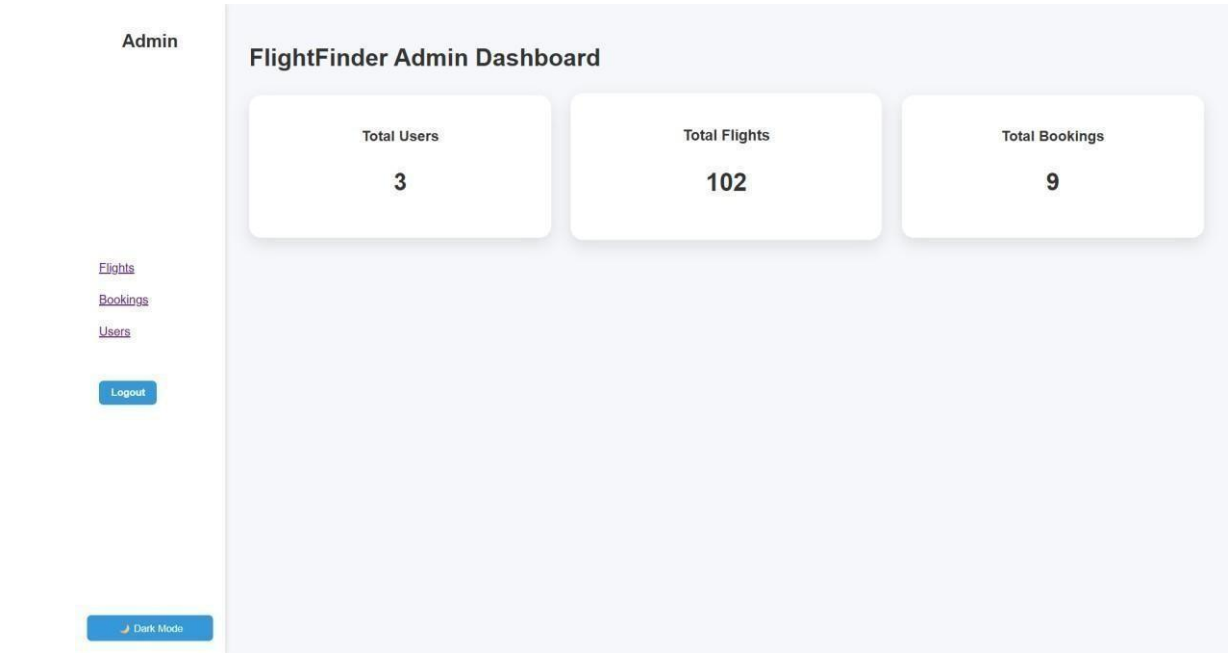

## 8.confirmation page




## 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/Manaswini-2004/FlightFinder_Navigation-App.git
Demo Link:https://drive.google.com/open?id=1VxQx-53SpCgL-AUvU-P-xPAJS1utQ0-M&usp=drive_copy