



ITINEREASE

"Explore with ease, your itinerary, your way"

Spring 2025 - CS410

Team Copper

Your Itinerary

Team Biography.....	3-4	User Stories.....	31-37
Background.....	5-11	Work Breakdown Structures	38-42
Problem Statement.....	12	Algorithms.....	43-50
Problem Characteristics.....	13	User Interface.....	51-55
Itiner-Ease Users.....	14	Database WBS/ Schema.....	56-58
Current Process Flow.....	15	User Risks.....	59
Solution.....	16-21	Customer Risks.....	60
Why Itiner Ease?	22-23	Technical Risks.....	61
Major Functional Components/ Diagram	24	Legal & Security Risks.....	62
Development	25-26	Sprint Breakdown.....	63-64
Competition Matrix.....	27	Tagline.....	65
Benefits to Customers.....	28	References.....	66
User Roles.....	29		
Features Table	30		



Team Biography



Crystal Rivas is a second degree seeking student in Computer Science at ODU with a background in math education. Her expertise in problem solving drives the transition and aims to develop innovative and impactful solutions.

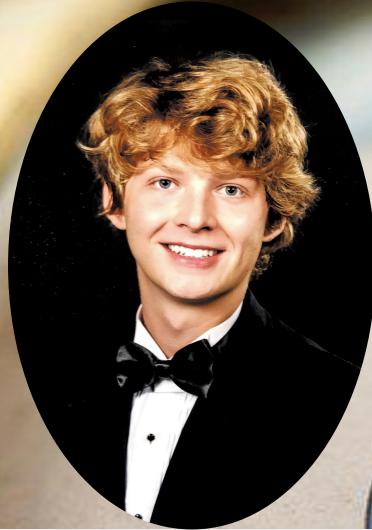


Stephen Usselman is a senior at ODU majoring in computer science. He is looking to pursue a career as a Software Developer after university.



William Mbandi is a senior at ODU majoring in computer science with a minor in cyber security. Wants to work as a Software Developer after he graduates.

Team Biography



William Poston is a senior at ODU majoring in computer science with a minor in data science. After school, he dreams of being an AI prompt engineer.



Jandra D. Arias Tavarez is a second degree seeking student at ODU working on her bachelor in Computer Science. She aspires to work as a Software Developer after graduating.



Fredrick Terling is a senior at ODU majoring in Computer Science. He is currently hoping to get his foot in the door for most tech job opportunities but dreams of being a Game Developer and ultimately a Game Producer.

Background - Tourism

- When considering how to spend your time off, traveling is often the first idea that comes to mind making tourism an area worth investing in.
- According to the graph 71% of Americans have taken at least 1 private trip in the last 12 months.
- According to the latest World Tourism Barometer from UN Tourism, an estimated 1.4 billion tourists travelled internationally in 2024 [1].
- 2024 Economic Impact Trends Report, has revealed the U.S. as the world's most powerful Travel & Tourism market, contributing a record-breaking \$2.36 TN to the nation's economy last year [2].

How Often Do Americans Travel?

Share of U.S. respondents who have embarked on the following number of private trips in the last 12 months



10,138 respondents (18-64 y/o) in the United States; Jan.-Dec. 2024
Source: Statista Consumer Insights



Source: Statista [3]

statista

Why Travel?

- Travel is often seen as a reward people give themselves for their hard work, or as a way to celebrate a milestone. Whether it's something people save for a while to do or just finally find time to do, it is a rewarding experience.
- One of the main benefits of travel is collecting new experiences. They can be physical, emotional, or psychological.
- When we stay in our bubble for a long time, we get used to our own ways. We all have our rituals and best practices, a routine we follow on a daily basis.
- Something foreign will become easier to sympathise with. It will no longer be just a tale from another country or continent but a personal story - something you have seen or done [12].
- A study by the Global Commission on Aging, the Transamerica Center for Retirement Studies and the U.S. Travel Association found that travel helps prevent depression, dementia and Alzheimer's Disease [4].



Why do People NOT Travel?

A 2023 survey conducted by Nerd Wallet asked users what their biggest barriers were when it came to traveling:

- Lack of money: 27%.
- Lack of time off from work or school: 26%
- Family and other commitments: 13% [13]

According to a NerdWallet analysis of data from the consumer price index issued by the Bureau of Labor Statistics, airfares in January 2023 are up 25.6% versus the same month in 2021, and up 3.7% versus the same month in 2019. January 2023 hotel prices are up 16.3% versus January 2020 [13].

Challenges of Self-Booking Travel

Planning trips on your own can pose many challenges:

TIME

Travelers spend an average of 303 minutes, or more than 5 hours per day on travel content during the 45 days before booking. The research showed that in the 45-day period before booking an online trip, travelers are consuming a significant amount of content to help them make a decision. In the seven countries that were surveyed, travelers spent an average of 45 days before booking a trip online [5].

CHOICE OVERLOAD

On average, the travelers said they spend over four hours comparing and looking for the best deal, the report found. In 2013, people browsed through 38 webpages before booking their trip while now, it's up to 277 webpages – from third-party booking platforms to the official airline or hotel website [5].



Group Planning Chaos

- You're no longer only planning for yourself , but planning for a group of people with different likes, dislikes, and availability.
- Group travel can bring together people with different personalities and temperaments. It is not uncommon for conflicts to arise due to differences in opinion, communication styles, and personal habits.
- Group members may have different interests and priorities, and conflicting schedules can make it challenging to plan activities. This can lead to frustration and tension within the group [15].



Issues Continue to Arise

BEYOND GENERIC ITINERARIES

Today's travelers crave personalized journeys that resonate with their unique interests and immerse them in local cultures.

- 57% of travelers believe brands should customize information based on personal preferences or past behaviors [6].
- 62% feel a trip is wasted if it doesn't include authentic local cultural experiences [7,8].

PLANS SHIFT

- Even though we try to plan as best as we can, unforeseen circumstances can make us change our plans.
- Among 80% of travelers, 60% of them experienced some type of travel disruption [10].

Personalized Travel And Experiences Global Market Report 2025



Source:
Business
Research
Company[9]



A Demand for Tour Guides

Guides who drive business have the responsibility to enhance the travel experience by keeping guests happy, safe and inspired. This is the person who can make or break a trip; therefore, finding the right match for your group is essential.[16]

Why use a Tour Guide?

1. A guide will tailor a tour to your needs and tastes.
2. A guide can take you to places that you would never know about.
3. A guide will point out things that you would never notice.
4. Using a guide is the best use of your time.
5. A guide is educated and trained to guide and licensed
6. A guide is your personal resource.
7. A guide is a new-found friend in a foreign country [17]



Of 1,000 U.S. individuals who traveled for leisure at least once in the past 12 months, 70% planned to book a guided tour for the next year, the survey found. Roughly two in five of Millennials and Gen Z travelers surveyed booked a guided tour in the past year, the results show – that's 40% of Gen Z and 42% of Millennials compared to 22% of Gen X and 22% of Boomers.[15]

Why do people chose not to?

1. It always feels rushed.
2. You have to spend time with other travelers.
3. Certain tours might not be worth your investment.
4. Guided tours can be exhausting [18]
5. It's more expensive than going solo [19]

Problem Statement

When travelers plan their own trips, all the time, effort, and stress- compounded further by the constraints of group travel- can sour the experience. While the time and effort can be cut down with travel agents and tour guides, they lack the personalized touch of planning for yourself and your needs. 76% of travelers turn to planning applications and websites to make the experience easier, but they only provide generic itineraries that lack personalization and flexibility [11]. These leave out the hidden gems that make a trip memorable and also adapt poorly to unforeseen complications. Travelers are left with having to choose between having an expensive or time-consuming planning stage, or they settle for a trip that is just not the experience they were hoping for.

Problem Characteristics



Choice Overload

- Consumers are given simply way too many options with no easy way to narrow them down.
- Even after you choose one option you find yourself having to make many more choices over the duration of your trip.

Generic Itinerary

- Whether planning it themselves or otherwise, individuals are lead to the most popular locations and attractions, not necessarily the ones the consumer would most prefer.
- Finding that great local spot or hole in the wall location can be a major highlight of any trip.

Rigid Plans

- An unexpected circumstance can throw all your carefully laid plans into disarray and leave you scrambling if you do not already have a backup.

Tour Guides

- Besides being expensive , tour guides lack the personalized touch often leaving travelers uninterested in the activities that were picked out.
- For introverts, tours can feel too overwhelming as it is usually a large group of people and it can be very difficult to accommodate any needs.

Group Frustrations

- Groups need a way to coordinate and share their plans to prevent conflicts and make suggestions.

Who is Affected?

Users

- Solo Travelers
- Friend Groups & Families
- Frequent travelers
- Adventure Seekers

These target groups face planning overload, decision fatigue, group conflicts, and lack of personalized/localized recommendations.

Customers

- Users
- Parks & Attractions
- Restaurants
- Local Tour Providers

These groups need better ways to reach travelers without solely relying on mainstream booking platforms.

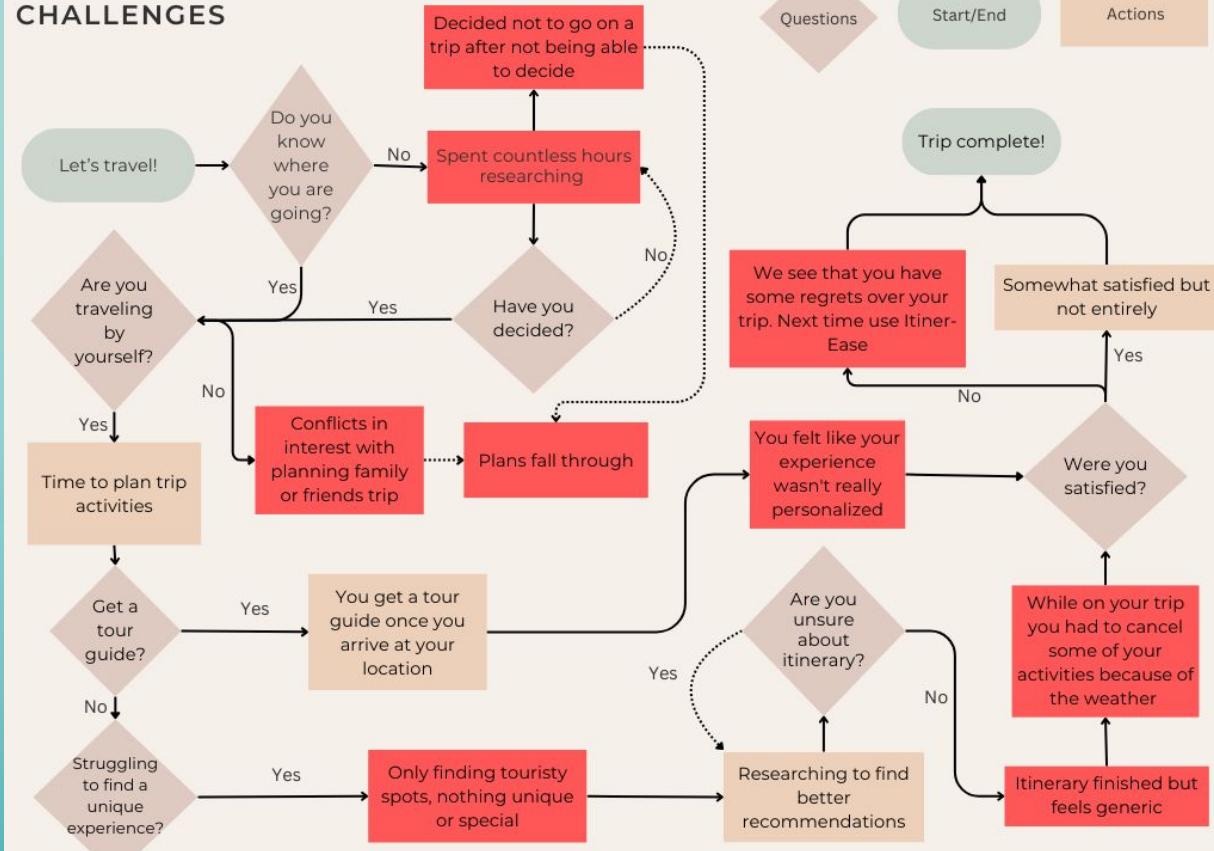
Stakeholders

- Travel & Tourism Industry
- Event Organizers
- Local Businesses

These entities face challenges in attracting travelers who are overwhelmed by mainstream options.

Current Process Flow

TRAVEL PLANNING CHALLENGES



Solution

Itiner-Ease is a mobile application designed to simplify and personalize itinerary planning for travelers, new residents, and spontaneous adventurers. Itiner-Ease allows users to generate custom itineraries based on their location and preferences. Users can filter activities, discover overlooked local treasures, and adjust plans in real time. Unlike existing solutions, Itiner-Ease combines personalized AI-driven user exploration with insights from verified local experts to create dynamic real-time itinerary suggestions for both individual and group travelers.

Personalized Itineraries



Personalization Profiles

- **Preferred Activities:** Whether you are a picky eater, looking for a more niche activity, or want to experience the local's favorites we take all these preferences into account when building your itinerary.
- **Customization Options:** Perhaps you want to eat a different kind of food each day or you have specific budgetary restraints you are trying to work under. We have options to modify the recommendations to account for these concerns.

AI-Driven Recommendations

- **Similarity Clustering:** Before our system can get a proper gauge on what exactly takes a place from simply good to one of your new favorites, we rely on users with similar reported interests to base Itiner-Ease's recommendations.
- **Learned Tastes:** As Itiner-Ease gets on your tastes, it gets even better at prioritising the options that you would enjoy the most.

Upgrade With Local Expertise



- **Local Guidance** - Users might be satisfied with just the recommendations our AI creates them, but nothing beats the knowledge of people who actually know the area.
 - Travelers pay a nominal fee to have their itinerary looked over and upgraded by our local experts. In addition some local experts may offer further tiers for personal tours, an emergency contact or other benefits.
- **Why Become a Local Expert?** - These Local Experts are an integral part of the Itiner-Ease ecosystem, so it is important that they are incentivized properly.
 - The local experts will make the majority of the fee, with Itiner-Ease taking a small cut. Itiner-Ease will also take advantage of these local expert recommendations to refine our AI recommendation algorithm.

Collaboration and Dynamic Updates

Group Profiles

- **Joint Itineraries:** Going on a family trip or even just a trip with friends? Itiner-Ease can use multiple user profiles to generate an itinerary, taking all your preferences, constraints, and a group voting system to develop a plan that works for all parties.
- **Plan Sharing:** Itiner-Ease can share all or only part of your itinerary to coordinate activities with others in the app or outside it.

