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# Need Finding

# Agenda

<b>01</b>	Study Planning
<b>02</b>	Questionnaire, Interviews Results & Analysis
<b>03</b>	Task Planning & Analysis
<b>04</b>	Functional, Non Functional and User Experience Goal Extraction.
<b>05</b>	Appendix



# 01.Study Planning Objectives



# 01.Study Planning Objectives

1

**Identify** what would motivate participants to switch from their current app combination to a unified platform-  
**TripSync.**

2

**Find** what causes the most stress or confusion during trip planning to lead feature prioritization.

3

**Discover** typical workflow is when planning trip aspects (i.e. transportation, activities...etc), identifying user behaviour patterns.

4

**Discover** competitive platform gaps , confirming the need for our proposed solution.



# Expectations



## Expected insights

- Validate transportation navigation and places to go as primary pain points
- Understand current app usage patterns and fragmentation
- Identify must-have features for unified travel app
- Segment users by travel frequency and planning behavior



## Expected outputs

- Survey data analysis and deduce key insights from interviews.
- Persona development based on survey data analysis.
- Refined functional and non-functional requirements list.
- Deduction of User experience Goals
- Task Analysis



# Why Need Finding is Required

We wanted to find out how potential users are **currently planning trips**, which **tools** they rely on, discovering what currently **satisfies** them and what does not.

✓ Consider the **discrepancies** within the population. Users have different approaches to travel planning, need finding was used to discover needs of various users, **satisfying a wide audience.**

✓ Real insight prevents designing features that are not really demanded by users, and basing **solutions** on confirmed pain points.

**2 Need finding methods were used...**

**Questionnaires**

**Interviews**



## 02. Questionnaires, Interviews and their Analysis





Method 1:

# **Questionnaires**



## WHY ??

A handy method in trying to **cover large segments** of the population, allowing us to get insight from many different perspectives about travel planning.

Through quantitative analysis of the results, we can identify common patterns and values that we can integrate into our app.

## HOW ??

Participants were informed about the study's purpose and anonymity was assured before questionnaire access.

**Participant Selection:** It was sent family members, friends covering various ages and cultures.

Helped us capture the most challenging aspects of trip planning, navigation habits, number of apps as well as feature preferences.

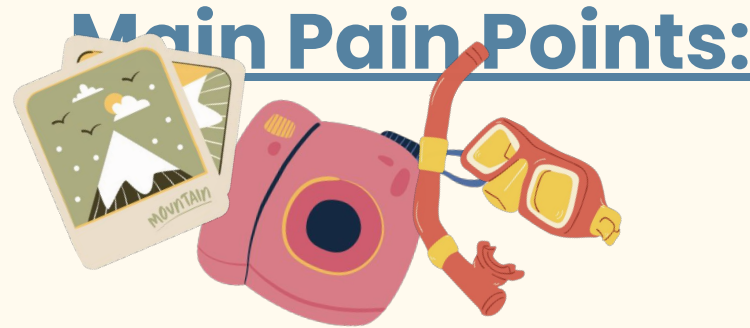
# 03. Analysis of Questionnaire Results

Based on the **40** responses collected through the questionnaire, the following key findings stood out.



## Transportation/ Navigation challenges

Participants struggle with understanding local systems, identifying correct platforms and



## Places to Visit

Participants found discovering places to visit the most challenging.



## Language Barriers

Affects confidence in navigating through cities , using transportation and obtaining local

# Current User Behaviour

- Users alternate between **4-5 apps** on average, common apps include Google Maps, Booking.com , TripAdvisor.

Insight: Information scattered across platforms.

- Planning time investment currently takes days at **45%** or weeks at **40%**.

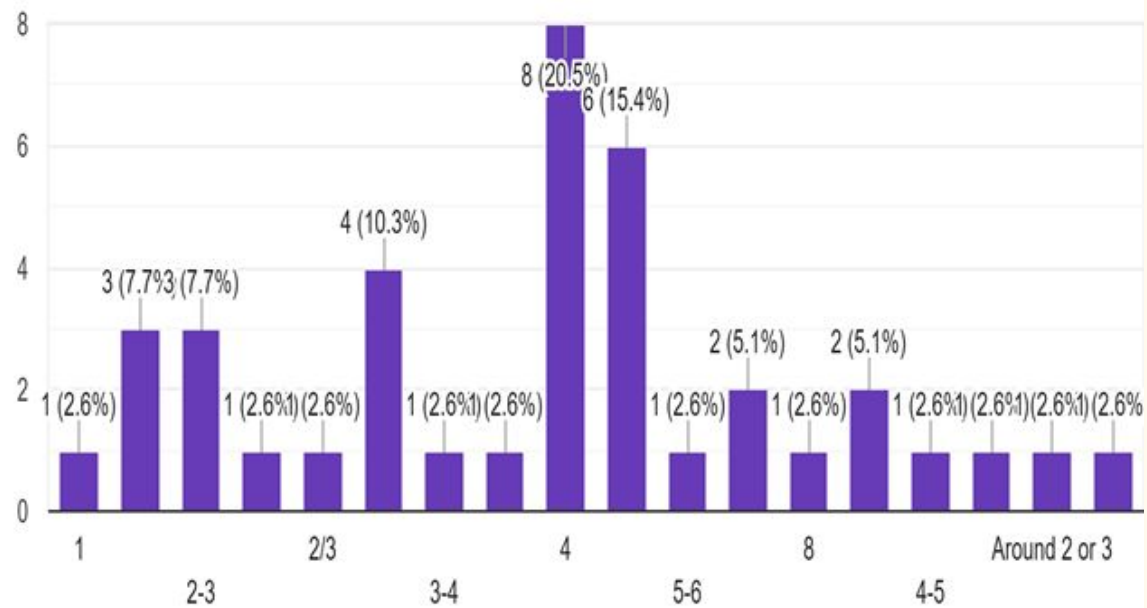
Insight: Significant effort and time invested using current tools.

