

Lab 2 – WiseTraveler Product Specification

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1 Introduction

Travelers often search multiple sources for information, leaving them with insufficient research on their destination. This lack of knowledge can expose them to law, safety, and health risks, which can diminish their trip enjoyment. They may also encounter challenges like crime, unsafe water, poor sanitation, along with language barriers and cultural differences that make finding help difficult. As a result, many stick to crowded, well-known spots or fall into tourist traps due to uncertainty about where to explore. Travelers currently must check multiple sources to find complete information relating to their destination. Detailed information about local customs and cultures is often omitted by popular travel guides, yet “75% (of travelers) seek authentic experiences that are representative of the local culture.” Some countries have unfamiliar laws that travelers may not be aware of. Certain travel destinations are prone to having crime targeting tourists and travelers. Travelers are unaware of illness and pest issues. About 89% of Americans have visited a tourist trap more than once in the past two years.

1.1 Purpose

The purpose of this Software Requirements Specification (SRS) is to clearly define the functional and non-functional requirements for the WiseTraveler product. This document will serve as a comprehensive guide to all stakeholders, including developers and project managers. It will outline what the product aims to accomplish to meet the needs of its intended users.

The SRS aims to establish a shared understanding of the product’s objectives, scope, and core functions. These include the integration of AI-powered trip planning tools, consolidation of essential travel information, real-time safety and health alerts, and personalized travel recommendations. The SRS also captures the requirements related to user experience, such as the

ability to explore lesser-known destinations, learn about local customs, and access community-shared travel tips and reviews.

Additionally, this specification clarifies the product's limitations, such as the exclusion of online booking functions, and identifies the intended user base, who are travelers seeking a centralized, informative platform for planning culturally rich and safe travel experiences. By documenting these requirements, the SRS ensures that the WiseTraveler product is developed in alignment with user needs and project goals by promoting efficient communication and consistent implementation throughout its development lifespan.

1.2 Scope

The WiseTraveler product will assist users in travel planning by providing quick and reliable information about destinations, their local laws and customs, health and safety regulations, and any information about lesser-known spots to promote a unique and authentic experience.

The product will allow users to search for nearby activities at their destination to plan their trip on a day-to-day basis. Users can refer to local restaurant ratings to see what other users recommend such as locations and menu options.

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1.3 Definitions, Acronyms, and Abbreviations

Centralized Platform: A single location within WiseTraveler where all essential travel information is consolidated, minimizing the need to access multiple sources.

Cultural Insensitivity: Risks of disrespectful behavior due to unfamiliarity with local customs; WiseTraveler includes guidance to ensure culturally sensitive travel experiences.

Cultural Understanding: Information on local customs, traditions, and etiquette to foster respectful and immersive travel experiences.

Data Aggregation Algorithm: Collects and integrates travel data from multiple sources, including third-party APIs.

Database Schema: The structured framework of data organization within WiseTraveler, including tables for users, locations, trips, events, and reviews, facilitating efficient data management.

Hidden Gems: Lesser-known attractions, destinations, and experiences that provide an authentic and unique insight into the culture and environment of a location.

Itinerary Optimization: WiseTraveler's feature for organizing and scheduling destinations efficiently based on proximity and travel times, enhancing trip convenience.

Itinerary Optimization Algorithm: Arranges locations by travel proximity and schedules them efficiently.

Legal Assistance: WiseTraveler does not offer legal advice or representation; travelers are encouraged to seek professional legal help if needed.

Legal Issues: Potential liability risks WiseTraveler may face if users rely on the app's advice and encounter problems such as illness or injury.

Local Laws: Rules and regulations specific to a destination that may differ from those in travelers' home countries. WiseTraveler includes quick guides on local laws to help travelers avoid legal issues abroad.

Location Recommendation Algorithm: A feature to suggest destinations or spots based on user interests and travel history.

Medical Service: WiseTraveler does not provide medical care or advice; travelers are directed to local healthcare providers for medical issues.

Misinformation: Incorrect or outdated information, which WiseTraveler aims to mitigate by regularly updating content and verifying user contributions.

Personal Health: Alerts and guidelines on health risks such as prevalent diseases or pests in specific regions, along with tips for staying healthy during travel.

Personalized Recommendations: Travel suggestions tailored to users' preferences and past selections, allowing for a more personalized and enjoyable trip.

Real-Time Emergency Assistance: WiseTraveler does not provide real-time emergency help; users are advised to contact local authorities in emergencies.

Real-Time Health and Safety Alerts: Notifications about region-specific health risks or other immediate dangers, helping travelers stay informed and safe.

Safety Concerns: Information about potential safety issues, such as high-crime areas or specific risks that travelers should be aware of when visiting new destinations.

