

Portalgen: Requirement Specification

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- Portalgen is a **personalized travel itinerary generation platform** designed to simplify the travel planning process and provide tailored recommendations to users based on their preferences and interests.
- With Portalgen, users can
 - Discover exciting destinations
 - Find accommodations, activities, and attractions
 - Create customised travel itineraries that match their unique travel styles and preferences.

@ Project Overview

Portalgen is a travel itinerary platform developed to simplify trip planning for users by offering personalized recommendations based on their preferences. This project aligns with our organization's strategic goals of enhancing user experience and engagement. By providing a user-centric solution for travel planning, Portalgen aims to increase user satisfaction and loyalty, ultimately contributing to the growth and success of our organization in the travel industry.

Goals

The goals of this project is to create a solution that:

- Provide personalized travel recommendations based on user preferences and interests.
- Simplify trip planning by offering tailored itineraries with accommodation, activities, and attractions.
- Enhance user experience by enabling easy exploration of destinations and attractions.
- Facilitate user engagement through features such as reviews, ratings, and saved itineraries.

• Improve user satisfaction by delivering relevant recommendations and seamless booking experiences.

Scopes

Scope	Description
User Interface Development	Designing intuitive interfaces for web and mobile applications.
Backend Development	Building infrastructure for database management, API integration, and server-side logic.
Data Acquisition and Integration	Collecting and integrating data from various sources like destinations, accommodations, and activities.
Recommendation System Implementation	Implementing a system to generate personalized travel recommendations based on user preferences and interactions.
Trip Planning Functionality	Developing features for users to create, customize, and save travel itineraries.
User Engagement Features	Implementing features like reviews, ratings, social sharing, and community interaction to enhance user engagement.
Quality Assurance and Testing	Conducting thorough testing processes to ensure platform reliability, security, and usability.
Deployment and Maintenance	Deploying to production environments and providing ongoing maintenance and support for stability and performance.
Documentation and Training	Creating user guides and training materials for effective platform navigation and internal staff training.
Compliance and Security	Ensuring compliance with regulations and implementing robust security measures to protect user data and privacy.

Problem Domain

Pain Points

- Data Integration Challenges: Integrating data from various sources may pose difficulties due to inconsistencies, formats, and quality issues.
- Recommendation Accuracy: Ensuring the recommendation system accurately predicts user preferences and delivers relevant suggestions can be challenging.
- **User Engagement**: Encouraging consistent user engagement and interaction with the platform may require strategies to incentivize participation.
- **Technical Complexity**: Managing the technical complexity of backend infrastructure, API integration, and system scalability can be demanding.
- **Privacy and Security Concerns**: Addressing privacy and security concerns to safeguard user data and comply with regulations is crucial but can be challenging.

Domain Entities

- User: Individuals utilizing Portalgen with profiles containing personal info, preferences, and past trips.
- Destination: Specific places like cities or landmarks users can visit.
- Accommodation: Lodging options such as hotels or vacation rentals.
- Activity: Experiences like tours or recreational activities at destinations.
- Itinerary: Detailed plans outlining trip activities and accommodations.
- · Review: Feedback from users about destinations, accommodations, or activities.
- Itinerary Rating: User-provided evaluations indicating satisfaction levels about the suggested itineraries.
- Recommendation: Suggestions aiding trip planning based on user preferences.

Actors

- User: Individuals who interact with the Portalgen platform to plan, book, and review travel experiences.
- Administrator: Administrative users responsible for managing the platform, including user accounts, content moderation, and system configuration.
- · Activity Provider: Entities offering activities and experiences for travelers, able to list services, manage bookings, and availability.
- Accommodation Provider: Lodging establishments like hotels or vacation rentals, able to list properties, manage bookings, and
 availability.
- Review Contributor: Users who contribute reviews and ratings for destinations, accommodations, and activities to help others make informed decisions.

Tasks

- 1. Create a Profile: Users can register and create their profiles on the platform.
- 2. Understand Travel Preference: Users can understand their own travel preference by answering from questionnaire.
- 3. Explore Destinations: Users can search and browse through various destinations available on the platform.
- 4. View Accommodations: Users can browse different lodging options available at their chosen destinations.
- 5. Discover Activities: Users can explore and find various activities and experiences to do at their chosen destinations.
- 6. Plan Itinerary: Users can create, customize, and save travel itineraries based on their preferences and interests.
- 7. Share Itineraries: Users can share their travel itineraries with friends and family or on social media platforms.
- 8. Save Favorites: Users can save their favorite destinations, accommodations, and activities for future reference.
- 9. **Connect with Community:** Users can interact with other users, join discussions, and share tips and recommendations with the community.

