Hiky

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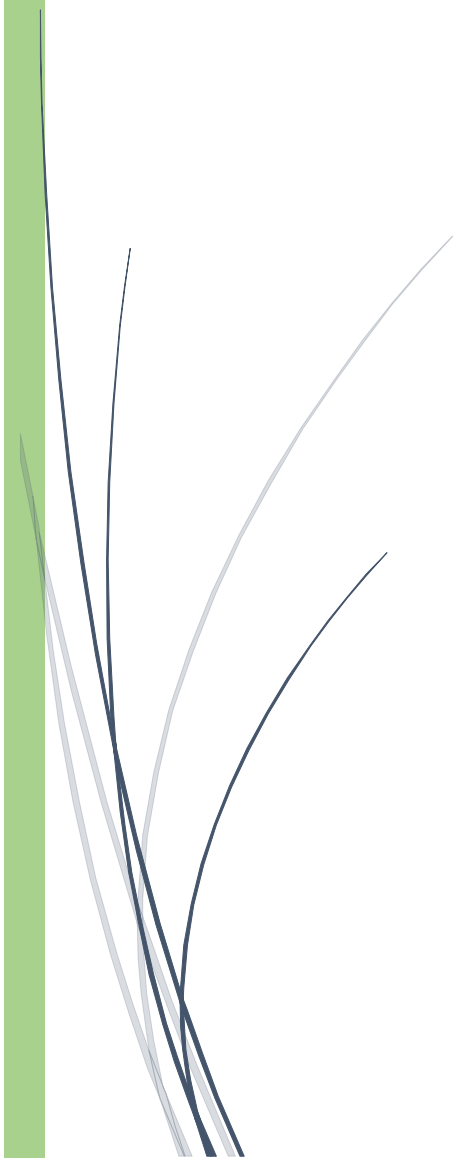
Students 106, 142

University of Bergen
Department of Sciences and Society



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1. Introduction

1.1. Problem definition

Nature is a crucial actor in the Norwegian society. We live in a country surrounded by beautiful lakes, mountains and fjords. This mobile application aims to help hikers find their way in the mountains and enjoy these moments with friends and family. This social app gathers people so they can share their love for hiking. In this report, we focus on building a prototype for the application on the smartphone. To avoid completely rely on your phone, this app aims to be compatible and pairable with smartwatches, smart glasses, and utilize a chip located on the users' shoes. The main goal would be to increase outdoors activity, increase safety, and increase the users' wish to explore the area around them with friends.

The intended target group for this application would be 12+ who enjoy the outdoors but are not experts. It can be used by people who want to improve their skills or that want to discover new trails and share this with their friends. Although we want this app to be as accessible as possible, we target people that know how to use a smartphone and have basic knowledge of how mobile apps work.

1.2. Similar products

We took a look at other similar products in order to understand what features are important for our target group. We mostly checked the App Store and the Google Play Store for those hiking applications to find out what users need and what they are looking for in an app like ours. The reviews on these stores enable us to seek useful and expected features.

Name	Principles	What we like about the app	Cons from comments
AllTrails	Map with trails in the USA and Canada	- Publish your own trails and see other's trails - Offline maps - Lifeline feature, share your location when going on a hike in case of emergency	- Premium account needed to have access to all of the functions - Ads
Maps 3D PRO	This app has maps and topographical maps that show various terrains, footpaths, ridges, trails.	- Download maps - Do not require a lot of battery	- Complicated to understand
MapMyHike GPS hiking	This is a weight-loss app where you can track your hikes as well as your food intake. The app can keep track of your nutrition, daily steps, sleep schedule and more.	- Statistics about the runs and hikes (footsteps, pace) - Share data on social media with a # - Pair your shoes with the app	- Products from the same brand are require to fully use the app
ViewRanger	In this app the user can plan routes or hikes, and help you navigate.	- Augmented reality feature - Maps can be downloaded	- Route stops when another app is used such as the camera of the user's phone

Table 1: Analyse of similar products

2. Requirements specification

2.1. Data gathering

In order to get our app requirements, we decided to gather some data using different techniques. The goal of this data gathering was to understand how our target group act into the mountains, their hiking habits and identify user expectations of a hiking app.

