azuria

development group

TraveLayout

System Proposal

Prepared For:

Ms. Weltz, Wanderer's Tools

Prepared By:

Kelby Sandvick, Azuria Development Group

Contents

Executive Summary

Ms. Weltz, a representative of Wanderer's Tools has hired Azuria Development Group to design, develop, and maintain their second application, TraveLayout. This will be the second application Wanderer's Tools will put out, as well as the second application which Azuria Development Group will create for Wanderer's Tools.

Users will be able to use this application to plan trips, keep track of reservations they have made, and get recommendations for destinations to visit while they are travelling.

Azuria has conducted a feasibility analysis on the project and has deemed that it is feasible that the overall project will be delivered on time, on budget, and on schedule. Based on previous collaboration between the two companies, it has also been determined that this is a logical and beneficial project for both.

This document is a full overview of the project. It includes the costs, benefits, and constraints of the program, a detailed feasibility study, and an outline of the program requirements. Also included is a use section which includes a use-case diagram and use-case descriptions.

This document will be extremely valuable in ensuring that Wanderer's Tools and Azuria Development Group are on the same page regarding every aspect of the TraveLayout application.

1.0 Introduction and Overview

1.1 Problem Statement

Wanderer's Tools is looking to build a new application, TraveLayout, with the hired help of Azura Development Group. This will be the company's second application, and will be compatible with their previous system, TraveLogue.

TraveLayout will be a web application which will be used to plan trips. It will store reservations, make recommendations based on user's current or inputted location, and will be able to export the user's trip itinerary to Wanderer's Tools' first application, TraveLogue.

1.2 Project Vision and Scope

TraveLayout will be designed to be a web application which makes it easy for users to plan trips in advance, and to keep track of their itinerary while they are traveling. Wanderer's Tools wants to make this program in order to create a midpoint between paying a travel agent to book a vacation and planning everything by hand. With TraveLayout, users will be able to store reservations in advance, get recommendations of where they should go, and export their itinerary to TraveLogue to create a journal about their experiences during or after their trip. Wanderer's Tools seeks to create a product for the users who want to be self-sufficient, and to plan their own trips, but still want help finding exactly where they want to go and storing their itinerary neatly in one place.

1.3 Requirements Summary

The final iteration of the TraveLayout program will include all of the following:

- The user will be required to create a login which will be used to access all of the data they have stored.
- The user will be able to use the same login credentials for TraveLayout as they use for Travelogue.
- There will be forms which the user can fill out with information about various reservations they have made.
- TraveLayout will automatically save any information which is put in by the user. The user may delete data as they wish.
- TraveLayout will notify the user when they have upcoming reservations which have been inputted into the application.
- After obtaining consent, the program will be able to find the user's location in order to provide recommendations on where they should go.
- The system will have the capability to export reservation information to Wanderer's Tools' other application, TraveLogue.

1.4 Stakeholders and Interests

The following is a list of people and groups who have interest in or will be affected by the development of TraveLayout.

- Individuals who are in need of assistance in planning trips, but do not necessarily want to hire a travel agent
- Customers who are adept at travel planning, but would like to store all of their information in one place
- Existing TraveLogue customers, who will have the capabilities of their account expanded to include TraveLayout
- Travel and tourism industry professionals whose sites and services will be recommended by TraveLayout
- Businesses and locations which are recommended by the application
- Travel agents who are in need of a program to layout and store the travel plans of clients
- Wanderer's Tools, and its employees, which will gain a program, revenue, and customers
- Azuria Development Group, who will expand its portfolio, and gain stake in TraveLayout

1.5 Expected Costs and Benefits

1.5.1 Costs

The following are the expected costs TraveLayout will incur through the implementation and maintenance of the system:

- Employee hours working on design, planning, implementation, and maintenance of the new system
- Advertising for the new application
- Domain and server access to host the system
- Access to the technology to implement some functionality such as the ability to find the location of the user
- Research costs in order to accrue information so the program is able to give recommendations to the user

1.5.2 Benefits

Expected benefits of TraveLayout for its customers and Wanderer's Tools include:

- It is easier for users to plan travel through TraveLayout than it is to plan by random web search
- Storing plans is easier for customers due to the ability to store and access the plan in a single application

- Following travel plans is easier and less stressful due to having all reservations and plans in one central location
- Significantly easier for users to use Wanderer's Tools' other application, TraveLogue because they have a saved itinerary to look back on

1.6 Constraints

The following are some constraints which may affect the development of TraveLayout:

- The application will need to work on all types of computer operating systems including both Windows and Mac. This will be important in keeping customers on the platform since Wanderer's Tools is still a fairly small company. Azuria Development Group, however, has extensive experience working with a variety of operating systems, so this is not expected to have any major impact.
- Since TraveLayout will be using GPS to locate the user's whereabouts, extra security measures will need to be implemented to ensure that users will be safe, and that their location isn't leaked. Adding additional security to the program, however, will increase customers' trust of the program, as well as the company as a whole. While this may increase cost slightly, there is likely a worthy return on investment.
- The program must be compatible with all major web browsers in order to avoid limiting users to one specific browser. While this won't necessarily be complicated to do, it will need extra consideration. Azuria is well-versed on all major web browsers, but some of the smaller, less popular browsers may also need support.
- TraveLayout will be an internet-based application, which means that if a user's internet connection ends, the program will no longer work. It will be necessary to attempt to control what data is still accessible to the user when they are no connected to internet.
- This system would best serve the user base if deployed in a timely manner. Since Wanderer's Tools is a fairly small company, it would likely greatly improve the customer base if the second program, TraveLayout, were to be put out as soon as possible. This will be possible if the full system was put out in several parts, or phases.

