Travel Mates Planner

**Software Requirements Specification**

Version 1.0.0



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**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date (dd/mm/yyyy)** | **Version** | **Description** | **Author** |
| 07/12/2023 | 1.0.0 | Introducing the **"Travel Mates Planner"** – a user-friendly web application designed to streamline trip planning for travelers. With a strong emphasis on ease of use and an array of comprehensive features, this app offers an all-in-one solution for organizing travel itineraries, booking accommodations, and exploring tourist attractions seamlessly.  Furthermore, the application is poised to enhance the revenue streams of travel agencies by automating their booking processes. The incorporation of online payment functionality ensures efficient business generation for travel agencies. The **"Travel Mates Planner"** aims to not only simplify the travel planning experience for individuals but also contribute to the growth and effectiveness of travel agency operations. | BC170404562  EJAZ UL HAQ |
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**SRS Document**

**Scope of Project:**

Travel is an integral part of our lives, and effective planning plays a crucial role in transforming a journey into a wonderful and memorable experience. The **"Travel Mates Planner"** web app aims to empower travelers by providing seamless planning, booking, and information management for their trips. This app recognizes the significance of good companionship during travels and aims to enhance the overall travel experience.

The primary objective is to create a user-friendly platform that enables travelers to plan their trips effectively, choose suitable destinations, book accommodations, and stay informed about various aspects such as weather and local attractions. Additionally, the app seeks to foster a sense of community by connecting travelers with compatible companions for shared experiences.

**Functional and non Functional Requirements:**

**2.1. Functional Requirements:**

**Admin Panel:**

1. User Management:
2. Create, edit, and delete user accounts.
3. View user profiles and access registration details.
4. Content Management:
5. Add, edit, or remove destination information, including descriptions, images, and attractions.
6. Approve or moderate user-generated reviews and ratings.
7. Trip and Itinerary Management:
8. Access and review user-created trips.
9. Resolve issues or conflicts related to trip planning and accommodations.
10. Provide assistance or recommendations to users planning trips.
11. Accommodation Management:
12. Access the accommodation booking system.
13. Monitor bookings, confirmations, and cancellations.
14. Handle payment or reservation disputes and refunds.
15. Notification Management:
16. Send and manage notifications to users, including trip reminders, booking confirmations, and general updates.
17. Configure and schedule automated notifications.

**User Panel:**

1. User Registration and Profiles:
2. Users can create accounts with personalized profiles.
3. Profile information includes name, contact details, and travel preferences.
4. Trip Planning:
5. Users can create and manage multiple trips.
6. Each trip allows customization with details like destination, dates, and trip purpose (e.g., vacation, business, adventure).
7. Destination Information:
8. Users can search for destinations and access detailed information, including climate, local culture, and popular attractions.
9. Accommodation Booking:
10. Integration with external APIs for real-time hotel and accommodation booking.
11. Users can view options, check availability, and make reservations.
12. Navigation and Maps:
13. Interactive maps with route planning, GPS coordinates, and offline map downloads.
14. Directions and travel distances to chosen points of interest.
15. User Reviews and Ratings:
16. Users can leave reviews and ratings for accommodations, attractions, and restaurants.
17. Aggregate ratings and user comments provide insight for other travelers.
18. Weather Information:
19. Real-time weather updates for destinations.
20. Weather forecasts for the duration of the trip.
21. User Notifications:
22. Notifications for trip reminders, booking confirmations, and recommended activities.
23. Customizable notification settings.
24. Payment Method:
25. Users will be able to pay for the trip with any of the following payment methods:
26. Debit card.
27. Credit card.