First of all, we identified further our participants. We chose to use a convenience sampling method and ask people that belong to our target group. Thus, we asked people from our surroundings starting by coworkers. It was convenient to ask them during a break at work. In that case, the relationship between the interviewer and the participants is strictly professional and the work environment enabled us to get serious answers. We then asked our flat mates and families, we had longer and more details explanations about the habits and expectations. Thanks to this method, we gathered information from very different people and therefore our participants belong to different age scales and have varied social backgrounds.

We chose to use two different kinds of gathering methods: survey and interviews.

The survey was done on paper and online and shared to people around us. This quantitative method gives us a lot of answers in a short amount of time but you don't get the participants' motivations. During the interviews, we were able to look at people's immediate reactions as they answered. This method presented us more qualitative answers and some personal stories that we can use for our design process.

First, we asked if our subjects were used to go on hikes and how often they do it. Only one person answered that they never go hiking. What's more, all the persons we interviewed face to face told us they were hiking regularly. Most participants hike in Norway, so we decided to focus on this country for now (Appendix A *Figure 24*).

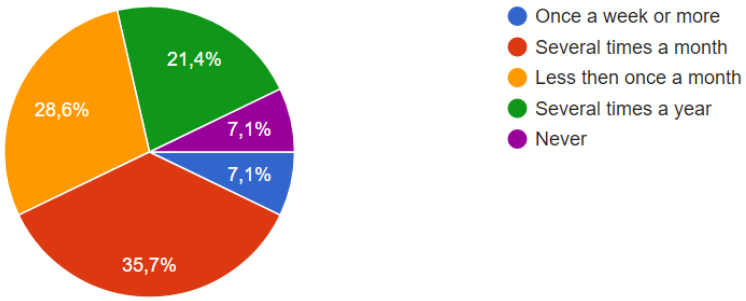


Figure 1: Graphic showing how often the participants go hiking

Then, we discovered that most of our interviewees plan their route and hike before going to the mountains. To do so, most of them go online to find a spot to go to or seek their friend's recommendations. And only 30% use a dedicated website or app to plan their trip. This led us to think

that we have to convince them to use an app because they don't usually do it even if hiking apps already exist. That's why we had to find what would make them change their mind and use our app.

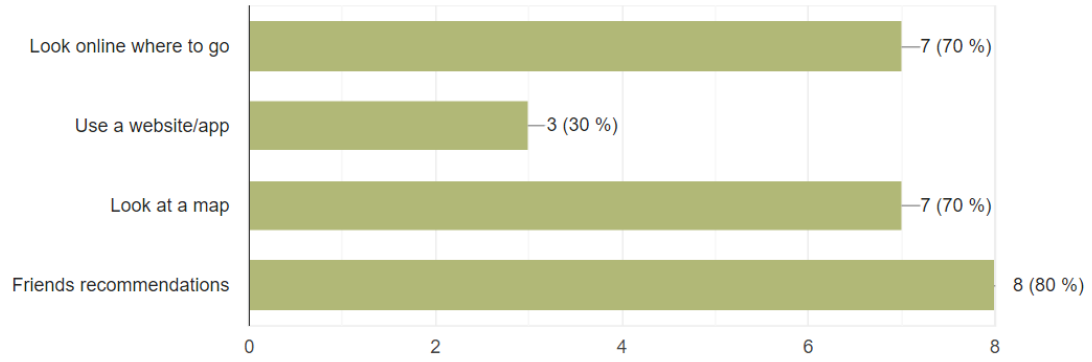


Figure 2 : Graphic showing how participants organize their hike

After that, we focused on the tools they use in order to find their way in the mountains. For our interviewees, they mostly use a GPS on their phone: the most convenient way with an easy handling. The survey corroborates this information with more than 64% using this tool (*Figure 3*).

