

# FLIGHT FINDER APP - PROJECT PLANNING DOCUMENT

## 1. Project Overview

Field	Detail
Project Name	Flight Finder
Team Members	Meghana, Gurijala Venkata Sai Sanjana, Donthi Nithish Sai Guptha, Mudipalli Kalpana
Start Date	2024-05-20
End Date	2024-06-30 (6 weeks from start)
Mentor/Guide	N/A

## 2. Requirements Summary

- Search Form (source, destination, date)
- Display Flight Results
- Filter/sort options (price, airline)
- Basic booking page (optional)
- Clean, responsive UI

## 3. Task Assignment

Team Member	Task
Meghana (Team Lead)	Planning, UI Design, Sprint Lead
Gurijala Venkata Sai Sanjana	React Component Development
Donthi Nithish Sai Guptha	Backend APIs and MongoDB integration
Mudipalli Kalpana	Testing, Deployment Support

## 4. Sprint Breakdown (6 Weeks Plan)

Sprint	Duration	Tasks
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Sprint 1	Week 1	Planning, requirement analysis, mockups
Sprint 2	Week 2	Frontend setup: Login/Register, Search
Sprint 3	Week 3	Backend APIs for authentication & bookings
Sprint 4	Week 4	MongoDB integration and connection
Sprint 5	Week 5	Admin dashboard, CRUD operations
Sprint 6	Week 6	Testing, debugging, final deployment

## 5. Analysis

We analyzed how users interact with real flight booking systems to ensure a smooth and intuitive experience. Our focus was on:

- Fast and secure login
- Seamless flow from search to booking
- Simple admin control over flights

MongoDB was selected for its flexibility and scalability, making it an ideal choice for managing varied flight data. The admin dashboard was intentionally kept minimal for straightforward operation.

## 6. Implementation

- **Frontend:** Developed using React, leveraging reusable components for a modular and maintainable user interface.
- **Backend:** Built with Node.js and Express REST API, providing robust and scalable server-side logic.
- **Database:** MongoDB with Mongoose for efficient data storage and object modeling.
- **Authentication:** Implemented using JWT (JSON Web Tokens) to secure user access and protect sensitive routes.

## 7. Debugging & Testing

A comprehensive testing strategy was adopted to ensure the application's reliability and stability:

- Manual API testing conducted using Postman for thorough backend endpoint validation.
- Frontend form validation implemented within React to prevent invalid data inputs.

- Backend error handling integrated using try/catch blocks for graceful failure management.

Key manual test scenarios included:

- Testing invalid login attempts
- Verifying the prevention of duplicate bookings
- Ensuring the security of admin-specific routes

## 8. Conclusion

This project successfully delivers a complete MERN stack application, built as part of the SmartInternz Internship. It demonstrates effective frontend and backend integration, a clean UI/UX, robust admin control functionalities, and secure user authentication.

The application fully fulfills all requirements set forth by SmartInternz.

### Team Details:

Team ID: LTVIP2025TMID58721

Team Leader: Devarapalli Lakshmi Meghana

Team Members: Gurijala Venkata Sai Sanjana, Donthi Nithish Sai Guptha, Mudipalli Kalpana

GitHub Repository: <https://github.com/MeghanaDevarapalli/Flight-Finder.git>

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