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Abstract

- The "Tourism Booking System" is a dynamic web application built on the MERN stack, created to provide travelers with a seamless and all-encompassing platform for discovering, researching, and booking their dream destinations. In a world where travel is essential, our project strives to streamline and enhance the travel experience, offering users a single, user-friendly solution for all their travel requirements.
- The application begins with a user-friendly registration and authentication system, ensuring the safety and privacy of user information. Once logged in, users are granted access to a treasure trove of information on a diverse range of tourist destinations. Our extensive place listings include vivid descriptions, captivating imagery, and invaluable user reviews, empowering travelers to make informed decisions. A robust search engine simplifies the process of finding the perfect destination, whether by location, type, or popularity.
- The heart of our system lies in its booking capabilities. Users can effortlessly reserve accommodations and activities, customizing their travel experiences to meet their unique preferences. Detailed information about each place helps users curate the perfect travel itinerary.
- User reviews and ratings foster a sense of community on the platform, enabling travelers to share their experiences and provide valuable insights. Average ratings are calculated to aid users in making informed choices, while a personalized dashboard empowers travelers to oversee bookings, access itineraries, and bookmark preferred destinations.
- A secure payment integration streamlines transactions by providing multiple payment options, including credit cards and digital wallets. Meanwhile, administrators utilize an admin panel to manage place listings, user accounts, and bookings, ensuring content moderation and platform stability.
- In a world where wanderlust is a prevailing sentiment, the "Tourism Booking System" seeks to be the traveler's trusted companion, simplifying and enhancing the process of exploring, booking, and experiencing the world.

Introduction

□ Brief Introduction

- The "Tourism Booking System" is a comprehensive web application designed to facilitate travel enthusiasts in exploring various tourist destinations and booking their travel essentials.
- This project leverages the MERN stack, consisting of MongoDB, Express.js, React.js, and Node.js, to create an interactive platform where users can seamlessly discover new places, obtain information, and conveniently book their travel accommodations and activities.

□ Technologies Used

- MongoDB for data storage and management.
- Express.js as the backend server framework.
- React.js to build the frontend user interface.
- Node.js for server-side scripting and API handling.
- JWT for user authentication and authorization.
- Integration with popular payment gateway APIs for secure transactions.

Software Requirements Specifications

1. Overall Description

1.1 Product Perspective

The website will interact with external services and APIs for features like real-time weather updates, maps, and payment processing.

1.2 Product Functions

Functionality of the system

Users :

- *User Registration and Authentication*
- *Place Listings*
- *Place Details*
- *Booking System*
- *User Reviews and Ratings*
- *User Dashboard*
- *Payment Integration*

1.3 User Classes and Characteristics

- *End Users:* Travel enthusiasts, tourists, and explorers with varying degrees of travel experience.
- *Admin Users:* System administrators responsible for managing listings, user accounts, and content moderation.

1.4 Operating Environment

- The system will operate as a web-based application accessible through popular web browsers such as Chrome, Firefox, Safari, and Edge.
- The application will be responsive to work seamlessly on various devices, including desktops, tablets, and mobile phones.

1.5 Design and Implementation Constraints

- The project will be developed using the MERN stack. Compliance with web accessibility standards (e.g., WCAG) to ensure inclusivity.

1.6 User Documentation

- Provide comprehensive user documentation, including a user guide and FAQs, to help users navigate the platform, create accounts, make bookings, and utilize the features effectively.

1.7 Assumptions and Dependencies

- Assumption that users will have access to a stable internet connection for using the web-based application.

2. External Interface Requirements

2.1 User Interfaces

- User Registration and Login
- Place Listings
- Place Details
- Booking System

- User Reviews

2.2 Hardware Interfaces

The system is compatible with a wide range of hardware, including desktop computers, laptops, and mobile devices. The system will be able to run on popular operating systems such as Windows, MacOS.

- RAM: 4GB
- Hard Drive Storage Needed: 2GB
- Other Hardware Requirement: None

2.3 Software Interfaces

A. Operating Systems

- The website should be compatible with major operating systems, including Windows, macOS, iOS, and Android.

B. Web Browsers

- The website should function seamlessly on popular web browsers such as Chrome, Firefox, Safari, and Edge.