Dynamic Itinerary Updates

- **Avoid Disruptions:** It is impossible to plan for everything but that does not mean we cannot minimize it where possible. Itiner-Ease takes a proactive approach to monitor local conditions and notify you of any concerns.
- **Hot Spots:** Relying on reviews means you might miss out on the exciting new location that just opened. If users with interests similar to you are rating it highly recently we may recommend an optional switch in your itinerary.

Explorer Rewards

Local Discovery: Users can create positive reviews for their favorite locations and earn rewards if other travelers also end up enjoying the experience.

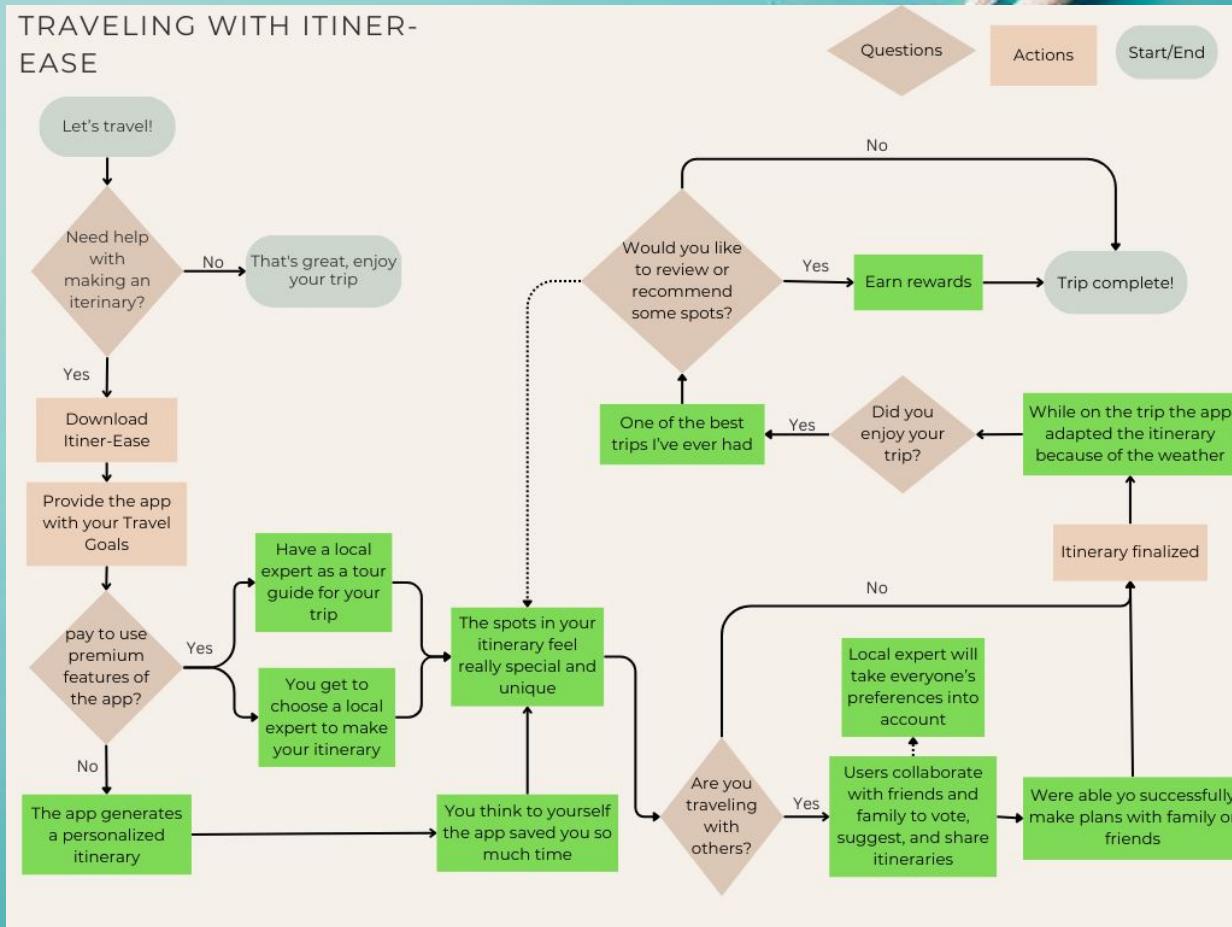
Sponsored Businesses: Itiner-Ease will partner with local businesses to increase their visibility in exchange for benefits to our rewards members.

Reward Benefits: Users can use their rewards to spend on our premium content such as discounts at participating locations, local expert guidance, and more.



Solution Process Flow

TRAVELING WITH ITINER-EASE



What It Will Do

AI-Driven Recommendations

- Through the use of our AI-trained on data and reviews from users with similar interests, Itiner-Ease will narrow down the options to the ones that most accurately fit your desired experience.

Feel Like a Local

- Our baseline personalized itinerary experience is focused on giving you that unique-tailored experience, but users can take it one step further and pay to have verified local experts give them an experience reminiscent of someone visiting their home town and not a completely new place.

Adapt Plans On the Go

- Itiner-Ease monitors disruptive factors such as weather or local holidays and uses a flexible structure to easily propose new options to prevent schedule vacancies.

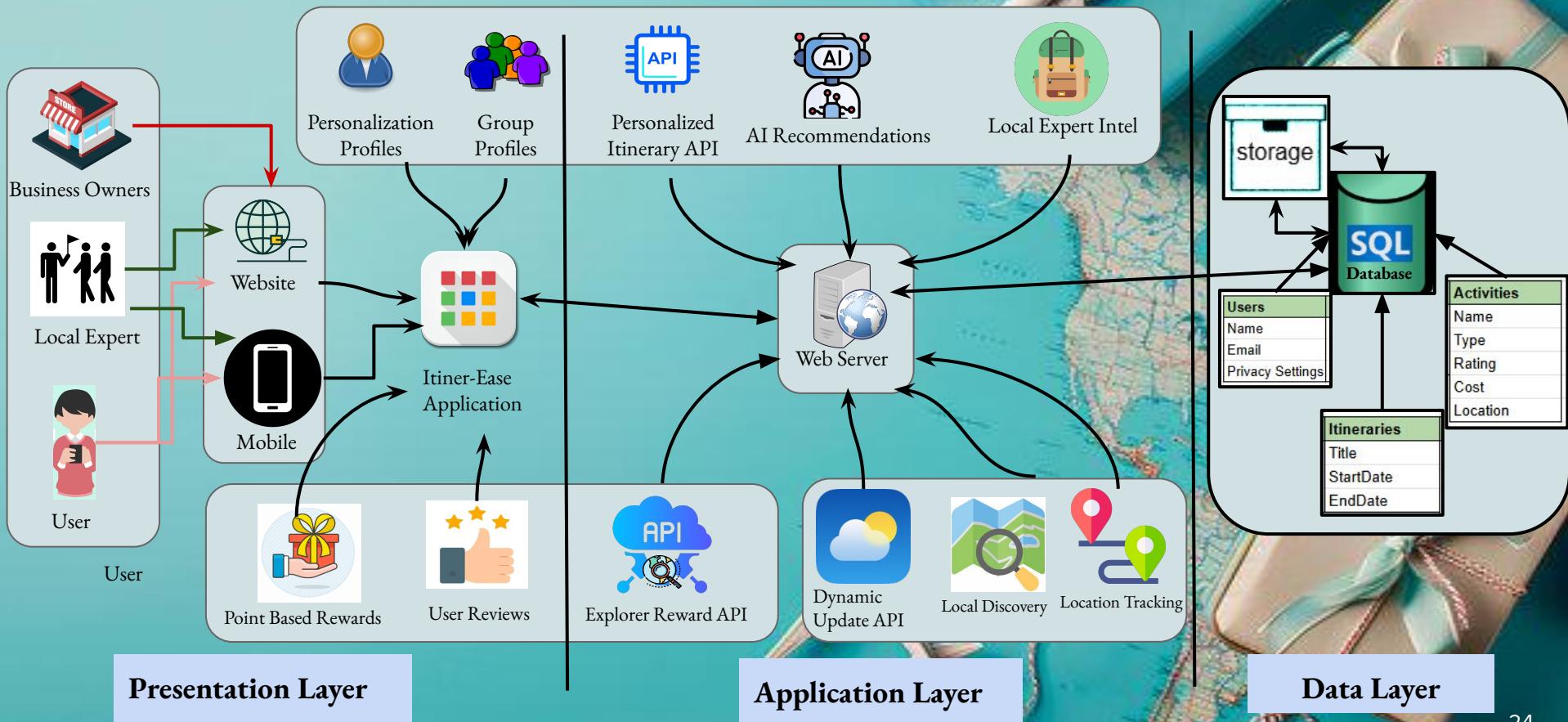
Make Group Planning a Breeze

- Group Profiles will take into account all members' personalization profiles when making suggestions to minimize choice conflict. While also allowing you to input your own preferences for members who either cannot or do not want to make a profile.

What it Will Not Do

- **Itiner-Ease will not provide a way to book flights or hotels:** The user can upload their flight and lodging info to the itinerary.
- **Itiner-Ease will not make reservations or otherwise interact with businesses on the user's behalf:** Entry and reservation requirements will be displayed prominently.
- **Itiner-Ease will not focus on social networking:** Users can invite other users to itineraries but can otherwise not share or publicize their activities in-app.
- **Itiner-Ease will not make generic recommendations:** The recommendations will be primarily based on the user's preferences and not just general popularity.

Major Functional Components Diagram



Presentation Layer

Application Layer

Data Layer

Development Tools

Frontend Languages	HTML, CSS, JavaScript
Backend Languages	Python, JavaScript
Integrated Development Environment (IDE)	Visual Studio Code
AI Development Tool	Google's Vertex AI Platform
Version Control	Git through GitHub
Continuous Integration / Deployment (CI)	GitHub Actions and Workflows
Collaboration	Trello
Database	Firebase (NoSQL)
Documentation	JSDoc

Development Dependencies

Mobile Framework	React Native
Web Framework	AngularJS
Testing Frameworks	PyTest, Jest
General Libraries	NumPy, Pandas
Machine Learning Libraries	TensorFlow, Scikit-Learn, PyTorch
Application Programming Interfaces (API's)	Google Maps, Yelp, Foursquare, PayPal
Runtime Environment	Node.js
Simulation Containers	Docker

Competition Matrix

Feature	Itiner-Ease	wanderlog	TROUPE	FRIENZY	TripIt from Concur	Booking.com
Collaborative Itinerary Management	✓	✓	✓	✓		
Hidden Gems	✓	✓		✓		✓
AI-Driven Recommendations	✓	✓	✓	✓	✓	✓
Dynamic Itinerary Updates	✓					
On-Demand Local Expertise	✓					
In-App Booking System		✓			✓	✓

Implementation: full ✓ partial ✓

Benefits to Customer Base

Travelers

Reduce Planning Overload

- AI Driven Recommendations simplify decision making.
- Collaborative grouping tools make trip planning with others effortless.
- Dynamic updates help avoid disruptions or provide suggestions for hot spots.

Local Experts

Monetization Opportunities

- Flexible engagement through itinerary verification or in-person tours.
- Increased visibility for verified locals to showcase their expertise.

Businesses

Targeted Traveler Insights

- Data driven analytics help businesses understand traveler preferences.
- Personalized recommendations drive potential customers to relevant experiences.

User Roles

Role	Admin/Developer	Traveller	Local Expert	Business
Tasks	<ul style="list-style-type: none">• Resolve user issues• Keep app content up to date• Assist in local expert and business verification• Ensure user data privacy• Data analysis on app usage and trends	<ul style="list-style-type: none">• Create account as a traveller• Provide personal preferences and interests• Explore destinations and create itineraries• Read and leave reviews• Create group itineraries with other travellers	<ul style="list-style-type: none">• Create account as local expert• Provide verification of residence in area• Create itineraries based on customers' preferences• Lead travellers out on tours• Read reviews on destinations as well as themselves	<ul style="list-style-type: none">• Create account as local business• Provide proof of ownership for verification• Register and inform travellers of events• Advertise business• Read reviews on themselves

Feature Table

	Features	Travelers	Local Experts	Businesses	Devs/Testers	Sys Admin	Premium Users
Account Management	Login/Authentication	✓	✓	✓	✓	✓	✓
	Account Creation/Deletion	✓	✓	✓	✓		✓
	Local Services Offered		✓		✓		
	Payment Information	✓	✓				✓
Itinerary Creation	Personalized Profiles	✓			✓		✓
	AI Recommendations	✓	✓		✓		✓
	Business/Location Reviews	✓	✓	✓	✓		✓
	Itinerary Customization	✓					✓
	Local Expert Upgrades	✓	✓				✓
Public/Group Profiles	Joint Itineraries	✓	✓	✓	✓		✓
	Plan Sharing	✓					✓
	Choice Voting and Selection	✓				✓	✓
Dynamic Itinerary Support	Weather Updates	✓			✓	✓	✓
	Local Event Tracking	✓	✓	✓	✓	✓	✓
	Dynamic "Hot Spot" Advocacy	✓	✓	✓			✓
Explorer Rewards	Discounts and Coupons	✓		✓	✓	✓	✓
	Review Goals	✓				✓	✓
	User Ratings	✓	✓	✓		✓	✓
Data Analytics and Reports	AI Preference Learned Behavior			✓		✓	✓
	Profitability Metrics			✓		✓	
	Income Summary		✓			✓	
	Popularity Trend Visualization	✓	✓	✓		✓	✓
System and Data	Account Management				✓	✓	
	Algorithm Updates				✓	✓	
	Health and Security Monitoring					✓	
	Full Database Access					✓	
	Review Moderation Tools				✓	✓	

User Stories: Personalized Profile

- As a traveller, I want to....
 - record my preferences so that I am recommended things I want to do or see.
 - be able to indicate activities that I do not wish to do or want to avoid.
 - have trip specific preferences without having to override my existing preferences.
 - indicate any allergens, sensitivities, or intolerances that I have.
 - set budgets that will be taken into account with my recommendations.
- As a local expert, I want to...
 - be able to view my traveler's preferences so that I may make specific recommendations.
 - indicate my specialties so that I can be matched with travelers who need my expertise.
- As a business owner, I want to...
 - focus on advertising my business to users who are interested in it already.
 - see the preferences of travelers who visit nearby so I can tailor my offerings.

