

DM2601 HT24 (50131)

G22 WORKBOOK
SUMMATE
MEDIA TECHNOLOGY &
INTERACTION DESIGN



TIMTM, KTH - 2024

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CONTENTS

INTRODUCTION

DISCOVER PHASE

DEFINE PHASE

DEVELOP PHASE

DELIVERY PHASE



Introduction

The key concept we centered our work around was interdependence—a term that we took time to carefully define and reflect upon in the context of outdoor activities like hiking.

“Interdependence”

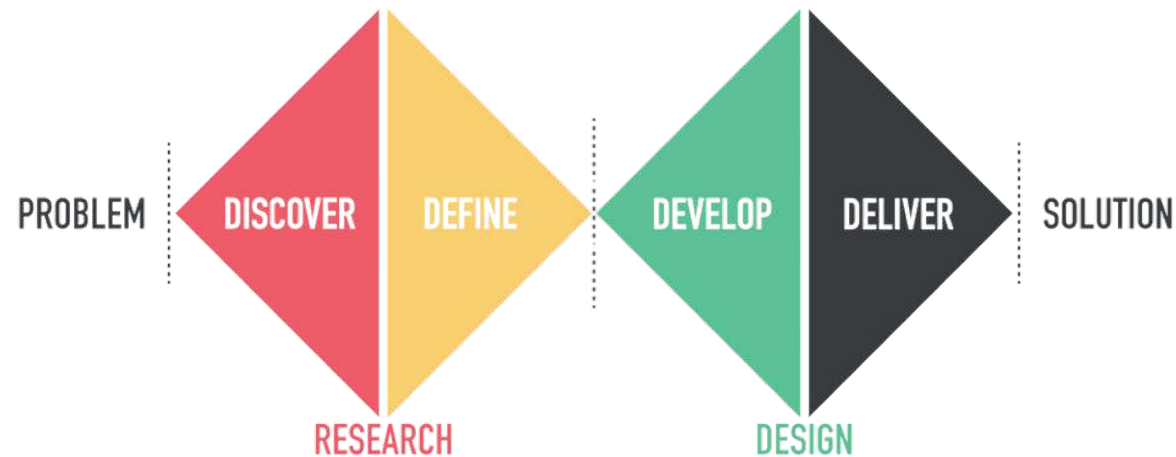
Interdependence is the mutual reliance between entities, where each depends on the other for resources or support. **Our interpretation of the design brief is that hiking activities involve interdependent behaviors among hikers, even from the preparation to the end of a hike.**



DOUBLE DIAMOND

Design Process Model

To guide the design process of our project, we applied the Double Diamond Framework, a structured design process developed by the British Design Council.



Reflecting on the notion of interdependence, we realized that hikers often face logistical challenges. Therefore, our aim in the Discover phase was to explore this interdependent dynamic through user research methods, including interviews and a diary study.

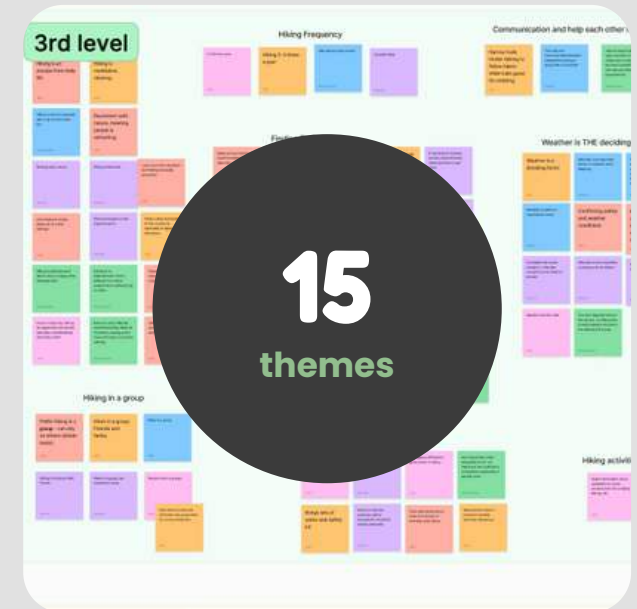
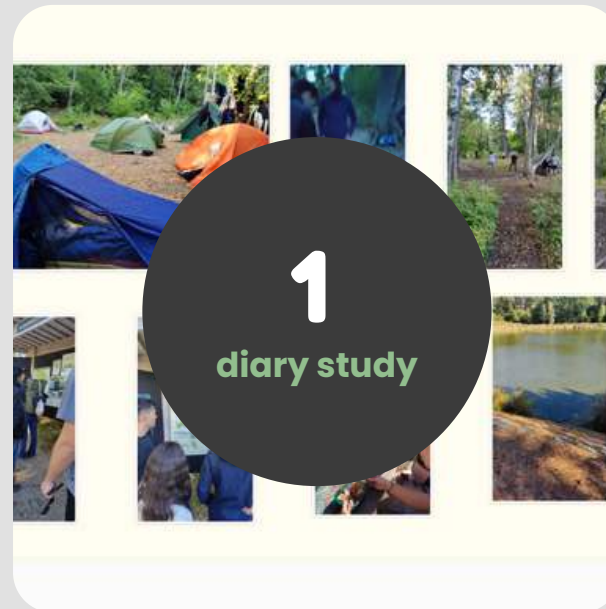
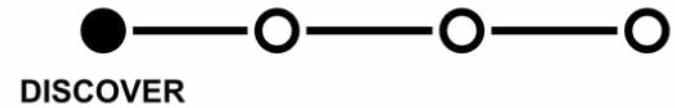
As we reflected on the diversity of challenges and tasks hikers engage in, we realized that **the main problem was managing hike logistics**—from listing down the things to bring for a hike, to possible borrowing items in a group hike.

We moved from brainstorming to creating possible solutions by doing several ideation techniques. Followed by that, we sketched the lo-fi to quickly visualize the features before designing the hi-fi prototype.

Feedback from the users is very crucial in this phase so, after the hi-fi is ready we conducted user testing with potential users. This phase highlighted some areas for further refinement.

Discover Phase

The beginning of the Double Diamond framework, where the purpose is to explore potential problems and insights.



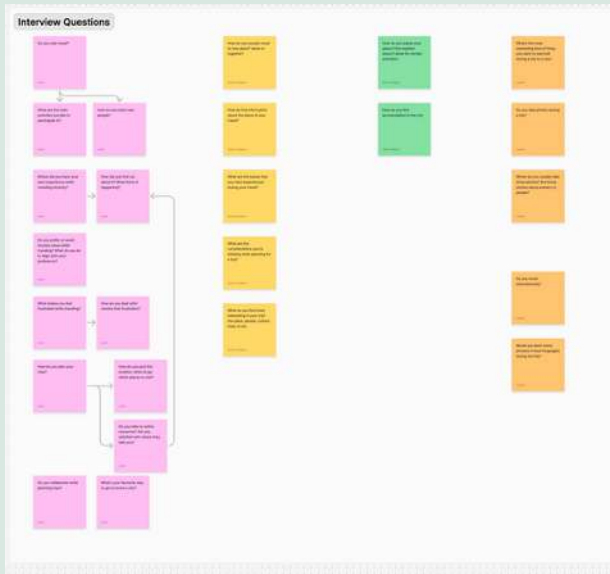
Our goal was to comprehensively understand the hiking community's needs, behaviors, and challenges. We did two key research methods: **user interviews** and a **diary study**, followed by **thematic analysis** through affinity mapping to distill our findings into actionable insights.

Interview



DISCOVER

We conducted 8 in-depth interviews with hikers from various backgrounds to collect a diverse set of perspectives on hiking habits, preparation, and challenges.



For the interview session, we had participants who considered themselves as casual hikers, members of hiking clubs, and individuals of more experienced hikers.

Interview Structure: The interviews were semi-structured, allowing flexibility in following interesting insights while maintaining consistency across the data. The questions focused on:

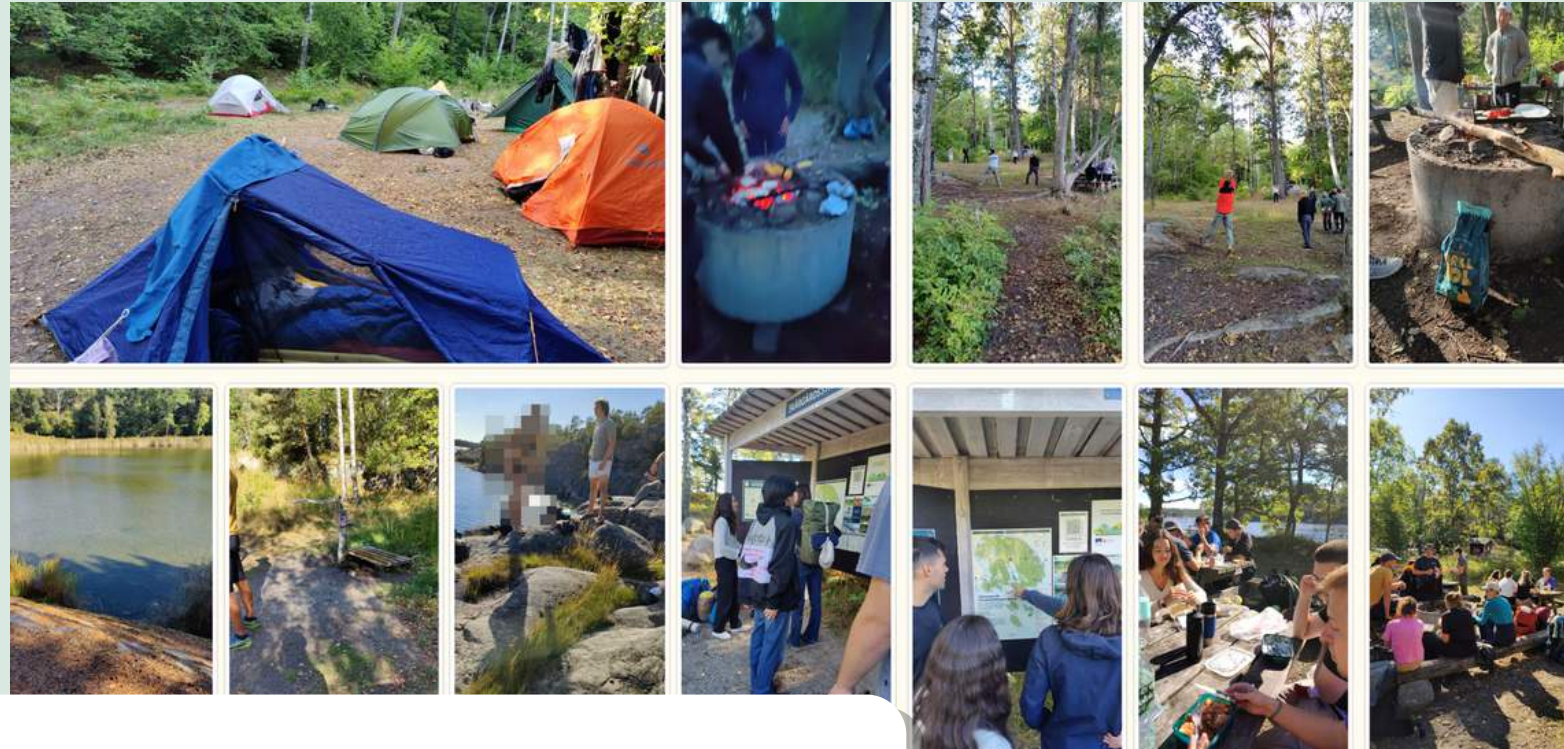
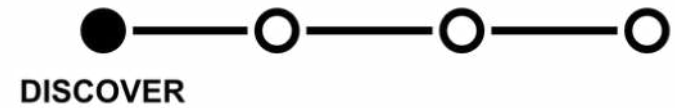
- Hiking Habits
- Group Dynamics
- Preparation
- Use of Technology