Functional Requirements and Task Descriptions

Functional Requirements

Requirement	User Story	Importance	Jira Issue	Notes
User Authentication	As a user, I want to be able to create an account and log in to access the Portalgen platform.	нісн		
Destination Search	As a traveler, I want to search for destinations	MEDIUM		

	based on my preferences and interests.	
Activity Exploration	As a traveler, I want to explore various activities and experiences available at my chosen destinations.	MEDIUM
Itinerary Creation	As a user, I want to create and customize travel itineraries based on my preferences and interests.	HIGH
Itinerary Sharing	As a user, I want to share my travel itineraries with friends, family, or travel companions.	LOW
Community Engagement	As a user, I want to connect with other travelers, share tips and recommendations, and participate in discussions.	LOW
Favorites Management	As a user, I want to save my favorite destinations, accommodations, and activities for future reference.	LOW

Task 1: Create a Profile

Purpose	Allow users to register and establish their profiles on the Portalgen platform.
Trigger/Condition	User accesses the Portalgen platform for the first time or desires to create a new profile.
Frequency	Occurs whenever a new user joins the platform or an existing user wishes to update their profile.
Critical	High, as it's the initial step for users to access and utilize the platform's features.
Work Area	User interface and backend systems responsible for managing user accounts and profiles.
Subtasks	Example Solution
1. Provide registration	
2. Verify user email	
3. Collection user information	
Variants	
Social media login: Allow users to register using existing social media accounts for convenience.	

- *Multi-step registration*: Break down registration process into multiple steps for user convenience.
- Optional fields: Provide optionality for certain profile fields to streamline the registration process.

Task 2: Understand Travel Preference

Purpose	To provide personalized recommendations and itineraries that match users' preferences.
Trigger/Condition	Users express their preferences or interests through interactions with the platform, such as providing input during profile creation, searching for destinations, or engaging with recommendation features.
Frequency	Occurs throughout the user journey as users interact with the platform, update their preferences, or seek travel recommendations.
Critical	High, as accurately identifying user preferences is crucial for delivering relevant and valuable recommendations.
Work Area	User interface, backend systems, and recommendation algorithms responsible for collecting, analyzing, and utilizing user preference data to generate personalized travel recommendations.
Subtasks	Example Solution
1. Collect user preferences	Use questions to find out the user preferences
2. Analyze user preferences	USe theses answers to label them downs to groups using K- mean(clustering model)
3. Update user profiles	May show them part of labels as achievement(May use NLP models on this)
Variants	
 Explicit preferences: Users directly specify their preferences through profile settings or preference questionnaires. Implicit preferences: User preferences are inferred from past interactions, search history, and behavior patterns on the platform. Dynamic preferences: Preferences may evolve over time based on user experiences and feedback, requiring continuous monitoring and adjustment. 	

Task 3: Explore Destinations

Purpose	To empower users to discover and explore a wide range of destinations
Trigger/Condition	Users access the Portalgen platform and navigate to the destination exploration section, either through the homepage, navigation menu, or search bar.
Frequency	Occurs whenever users wish to research or plan a trip, explore new destinations, or gather information about potential travel destinations of interest.
Critical	High, as providing users with comprehensive and accessible destination exploration capabilities is essential for facilitating informed decision-making and enhancing user engagement with the platform.
Work Area	User interface design, backend systems for destination data management and retrieval, search functionality, and recommendation algorithms for suggesting relevant destinations.
Subtasks	Example Solution
1. Display destinations	Present a curated list of destinations, including cities, landmarks, attractions, and points of interest, on the platform.
2. Provide search functionality	Implement search features that allow users to search for specific destinations by name, location, or category.
3. Offer filtering options	Enable users to filter destinations based on criteria such as location, popularity, activities, and user ratings.
4. Present detailed destination information	Provide comprehensive information about each destination, including descriptions, photos, maps, user reviews, and relevant travel tips.
5. Facilitate exploration	Design intuitive navigation and browsing features that enable users to explore destinations seamlessly and efficiently.
6. Support interaction	Allow users to interact with destination listings, save favorites, share recommendations, and access additional resources or booking options.
Variants	
 Popular destinations: Highlight trending or popular destinations based on user preferences, seasonality, or current travel trends. Nearby destinations: Offer suggestions for nearby or neighboring destinations to encourage exploration and discovery. 	

- Featured destinations: Showcase featured or recommended destinations curated by the Portalgen team or based on user engagement and feedback.
- Customized recommendations: Provide personalized destination recommendations tailored to users' preferences, interests, and past travel experiences.