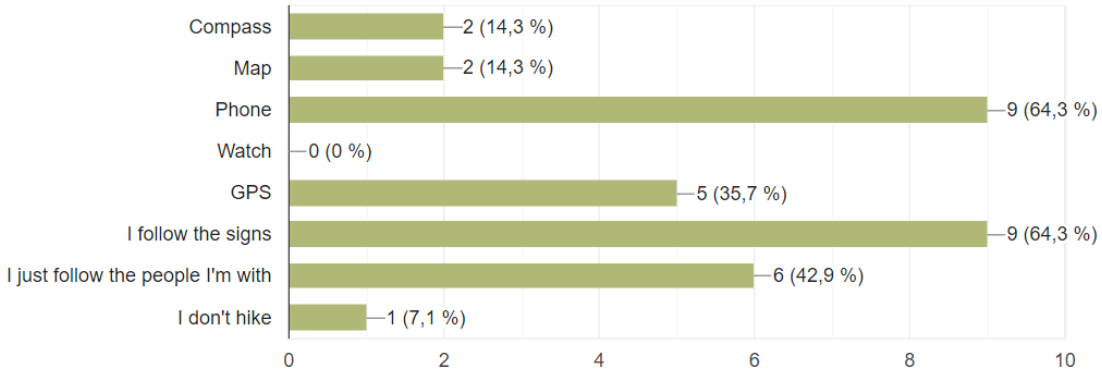


Figure 3: Graphic showing how participants find their way in the mountains

Next, we asked what they like and dislike about these methods. Most of them answered that using their phone was the easiest. One said, "*it's nice to follow roads but also to see on a map on your phone that you can use shortcuts or go to a close source of water* ". Some were concerned about the Internet access and the battery going dead on their phone (*Figure 4*). We have to take that into account and offer a function that enables users to download the maps. Moreover, we need to develop an app that does not consumes a lot of battery.

Figure 4 : Graphic showing what participants dislike about the method that they use to find their way in the mountains

Finally, we asked questions about what features they would use. 90% favored the map and directions functions of the app (Figure 5). A lot were interested on the hike recommendations as well. Someone also suggested we implement a weather forecast function because it could be dangerous to go in the mountains with bad weather. Participants seem to be really interested in a function that shows different routes and locations to go around them.

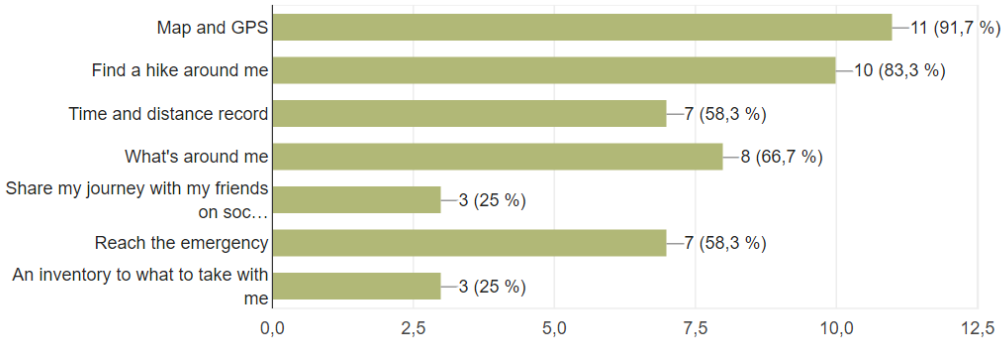


Figure 5 : Graphic showing what functions of the app they would use

Moreover, the participants in the interviews were between 12 and 70 years old, and all of them were going in the mountains mostly with friends and family to share a great time in the nature. The same was to be observed for the survey's participants (*Figure 6*). Therefore, we thought we had to add a function that enable people to connect via the app to see each other on the map in case of emergency.