- Despite heavy reliance on Google Maps, **95%** of respondents – frequent and occasional travellers– still experience confusion using public transport.

Insight: Resorting to “getting lost and figuring it out” or

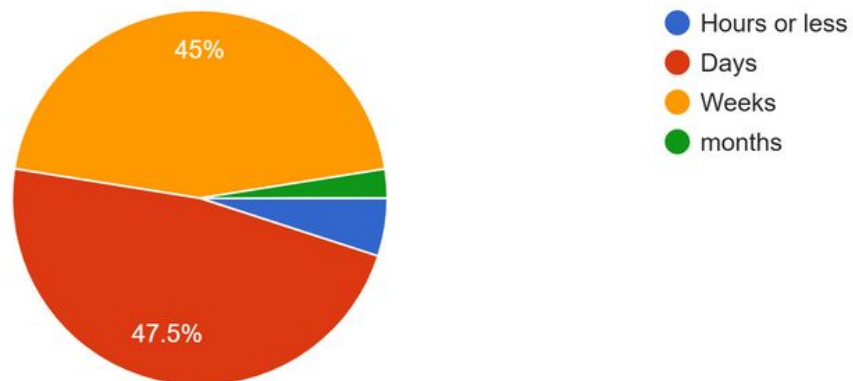
Around how many apps/ websites do you use when planning an entire trip?

39 responses



When planning a trip, how much time do you usually spend organizing it?

40 responses

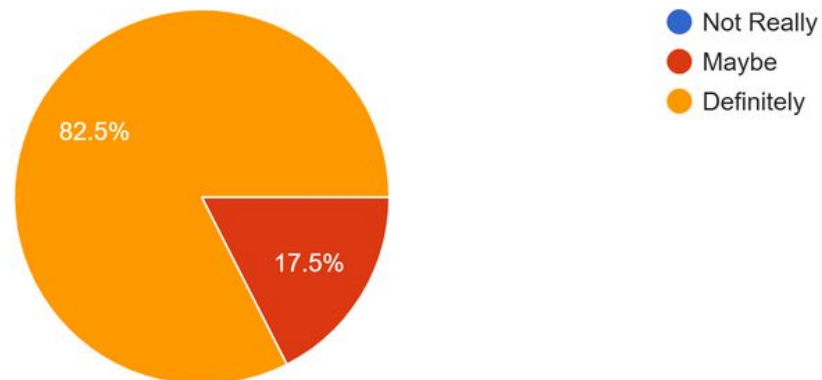


# Strong Market Validation

Results validated the need for an all-in-one approach to travel planning; users want to avoid switching between several apps.

Would it improve your experience if all your trip details (transport, weather, events, stays) were organized in one app?

40 responses



# Persona Development

Based on the data collected from the questionnaire, the following 4 personas were created to achieve a more user-centric approach to the design of our app.



# Persona



# Scenario



## Navigating Cultures: The Explorer's Guide



"Every street has a story — I just need the right tools to understand it."

Curious Adventurous Independent  
Culturally aware

### Goals

- Explore confidently in unfamiliar cities without getting lost or dependent on constant internet access.
- Deepen his understanding of local customs, traditions, and languages to connect meaningfully with locals.
- Find authentic, off-the-beaten-path experiences that reflect the true culture of each destination.

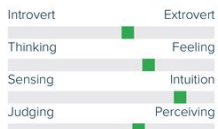
### Frustrations

- Language barriers that make basic communication or reading signs difficult.
- Confusing or unreliable public transport systems that hinder smooth exploration.
- Generic travel recommendations that fail to capture authentic local culture.

