# SmartBridge Internship Project Report

Project Title:

**Flight Finder: Navigating Your Air Travel Options**

**TEAM ID: LTVIP2025TMID46410**

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Date: June 27, 2025

*Submitted as part of SmartBridge Internship may2025- June 2025*

## Abstract:


This project, Flight Finder: Navigating Your Air Travel Options, is designed to help users search and compare flight options using a simple, interactive interface. The system uses the MERN (MongoDB, Express, React, Node.js) stack to deliver a responsive frontend, dynamic backend, and seamless data integration. The goal is to make air travel booking more accessible, faster, and user-friendly.


### 1. INTRODUCTION

1.1 Project Overview:

# Flight Finder: Navigating Your Air Travel Options

The project "Flight Finder: Navigating Your Air Travel Options" is a web-based application that helps users search, view, and compare flight options based on departure and destination cities. Built using the MERN stack, it provides a responsive interface to improve the air travel planning experience.

1.2 Purpose:

The main purpose of this project is to simplify flight search and booking by providing users with an intuitive and fast platform to view available flights and choose the most suitable option based on timing and fare.

## 2. IDEATION PHASE

2.1 Problem Statement:

Searching and comparing flight options on multiple platforms is time-consuming and confusing. Users need a unified platform that provides clean and quick access to flight data.

2.2 Empathy Map Canvas:

Our target users are tech-savvy individuals looking for affordable, quick, and efficient flight options. They want clear, minimal designs and accurate flight listings.

2.3 Brainstorming:

We brainstormed features like flight filtering, booking, mobile responsiveness, and real-time data updates. The MVP focuses on search and comparison functionality.

# Objectives

- Create a user-friendly web interface for searching flights
- Use a real-time database to store and retrieve flight information
- Enable filtering and sorting of flight results
- Allow users to simulate flight bookings

## 3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map:

Users visit the site -> Enter source and destination -> View matching flights -> Compare and choose

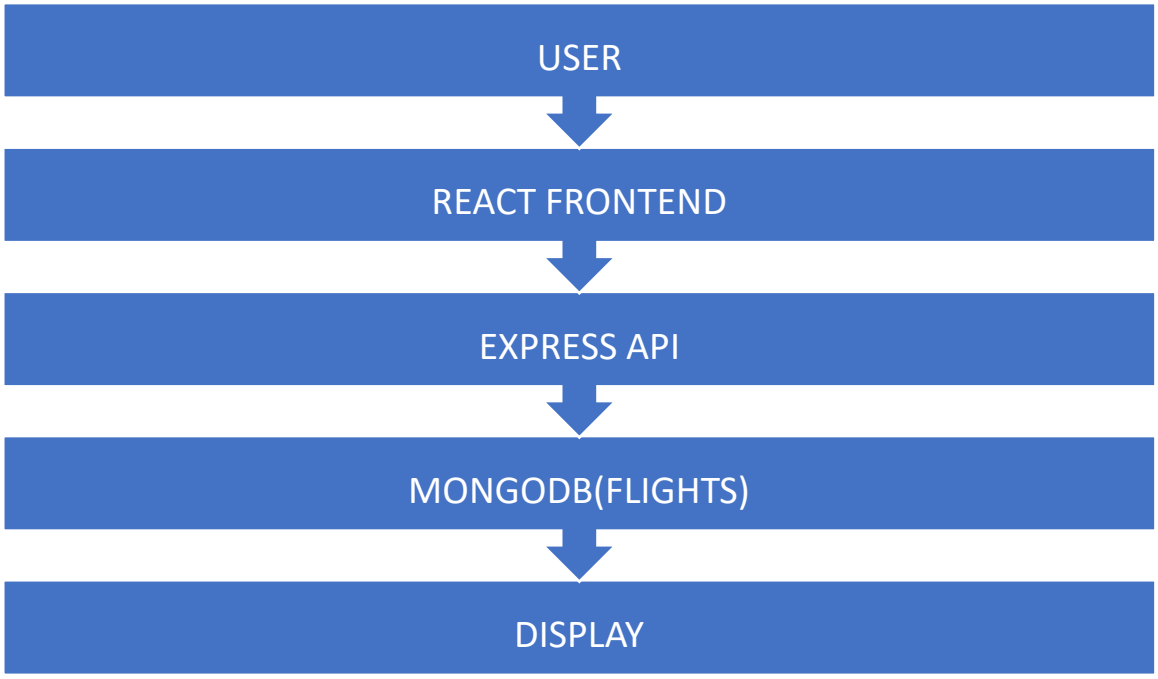
# Flight Finder: Navigating Your Air Travel Options