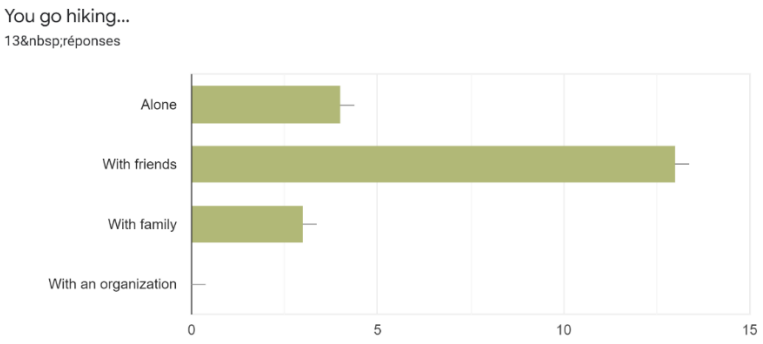


Figure 6: Graphic showing that most of the participants hike with friends

During the interviews, we learned that people are very careful regarding what they bring on hikes and how they organize themselves. One of our interviewees even told us that they saw someone wearing high heels in the mountains or other hiking with only one layer of clothes in the winter. That's why we could add a list of must-bring things when hiking on the app.

The results of this data gathering can be put into a persona as well as a scenario including the user's emotional states in order to understand what users go through when hiking.

Figure 7 : Persona created thanks to the data gathering

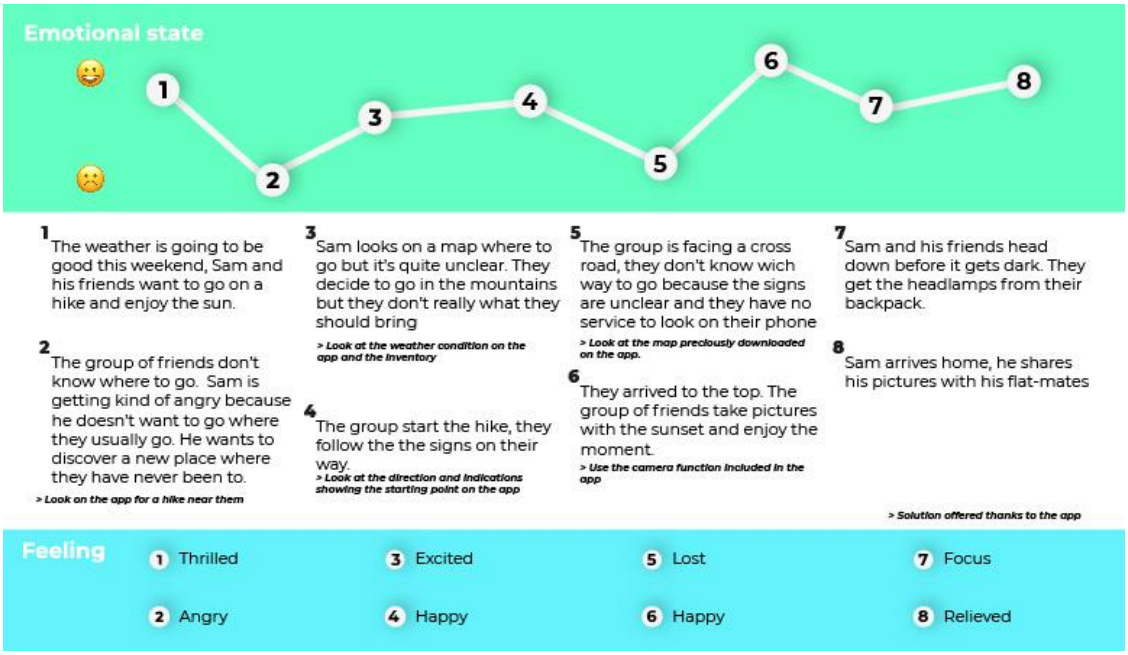


Figure 8 : Experience map showing a scenario, the feeling of the user and their emotional states

2.2. Requirements

We established some requirements for our application based on the answers we got from the data gathering methods.