**2.2. Non-Functional Requirements:**

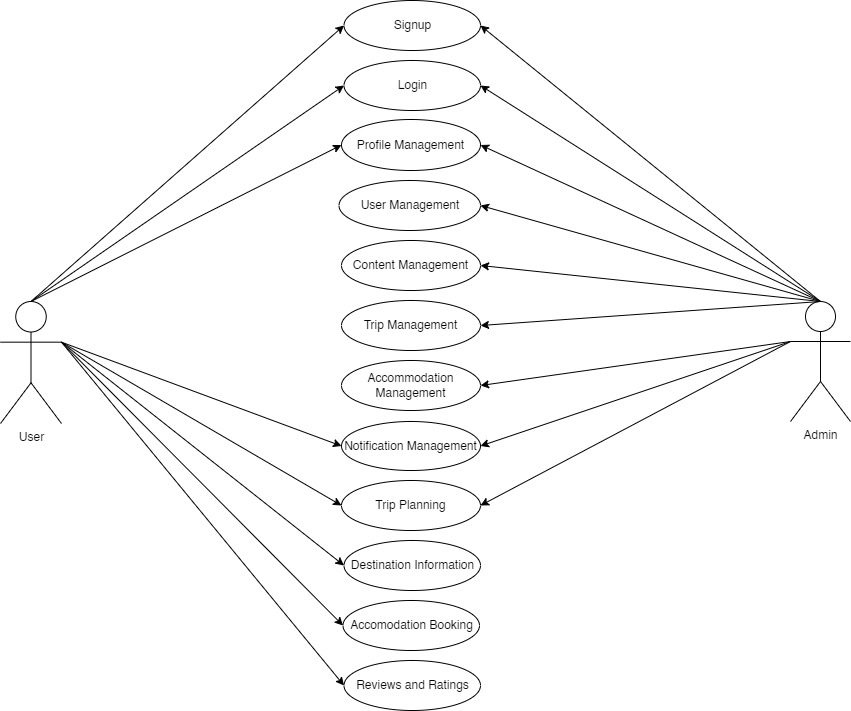
1. Performance:
2. Response Time: The system should respond to user actions within up to 5 seconds under normal load conditions.
3. Scalability: The application should handle a scalable user base, supporting at least 1,000 simultaneous users.
4. Efficient Resource Utilization: Optimize server and database resource usage to ensure efficient performance.
5. Security:
6. Data Encryption: All sensitive user data, including passwords and payment information, must be encrypted using industry-standard encryption algorithms.
7. Secure APIs: Implement secure APIs with proper authentication and authorization mechanisms.
8. Protection against Common Attacks: The application should guard against common web vulnerabilities such as SQL injection, cross-site scripting (XSS), and cross-site request forgery (CSRF).
9. Reliability:
10. Availability: The system should aim for 99.9% uptime, allowing for scheduled maintenance.
11. Error Handling: Implement robust error handling and logging mechanisms to quickly identify and address issues.
12. Data Integrity: Ensure the integrity of user data by implementing proper backup and recovery procedures.
13. User Experience:
14. Responsive Design: The application should provide a seamless and responsive user experience across various devices and screen sizes.
15. Intuitive User Interface: Design an intuitive and user-friendly interface for easy navigation and efficient use.
16. Accessibility: Ensure the application is accessible to users with disabilities, adhering to WCAG guidelines.
17. Compatibility:
18. Cross-Browser Compatibility: The app should be compatible with the latest versions of major browsers, including Chrome, Firefox, Safari, and Edge.
19. Device Compatibility: Ensure compatibility with various devices, including desktops, laptops, tablets, and smartphones.
20. Maintainability:
21. Code Maintainability: Follow best coding practices and guidelines to ensure code maintainability.
22. Documentation: Provide comprehensive documentation for developers, including code documentation, APIs, and system architecture.
23. Modularity: Design the application with a modular architecture, allowing for easy updates and enhancements.
24. Integration:
25. Third-Party Integrations: Ensure seamless integration with third-party services, such as payment gateways and mapping APIs.
26. API Consistency: Maintain consistency in API design and ensure backward compatibility for smooth integration with future updates.
27. Compliance:
28. Regulatory Compliance: Adhere to relevant data protection and privacy regulations, such as GDPR or HIPAA, depending on the nature of the application.
29. Licensing: Ensure compliance with open-source licensing for Laravel and React.js libraries.
30. Performance Monitoring:
31. Logging and Monitoring: Implement logging and monitoring tools to track application performance, identify bottlenecks, and troubleshoot issues promptly.
32. Performance Analytics: Utilize analytics tools to gather insights into user behavior and optimize performance based on data.
33. Deployment:
34. Deployment Automation: Implement automated deployment processes for efficient and error-free releases.
35. Rollback Procedures: Define rollback procedures to revert to a stable version in case of deployment failures.