C. Backend Technologies

- The user interface should communicate with the server-side components built using the MERN (MongoDB, Express.js, React.js, Node.js) stack. Ensure proper API integrations for data exchange.

D. Payment Gateway Integration

- Interface with third-party payment gateway APIs to facilitate secure payment processing.

2.4 Communications Interfaces

A. APIs for Real-time Data

- The system should communicate with external APIs for real-time data, such as weather updates, maps, and local events, to enrich the user experience.

B. Email Notifications

- Implement email communication interfaces for sending notifications, booking confirmations, updates, and special offers to users.

C. Push Notifications

- Enable push notification services to keep users informed about important updates and booking confirmations.

3. System Features

3.1 User Registration and Authentication

- Users should be able to create accounts easily with required information and a secure password.
- Email verification or password reset functionalities should be available for account recovery.

3.2 User Profile Management

- Users must have the ability to edit and update their personal information.
- Profile pictures and contact details should be customizable.

3.3 Place Listings and Search

- Users should be able to search for destinations using filters like location, type, and popularity.
- Listings must include detailed descriptions, images, and user reviews for informed decision-making.

3.4 Place Details and Information

- Users should access comprehensive information about each place, including attractions, accommodations, dining options, and local events.
- Real-time data, such as weather updates and maps, should be available for reference.

3.5 Booking and Reservation

- The platform should support booking accommodations, flights, and activities.
- Users must be able to select travel dates, review pricing, and confirm bookings.

3.6 User Reviews and Ratings

- Users should be able to write reviews and rate the places they've visited.
- The system should calculate and display average ratings for each place.

3.7 User Dashboard

- Each user should have a personalized dashboard for managing bookings, accessing travel itineraries, and saving favorite destinations.

3.8 Secure Payment Integration

- The website should integrate with secure payment gateways, providing options for credit card and digital wallet payments.

3.9 Responsive Design

- The platform should be accessible and fully functional on both desktop and mobile devices.

3.10 Notifications

- The system should send email or push notifications to users regarding booking confirmations, updates, and special offers.

3.11 Admin Panel

- Administrators should have access to an admin panel to manage place listings, user accounts, and bookings.
- Content moderation features should be available to ensure platform integrity.

4. Other Nonfunctional Requirements

4.1 Performance Requirements

- The system should have a response time of less than 2 for all user Requests.

4.2 Safety Requirements

- The system should validate phone number and email during registration to ensure user identification.

4.3 Security Requirements

- The system should use encryption to protect sensitive data, such as user Passwords.

4.4 Software Quality Attributes

- The system should be secure and protect against unauthorized access and data breaches.

4.5 Design Requirements

- The system should have a user-friendly interface that is easy to navigate.

Database Design

- PLACES

Place_name: The name of the place.

Description: The brief description about the place.

Price: The Booking price of that place.

Image: its contain url of the image

- USER

Name: the name of the user

Email: the user provided email contain.

Password: this contain the password of the user account.

- Booking

Place_name: the name of the place.

User_Id: its contain the user id.

Firstname: its contain the first name of the user.

Lastname: its contain the last namer of the user.

Phone: its contain the phone number of user.

Email: user booking email.

Date: its contain the booking data

Implementation Detail

R.1 "User Registration and Login"

R.1.1 User Details Validation:

- **Description:** Validate user-provided details during registration, including name, email, and password, ensuring they meet the required format and length.
- **Input:** User-provided name, email, and password during registration.
- **Output:** Validation result (successful or error message).

R.1.2 Unique Email Check:

- **Description:** Verify that the provided email address is not already associated with an existing user account to prevent duplicate Registrations.
- **Input:** User-provided email during registration.
- **Output:** Confirmation of email uniqueness or error message if the email is already registered.

R.1.3 Password Strength Check:

- **Description:** Implement password strength requirements, such as a minimum length and inclusion of uppercase and lowercase letters, numbers, and special characters, to enhance account security.
- **Input:** User-provided password during registration.

- **Output:** Confirmation of password strength or error message if password requirements are not met.