Functional requirements		Non-functional requirements	
Before the hike			
R.1	The user has to sign into their account	R.14	The product shall adapt to different OS
R.2	The app shall show the user the hikes around them	R.15	The product shall not require a lot of battery from the user's device
R.3	The user must be able to browse for a hike	R16	The app shall not block the feeling of nature
R.4	The app shall show to the user the time, distance, recommended season and level of difficulty for the hikes		
R.5	The user must be able to connect with friends on the app		
R.6	The app shall offer a list of recommended things to bring		
R.7	The user must be able to download the maps		
During the hike			
R.8	The user must be able to start the hike on the app so that the app starts the timer		
R.9	As a user I need to see the map and directions as well as the time and distance traveled		
R.10	The app should enable the user to see where their friends are on the map		
R.11	The app shall issue an alert of the weather is going bad and it can be dangerous for the user		
R.12	The user should be able to get in touch with the emergency thought the app		
R.13	The user should be able to share his journey with friends		

Table 2: List of requirements for the app.

3. Prototype design

3.1. First iteration – Mid-Fidelity prototype

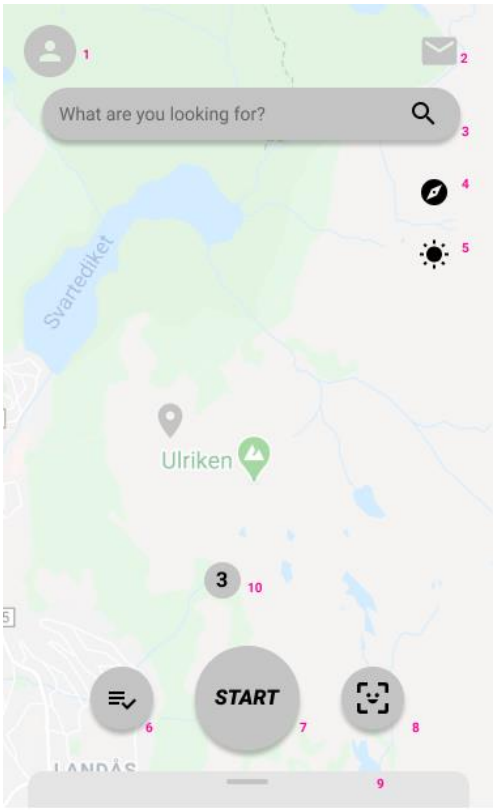


Figure 9 : Home screen of the app. This page gives access to a lot of functions to the use.

This is the home screen of our app. One can find the menu, a search bar, access to several functions as well as buttons to start a hike.

The menu is fixed and therefore accessible from every pages of the app. We chose to put it at the bottom of the page so that the user can easily navigate without other elements being blocked by it. Our app is made for mobile devices, consequently, our users will hold their mobile in their hand. Placing the menu at the bottom makes it easier for users to reach the icons and to navigate through the app's pages. On the contrary, the account icon (Figure 9.1) is not often use so we chose to put it on the top-left corner that is more difficult to reach (*Katzenbach, 2018*)

Menu's icons as well as other icons through the app are based on the Gestalt principle of closure. The user can indeed identify the shape of the icons thanks to full and empty shapes like we can see on the mountain icon in the bottom left corner.

We used the principles of similarity and proximity for the menu by placing together so users can understand they have a similar function and are part of an all.

Figure 10 : Sketches showing the navigation zones on a mobile using your thumb (Katzenbach, 2018)

As our main goal is to create a cooperative app that enables users to hike with friends, we implemented several social functions on this screen. First of all, the user can find here and through all the pages an inbox button (Figure 9.2) on the top-right corner of the screen leading to a chat section.

