**Full Stack Development with MERN**

**Project Documentation**

**Online Flight Booking App (DFK)**

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**1.INTRODUCTION**

**PROJECT TITLE : Online Flight Booking App using MERN STACK**

* **This report provides a comprehensive overview of an online flight booking application developed using the MERN stack. The MERN stack consists of MongoDB, Express.js, React.js, and Node.js, which together provide a powerful and flexible foundation for building modern web applications. This flight booking app allows users to search for flights, register, log in, and book tickets online.**

**2.PROJECT OVERVIEW**

**PURPOSE:**

**The purpose of this flight booking app is to provide users with a convenient and efficient platform for searching, booking, and managing flight tickets online. It aims to simplify the travel planning process by allowing users to easily find available flights, register or log in to their accounts, and complete bookings in a seamless, secure environment. By leveraging the MERN stack, the app ensures a fast, scalable, and responsive experience across devices.**

**The key objectives of DFK are:**

** Flight Search: Allow users to search for flights based on destination, date, and passengers.**

** User Registration & Login: Enable account creation and secure login for personalized access.**

** Flight Booking: Let users select flights and book tickets easily.**

** Secure Payment: Integrate a safe payment gateway for online transactions**

**FEATURES**

**1. User Registration and Login: Users can register by creating an account, log in, and access their booking history.**

**2. Flight Search: Allows users to search for flights by entering departure and destination cities and selecting travel dates.**

**3. Booking System: Users can book flights after selecting the desired journey options.**

**4. Return Journey Option: Option to book round trips for added convenience.**

**5. Responsive Design: User interface is optimized for various devices, providing a seamless experience across desktops, tablets, and smartphones**

**3. ARCHITECTURE**

**Frontend:**

* The frontend is built using React.js, featuring a component-based architecture that promotes reusability and maintainability. It utilizes React Router for navigation and Redux for state management.

**Backend:**

* The backend is developed using Node.js and Express.js, providing a RESTful API that handles client requests, business logic, and data processing.

**Database:**

* MongoDB is used as the database to store user profiles, task details, and collaborative project information. Mongoose is employed for object modeling and schema validation.

**4. SETUP INSTRUCTIONS**

* **Prerequisites:**
* Node.js
* MongoDB
* **Clone the repository:**
* git clone <https://github.com/bilalx029/BookMyFlight.git>
* **Navigate to the client directory:**
* cd Flight\_booking\_app-main /client
* **Install frontend dependencies:**
* npm install
* **Set up environment variables (create a .env file):**
* MONGODB\_URI=your\_mongodb\_uri
* JWT\_SECRET=your\_jwt\_secret
* **Navigate to the server directory:**
* cd ../server
* **Install backend dependencies:**
* npm install

**5. FOLDER STRUCTURE**

* **Client Directory Structure**:

