



TrailQuest

Group 11 - Final Report

A gamified hiking companion app that transforms the world's hiking trails into an engaging collection adventure.

Group 11 Contributors
Tim Nguyen - 300367925 - 33.3%
Mengyang - 300378788 - 33.3%
Suo Hao - 300392463 - 33.3%

Lead Contact
Tim Nguyen
contact@sneeit.com
+1 236-660-8650

CONTENT

Proposed App Idea for Prototype	3
Background Research	3
PACT Framework	4
Value Proposition	4
Requirement Gathering	5
Synthesis of Requirements	16
Design	18
Designer Based Prototype Evaluation	32
User-based Prototype Evaluation	33
Conclusion	39
Appendix A - User Survey for Prototype Evaluation	39
Work Logs	41

Proposed App Idea for Prototype

TrailQuest is an unique gamified hiking companion app that transforms the world's hiking trails into an engaging collection. Beside offering comprehensive hiking guides and gear tips, TrailQuest differentiates itself from traditional hiking apps by motivating hikers through a rewarding system with challenges, achievements, and leaderboards. Hikers can also share real-time trail updates, plan group hikes, and connect with companions, fostering a strong hiking community and creating interactive memories along the trails.

Background Research

Competitors

AllTrails:

- Market leader in hiking apps.
- **Strengths:** Comprehensive trail database, detailed reviews, and GPS tracking.
- **Gaps:** Lacks gamification features, interactive challenges, and strong local community engagement.

Strava

- Popular fitness tracking platform.
- **Strengths:** Advanced tracking and performance analytics.
- **Gaps:** Not hiking-specific, more focused on running and cycling. Lacks hiking challenges and community features.

Inspirations

Duolingo

Excels at gamification in learning, making education engaging and habit-forming. Key Features:

- **Streak System:** Encourages users to hike consistently by tracking daily or weekly hikes.
- **Personalized Readiness Indicator:** Can inspire difficulty-based trail recommendations based on user progress.
- **Interactive Progression:** A model for motivating hikers with levels, achievements, and milestone rewards.

Geocaching

A global treasure-hunting app where users find hidden objects using GPS, turning outdoor activities into interactive quests. Key Features:

- **Exploration Challenges:** Encourages users to explore new locations through gamified missions.

- **Community-Driven Content:** Users contribute hints, logs, and discoveries, similar to TrailQuest's real-time trail updates.
- **Achievement-Based System:** Rewards users with badges for reaching different milestones, enhancing motivation.

PACT Framework

People

- **Hikers & nature lovers** seeking adventure and exploration with engaging experience.
- **Outdoor enthusiasts** who want to connect with like-minded individuals.
- **Everyone** interested in hiking safety, best practices and preparation.

Activities

- **Earning virtual rewards** through challenges, achievements, and leaderboards.
- **Sharing experiences** through trail updates, photos, and community discussions.
- **Navigating, tracking, & logging** through real-time guidance and post-hike records
- **Learning about hiking** through interactive guides, safety tips, and recommendations.
- **Discovering new trails** via real-time recommendations based on collected data.

Contexts

- **Where:** Everywhere, both indoor (planning) and outdoor, at home or on trail.
- **When:** Before the hike (research and preparation); during the hike (real-time navigation and tracking); after the hike (logging and sharing experiences).

Technologies

- **GPS-based navigation & tracking** for real-time route guidance and progress monitoring.
- **Cloud-based data storage** for user profiles, achievements, and shared trail updates.
- **Social Network API** for community discussions, media sharing, and group coordination.
- **Offline caching system** to enable access to maps, trail data, and logs in remote areas

Value Proposition

If you are seeking for interactive adventures, nature explorations or to connect with like-minded outdoor enthusiasts, or just to learn more about hiking, TrailQuest app is for you. Reward yourself by taking challenges, collecting achievements, or recording unforgettable hiking moments by sharing recorded videos of trails, sharing updates, and connecting with an engaging community. Whether you are planning at home or hiking on the trail, the app supports every step of your journey with the integration of real-time navigation, offline access, and seamless data syncing, ensuring a smooth and reliable hiking experience at any where, any time.

Requirement Gathering

Purpose & Objectives

The purpose of this user study is to gather information from potential TrailQuest users to identify their characteristics, lifestyle, goals, and behaviors related to hiking.

Objectives:

- ★ To understand user characteristics such as hiking experience level, hiking frequency, typical hike duration, and group preferences.
- ★ To discover user lifestyles including how hiking fits into their schedules and routines.
- ★ To identify user goals for hiking activities, such as social interaction, fitness, exploration, and leisure.
- ★ To examine user behavior related to pre-hike preparation, on-trail experiences, and post-hike recovery.
- ★ To pinpoint common difficulties users face before, during, and after hikes, such as selecting trails, navigation issues, and finding hiking partners.
- ★ To determine user preferences and motivations for gamified features, such as achievements, leaderboards, and community engagement.

User Study Methodology

Survey format: Online Google Forms questionnaire.

Participants: 11 respondents (beginner to intermediate hikers).

Data Collected: Hiking habits, difficulties, preferred app features, and motivation factors.

User Survey

We are building a hiking app named TrailQuest and this survey will help us understand your interests, behaviours, and experience related to hiking and outdoor activities. Your feedback will help provide useful information for us to decide which are the core features that are useful for the target users.

How often do you hike?

- Weekly or more
- A few times a month
- A few times a year
- Never

Who do you usually hike with (check all that apply)?

- Alone
- With Friends
- With Family

- With Organized hiking groups
- Other (please specify) _____

How long is your typical hike?

- Less than 1 hour
- 1–3 hours
- 3–6 hours
- More than 6 hours

What factors are important to you for hiking?

Factor	Very Important	Important	Neutral	Not Very Important	Not Important At All
Earning rewards (badges, challenges, etc.)	<input type="radio"/>				
Accessibility (transportation to/from the trail)	<input type="radio"/>				
Physical fitness	<input type="radio"/>				
Exploring new places	<input type="radio"/>				
Socializing with others	<input type="radio"/>				
Scenery	<input type="radio"/>				
Safety	<input type="radio"/>				
Challenge level	<input type="radio"/>				
Ease of finding a suitable trail	<input type="radio"/>				
Relaxation & stress relief	<input type="radio"/>				

Other (please specify): _____

What (if any) difficulties to start a hike (check all that apply)?

- No time
- Lack of motivation
- Lack of hiking partners
- Selecting the appropriate trail (unclear, outdated info, etc.)
- Don't know how to prepare (gear, safety, navigation, etc.)
- Difficult to find parking or transportation to the trail
- Other (please specify): _____

What (if any) difficulties during hiking (check all that apply)?

- Getting lost (forgot to download navigation app, offline map, etc.)
- Unexpected changes (weather, closures, obstacles, etc.)
- Issues with hiking partners (unfriendly, unreliable, unhelpful, etc.)
- Other (please specify): _____

What (if any) difficulties after hiking (check all that apply)?

- Feeling extremely tired or sore after the hike (muscle soreness, dehydration, injuries)
- Difficulty tracking my hikes (logs, achievements)
- Difficulty sharing my experience (photos, videos, stories)
- Other (please specify): _____

How do you prepare for a hike (check all that apply)?

- Searching trail information on websites
- Watching trail guides or safety videos
- Asking for trail recommendations in online communities
- Using a checklist for gear and safety preparation
- Other (please specify): _____

How do you solve problems during a hike?

- Using a digital or offline map for navigation
- Checking real-time trail updates from online sources
- Using an emergency SOS or location-sharing feature
- Communicating with hiking partners through tracking or messaging
- Other (please specify): _____

What would help you after a hike?

- Logging hike data (distance, time, elevation)
- Completing challenges, earning badges, or tracking progress
- Sharing hikes through social media or community platforms
- Following post-hike recovery tips (hydration, stretching, rest)
- Other (please specify): _____

What hiking apps have you used?

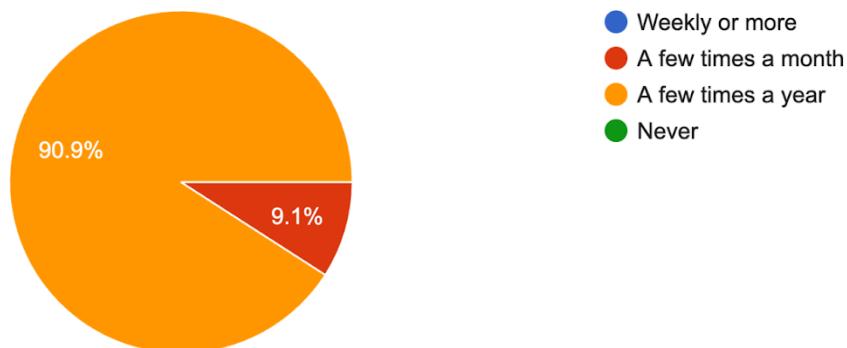
How interested are you in the following features?

Factor	Very Interested	Interested	Neutral	Not Very Interested	Not Interested At All
Reward System (badges, challenges, etc.)	<input type="radio"/>				
Real-time Trail Updates (Users share trail conditions like weather, terrain, etc.)	<input type="radio"/>				
Group Hiking Features (Find hiking buddies, or join organized hikes)	<input type="radio"/>				
Learning hiking knowledge from the App	<input type="radio"/>				

Data Visualization & Analysis

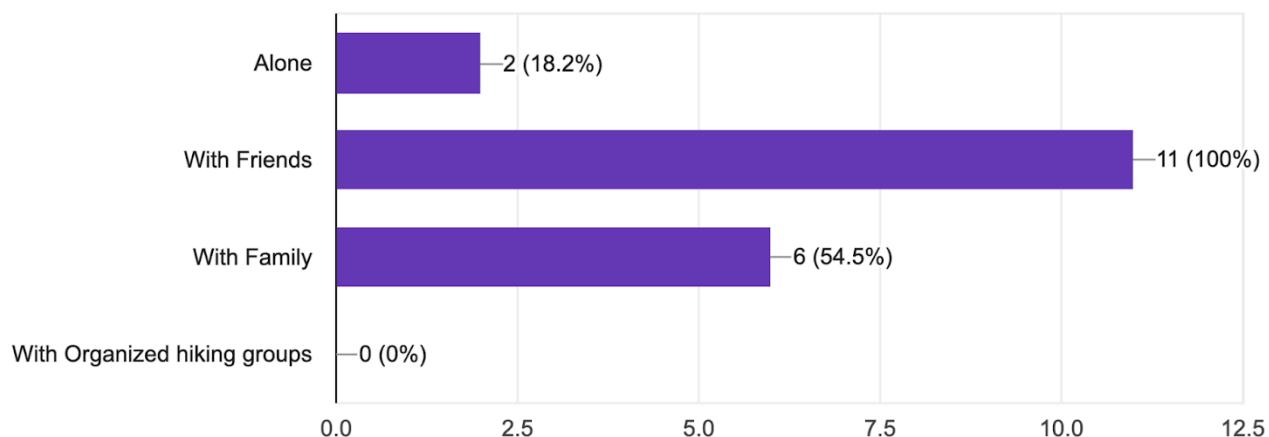
How often do you hike?

11 responses



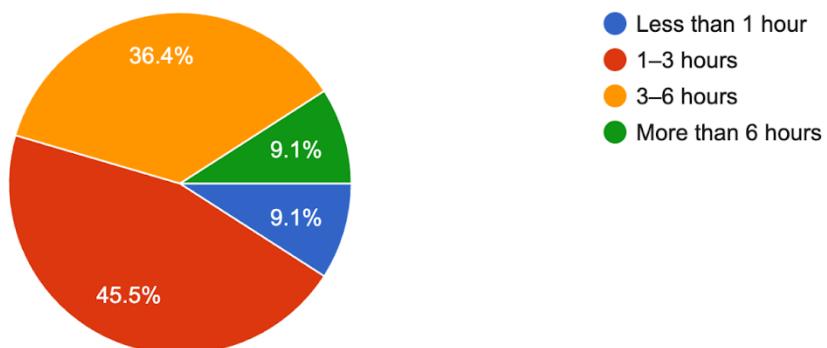
Who do you usually hike with (check all that apply)?

11 responses

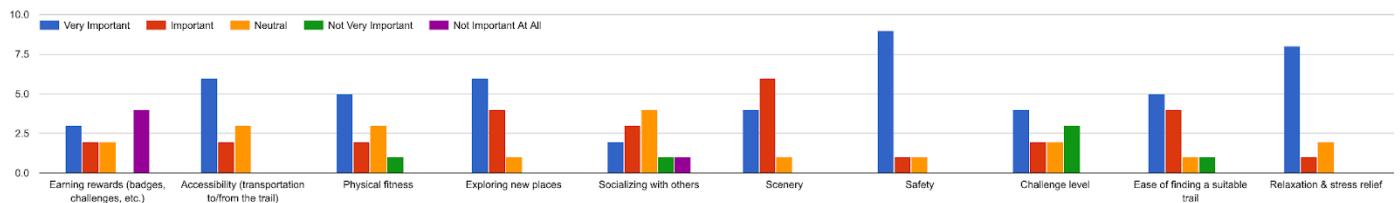


How long is your typical hike?