On the right side, we chose to put two indicators that will be continually updated. The compass (Figure 9.4) position will indeed change with the user position using the gyroscope integrated in the device. The weather (Figure 9.5) will be updated in the same way using data from another program, for example using the forecast data from The Weather Channel.

Then, at the bottom of the screen, we decided to put three buttons, linked to the map features. The main button “Start” (Figure 9.7) is in the middle of the screen, and also bigger in size than the others, because recording hikes is the main feature of our app. We wanted to put this function forward because when you just want to start a hike and you don’t need any other details, it’s easier to have this function accessible from the home page.

On the left, we have another button that shows a list of recommended things to bring on your hike. On the other side, the user can open an overlay page where they can find their personal hike-tag (Appendix B Figure 32). One of the main features of our app is to be able to create a ‘hike with friends’ event. One of the users has to start a hike on his mobile, then, he can add some friends to this event. People that connected to this event can see each other’s positions on the map, chat easily and share point of interest (POI). This function is also good if one of the hikers gets lost so their friends can locate them on the map. The leader of the hike just scans their friends’ tags, so they are automatically added to the shared hike.

There is an interactive map in the background of the page that the user can move in order to look for hikes around them using the geolocation of their phone. Hikes are shown to the user on this map. If the user moves it, the hikes are automatically updated to show other hikes in the area. For example, on the screen we can see that three hikes are available (Figure 9.10) the user has to zoom and click on the hike if they want more information about one in particular.

At the top of this screen, the user can look for a hike using the search bar (Figure 9.3). We put a placeholder in the search bar in order to show the user that they can write things in.

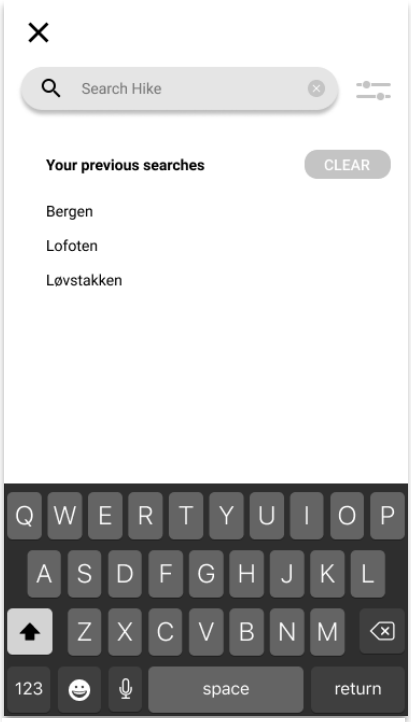
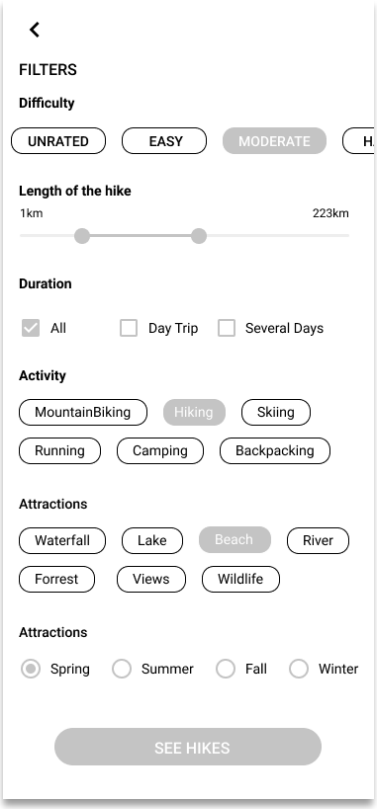


Figure 11: Research page.



On the right, we chose to put a filter button. When the user clicks on it, an overlay appears showing all the filters that can be applied to the search. There are various types of filter (Figure 12). We used radio button for criteria that allow only one answer like the season and check-boxes for multiple responses.

Once selected, a criterion is filled with a color to highlight the fact that it has been selected.