The insights from the interview were organized in a spreadsheet tables, enables us to briefly compare each of the answers.

C	D	E	F	G			
Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5			
Bika Pandu 25 Web Developer	Oskar Skierfe 26 Student	Lambo Z Student	Bika Lana 26 Student	Oskar Nikkaluokta 25 Engineer	Laiih Hannes Student		
Escape from the hustle to spend time with the nature	Getting out in nature and getting exercise. It's meditative and relaxing.	It's just to go out and have fun. For me, it's a kind of relaxation, because there is a very important part of hiking, that is, the places I like to go to hike are deep in the mountains and old forests. Yes, it is hard to adapt to it at first, but it will be very adaptable later, so hiking is a kind of relaxation for me.	So it's entertainment and to relieve fatigue because you've been studying hard, look for entertainment that is different from other people who usually just go to cafes.	I think it's a really good way of getting out in nature, for the fresh air to feel alive, while also getting a good exercise. It's also a good way to hang out, meet new people. It's social. It's a mix of fun and good exercise.	I just like being around nature. I've grown up, I've not grown up in a city so I actually don't really enjoy being in a city. That's why I love to get out of it. I always used to go fishing which basically satisfied a similar need to just get away and just, um, enjoy nature because I think it can be very relaxing and, yeah, also beautiful. You can kind of slow down in your, in your head and I actually have quite a few problems with like my head going in circles.	Hiking is both a solitary and social activity. When hiking alone, it's a meditative experience, allowing for contemplation and self-reflection. Hiking with friends is more about enjoying shared moments in nature.	Hiking is about connecting with nature, enjoying long walks, and appreciating good views, especially at mountain tops and near water bodies. It's also an opportunity to engage with nature and have meaningful conversations with friends.
Yes, I do take documentations in photo and video. Sometimes I write on my social media like a blog.	Sometimes I post a picture on Instagram, but mostly a pretty video. Not advice on hiking.	Depends on my mood? Yes, it depends on my mood. The main thing is that when I first started hiking, I was happy to take a camera with me when hiking, take photos, and then share them. This is basically my fixed routine. But after hiking for a long	When I was hiking, I took the time to document it in photos or videos, from the start of the preparation that I brought. And later share it on social media so friends can find out too. During the climb, it is also	I don't usually document, but I usually follow others documented hikes. There is an app called AITrails, there is a lot of information on there.	So me personally, I don't like to share stuff like that at all. I don't take a lot of pictures, but I just don't like posting in general. The pictures I do take are mostly for my mom because she always uh expects that there's some kind of update.	Sharing is done conversationally and through showing pictures to friends. He doesn't engage much with social media while hiking.	Malin enjoys taking pictures during hikes and shares them with friends and family, but primarily through photos, not via social media.

Diary Study

Diary study allowed us to gather contextual insights on the real behaviors and group dynamics of a respondent's hiking experience.

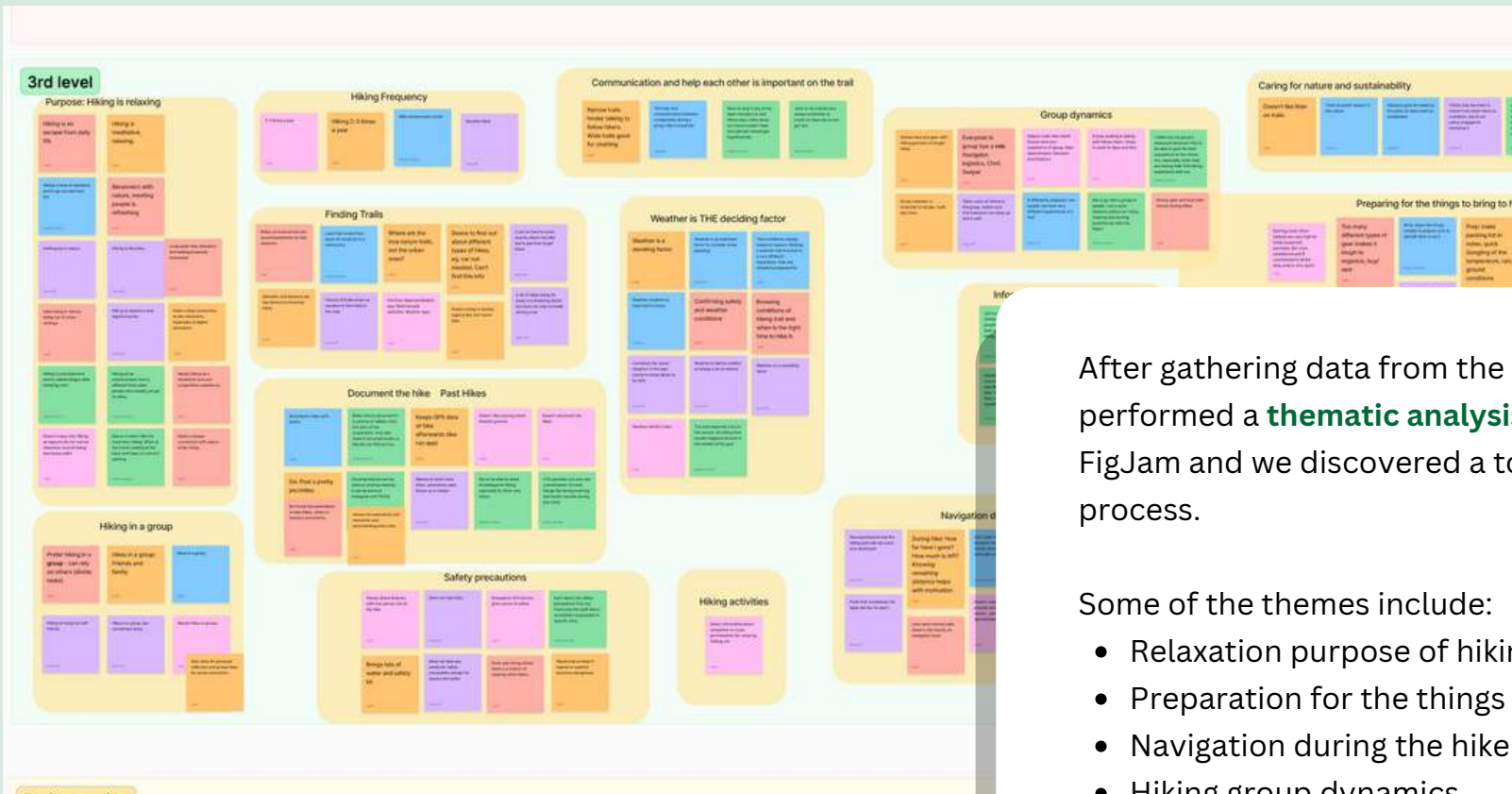
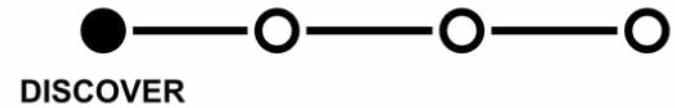


In addition, we conducted a **diary study with one respondent from the outdoor club**, who agreed to document their hiking trip.

Diary Study Format: The respondent used WhatsApp to send daily reports, including photos and short descriptions of their activities, interactions with group members, and any notable challenges or highlights of the trip.

Affinity Mapping

Cluster and analyze the insights by doing affinity mapping and breaking down the answers into insights in sticky notes.



After gathering data from the interviews and diary study, we performed a **thematic analysis using affinity mapping** on FigJam and we discovered a total of 15 key themes from this process.

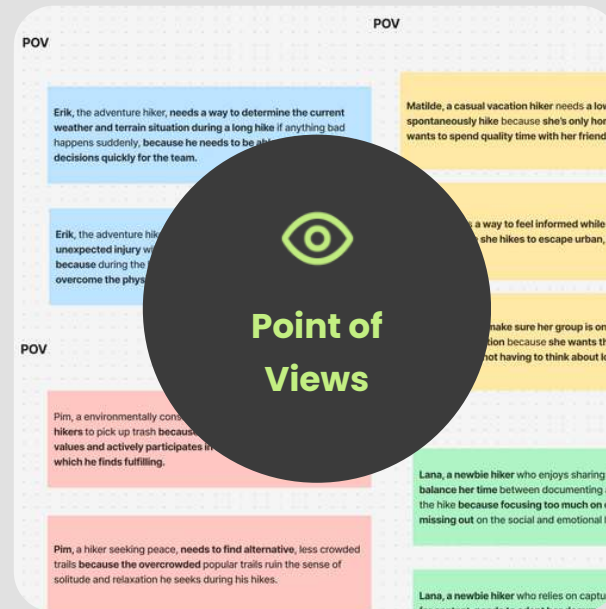
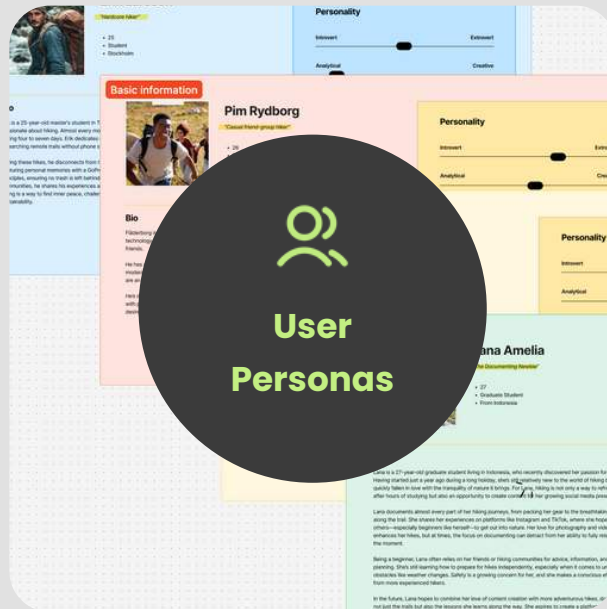
Some of the themes include:

- Relaxation purpose of hiking
- Preparation for the things to bring to the hike
- Navigation during the hike
- Hiking group dynamics
- Minimal Phone Usage

Define Phase



Analyzing insights to narrow down and clearly define the main problem or challenge to focus on.



Entering the define phase, our goal was to organize our research findings into actionable insights. We began by using the insights from our interviews and diary study to develop initial user personas.

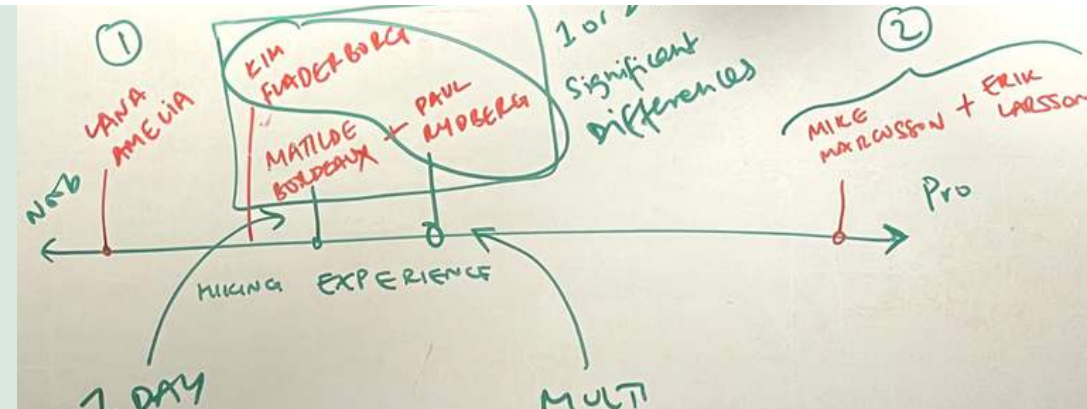
Once we had finalized our personas, we proceeded to create Point of View (POV) statements and How Might We (HMW) questions for each persona.

User Personas

We began by using the insights from our interviews and diary study to develop initial user personas to represent our target users which are the hikers.


Initially, we created two personas representing two key types of hikers which were the casual (one-day) hiker and pro (multi-day) hiker. After presenting these personas, our supervisor suggested expanding our scope by considering other types of hikers.

This feedback led us to explore different categories of users. **Through iteration and refinement, we decided to have a total of four core personas.**



○ — ● — ○ — ○
 DEFINE

DEFINE



Erik Larsson

"Hardcore hiker"

- 25
- Student
- Stockholm


Bio

Erik is a 25-year-old master's student in Telecommunications Engineering from Stockholm who is deeply passionate about hiking. Almost every month, he and his three close friends embark on multi-day hikes lasting four to seven days. Erik dedicates up to six months preparing for each trip, meticulously researching remote trails without phone signals, studying weather patterns, and analyzing terrain details.

During these hikes, he disconnects from the digital world, using his phone only for navigation and capturing personal memories with a GoPro, which he keeps private. Erik strictly follows Leave No Trace principles, ensuring no trash is left behind and often picking up litter left by others. Active in online hiking communities, he shares his experiences and insights to help others prepare for their adventures. For Erik, hiking is a way to find inner peace, challenge himself, support his friends, and promote environmental sustainability.

Personality

Introvert		Extrovert
Analytical		Creative
Busy		Time rich
Messy		Organized
Independent		Team player
Passive		Active
Safe		Risky



Matilde Bordeaux

"The Casual, Convenient Hiker"

- 24
- Masters student
- From Austria
- Hikes a lot in the summer, in Austria (French Alps)


Bio

Matilde enjoys spontaneous, low-prep hikes in the French Alps and nearby mountains. Hiking for her is about reconnecting with nature and spending relaxed time with friends or family, usually on one-day hikes that don't require much planning. She loves capturing scenic views with her phone but prefers to stay disconnected otherwise, embracing the tranquility of the outdoors.

Matilde is a minimalist hiker, keeping her gear light and sharing essentials with her hiking partners. For her, hiking is less about challenge and more about enjoying the moment, feeling accomplished, and rejuvenated after each hike. She thrives on the simplicity of it, using hiking as a way to unwind from her academic life and embrace the beauty around her.

Personality

Introvert		Extrovert
Analytical		Creative
Busy		Time rich
Messy		Organized
Independent		Team player
Passive		Active
Safe		Risky



Pim Rydberg

"Casual friend-group hiker"

- 28
- Data engineer
- Stockholm, Sweden

Bio


Fläderberg is a 28-year-old data engineer from Stockholm, Sweden, who balances his passion for technology with a love for the outdoors. In his free time, is very social, and he likes to spend time with his friends.

He has an emerging interest in hiking and while not one for extreme outdoor challenges, prefers moderately challenging hikes that provide beautiful vistas and a sense of exploration. He finds that hikes are an excellent way to escape the fast pace of everyday life and to clear his mind.

He's influenced by social media and friends' recommendations, and while he enjoys capturing the moment with photos, values being present during his hikes. After long weeks immersed in tech, is motivated by a desire to discover new landscapes and reconnect with the natural world.

Personality

Introvert		Extrovert
Analytical		Creative
Busy		Time rich
Messy		Organized
Independent		Team player
Passive		Active
Safe		Risky



Lana Amelia

"The Documenting Newbie"

- 27
- Graduate Student
- From Indonesia

Bio

Lana is a 27-year-old graduate student living in Indonesia, who recently discovered her passion for hiking. Having started just a year ago during a long holiday, she's still relatively new to the world of hiking but has quickly fallen in love with the tranquility of nature it brings. For Lana, hiking is not only a way to refresh her mind after hours of studying but also an opportunity to create content for her growing social media presence.

Lana documents almost every part of her hiking journeys, from packing her gear to the breathtaking views along the trail. She shares her experiences on platforms like Instagram and TikTok, where she hopes to inspire others—especially beginners like herself—to get out into nature. Her love for photography and videography enhances her hikes, but at times, the focus on documenting can detract from her ability to fully relax and enjoy the moment.

Being a beginner, Lana often relies on her friends or hiking communities for advice, information, and logistical planning. She's still learning how to prepare for hikes independently, especially when it comes to unexpected obstacles like weather changes. Safety is a growing concern for her, and she makes a conscious effort to learn from more experienced hikers.

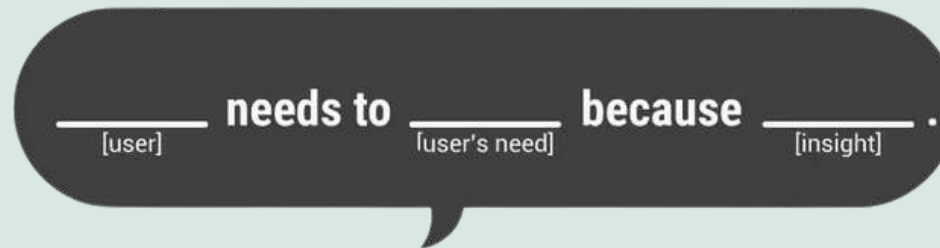
In the future, Lana hopes to combine her love of content creation with more adventurous hikes, documenting not just the trails but also the lessons she learns along the way. She aspires to create a platform where she can share both the beauty of nature and practical tips for novice hikers.

Personality

Introvert		Extrovert
Analytical		Creative
Busy		Time rich
Messy		Organized
Independent		Team player
Passive		Active
Safe		Risky

Point-of-View (POVs)

With POVs, we wanted to concisely summarize the user's needs, motivations, and the key problems we are aiming to solve.



Matilde needs to make sure her group is on the same page with gear and preparation because she wants the hike to be low-stress and worry-free, not having to think about logistics

Pim, a hiker seeking peace, needs to find alternative, less crowded trails because the overcrowded popular trails ruin the sense of solitude and relaxation he seeks during his hikes.

Erik, the adventure hiker, needs a way to determine the current weather and terrain situation during a long hike if anything bad happens suddenly, because he needs to be able to make critical decisions quickly for the team.

For each persona, we came up with several POVs that allowed us to articulate user-centered problems and frame them as design opportunities.