11 responses



What factors are important to you for hiking?

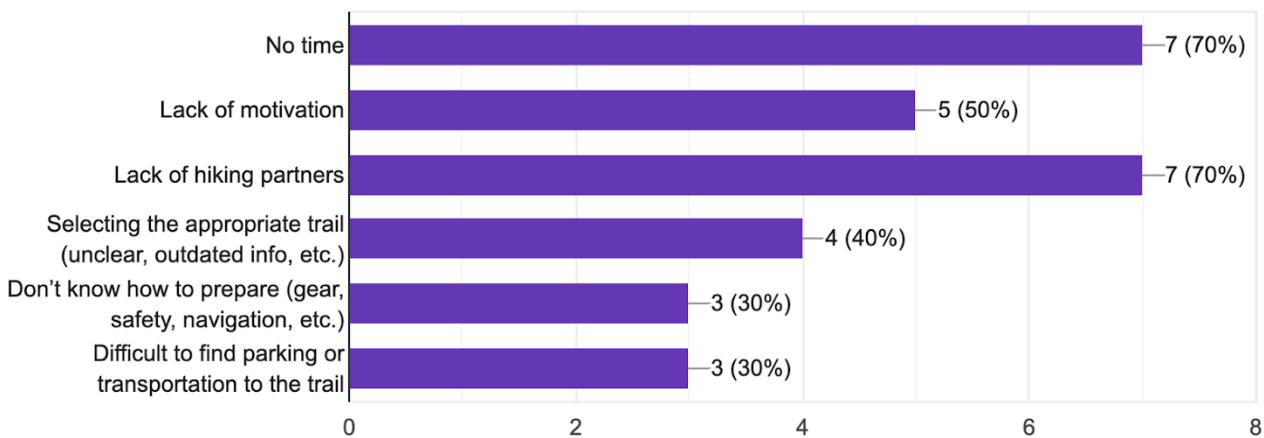


Other Factors: 1 response

Family-friendly

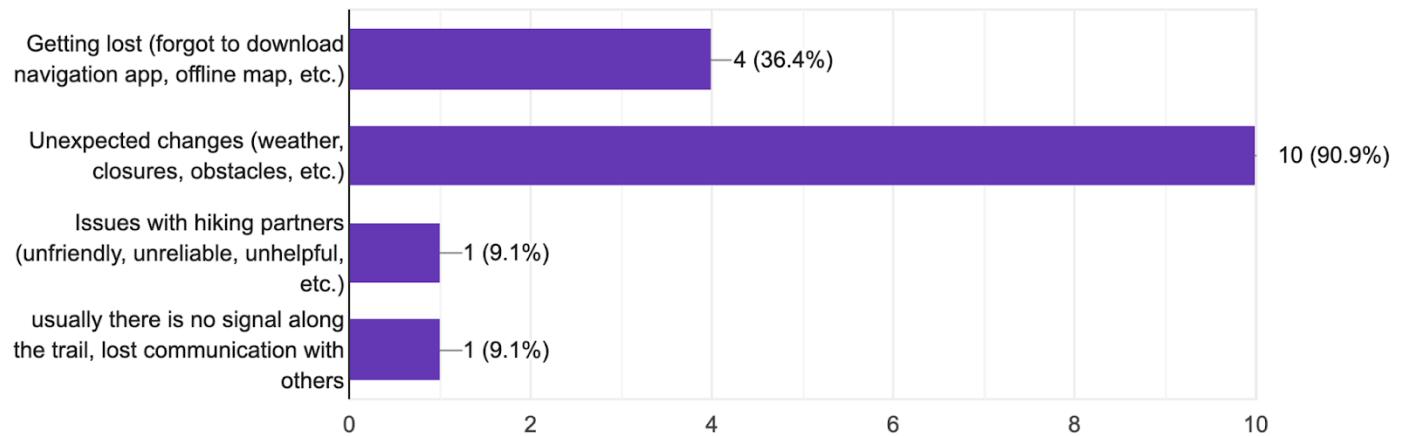
What (if any) difficulties to start a hike (check all that apply)?

10 responses



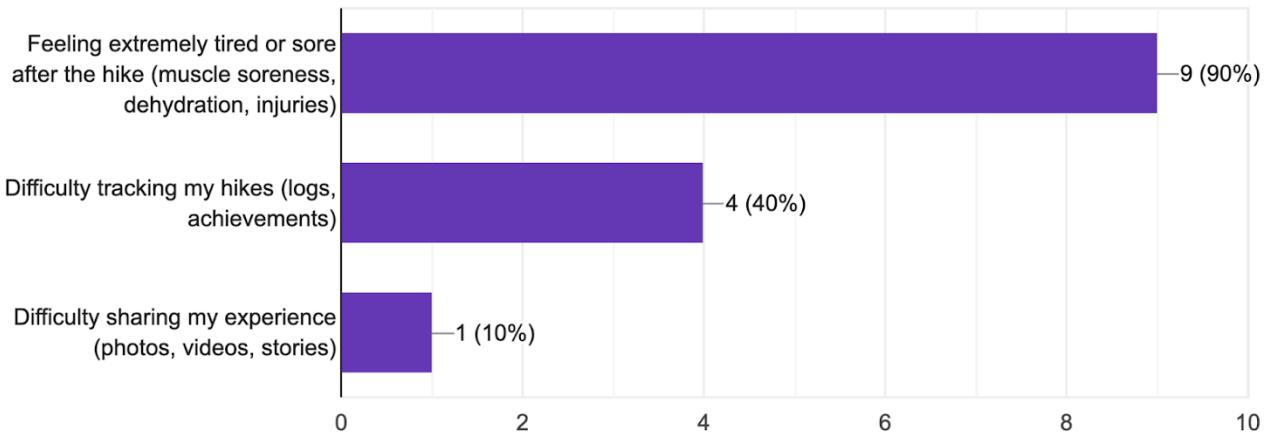
What (if any) difficulties during hiking (check all that apply)?

11 responses



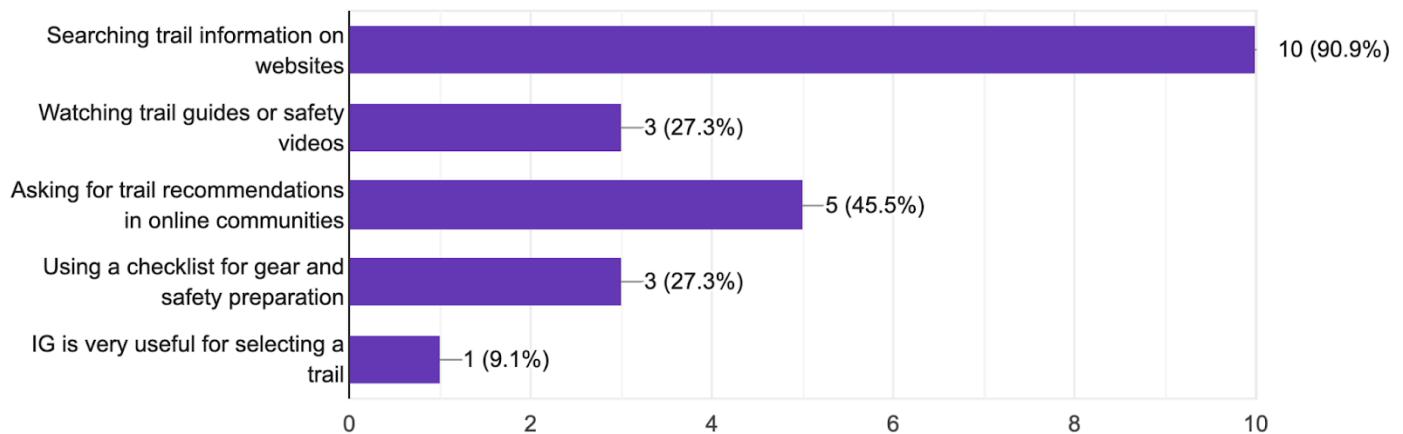
What (if any) difficulties after hiking (check all that apply)?

10 responses



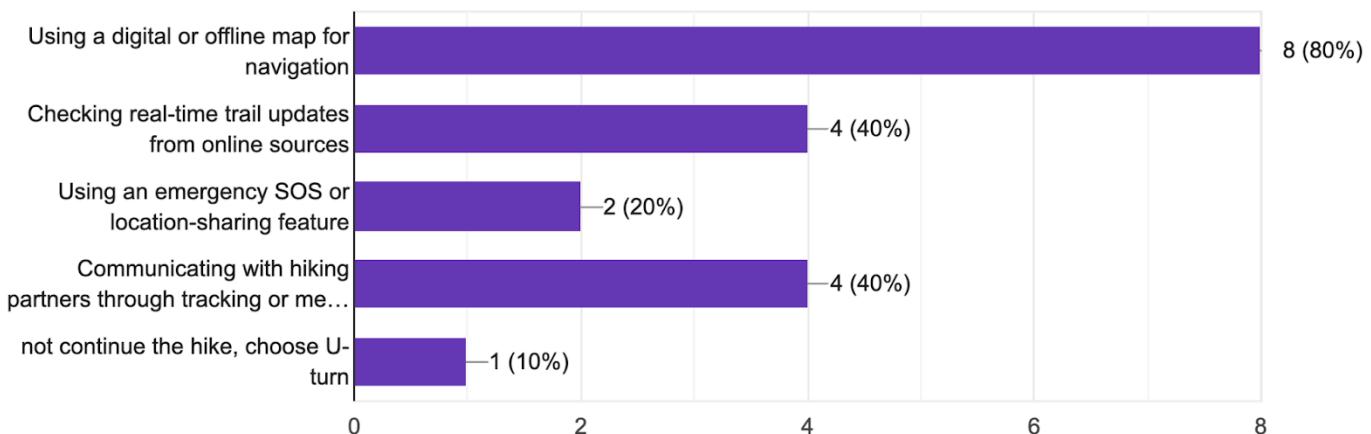
How do you prepare for a hike (check all that apply)?

11 responses



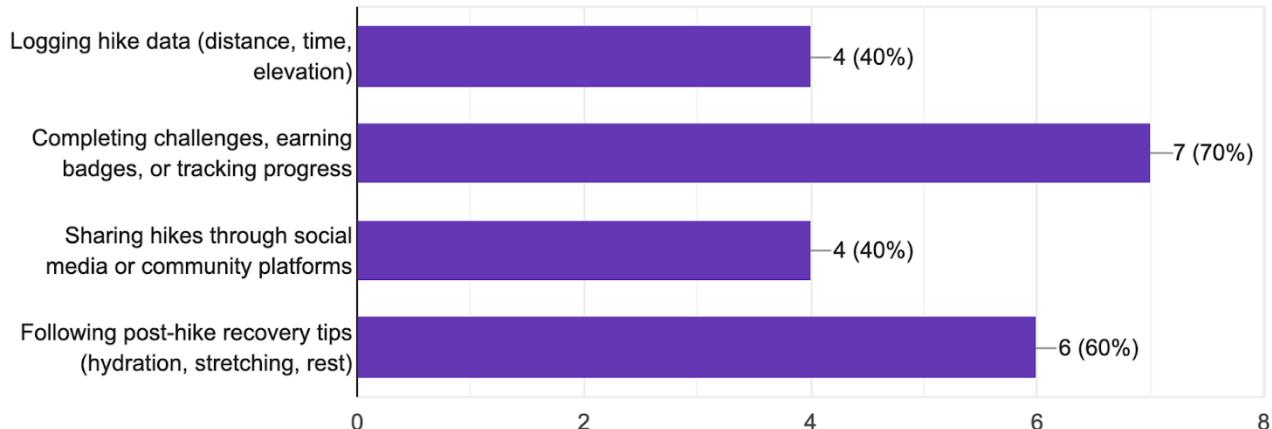
How do you solve problems during a hike (check all that apply)?

10 responses



What would help you after a hike (check all that apply)?