1.7 Recommendation

Azuria Development Group recommends that Wanderer's Tools, or representatives of the company, carefully look over this document in order to make sure that nothing is left out. It is also recommended that any desired changes are communicated with Azuria as soon as possible in order to make sure that appropriate changes, additions, or deletions, are made so that the next steps in development may be started. Any questions or concerns related to any part of this document are welcome and will be responded to as soon as possible.

1.8 Document Overview

This system proposal contains the following sections:

- *Introduction and Overview:* An overview of the project, as well as general contents summaries. This also includes expected costs, benefits, and constraints, and recommendations for general next steps.
- *System Initiation*: The original system request given to Azuria Development Group by Ms. Weltz on behalf of Wanderer's Tools, and the sales letter sent in reply to the request
- *Feasibility Assessment*: A full analysis on the feasibility of this project, including the technical, resource, schedule, organizational, legal, and contractual feasibility. Also included is the final conclusion of the feasibility of this system.
- *Requirements Definition*: A list, and description of, all functional, nonfunctional and data requirements of the system.
- *Requirements Model:* A use-case diagram and associated descriptions, outlining expected use scenarios.
- *System and Evolution*: An outline of all planned and recommended upgrades to the program
- *Conclusions and Recommendations*: The conclusions which Azuria Development Group has come to, as well as any recommendations for the next steps to be completed by Wanderer's Tools.
- *Appendices*: Any additional information important to the document, including a transcript of a Q+A session with Ms. Weltz.
- *Glossary:* This section defines any terms which may not be familiar to the reader, as well as the page numbers where they are found.
- *Bibliography:* Citations of all sources and other information used as references in the creation of this document.

2.0 System Initiation

2.1 System Request

May 22, 2019

SYSTEM REQUEST – Travel Planner

Project Sponsor

Name: Ms. Elaine Weltz
Representing: Wanderer's Tools
Phone: 206.281.3639 E-mail: eweltz@spu.edu

Opportunity Statement:

Wanderer's Tools is a relatively new business venture dedicated to enhancing the experience of people who like to travel. As the first of a proposed "toolkit" for travelers, we have just launched a travel *journal* tool for capturing the memories of a trip of any kind. We would now like to create our second tool: an integrated travel *planner*.

Proposed Product:

Background and Context:

It may be a week at the beach with the family, a road trip to parts unknown, or a dream trip of a lifetime: we engage in all kinds of travel these days. Sometimes it is best to let the professionals plan for us, for example if we want to take a cruise or a tour with an company like Road Scholars. But a lot of times it makes more sense – and may even be more fun – for a traveler to plan their own route and activities.

The difficulty can be, there are a lot of pieces to fit together and keep track of: transportation, places to stay and eat, sights to see, things to do…it can be overwhelming to put all of it together into an easy-to-follow outline. Recreational travel is supposed to be fun! WE THINK WE CAN HELP WITH THAT!

Initial Vision and Scope:

We are thinking of an app for laptop and tablet computers, although it would likely need to be able to work with other devices. For example, while I might plan the trip using my laptop, my smartphone may be what I would like to use when I'm actually on the road and wanting to follow the plan.

Here are some initial thoughts on what we might provide for our client-users: The ability to research and then plan a trip, including travel route and means (car, train, boat, etc.), lodging, sights to see, activities, and other helpful information – all using a single easy-to-use tool.

- We are not looking to become another version of Expedia.com or Travelocity. This isn't a tool for *making* reservations as much as planning and keeping track of those reservations.

- We assume this will need to be a Web-based tool, since some of the research will involve linking to existing web sites, such as online travel agencies to make reservations (which our tool would then keep track of) or the ability to pre-purchase tickets for paid activities. Also, we don't feel a need to recreate and maintain our own information on sights when good online sites are already available. For example, let people research Yellowstone National Park by simply following a link to https://www.yellowstonenationalpark.com/. OUR niche:
  - Basic travel information on places one might want to visit along certain routes, but MORE focused on…
  - The ability for users to gather information (text and links and pictures) and store it all together into an easy-to-follow plan for their journey. That is, while the user might visit several web sites in the process of planning, our tool would be the single "repository" of their chosen itinerary – both things they know they want to do and optional side-trips.
- We may need some sort of GPS connectivity so that our tool can be useful when trying to locate places as one is following the plan. We're not sure about that…
- While our TraveLogue travel journal has the ability to *keep track of* one's budget, this tool should help the user *plan* a budget. (Affording your trip is important!)
- We would like this to be able to communicate with, or at least access data from, the previously released TraveLogue, which allows its users to save pictures and commentary as they travel. What we are thinking is to have a database (I think that is the term) of comments and pictures that travelers mark as OK to share available for people using the planning tool to view and read. This could evolve into a kind of "recommendations from the Wanderer's Tools community" feature.

We know this is not everything this kind of tool could do, but hope this gives you a starting point.

Stakeholders Identified:

- People who travel and want to be able to quickly and easily plan their trips.
- Travel and tourism industry professionals whose sites and services may be more easily located – and remembered – by travelers (which could increase their business)
- Wanderer's Tools – TraveLogue is beginning to take off and we would like to continue to grow our toolkit.
- Of course, you as our partners!

Expected Benefits:

- A better way to plan one's travels than by random web search.
- A better way to keep track of trip plans because of the ability to store and access the plan using a single "central" app.
- Less stress because one not only has made a plan but can follow it easily.

- Enhanced ability for travelers to recall the details of their trips when they return home because they have a saved itinerary.
- Travel agents and trip planners might be able to use initial plans and help travelers enhance these ideas into an even better trip.

Special Issues or Constraints:

Our prospective client-users will include a wide range of ages and computing skill levels. It is unlikely that a true computer novice or phobic would be interested in this type of tool, so it doesn't have to be "super simple". But it needs to be intuitive for a person who knows their way around things like word processors, spreadsheets, simple image editors, and the web.

Also, we expect we will have users who prefer Mac and users who prefer Windows (and differing phone types?) as well as different Web browsers. Eventually we would like to serve all of these, although we are open to starting with a few and growing the options later. (Right now, TraveLogue works best under Chrome and Edge browsers and Android phones, but more Mac-friendly versions are in the works.)

You can let Wanderer's Tools worry about exactly how this will be funded. The TraveLogue is currently operating under a strictly ad-based model ("free trial time"), but we envision eventually moving to a low cost, but paid, download or subscription. We have the capital to fund your development costs for now, assuming they are within reason. We do not have a strict timeline for completion. However, following-up on the building success of TraveLogue relatively soon (within this year!) would be idea.

While people will be using the Web, we would like to avoid having this be an app that opens our users up to a barrage of random ads for of places they might want to travel to…if that is still possible in 2019.

2.2 Sales Letter

Ms. Elaine Weltz
Wander's Tools
1234 Internet St
Zigzag, OR 97049

Monday, April 8, 2019

Dear Ms. Weltz,

Our team truly enjoyed working with you last year on the TraveLogue, and we're extremely excited at the prospect of working with you and your company again! After briefly consulting with our development team, we are all in agreement that we would all love to be able to continue the track record of successful partnerships between our companies. I believe that together, we could truly change the standard for how travel planning and booking is done.

Azuria Development Group has a great history of developing laptop applications, as well as being able to later make them compatible with mobile devices of a variety of different operating systems. We also have experience integrating features like interactive maps into our programs, which is ideal for a system such as yours.

With our history of working together, you are already aware of how much we value client input at every step of the development process. We'll be able to tailor this system to exactly what you and Wanderer's Tools wants it to be, regardless of when you decide exactly what you want. This will give you the ultimate freedom to have your program be everything you want and need it to be.

Many of our developers here are also passionate about traveling. After developing TraveLogue, I personally know quite a few on our team who still love and frequently use the application. We would all love to work with you on another fantastic program! If you have any questions about Azuria or what we can do for you, please feel free to email or call me personally.

Kelby Sandvick
Azuria Development
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3.0 Feasibility Assessment

3.1 Introduction

To ensure that the TraveLayout project is completed on time, in budget, and in line with the specification requests which have set by Ms. Weltz and Wanderer's Tools, Azuria Development Group has performed a feasibility assessment. This section will cover the five areas of feasibility which were studied: technical, resource, schedule, organizational, and legal and contractual. To rate the feasibility of these areas, a scale has been put in place:

- Very Low: There is likely major risk associated with this area of feasibility. Significant measures will need to be taken in order to mitigate this risk. Some project redesign may be necessary.
- Low: In this area, there is a significant amount of risk to the project. With proper mitigation techniques and planning, however, it is still possible to finish.
- Moderate: There is some risk in this area, however it is not necessarily a danger to this project. However, keeping this in mind while planning and developing the project will be important.
- High: This area poses little risk to the project. While it must be considered, it likely will not greatly affect the project.
- Very High: There is minimal risk in this area, and that is highly likely that Azuria will be able to complete this project on time, on budget, and with all required functionality.

3.2 Feasibility Analysis

3.2.1 Technical Feasibility : Very High

Users will be quite familiar with the basic functionality of the program. While some of the functionalities will be new to them, this project is not particularly complicated on the user end. Since the time required to for most users to learn to use the program will be cut down, not as any features will need to be implemented to ensure the program is especially easy to use.

Azuria Development Group developed the first application of Wanderer's Tools. This means that the team already has a basic understanding of what kind of things Wanderer's Tools would like in their programs. This project as a whole is also fairly similar to other projects which have been undertaken by Azuria. The team working on TraveLayout is very familiar with similar application development.

This project is moderately sized, meaning that it poses only minimal risk. While the project involves building a new application from scratch, TraveLayout has a clearly defined functionality requirements, which are not particularly risky to undertake. Similarly, the team will not have to be particularly large to finish the project, so it won't pose much risk.

From the beginning, TraveLayout will be designed to be compatible with Wanderer's Tools' other application, TraveLogue. This limits the risk associated with this area because there will be a manageable amount of new processes for employees to learn.

3.2.2 Resource Feasibility : Very High

Azuria is well-equipped to undertake this project. The team required to develop the project will be moderately-sized, meaning that we have plenty of employees to work on the system.

Wanderer's Tools already owns cloud storage which provides services for TraveLogue. This means that it will be possible to use this same storage location for TraveLayout. All other necessary functions of the program can also be handled through the cloud in order to keep all storage in one place.

Since this project will begin similarly to TraveLogue, Azuria is already familiar and experienced with the storage preferences of Wanderer's Tools.

Taking these into account, the feasibility of the TraveLayout project in terms of the necessary resources is very high.

3.2.3 Schedule Feasibility : Very High

Ms. Weltz has stated that there is not a strict time schedule for this project. Azuria believes that it would be ideal to try and get the project finished before the winter holidays, when many people are traveling. However, since there is not a particularly strict deadline for when the project must be completed, our team will have plenty of time to make sure that the program is exactly what is desired by Ms. Weltz and by Wanderer's Tools.

In order to have the best chance of having a finished, working product by the winter travel rush, Azuria will draw out a general schedule of when milestones will be expected to be reached. This will also mitigate any risk of the project taking longer than necessary due to the lack of a strict deadline.

Azuria has a general history of finishing projects in a timely manner, which means that the project will still get done within a logical amount of time, even without a strict deadline pushing the team.

Overall, the feasibility of the project in terms of the schedule is very high due to the lack of a strict deadline.