User Stories: Group Profile

- As a traveller, I want to....
 - be able to share my itinerary and view others'.
 - have my activity recommendations be based on all groupmates preferences.
 - have a way for my group members to vote on activities.
 - be able to input preferences for users who do not have an account.
 - invite others to my itinerary or trip.
- As a local expert, I want to...
 - know the size of a group before I recommend them anything.
 - know if a group needs special provisions for children or other members
- As a business owner, I want to...
 - offer group packages to larger group sizes.

User Stories: Local Experts

- As a traveller, I want to....
 - Access a list of available local experts, so that I can choose someone who best matches my travel needs.
 - View local experts' credentials and experience, so that I feel confident and safe selecting someone knowledgeable.
 - Choose between having a local expert plan my itinerary and/or guide my tour, so that I can customize my experience based on my trip.
 - See each local expert's pricing and reviews, so that I can make a decision that fits my budget and expectations.
 - Message local experts directly, so that I can ask questions and clarify services before booking.
 - Book and pay for services through the platform, so that I have a secure and convenient experience.
- As a local expert, I want to...
 - Upload my credentials and expertise, so that travelers feel confident booking my services.
 - Display my services and pricing clearly on my profile, so that users know what I offer.
 - Access my reviews and ratings, so that I can identify areas for improvement and build credibility.
 - Manage my availability and calendar, so that I can avoid scheduling conflicts and stay organized.
 - Receive notifications for new booking requests, so that I can respond quickly and secure more clients.
 - Manage my payment settings, so that I can easily cash out my earnings.
 - Choose whether I offer itinerary planning, guided tours, or both, so that I can define the type of services I provide.
 - Communicate with travelers securely through the platform, so that I can provide personalized experiences.
 - View insights on profile views and bookings, so that I can optimize my visibility and performance.
- As a business owner, I want to...
 - Offer promotions to local experts, so that they can experience my business and recommend it to their clients
 - Track which local experts have redeemed promotions, so that I can measure the effectiveness of my outreach.
 - Highlight my business in local expert dashboards, so that I can increase visibility and foot traffic.
 - Receive reviews from local experts, so that I can build trust with travelers through expert endorsements.

User Stories: AI Recommendation

- As a traveller, I want to....
 - Be able to rate and give feedback on recommendations so the AI can improve future suggestions
 - receive AI-generated recommendations that fit within my budget so I can plan experiences without overspending
 - receive AI-generated activity suggestions based on my previous trips so that I can discover new places I'll probably enjoy.
- As a Local Expert, I want to...
 - Be able to access my customer's AI recommended Itinerary and make adjustments/recommendations
 - Be able to flag/remove AI "hallucinations" i.e. incorrect or fake postings from itineraries to prevent them from showing up future itineraries.
- As a business owner, I want to...
 - have my offerings to be included in AI recommendations for nearby travelers so I can attract more foot traffic

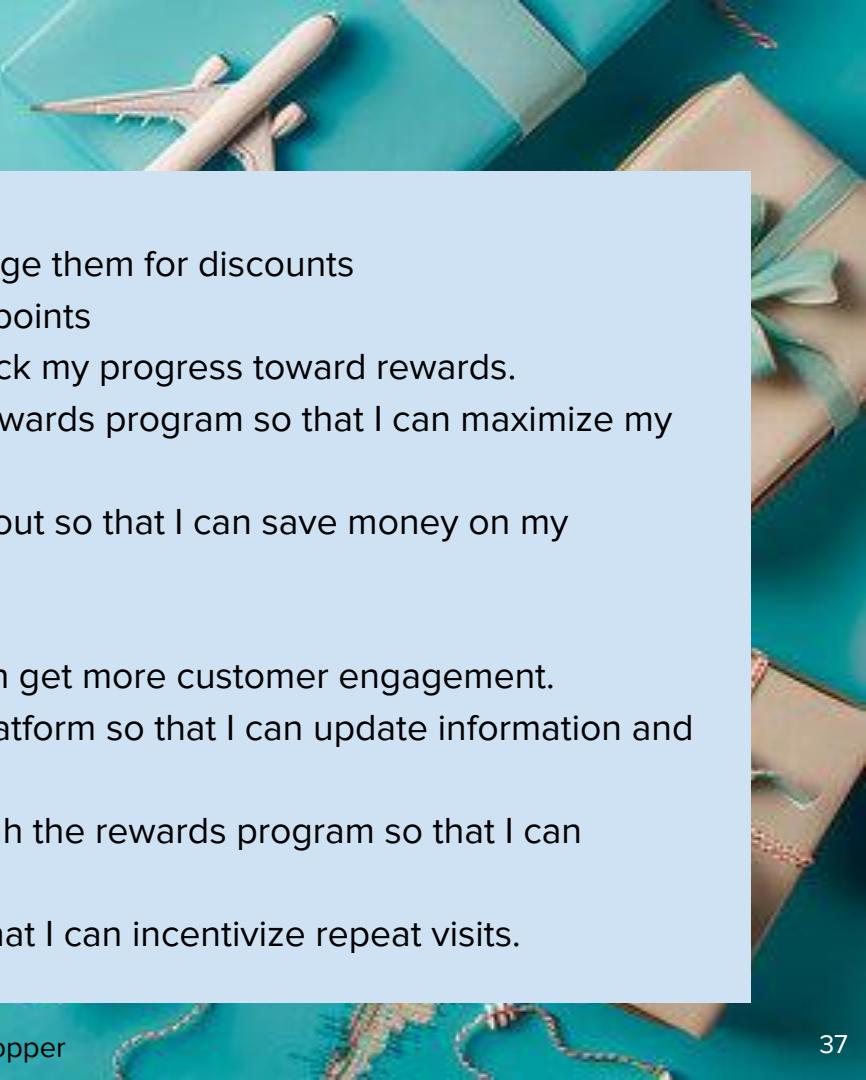
User Stories: Dynamic Updates

- As a traveller, I want to....
 - update my itinerary when there are weather conditions or traffic disruptions.
 - automatically adjust my itinerary when a location becomes overcrowded.
 - automatically suggest my itinerary when a new hotspot emerges.
- As a local expert, I want to...
 - suggest real-time changes to a traveler's itinerary when I see opportunities.
 - suggest real-time updates when I see weather disruptions or traffic disruptions.
 - to be notified when higher traveler activity or crowd levels occur, so I can provide timely advice and recommend alternative spots.
- As a business owner, I want to...
 - my business to be suggested in real-time when travelers are nearby or when alternative plans are needed.
 - to be notified when my area is seeing increased or decreased foot traffic, so I can adjust promotions, hours, or engage travelers.

User Stories: Reviews

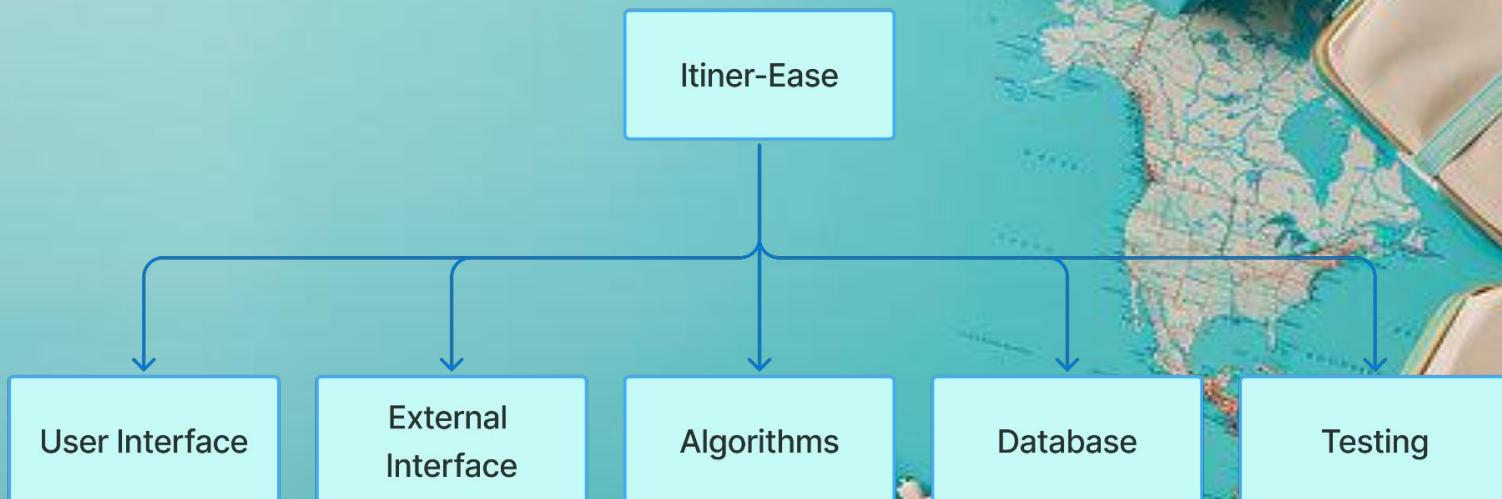
- As a traveller, I want to....
 - leave star reviews on places I've been to help other travellers.
 - leave detailed reviews on places I've been to help other travellers and the owners.
 - leave anonymous reviews on places I've been to conceal my identity.
 - upload pictures with reviews to better show the service.
 - read reviews to see what locals and other travellers are saying.
- As a local expert, I want to...
 - read reviews to see what others are saying around town.
 - track trending reviews to find new places.
- As a business owner, I want to...
 - read reviews to see what people like and what I can improve on.

User Stories: Rewards

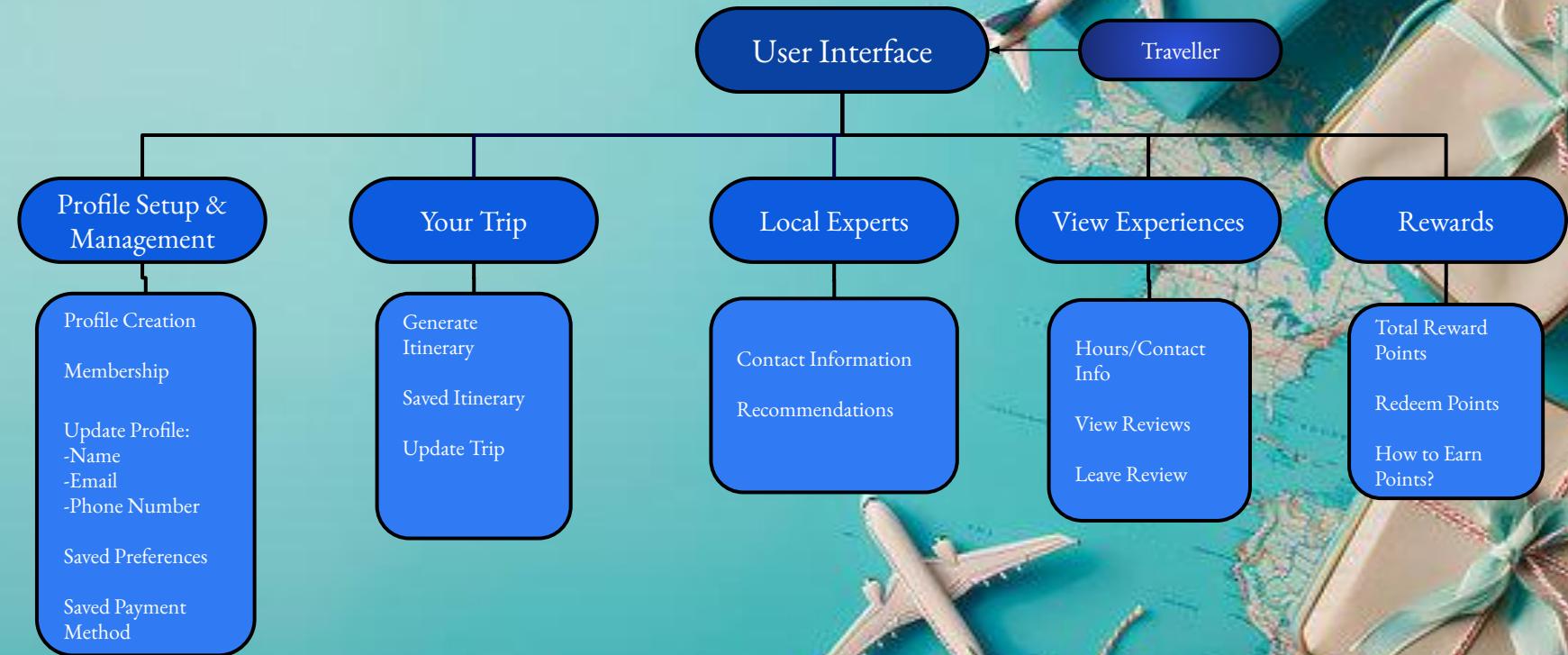


- As a traveller, I want to....
 - Accumulate reward points so that I can exchange them for discounts
 - Leave reviews so that I can earn more reward points
 - View my reward point balance so that I can track my progress toward rewards.
 - Search for businesses that participate in the rewards program so that I can maximize my points.
 - Redeem my reward points easily during checkout so that I can save money on my experiences.
- As a business owner, I want to...
 - Participate in the rewards program so that I can get more customer engagement.
 - Manage my business rewards profile on the platform so that I can update information and attract more travellers
 - See analytics on customer engagement through the rewards program so that I can measure its impact
 - Offer special promotions or bonus points so that I can incentivize repeat visits.