10 responses



What hiking apps have you used? 4 responses

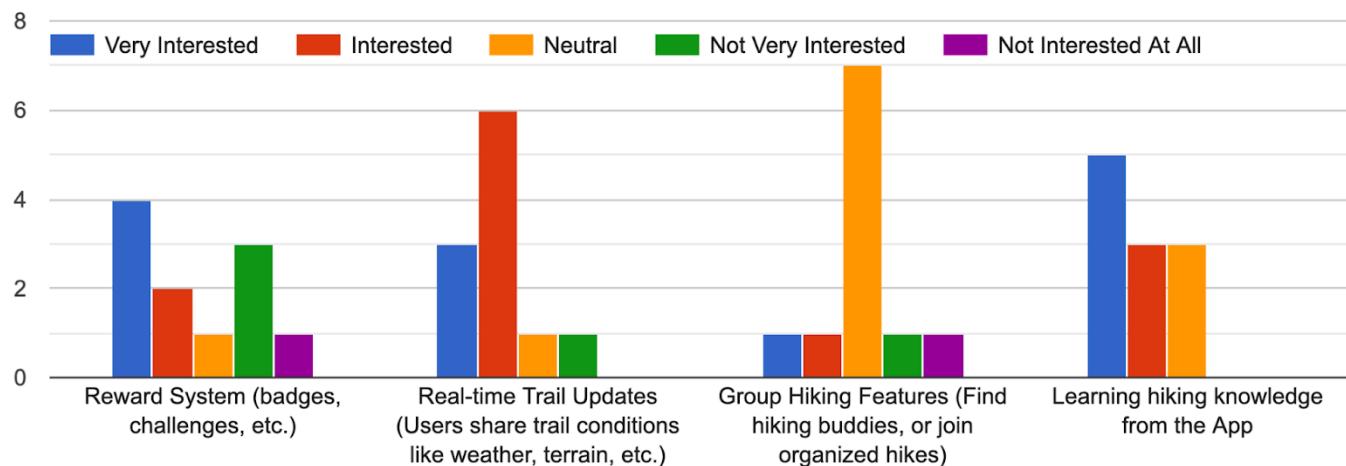
alltrails

AllTrails, community websites

Google map

none

How interested are you in the following features?



Key Insights

90.9% of users hike only a few times a year

→ The app **should have strong motivation features**, such as challenges, streaks, and milestone rewards, to encourage frequent engagement.

100% of users hike with friends

→ The app **must** have **group hike coordination tools**, including event scheduling, group chats, and shared navigation.

70% struggle with having time and finding hiking partners

→ The app **should** have **a quick-match hiking buddy finder** and **flexible hike planning tools** that suggest nearby short trails based on time availability.

90.9% report unexpected trail/weather issues

→ The app **must** have **real-time trail updates** with community-reported conditions, weather alerts, and hazard warnings.

70% want gamification (badges, challenges, rewards)

→ The app **should** have **achievement tracking**, including digital badges, leaderboards, and personalized progress goals.

90.9% of users search for trail information online before hiking

→ The app **must** have **a well-organized trail database** with verified reviews, route details, and essential preparation tips.

80% use digital/offline maps for navigation during hikes

→ The app **must** have **offline GPS navigation** with waypoints, elevation profiles, and route tracking.

90% feel extremely tired or sore after hiking

→ The app **should** have **post-hike recovery guidance**, including hydration reminders, stretching routines, and nutrition advice.

70% want earning badges, tracking progress→

The app **should** have **automatic hike logging and progress tracking** to help users monitor their achievements.

Requirements Generation

Persona: Tim Nguyen



- ★ **Age:** 38
- ★ **Occupation:** Software Developer
- ★ **Hiking Experience:** Beginner
- ★ **Tech Proficiency:** High
- ★ **Social Behavior:** Extroverted, prefers hiking with friends and family
- ★ **Hiking Frequency:** A few times a year
- ★ **Typical Hike Duration:** 1–3 hours
- ★ **Motivation:** Enjoys social aspects, gamification (badges, challenges), and exploring new places

Background & Lifestyle

Tim is a casual hiker who prefers social hikes with friends. He struggles with finding beginner-friendly trails, lacks real-time trail updates, and sometimes loses motivation. He enjoys tracking achievements and likes features that encourage consistency, such as badges and leaderboards.

Scenario: How Tim Uses TrailQuest

1. Uses TrailQuest to find an easy, beginner-friendly trail with good accessibility.
2. Checks real-time trail updates to avoid bad weather or obstacles.
3. Plans a group hike with friends using the app's event coordination feature.
4. Uses GPS navigation to stay on track during the hike.
5. Earns a "First Group Hike" badge and shares his progress in the community.
6. Gets post-hike recovery tips and sets a new hiking challenge for motivation.

Key Requirements Derived from Tim's Persona

Beginner-friendly trail discovery

→ The app must have filters for easy, accessible trails.

Real-time trail updates

→ The app must have user-reported weather, closures, and obstacles.

Group hiking coordination

→ The app must have event scheduling, friend invites, and shared navigation.

GPS navigation & offline maps

→ The app must have turn-by-turn guidance to stay on track.

Gamification & social engagement

→ The app should have badges, leaderboards, and community sharing.

Post-hike recovery support

→ The app should have hydration, stretching, and recovery tips.

Personalized challenges

→ The app should have streaks and new hike suggestions for motivation.

Persona: Mengyang Zhou (Moon)

- ★ **Age:** 33
- ★ **Occupation:** Computer Science Student
- ★ **Hiking Experience:** 1 year experience
- ★ **Tech Proficiency:** High
- ★ **Social Behavior:** Extroverted, prefers hiking with friends and family
- ★ **Hiking Frequency:** Many times a year
- ★ **Typical Hike Duration:** 2-5 hours
- ★ **Motivation:** Exploring new places, Strengthen the body, Spending time with friends, Gamification (badges, challenges).



Background & Lifestyle

Moon is an experienced hiker who is passionate about exploring new trails. After experiencing hikes in different seasons and terrains, she began to value her equipment, hoping to enhance her hiking experience by upgrading her gear. Of course, she also enjoys pursuing achievements, which not only gives her a greater sense of accomplishment when looking back on the trails she has hiked but also makes her more goal-oriented for her next exploration. Additionally, she enjoys interacting with people who share the same interests, hoping to learn where her friends have recently hiked.

Scenario: How Moon Uses TrailQuest

1. Use TrailQuest to filter and find routes that offer a certain level of challenge suitable for herself through filtering options.
2. To learn how to choose hiking gear through articles or videos within the app.
3. After completing a hiking task, share her latest experiences and insights in the community.
4. After unlocking digital badges, share them on social media to encourage more people to join in.

5. Check out friends' latest updates on the app and interact with each other.

Key Requirements Derived from Mengyang's Persona

Powerful route filtering

→ Let users find hiking trails efficiently.

Comprehensive outdoor knowledge

→ Upgrade users' hiking skills.

Community

→ Space for communication among users.

Sharing

→ Allows users to share on social media.

Achievement system

→ The sense of accomplishment from reflection & the sense of purpose from exploration.

Persona: Hao suo (Chris)

- ★ **Age:** 40
- ★ **Occupation:** Database Administrator
- ★ **Hiking Experience:** amateur
- ★ **Tech Proficiency:** low
- ★ **Social Behavior:** Only exercises with familiar friends
- ★ **Hiking Frequency:** Fixed number of times per year
- ★ **Typical Hike Duration:** 2-3 hours
- ★ **Motivation:** Relaxation, participating in physical activities with friends

Background & Lifestyle

Chris has a demanding job, often staying up late to manage databases and solve issues efficiently. For him, hiking is not about challenges but about unwinding from his work routine. He prefers quickly finding suitable hiking routes without spending too much time planning. Instead of seeking physically demanding trails, he focuses on relaxation and socializing with friends or family. A successful hike for Hao is not measured by distance or elevation but by how comfortable and enjoyable the experience is.

Scenario: How Chris Uses TrailQuest

1. Uses TrailQuest to quickly find suitable weekend hiking routes, prioritizing shorter, less strenuous options.

2. Checks for trails with good facilities, such as rest areas, supply stations, or spots suitable for socializing.
3. Uses TrailQuest's planning feature to coordinate with his regular hiking group efficiently.
4. Views weather forecasts and real-time trail conditions to ensure a smooth and hassle-free hike.
5. After finishing a hike, leave a brief experience review, focusing on relaxation rather than achievement.

Key Requirements Derived from Chris' Persona

Fast route recommendations

→ Prioritizes time efficiency and avoids complicated filtering.

Leisure-focused hiking information

→ Emphasizes comfort, convenience, and social aspects rather than difficulty.

Hiking planning & invitation features

→ Enables easy coordination with familiar hiking partners.

Real-time weather and trail conditions

→ Ensures a smooth and worry-free hiking experience.

Lightweight experience sharing

→ Allows users to leave quick, simple reflections instead of complex achievements.

Synthesis of Requirements

Based on insights from user studies and persona analysis , we categorized the key requirements into Must-Haves (Essential for Core Functionality), Should-Haves (Enhancing Engagement & Experience), and Want-to-Haves (Additional Enhancements for User Enjoyment) as below :

Must-Have Requirements

1. Real-time trail updates

→ Users must be able to access weather conditions, obstacles, and trail safety reports to make informed decisions.

2. GPS navigation & offline maps

→ The app must provide turn-by-turn navigation with offline access for seamless usage in remote areas.

3. Group hike coordination

→ Users must have tools for event scheduling, friend invites, and shared navigation to enhance social hiking experiences.

4. Advanced trail filtering options

→ Users should be able to filter trails by difficulty level, terrain, and season suitability to match their preferences.

5. Quick and easy trail recommendations

→ The app must offer fast route suggestions without requiring complex filtering, catering to users who prioritize efficiency.

6. Beginner-friendly trail filtering

→ The app must allow users to find easy, accessible trails to support novice hikers.

7. Hiking group planning

→ Users must be able to organize and sync hikes with familiar hiking partners effortlessly.

8. Social engagement & community features

→ The app must allow users to share hikes, badges, and experiences , fostering an interactive hiking community.

Should-Have Requirements

1. Achievement system & gamification

→ The app should implement badges, leaderboards, and rewards to encourage hiking consistency.

2. Personalized challenge system

→ The app should provide streaks, milestone-based goals, and custom hike challenges to keep users motivated.

3. Post-hike recovery support

→ Users should receive hydration reminders, stretching routines, and recovery tips after hikes.

4. Hiking knowledge resources

→ The app should offer educational content such as gear recommendations and skill-building guides to improve user preparedness.

5. Comfort-oriented trail details

→ Users should have access to information on rest areas, supply stations, and scenic spots to enhance relaxation-focused hikes.

6. Lightweight hike reflections

→ The app should allow users to leave quick, simple reviews instead of detailed logs to accommodate casual hikers.

7. Social media sharing

→ The app should provide integrations for sharing achievements and hiking experiences on external platforms.

Want-to-Have Requirements

1. Augmented reality (AR) exploration features

→ Users could explore trails with interactive AR points of interest for an immersive experience.

2. AI-based smart recommendations

→ The app could suggest trails based on user preferences, fitness levels, and weather conditions.

3. Virtual hiking competitions

→ The app could introduce leaderboard-based challenges where users compete virtually with others.

4. Trail rating & review system

→ Users could rate trails and leave detailed feedback to help future hikers.

5. Integration with wearable fitness devices

→ The app could sync with smartwatches and fitness trackers to record hike metrics.

6. Voice navigation support

→ The app could include hands-free audio guidance for better navigation on trails.

Design

Design patterns

Bottom Navigation Pattern

We use a bottom navigation on every screen to provide quick access to the main top-level views. Since users frequently switch between features (e.g., home feed, navigation, saved trails), this fixed navigation bar reduces friction and improves usability on mobile.

Hub and Spoke Pattern

We use Hub and Spoke for the following flows: Home to Post Details, Explore to Trail Details, Events to Event Info. Each top-level screen serves as a hub (e.g., Home, Explore) with clickable cards that lead to detailed views (spokes). The reason is that the pattern keeps the structure shallow and intuitive, making it easy for users to dive into a single piece of content and return.

Tabs

We use tabs for the Profile screen to show 3 tabs Activities, Badges, Saved and Explore screen to show List and Map. The tabs let users switch between related datasets without leaving the profile/explore screen. This keeps information grouped while minimizing navigation depth and loading.

Cards

We use cards to show feed posts, available trails, events and badges. The cards encapsulate data chunks visually and support actions like "share", "save", or "comment". They make content digestible, scannable, and aesthetically organized for mobile use.

Chips

We use chips to display Explore filters (Difficulty, Length, Features), and also Post tags (e.g., "Event", "Badge Earned"). The Chips make filtering and content labeling intuitive. They are compact, tappable UI elements that help users customize views (filters) or scan content type (labels) efficiently.

Declutter: Progressive Disclosure

We pally declutter on Home feed cards, post details, trail cards. Only high-level info is shown upfront (e.g., distance, image, summary). More details (comments, trail info, replies) are shown *after* tapping. This minimizes cognitive load and keeps screens clean.

Carousel

For posts with multiple trail images (e.g., Emily's hike), we use a carousel to show the images. The carousel is horizontally scrollable so it makes a carousel of visuals. And this pattern is effective for showcasing multiple images in a compact space without overwhelming the user.

Overall workflow on Figma

Stage 1: Exploring the Home Page

- Browse community activities
- View friends' hiking activities
- View information in the notification center

Home - Tim

TrailQuest

Tim Nguyen
2 hours ago · Mt. Rainier Trail
Just completed a beautiful 8-mile hike at Mt. Rainier! The views were absolutely breathtaking today. #TrailQuest #Hiking

▲ 8.2 mi ↑ 1,243 ft ❤ 24 💬 4

Sarah Johnson
Yesterday · Pacific Crest Trail
Looking for hiking buddies this weekend! Planning to tackle the Ridge Loop Trail. Anyone interested? #GroupHike

Event ❤ 24 💬 4

Michael Wilson
2 days ago · Green River Trail
Earned my "Trail Explorer" badge today! 🏆 10 different trails completed this month. What should I tackle next?

Detail Post - Tim

TrailQuest

Tim Nguyen
2 hours ago · Mt. Rainier Trail
Just completed a beautiful 8-mile hike at Mt. Rainier! The views were absolutely breathtaking today. #TrailQuest #Hiking

▲ 8.2 mi ↑ 1,243 ft ❤ 24 💬 4

Replies

Sarah Johnson · Yesterday
Looking for hiking buddies this weekend! Anyone interested?
Reply

Michael Wilson · 2 days ago
What should I tackle next?
Reply

Stage 2: Searching & Evaluating Trails

- Enter location or keywords
- Apply filters (difficulty, distance, elevation)
- Toggle between map and list views

Explore - List

The screenshot shows a list view of outdoor activities. At the top is a search bar with placeholder text "Search trails, parks, or locations". Below it are several filter buttons: "Filters", "Nearby" (highlighted in green), "Beginner-friendly", and "Dogs allowed". The first card is for the "Eagle Creek Trail" in Columbia River Gorge, OR. It features a photo of a hiker from behind, a yellow star rating of 4.2, and the trail name. Below the photo are difficulty level ("Moderate"), distance ("7.2 miles"), and time ("3-4 hours"). A descriptive text follows: "A beautiful trail featuring multiple waterfalls, lush forests, and stunning gorge views." A counter indicates "342 hikers this month" and a "Save" button. The second card is for the "Mount Si Trail" in North Bend, WA. It shows a photo of a blue lake surrounded by green forest, a yellow star rating of 4.6, and the trail name. Below the photo are difficulty level ("Hard"), distance ("8.0 miles"), and time ("4-6 hours"). A descriptive text follows: "A challenging hike with substantial elevation gain." A "Save" button is also present.

Search trails, parks, or locations

Filters Nearby Beginner-friendly Dogs allowed

List Map

Eagle Creek Trail
Columbia River Gorge, OR

4.2

Moderate 7.2 miles 3-4 hours

A beautiful trail featuring multiple waterfalls, lush forests, and stunning gorge views.

342 hikers this month Save

Mount Si Trail
North Bend, WA

4.6

Hard 8.0 miles 4-6 hours

A challenging hike with substantial elevation gain.

Home Explore Navigation Events Me

Explore - Map

The screenshot shows a map view of a mountainous region. The map displays terrain, roads, and bodies of water. Several green location markers are placed on the map, indicating specific points of interest. Labels for "Grouse Mountain" (1,231 m) and "Grouse Mountain Resort" are visible. Other labels include "Kennedy" (a body of water) and "Grousewoods Park". The map interface includes a search bar at the top and navigation controls at the bottom. A curved arrow on the left side of the screen points from the "List" view to the "Map" view, indicating a transition between the two interfaces.

Search trails, parks, or locations

Filters Nearby Beginner-friendly Dogs allowed

List Map

Grouse Mountain 1,231 m
Grouse Mountain Resort
Kennedy
Grousewoods Park

Home Explore Navigation Events Me

Explore - Beginner

Search trails, parks, or locations

Filters Nearby Beginner-friendly

List Map

Mount Si Trail
North Bend, WA

4.1

Beginner-friendly 5km 2-3 hours

A challenging hike with substantial elevation gain, rewarding with panoramic views of the Snoqualmie Valley.

519 hikers this month Save

Eagle Creek Trail
Columbia River Gorge, OR

4.8

Beginner-friendly 8km 3-4 hours

Home Explore Navigation Events Me

Explore - Filter

X

Filters

Difficulty

- Easy
- Moderate
- Hard

Elevation gain 0-80 km+

Elevation gain 0-1,500 m+

Suitability

- Dog-friendly
- Kid-friendly
- Paved

Clear Show 100 trails

Stage 3: Trail Planning

- Saved the routes from Explore page you like
- Or find suitable events on the Events page to join them.

Explore - List

Filters
 Nearby
 Beginner-friendly

List
Map

Eagle Creek Trail
Columbia River Gorge, OR
 4.2

Moderate
 7.2 miles
 3-4 hours

A beautiful trail featuring multiple waterfalls, lush forests, and stunning gorge views.

342 hikers this month

Mount Si Trail
North Bend, WA
 4.6

Hard
 8.0 miles
 4-6 hours

A challenging hike with substantial elevation gain.

Home
 Explore
 Navigation
 Events
 Me

Profile Saved - Tim

Tim Nguyen
@timcodex

128 Posts
256 Following
384 Followers

Activities
 Badges
 Saved

Eagle Creek Trail
Columbia River Gorge, OR
 4.8

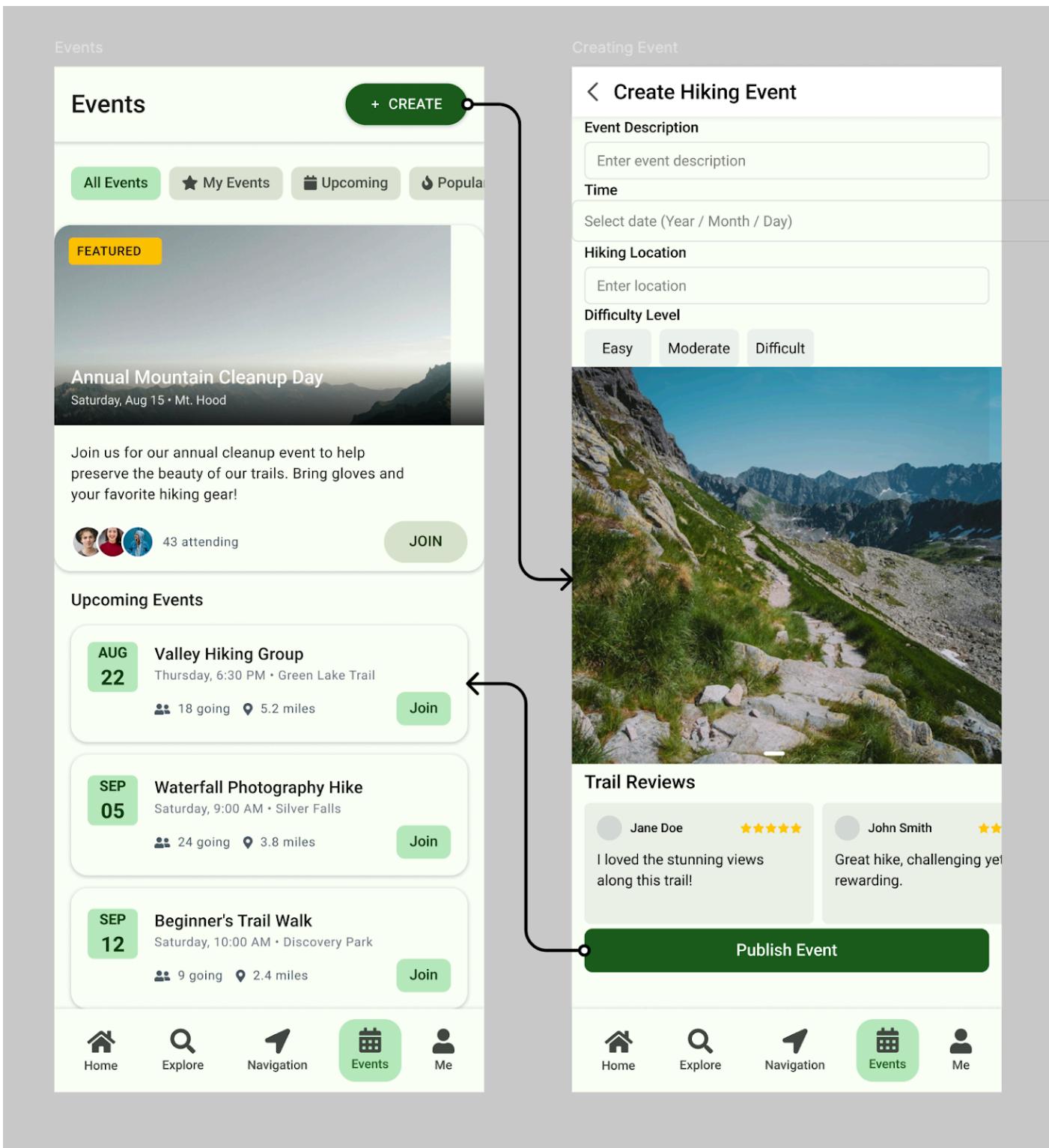
Moderate
 7.2 miles
 3-4 hours

A beautiful trail featuring multiple waterfalls, lush forests, and stunning gorge views.

342 hikers this month

Mount Si Trail
North Bend, WA
 4.6

22

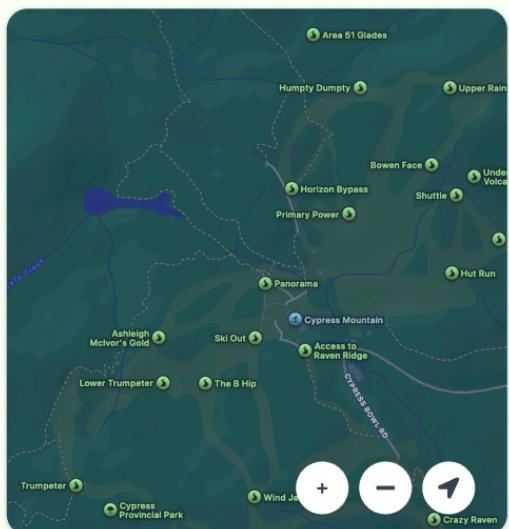


Stage 4: Starting & During Activity

- Start activity recording
- Follow navigation guidance
- View real-time data (speed, distance, elevation)
- Check navigation progress

Navigation

Navigation



Current Route: Valley Loop Trail

- Starting Point**
Yosemite Valley Visitor Center
- Distance**
7.2 miles
- Elevation Gain**
1,200 ft
- Estimated Time**
3.5 hours

START NAVIGATION



Home



Explore



Navigation



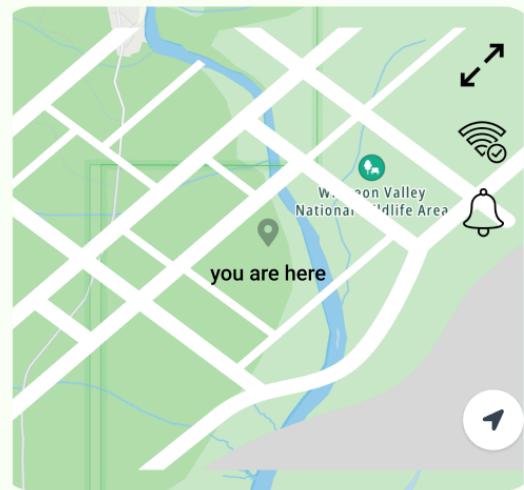
Events



Me

navigating

< Navigation



Directions

Turn-by-turn guidance



Turn left on Main Street

Continue for 2 miles



Turn right on Elm Avenue

Your destination is on the left

Trip Information

Remaining Distance

4.5 miles

Estimated Time

15 minutes

Stop

Pause



Home



Explore



Navigation



Events



Me

Stage 5: Completing Activity & Social Interaction

- View activity statistics
- Add feelings and photos
- Share to social media or community

Hiking Completion

Hiking Completion

My Hiking Adventure

Session Summary

Session Details

Total Distance
8.5 miles

Total Time
3 hours

Save Share

Home Explore Navigation Events Me

Home - Tim

TrailQuest

Tim Nguyen 2 hours ago · Mt. Rainier Trail

Just completed a beautiful 8-mile hike at Mt. Rainier! The views were absolutely breathtaking today. #TrailQuest #Hiking

▲ 8.2 mi ↑ 1,243 ft ❤️ 24 🗣 4 ↗

Sarah Johnson Yesterday · Pacific Crest Trail

Looking for hiking buddies this weekend! Planning to tackle the Ridge Loop Trail. Anyone interested? #GroupHike

Event ❤️ 24 🗣 4 ↗

Michael Wilson 2 days ago · Green River Trail

Earned my "Trail Explorer" badge today! 🏆 10

Home Explore Navigation Events Me

Stage 6: Personal Progress Tracking

- View activity history

- Analyze hiking statistics
- Check health metrics
- View earned badges

Profile - Tim





Tim Nguyen
@timcodex

128 Posts **256** Following **384** Followers

Activities **Badges** **Saved** (Selected)

