

**Lab 1 – WiseTraveler Product Description**

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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.

## **2 Product Description**

WiseTraveler is a centralized AI Travel Guide provides a hassle-free, comprehensive experience, allowing travelers to focus on the journey itself without the stress of navigating multiple sources for information. It also encourages exploration beyond mainstream tourist spots, offering unique, culturally immersive experiences while keeping travelers informed and safe.

### **2.1 Key Product Features and Capabilities**

WiseTraveler will provide users with a map for hidden travel gems, such as Sardinia in Italy or the Faroe Islands in Denmark, to discover underrated and hidden travel destinations for 2024. Users will get insights from other verified users on hidden gem destinations, as well. WiseTraveler will leverage a community of travelers who share their experiences and tips on hidden gems, ensuring that you get the most authentic and off-the-beaten-path experiences. Users will be aware of local wildlife courtesy of WiseTraveler to avoid contact with animals that may carry diseases like rabies, and cultural differences, for example, in Hawaii it is up to a \$100K fine to get close to sea turtles and touch them. WiseTraveler will inform users about the local political climate to notify them of near protest and demonstrations to avoid unwilling participation, inform users of destinations with high crime activity as well as notify them of criminal behaviors such as taking pictures of temples in Japan, and inform users if there is a pandemic in the area and will provide tips on how to avoid illnesses. Shown below in Figure 1 shows the capabilities outlining what WiseTraveler can do in comparison to other websites that use AI travel agents.

	Wise Traveler	TripAdvisor	Lonely Planet	Expedia	YouTube
AI assistance for planning and research	Yes	Yes	No	No	No
Safety Concerns (dangerous animal sightings, criminal activity, etc.)	Yes	No	Yes	No	No
Health Risks	Yes	No	Yes	No	No
Cultural Discovery	Yes	Yes	Yes	No	Yes
Local Customs	Yes	Yes	Yes	No	Yes
User Reviews	Yes	Yes	No	Yes	Yes
Centralized Information	Yes	Yes	Yes	No	No
Language translation tools	Yes	No	No	No	No
Personalized Travel Recommendations	Yes	Yes	No	No	No

Figure 1: Competition Matrix

## 2.2 Major Components (Hardware/Software)

WiseTraveler is a website designed for PCs. It will be created using HTML, JavaScript, and CSS for the frontend. The back end will use Node.js and Express.js. The databases that will be used are AWS and Amazon aurora. For testing, we will be using Jest, Mocha Chai, and Gitlab. We will also be utilizing API calls from OpenAI for our AI travel-assisting chat bot and API calls from Google Maps to create a visual geographical map for the chat bot. Shown below in Figure 2 is a representation of the function of the website with users only interacting with the presentation layer, or front end, which will be connected to the application layer which includes the web server, which pulls data from the database, as well as doing API calls from OpenAI and Google Maps.