Following the structure, **we focused on three key elements which are the user, the need, and the insight.** We ensured that our POV statements didn't just describe a problem, but reflected the deeper frustrations and desires of each persona.

How Might We (HMWs)

We aimed to see the problem as an opportunity for design and opened up space for the next ideation by developing HMW questions.



How Might We + **Intended Action**
(as an action verb) + **For** + **Potential User**
(as the subject) + **So That** + **Desired Outcome**

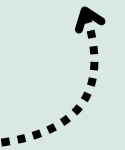
An HMW question typically stems directly from the user's need and insight outlined in the POV. It focuses on how the design team might solve the problem in a way that's feasible and aligned with the user's context.

HMW

How might we help group hikers organize who is bringing what to the hike

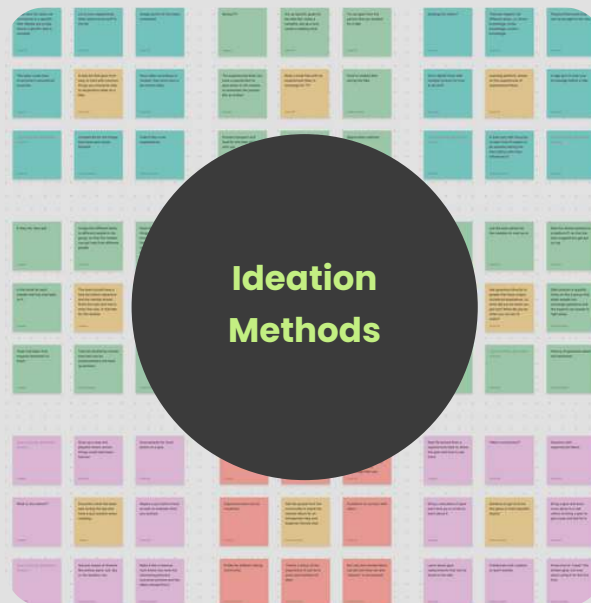
HMW make hiking as frictionless & easy as possible? (planning, prep, trail)

Matilde needs to make sure her group is on the same page with gear and preparation because she wants the hike to be low-stress and worry-free, not having to think about logistics



Develop Phase

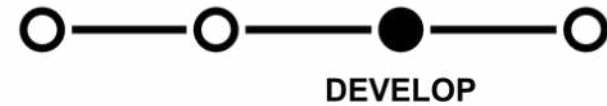
Multiple potential solutions were brainstormed, prototyped, and tested to explore how best to solve the defined problem.



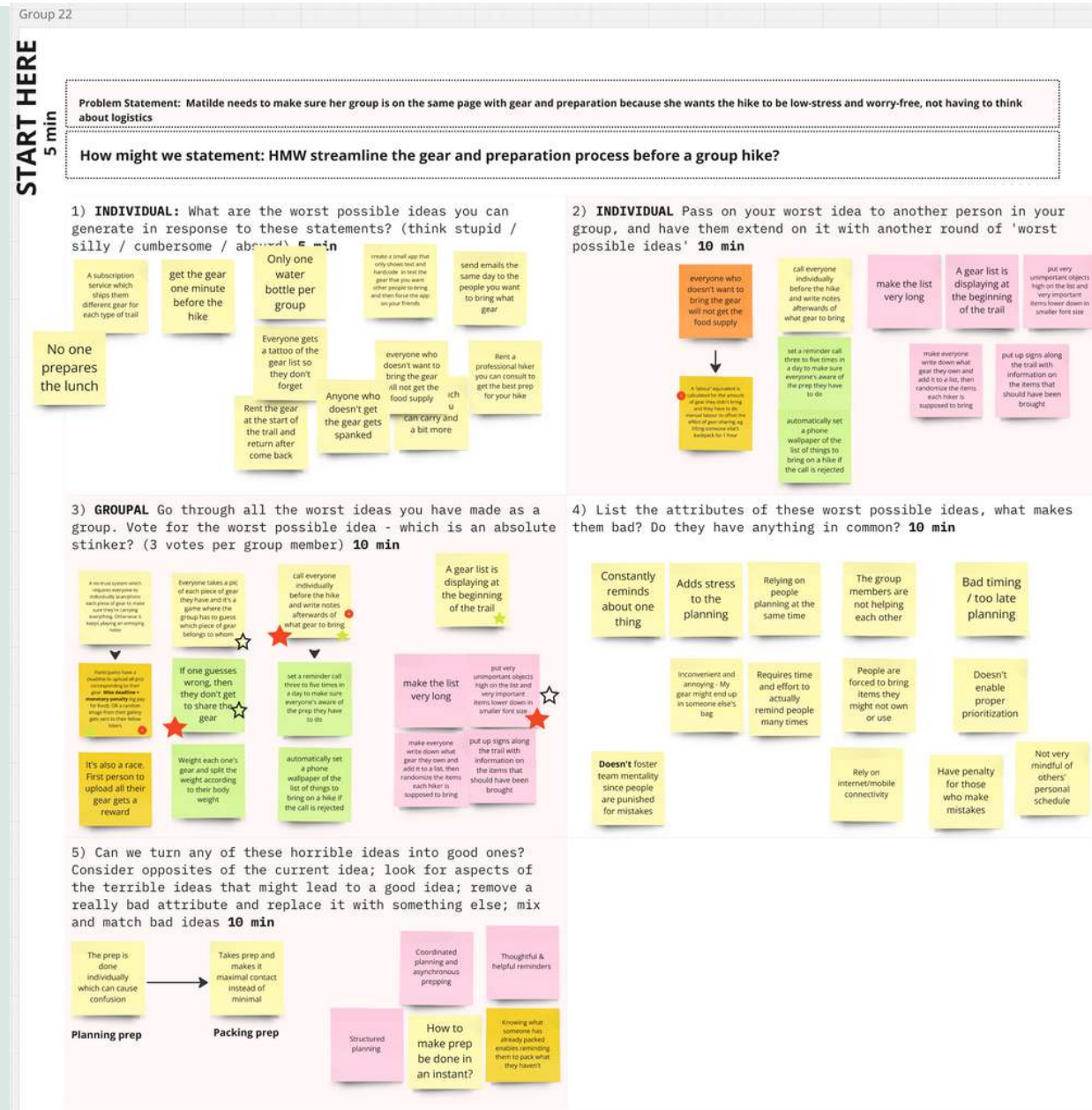
In the Develop Phase, we began to visualize the app features that would address the interdependent needs of hikers. We moved through a process of brainstorming, creating wireframes, and developing both lo-fi and hi-fi prototypes, with a focus on testing and refining our concepts.

Ideation #1

Our first ideation technique was “the worst possible idea”—the playful method to boost confidence and stoke creativity.



To kick off our ideation process, we started with a playful and unconventional method: the Worst Possible Idea. For our project, we focused on the theme of packing before a hike and explored various aspects that makes a hike stress-free.



Ideation #2

During this session, we revisited several of our How Might We (HMW) questions to brainstorm about other possible solutions.



We also did some brainstorming afterward and the idea of a role-playing game app caught our eyes the most. This idea caught our attention because it added a fun, interactive layer to the hiking experience.

Good

Hiking RPG where everyone gets assigned a role and tasks for equitable distribution of responsibilities

Laieh

Talking head thing (take videos like confession booth and revisit after the hike)

including the gear sharing list

note from lambo: like the lord of the ring journey

HMW distribute responsibilities equitably so that the weight of leadership isn't fully on Erik

HMW double check that the hikers are adequately prepared *before* their hike, so group coordination don't get messed up?

HMW foster a community of hikers that come together for a social cause?

How might we help group hikers organize who is bringing what to the hike

How might we close the skill gap between newbie and experienced hikers

Ideation #3

To ensure we avoided confirmation bias and expanded our ideation process, we incorporated the Brainwriting technique.



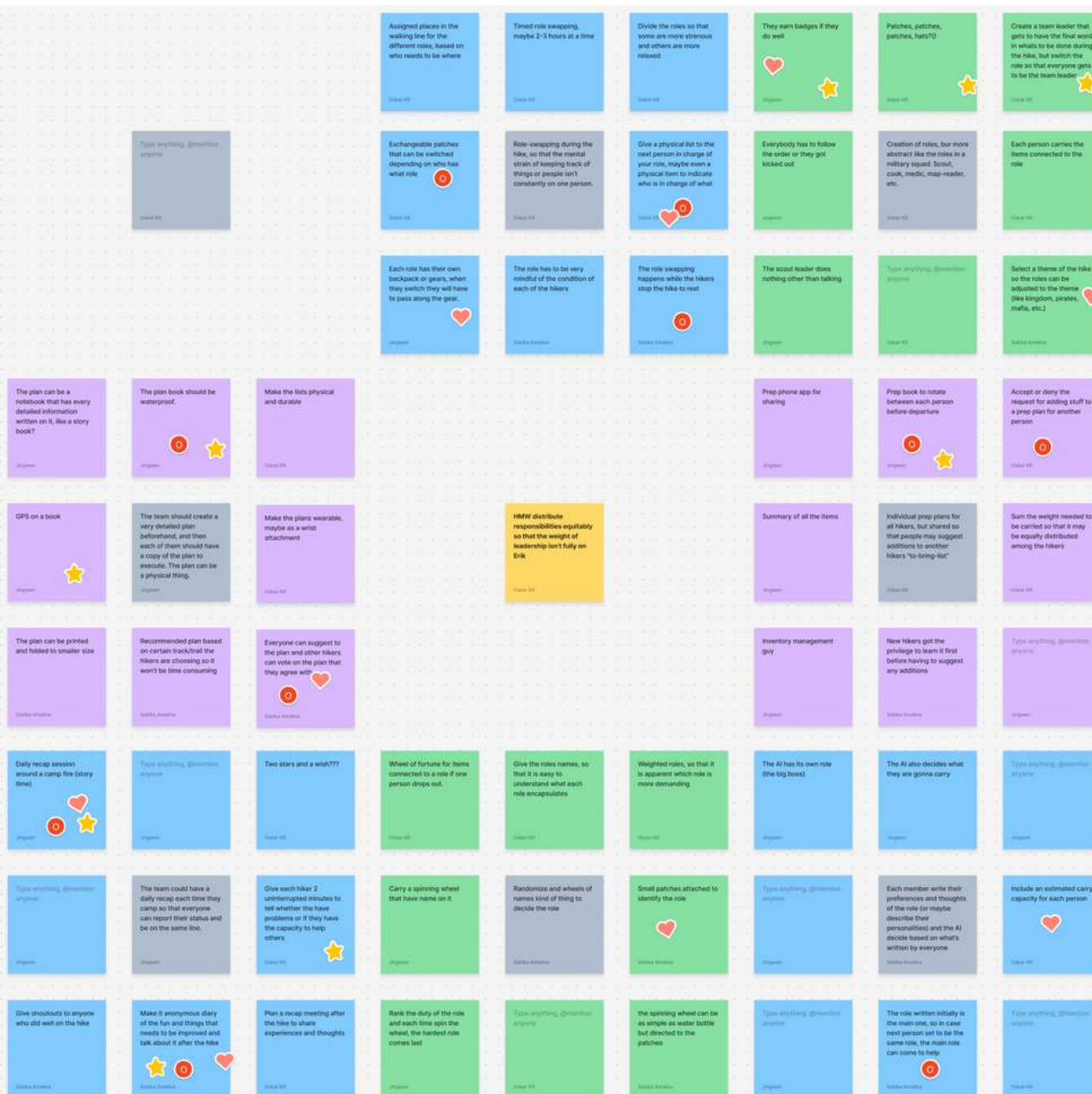
By doing this, we generated a wider variety of solutions, as everyone had the freedom to express their thoughts without pressure. This method helped us capture a richer pool of ideas for our hiking app.