**Use Case Diagram(s):**

We have two types of users for this application.

**User:** The user first registers himself after that he can search and download software.

**Admin:** Admin will maintain the database and register new users and tutors.



**Usage Scenarios:**

|  |  |
| --- | --- |
| Use Case Title | Signup |
| Use Case ID | 01 |
| Actors | User, Admin |
| Description | The site visitor can create a new account to register on the app as a traveler. |
| Pre Conditions | The app all pages and APIs should be in the running condition. |
| Actions | * Navigate to the signup page * Fill the form with all fields with accurate information at least the required fields. * Submit the form. |
| Post Condition | User will receive email confirmation upon successful registration. |
| Exceptions | If the provided email already exists in the database users table then the app will return a validation error and will suggest changing the email because the provided email already exists. |
| Author | BC170404562 |
| Modification History | 1.0.0 |
| Modification Date |  |

|  |  |
| --- | --- |
| Use Case Title | Login |
| Use Case ID | 02 |
| Actors | User, Admin |
| Description | The site admin and user can log into their account and will be able to access the app authentication-protected screens. |
| Pre Conditions | The user must have a valid registered account email and password to authenticate to the app. |
| Actions | * Navigate to the login page. * Fill the form all fields with accurate information at least the required fields. * Submit the form. |
| Post Condition | The logged-in actor will be redirected to their dashboard screen. |
| Exceptions | The actor will see the validation error if the email, password, or both are incorrect. |
| Author | BC170404562 |
| Modification History | 1.0.0 |
| Modification Date |  |

|  |  |
| --- | --- |
| Use Case Title | Profile Management |
| Use Case ID | 03 |
| Actors | User, Admin |
| Description | The site admin and user can manage their own profile information. |
| Pre Conditions | The user must be logged in to access their profile screen. |
| Actions | * Login and navigate to the profile page. * Updated the desired field information. * Submit the form. |
| Post Condition | The user profile will be updated. |
| Exceptions | The actor will see the validation error if required field values will not be provided. |
| Author | BC170404562 |
| Modification History | 1.0.0 |
| Modification Date |  |

|  |  |
| --- | --- |
| Use Case Title | User Management |
| Use Case ID | 04 |
| Actors | Admin |
| Description | The site admin can create new users and edit or delete existing users from their own dashboard user's listing screen. |
| Pre Conditions | The admin must be logged in to access the user's listing screen. |
| Actions | * Login and navigate to the users listing screen. * Fill in the form field values if want to create or edit users and then submit the form. * Click on the delete icon and confirm the popup warning to process the delete action for the selected user. |
| Post Condition | The newly created or deleted user will receive an email notification regarding the admin-processed action and the user profile will be updated if any filed value is changed. |
| Exceptions | The actor will see the validation error if required field values will not be provided. |
| Author | BC170404562 |
| Modification History | 1.0.0 |
| Modification Date |  |

|  |  |
| --- | --- |
| Use Case Title | Content Management |
| Use Case ID | 05 |
| Actors | Admin |
| Description | The site admin can create and add new destinations and update existing destination data like description, images, attractions, distance, map, etc. |
| Pre Conditions | The admin must be logged in to access the user's listing screen. |
| Actions | * Login and navigate to the destinations listing screen. * Fill in the form field values if want to create or edit a destination and also upload images, select a location on the map, and then submit the form. * Click on the delete icon and confirm the popup warning to process the delete action for the selected destination. |
| Post Condition | The newly created or deleted user will appear or disappear from the destinations listing and search. |
| Exceptions | The actor will see the validation error if required field values will not be filled in the create or edit form. |
| Author | BC170404562 |
| Modification History | 1.0.0 |
| Modification Date |  |