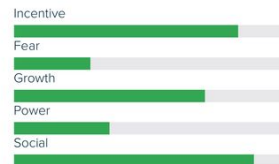
### Bio

Omar, a 24-year-old freelance photographer and travel blogger, thrives on discovering new cities and immersing himself in their cultures. His journeys are driven by curiosity and a desire to experience local life beyond tourist landmarks. While he relies heavily on Google Maps and translation tools, Omar often faces the challenge of navigating offline or understanding cultural nuances. Tools that provide offline navigation, real-time translation, and cultural insights empower him to explore confidently and connect authentically wherever he goes.

### Personality



### Motivation



### Brands & Influencers

Omar follows travel and language-focused brands like Lonely Planet and Duolingo, values Google Maps for navigation, and trusts platforms such as Airbnb for authentic stays. He's inspired by influencers who promote cultural immersion and responsible travel, including vloggers who highlight local experiences and sustainable tourism practices.



### Preferred Channels



Omar wants to find an authentic, off-the-beaten-path leather tannery deep within the old city (medina) of Marrakech. Frustration: Language barriers and confusing, unreliable public transport hinder deep cultural exploration.

Omar is exploring Marrakech. He wants to visit a specific, small, and highly recommended place mentioned by a local vlogger he trusts. This location is not listed on standard tourist maps and requires navigating a maze of unmarked, narrow alleys within the ancient medina. He knows his cell service will be patchy, if available at all, once he dives deep into the city's core,



# Persona



# Scenario



## The Social Adventurer: Emma's Travel Blueprint



"Traveling is better when everyone's on the same page."

Collaborative Planner

Social Traveler

Tech-Savvy Organizer

Experience Seeker

### Goals

- Collaborate easily with friends or partner on trip planning.
- Keep every group itinerary updated in real time.
- Share travel experiences and recommendations socially.

### Frustrations

- Difficulty coordinating bookings across multiple apps.
- Confusion when group members use different itinerary versions.
- Lack of social sharing or real-time update features in travel tools.

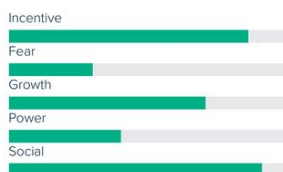
### Bio

Emma is a 32-year-old marketing project manager based in Austin who loves exploring new destinations with her friends or partner. Over the years, she's become the unofficial trip organizer, juggling spreadsheets, booking sites, and messaging apps to keep everyone aligned. Her biggest challenge is keeping group itineraries accurate and accessible to all. She's drawn to tools that allow real-time collaboration, shared updates, and a touch of social interaction—features that make travel planning as fun as the trip itself.

### Personality



### Motivation



### Brands & Influencers

Emma follows travel influencers who focus on authentic experiences and group adventures. She frequently engages with brands like Airbnb, Tripadvisor, and Skyscanner, and stays inspired by digital nomads and lifestyle creators who share tips for seamless, social travel.



### Preferred Channels



## Scenario



Emma and her three friends are scheduled to take a pre-planned, hour-long Yoga class at 3:00 PM today in Ubud, which is already logged in the group itinerary. They have just finished lunch.

One of Emma's friends sees a highly-rated post on Instagram about an impromptu group beginner surf lesson starting at 3:30 PM at a beach. The group chat explodes with excited messages from everyone wanting to ditch the yoga for the surf lesson. The original yoga plan, the new surf activity details, and the required transportation change are now scattered across the

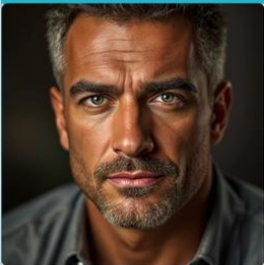
# Persona



# Scenario



## DANIEL MOORE: THE CAUTIOUS TRAVELLER



"I'm not against adventure, I just need to know the plan and feel confident I'm getting there safely."

Age: 40

Work: Accountant Manager

Family: Married, two school-age children

Location: San Jose, CA

Character: Risk-averse, pragmatic

### Traits

Family Oriented

Pragmatic

Cautious

Safety-focused

Methodical

Friendly

### Bio

Daniel is a detail-oriented accountant who thrives on structure and routine. He enjoys spending weekends at home or visiting close friends nearby. When he does travel for work or family he tends to overprepare, checking routes and safety tips multiple times before leaving.

New environments make him uneasy, especially in crowded cities or countries where he doesn't speak the language. He worries about getting lost, missing transport connections, or encountering unsafe areas. Technology helps him feel in control, but too many features or complex interfaces can make him even more anxious.

### Goals

- Minimise anxiety by using trusted, easy-to-understand apps.
- To set goals and see and make positive impacts on his life.
- Avoid confusion and unsafe areas.
- Navigate confidently

### Motivation

Safety and Confidentiality

Simplicity and reliability

Adventure

### Frustrations

- Distrusts apps that require too many permissions or data.
- Overwhelming or feature-dense apps and interfaces.
- Struggles to trust safety information when traveling.
- Ambiguous directions, unclear signage, or confusing transit maps.
- Worries about personal safety losing connection in unfamiliar areas.