Tourist Trap: An attraction that may be overly commercialized or lack authenticity, often with higher prices. WiseTraveler aims to help users avoid these in favor of more genuine experiences.

Trip Scheduling Algorithm: Logic that manages travel dates, allowing users to add locations to their itinerary.

User-Generated Content: Reviews, tips, and experiences shared by WiseTraveler users, enabling travelers to access authentic, community-based insights.

User Retention: The process of maintaining active users on WiseTraveler, involving regular updates and new feature releases.

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1.4 References

- Bainbridge, L. (n.d.). *How to build a location-based recommendation product for an e-commerce website*. TravelTime. <https://travelttime.com/blog/location-based-recommendation-product-e-commerce>
- Booking.com. (2023, June 14). *2023 Sustainable Travel Report*.
<https://globalnews.booking.com/bookingcoms-2023-sustainable-travel-report-reveals-travelers-feel-destined-to-make-more-sustainable-choices/>
- Centers for Disease Control and Prevention. (2022, November 30). *Survival guide to safe and healthy travel*. <https://www.cdc.gov/travel/page/survival-guide>
- Centers for Disease Control and Prevention. (n.d.). *Your survival guide to safe and healthy travel*. <https://wwwnc.cdc.gov/travel/page/survival-guide>
- Davies, W. (n.d.). 10 useful international travel tips for first-time travelers. *GoOverseas*.
<https://www.gooverseas.com/blog/best-international-travel-tips-for-first-time-travelers>
- Febrianto, E. (2023, August 31). *Building a personal travel route optimizer: A technical odyssey*. Medium. <https://medium.com/@van.evanfebrianto/building-a-personal-travel-route-optimizer-a-technical-odyssey-e46b5b49a1fa>
- Johnson, J. (2022, June 9). *Security risks of traveling internationally: The five greatest safety concerns of going abroad*. Jensen Hughes. <https://www.jensenhughes.com/insights/the-five-greatest-risks-to-your-security-when-travelling-internationally>
- Kimberli, K. (2024, September 27). *The most helpful 27 tips for first time travelers*. Worldpackers. <https://www.worldpackers.com/articles/first-time-travelers>
- Lehner, V. (2024). *Safety & security overseas*. In *CDC Yellow Book 2024: Health information for international travel*. Oxford University Press.

<https://wwwnc.cdc.gov/travel/yellowbook/2024/environmental-hazards-risks/safety-and-security-overseas>

Lisa, A. (2020, January 14). *Strange laws to be aware of in the most popular countries for tourists*. Stacker. <https://www.stacker.com/travel/strange-laws-be-aware-most-popular-countries-tourists>

Merkel, B., et al. (2016, November 18). A probabilistic algorithm to process geolocation data. *Movement Ecology*, 4(1).

<https://movementecologyjournal.biomedcentral.com/articles/10.1186/s40462-016-0091-8>

Office of Financial Management. (2024, October). *Travel alerts*.

<https://www.commerce.gov/ofm/offices/office-financial-reporting-policy-internal-controls-and-travel/travel-management/travel-alerts>

Ortiz, S. (n.d.). *The best travel agent is an AI algorithm*. ZDNet.

<https://www.zdnet.com/article/the-best-travel-agent-is-an-ai-algorithm/>

PennState Global. (2024, June). *Travel & safety tips to know before you go*.

<https://global.psu.edu/article/travel-safety-tips-know-you-go>

Statista Research Department. (2024, June 11). *Number of United States residents travelling overseas from 2002 to 2023*. [https://www.statista.com/statistics/214774/number-of-outbound-](https://www.statista.com/statistics/214774/number-of-outbound-tourists-from-the-us/)

[tourists-from-the-us/](https://www.statista.com/statistics/214774/number-of-outbound-tourists-from-the-us/)

Swanson, M. (2023, July 27). *This is how much time travelers spend researching before booking*

a trip. TravelWires. <https://www.travelwires.com/this-is-how-much-time-travelers-spend-researching-before-booking-a-trip>

Travel.State.Gov. (2024, February 29). *Best practices for traveler safety*.

<https://travel.state.gov/content/travel/en/international-travel/before-you-go/about-our-new-products/Best-Practices-for-Traveler-Safety.html>

U.S. Department of State - Bureau of Consular Affairs. (n.d.). *Travel advisories*.

<https://www.travel.state.gov/content/travel/en/traveladvisories/traveladvisories.html/>

UN Tourism. (n.d.). *UN Tourism: Bringing the world closer*. <https://www.unwto.org/un-tourism-world-tourism-barometer-data>

Turner, M. (2019, September 17). Stats: 53% of U.S. adults say cultural immersion essential to travel. *Travel Agent Central*. <https://www.travelagentcentral.com/your-business/stats-53-u-s-adults-say-cultural-immersion-essential-to-travel>

Woolf, M. (2024, October 15). *Falling for the hype? How to evade tourist traps [New study]*.

PhotoAiD. <https://www.photoaid.com/blog/tourist-traps/>

1.5 Overview

This product specification provides the hardware and software configuration, interfaces, and features and capabilities of the WiseTraveler product. The following sections will provide detailed descriptions of each feature and their requirements for the product's implementation.

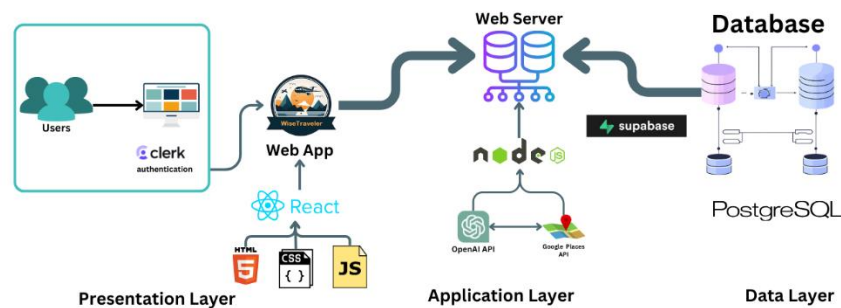
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2 Overall Description

The WiseTraveler product will be developed as a web application with a database hosted on the ODU virtual machine. It will have two interfaces; one for general users, and the other for product administrators that will maintain the product. Most of the major functionalities will be included in the prototype; however, it will differ from the real-world product by including some reduced functionality and static data.

2.1 Product Perspective

Figure 1: Major Functional Components Diagram



The presentation layer is where frontend development will take place using React for the user interfaces for users and sysadmins. HTML, JavaScript, and CSS are the languages used to build the interfaces. The application layer features backend development with a Node.js framework to implement the algorithms for each functionality. Finally, the data layer is where the

database development will take place, which utilizes PostgreSQL to store data pertaining to locations, user credentials, user preferences, reviews, etc.

2.2 Product Functions

Most of the features of the real-world product will be fully implemented in the prototype, as can be seen in Table 1. Some features will be partially functional, and one will not be implemented at all. For more information, please refer to the table below.

Table 1: Prototype vs Real World Product

	Prototype	Real World Product
User Interface	Basic, limited functionality	Full design and functionality
Data	Static data from sources	Live data from API
Calendar	This will show the date, time, and any activities that the user picked	Robust and integrated
Map	Integrated with the Google Maps API to show the user's current location and surrounding activities	Location and Travel Time
AI assistance for planning and research	Users can use the AI chatbot to assist with research	Fully functional
Safety concerns (dangerous animal sightings,	Users will be given any information to secure their safety during their travel	Fully functional

criminal activity, etc.)		
Health risks	Any health risks will be notified to the user before their arrival	Fully functional
Local customs	Local customs and laws will be notified to the user before their arrival	Fully functional
User Reviews	Users can write and view reviews and ratings about a destination, restaurants, etc.	Fully functional
Centralized information	Any information on a destination will be consolidated on the UI	Fully functional
Language translation tools	The website will have a tool to automatically translate any information for the user	Fully functional
Personalized travel recommendations	The AI chatbot will store any preferences that the user has based on their previous chats	Fully functional

2.3 User Characteristics

The WiseTraveler product is designed to serve a wide range of users with varying levels of technical proficiency, travel experience, and informational needs. The product identifies and supports the following primary user roles:

1. Casual Travelers

These users occasionally travel for leisure or holidays and seek a simplified, user-friendly interface that helps them place trips efficiently. They rely heavily on curated recommendations, safety tips, and cultural insights without needing advanced customization or technical features.

2. Frequent Travelers

Frequent travelers, who are usually business travelers, require more robust features such as real-time updates, localized alerts, and detailed itinerary planning. These users are likely to take advantage of the AI-assisted planning and personalized recommendations to optimize their trips.

3. Cultural Explorers

These users prioritize cultural experiences and are especially interested in learning about local customs, traditions, and lesser-known locations. They are likely to engage deeply with the product's map features, user-generated reviews, and event listings.

4. Safety-Conscious Users

This group of users may be visiting unfamiliar regions and are particularly concerned with health and safety. They benefit most from the platform's health alerts, crime data, emergency contacts, and tips for secure travel.

5. Tech-Savvy Planners

Users in this role may include bloggers or planners with a strong interest in AI-based tools.

They are more likely to engage with advanced features, provide feedback, and explore optimization tools such as route planning and trip comparisons.

2.4 Constraints

N/A

2.5 Assumptions and Dependencies

N/A

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