Scope:

- The project involves creating a comprehensive Booking App using the MERN stack (MongoDB, Express.js, React, Node.js).

- The application includes features such as user authentication, hotel management, image uploads, search functionality, sorting and filtering, online payments using Stripe, and booking management.

- The goal is to provide a real-world application that covers various aspects of MERN stack development.

Use Cases:

- Register/Login
- Add/Edit/View Hotels
- Upload Hotel Images
- Search/Sort/Filter Hotels
- Make a Booking
- View/Manage Bookings
- Display Recent Hotels on Home Page

Relations:

- Users can register/login to access personalized features.
- Users can add, edit, and view hotels with image uploads.
- Users can search, sort, and filter hotels based on preferences.
- Users can make bookings with secure online payments using Stripe.
- Users can view and manage their bookings.
- The system displays recently added hotels on the home page.

Entity-Relationship Diagram (ERD)

Users:

- id (primary key): Unique identifier for each user.
- username: User's login name.
- email: User's email address.
- password: Hashed password for secure authentication.
- accountType: User type (regular user, host).

Hotels:

- id (primary key): Unique identifier for each hotel.
- name: Hotel name.
- location: Hotel location (city, country).
- description: Hotel description.
- amenities: List of amenities offered.
- price: Base price per night.
- images: Reference to list of images associated with the hotel.
- hostId (foreign key): References the user who owns the hotel.

Bookings:

- id (primary key): Unique identifier for each booking.
- userId (foreign key): References the user who made the booking.
- hotelId (foreign key): References the booked hotel.
- startDate: Booking start date.
- endDate: Booking end date.
- guests: Number of guests.
- totalPrice: Total cost of the booking.
- paymentId (foreign key): References the associated payment.

Images:

- id (primary key): Unique identifier for each image.
- url: Image file URL.
- hotelId (foreign key): References the hotel the image belongs to.

Payments:

- id (primary key): Unique identifier for each payment.
- paymentIntentId: Stripe payment intent ID for reference.
- amount: Paid amount.
- bookingId (foreign key): References the associated booking.

Relationships:

- One User to Many Bookings: A user can have many bookings (one-to-many).
- One Hotel to Many Bookings: A hotel can have many bookings (one-to-many).
- One User to One Account: A user has one account (one-to-one).
- One Hotel to Many Images: A hotel can have many images (one-to-many).
- One Booking to One Payment: A booking has one associated payment (one-to-one).