Ideation #4

This method helped us take a few of our key HMW questions and systematically explore them by branching out into multiple layers of related ideas.



Using lotus blossom, we expanded a few HMWs into many different ideas, which gave us more insights. We voted on them to see which idea is the most viable.



Ideation

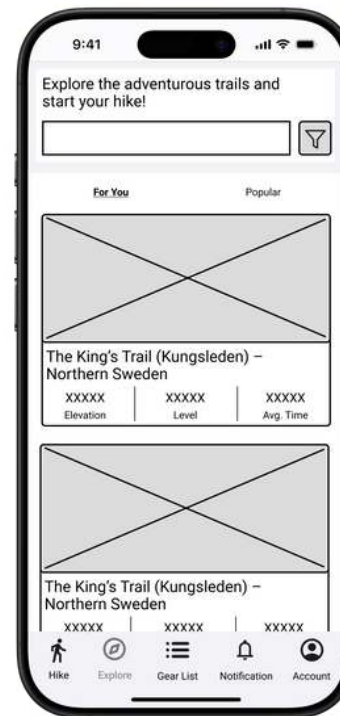


Our ideation led us to 2 choices

Role-playing hiking
game app



Shared packing
app

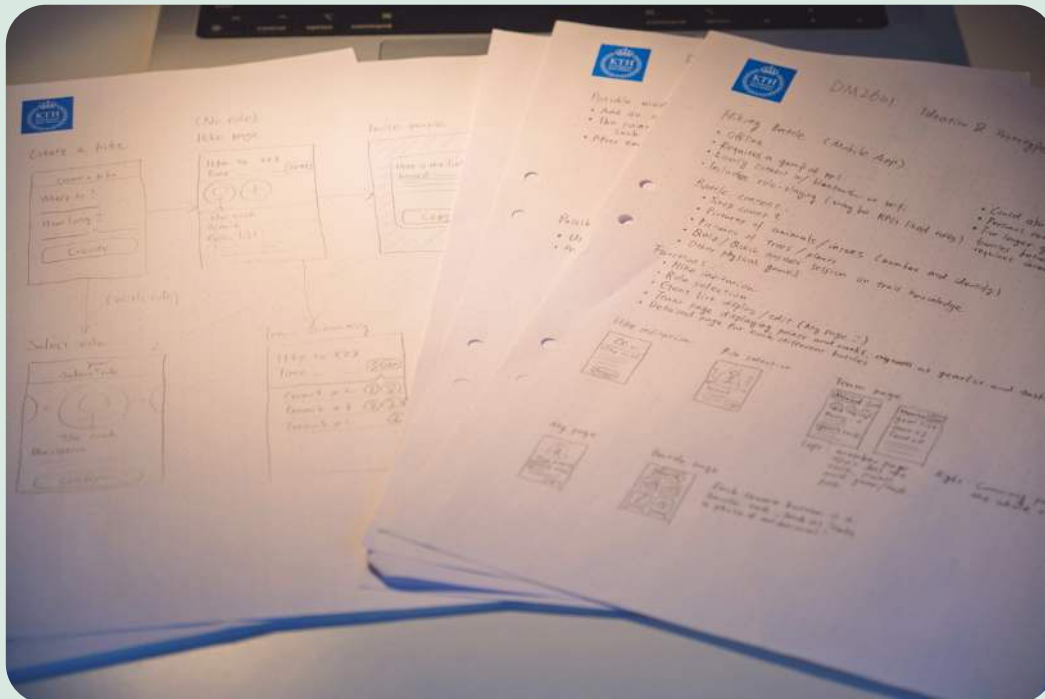


Lo-fi Prototype

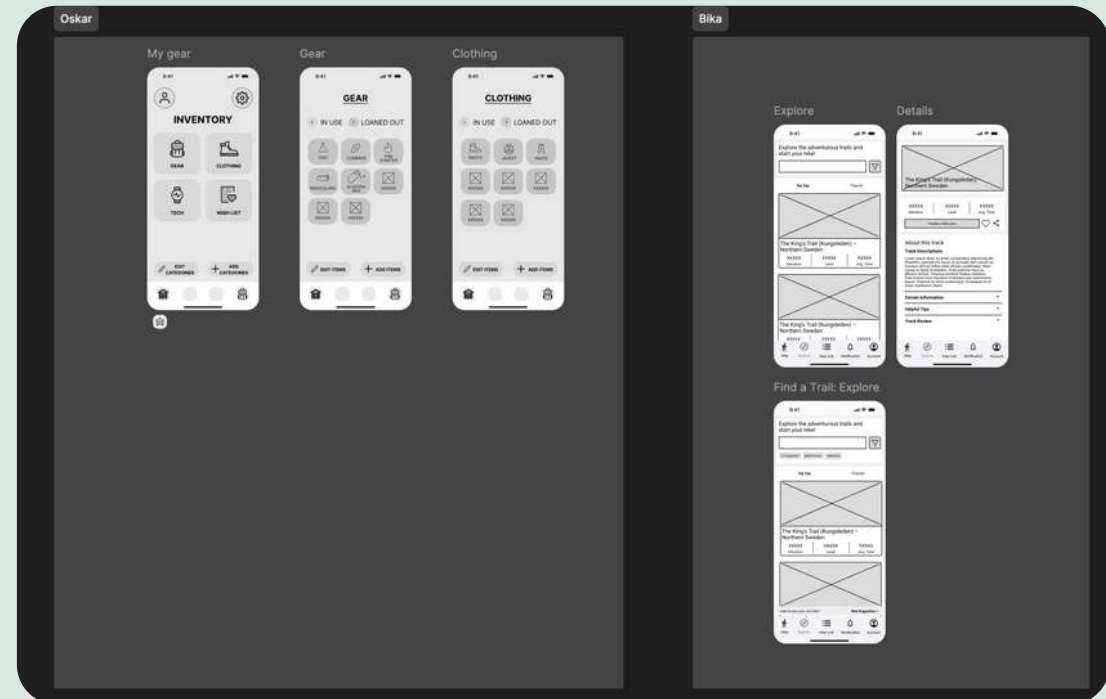
With two potential ideas on the table, we moved forward by creating lo-fi prototypes to quickly visualize and test the concepts.



Now that we have two possible ideas floating, we began to do some lo-fi prototyping that involved creating simple sketches for both concepts: the role-playing game app and the packing hike app. By focusing on basic layouts and key features, we aimed to visualize how each app would function and gather initial feedback.