Task 4: View Accommodations

Purpose	To allow users to research, compare, and select accommodations that meet their needs and preferences when planning their trips on the Portalgen platform.
Trigger/Condition	Users access the accommodation section of the Portalgen platform after selecting a destination or conducting a search for lodging options.
Frequency	Occurs whenever users are in the process of planning a trip, researching accommodations, or considering booking options for their selected destinations.
Critical	High, as providing users with access to comprehensive and accurate information about accommodations is essential for facilitating informed decision-making and ensuring a positive travel experience.
Work Area	User interface design, backend systems for accommodation data management and retrieval, search functionality, and integration with booking platforms or accommodation providers.
Subtasks	Example Solution
Display accommodation listings	When clicking on a location or search a location on maps
2. Provide filtering and sorting options	
3. Present detailed accommodation information	
4. Facilitate exploration and comparison	
5. Support interaction	
6. Ensure accuracy and reliability	
Variants	
Special deals and promotions: Highlight special deals, discounts, or promotions offered by accommodation providers to attract users' attention and encourage bookings.	

- Recommended accommodations: Showcase recommended or featured accommodations based on user preferences, popularity, ratings, or special partnerships with Portalgen.
- Alternative accommodation options: Offer alternative accommodation options such as bed and breakfasts, boutique hotels, hostels, or homestays to cater to diverse user preferences and budgets.

Task 5: Discover Activities

Purpose	To allow users to research, explore, and discover a wide range of activities and experiences available at their selected destinations, enhancing their travel planning and enriching their overall travel experience on the Portalgen platform.
Trigger/Condition	Users access the activities section of the Portalgen platform after selecting a destination or conducting a search for activity options.
Frequency	Occurs whenever users are planning a trip, seeking entertainment or recreational options, or looking for cultural experiences and dining opportunities at their chosen destinations.
Critical	High, as providing users with access to comprehensive and accurate information about activities and experiences is essential for facilitating informed decision-making and ensuring a memorable and fulfilling travel experience.
Work Area	User interface design, backend systems for activity data management and retrieval, search functionality, and integration with activity providers or booking platforms.
Subtasks	Example Solution
1. Display activity listings	Present a curated list of activities and experiences available at the selected destination, including tours, excursions, recreational activities, cultural experiences, dining options, and more.
2. Provide filtering and sorting options	Enable users to filter activities based on criteria such as category, duration, price, availability dates, ratings, and reviews.
3. Present detailed activity information	Display comprehensive details for each activity listing, including descriptions, photos, itinerary details, pricing, availability schedules, user reviews, and ratings.
4. Facilitate exploration and discovery	Design intuitive navigation and browsing features that allow users to explore activities, discover new

	experiences, and learn about popular attractions and local highlights.
5. Support interaction	Allow users to interact with activity listings, save favorites, view availability schedules, check pricing and availability, read reviews, and access booking options.
6. Ensure accuracy and reliability	Ensure that activity information is up-to-date, accurate, and reliable, and provide mechanisms for users to report inaccuracies or issues.
Variants	
 Popular activities and experiences: Highlight trending or popular activities and experiences based on user preferences, seasonality, or current travel trends. Featured tours and excursions: Showcase featured or recommended tours, excursions, or cultural experiences curated by the Portalgen team or based on user engagement and feedback. Special events and festivals: Promote special events, festivals, or cultural celebrations happening at the destination to provide users with unique and memorable travel experiences. 	

Task 6: Plan Itinerary

Purpose	To allow users to plan and organize their trips effectively by creating personalized itineraries tailored to their interests, preferences, and schedules on the Portalgen platform.
Trigger/Condition	Users access the itinerary planning feature of the Portalgen platform after selecting destinations, accommodations, and activities for their trip.
Frequency	Occurs whenever users are planning a trip, organizing their travel schedule, or seeking to optimize their itinerary based on their preferences and interests.
Critical	High, as providing users with the ability to create customized travel itineraries is essential for facilitating trip planning, optimizing travel experiences, and ensuring user satisfaction and engagement with the platform.
Work Area	User interface design, backend systems for itinerary management and storage, interactive itinerary builder functionality, integration with destination, accommodation, and activity data.