R.1.4 Email Confirmation:

- **Description:** Send a confirmation email to the registered email address containing a verification link to confirm the user's account creation.
- **Input:** Registered user's email address.
- **Output:** Confirmation email sent or error message if email delivery fails.

R.2 "Search Destination"

R.2.1 Search Location:

- **Description:** Allow users to search for destinations by entering specific locations, such as city names.
- **Input:** User-provided location (city name, etc.) in the search bar.
- **Output:** List of matching destinations based on the provided location.

R.2.2 Date Selection:

- **Description:** Enable users to input desired travel dates to find available destinations within their chosen timeframe.
- **Input:** User-selected travel dates (start date, end date) in the search bar.

- **Output:** List of destinations available during the specified travel dates.

R.2.3 Interest-Based Filters:

- **Description:** Implement filters to allow users to search for destinations based on their interests, such as adventure, beach, culture, etc.
- **Input:** User-selected interests (checkboxes, dropdown, etc.).
- **Output:** List of destinations matching the selected interests.

R.2.4 Display Matching Destinations:

- **Description:** Display a list of destinations that match the user's search criteria, along with relevant information like descriptions and images.
- **Input:** Search results from R.2.1, R.2.2, and R.2.3.
- **Output:** List of destinations with descriptions, images, and relevant Details.

R.3 "Booking Activity"

R.3.1 Activity Categories:

- **Description:** Categorize activities and attractions into various categories like sightseeing, outdoor adventures, cultural experiences, etc.
- **Input:** Activity categories and associated activities in the system.
- **Output:** List of activity categories for user selection.

R.3.2 Group Bookings:

- **Description:** Allow users to book activities for multiple participants, specifying the number of participants for each place.
- **Input:** User-selected activity and number of participants.
- **Output:** Confirmation of group booking with participant details.

R.3.3 Confirmation and Booking Details:

- **Description:** After selecting an activity, display confirmation with booking details, including the activity name, date, time, and any additional information.
- **Input:** User-selected activity and associated details.
- **Output:** Confirmation of the activity booking with booking details.

R.4 "Manage Payment"

R.4.1 Secure Payment Gateway Integration

- **Description:** Integrate a reliable and secure payment gateway to handle user transactions, ensuring the safety of sensitive financial information.
- **Input:** User's payment details and selected activities for booking.

- **Output:** Payment gateway response confirming successful payment or error message for failed transactions.

R.4.2 Payment Confirmation:

- **Description:** Provide users with an immediate payment confirmation or display an error message if the payment process encounters any issues.
- **Input:** Payment gateway response.
- **Output:** Payment confirmation or error message based on the payment gateway response.

R.5 "Display Destination Information"

R.5.1 User Reviews and Ratings

- **Description:** Display authentic user reviews and ratings for each destination to help users make informed decisions.
- **Input:** User-generated reviews and ratings for each destination.
- **Output:** Display user reviews and ratings alongside each destination.

R.5.2 Multimedia Content:

- **Description:** Provide a mix of images, videos, and interactive content to showcase the attractions and unique features of each destination.
- **Input:** Multimedia content associated with each destination.

- **Output:** Display images, videos, and interactive content for each destination.

R.6 "Rating and Review"

R.6.1 Rating Submission:

- **Description:** Allow users to give ratings for the places they visited using a 5-star rating system.
- **Input:** User-provided ratings for each destination.
- **Output:** User ratings submitted and stored in the system.

R.6.2 Comment Writing:

- **Description:** Provide a text input field where users can write their experience and feedback about the visited places.
- **Input:** User-provided comments and feedback.
- **Output:** User comments submitted and stored in the system.

R.6.3 Display User Experience:

- **Description:** Display user ratings and comments alongside each destination to help other users in their decision-making process.
- **Input:** User-generated ratings and comments for each destination.
- **Output:** Display user ratings and comments alongside each destination.

R.7. Other Nonfunctional Requirements

R.7.1 Performance Requirements

- The application should respond quickly to user interactions, aim for low latency to ensure a smooth user experience.
- The platform should be able to handle an increasing number of users and data without significant degradation in performance. This may involve employing load balancing, caching and vertical/horizontal scaling strategies.

R.7.2 Safety Requirements

- The system should validate user input and prevent any data injection attacks.
- The system should have a recovery process for handling errors and Exceptions.