Sketches for the role-play hiking game app

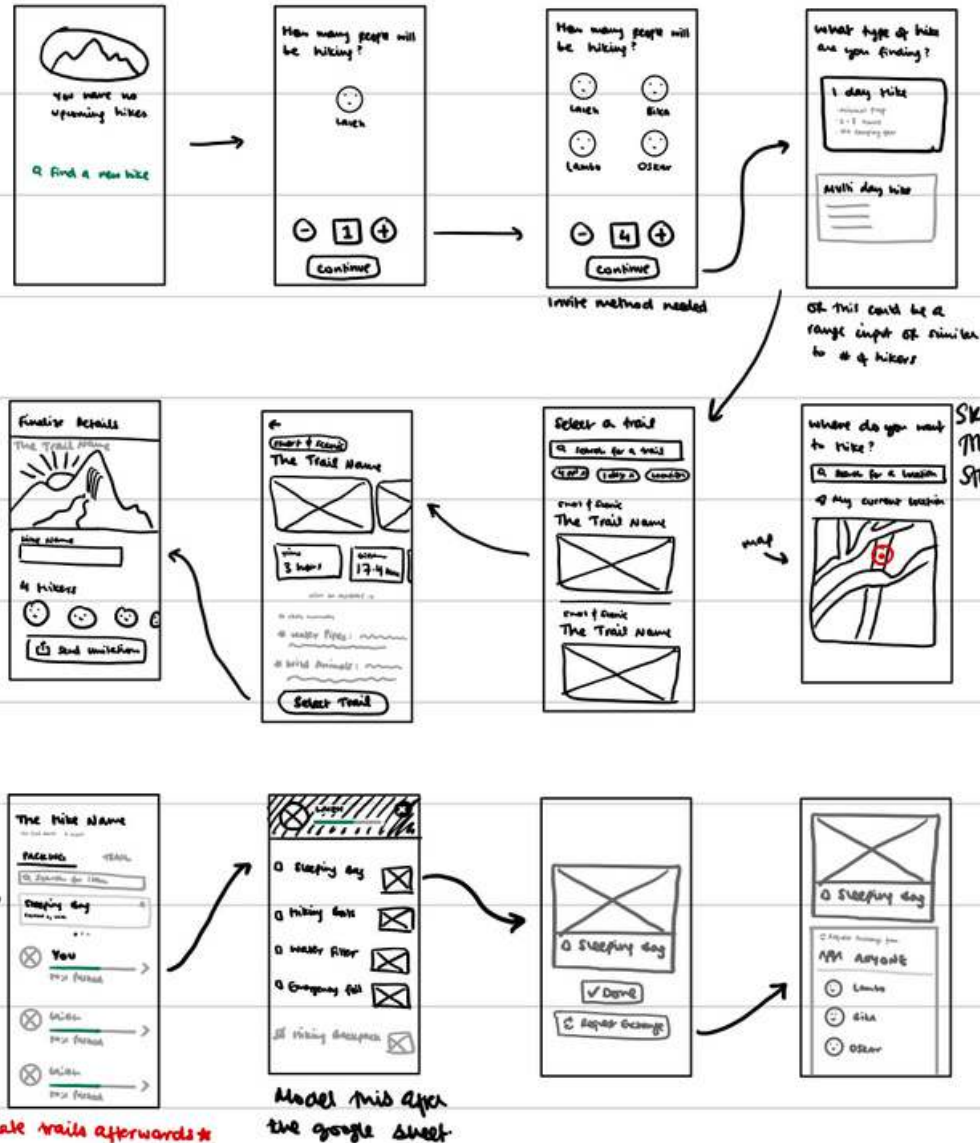


Lo-fi wireframes for the hike preparation app

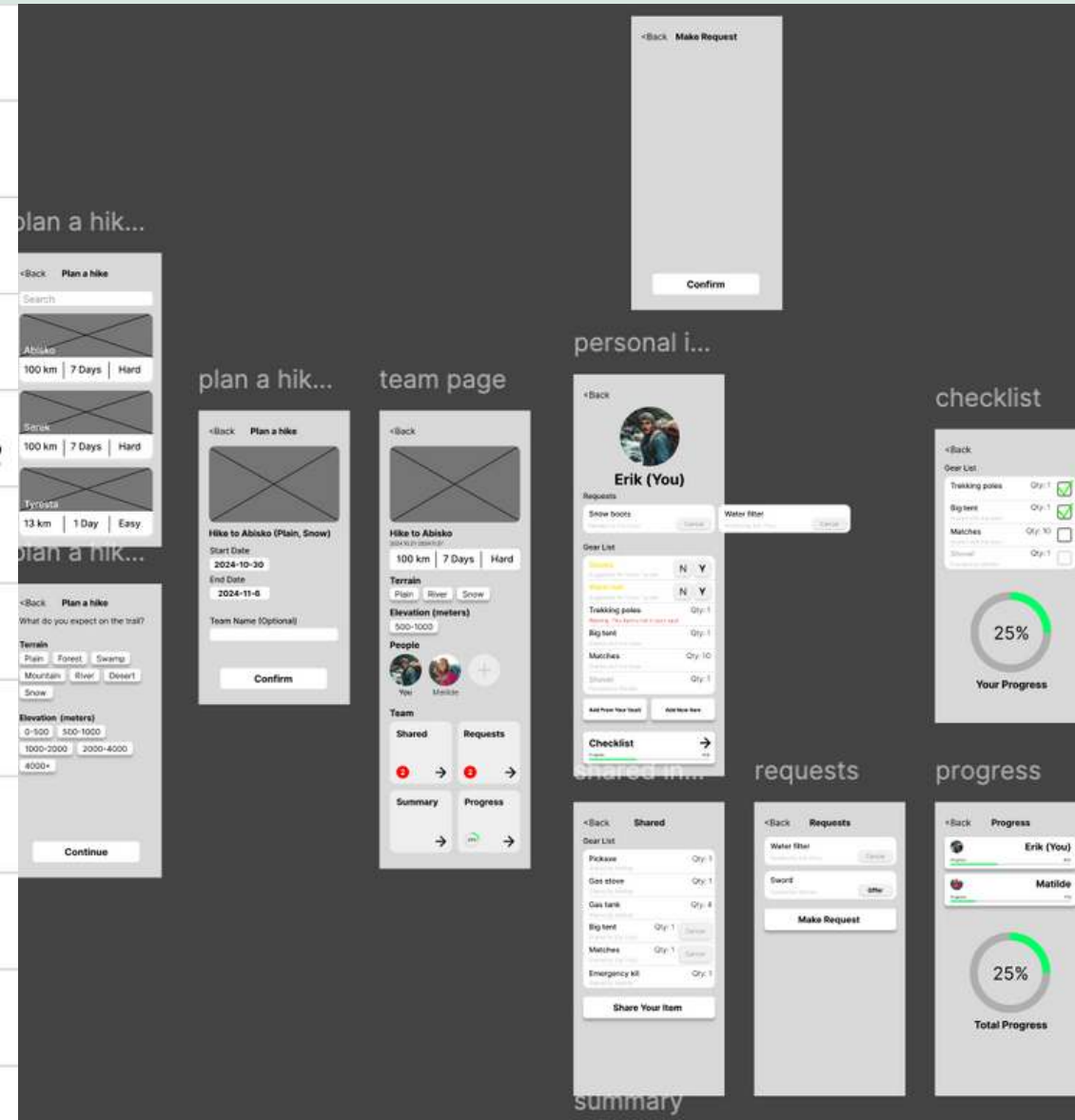
Lo-fi Prototype



More sketches



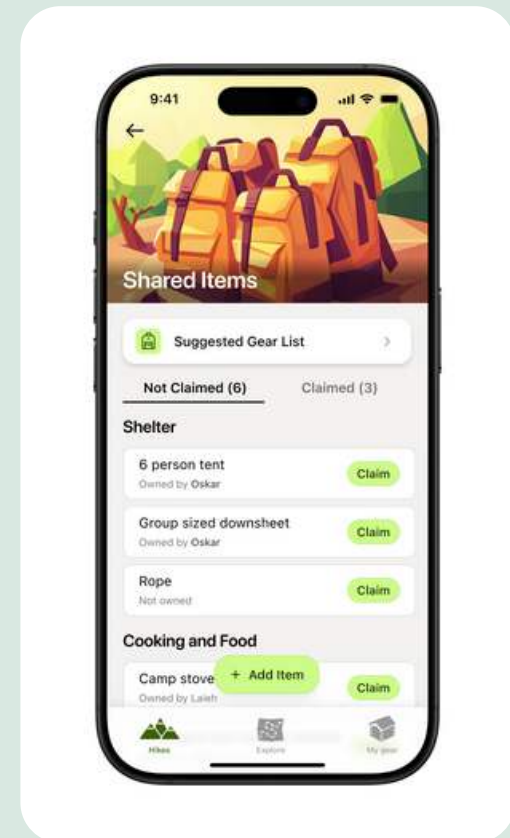
Lo-fi on Figma



Lo-fi Prototype



After many sessions of lo-fi prototyping and meeting, considering that hikers almost all rarely use their phones during the hike for max isolation, we have to give up on the role-playing game app idea.



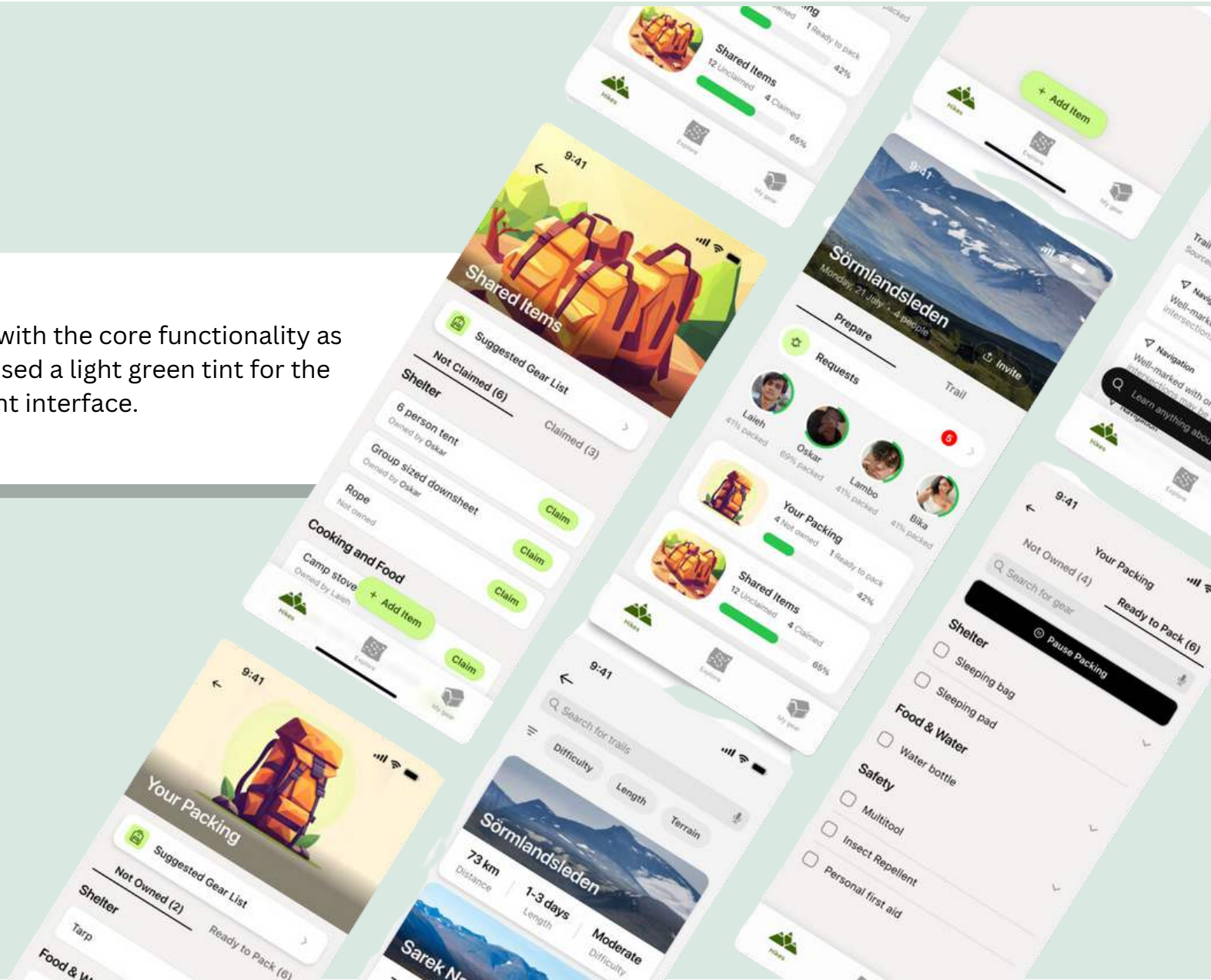
... so we went for the second one.