Recent Activities

Morning Hike at Eagle Creek ▲ Hike

August 10, 2023

Distance
8.2 mi
Duration
3h 24m
Elevation
1,243 ft



♡ 24 ○ 8 Share

Sunset Trail Event

Home Explore Navigation Events Me

Profile Badges - Tim





Tim Nguyen
@timcodex

128 Posts **256** Following **384** Followers

Activities **Badges** **Saved**


Group Player
Join 10 hiking groups
 7/10


Summit Seeker
Reach 10 mountain peaks
 Finished

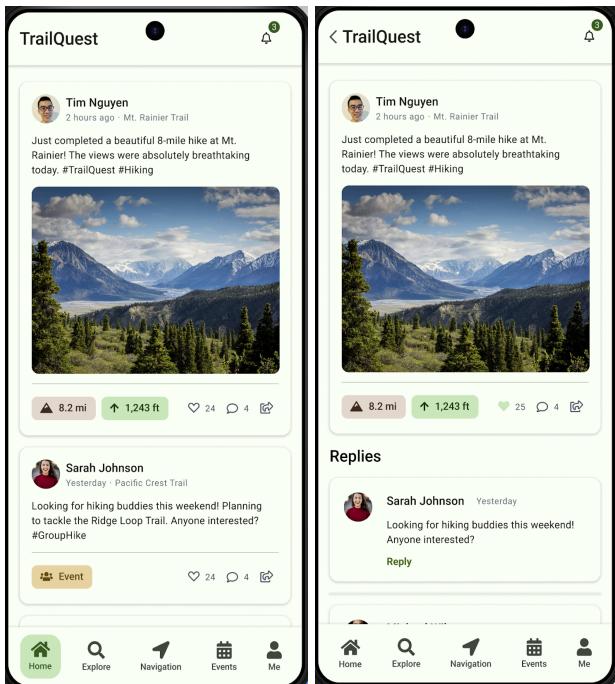

Distance Master
Hike over 500 miles total


Waterfall Wanderer
Visit 15 different waterfalls

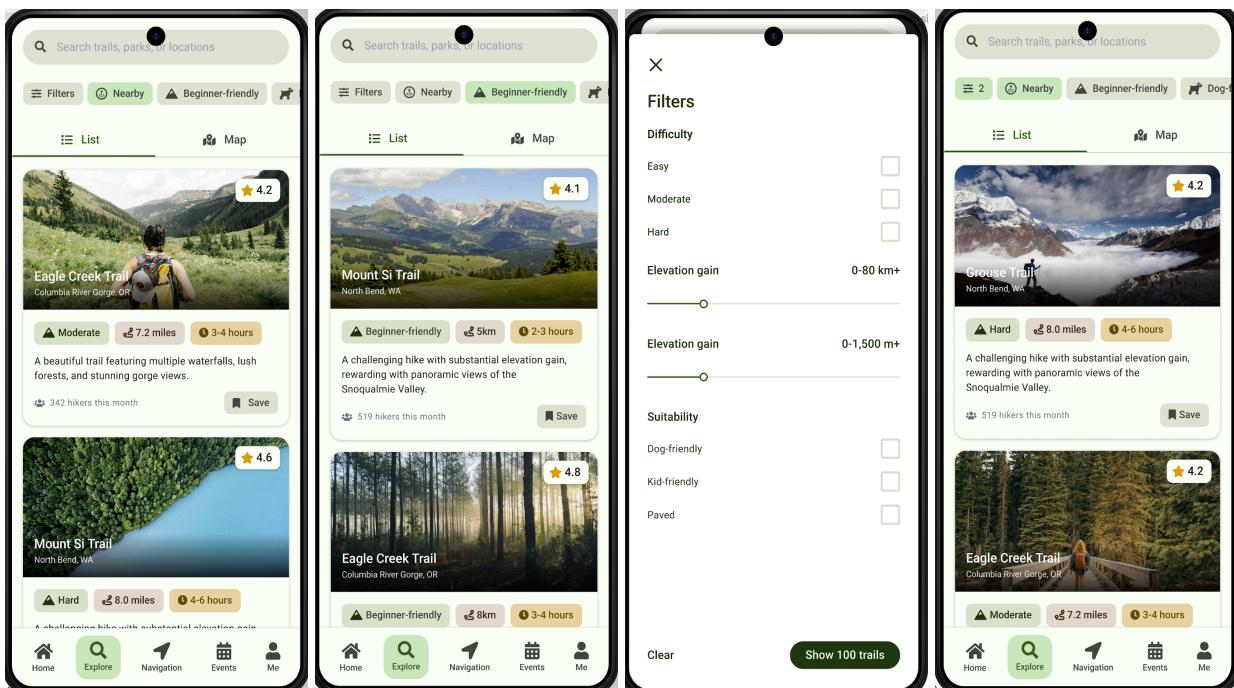
Home Explore Navigation Events Me

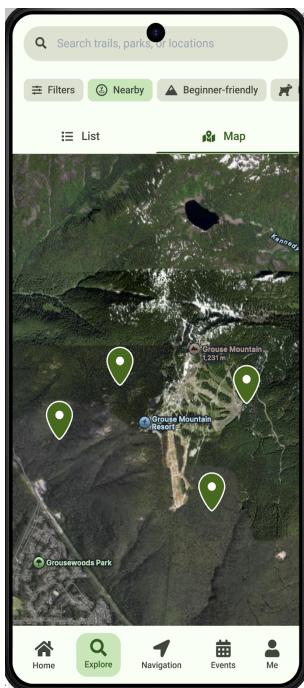
Screenshots of all the screens

1. Home Page

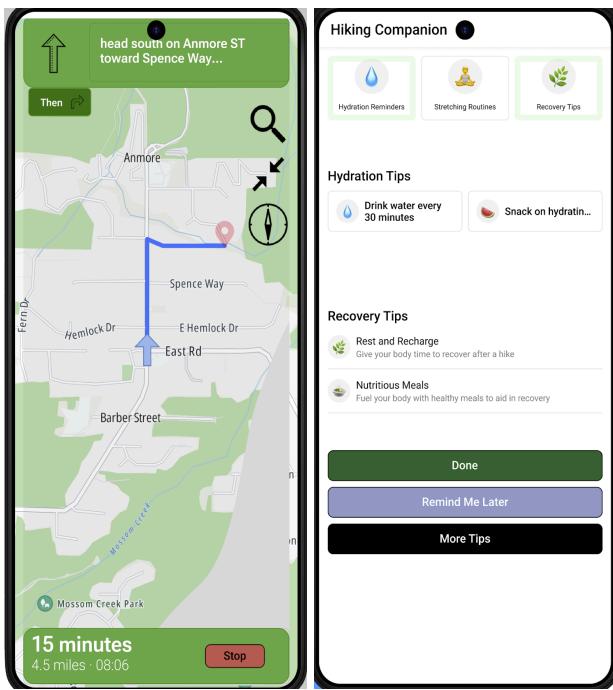


2. Explore Page

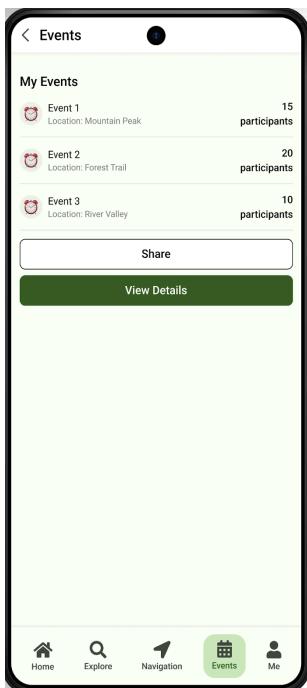




3. Navigation Page



4. Events Page



5. Me Page

Tim Nguyen
@timcodex

128 Posts 256 Following 384 Followers

Activities Badges Saved

Recent Activities

Morning Hike at Eagle Creek August 10, 2023

Distance 8.2 mi Duration 3h 24m Elevation 1,243 ft

Group Player Join 10 hiking groups 7/10

Summit Seeker Reach 10 mountain peaks Finished

Distance Master Waterfall Wanderer

Eagle Creek Trail Columbia River Gorge, OR

4.8 Moderate 7.2 miles 3-4 hours

A beautiful trail featuring multiple waterfalls, lush forests, and stunning gorge views.

342 hikers this month Save

4.6

Home Explore Navigation Events Me

Designer Based Prototype Evaluation

USER JOURNEY MAP Discovering, Hiking & Engaging with TrailQuest

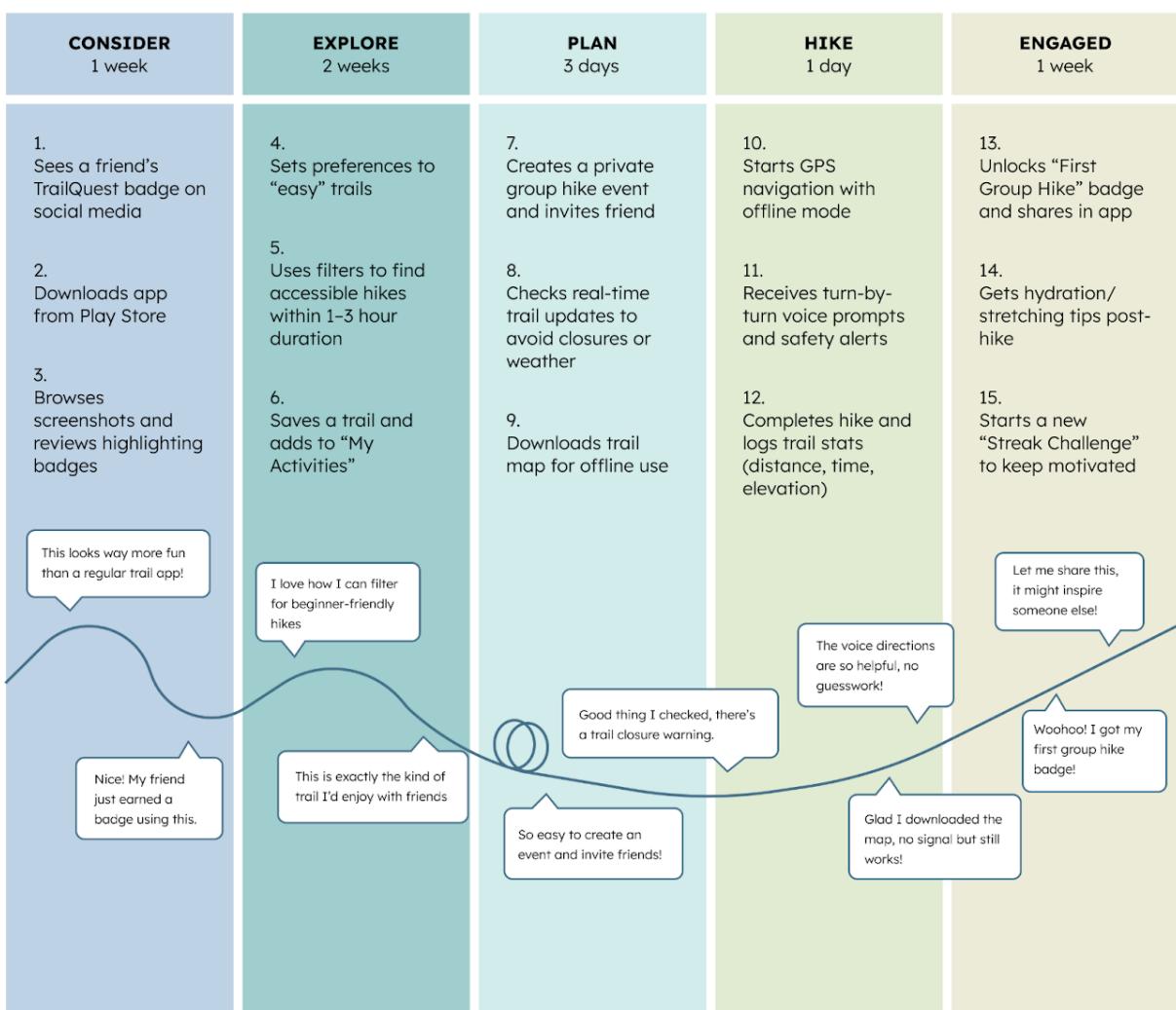


SOCIAL TIM

Tim is a beginner hiker and software developer. He's tech-savvy, social, and enjoys hiking with friends. He likes gamified experiences and discovering new places but often needs motivation and guidance for safe and beginner-friendly hiking.

EXPECTATIONS

- Beginner-friendly trail suggestions
- Real-time trail updates
- Easy group hike planning
- Offline GPS navigation
- Progress tracking, badges, community sharing



User-based Prototype Evaluation

Purpose and Objectives

- **Assess Usability and Navigation Flow**

First thing we want to check is to see if users can navigate through the screens easily and complete key tasks/main activities. For example: starting a new hike, navigation during their hike, finish a hike and earning a badge

- **Evaluate Gamification Effectiveness**

As gamification is our app's novelty, we want to determine whether features such as badges or awards can genuinely motivate users to hike or want to interact with the app even more.

* Note: as this is the first prototype, we did not implement streaks, and leaderboards yet.

- **Feedback on Core Features**

We also want to find out which prototype features (ex: real-time trail updates, group coordination, achievement tracking) are most valuable to users and which are confusing or not useful.

- **Measure Overall User Satisfaction**

Collect feedback from users about how the app looks, how they feel, and if the features of the prototype match with user expectations for an engaging hiking (especially in groups) app.

- **Identify Areas for Improvement**

Allow users to suggest improvements including missing functionality, pain points, or interface issues so we can refine the design in the next iteration.