### Personality



### Preferred channels

Mobile Apps

Emails

YouTube

Clear Navigation Systems

### Key requirements

- Simplified user interfaces
- Step-by-step navigation systems
- Safety tools: Real time location sharing, emergency alerts
- Offline functionality
- Trusted and verified information

11A

12

Daniel Moore is a young professional who's excited about an upcoming family trip. One evening, he sits at his desk trying to organize everything, flight tickets, hotel bookings, maps, schedules, and restaurant ideas. But with so many tabs and apps open, the information becomes tangled and overwhelming. He feels stressed, realizing he might miss something important. While trying to sort through the chaos on his phone, Daniel discovers an app called TripSync, an all-in-one travel organizer.

Curious, he downloads it, he's impressed: everything he needs for the trip reservations, schedules, maps can be stored and synced in one place. Feeling relieved, Daniel sits comfortably on his couch and starts adding all the details into TripSync. The app automatically organizes his itinerary, helps him confirm bookings, suggests helpful reminders. For the first time that week, he feels in control of the trip. His family feels more relaxed knowing Daniel has everything handled. Once they reach the city, Daniel uses the app's built-in navigation to guide his family through busy streets, helping them find key locations, restaurants, and landmarks safely and easily.

# Persona



# Scenario



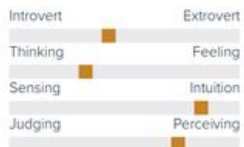
## The Independent Explorer



"The world feels bigger when I'm exploring it on my own terms."

**Age:** 28  
**Gender:** Female  
**Work:** Freelance digital consultant  
**Family:** Single  
**Location:** Madrid  
**Character:** Independent Explorer

### Personality



Adventurous Independent  
Budget-conscious Curious

### Goals

- Discover off-beat and authentic destinations that avoid crowds.
- Find flexible and affordable last-minute travel opportunities.
- Travel light while maximizing meaningful solo experiences.

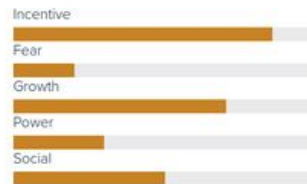
### Frustrations

- Too many steps and apps required to compare travel options quickly.
- Limited transparency in pricing, making it hard to identify true deals.
- Frustration with places that look promising online but disappoint in person.

### Bio

At 28, the Independent Explorer has built a lifestyle around freedom and discovery. Working remotely in tech allows them to move between cities with minimal planning, finding last-minute deals and exploring beyond standard tourist spots. They prefer mobile-first tools that simplify travel research, comparing options quickly and clearly. Their curiosity and independence make them an ideal user for platforms that combine intelligent cost comparison with flexible, spontaneous booking experiences.

### Motivation



### Brands & Influencers

They follow travel vloggers who highlight solo adventures and practical guides, such as Nomadic Matt and The Blonde Abroad. They respect minimalist travel brands like Osprey and Patagonia, and use digital-first services like Airbnb, Skyscanner, and Google Maps to plan efficiently.



### Preferred Channels



Sofia, a 28-year-old freelance digital consultant living in Madrid, has just finished a big project on Thursday evening. She has a free weekend ahead and wants to take advantage of a last-minute travel opportunity to explore somewhere new without spending too much.

Friday morning, Sofia wakes up feeling craving adventure. She remembers seeing a travel vlogger explore Porto's hidden cafes and colorful streets. She decides to book a spontaneous weekend trip leaving

on Friday.

## Method 2: **Interviews**



## WHY??

Interviews help us gain deeper qualitative insights, by allowing us to ask open ended questions that aim to explore their habits and motivations.

Human emotions and pain points can be uncovered more effectively through direct conversations where questions can be rephrased and clarified.



## HOW??

8 interviews were conducted. All participants were informed that their data was being recorded purely for academic research purposes before the start of the interview sessions.

The interviews were analysed and the patterns that dominated extracted.



# A few snippets....

**Sumavia:** Q. "Which travel tools (like apps, websites, local guide etc.) do you rely on the most? What features do you like about them and is there anything you wish they could do better?"

**Person B:** A. "I don't like apps lol, I don't even use the DB app. Instead I just go to the Hauptbahnhof to buy my tickets. My Deutschlandticket is a physical card, like an EC card or whatever I currently have a Bahncard and that's a printed piece of paper. I don't like relying on technology. Cause you need wifi for most of those, and that's not a guarantee when you're on a train.