Hi-fi Prototype

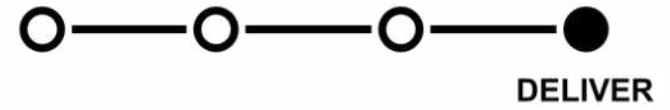
The high-fidelity prototype allowed us to showcase the app's features more effectively and provided a clear visual representation for user testing in the next phase.



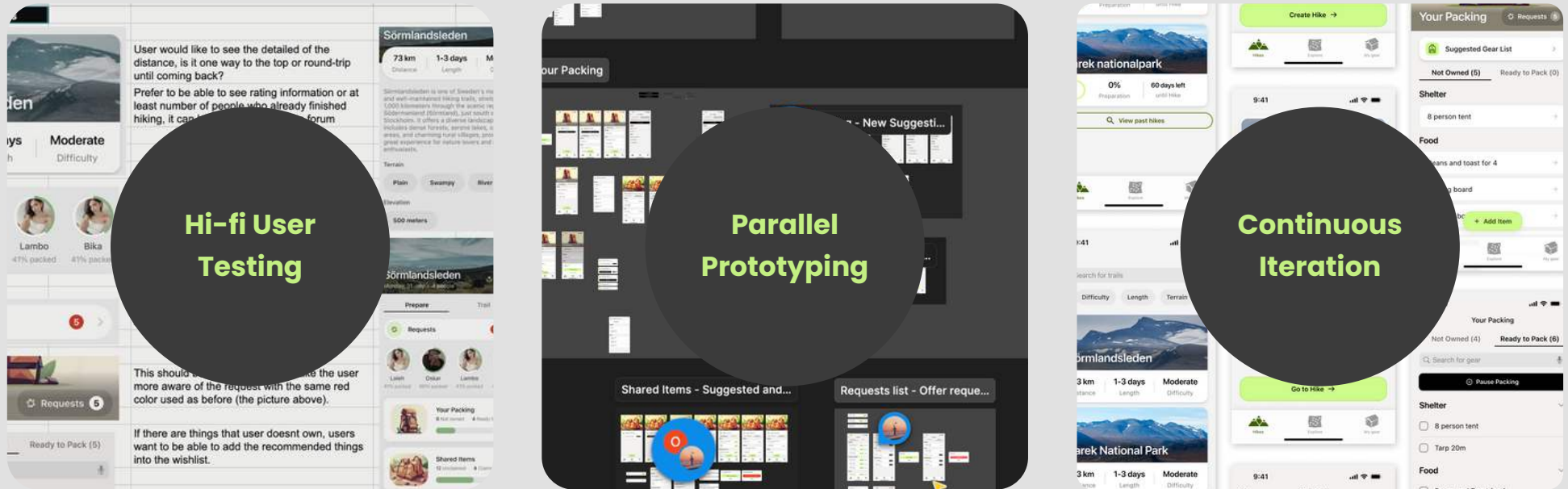
We did our hi-fi prototype in Figma, with the core functionality as “shared packing before a hike”. We used a light green tint for the visual theme of the app for a pleasant interface.



Deliver



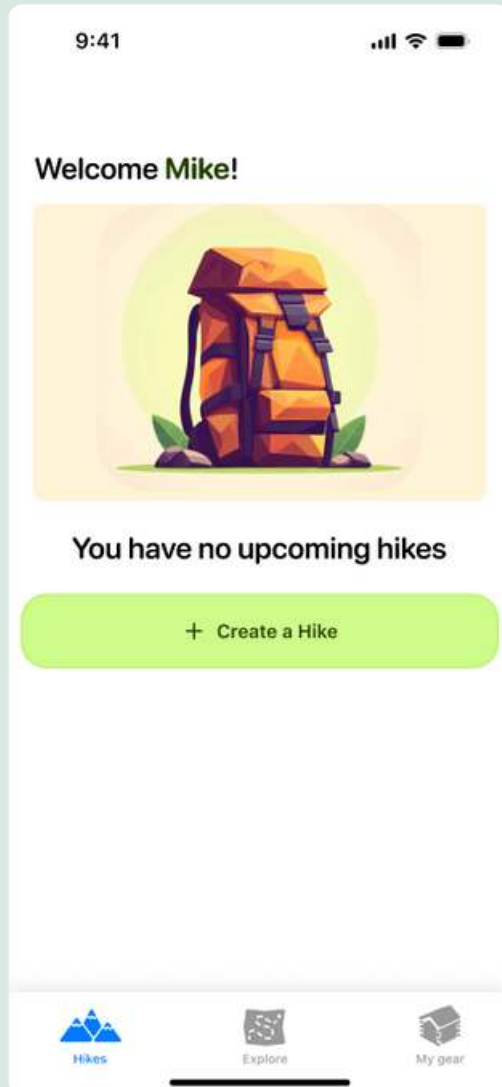
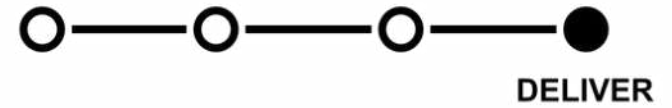
In the deliver process, we focused on finalizing our prototype and ensuring it meets user needs through thorough testing and iteration.



This phase included several key activities: hi-fi user testing, where we conducted usability tests with real users to observe their interactions, gather feedback, and identify any pain points in the app experience; parallel prototyping, which allowed us to explore different design variations simultaneously, facilitating comparison and refinement of features based on user input and team discussions; and continuous iteration, where we made ongoing adjustments to the prototype based on insights gained from testing and collaboration.

Hi-fi User Testing

To evaluate our first hi-fi prototype, we conducted user testing with some of the participants from our previous interview.

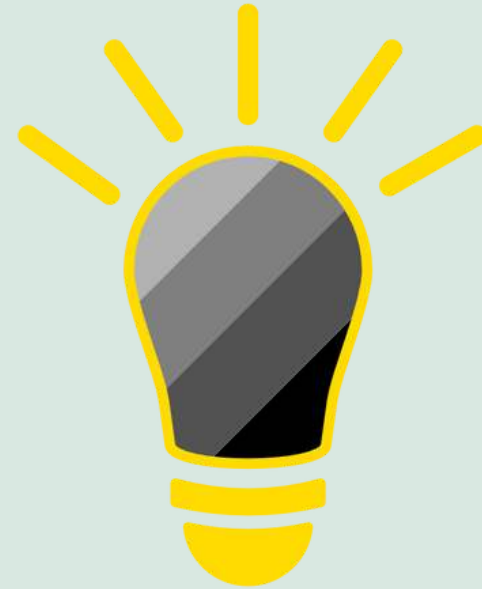
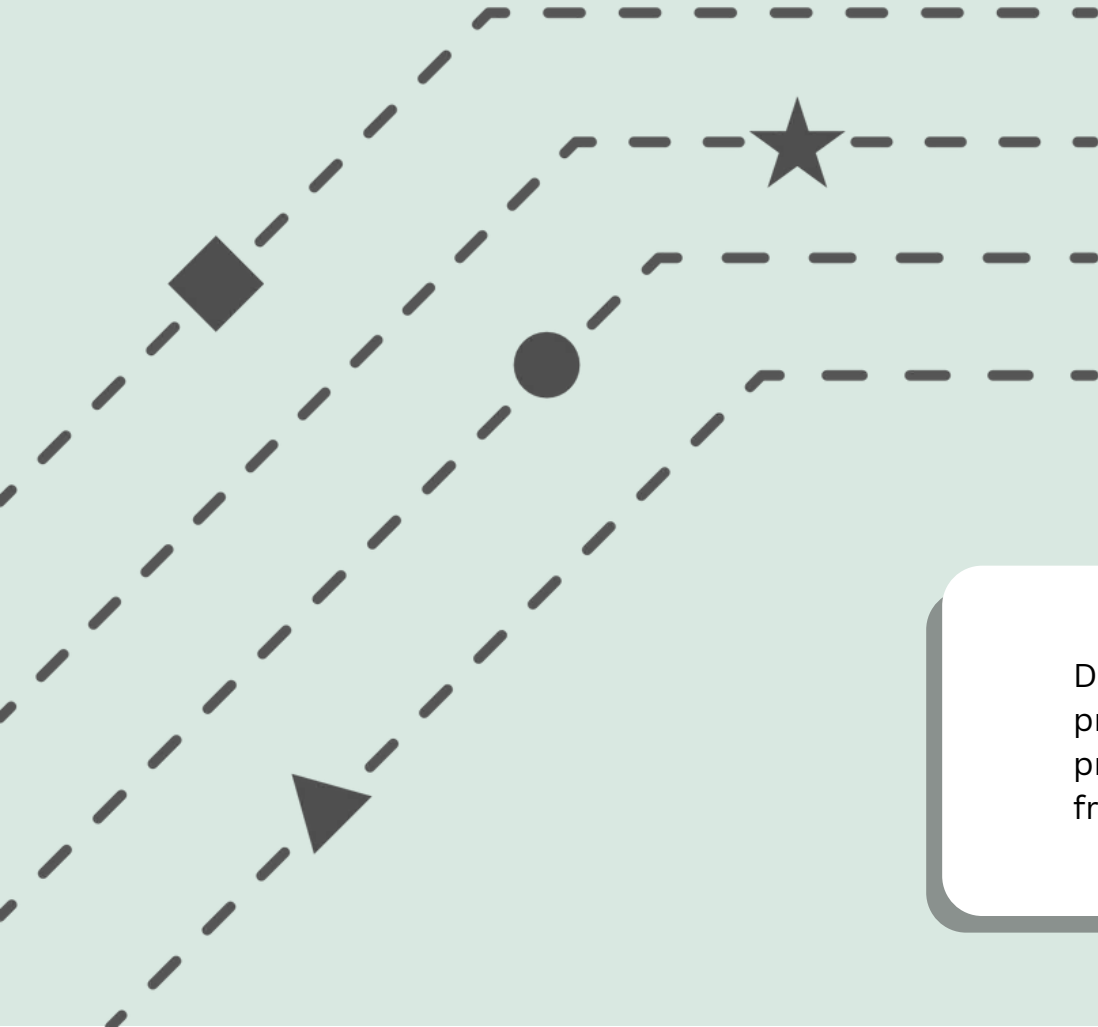
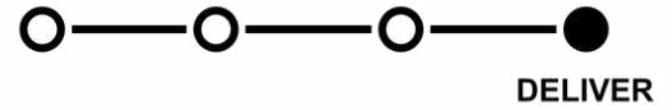