Choice of User Study and User Sample

- **Study Format**

We formed a Whatsapp group with some hikers we know and we will send the link of our clickable prototype demo (from Figma) so they experience and provide their feedback on our prototype evaluation survey. We choose this format as everything is conducted online to save time for all people involved. If they feel unfamiliar working with the Figma prototype, we can create a video to introduce the basic features to them first.

- **Target Users**

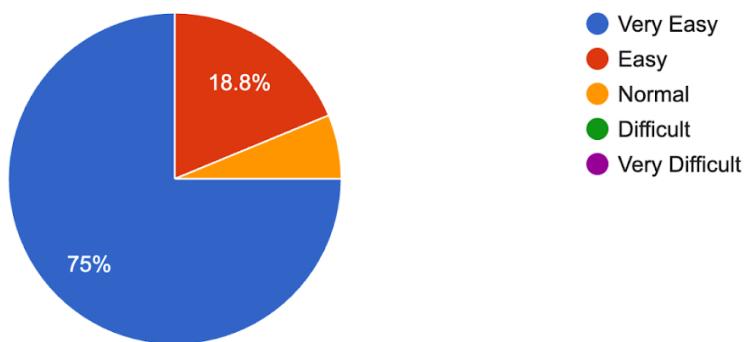
As said above, we formed a group with hikers who are our classmates in this course and other courses as well. Most of them are beginners with some experience in short hiking trails so we will focus mostly on their feed about the usability of the app and the motivational features as this is the most important starting point.

As we focus on beginners only, we will NOT use the dual perspective survey.

Data Visualization and Analysis

How easy was it to navigate the prototype overall?

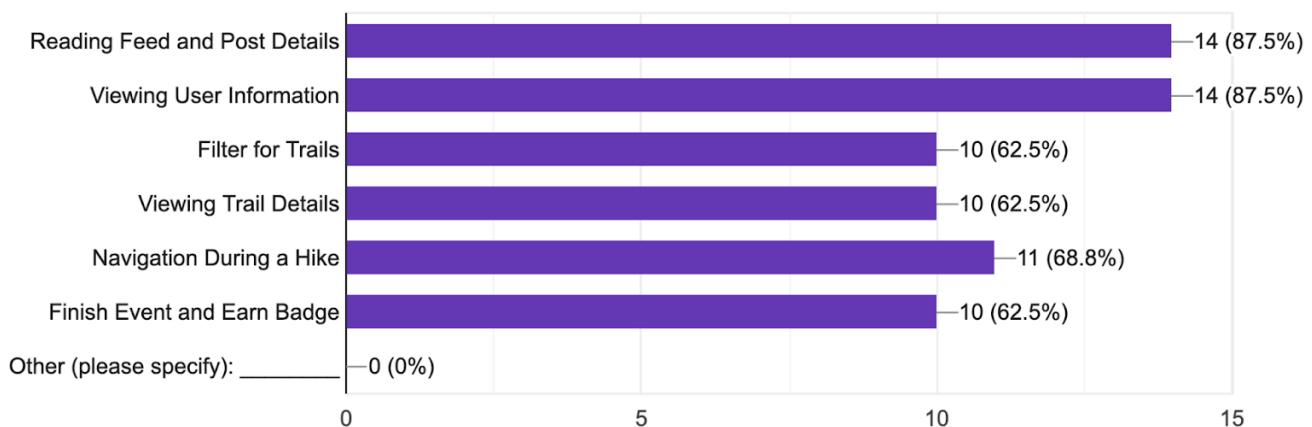
16 responses



Mean: 4.7 / 5. Median: 5 / 5

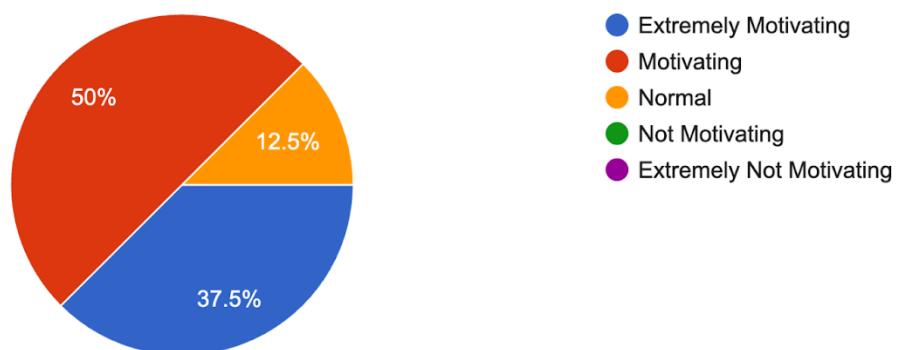
Which tasks did you attempt during testing? (Check all that apply)

16 responses



How motivating were the badges/achievement system for encouraging you to hike or explore the app?

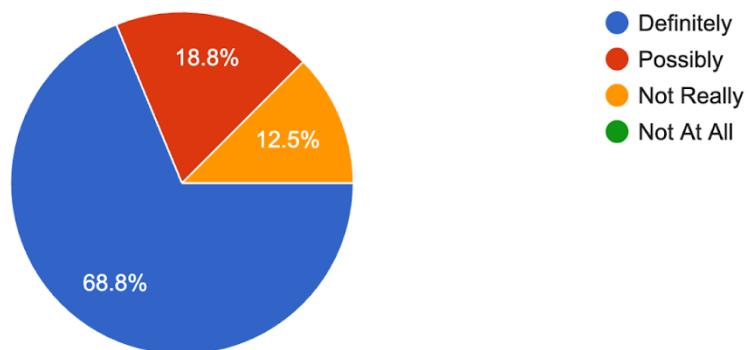
16 responses



Mean: 4.25 / 5. Median: 4 / 5

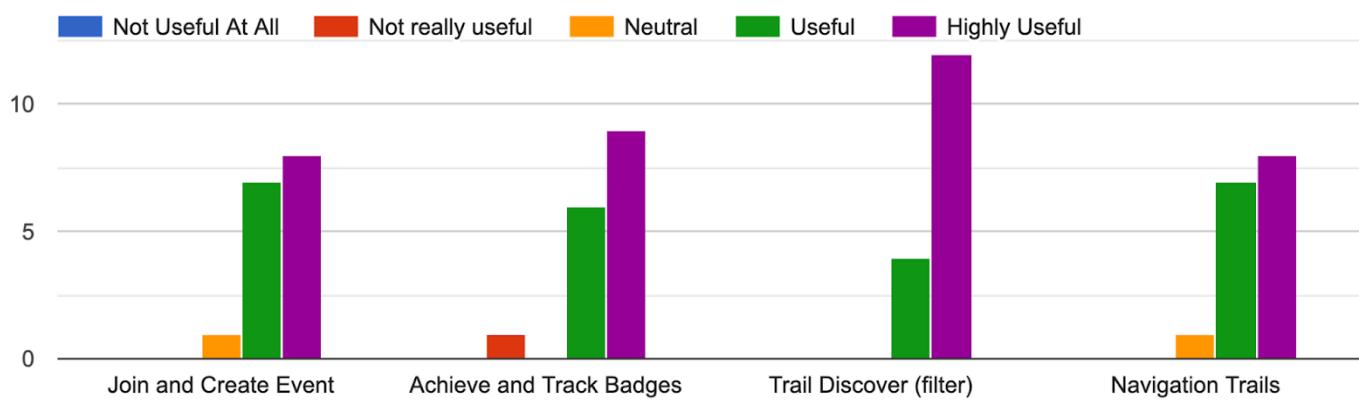
Would adding more gamification elements (like streaks or leaderboards) increase your engagement?

16 responses



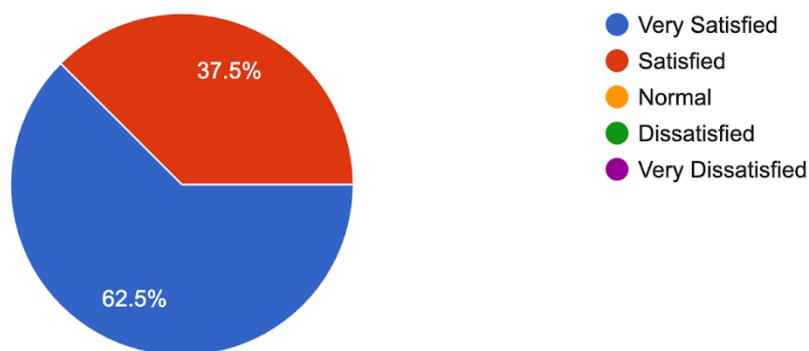
Mean: 3.56 / 4. Median: 4 / 4

Rate the usefulness of the following features



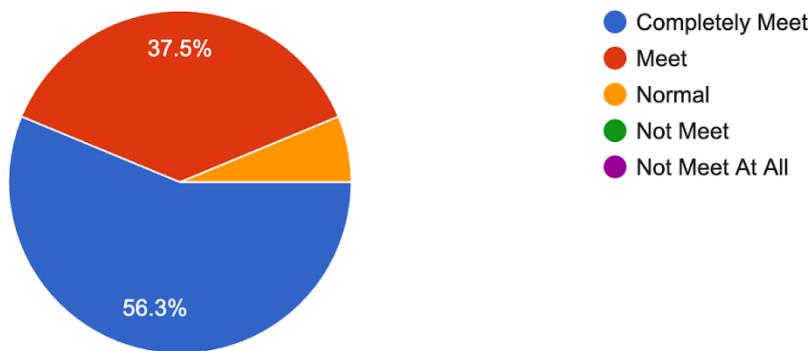
How satisfied are you with the prototype's overall look and feel?

16 responses



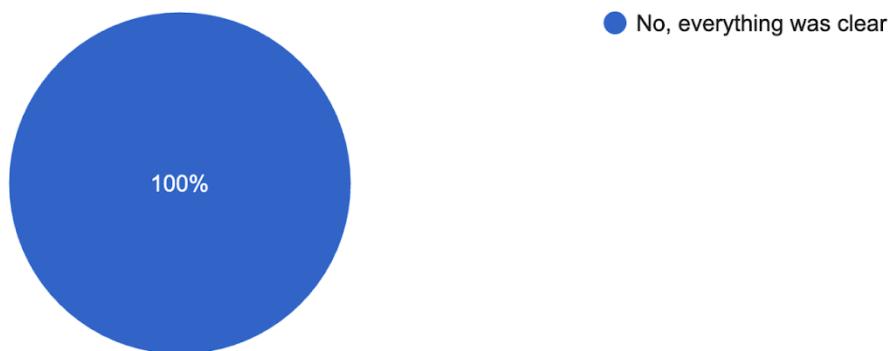
Mean: 4.63 / 5. Median: 5 / 5

To what extent does this prototype meet your expectations for a beginner-friendly hiking app?
16 responses



Mean: 4.5 / 5. Median: 5 / 5

Did you encounter any confusion or technical issues while experiencing the app?
16 responses



Mean: 2 / 2, Median: 2 / 2

What additional features or changes would make the app more useful or appealing for you?
3 useful / 8 responses:

- A weather forecast
- More intuitive navigation
- Friends finder - share your current location to your friends in real time.

Already has unique features
It's perfect enough that it requires 0 changes
I forgot if there is a weather forecast
More intuitive navigation
No input
No
can't say, i don't hike much.
Friends finder - you can share your current location to your friends in real time and vice versa.

Any other comments or suggestions?

4 useful / 7 responses:

- More color
- Icon inconsistent
- Stop button white color is better than red
- Show celebration image as popup

No
It could use a bit more color
So clear app, good jobs guys
Good job!
<p>UI wise, I would say be consistent with - paddings and margins - icons used (especially on the Navigation > Start navigation frame). I feel icons used are being inconsistent from other pages. - text colors (use white for dark bg, and black for light background). Specifically for Stop button at the navigation. I think white looks better for the red button. I think 😊 - font sizes (some fonts were too small, while some are very ok) - Completed adventure frame: instead of putting the celebration image below the Session details, I think it looks better to show it as a popup instead (like a modal) saying "Congratulations! You completed blah blah" something like that.</p> <p>Overall I really like the experience of the app especially the UI. Looks minimal and very professional. It wasn't hard to navigate at all and very easy to use. I also love how the cards in homepage was designed. It looks very nice.. Congrats!!</p>

Insights from the Results

- **Navigation was easy:** 75% rated it as “Very Easy”, 18.8% “Easy”, and 6.2% “Normal” (mean: 4.7 / 5, median: 5/5). We consider that the navigation of the prototype is already highly intuitive (but of course, there would be some room to improve).
- **Core tasks were completed:** 87.5% explored feed and user profiles, more than 60% completed experiencing other features so we consider that all core features are discoverable and usable.
- **Badges are motivating partially:** 37.5% chose “extremely motivating”, 50% “motivating”, and 12.5% “normal” (mean: 4.25 / 5, median: 4 / 5). This is significantly lower than what we had on the feedback for the navigation. So though users still have positive experience on Badges, the number shows that we need to improve and implement more features to motivate users to hike.
- **More gamification is wanted:** 68.8% wanted to add, 18.8% wanted a bit, and 12.5 % not really wanted (mean: 3.56 / 4, median: 4 / 4). This really reflects on what we concluded on the “Badge are motivating” insight. Users don’t really see the motivation to start so they badly want to add more features related to gamification experience. We will need to redesign to add features like leaderboard, streak awards, competition, ... to push the motivation to the peak.