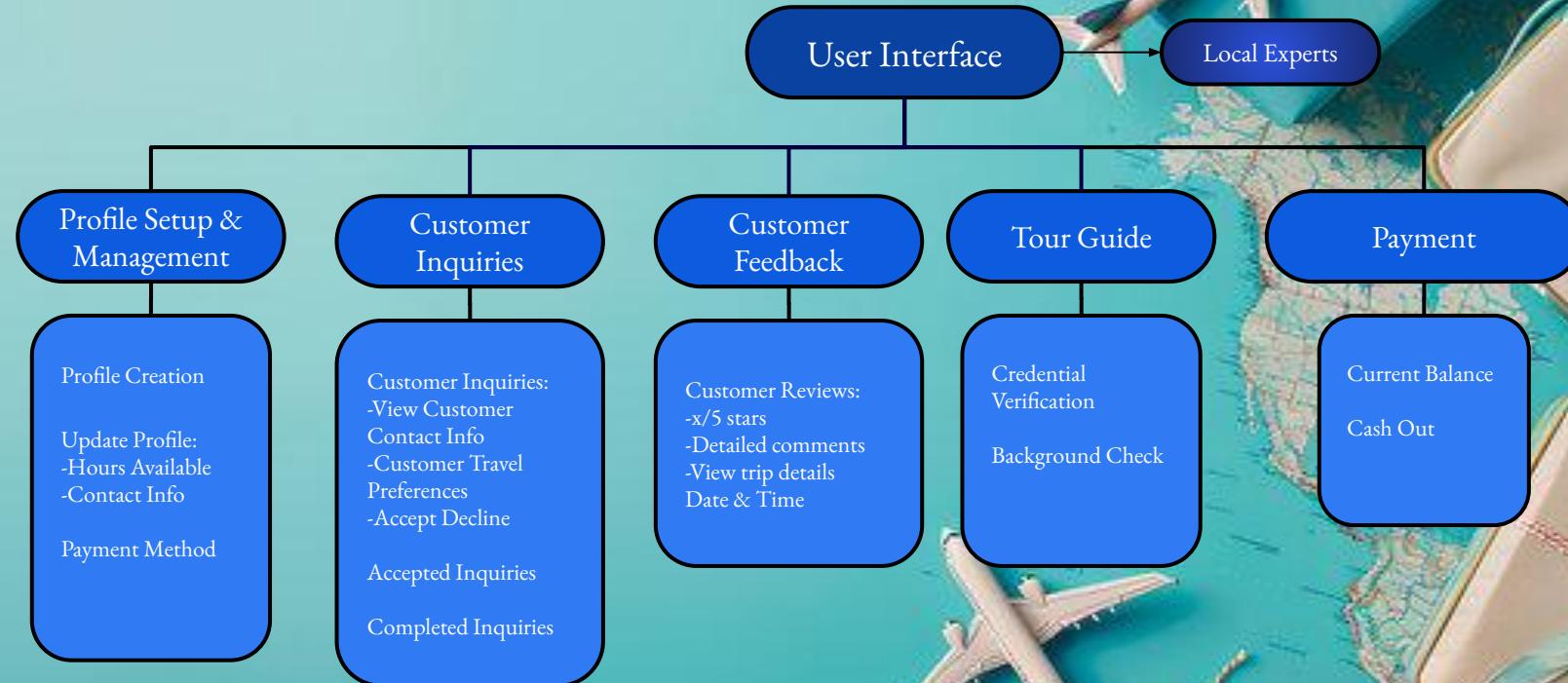
Work Breakdown Structure



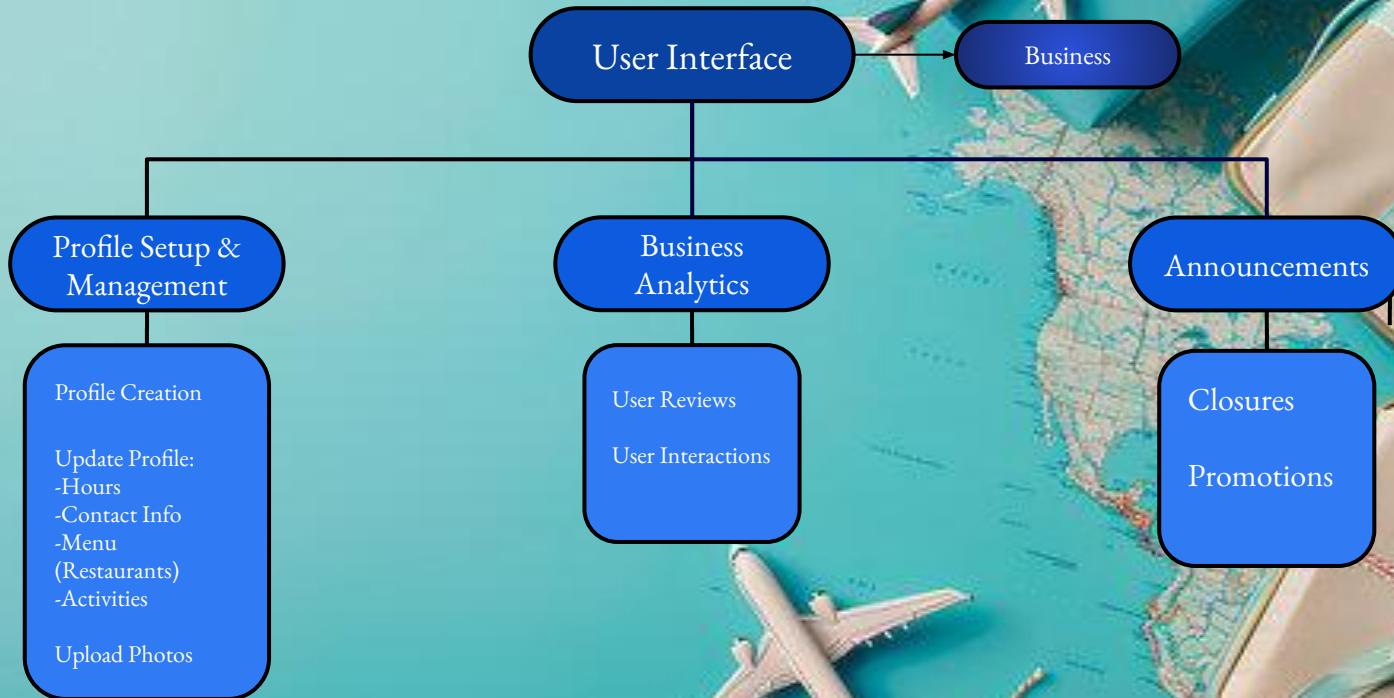
WBS: User Interfaces - Travelers



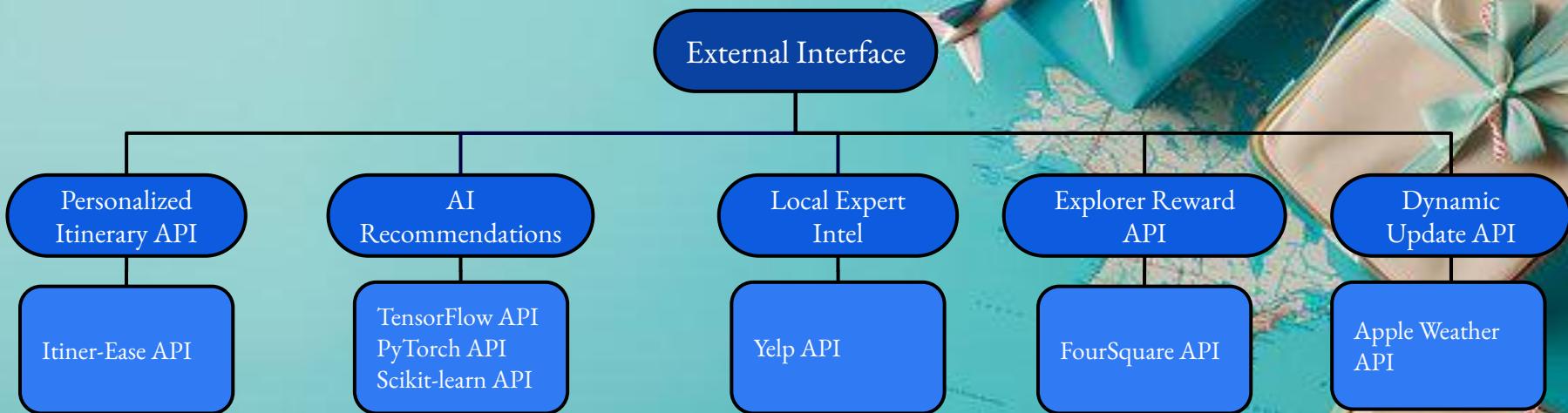
WBS: User Interfaces- Local Experts



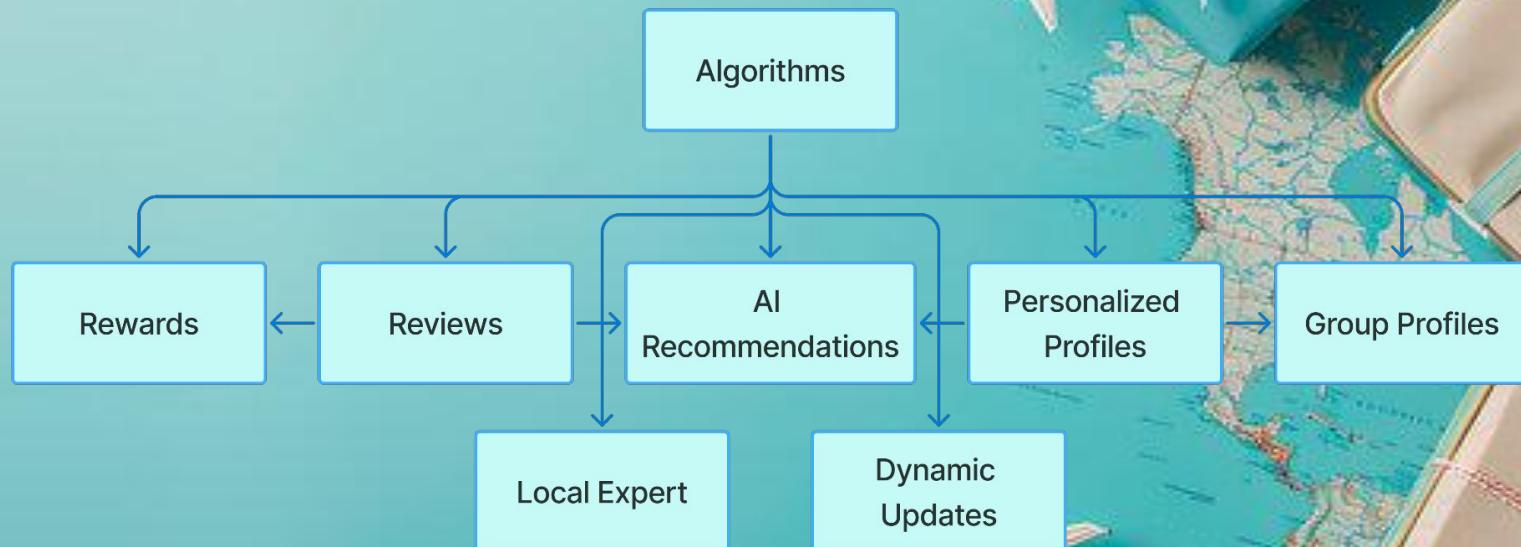
WBS: User Interfaces- Businesses



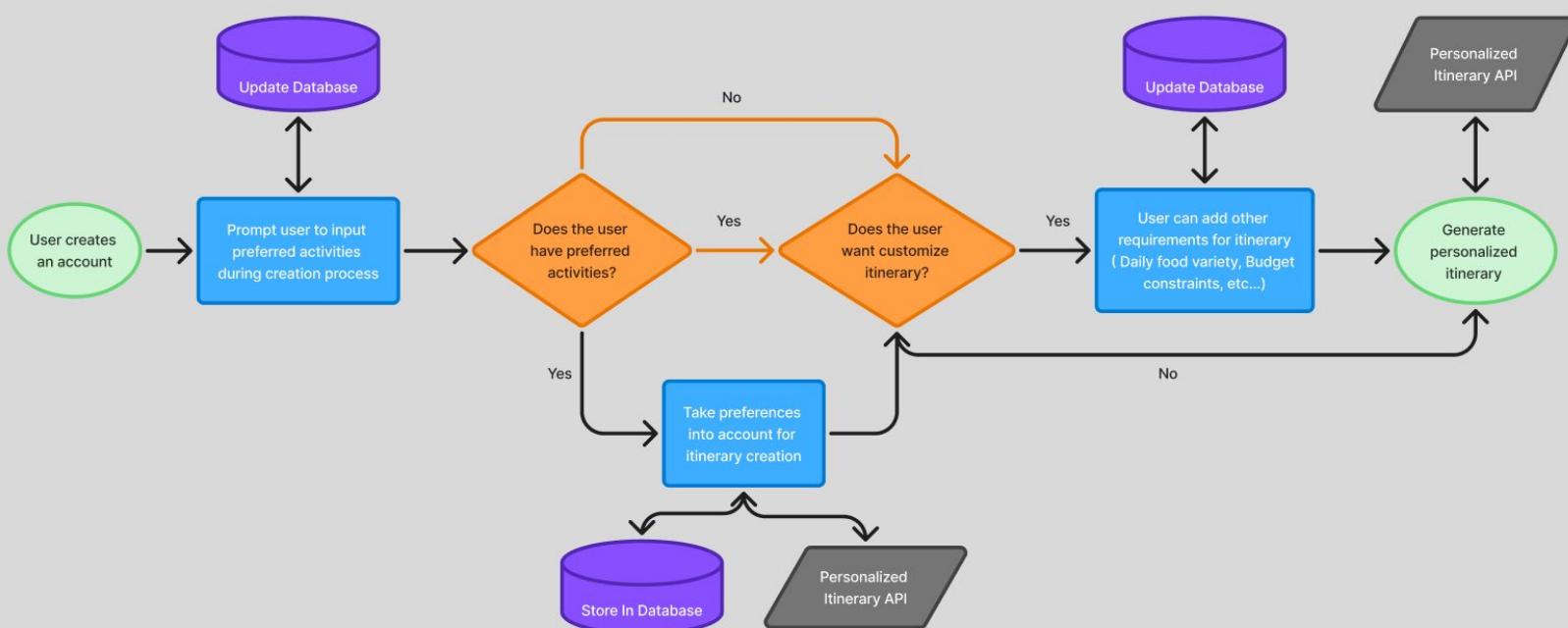
WBS: External Interfaces



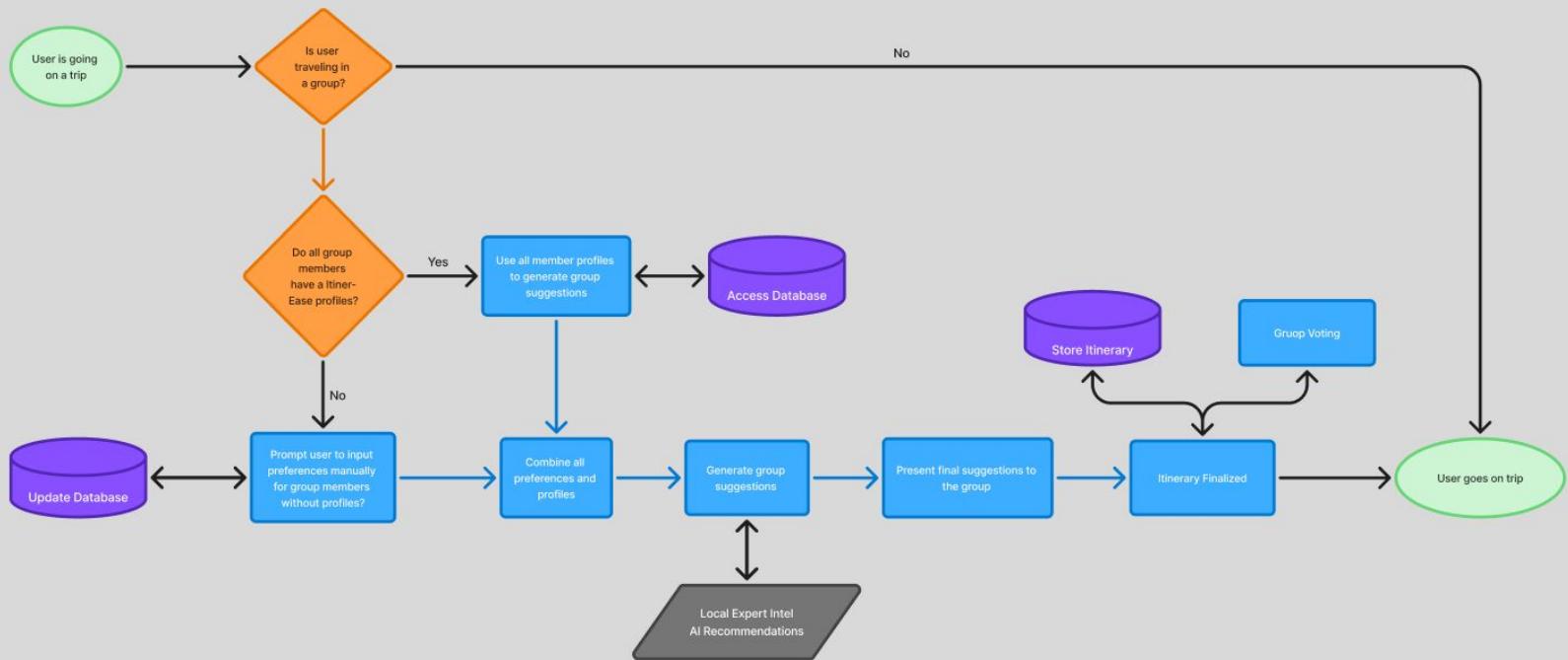