3.2 Solution Requirements:

- Flight search form (From, To, Date)

- Display area for flight results- Filter/sort options (future scope)

FLOW_CHART:




## System Architecture Diagram:

User (Browser)

↓

React Frontend (Flight Search UI)

↓

Express Server (Handles API requests)

↓

MongoDB (Stores flight data)

# Flight Finder: Navigating Your Air Travel Options

3.3 Technology Stack:

Frontend: React.js, CSS, Axios

Backend: Node.js, Express.js

Database: MongoDB

## 4. PROJECT DESIGN

4.1 Problem-Solution Fit:

Travelers face difficulty in accessing flight options quickly. Our app solves this with a simple and interactive interface.

4.2 Proposed Solution:

A MERN-based app that helps users search flights and view them in a clean format.

4.3 Solution Architecture:

Frontend (React) handles UI -> Backend (Express API) handles data -> Database (MongoDB) stores flight info

## 5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning:

Week 1 - Requirement gathering & design

Week 2 - Frontend development

Week 3 - Backend and DB setup

- Demo video Link: https://drive.google.com/file/d/1cPGlSMo4fF_1i1Cr2yp_icmYbURupqk-/view?usp=drive_link

Week 4 - Integration and testing

Week 5 - Final documentation and submission

## 6. FUNCTIONAL AND PERFORMANCE TESTING :

6.1 Performance Testing:

- Checked form validation and API response time

- App loads under 2 seconds with test data

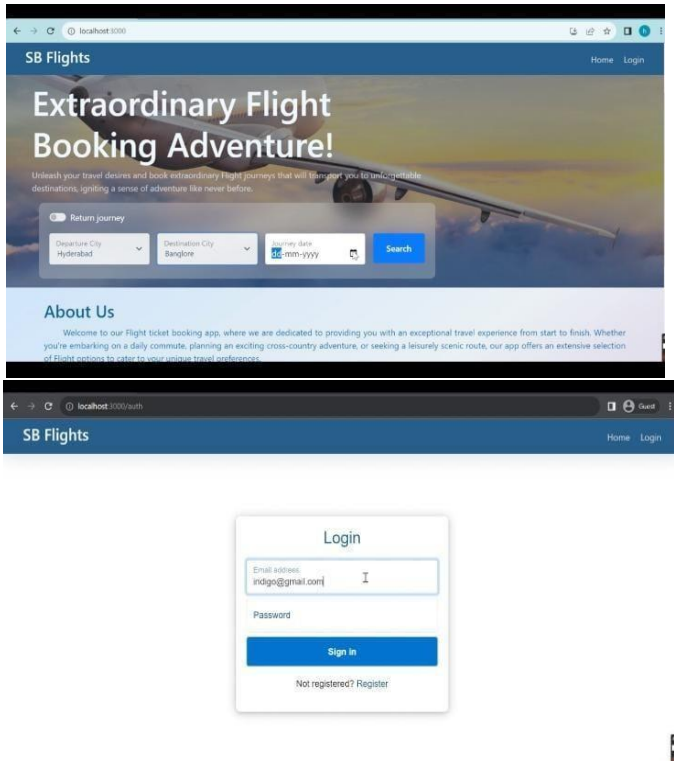
- Works well on both desktop and mobile

## 7. RESULTS

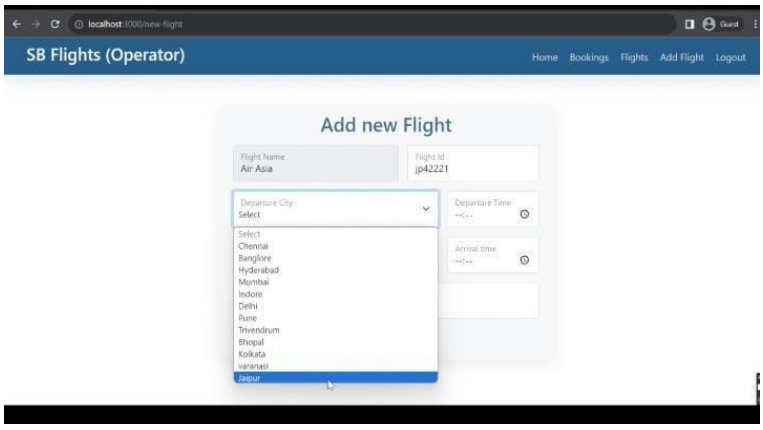
7.1 Output Screenshots:

Below are key output screenshots:

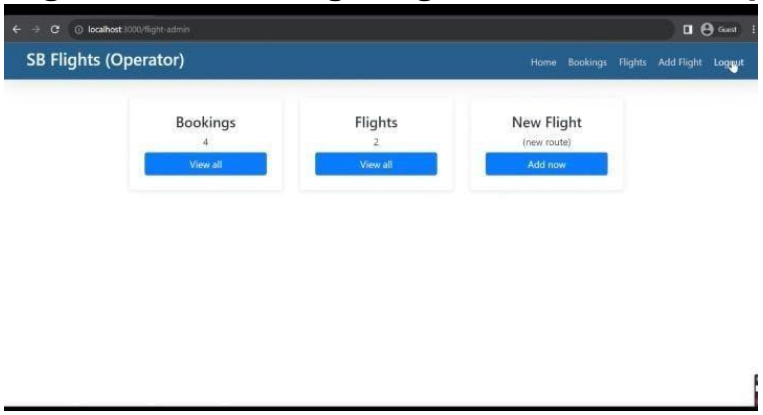
- Home page with flight search form

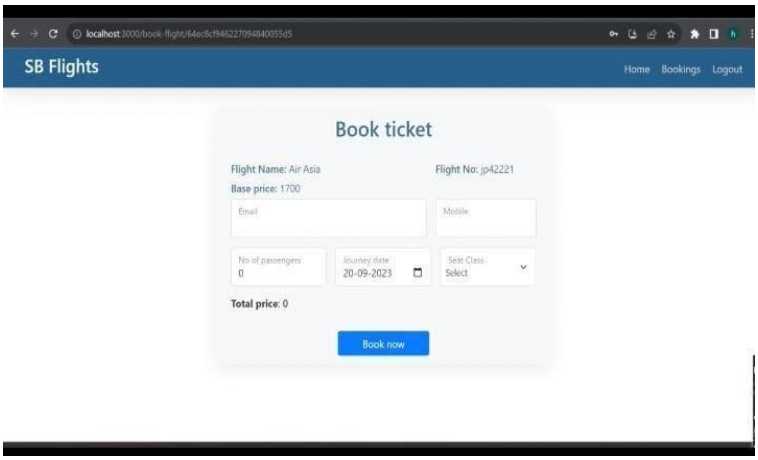



- Results page with listed flights



# Flight Finder: Navigating Your Air Travel Options




- Pictures demo: https://drive.google.com/drive/folders/1bFKznIApi_ZK2H67hPQXqvmnZPI_pilk?usp=sharing

## 8. ADVANTAGES & DISADVANTAGES

Advantages:

- Easy to use and responsive
- Clean interface for comparing flights
- Built on latest MERN stack

Disadvantages:

- Does not currently support live APIs or real bookings
- Minimal filtering options (in this version)

## 9. CONCLUSION

The Flight Finder project successfully demonstrates a working prototype for a flight search app. It meets the goal of simplifying the air travel search process and can be expanded in the future to include booking, payment, and real-time APIs.

# Flight Finder: Navigating Your Air Travel Options

## 10. FUTURE SCOPE

- Integrate with real flight APIs (like Skyscanner or Amadeus)

- Add booking and payment gateway

- Implement filters like price range, duration, airlines, etc.

- Add user login and saved search features

## 11. APPENDIX

Source Code Link:
https://drive.google.com/drive/folders/1ZfizRVxzZEXg5bdCJLSjKZKqy4rUhqQt?usp=sharing

GitHub Link: hemanthreddy240505/FLIGHT_FINDER

Demo Video: https://drive.google.com/drive/folders/1amM85YIjJ6Wly9HeofpNYTtd8DYPSqpR?usp=sharing