To review the first HI-FI prototype, we performed user tests. These were done by giving tasks to a group of people and letting them find their way through the application. We made sure to collect any feedback on potential issues that they found.

After gathering the insights from the user testing, we discussed the main take-aways thoroughly before deciding on the changes that should be made in the prototype.

Parallel Prototyping

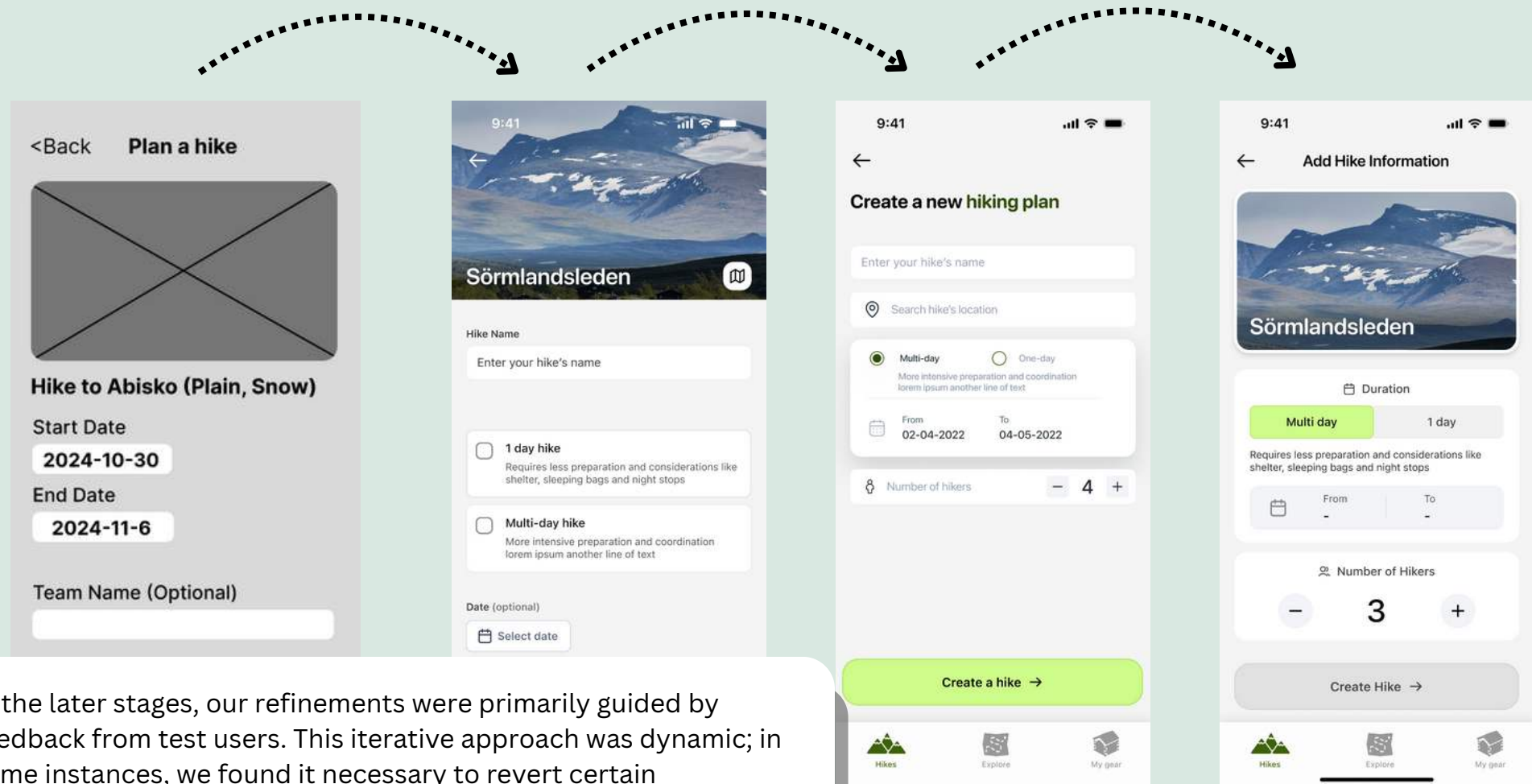
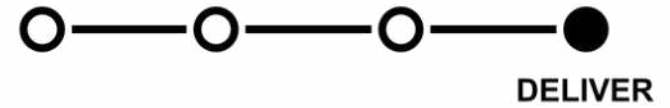
Parallel prototyping involved creating multiple variations of design elements simultaneously.



During the deliver phase, we continuously used parallel prototyping as a way to speed up the process of developing a prototype. Through this method, we were able to combine parts from the individual prototypes that best fit our testing feedback.

Continuous Iteration

During the prototyping process, we continuously made improvements.



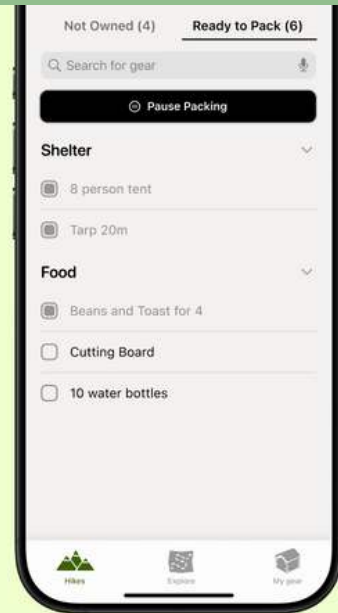
In the later stages, our refinements were primarily guided by feedback from test users. This iterative approach was dynamic; in some instances, we found it necessary to revert certain adjustments upon realizing their importance or effectiveness in previous iterations.

FINAL PRODUCT

SUMMATE

Manage Your Items

Organize and track all your hiking gear in one place, making packing more efficient and hassle-free.

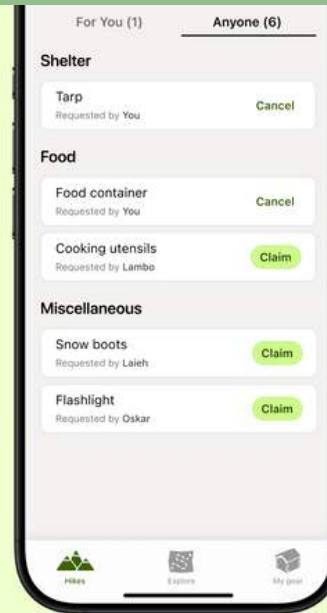
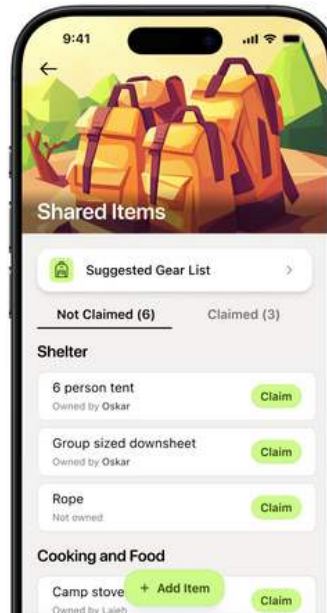


Checklist Before You Go

Create a customizable checklist to ensure you're fully prepared for your hike based on trip details.

Shared Packing

Collaborate with your group by sharing packing responsibilities, ensuring all needs are met.

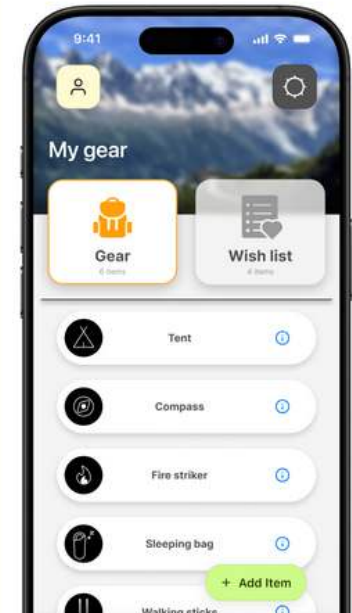


Ask a Friend for Help

Missing an item? Easily request help or borrow gear from friends!

Everything You Got

Track all your gear in a digital inventory, monitoring item status and availability for future trips.



SUMMATE



Our brainstorming

Interactive Prototype



TIMTM, KTH - 2024

G 2 2

Laieh Jwella
Oskar Rebermark
Sabika Amalina
Jingwen (Lambo) Zhuang