I don't want to accidentally have an invalid ticket for no reason"

**Melek:** Q. What wastes the most time on a trip?

**Özlem Tuzlu (44):** A. "Taking notes (using a notebook)."

**Melek:** Q. "How do you keep track of your plans?"

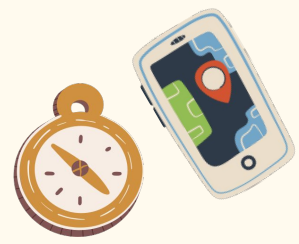
**Serap Kaçmaz (23):** A. "Apps that show reviews, contact info, and all necessary details about the places she wants to visit—these make things easier."

**Melek:** Q. "What stresses you most when traveling/planning?"

**Serap Kaçmaz (23):** A. "Time loss and things not looking like what was advertised."

**Sumavia:** Q. "What do you feel like causes you the most stress? either while planning your trip or during your trip  
Person A

**Person A:** A. Deadlines, so having to plan and book earlier enough to avoid paying too much; deciding which clothes to bring hahah according to the weather, especially if it's a totally new place for me; balancing my finances during the trip hehe it's so tempting to go and try new things, food etc. so it's quite tricky to experience the most and also buy souvenirs etc. but paying attention to the expenses as well Oh! and the airport security checkpoints haha"



# and insights



## Current User Behaviour

## Main Pain Points

## Design Opportunities

### Trip Planning

Users often rely on Google Maps, Google Calendar, physical planners, or travel apps that compare hotels.

### AI Travel Assistance

Mixed opinions

Some are very positive.

Some are negative (fear of wrong directions).

Some are open but cautious.

### Travel Interests

Some users want to discover local cuisine, others want comfort and convenience, some want historical background of places

### Time Wasted

- Searching for routes or activities.
- Switching between apps to gather info.
- Checking reviews manually.

### Fragmented Travel Information

Users must switch between:

- Google Maps
- notes
- calendars
- ticket instructions

Leads to confusion and inefficiency.

### Transportation Problems

- Switching between different trains and apps is tiring.
- Streetlights/traffic or long connecting waits waste time.
- Heavy dependency on digital maps → if internet fails = chaos

### Unified Travel Planner App

- Transportation planning
- Activity suggestions & Reviews
- Notes and Reminders
- Reliable Ticket QR codes

### AI Itinerary Generator

Automatically creates:

- Day-by-day routes
- Travel time estimates
- Nearby points of interest
- Adjusts dynamically if plans change

### Reliable Route Mode

- Guaranteed accurate routes
- Offline maps, build trust between users and digital navigation
- Step-by-step guidance



# 04. Task Planning & Analysis





**User Goal:** Stress Free Planning

**Pain Point:** Wasting time

**Feature:** AI itinerary Generation (Plan)



User selects of interests → AI Generator suggests activities based on interests and reviews → User reviews itinerary, edits plan, chooses preferred transportation options → User confirms plan → App produces an offline map copy.

**User Goal:** Reliable navigation

**Pain Point:** Transportation problems

**Feature:** Map API and AI integration (Navigate)



## WORK FLOW

User enters destination or selects location on pre made plan→Fastest most accurate route is displayed→App provides step by step guidance through real-time location tracking→Automatic warning signals and redirection

**User Goal:** Quick Data Access

**Pain Point:** App fragmentation

**Features:** Booking ,Ticket storage , notes & blogging area



## WORK FLOW

User opens app→ navigates to plan view to access routed itinerary→ navigates to booking area to access tickets→ Checks notes for updates in plan or personal details → Access transportation details → Check reviews for selected destination.