3.2.4 Organizational Feasibility : High

The overall goal of the project, which is to create a program which will make it easier for users to plan trips, is highly feasible. This project is generally low risk for most parties involved, however there is potentially some risk for some groups. Since there are quite a few stakeholders in this project, one group being a potential risk to the project does not necessarily lower the overall feasibility by a large amount.

The main group this program is being made for is users who want or need help planning trips they want to take. This user base is likely fairly adept with technology, so does not pose great risk in their understanding of the application and its functionality. Also, they are likely a reliable revenue source considering they are financially able to go on trips, and place that as a priority in their lives. These customers also include those who are already users of Wanderer's Tools' other application, TraveLogue. These customers are also fairly likely to want to use TraveLayout because in order to get to the point where TraveLogue is a useful application for them, they would have had to both plan and take a trip first.

Another potentially affected group would be travel and tourism industry professionals whose sites and services will be recommended, and businesses and locations which are recommended by the program. This is a riskier group because they are likely already paying for advertising, which means that they may not think that they need another source of advertisement. This means that perhaps this is a group to approach after the application is deployed and has a reliable user base.

Overall, although some potential stakeholders may not be interested in TraveLayout immediately after deployment, the most important group, the customers, is most likely reliable, keeping the risk low for this project. It will, however, be important for Wanderer's Tools to consider others who will be affected in the future development of TraveLayout.

3.2.5 Legal and Contractual Feasibility : Moderate

Legal feasibility for this project is fairly high. All appropriate security measures will need to be taken, however, since this is standard for this type of program, the risk is not increased by a large amount.

The largest risk in terms of legal feasibility has to do with the GPS location functionality of the application. It is of the upmost importance to keep users safe, and by accessing their location, this puts them in potential risk. While this adds risk to the project, by taking appropriate security measures, this risk will be mitigated. While the program will require the user to log in, it does not ask for a large amount of other personal data. This means that while the security measures taken will need to be high in order to keep the user's location safe, it will not need a lot of other measures.

Since the program does require some personal information, all user data will be encrypted in order to protect users. The same methods employed with TraveLogue will be used by TraveLayout. All data security information will be made available to users in the terms and conditions.

There may be other programs that provide similar services to this one, however it is unlikely that there is a program which is exactly like TraveLayout. Some research will need to be done to ensure that there is no copyright infringement in order to mitigate any risk in this area.

In terms of contractual feasibility, there is minimal risk associated. Since Azuria developed TraveLogue for Wanderer's Tools, the same contract will apply. Further

negotiations can be made if either party would like to change any aspect of it, however, considering an agreement was able to be made previously, there is minimal risk involved in reaching another.

Overall, while there is some risk involved in the area of legal and contractual feasibility, it is manageable. Assuming that all appropriate security measures are able to be implemented, and contractual agreement is able to be reached, the project will not be greatly affected by any of these risks.

3.3 Additional Comments

- It is possible that an outside team will be needed in order to increase security for the application. Azuria Development Group does not have a large amount of experience in this area, which means that it would be a good idea to hire assistance.
- Feasibility will be increased by prioritizing the requirements of the application. Communication will be extremely important in both Wanderer's Tools and Azuria Development Group understanding what the highest priorities are.

3.4 Conclusion

Overall, the development and completion of TraveLayout is feasible. While there are some risks which will need to be taken into consideration, mitigation techniques will be possible to implement, meaning that all risks will be dealt with accordingly. The largest risk to the project is the legal feasibility. However, there are many possible strategies to deal with this. It is extremely likely that this project will be delivered on time, on budget, and with the full requited functionality of Wanderer's Tools.

4.0 Requirements Definition

4.1 Introduction

This section describes, in detail, what TraveLayout will be able to do. These requirements can be broken down into three categories: functional requirements, data requirements, and nonfunctional requirements. *Functional requirements* are what the system must include in order to be able to operate correctly. *Nonfunctional requirements* deal with what constraints are affecting the system, and how it will deal with those constraints. *Data requirements* have to do with how the system works with whatever data is given to it.

4.2 Functional Requirements

4.2.1 Planning Functionality

- User will be able to input a reservation they have made previously into a standardized form with fields for information.
- User will be able to input information about plans they have made, into a standard form similar to the one used to input plans. which the system will save.
- If the user chooses, the application will notify the user on any upcoming reservations which have been saved in the system.

4.2.2 Viewing User Inputs

- TraveLayout will display all plans and reservations inputted when requested by the user.
- System will be able to export the plans and reservations inputted by the user to TraveLogue if requested by the user.

4.2.3 Exploring User's Surroundings

- TraveLayout will be able to access the user's location after obtaining the user's consent.
- System will be able to bring up recommendations based on what is near the user's location.
- If system is unable to access user's location automatically, the user will be given the option to input location manually.
- User can get recommendations for where they should go based on a location they input.

4.2.4 Other Necessary Functionality

- Users will input login credentials in order to access the application.
- Once credentials have been verified, users will have access to all previously saved reservations and plans they have inputted.

- Login credentials the user has already created for TraveLogue will be accepted by TraveLayout.
- A moderator will be able to delete user-suggested recommendations from the database if they are deemed inappropriate.

4.3 Data Requirements

4.3.1 User Information

- Upon signing up, the user will be required to provide first and last name, home state, username, password, and email address.
- User may optionally also provide phone number for notification purposes

4.3.2 Destination Information

- Each destination in the database will, at minimum, include the name, address, and a description.
- Each destination may also optionally include working hours, prices of services, and other miscellaneous information
- For trip planning, the user will provide, at minimum, include the name, address, and date planned.
- It will be possible for a moderator to edit user recommendations to add, remove, or edit any information about the destination in the database.

4.3.3 Information Safety Functionality

- Upon signing up, the user will be required to provide first and last name, home state, username, password, and email address.
- Users will be able to gain access to their saved data by logging in with a valid username and password.
- Passwords will be encrypted to increase the safety of user data.