Algorithms



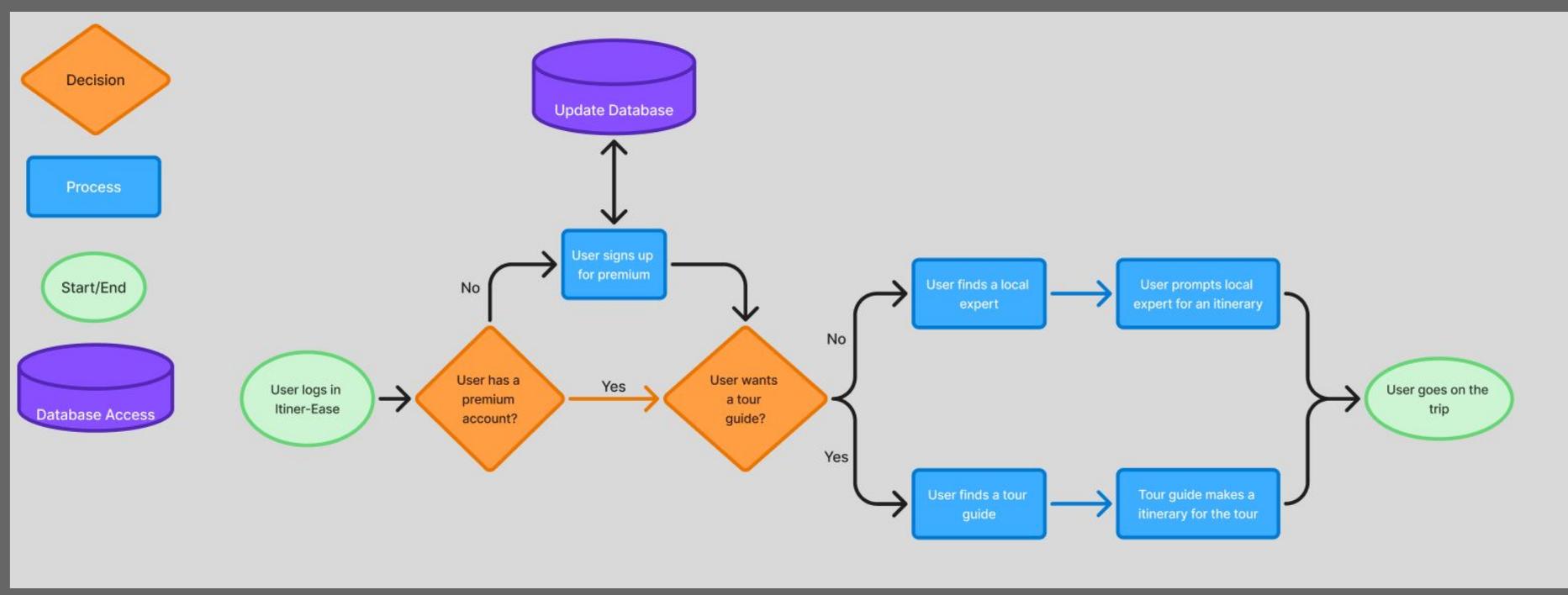
Personalized Profiles Algorithm



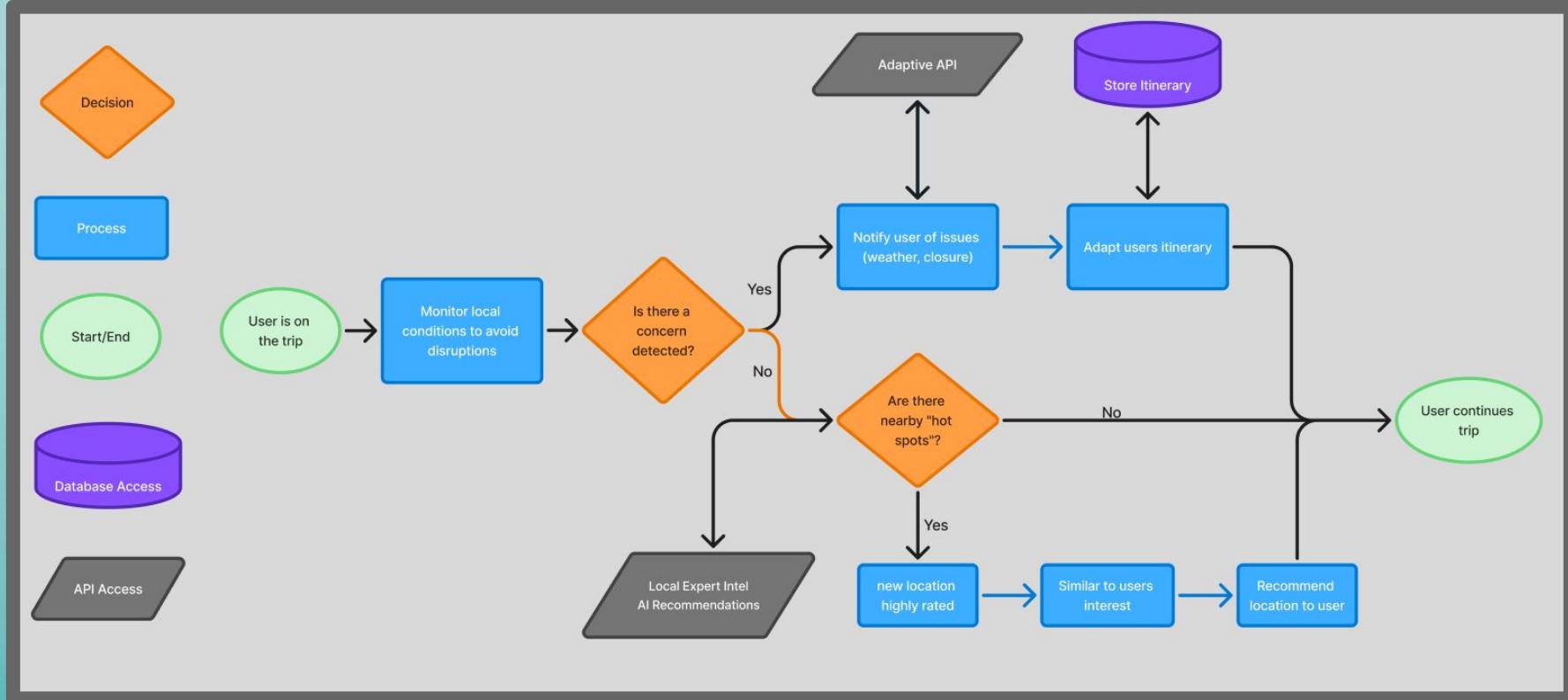
Group Profiles Algorithms



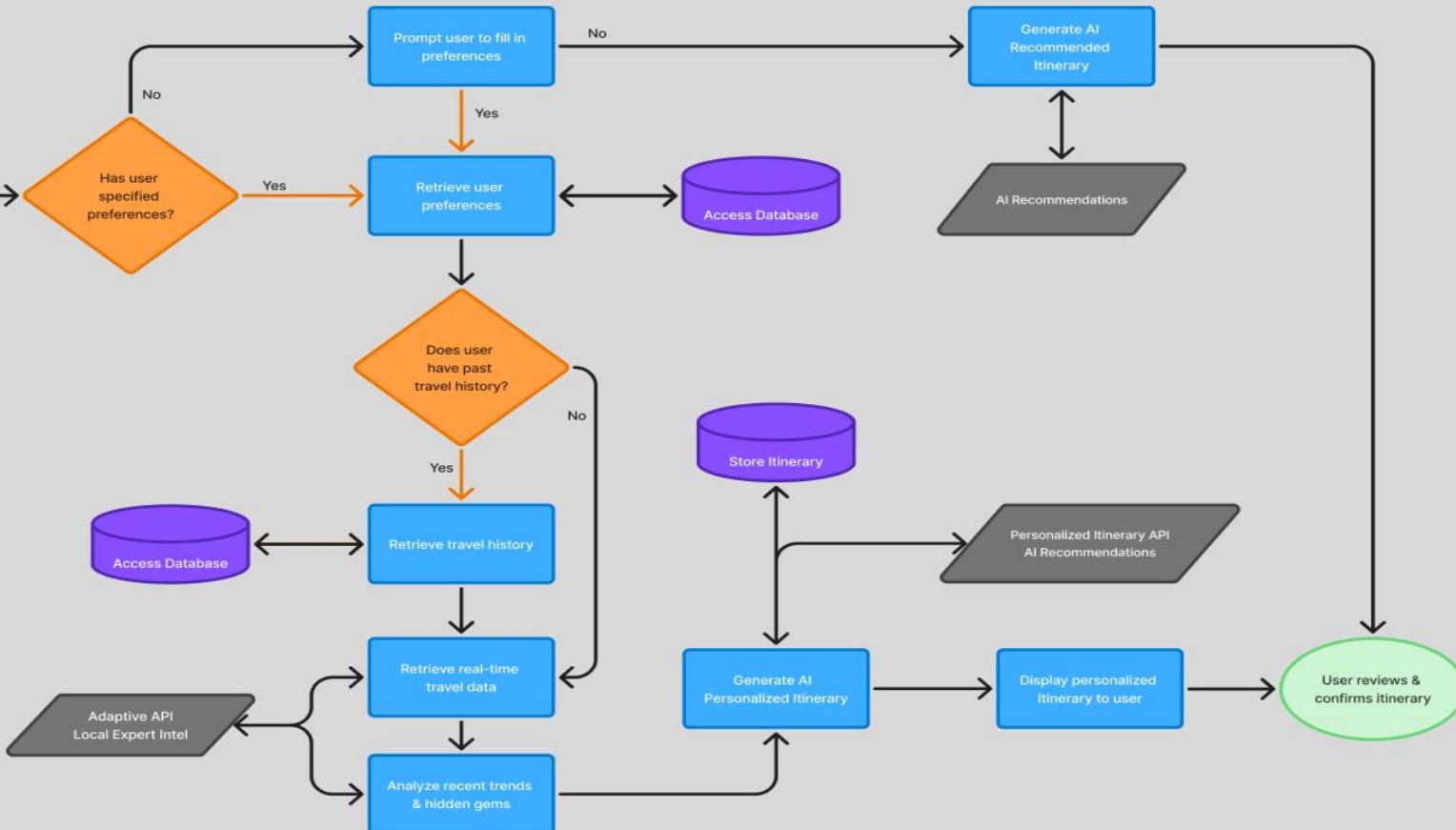
Local Expert Algorithms



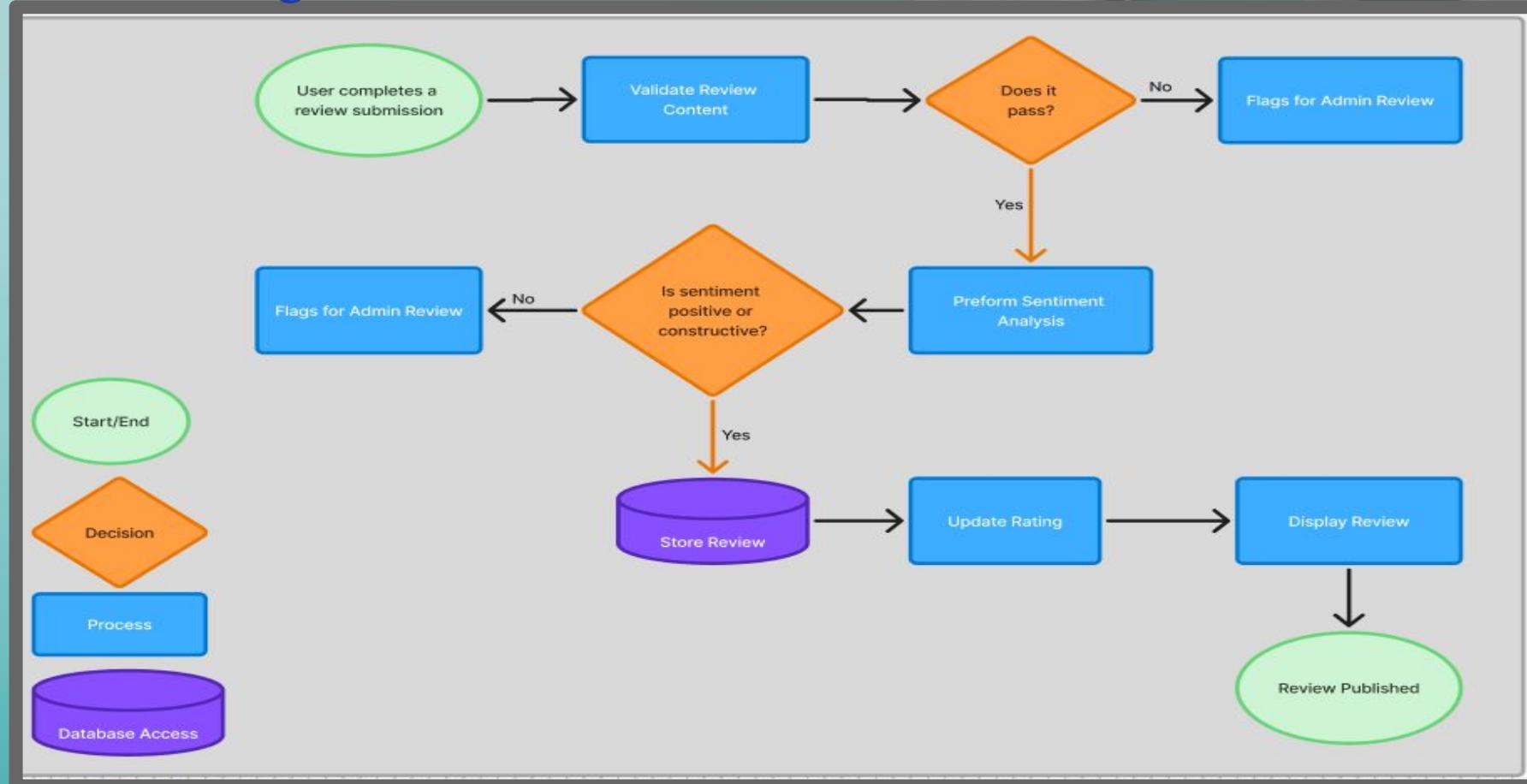
Dynamic Updates Algorithms



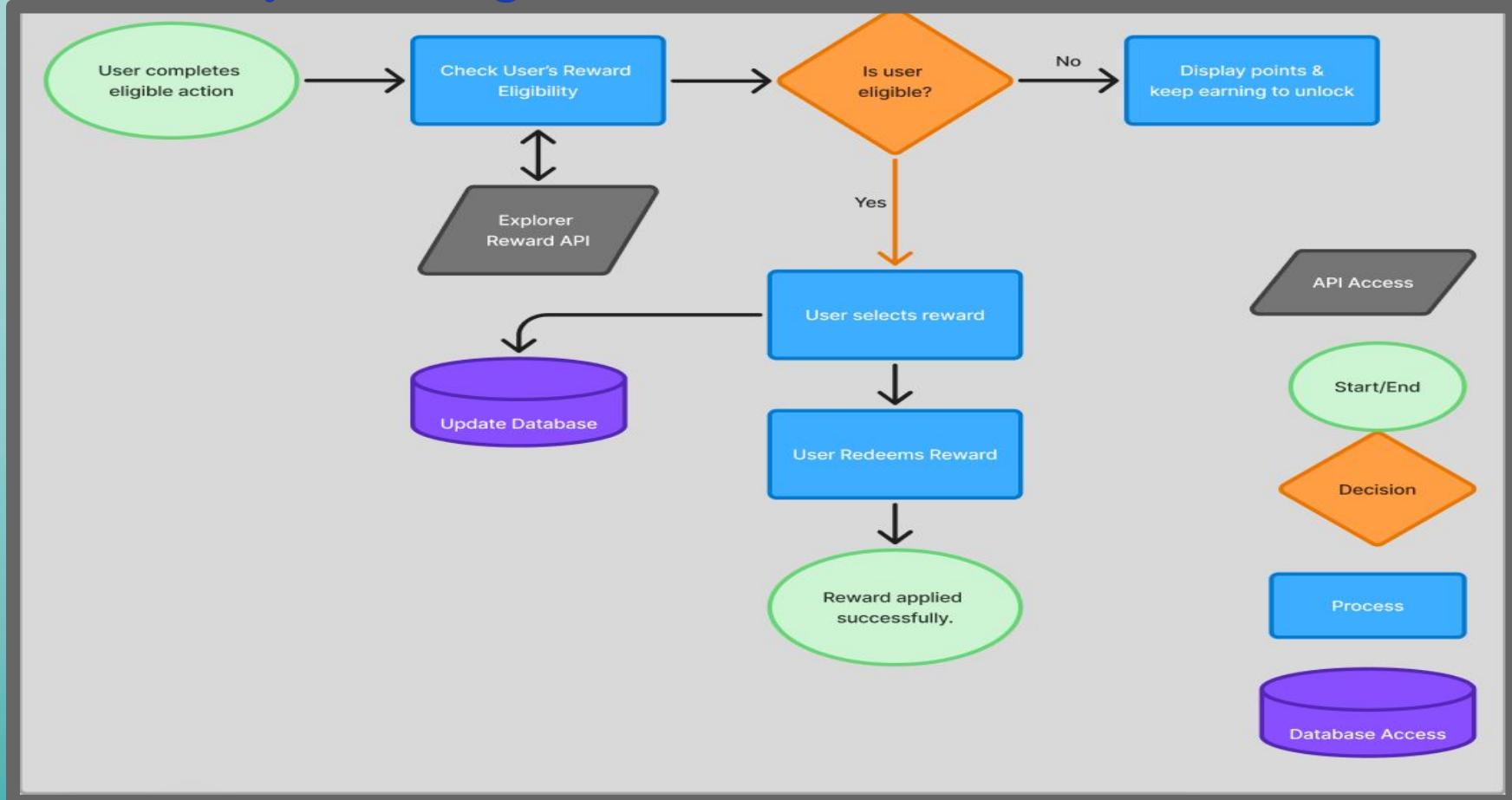
AI Recommendations Algorithm