**User Goal:** Find Optimal Activities Nearby

**Pain Point:** Places to go

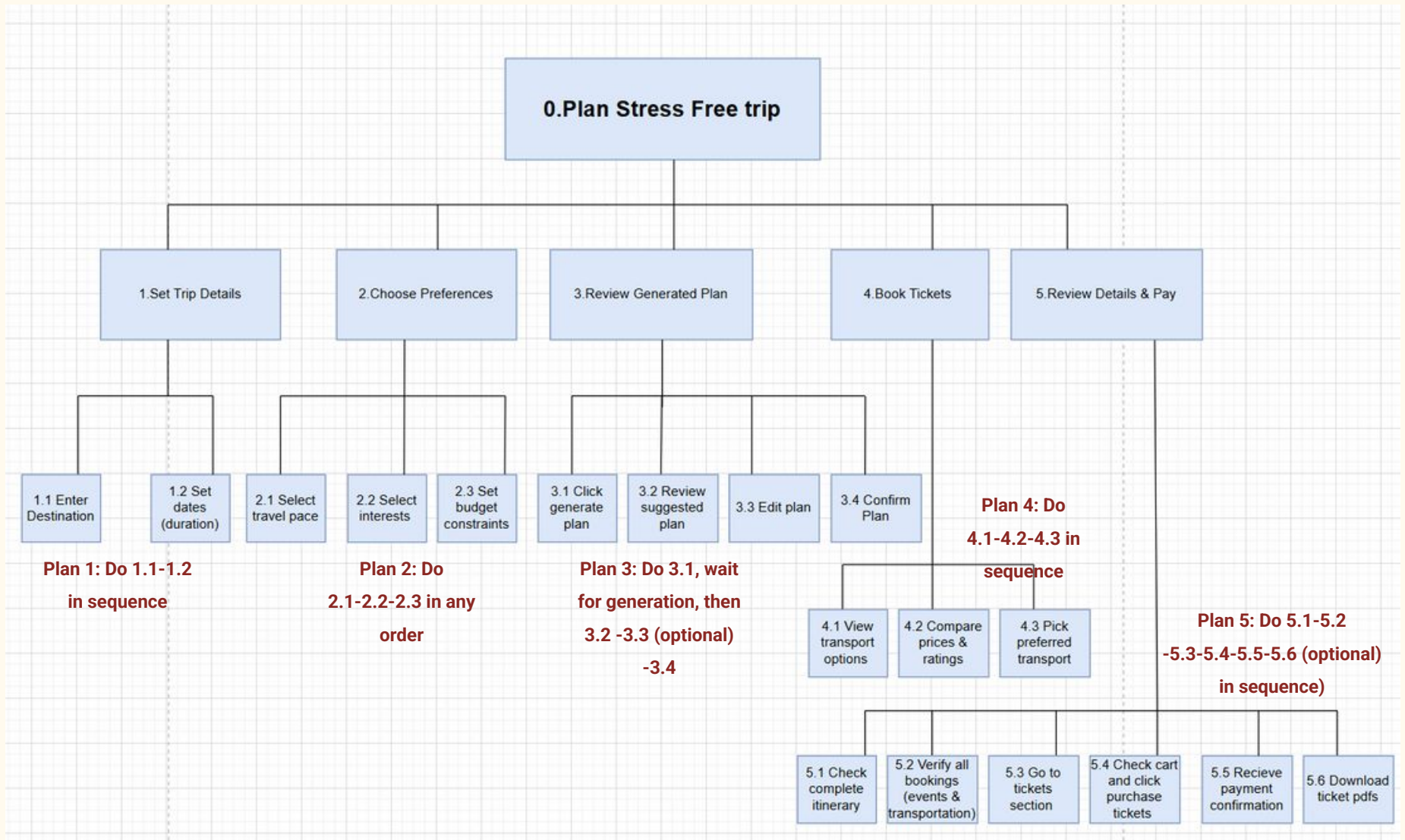
**Feature:** AI Generator (Discover)