- **Trail filtering is the most useful feature:** as all users found it useful or highly useful. That's true as we implemented many different chips and options for users to tailor their exploration for the events and trails. The data also reflects our insights earlier such as the navigation is useful and the achievement system needs improvements.
- **UI satisfaction is high:** 62.5% were “Very Satisfied”, 37.5% were satisfied (mean: 4.63 / 5, median: 5 / 5). This means our visual design is already effective and appealing to most users.
- **Beginner-friendliness is met partially:** 56.3% said “Completely meet”, 37.5% “Meet”, and only 6.2% “Normal” (mean: 4.5 / 5, median: 5 / 5). This feedback is a bit lower compared to what we got for our best sections which usually have more than 60% answers for the best choice. Though this is still positive feedback, we concluded that this prototype is not really matching well with the expectation of beginning users. This actually reflects the weakness about the motivation system as concluded above which is really important for beginners. We need to focus on improving that. Also, we may need to add features to help beginners to prepare before a hike to make a clear picture to motivate them to start hiking.
- **Zero confusion reported:** 100% said “everything was clear” so our prototype has no major issue or usability-related problems.
- **From suggestions:**
 - More controls during a hike: users want more features that make them feel fully controlling during their hike (with no incident). The features like weather forecast, more intuitive navigation, and real-time location sharing will be considered to add to the prototype.
 - Customizable UI: some users want a more consistent design and customizable elements so we need to improve the design consistency and also add settings to allow users changing icons, colors and also media used in the app.

Changes to The Design Based on Prototype Evaluation

Changes needed

- **Gamification Expansion:** add more gamification elements (e.g., streaks, leaderboards, challenges) and improve badge system to make it more engaging and motivating
- **Full Control during Hiking:** add weather forecast feature, improve navigation clarity and controls during a hike, and real-time friend location sharing for more control on hiking
- **UI design:** improve UI consistency and add UI customization settings (media, icons, font sizes, paddings, button colors)
- **Beginner focus:** include beginner-focused onboarding (gear checklist, hike prep guide)
- **Other:** add celebration popup when achievements are earned

Some Changes Implemented

- ✓ Stop button color: changed text to white as suggested for clarity
- ✓ Navigation clarity: adjusted some parts for more intuitive navigation flow
- ✓ Celebration popup: modified badge confirmation to appear as a modal

Not Feasible Changes for Now

- **Full gamification:** requires system reasoning, multiple screens, state variation mockups, and user progress flows.
- **Full control:** requires interaction reasoning, multiple complex data and map screens and active user indicators.
- **Beginner onboarding system:** requires logic and interaction reasoning, multiple onboarding, listing and flow screens, complex dialog layout for interaction
- **Customizable UI:** requires duplicating all the screens for each change on different themes, icons, and visual states, etc .. also rework the whole system to ensure the consistency of the design.

Conclusion

Our goal was to build a hiking app that adds motivation and community, which we found missing in apps like AllTrails and Strava. Through user surveys and testing, we learned that most people hike with friends, hike infrequently, and want features that make the experience more fun and social.

We designed and tested a prototype that scored well on navigation and UI. Users liked trail filtering the most. While badges were a good start, feedback showed we need more gamified features like streaks and challenges to really keep people engaged.

This project helped us understand how real-life feedback can help us make better designs. We learned how to plan around user needs, test ideas early, and improve based on analyzed data. It also gave us hands-on experience with UX research, design thinking, and working accordingly together as a whole team.

Appendix A - User Survey for Prototype Evaluation

How easy was it to navigate the prototype overall?

- Very Easy
- Easy
- Normal
- Difficult

- Very Difficult

Which tasks did you attempt during testing? (Check all that apply)

- Reading Feed and Post Details
- Viewing User Information
- Filter for Trails
- Viewing Trail Details
- Navigation During a Hike
- Finish Event and Earn Badge
- Other (please specify): _____

How motivating were the badges/achievement system for encouraging you to hike or explore the app?

- Extremely Motivating
- Motivating
- Normal
- Not Motivating
- Extremely Not Motivating

Would adding more gamification elements (like streaks or leaderboards) increase your engagement?

- Definitely
- Possibly
- Not Really
- Not At All

Rate the usefulness of the following features

Features	Not Useful At All	Not really useful	Neutral	Useful	Highly Useful
Join and Create Event	<input type="radio"/>				
Achieve and Track Badges	<input type="radio"/>				
Trail Discover (filter)	<input type="radio"/>				
Navigation Trails	<input type="radio"/>				

How satisfied are you with the prototype's overall look and feel?

- Very Satisfied
- Satisfied
- Normal
- Dissatisfied
- Very Dissatisfied

To what extent does this prototype meet your expectations for a beginner-friendly hiking app?

- Completely Meet
- Meet
- Normal
- Not Meet
- Not Meet At All

Did you encounter any confusion or technical issues while experiencing the app?

- No, everything was clear
- Yes (please describe briefly): _____

What additional features or changes would make the app more useful or appealing for you?

Any other comments or suggestions?

Work Logs

Tim Nguyen 300367925

At the beginning of the term, I brainstormed and refined three UX ideas (AI-Butler, Single Shop, Auto Restaurant Menu) and explored Behance vs Pinterest for design inspiration. In the middle of the term, I worked with the team on the user requirement survey and helped gather more responses by reaching out to friends. By the end of the term, I completed the requirements report, created personas and scenarios, and started building my very first complete prototype in Figma with my team, learning about design planning, UI/UX consistency, and interactivity.

Overall, I had a great time learning many new things with my great professor and my wonderful teammates. That polish my front-end skills and boost my career path as a full stack developer.

Date	#Hours	Description of Work Done
Jan 20, 2025	3	Brainstormed and crafted three UX concepts for the project using FigJam. I referenced existing UX best practices and competitor features, refining the ideas into AI-Butler, Single Shop, and Auto Restaurant Menu
Jan 24, 2025	4	Conducted competitor analysis to identify industry trends and UX strengths/weaknesses by analyzing leading platforms with similar functionalities. I documented unique selling points and added example screens to the idea board to guide the design direction.
Jan 26, 2025	1	Finalized and refined the description for the AI-Butler idea, including PACT, value proposal and market report. I prioritized core features based on user needs and simplified the scope.

Jan 28, 2025	1	Met Priya to discuss the feasibility of all our ideas. I took notes for all advice I got for the team. And called members voted for the final idea.
Jan 31, 2025	2	Initialized the proposal repository in GitHub, structured the documents, and notified the team. We standardized the format using Google Docs with version tracking and multiple tabs.
Feb 02, 2025	4	Reviewed and refined the proposal document, ensuring all sections were well-structured, reasonable and comprehensive.
Feb 04, 2025	1	Finalized the proposal by adding contract details, work logs, and final checks on content flow. Submitted the first version to blackboard.
Feb 06, 2025	1	Reviewed the last time to address minor content improvements and fixing inconsistencies in the proposal. Updated logs and created log tabs in the doc for each member. Notified the team, committed to the repo, and submitted to the blackboard.
Feb 11, 2025	1	Reviewed user requirement survey video and summarized all best practices for the best survey design. Shared that with the team.
Feb 13, 2025	2	Research objectives for user requirement survey. Arrange existing questions from Mengyang into appropriate categories. Determine which questions are required to be reconsidered
Feb 14, 2025	2	Drafted question sets with 23 questions across 5 question sets. Focused on potential solutions.
Feb 18, 2025	2	Discussed with the team on selecting questions and refining them for the final survey version 1. Ended up with 12 questions for 4 sections.
Feb 21, 2025	3	As Chris added some new questions and required a review for quantifiable questions that can generate data visualization, I reviewed and crafted the Final Version 2.
Feb 25, 2025	1	Created Final Survey V3 based on the comments of Priya including crafting the survey context.
Feb 26, 2025	1	Created Google Form based on the Final Survey V3, including the “Be Specific: ____” questions and also notified the team if they have any modification.
Mar 05, 2025	1	Refine Google Form by moving “Other choice__” option to the integrated list of the current question instead of using 2 separate questions. Send the form to friends to collect data.

Mar 06, 2025	0.5	Helped team in finishing log and submission (both blackboard and github)
Mar 09, 2025	1	Crafted user requirements report structure without personas. Created a group project on Figma and invited all involved personnel.
Mar 11, 2025	1.5	Created Tim Nguyen personas + scenarios. Notified team to write theirs. Write a list of requirements for Moon's personas, and composed Synthesis of Requirements.
Mar 12, 2025	1	Refined the whole report, included the work log and submitted.
Mar 14, 2025	0.5	Wrote the summary paragraph for my work log. Notified the team to add theirs. Refined the report, double-checked and submitted
Mar 18, 2025	2	Submitted Git Repo (I was sick so I forgot to submit this along with blackboard). Research about Information Structure and craft the prototype documentation for the information structure.
Mar 19, 2025	1.5	Init layout, craft and refine homepage and about me layout.
Mar 20, 2025	3.5	Learned about basic figma prototypes including creating components, scrolling, and navigation. Applied partly on home page interaction.
Mar 21, 2025	3	Create all prototypes for the home page and about me page including: hearted icon interaction, post detail, comment, about me page tabs, overlay badge information, and post photo zoom.
Mar 22, 2025	2.5	Refine the project on figma including the moodboard, design consistency, the footer navigation component for all pages. Updated the work log, updated to github and blackboard.
Mar 23, 2025	1.5	Added interaction prototype for Notification Box and craft the User Journey Map
Mar 24, 2025	2.5	Added details for the User Journey Map for my own story, including the conversation boxes.
Mar 25, 2025	2.5	Applied footer navigation component for all sub-screens of other members. Adjusted the scroll behaviours for all sub-screens. Crafted the Final Requirements Documentation, including the decoration and the outline with draft content.
Mar 26, 2025	1.5	Drafted the design part for the final report, including providing reasons for the design patterns we chose for our prototype.
Mar 27, 2025	2	Added User Journey Map for Designer Based Prototype Evaluation.

		Added User Purpose/objectives for Prototype Evaluation User Study and Choice of user study and user sample.
Mar 28, 2025	2	Crafted the first version of User Survey for Prototype Evaluation to cover the Objectives. 9 questions in total.
Mar 30, 2025	3.5	Refined the survey questions, created Google form from those questions (including the form title and description). Created a video to instruct users about core features of the prototype and invited each of my friends to experience the prototype by sending them the video, the figma prototype link and the survey link.
Apr 02, 2025	1	It turned out that less people were willing to try the demo. I had to resend to other students and also try their demo and fill their survey in exchange.
Apr 04, 2025	1	Update the data visualization, including calculate mean/median and summarize useful answers for open-ended questions
Apr 05, 2025	2.5	Provided the insights for each of the data visualisation and list of changes needed including proposal for immediate changes and changes that are impossible to make before the defense.
Apr 06, 2025	1	Refined the report, rewrote the conclusion. Wrote the log summary, exported documents, committed to Git, and submitted all to blackboard.

Mengyang Zhou 300378788

In January and February, I developed the "Trail Quest" hiking app concept. I began with brainstorming and research and then refined the proposal, focusing on user studies and the value proposition. I collaborated with our team, optimized the final proposal, and prepared a survey. Additionally, I caught up on missed lessons and completed the report with a conclusion.

Lately, I've been deep in design. I picked five core modules, each tailored to connect hikers and track their journeys. I studied Material Design 3 for the app layouts. Built a mood board for the app's adventurous vibe, and started prototyping in Figma.

The recent challenge is collaboration. When everyone's availability in the team is staggered, how can we ensure the advancement of the project progress? Solution: Communicate more and enhance my time management skills to make output more efficient.

Date	#Hours	Description of Work Done

Jan 17th	2	Observed daily life and brainstormed ideas for the applications I aim to design. One idea is a Recipe Tool designed to help people record their personalized recipes. Another is a Hiking application intending to encourage more people to explore outdoor activities through gamification.
Jan 18th	5	Created a Figjam template for the team. Refined ideas on FigJam. Considered what features need to be designed to achieve the desired vision. Search for related products, learn and research.
Jan 20th	3	Selected “Trail Quest” from the two proposals for further development. Refined its PACT analysis, value proposition, and market report.
Jan 28th	2	Attended Priya's video conference. Updated the proposal based on Priya's suggestions.
Feb 1st	2	Drafted the formal version of the proposal and discussed it with team members.
Feb 4th	1	Optimized some details in the final version of the proposal.
Feb 11th	5	Watched the video of UserStudy. Finished the survey draft.
Feb 18th	2	Discussed with the team on selecting questions and refining them for the final survey version.
Mar 04th	0.5	Send the form to friends to collect data.
Mar 08th	2	Watch the video to catch up on the lesson because I missed a class.
Mar 09th	1	Created own persona.
Mar 11th	1.5	Wrote the report conclusion.