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| --- | --- |
| Use Case Title | Trip Management |
| Use Case ID | 06 |
| Actors | Admin |
| Description | The site admin can access the user's created and planned trips and will be able to verify the trips after reviewing and resolving conflicts or provide assistance and recommendations if needed. |
| Pre Conditions | The admin must be logged in to access the trips listing and management screen. |
| Actions | * Login and navigate to the trips listing screen. * Review the user-planned trip details. * Verify the trip planning if the admin does not find any conflict or issue. * Resolve conflicts and issues if detected during the review. * Provide assistance or recommendations regarding the selected accommodation. |
| Post Condition | The user will receive email notifications upon the planned trip review completion with detailed information if the trip was planned with conflicts and issues. |
| Exceptions | The actor will see the validation error if required field values will not be filled in the create or edit form. |
| Author | BC170404562 |
| Modification History | 1.0.0 |
| Modification Date |  |

|  |  |
| --- | --- |
| Use Case Title | Accommodation Management |
| Use Case ID | 07 |
| Actors | Admin |
| Description | The site admin will be able to integrate the 3rd party accommodation APIs so that users can search and book suitable and affordable accommodation during the checkout.  The site admin will charge the app services fee along with the actual accommodation and therefore admin will be responsible for resolving any dispute and refund. |
| Pre Conditions | The admin must integrate the 3rd party accommodation APIs and enable these APIs on the site so that the user can access the trips listing and management screen. |
| Actions | * The site admin will be able to integrate 3rd party accommodation APIs on the app. * The site admin will charge the app fee along with the actual accommodation fee. * The app will auto-pay and reserve the user-selected accommodation when the order is created by the user on the app. |
| Post Condition | The site admin will receive email notifications upon the cancelation of reserved accommodation. |
| Exceptions | Nothing |
| Author | BC170404562 |
| Modification History | 1.0.0 |
| Modification Date |  |

|  |  |
| --- | --- |
| Use Case Title | Notification Management |
| Use Case ID | 08 |
| Actors | Admin, User |
| Description | The admin will be able to set the email notifications subject and content and the user and admin both will receive email notifications on different events. |
| Pre Conditions | The actor must be logged in to access the notifications management screen. |
| Actions | * The admin will be able to navigate to the email notifications listing screen. * The admin will be required to set up the email notification subject and body content and submit the form. |
| Post Condition | The app will send email notifications along with the admin-provided subject and content on the specified event to the user and sometimes to the admin as well for specific events. |
| Exceptions | Nothing |
| Author | BC170404562 |
| Modification History | 1.0.0 |
| Modification Date |  |

|  |  |
| --- | --- |
| Use Case Title | Trip Planning |
| Use Case ID | 09 |
| Actors | User, Admin |
| Description | The user will be able to create and manage trips for different purposes like vacations, businesses, adventures, etc. and the user will the trip invoice to the admin including all bookings plus the app fee. |
| Pre Conditions | The user must be logged in to access the trip management screen. |
| Actions | * Navigate to the trips listing screen. * Fill the form with at least the required fields if want to create or edit a trip and then submit the form. * Pay the trip invoice to the admin by using a debit or credit card. * Click on the delete icon and confirm the popup warning to process the delete action for the selected trip. |
| Post Condition | The admin will receive an email notification regarding the pending review of a recently created or updated trip by the user. |
| Exceptions | The actor will see the validation error if required field values will not be provided. |
| Author | BC170404562 |
| Modification History | 1.0.0 |
| Modification Date |  |

|  |  |
| --- | --- |
| Use Case Title | Destination Information |
| Use Case ID | 10 |
| Actors | User |
| Description | The user will be able to search destination by typing relevant keywords in the destination search and will see the matched records. |
| Pre Conditions | The user must be logged in to access the trip's destination search screen. |
| Actions | * Navigate to the destination search screen. * Type keywords in the search bar and wait for the result processing. * The search result will be displayed with the necessary summary in the grid format and will have paginations. * The view detail button will open a popup and display the destination's detailed information like title, description, images, climate, local culture, popular attractions, etc. * The destination will also show route plans, GPS coordinates, Directions, etc. * The destination Real-time weather updates will be displayed on the destination detail screen and also on the trip edit screen along with forecasts for the trip duration after associating the destination with the trip. * The user will be able to associate the destination with the created trip that is already not associated with the destination. |
| Post Condition | The user will be able to associate the destination with the trip. |
| Exceptions | The actor will see the no data found message if the desired keyword search result is not found in the app database. |
| Author | BC170404562 |
| Modification History | 1.0.0 |
| Modification Date |  |