4.4 Nonfunctional Requirements

4.4.1 User Interface Requirements

- Users must be able to access the system on both mobile devices as well as laptop and desktop computers.
- The system will be accessible using all popular web browsers including, but not limited to, Google Chrome, Internet Explorer, and Safari.
- User interface will be organized similarly to TraveLogue.
- The interface must be logically laid out, with functionality being simple for users to learn and use in order to be accessible to all types of customers.

- It will take minimal time to load the application.
- The system must support, at minimum, the same number of users TraveLogue currently has.

4.4.2 Information Safety Requirements

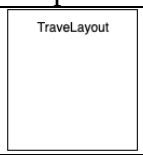
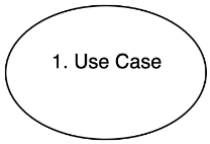
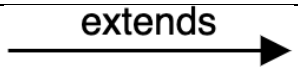
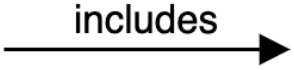
- Users will be able to gain access to their saved data by logging in with a valid username and password.
- Passwords will be encrypted to increase the safety of user data.
- Users must be able to access the system on both mobile devices as well as laptop and desktop computers.
- The system will be accessible using all popular web browsers including, but not limited to, Google Chrome, Internet Explorer, and Safari.

5.0 Requirements Model

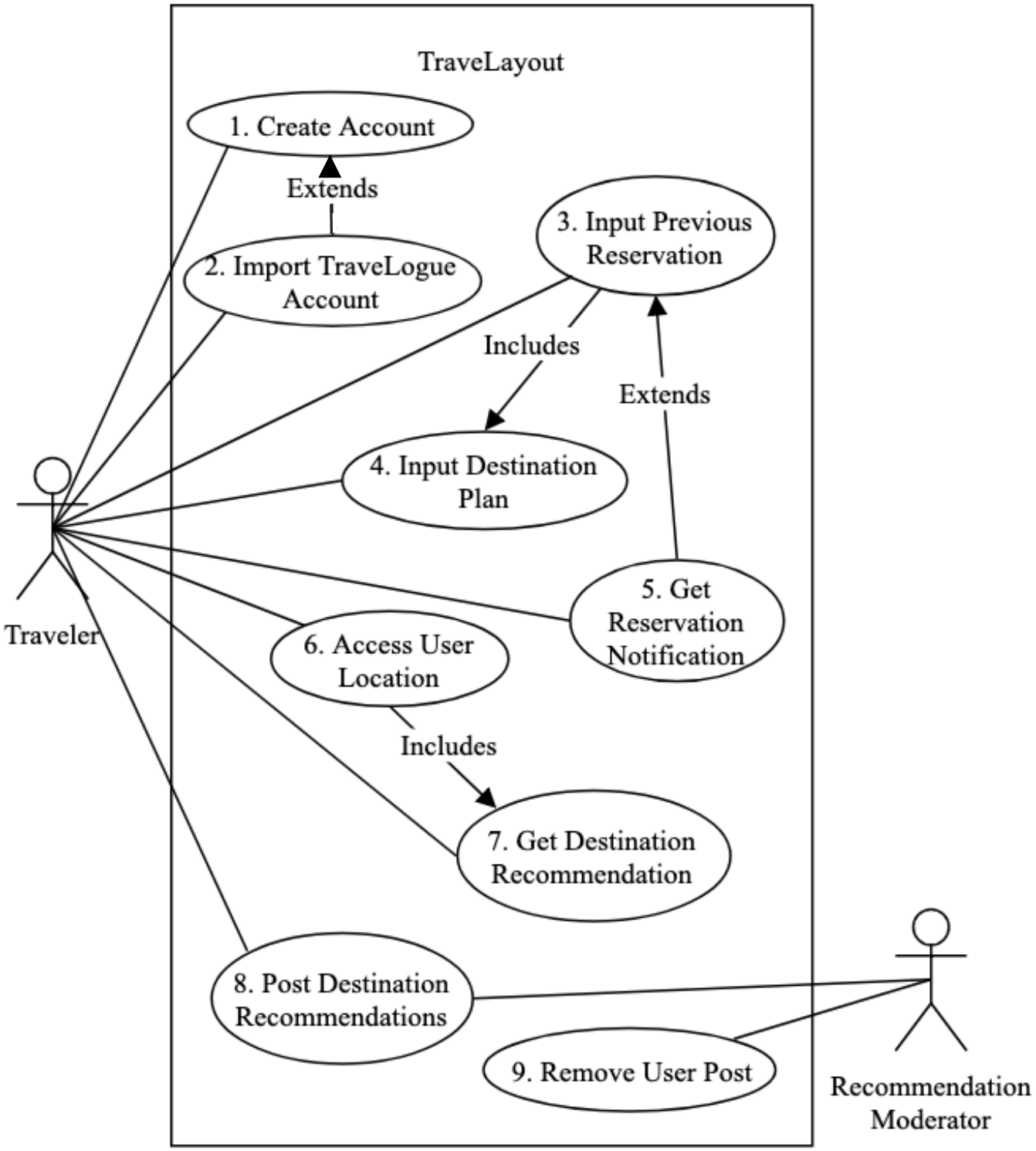
5.1 Introduction

The following pages give an overview as well as details related to how the system will be used, and how parts of the system will interact with various users and other causes for system action. Section 5.2 gives a general overview of the most common scenarios for use, then section 5.3 further describes these and includes the specific steps and relationships in each individual use case.

The diagram in section 5.2 makes use of UML, or Unified Modeling Language. This uses a standard set of symbols which represent the use cases, users, and the relationships between themselves and each other. Below is a key with more detail on what each of the symbols which have been used mean.