R.7.3 Security Requirements

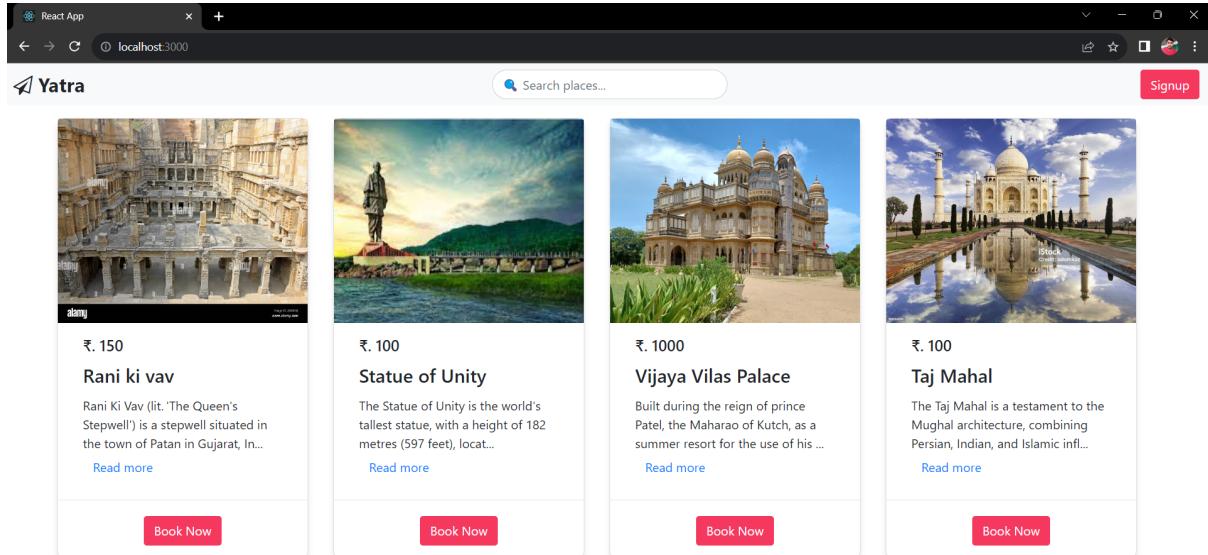
- The system should use encryption to protect sensitive data, such as user passwords.
- The system should have regular vulnerability assessments and penetration tests to identify and remediate any security weaknesses.

R.7.4 Design Requirements

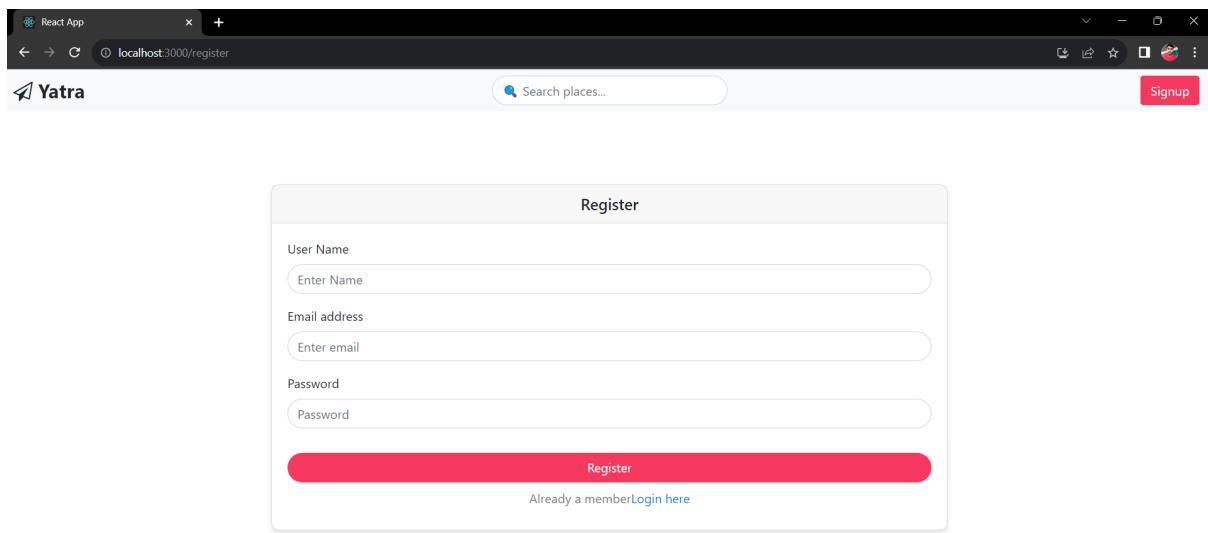
- The system should have a user-friendly interface that is easy to navigate and understand.