|  |  |
| --- | --- |
| Use Case Title | Accommodation Booking |
| Use Case ID | 11 |
| Actors | User |
| Description | The user will be able to search for desired accommodation and hotel from the accommodation search screen and will pay for the selected accommodation and hotel along with the app fee. |
| Pre Conditions | The user must be logged in to access the accommodation search screen. |
| Actions | * Navigate to the accommodation search screen. * Type keywords in the search bar and wait for the result processing. * The search result will be displayed with the necessary summary in the grid format and will have paginations. * The view detail button will open a popup and display the accommodation's detailed information like title, description, options, availability, etc. * The user will be able to associate the accommodation with the created trip that is already not associated with the accommodation. |
| Post Condition | The user will receive an accommodation booking confirmation email from the app when the selected accommodation is booked for the associated trip. |
| Exceptions | The actor will see the no data found message if the desired keywords search result is not found in the 3rd party APIs. |
| Author | BC170404562 |
| Modification History | 1.0.0 |
| Modification Date |  |

|  |  |
| --- | --- |
| Use Case Title | Reviews and Ratings |
| Use Case ID | 12 |
| Actors | User |
| Description | The user will be able to add reviews and ratings for accommodations, attractions, and restaurants and will also be able to view the other user's added reviews and ratings on the destination and accommodation on their details screens. |
| Pre Conditions | The user must be logged in to access add or view reviews and ratings. |
| Actions | * Navigate to the destination or accommodation details screen. * The user will see other users' added reviews and ratings. * The user will be able to add their review by writing a comment and will also be able to give it ratings. |
| Post Condition | The user will see their own added review and rating on the destination and accommodation details screens. |
| Exceptions | The actor will see the validation error if detected in the form submission. |
| Author | BC170404562 |
| Modification History | 1.0.0 |
| Modification Date |  |

**Adopted Methodology:**

“Methodology is a framework that is used to structure, plan and control the process of developing an information system”.

The Vu process model is a combination of the waterfall and spiral model.

**5.1. Waterfall Model:**

The waterfall model is a fast process model to be introduced. This model is also known as linear sequential or classic life cycle model.

This model is depicted in the following diagram.

System Requirements

System and software Design

Operating and Maintenance

Integration and system testing

Implementation and unit testing

It consists of five stages:

1. System Requirements:

In this stage, the system services, constraints, and goals are established by consolation with system users. It is defined in detail and serves as a system specification.

1. System and Software Design:

In this stage, we will conceptualize the overall system architecture.in the design phase involves fundamental system abstraction and their relationships.

1. Implementation and Unit testing:

In this stage, the software design is realized as a set of programs or program units. In unit testing, we will verify that each unit must meet its specifications.

1. Integration and system testing:

In this stage, the system's individual program units or programs are integrated and tested to the complete system that ensures software requirements have been met. After testing, the software system was developed for the customer.

1. Operating and Maintenance:

In this stage, this is the longest phase of the software life cycle. Maintenance means correcting errors that were not discovered in earlier stages of development.

**5.2. VU Process Model:**

It is a combination of the waterfall model and the spiral model. It is also called the Hybrid approach of system development. It has five phases which are gathering and analyzing requirements, planning, analysis and design, development, and implementation. in the requirement phase goals services and constraints are established after a discussion with the user. It also maximizes the quality of the system and minimizes any risks and errors.

GATHERING & ANALYZING REQUIREMENTS

PLANNING PHASE

ANALYSIS AND DESIGN PHASE (Design Document I)

ANALYSIS AND DESIGN PHASE (Design Document II)

DEVELOPMENT PHASE

FINAL DELIVERABLE

**5.3. Reason for choosing the vu process Model:**

1. The main idea to choose is to get the benefits of both these models.
2. It is a sequential model with backward repetition.
3. We want to achieve the linear nature of waterfall and iterative plus risk reduction nature of the spiral model.
4. In the vu process model we will be working in phases to complete the given project.
5. All the activities are performed in a sequence in the VU Process Model.

**Work Plan (Use MS Project to create Schedule/Work Plan)**

The work plan is a document that consulting firms use to organize a project.