Symbol Name	Visual Representation	Description
Container		The container is represented by a large box around the entire diagram. This is used to indicate what is included within the TraveLayout system.
Use Case		Individual use cases are represented by ovals. These show an action or a series of actions which a common user may take. Included in each use case is a name and an ID number which can be used to find the description.
Actor		Actors are human users or other entities such as outside databases which will be interacting with the system.
Association		Associations are general links between the actors and the use cases. These represent interactions between the two such as inputting data or receiving information
Extend		The extend association is a type of relationship between two use cases. This is drawn as an arrow from the extending use case to the one which it extends.
Include		The include association is a type of relationship between two use cases. This is drawn as an arrow from the base case to the case being included.

5.2 Use-Case Diagram



5.3 Use-Case Descriptions

Use-Case name: Login	**ID**: 0	**Importance**: High
Primary actor: Traveler	**Use-Case type**: Detail, Essential	
Stakeholders and interests: Users: Need to be able to access personal information which has been stored safely Wanderer's Tools: Wants users to be confident in security of application		
Brief description: Users will log into the application using a username and password which were created previously. If incorrect credentials are inputted, access will be denied, and user will have a chance to reinput their information.		
Trigger: User presses "Login" button **Type:** External		
Relationships: **Association**: User **Include**: None **Extend**: None **Generalization**: None		
Normal flow of events: 1. User presses "Login" button 2. User enters username and password 3. System authenticates inputted credentials 4. User accesses account		
Subflows: None		
Alternate / exceptional flows: 1a. If user does not already have a TraveLayout account, they may create one 3a. If incorrect credentials are inputted, page will reset for credentials to be put in again 3b. If user uses invalid login repeatedly, system will ask if password needs to be reset		

Use-Case name: Create Account	**ID**: 1	**Importance**: High
Primary actor: Traveler	**Use-Case type**: Detail, Essential	

Stakeholders and interests:
User: In order to access the functionality of the system, and to save their stored information, they must have an account.
Wanderer's Tools: Wants to be able to keep track of individual users, and keep information of users secure

Brief description:
If the user doesn't already have an account, they will create one. They will be required to input first and last name, home state, username, password, and email address.

Trigger: User presses "Create Account" button

Type: External

Relationships:
Association: Traveler
Include: None
Extend: 2. Import TraveLogue Account
Generalization: None

Normal flow of events:
1. User presses "Create Account" button
2. User enters all required personal information including first and last name, home state, username, password, and email address.
3. User presses "finish" button
4. Account is created, and user is added to user database along with all information
5. User is automatically logged into their account

Subflows:
None

Alternate / exceptional flows:
2a. If user enters duplicate information to another user is taken to login page
2b. If invalid information is inputted the user is notified and asked to reinput it
2b. The user may press "Import TraveLogue account" if they have a preexisting account

Use-Case name: Import TraveLogue Account	**ID**: 2	**Importance**: High
Primary actor: Traveler	**Use-Case type**: Detail, Essential	

Stakeholders and interests:
Users: If a user already has a TraveLogue account, they will be able to share information across the two programs. They also will not have to create new login credentials
Wanderer's Tools: Users using the same account for both systems minimizes users in database and encourages users of one system to use the other as well.

Brief description: Users who currently have an account with TraveLogue will be able to use the same username and password to log into TraveLayout. They will then be able to log in with the standard login page using these credentials.

Trigger: User presses "Member of TraveLogue" button

Type: External

Relationships:
- **Association**: Traveler
- **Include**: None
- **Extend**: None
- **Generalization**: None

Normal flow of events:
1. User presses "Member of TraveLogue" button
2. User enters username and password
3. System authenticates inputted credentials
4. User accesses account

Subflows:
None

Alternate / exceptional flows:
1a. If user doesn't already have a TraveLogue or TraveLayout login, they may create one
3a. If incorrect credentials are inputted, page will reset for credentials to be put in again
3b. If user uses invalid login repeatedly, system will ask if password needs to be reset

Use-Case name: Input Previous Reservation	**ID**: 3	**Importance**: High
Primary actor: Traveler	**Use-Case type**: Detail, Essential	

Stakeholders and interests:
User: Keeping all reservations in one place makes it easier to not forget about information. They will be able to store all reservations for a trip in one place, making other daily planning easier.

Brief description: Users will be able to input information about reservations and plans they have made, which the system will save. There will be a standard form for users to input reservation information into.

Trigger: User presses "Add New Reservation" button

Type: External

Relationships:

Association: Traveler
Include: 4. Input Destination Plan
Extend: 5. Get Reservation Notification
Generalization: None

Normal flow of events:

1. User presses "Add New Reservation" button
2. Standard reservation form from "Input Destination Plan" is opened
3. User inputs all information about reservation
4. User presses save button
5. Reservation is saved so user can access it later
6. User can optionally "Get Reservation Notification" by performing necessary steps

Subflows:
None

Alternate / exceptional flows:

3a. If reservation name put in is the same as something saved, the user will be notified
3b. If invalid information is inputted, the user will be asked to reinput the information

Use-Case name: Input Destination Plan	**ID**: 4	**Importance**: High
Primary actor: Traveler	**Use-Case type**: Detail, Essential	

Stakeholders and interests:
User: The ability to enter plans which are as detailed or basic as necessary makes the program extremely customizable for the user. Keeping all plans in one place makes it easier to not forget about information. They will be able to store all plans for a trip in one place, making other daily planning easier.

Brief description: Users will be able to input information about reservations and plans they have made, which the system will save. There will be a standard form for users to input reservation information into.