		Refined the report detail, moved "Advanced trail filtering options" to Must-Have Requirements. Because finding the right route is important for most people.
Mar 14th	1	Reflecting on the past two months' activities. Planned the next steps.
Mar 18th	6	<p>Dove into the requirements pool to craft copy for the first version of our hiking app's information architecture. After careful analysis, I selected five key modules to focus on for the design draft.</p> <p>Home Page: Allows users to share their new hiking activity, post an event, or leave some comments and kudos.</p> <p>Explore Page: Users can search the trail here. It allows list view and map view.</p> <p>Navigation: Guide the user and record information about the user's activity path.</p> <p>Event Page: Allows users to create events to find people to hike together.</p> <p>Me Page: Shows the user's avatar and Nickname. It has two tabs: one for My activities and another for My badge wall.</p>
Mar 19th	9	<p>Learnt Material Design 3 design principle and designed the layout for the five main tabs.</p> <p>Created a mood board to find inspiration for the brand's color palette.</p>
Mar 20th	4	<p>Sync with the team on design progress and discussed the division of tasks for the interaction drafts.</p> <p>Improved and finished the mood board detail.</p>
Mar 21th	4	<p>Studied some user journey map case studies.</p> <p>Improve the subpages of the Explore tab.</p> <p>Studied Figma Prototype and finished part of them.</p>
Mar 30th	3	<p>Completed user flow</p> <p>Stage 1: Exploring the Home Page</p> <p>Stage 2: Searching & Evaluating Trails</p> <p>Stage 3: Trail Planning</p> <p>Stage 4: Starting & During Activity</p> <p>Stage 5: Completing Activity & Social Interaction</p> <p>Stage 6: Personal Progress Tracking</p>

April 1st	4	Learning Figma component building helps manage the prototype pages more neatly.
April 2nd	1	Refine the report details.
April 6th	2	Review the entire project and write a summary.

Hao Suo 300392463

Date	#Hours	Description of Work Done
Jan 20	4	Wrote two ideas on FigJam. The first is a tips board that categorizes various life tips for daily living. The second is a community-driven or city-driven app designed to help newcomers navigate a new city or region, <i>EasyConnect</i> .
Jan 21	2	Compared similar software, including Nextdoor . While Nextdoor offers a wide range of features, it lacks a specific focus on helping newcomers or immigrants integrate into a new community. Analyzed these gaps and identified user needs to determine improvement opportunities.
Jan 24	3	Designed EasyConnect , defining its core competitiveness, target users, and key features to establish a unique market position.
Jan 28	1	Met with Priya to gather feedback on the ideas and documented key insights for further refinement.
Feb 1	2	Drafted the value proposition based on app research and discussed key selling points with the team to ensure alignment with market needs.
Feb 4	1	Collaborated with the team to refine the final proposal, improving its structure and clarity to enhance its overall quality.

Feb 11	3	Reviewed the user requirement survey video, extracted key best practices for designing effective surveys, and shared the insights with the team to improve our approach.
Feb 18	4	<p>Designed the User Goals and Characteristics (Understanding the Target Audience) and Technical and Design Considerations (Optimizing Usability and Experience) sections in the Survey Draft, with the aim of narrowing down the target audience. The challenge was in how to quantify the information and how to phrase the questions to obtain accurate responses. Discussed these issues with other team members and together, we finalized the relevant questions. Additionally, I designed open-ended questions and possible answers.</p> <p>Challenges Encountered:</p> <p>None</p>
Feb 21	2	<p>Participated in group discussions, removing some repetitive and meaningless questions. My task was to complete the User Goals and Characteristics (Understanding the Target Audience) section in Final Version 1, which consists of 5 questions, as well as 2 questions in the Solution section. I also contributed to the creation of the official survey on Google Forms.</p> <p>Challenges Encountered:</p>

		None
Mar 10	1	<p>Tasks Completed:</p> <ol style="list-style-type: none"> 1. Created a persona and scenario for Chris, a database administrator who prefers relaxed and social hiking experiences. 2. Defined key requirements for TrailQuest based on Chris's needs, emphasizing quick route selection, social features, and convenience. 3. Translated the persona and requirements into English to ensure clarity and usability. <p>Next Steps:</p> <ul style="list-style-type: none"> • Explore UI/UX design ideas that cater to different user motivations (challenge-seekers vs. relaxation-focused users).
Mar 9	3	<p>Task: Generate a personal Persona based on expected usage of TrailQuest, considering features beneficial for beginner users.</p> <p>Work Content:</p> <ul style="list-style-type: none"> • Created a persona, Hao Suo (Chris), to represent a beginner-friendly user with minimal technical proficiency and a focus on relaxation rather than achievement. • Analyzed the user's key behaviors, motivations, and needs to ensure the design caters to casual hikers who prioritize ease of use. • Defined key requirements derived from Chris' persona, emphasizing quick route recommendations, social-friendly hiking options, and minimal planning effort. • Considered usability challenges for low-tech users, ensuring that navigation and feature accessibility are intuitive.

		<ul style="list-style-type: none"> Explored possible onboarding assistance, such as guided recommendations or a simplified interface, to reduce the learning curve for new users. <p>Challenges Encountered:</p> <ul style="list-style-type: none"> Balancing detailed route options with a simple selection process for users who want minimal planning effort. Ensuring that social features enhance the experience without adding complexity for users unfamiliar with app-based coordination. <p>Solution:</p> <ul style="list-style-type: none"> Prioritized preset filters and quick recommendations to match user preferences without overwhelming them with choices. Proposed a simplified social coordination feature where users can easily invite familiar hiking partners with minimal input. Suggested incorporating real-time trail conditions and weather integration as a proactive way to enhance user confidence. <p>This approach ensures that beginner users like Chris can quickly access relevant hiking options, stay informed, and coordinate with their friends seamlessly while keeping the experience stress-free.</p>
Mar 12	1	Refined the whole report, included the work log and submitted.
Mar 15	4	<p>Task: Self-learning Figma's basic operations, including Design and Prototype features, to prepare for creating interactive prototypes.</p> <p>Work Content:</p> <ul style="list-style-type: none"> Started learning Figma from scratch, familiarizing myself with its interface and basic functions.

		<ul style="list-style-type: none"> Mastered the Move Tool and Shape Tool, enabling the creation and adjustment of basic UI components. Learned Component Management and Layout Tools, understanding how to reuse components for efficient design. Studied Constraints and Auto Layout to ensure UI adaptability across different screen sizes. Explored Prototype Mode, learning how to add interactions to the interface in preparation for future applications. <p>Challenges Encountered:</p> <ul style="list-style-type: none"> As a beginner, initially struggled with understanding Component Management and Auto Layout. Still need to improve in defining interaction logic within Prototype Mode. <p>Solution:</p> <ul style="list-style-type: none"> Watched official tutorials and reviewed relevant resources, practicing component creation and management to strengthen understanding. Experimented with different Constraints and Auto Layout settings to grasp their application. Practiced page transitions, button interactions, and animations in Prototype Mode and plan to apply these skills when creating TrailQuest's interactive prototype.
Mar 20	6	<p>Task: Completed the basic design of TrailQuest's Navigation and Events sections, including their prototype design, which consists of a total of 10 screens.</p> <p>Work Content:</p> <ul style="list-style-type: none"> Designed the Navigation section, ensuring it provides clear route guidance for users. The section includes 5 screens: <ol style="list-style-type: none"> Map Overview Screen

- 2. Route Selection Screen
- 3. Detailed Trail View Screen
- 4. Turn-by-Turn Directions Screen
- 5. Trail Progress Tracker Screen
- Created the Events section, allowing users to explore and participate in hiking-related activities. The section includes 5 screens:
 - 1. Event Overview Screen
 - 2. Event Categories Screen
 - 3. Event Details Screen
 - 4. Event Calendar Screen
 - 5. Event RSVP and Participation Screen
- Built interactive prototypes for both sections, demonstrating user interactions such as selecting a route, viewing event details, and participating in events.
- Reviewed the overall functionality flow, identifying areas that need refinement.

Challenges Encountered:

- Uncertain about how to effectively design the map functionality within the navigation section, especially regarding map zoom, interactive markers, and route display.
- Need to further refine and clarify the core functions (such as event participation and RSVP) to ensure smooth user interaction.

Solution:

- Plan to conduct further research on map integration and design best practices, especially focusing on interactive maps and how to efficiently display trails and events.
- Will review and refine the feature flow, ensuring that the navigation experience and event participation are seamless.
- Explore how to improve user guidance on map interactions, such as real-time tracking and route deviation alerts.

With the basic design and prototypes in place, the next step is to improve the navigation map, fine-tune the

		core functionalities, and ensure the overall usability and user experience are optimized.
Mar 22	6	<p>Task: Continued the design work on TrailQuest's Navigation and Events sections, focusing on visual details and functionality enhancements. Designed custom badges for each section and added two new mobile screens: a Full-Screen Navigation page and an Offline Functionality page.</p> <p>Work Content:</p> <ul style="list-style-type: none"> • Refined the UI of both Navigation and Events sections for better visual consistency and user experience. • Designed a set of unique badges to represent user achievements in both navigation and event participation. • Added two new screens to the prototype: <ol style="list-style-type: none"> 1. Full-Screen Navigation Screen – provides an immersive map experience during active hiking. 2. Offline Functionality Screen – allows users to download trail data and access navigation without internet. • Updated the interactive prototypes to include the newly added screens and badge interactions. • Reviewed the visual design consistency and interaction flow between all screens. <p>Challenges Encountered:</p> <ul style="list-style-type: none"> • It was challenging to balance visual clarity with screen space, especially for the full-screen navigation view. • Unsure about the best way to display badge progress and how users can track their achievements intuitively. <p>Solution:</p> <ul style="list-style-type: none"> • Plan to research UI/UX approaches for immersive map design, particularly in outdoor or navigation apps. • Will test different badge display styles (progress bars, checklist, etc.) and gather feedback on which is most intuitive.

		<ul style="list-style-type: none"> • Aim to streamline the interface further to avoid clutter while maintaining key functionalities.
Mar 23	6	<p>Task: Focused on developing the Yellow Bell feature and its corresponding tip display functionality in TrailQuest.</p> <p>Work Content:</p> <ul style="list-style-type: none"> • Designed and implemented the Yellow Bell feature, which serves as a gentle reminder system triggered under specific conditions. • Added a Tip Display function, allowing users to view helpful tips or information upon tapping the bell icon. • Integrated the bell icon into relevant screens and ensured it reacts appropriately based on predefined triggers (e.g., entering a new trail area or idle time). • Designed the tip popup UI, allowing it to appear seamlessly and contextually on screen. • Explored different ways of presenting tip content in a non-intrusive yet helpful manner. <p>Challenges Encountered:</p> <ul style="list-style-type: none"> • It was difficult to finalize the content and structure of the tips, as user needs may vary across different hiking scenarios. <p>Solution:</p> <ul style="list-style-type: none"> • Decided to implement a dynamic tip system, where tips can be added and updated based on context, user progress, or trail conditions. • Plan to categorize tips (e.g., safety, navigation, motivation) and load them as needed, ensuring relevance and flexibility.
Mar 25	5.5	<p>Task: Added two new screens to the Events section and completed the prototype linking across all pages in TrailQuest.</p>

		<p>Work Content:</p> <ul style="list-style-type: none"> • Designed and added two new screens to support user-generated events: <ol style="list-style-type: none"> 1. Create Event Screen – allows users to input event details, such as title, time, location, and description. 2. Event Publishing Confirmation Screen – provides a preview and final confirmation before publishing the event. • Focused on creating a smooth and intuitive event creation flow to encourage user participation. • Completed interactive prototype linking for all existing screens, ensuring proper navigation and functional flow between: <ul style="list-style-type: none"> - Navigation section - Events section - Badge system - Yellow Bell and Tip interactions • Reviewed and tested the full prototype to verify usability and fix any broken links or inconsistent transitions. <p>Challenges Encountered:</p> <ul style="list-style-type: none"> • Ensuring a logical and user-friendly event creation flow that doesn't overwhelm the user with too many input fields. • Keeping the prototype connections organized and scalable as the number of screens increased. <p>Solution:</p> <ul style="list-style-type: none"> • Organized prototype links using a structured naming and flow strategy to maintain clarity.
Mar 4	6	<p>Task: Refined the Navigation section layout and redesigned badge interaction effects based on user feedback.</p> <p>Work Content:</p> <ul style="list-style-type: none"> • Updated the layout of the Navigation section to ensure better visual consistency and user experience across different components.

- Adjusted text colors for improved readability and alignment with the overall app style.
- Standardized component styles (buttons, icons, spacing) to maintain a unified design language.
- Redesigned the badge popup effect, making it more dynamic and engaging when a user earns a new badge.
- Conducted internal testing to verify the visual changes and ensure smooth transitions.

Challenges Encountered:

- Maintaining visual consistency across different screen sizes while updating layout elements.
- Balancing visual effects with performance when implementing the new badge animation.

Solution:

- Optimized badge animation by keeping it lightweight while still visually appealing.