Subtasks	Example Solution
1. Select destinations	Allow users to choose destinations they wish to visit and include them in their itinerary.
2. Choose accommodations	Enable users to select accommodations such as hotels, resorts, or vacation rentals for their stay at each destination.
3. Add activities and experiences	Allow users to browse and select activities, tours, excursions, dining options, and other experiences to include in their itinerary.
4. Specify dates and durations:	Enable users to specify dates, times, and durations for each activity or experience included in their itinerary.
5. Customize itinerary details	Allow users to customize itinerary details such as activity descriptions, notes, transportation details, and meal plans.
6. Organize itinerary schedule	Provide tools for users to organize and arrange their itinerary schedule, including drag-and-drop functionality, timeline view, and day-by-day breakdown.
7. Save and share itinerary	Allow users to save their completed itinerary, assign a name or title, and share it with friends, family, or travel companions.
Variants	
 Pre-built itineraries: Offer pre-built or suggested itineraries curated by travel experts or based on popular travel themes, destinations, or interests. Collaborative itinerary planning: Enable users to collaborate on itinerary planning with travel companions or share access to their itinerary for joint editing and coordination. Integration with calendar apps: Provide integration with external calendar apps to sync itinerary details and travel plans seamlessly with users' personal calendars. 	

Task 7: Share Itineraries

Purpose	To allow users to easily share their travel itineraries with others, including friends, family, and social media contacts, to coordinate travel plans, invite participation, and share experiences on the Portalgen platform.
Trigger/Condition	Users access the itinerary sharing feature of the Portalgen platform after completing and saving their travel itineraries.

Frequency	Occurs whenever users wish to share their travel plans with others, coordinate travel arrangements with companions, or showcase their travel experiences on social media platforms.
Critical	Moderate to high, as providing users with the ability to share their itineraries enhances communication, collaboration, and engagement among travel companions, as well as promotes user-generated content and social sharing on the platform.
Work Area	User interface design, backend systems for itinerary sharing functionality, integration with social media platforms, email sharing options.
Subtasks	Example Solution
1. Select sharing options	Allow users to choose sharing options such as sharing via email, social media platforms (e.g., Facebook, Twitter), or generating a unique sharing link.
2. Customize sharing message	Enable users to personalize the sharing message or description accompanying their itinerary when sharing it with others.
3. Share with specific contacts	Allow users to share their itinerary directly with specific contacts, such as friends, family, or travel companions, by entering their email addresses or selecting from their contact list.
4. Share on social media	Provide integration with social media platforms to allow users to share their itinerary directly on their social media profiles or feeds.
5. Generate sharing link	Generate a unique sharing link for the itinerary that users can copy and share with others via messaging apps, email, or other communication channels.
Variants	
 Privacy settings: Offer privacy settings to allow users to control who can view or access their shared itineraries, such as making it public, private, or accessible only to specific users or groups. Collaboration features: Enable collaborative itinerary sharing, where multiple users can view, edit, or contribute to a shared itinerary in real-time, facilitating joint trip planning and coordination among travel companions. 	

Task 8: Save Favourites

Purpose	To allow users to save and organize their preferred
	destinations, accommodations, and activities on the

	Portalgen platform, facilitating future trip planning and enhancing user engagement and satisfaction.
Trigger/Condition	Users access the favorite saving feature of the Portalgen platform while browsing through destinations, accommodations, or activities and find options they wish to save for future reference.
Frequency	Occurs whenever users come across destinations, accommodations, or activities they are interested in and wish to save them for future reference or trip planning.
Critical	Moderate, as providing users with the ability to save favorites enhances user experience and engagement by allowing them to personalize their travel preferences and streamline future trip planning activities.
Work Area	User interface design, backend systems for favorite saving functionality, database management for storing user preferences, integration with destination, accommodation, and activity data.
Subtasks	Example Solution
1. Mark favorites	Allow users to mark specific destinations, accommodations, or activities as favorites by clicking on a "save" or "favorite" button/icon associated with each option.
2. View favorites list	Provide users with a dedicated section or page where they can view and manage their saved favorites, organized by categories such as destinations, accommodations, and activities.
3. Organize favorites	Allow users to organize their saved favorites into folders, lists, or tags to categorize and group similar options for easier reference and management.
4. Edit and remove favorites	Enable users to edit or remove items from their favorites list, allowing them to update their preferences or remove outdated or no longer relevant options.
5. Access saved favorites	Ensure users can access their saved favorites from any device or platform where they use the Portalgen platform, providing a seamless and consistent experience across devices.
Variants	
Sharing favorites: Offer options for users to share their saved favorites with others, such as friends, family, or travel companions, to recommend or suggest travel options.	