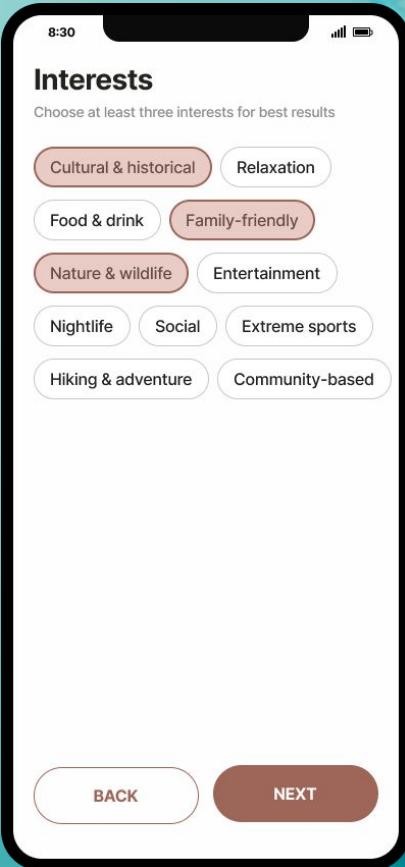
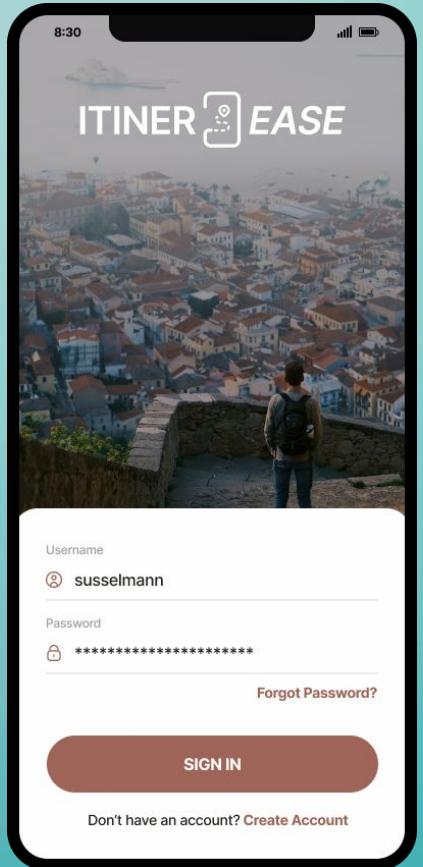
Review Algorithm



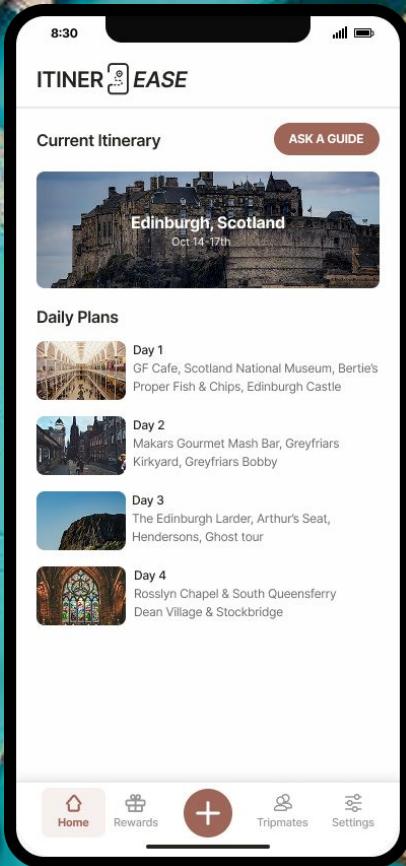
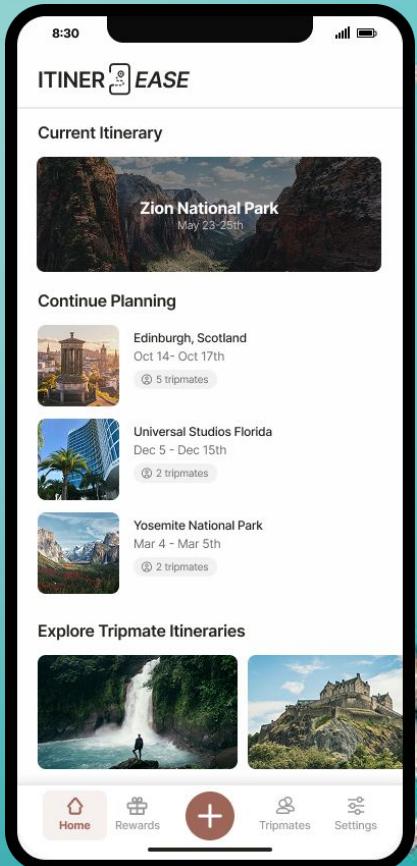
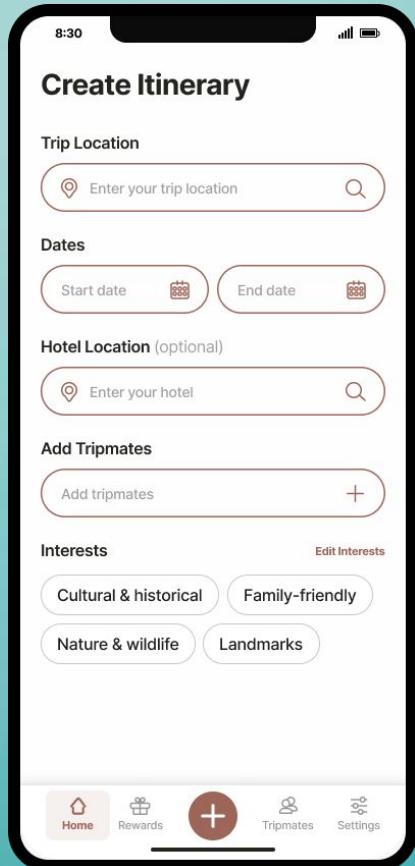
Reward System Algorithm



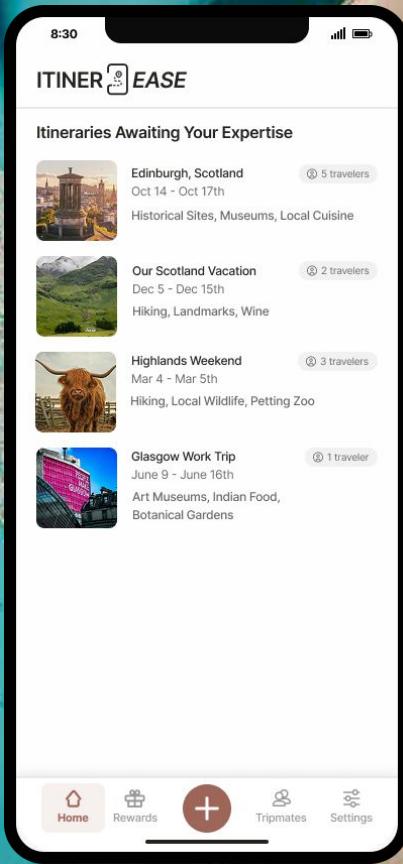
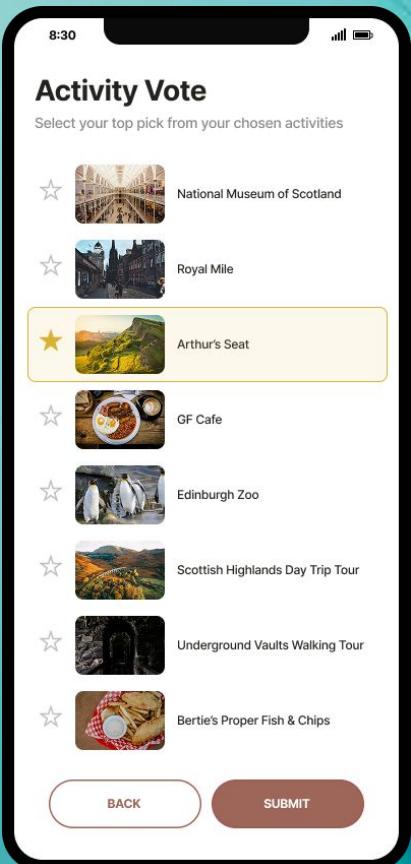
User Interface Design: Travelers: Login and Preferences