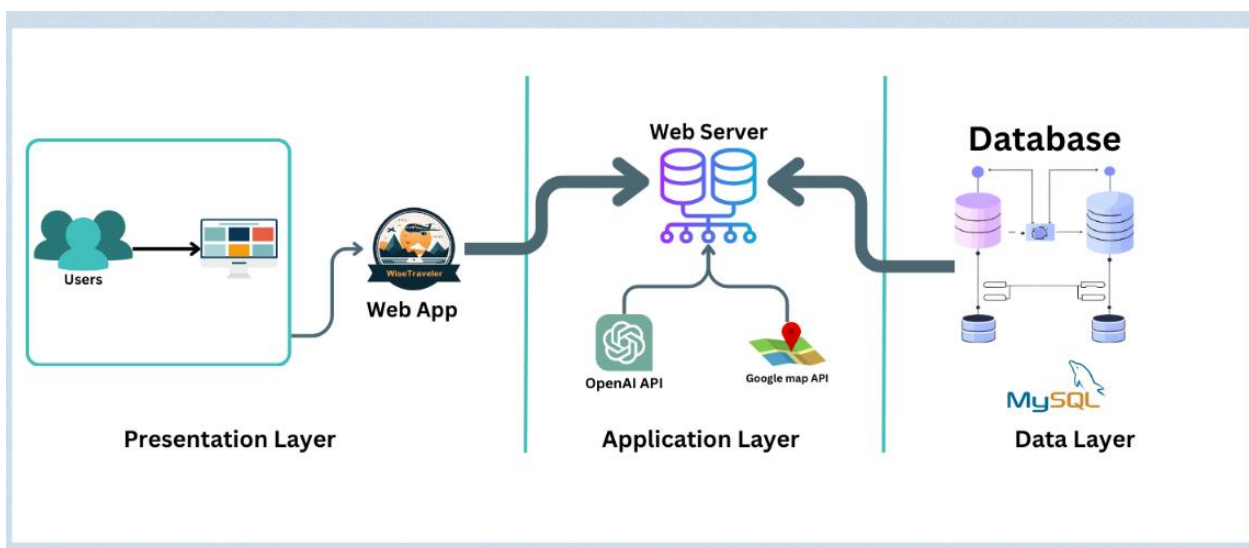


Figure 2: Major Functional Components Diagram

### 3 Identification of Case Study

Our case study will be for anyone interested in enhancing their travel experiences, learning about new cultures, and better understanding other countries, such as: tourists, individuals attending business-related trips, and students on study abroad programs. Users will use the app to register an account and gain access to personalized recommendations based on their preferences, income, and dates of travel. Users will leave reviews based on their travel destination and the website.

### 4 Product Prototype Description

WiseTraveler will be a web app designed to assist users with their travel planning needs such as but not limited to destination hunting, information gathering, and forewarnings.

#### 4.1 Prototype Architecture (Hardware/Software)

Front End:

- HTML
- JavaScript
- CSS

Back End:

- Node.js
- Express.js

Databases

- AWS
- Amazon aurora

Testing:

- Jest
- Mocha and Chai
- Gitlab CI/CD

3<sup>rd</sup> Party Software:

- OpenAI API
- Google Maps API

Hardware:

- Desktop Computer

## 4.2 Prototype Features and Capabilities

The prototype's user interface will have basic and limited functionality. The data will have to be static from various sources while we set up the API. The calendar system will also have limited functionality due to manual entry, and the map visuals will have basic location points instead of location and travel time.

## 4.3 Prototype Development Challenges

Choosing the right AI model is one of the challenging tasks as using a pre-trained LLM, such as GPT-4, leaves us with the tasks of relying entirely on its makers and their use of engineering. In other words, it's out of our hands if the model has outdated information about a location that a user decides to travel to. If not using a pre-trained LLM, we would have to build our own which requires a lot of time, which ours is limited, and prior knowledge of building an LLM from scratch, which I assume is outside of our skill range. Having accessible and reliable travel data is another difficult task as the question resides: Where will WiseTraveler get its information from? If travelers need to know about visa/passport requirements, local laws, and safety advisors then how will the chatbot source that information from government advisories? Lastly, since WiseTraveler will feature user preferences how will we ensure privacy compliance? The security of the prototype has not been discussed amongst the team intensively – only in passing.

## 5 Glossary

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

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

**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.

**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.

**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.

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

**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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## 6 References

- 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>
- 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>
- Johnson, J. (2022, June 9). Security risks of traveling internationally: The five greatest safety concerns of going abroad.” Jensen Hughes. [www.jensenhughes.com/insights/the-five-greatest-risks-to-your-security-when-travelling-internationally](http://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. 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>
- Statista Research Department. (2024, June 11). Number of United States residents travelling overseas from 2002 to 2023. Statista. [www.statista.com/statistics/214774/number-of-outbound-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*, [www.travelwires.com/this-is-how-much-time-travelers-spend-researching-before-booking-a-trip](https://www.travelwires.com/this-is-how-much-time-travelers-spend-researching-before-booking-a-trip)
- Centers for Disease Control and Prevention. (2022, November 30). Survival guide to safe and healthy travel. [www.cdc.gov/travel/page/survival-guide](https://www.cdc.gov/travel/page/survival-guide)
- 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>
- U.S. Department of State - Bureau of Consular Affairs. (n.d.). Travel advisories. <https://www.travel.state.gov/content/travel/en/traveladvisories/traveladvisories.html/>
- PennState Global. (2024, June). Travel & safety tips to know before you go. <https://global.psu.edu/article/travel-safety-tips-know-you-go>