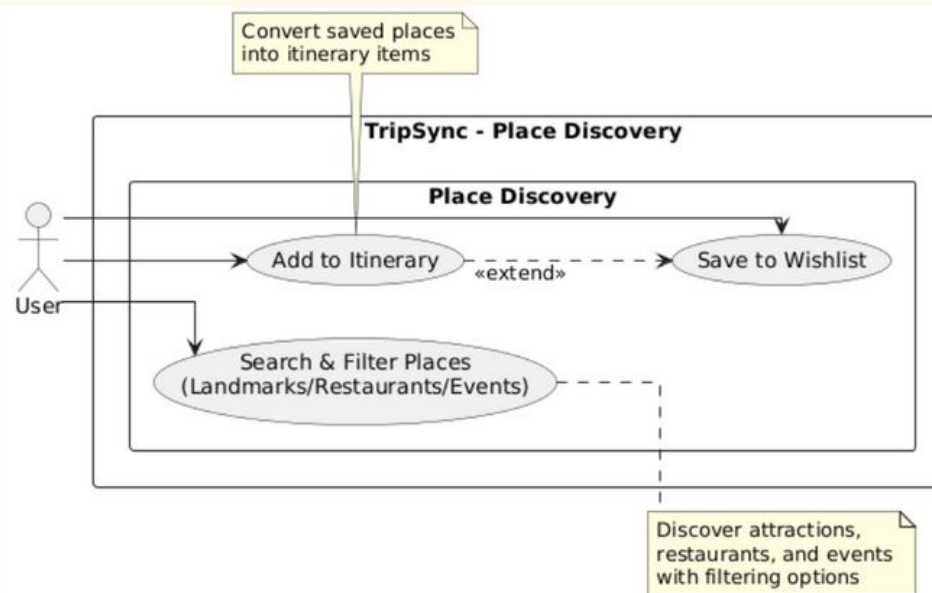
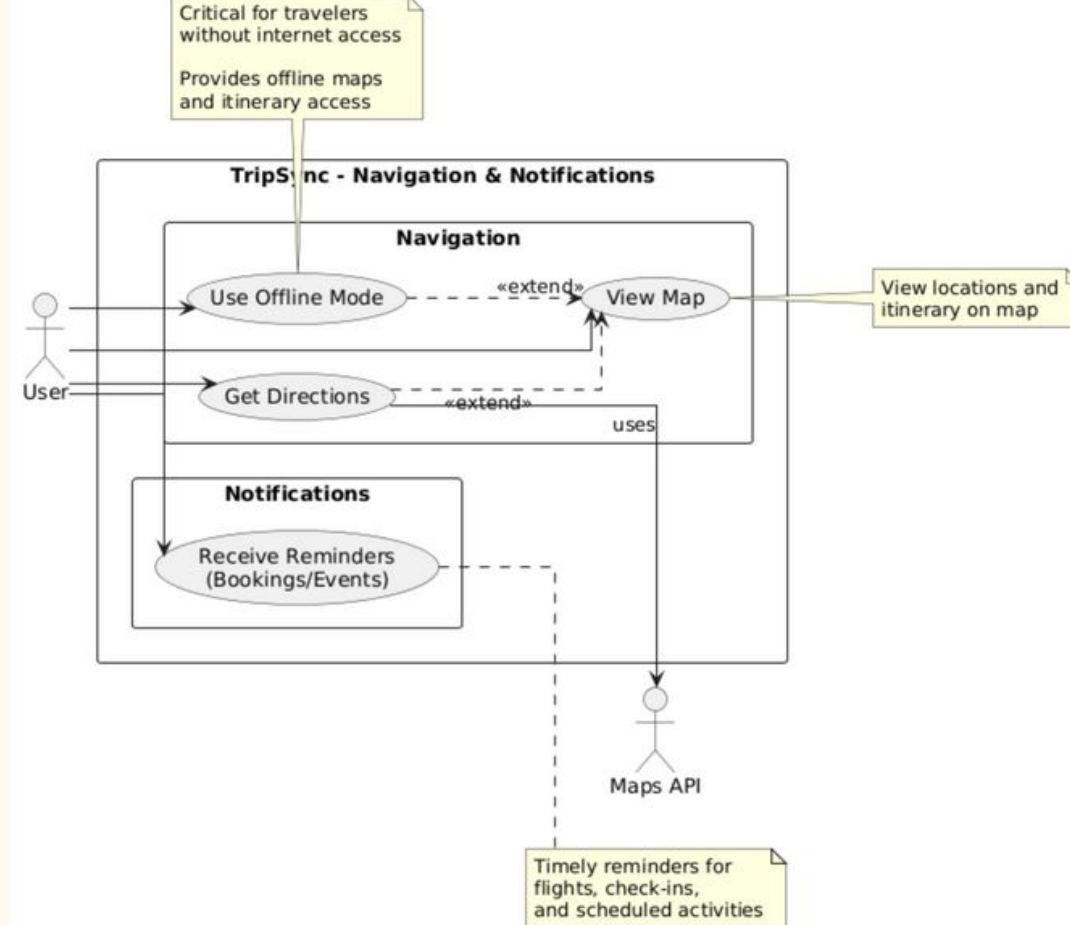
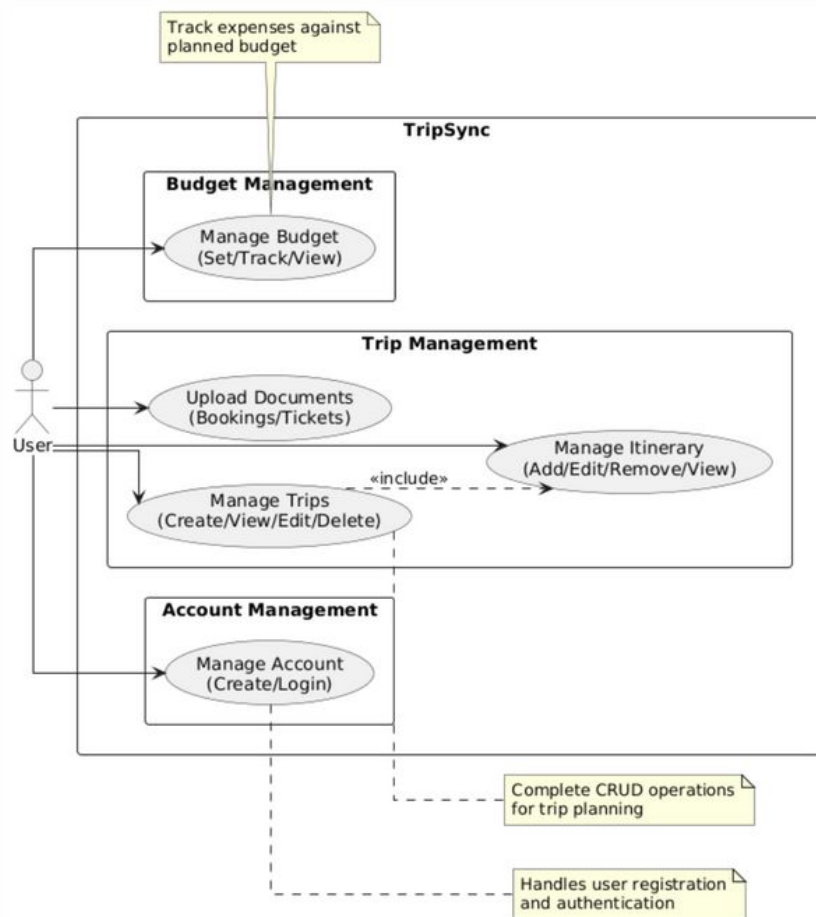