Screenshots

Home Page (Before login)



Register Email



Login Page

React App

localhost:3000/login

Login

Email address

Enter email

Password

Password

Login

Don't have an account yet? [Register now](#)



Home Page (After login)

React App

localhost:3000

Yatra

Search places...

Nirav Patel Logout

 ₹. 150 Rani ki vav Rani Ki Vav (lit. 'The Queen's Stepwell') is a stepwell situated in the town of Patan in Gujarat, In... Read more Book Now	 ₹. 100 Statue of Unity The Statue of Unity is the world's tallest statue, with a height of 182 metres (597 feet), locat... Read more Book Now	 ₹. 1000 Vijaya Vilas Palace Built during the reign of prince Patel, the Maharao of Kutch, as a summer resort for the use of his ... Read more Book Now	 ₹. 100 Taj Mahal The Taj Mahal is a testament to the Mughal architecture, combining Persian, Indian, and Islamic infl... Read more Book Now
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Vijay Vilas Palace (One of register places)

The screenshot shows a web application interface. At the top, there's a header with a logo, a search bar containing "Search places...", and a user profile for "Nirav Patel" with a "Logout" button. Below the header, a message box displays "9796 bình luận" and a sorting option "Sắp xếp theo Mới nhất". A text input field says "Viết bình luận...". A post by "Nirav Patel" with the text "this is a heaven" and a timestamp "Thích · Phần hỏi - 2 ngày" is shown. A blue button "Tải thêm 10 bình luận" and a link "Plugin bình luận trên Facebook" are also present. To the right, a large image of a grand, ornate building identified as "Vijaya Vilas Palace". Below the image, a brief description states: "Built during the reign of prince Patel, the Maharao of Kutch, as a summer resort for the use of his son and heir to the kingdom, the Yuvraj Shri Vijayarajji, it was named after him as Vijaya Vilas Palace. The Price: \$1000" and a red "Book Now" button.



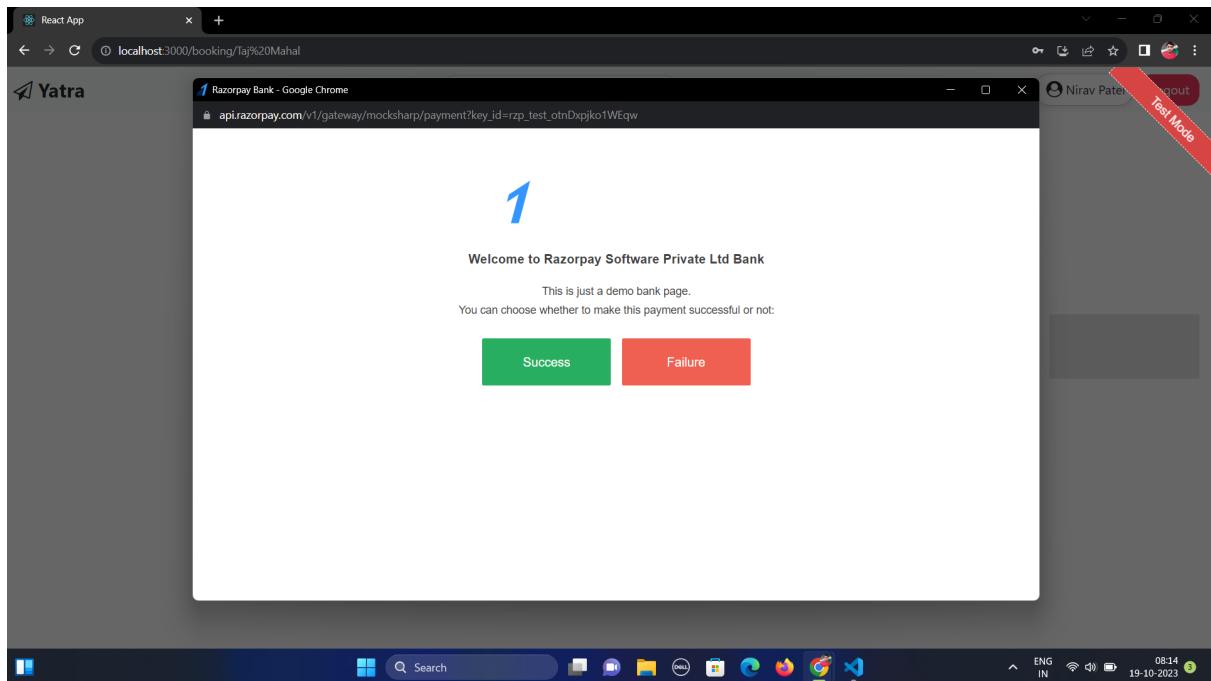
- In upper page you can get detail information of place (Vijay Vilas Palace) that you selected and also a comment box for give your reviews and you can read other people's reviews.