Trigger: User presses "Add New Plan" button

Type: External

Relationships:
- **Association**: Traveler
- **Include**: None
- **Extend**: None
- **Generalization**: None

Normal flow of events:
1. User presses "Add New Plan" button
2. Standard planning form is opened
3. User inputs all desired information about plan
4. User presses save button
5. Plan is saved so user can access it later

Subflows:
None

Alternate / exceptional flows:
3a. If plan name inputted is the same as a previously saved plan, the user will be notified
3b. If invalid information is inputted, the user will be asked to reinput the information

Use-Case name: Get Reservation Notification	**ID**: 5	**Importance**: High
Primary actor: Traveler	**Use-Case type**: Detail, Essential	
Stakeholders and interests: Users: Users will avoid missing reservations or forgetting about plans if they are notified.		
Brief description: Once a plan or reservation has been inputted, the user may choose to be notified when the inputted date or time is approaching.		
Trigger: Inputted time of plan or reservation is approaching **Type:** Temporal		
Relationships: **Association**: Traveler **Include**: None **Extend**: None **Generalization**: None		
Normal flow of events: 1. Time of plan or reservation is approaching 2. Notification is sent to the email or phone number which the user inputted when account was created		
Subflows: None		
Alternate / exceptional flows: 2a. If user has selected not to receive notifications, the system will ignore the time		

Use-Case name: Access User Location	**ID**: 6	**Importance**: High
Primary actor: Traveler	**Use-Case type**: Detail, Essential	
Stakeholders and interests: User: The system being able to access the location of the user makes it possible to give destination recommendations.		
Brief description: After gaining permission, the system will access the user's current information. This will be compared with information previously stored about destinations to recommend. Location may also be accessed manually, asking the user to input information about where they are.		
Trigger: User presses "Find My Location" button **Type:** External		
Relationships: **Association**: Traveler **Include**: 7. Get Destination Recommendation **Extend**: None **Generalization**: None		
Normal flow of events: 1. User presses "Find My Location Button 2. Location is automatically accessed 3. System begins gathering all destinations close to user's current location 4. User is now able to perform "Get Destination Recommendation"		
Subflows: None		
Alternate / exceptional flows: 2a. If system is unable to find location of the user, they will be asked to manually input it 2b. If user presses "Input Location Manually", they will be redirected to form to input it		

Use-Case name: Get Destination Recommendation	**ID**: 7	**Importance**: High
Primary actor: Traveler	**Use-Case type**: Detail, Essential	

Stakeholders and interests:
User: By getting destination suggestions based on their current location, it makes it easier for them to decide where to go.

Brief description:
Once the system has gained access to the user's location, the user will input a radius of how far away from their current location they would like to search. Once this is saved by the system, it will show all destination recommendations within said area.

Trigger: User presses "Destination Recommendations" button

Type: External

Relationships:
- **Association**: Traveler
- **Include**: None
- **Extend**: None
- **Generalization**: None

Normal flow of events:
1. User presses "Destination Recommendations" button
2. The user is asked how far away from current location they would like to search
3. User inputs desired radius
4. System searches for locations
5. User views recommendations
6. User may click on recommendation to get more information

Subflows:

S4: System searches for locations
1. System accesses databases of location recommendations
2. Database is sorted by distance away from user
3. Locations within the distance inputted by the user are returned
4. System displays these recommendation

S6: User may click on recommendation to get more information
1. Detailed information about the location is fetched from location database
2. Information is displayed to user

Alternate / exceptional flows:

2a. If invalid input is received, the user will be asked to reinput it

Use-Case name: Post Destination Recommendation	**ID**: 8	**Importance**: High
Primary actor: Traveler, Recommendation Moderator	**Use-Case type**: Detail, Essential	

Stakeholders and interests:
User: If they would like, users may share information about their favorite places to visit.
Wanderer's Tools: Giving users the option to input destination recommendations increases the database size and will likely being destinations, which would not otherwise be available.

Brief description:
It will be possible for both moderators and users to input information about destination recommendations. They will have a standard form to fill out and will be asked for a minimum amount of information to be considered valid.

Trigger: User or moderator presses "Recommend Destination" button

Type: External

Relationships:
Association: Traveler, Recommendation Moderator
Include: None
Extend: None
Generalization: None

Normal flow of events:
1. User or moderator presses "Recommend Destination" button
2. Standard form is displayed
3. User or moderator inputs information about destination
4. Information is automatically checked for validity
5. Recommendation is posted and added to the database.

Subflows:
S5: Recommendation is posted and added to the database.
1. Information is categorized by type to be added to database
2. Destination is added into database, and all categories are filled out as attributes

Alternate / exceptional flows:
3a. If information inputted is invalid, user or moderator is notified and asked to reinput
3b. If less than the minimum about of information is inputted, notify user or moderator
4a. If information is found to be invalid, user or moderator is taken back to form to fix it

Use-Case name: Remove User Post	**ID**: 9	**Importance**: High
Primary actor: Recommendation Moderator	**Use-Case type**: Detail, Essential	
Stakeholders and interests: Wanderer's Tools: Inappropriate recommendations will be able to be removed in order to maintain a high level of quality in recommendations.		
Brief description: If a user-inputted recommendation fails manual review, the post will be able to be removed by a moderator. This post will be removed from the recommendation database, and will not be seen by users.		
Trigger: Moderator presses "Review Recommendations" **Type:** External		
Relationships: **Association**: Recommendation Moderator **Include**: None **Extend**: None **Generalization**: None		
Normal flow of events: 1. Moderator presses "Review Recommendations" button 2. If moderator deems a recommendation needs to be removed, press "Remove" button 3. Post will be removed from the database		
Subflows: S3: Post will be removed from the database 1. Post is accessed in the database 2. All information in post is deleted from the database		
Alternate / exceptional flows: None		

6.0 System Evolution

Considering Wanderer's Tools is still a fairly small company, there is expected to be major growth in the upcoming years of both the company itself, as well as it's applications. To take this into account, the following are both planned and recommended upgrades for the system, TraveLayout.