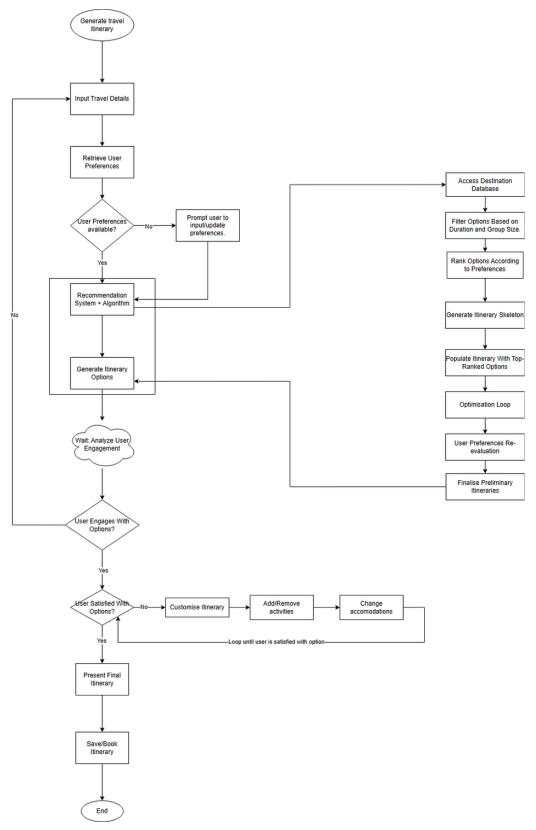
 Collaboration features: Enable collaborative favorite saving, where multiple users can share and contribute to a shared list of favorites, facilitating group trip planning and coordination among travel companions.

Task 9: Connect with Community

To provide users with a platform to connect, engage, and interact with other travelers, share valuable insights and experiences, seek advice and recommendations, and contribute to a vibrant and supportive travel community on the Portalgen platform.
Users access the community engagement features of the Portalgen platform, such as discussion forums, user-generated content sections, or social sharing features, to connect with the community and participate in community-oriented activities.
Occurs whenever users wish to seek information, share experiences, or engage with other travelers on the Portalgen platform, either during trip planning or after their travel experiences.
Moderate to high, as providing users with the ability to connect with the community enhances user engagement and satisfaction, fosters a sense of belonging and camaraderie, and enriches the overall travel planning and experience-sharing process.
User interface design, backend systems for community engagement functionality, moderation tools for managing user-generated content, integration with social sharing platforms and discussion forums.
Example Solution
Allow users to join ongoing discussions, post questions, share experiences, and contribute insights and advice on topics related to travel destinations, accommodations, activities, and experiences.
Enable users to share travel tips, recommendations, and insights with the community, including hidden gems, local favorites, must-visit attractions, and off-the-beaten-path experiences.
Provide users with tools to create and share user- generated content such as travel stories, photo albums, travel guides, and trip reports with the community.

4. Follow and connect with other users:	Allow users to follow other users, connect with fellow travelers, and build connections and friendships within the community.
5. Like, comment, and share user-generated content	Enable users to engage with user-generated content by liking, commenting on, and sharing posts, photos, and stories shared by other users.
6. Receive notifications and updates	Notify users about new community activities, responses to their posts or comments, and updates from users they follow to keep them engaged and informed.
Variants	
 Expert Q&A sessions: Organize expert-led Q&A sessions or AMA (Ask Me Anything) sessions where users can ask questions and receive expert advice and insights on various travel-related topics. Travel groups and meetups: Facilitate the formation of travel groups and organize offline meetups or virtual events where users can connect with like-minded travelers, share experiences, and plan future trips together. Featured content and influencers: Highlight featured user-generated content and travel influencers to showcase inspiring stories, tips, and recommendations and encourage community engagement and participation. 	

Workflow



Flowchart of how to generate travel iternary options.

Data Model

Quality Attributes

- **Reliability:** The system should work smoothly without breaking down, so users can trust it to give them the right information and not crash unexpectedly.
- **Usability:** The website should be easy for anyone to use, with clear buttons and menus so people can find what they need without getting confused.
- **Performance:** The website should be fast, loading pages quickly and responding to clicks right away, even when lots of people are using it at the same time.
- Security: Users' personal information should be safe from hackers, with strong passwords and encryption to keep it private.
- · Scalability: The website should be able to handle more users as it gets popular, without slowing down or crashing.

Validation of Requirements

Possible Solutions

User interaction and design

Figma Link: TripTailor Design

Wireframe

Travel Itineraries

Map
-show content based on the current travel itinerary.
-When clicking onto places, open modal

web-wireframe-main-1-v0.1

Search bar (destination, filter anything here)

Travel Itineraries search result

(as limited space, just display feature content of travel itineraries)

navigation menu

mobile-wireframe-main-1-v0.1

Travel itinerary

map -drag down or up

mobile-wireframe-main-2-v0.1

Open Questions

Question Answer Date Answered

▲ Out of Scope

• Social Media Platform