Booking Ticket Interface

The screenshot shows a booking form titled "Booking Details". The form includes fields for "First Name" (with placeholder "firast name"), "Last Name" (with placeholder "last name"), "Phone No." (with placeholder "000000000"), "Number of Members (Max 5)" (with value "1" and a dropdown arrow), "Email" (with placeholder "enter email"), and "Date" (with placeholder "dd-mm-yyyy" and a calendar icon). At the bottom is a large red "Submit And Pay" button.



Payment Page (After Successful Payment)



List of Your Bookings

A screenshot of a web browser window titled "React App". The URL in the address bar is "localhost:3000/account". The page has a header with a Yatra logo, a search bar, and a user profile "Nirav Patel" with a "Logout" button. Below the header, the title "Your Booking" is centered above a table. The table has columns: #, Place Name, Name, Members, and Date. It contains two rows of data:

#	Place Name	Name	Members	Date
1	Rani ki vav	Nirav patel	1	10/27/2023
2	Vijaya Vilas Palace	Nirav Patel	4	10/28/2023

The browser's toolbar and taskbar are visible at the bottom.

Conclusion

- In conclusion, the "Tourism Booking System" is a user-friendly web application, meticulously designed on the MERN stack to offer travelers a unified platform for discovering, researching, and booking their dream destinations, simplifying and enhancing their travel experiences.
- The "Tourism Booking System" offers a complete travel planning experience, from registration and profile management to secure bookings. User reviews promote community and informed decision-making.
- Furthermore, our system ensures secure payments, device-friendly design, and real-time notifications for user convenience. Administrators have the tools to maintain platform integrity, creating a safe and reliable environment.
- As travel remains integral to our lives, the "Tourism Booking System" strives to be the global companion, enhancing travel experiences. Its dedication to ongoing growth and adding more travel-related services reaffirms its role as an indispensable resource for those planning their next adventure."

Limitation and Future Extension

8.1 Describe the limitation of your project

- Limited Geographic Coverage
- Dependency on External APIs
- Payment Gateway Integration
- User Generated Content

8.2 Mention the functionality which was not implemented

- Mobile Application

8.3 List possible future extension to your project

- Internationalization
- Social Media Integration
- Virtual Reality (VR) Tours
- Guided Tours and Travel Packages
- Traveler Community
- Multi-Language Support
- Offline Mode
- Machine Learning and AI Recommendations
- Environmental Impact Information
- Integration with Local Businesses

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- 3.https://www.booking.com/region/in/gujarat.en.html?aid=861619&label=msn-nOcXVpQ3Nsj42XazM*P1yQ-80608043751102:tikwd-138007290089:loc-90:neo:mte:lp149579:dec:qsgujarat%20tourism&utm_campaign=Holidays%20-%20India&utm_medium=cpc&utm_source=bing&utm_term=nOcXVpQ3Nsj42XazM*P1yQ&msclkid=25374a910ff813da9fc62fa00d380798
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