## WORK FLOW

User is at a location→App uses the user's pre-set Travel Interests and filters nearby points of interest and activity suggestions→User views results organized by travel time and quality of reviews→User selects an activity→App initiates navigation using the Reliable Route Mode.

**Plan 0: Do 1-2-3 in sequence, then 4-5-6 as needed (cycle)**







# 05.Requirements Specification: Functional, Non- Functional, User Experience



# Some Conclusions..

Based on data collected from both questionnaires and interviews, the desire for the following features were inferred:

- An all-in-one integration
- Local/traveller recommendations
- Itinerary management and documenting
- Budget filtering
- Cultural/historical context about destinations
- Potential users showed the need for better organization of attractions, local recommendations, and contextual information (history, prices, cultural aspects)



# Functional Requirements

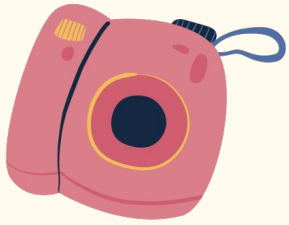
ID	Requirement Description	Rationale
FR1	The app shall allow users to create, edit, and delete trip details (destinations, activities, accommodation).	Centralises planning to reduce app switching and offers flexibility.
FR2	The app shall allow users to book activities, events, restaurants and transportation through the app.	Simplifies workflow and prevents fragmentation of bookings across apps.
FR3	The app shall generate personalised travel plans based on user interests.	Reduces planning time and activities/events directly relevant to users.
FR4	The app shall offer reliable offline navigation	Allow users to download and access the complete route and step-by-step guidance for a specific trip while fully offline.
FR5	The app shall send reminder notifications for upcoming bookings or trips and issue real-time based updates on events/transportation .	Reduces anxiety about forgetting or missing important updates.
FR6	The app shall users to discover and share reviews.	Allow users to search for nearby points of interest and have realistically based expectations.

# Non- Functional Requirements

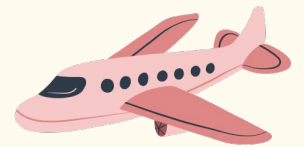
ID	Requirement Description	Rationale (Why Needed)
NFR1	The app shall ensure accessibility (large text, voice guidance, colour-blind-friendly colours).	Ensures usability for all, including users with impairments.
NFR2	The app shall save critical data as a backup.	Prevents data loss during offline periods or crashes.
NFR3	The app shall ensure security by encrypting personal data and ensure data confidentiality.	Protects user information and builds trust, for example the AI tool should comply with ethical and data privacy standards .
NFR4	The app shall support offline functionality (access itinerary without internet).	Ensures travel reliability when internet is unavailable.
NFR5	The app shall maintain an accuracy of no lower than 98%	Builds trust and confidence.
NFR6	The app shall be easy for anyone to learn and use quickly.	The transition between the map view, tickets and note taking must be intuitive

# User Experience Requirements

ID	Requirement Description	Rationale (Why Needed)
UER1	The app shall ensure minimal cognitive load	Ensures usability for all, including users with impairments.
UER2	The app shall increase situational awareness	Users like to feel in control, always informed of travel details.
UER3	The app shall allow users to navigate easily through its interface	Users should effortlessly move from planning/booking to active travel/navigation through a consistent interface.
UER4	The app shall enhance route confidence offline functionality (access itinerary without internet).	Users want to feel assured that the suggested route is accurate, safe, and the best option available at the moment.
UER5	The app shall offer uninterrupted utility	Guarantees continuous user access regardless of connection.



## 06. Appendix



## Interview Transcripts :

<https://docs.google.com/document/d/1ItRSgnZX XO-i-8wyfGpQPMdtuSYNYTpx7uZDRBzIWf8/edit?usp=sharing>

## Questionnaire link and Responses:

[https://docs.google.com/forms/d/e/1FAIpQLScCkAj6R40nkUledPwUN\\_\\_pmRisjKrR4Lkwsc\\_RBP-ZLQKx7g/viewform?usp=header](https://docs.google.com/forms/d/e/1FAIpQLScCkAj6R40nkUledPwUN__pmRisjKrR4Lkwsc_RBP-ZLQKx7g/viewform?usp=header)