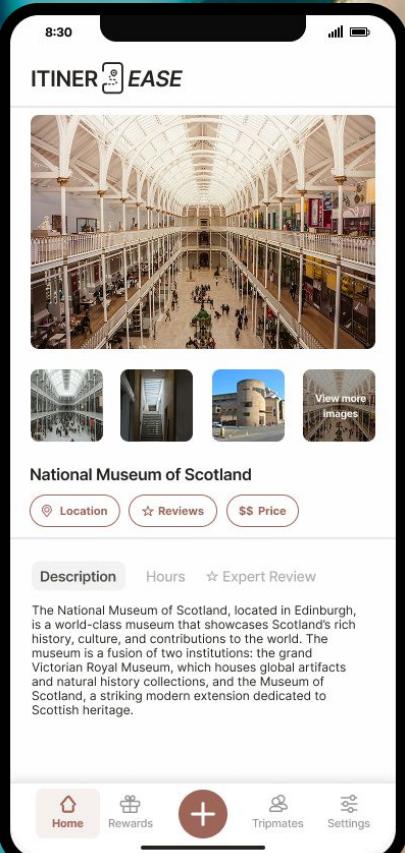
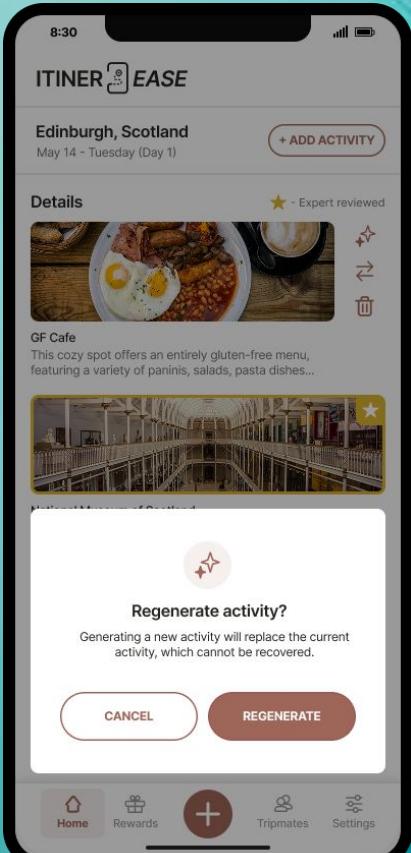
User Interface Design: Travelers: Itinerary



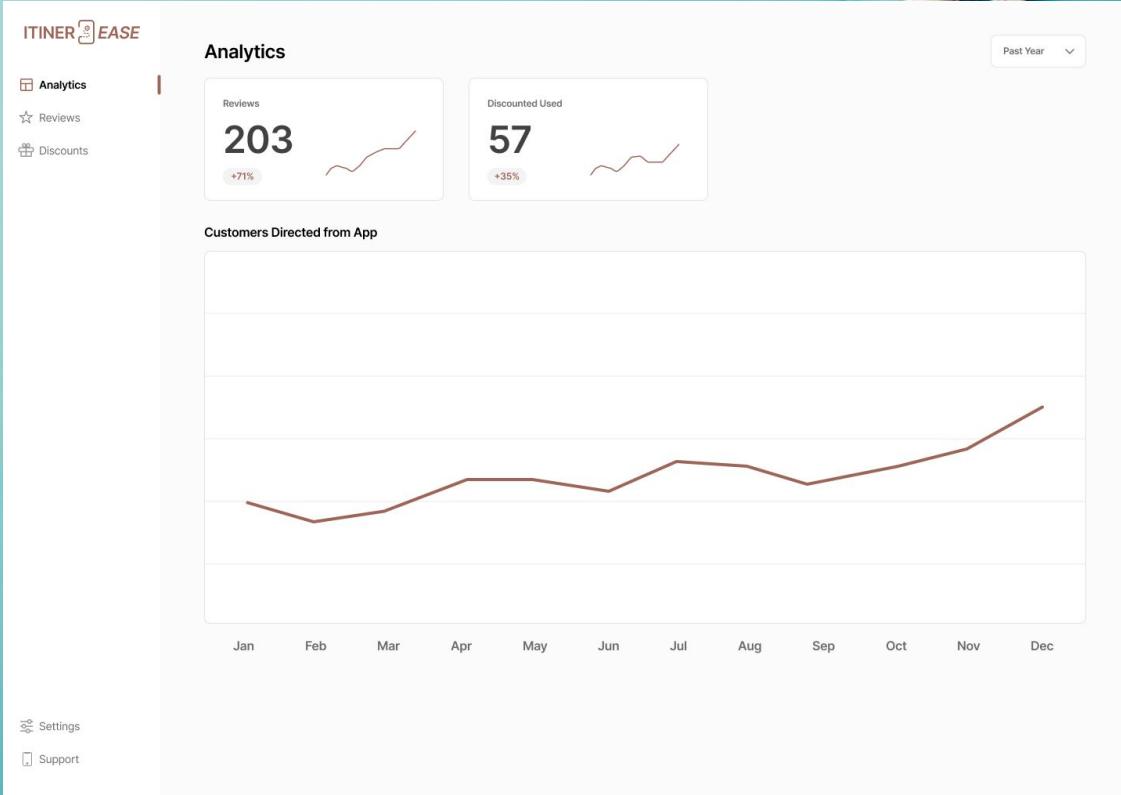
User Interface Design: Local Expert and Group Views



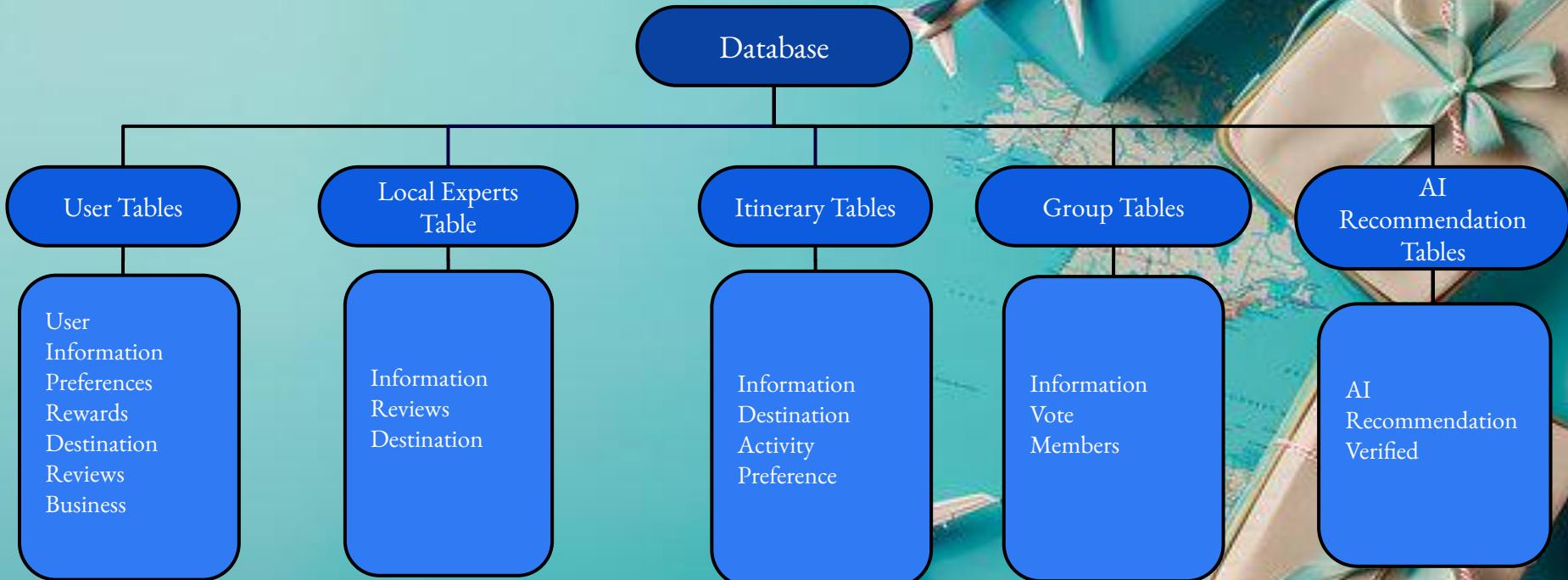
User Interface Design: Itinerary Modification



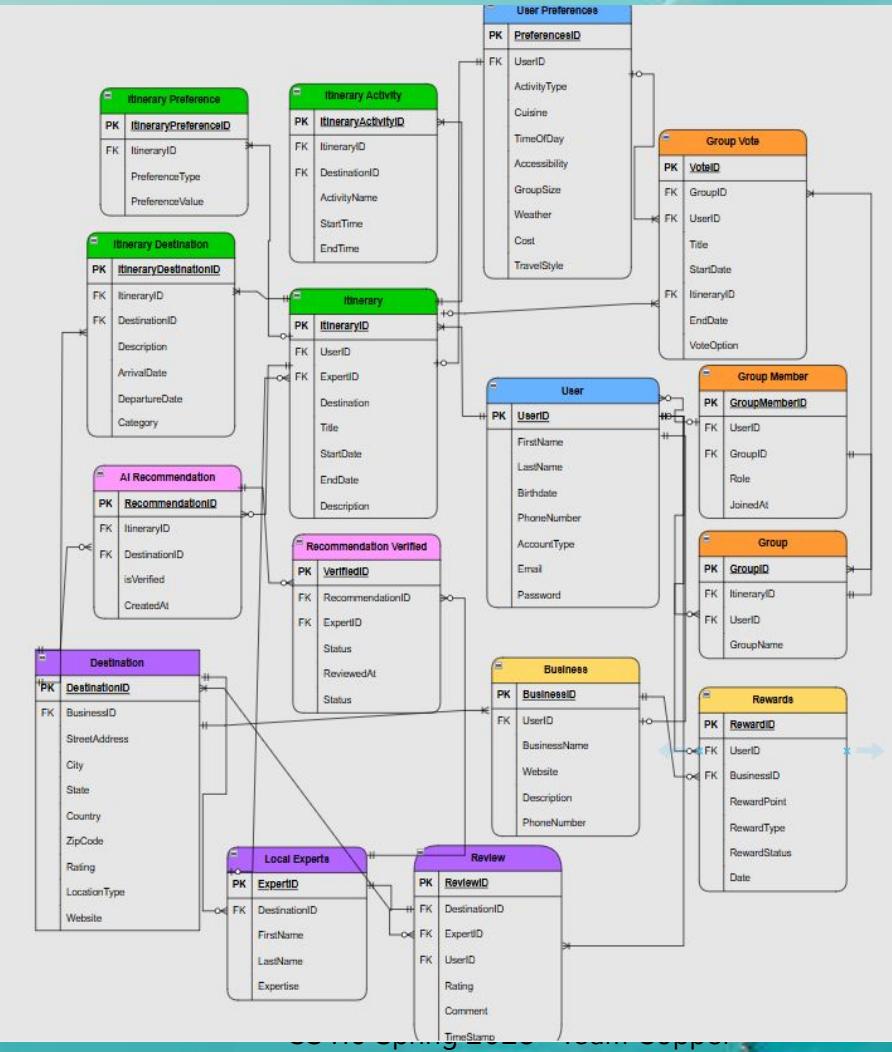
User Interface Design: Business



WBS: Database



Database Schema



Database Management

Input

User-generated content (reviews, preferences, group activities)

Real-time data from APIs (Google Maps, Yelp, Weather, Foursquare)

Expert feedback and business promotions (managed through verified accounts)

Storage

Relational Database: MySQL or PostgreSQL for structured data (store users, itineraries, preferences, reviews, businesses)

Cloud Storage: Firebase for media (images), real-time sync

Backup

Automated backups: Scheduled backups using cloud database services (Firebase)

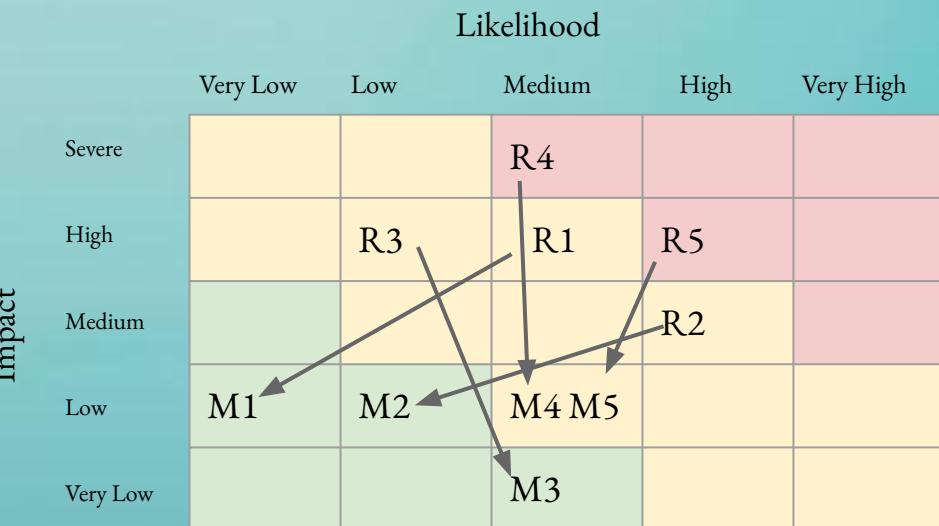
Security

Two-factor authentication (secure logins)

Role-based access control

Encryption of sensitive data (passwords, transactions)

User Risk Matrix



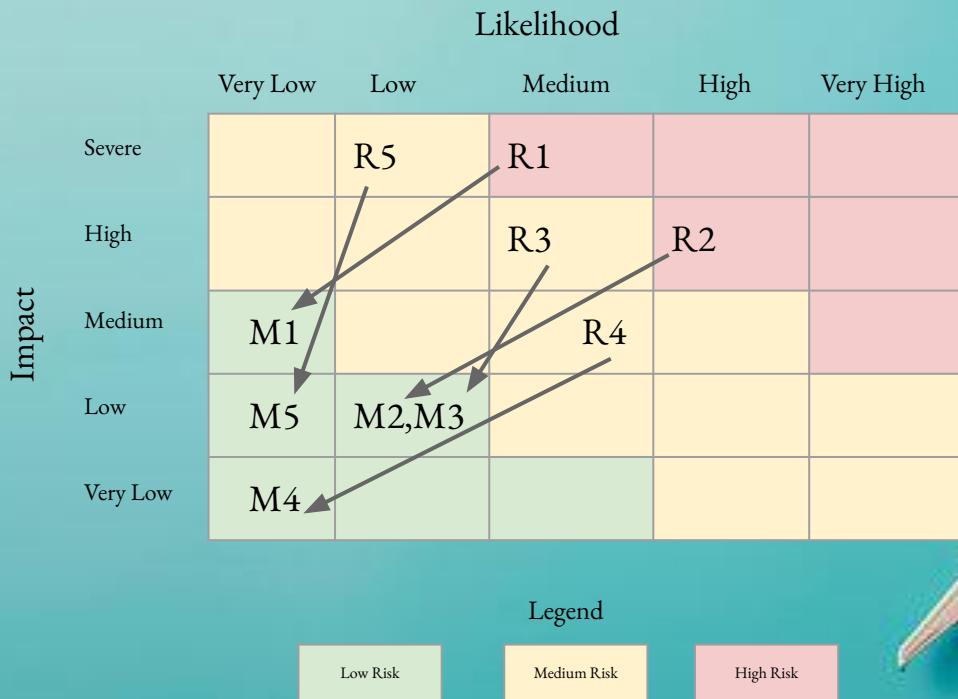
Risks

- R-1: User finds the app overwhelming or confusing to use.
- R-2: User receives recommendations that don't match preferences.
- R-3: User is in an area with poor internet connectivity.
- R-4: Users abandon the app due to lack of engagement.
- R-5: Users won't trust strangers to give advice and personalized tours.