6.1 Planned Upgrades

- TraveLayout will be upgraded to stay compatible with mobile devices and laptop and desktop computers.
- The application will need to be kept compatible with all major web browsers including, but not limited to, Google Chrome, Internet Explorer, and Safari.
- The database of recommended destinations will be consistently updated to include as many as possible.
- If necessary, more cloud storage will be purchased to support a growing customer base, similarly to how TraveLogue is currently being handled.
- More regions and countries will be supported, being added one at a time, expanding from the United States.
- More synchronicity will TraveLogue will be added, making it simple to move user information and data back and forth between applications if the same user profile is used in each.
- Any bugs or issues reported by users or by Wanderer's Tools will be fixed either immediately or in the next version, depending on severity.

6.2 Recommended Upgrades

- Advertisements which are selected for individual users based on locations and interests can be implemented through machine learning.
- Compatibility with various outside applications such as calendar applications and reservation websites may be implemented.
- Reservation functionality through TraveLayout instead of through another website may be added.

7.0 Conclusions and Recommendations

7.1 Conclusions

TraveLayout will be the second application of Wanderer's Tools which will be used to plan trips. It will store reservations, make recommendations based on user's current or inputted location, and export the user's trip itinerary to TraveLogue. Through thorough analysis of the entire project, Azuria Development Group has determined that it is a project which completely feasible and should be developed.

Through a feasibility assessment, it has been determined that it will be possible to develop the TraveLayout application on time, on budget, and with all functionality requested by Wanderer's Tools. While there are a few risks, there are simple mitigation techniques which will be implemented by Azuria throughout the development of the system.

Similarly, all requirements which have been determined and listed will be possible and are intended to be part of the final program. While it may be necessary to push some requirements to future versions of the system, all requirements will be possible. These planned and recommended upgrades can be found in the section previous.

7.2 Recommendations

Azuria Development Group recommends that the following steps be taken by Wanderer's Tools in order to proceed with the development of TraveLayout.

- Arrange meetings with the Azuria development team periodically in order to ensure that all progress is to the standards and wishes of Wanderer's Tools
- Establish a desired timeline for the project
- Begin advertising TraveLayout to current TraveLogue customers as well as other new potential customers
- Gather data on locations for the application to recommend, and decide on the location scope of the first version of the system

8.0 Appendices

8.1 Q+A With Ms.Weltz

Q: Do you want the program to run as a web application or on mobile devices?

A: We'd like the program to be accessible through the internet form a laptop with links to other websites for planning. Though, it would be good for the user to be able to access their plans from a mobile phone.

Q: Do you need to be able to do any planning from a phone?

A: We'd like all major planning to be done on a laptop, with inputted plans viewable rom a mobile phone.

Q: Does Wanderer's Tools already have servers:

A: No; TraveLogue uses cloud-based storage, but users can save information straight to a laptop. We'd like TraveLayout to work similarly.

Q: What's more important for the program: inputting plans or getting recommendations on where to travel:

A: Planning is the most important aspect, though it would be good to be able to see suggestions of where to go.

Q: How do you get the suggestions:

A: We'd like the recommendations to be community-based with moderators to filter contents, though there will also be a list of recommendations from the company.

Q: What's the initial scope of the program?

A: The program will start with just the United States, maybe even only a region, then expand out area by area.

Q: Is this going to be a subscription-based service?

A: We're not sure yet. Possibly a one-time fee, or maybe a subscription service with a monthly charge.

Q: Will TraveLogue users be able to use their existing logins?

A: Yes, we'd like them to be able to use their same username and password.

Q: Will there be advertising in the program?

A: Yes, we'd like users to be able to choose the kind of trips they would be interested in taking, then show them ads related to that. For example, if they are interested in going on cruises, they may see advertisements for various cruise lines.

Q: How will users import reservations:

A: It would be nice for it to be automatic, but for the first version of the program, manually entering reservations is fine.

Q: Is integration with TraveLogue a priority?

A: It would be nice for users to export their itinerary to TraveLogue so they can journal about it, but it's not a priority. We don't want to force users to use both programs.

Q: How does the planning function work?

A: We're not sure if our users will trust computers to completely plan trips for them, so we'd like them to put in their trip plans day by day, then have the program bring up recommendations for where they can go, and what they can do in each destination.

Q: Does the program make reservations for you?

A: No, users will be able to input their reservations manually to keep track of plans that have been made, but it won't actually make reservations for the user.

9.0 Glossary

Actor ()
Actors are human users or other entities such as outside databases which will be interacting with the system.

Association ()
Associations are general links between the actors and the use cases. These represent interactions between the two such as inputting data or receiving information

Cloud Storage ()
A data storage model where the data is stored on remote servers and accessible through the internet.

Container ()
The container is represented by a large box around the entire diagram. This is used to indicate what is included within the TraveLayout system.

Database ()
A structured set of data which is accessible in various ways.

Data Requirements ()
How the system works with whatever data is given to it.

Extends ()
The extend association is a type of relationship between two use cases. This is drawn as an arrow from the extending use case to the one which it extends.

Functional Requirements ()
What the system must include in order to be able to operate correctly.

Includes ()
The include association is a type of relationship between two use cases. This is drawn as an arrow from the base case to the case being included.

Nonfunctional Requirements ()
What constraints are affecting the system, and how it will deal with those constraints

Use Case ()
Individual use cases are represented by ovals. These show an action or a series of actions which a common user may take. Included in each use case is a name and an ID number which can be used to find the description.

User Interface ()
The layout and organization which the user sees; The part of the program which the user is able to interact with

10.0 Bibliography

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