Mitigation

- M-1: Ensure an intuitive UI/UX with guided onboarding and simple navigation.
- M-2: Allow users to personalize preferences and provide feedback to improve recommendations.
- M-3: Implement offline mode with cached recommendations and maps.
- M-4: Implement push notifications, gamification, or incentives like discounts to keep users engaged. Integrate these features with our premium services and our commercial partners to reward users and drive revenue.
- M-5: Provide local expert verification and reviews similar to Uber/Lyft.

Customer Risk Matrix



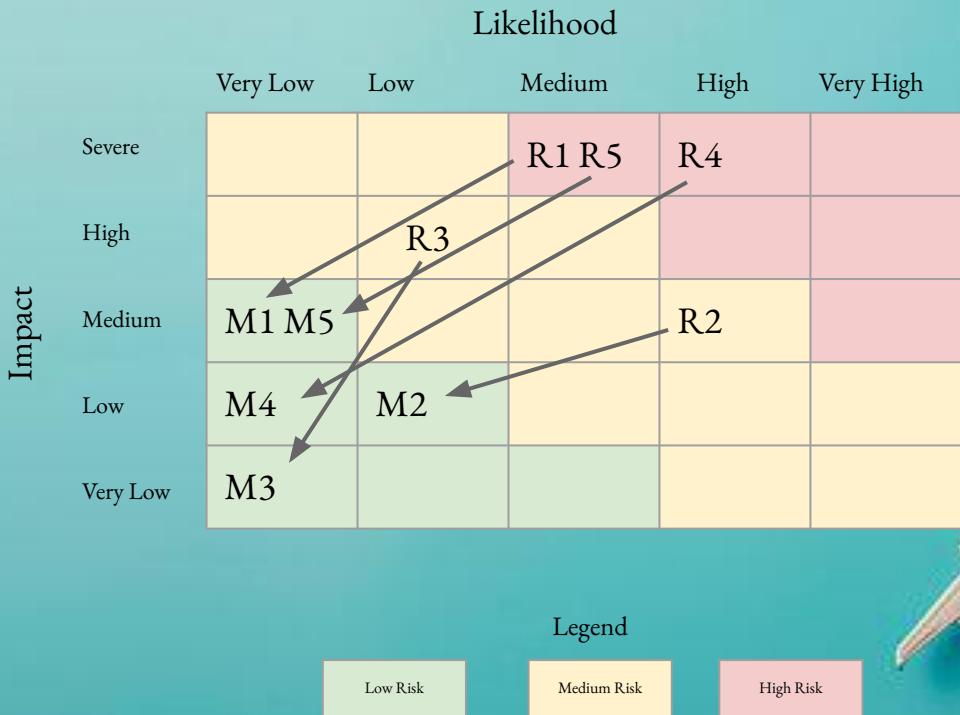
Risks

- R-1: Investors see the app as too niche or risky to fund.
- R-2: Businesses/advertisers don't see value in paying for promotion.
- R-3: Businesses feel underrepresented or struggle to get visibility on the platform.
- R-4: Advertisers worry about ad placements being ineffective or intrusive.
- R-5: Local experts try to refund products to cut out Itiner-Ease.

Mitigation

- M-1: Present clear market research, growth potential, and revenue streams (ads, partnerships, premium features).
- M-2: Offer analytics on user engagement, conversion rates, and ad performance to prove return on investment.
- M-3: Provide affordable listing options, featured spots, and local partnerships.
- M-4: Use non-intrusive native ads and give businesses targeting options to reach the right audience.
- M-5: Strict refund policy preventing unpaid use of itineraries.

Technical Risk Matrix



Risks

R-1: Not enough local support to find obscure locations.

R-2: Application software issues.

R-3: User declines to share location/GPS services.

R-4: Security breach or data leak.

R-5: AI hallucinations and made up data.

Mitigation

M-1: Integrate with existing services like Google Maps, employ web scraping, hire/incentivize local experts to gather data on obscure locations. Offer deals with local businesses.

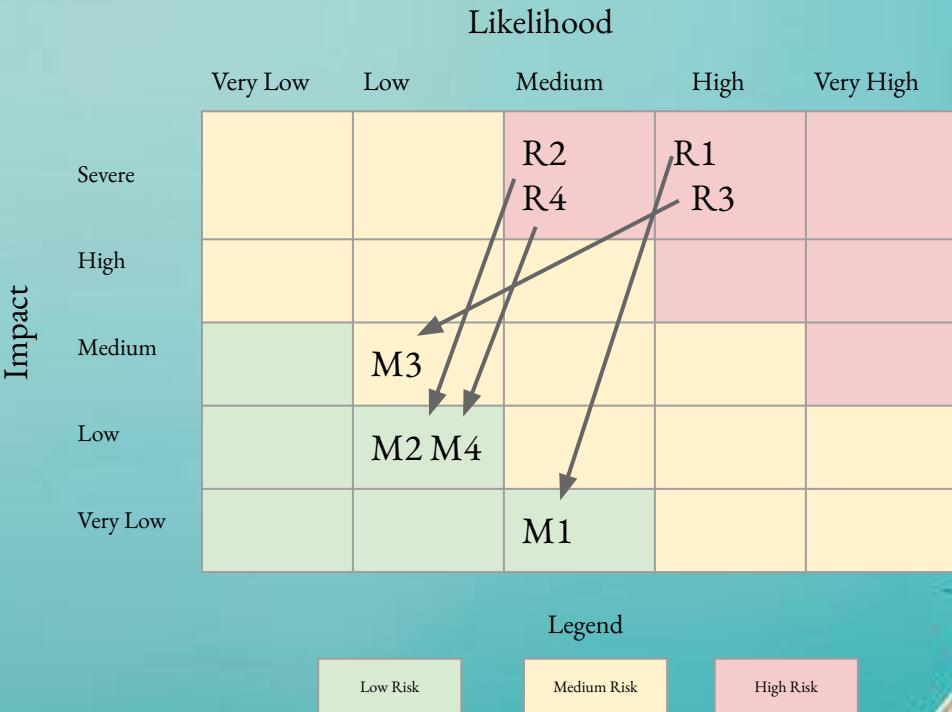
M-2: Prioritize application performance.

M-3: Allow users to search by city/zip code.

M-4: Practice cybersecurity hygiene.

M-5: Local experts provide human verification on paid products.

Legal & Security Risk Matrix



Sprint Breakdown

Sprint 0:

- Version control, CI/CD
- Trello Board
- Initial repository
- Basic database schema
- Write user stories



Sprint 2:

- User profile setup (preferences)
- Local expert profile setup
- Simple recommendation algorithms for beta testing
- Location tracking

Sprint 1:

- Account registration and login
- Backend support
- Backend frameworks for algorithms
- Frontend frameworks for UI/UX

Sprint 3:

- Generative itinerary implementation
- Constant adaptive update testing
- Review system implementation
- Release MVP
- Beta user testing

Sprint Breakdown

Sprint 4:

- Local business support
- Reward system implementation
- Group itineraries
- Payment access and security
- Separate premium and free versions



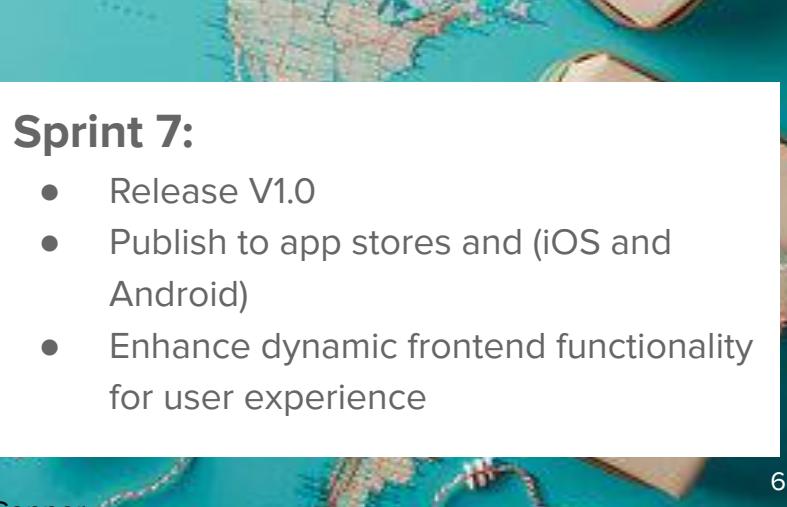
Sprint 6:

- Improve performance through beta testing results
- Refine data handling on weighted variables



Sprint 5:

- Curate ad space
- Advanced database comprising the whole application
- Survey beta users
- Test AI on acquired user data



Sprint 7:

- Release V1.0
- Publish to app stores and (iOS and Android)
- Enhance dynamic frontend functionality for user experience

Q&A

**“Guided by Locals.
Designed for Explorers.”**

References

- [1] UNWTO, "International Tourism Recovers Pre-Pandemic Levels in 2024," *Unwto.org*, Jan. 25, 2025. <https://www.unwto.org/news/international-tourism-recovers-pre-pandemic-levels-in-2024>
- [2] WTTC, "U.S. Remains the World's Most Powerful Travel & Tourism Market," *Wttc.org*, Apr. 09, 2024. <https://wttc.org/news-article/us-remains-the-worlds-most-powerful-travel-and-tourism-market>
- [3] A. Fleck, "How Often Do Americans Travel?," *Statista Daily Data*, Feb. 17, 2025. <https://www.statista.com/chart/31152/share-of-us-respondents-who-have-taken-private-trips/>
- [4] K. Gilbert, "Do Travelers Live Longer? 5 Health Benefits of Traveling," *Gocollette.com*, Sep. 02, 2016. <https://www.gocollette.com/en/traveling-well/2016/09/do-travelers-live-longer>
- [5] M. Swanson, "This Is How Much Time Travelers Spend Researching Before Booking a Trip," *Travel Wires*, Jul. 27, 2023. <https://www.travelwires.com/this-is-how-much-time-travelers-spend-researching-before-booking-a-trip>
- [6] M. Turner, "Survey: Travelers Want to Experience Destinations as Locals, Crave More Authenticity," *Travel Agent Central*, Nov. 23, 2022. <https://www.travelagentcentral.com/your-business/survey-travelers-want-experience-destinations-locals-crave-more-authenticity>
- [7] J. Loo, "The Future of travel: New Consumer Behavior and the Technology Giving It Flight," Google, Nov. 2017. Available: https://www.thinkwithgoogle.com/_qs/documents/4687/1121-Future-of-Travel-Download.pdf
- [8] M. Blutstein, D. Quinby, and C. Eisel, "The U.S. Leisure Traveler: Understanding Consumer Lifestyle Behavior," *Phocuswright*, Sep. 13, 2017. <https://www.phocuswright.com/Free-Travel-Research/The-US-Leisure-Traveler-Understanding-Consumer-Lifestyle-Behavior>
- [9] The, "Personalized Travel and Experiences Global Market Report 2025," *Thebusinessresearchcompany.com*, Jan. 2025. <https://www.thebusinessresearchcompany.com/report/personalized-travel-and-experiences-global-market-report>
- [10] Aon, "Navigating the Storms: Weather Risks Reshaping How Americans Travel | Aon," *Aon.com*, Jan. 23, 2025. https://www.aon.com/travel_blog/blog_posts/navigating-the-storms-weather-risks-reshaping-how
- [11] Hilton, "Connectivity & Personalization | 2024 Trends Report," *stories.hilton*, 2024. <https://stories.hilton.com/2024trends-connectivity-personalization>
- [12] Polok, Lucyna. "The Benefits of Travel: 14 Things Travel Teaches You." Europe Language Jobs, Oct.31,2024. www.europelanguagejobs.com/blog/benefits-of-travel?t=1741038646146
- [13] French, Sally. "The No. 1 Reason Some People Aren't Traveling This Year." NerdWallet, 22 Feb. 2023, www.nerdwallet.com/article/travel/why-people-arent-traveling-2023#:~:text=Lack%20of%20money%3A%2027%25,,as%20I%20wanted%3A%2012%25.
- [14] The TravelPocketGuide. "Group Travel: The Benefits and Challenges of Travelling with a Group." Travel Pocket Guide, 24 Apr. 2023, www.thetravelpocketguide.com/tips/group-travel/#:~:text=Travelling%20with%20a%20group%20can,plans%20at%20the%20last%20minute.
- [15] J. Chase-Lubitz, "Guided Tours Gain Popularity Among Millennials and Gen Z," Skift, Jun. 26, 2024, <https://skift.com/2024/06/26/guided-tours-gain-popularity-among-millennials-and-gen-z/>
- [16] A. Miller, "What Makes Today's Tour Guides Successful," Travel Alliance Partnership, Jul. 24, 2024. <https://travelalliancepartnership.com/what-makes-todays-tour-guides-successful/>
- [17] The Travel Insiders, "7 Reasons to Hire a Tour Guide," The Travel Insiders, 2020 <https://www.the-travel-insiders.com/7-reasons-hiring-guide>
- [18] E. Malott, "The Pros and Cons of Guided Tours," Traveling Two Together, Nov. 30, 2018, <https://travelingtowgether.com/2018/11/30/the-pros-and-cons-of-guided-tours/>
- [19] The Jet Set Blonde(B. Ryan), "The Pros and Cons of Booking a Private Tour Guide Experience," JetsettingBlonde, Sep. 2, 2019 <https://www.jetsettingblonde.com/blog/the-pros-and-cons-of-booking-a-private-tour-guide-experience>