The results are shown as cards gathering information about each hike. These cards use the Gestalt principle of proximity and common region. A card is indeed composed of several that together create one useable element.

Figure 12 : The search tool to browse through the hikes

We chose to cut a piece of the cards on the side so that the user understand that they can scroll horizontally. We used this method for all the pages with a lot of content so people don't stop without scrolling.

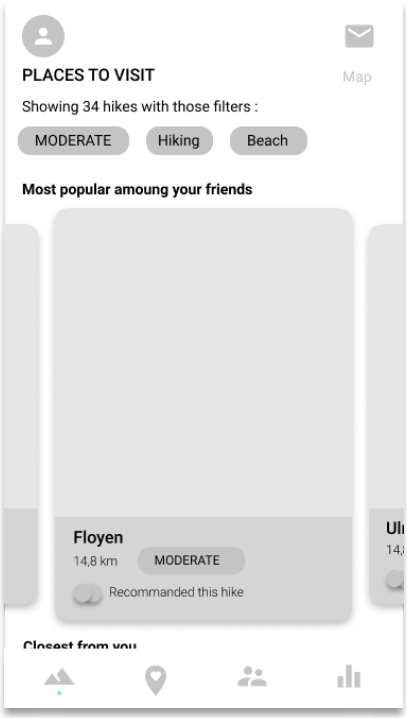


Figure 13: Here you can see a bit of the cards on the side and a bit at the bottom to scroll

We chose two methods of evaluation, the first one was an interview. We asked a participant to give us feedback as he explored the app. Then we focused on the search function and asked him to fulfill a research and we observed his behavior. After that, we discussed together about his feeling using the app. This evaluation gave us a good amount of useful information.

Page / Action	Feedback from the user	Solutions for the new iteration
Sign-up screen	Having a confirmation field for his password felt safer for him because he was scared to make a mistake with just one field	Add a second field or find another solution so the user doesn't feel unsure
Home page	-Tried to move the map -He wasn't able to understand the icons on the map showing how many hikes was available in the area -The participant was looking for lines and paths on the map. He told us that sometimes he doesn't want to follow directions but just have a view of existing path in order to figure out his own direction to the place he wants to go - He did not understand the tag button	We will have to make sure users know about the tag function to avoid any mistake. We can maybe try to create a guided tour of the app for new users.
Searching for a specific hike	- He tried to navigate to another page of the app. He taped on the saved hike icon, he explained that he was looking for lists of hikes already filtered and thought the favorite lists was what he was looking for	The filter option is indeed not accessible on the home page so the user can't see that function, we will have to change that so the filters are accessible from the home page.
Ulriken page	He encountered problems with the icons. First of all, he couldn't see the heart icon on the picture so he tried to use the download button before understanding that it was two different functions. The participant confused the fourth and second button, for him the paper plane was an arrow that meant start the hike.	We will have to make sure every icon is understandable and look different from the others.

Table 3: Results from our user evaluation

The participant did not encounter any other problems on the other pages of the app. His feed-back was quite positive and he told us to be interested in an app like this one. He highlighted the fact that his most important criterion was the pictures. We will have to keep that in mind and maybe put images on the map on the home page to get people to actually click on the hikes.

The second method was a heuristic evaluation using Jakob Nielsen's 10 general principles (Nielsen, 1994). This one was more difficult to understand and to do. We tried to follow W. Bravo's article (Bravo, 2017) and focus on a precise task: "Search and go on a hike with a moderate level of difficulty during spring".

Nielsen's heuristic	Severity	Explanation
Visibility of system status		
Match between system and the real world	1 - Cosmetic	The tag feature is not intelligible enough
User control and freedom	2 - Minor	The filter could be deletes by clicking on it but it's not obvious for the user, we should add a picture to make easier to understand
Consistency and standards	3 - Major	Each button should look different to avoid mistakes
Error prevention		
Recognition rather than recall	3 - Major	This filter button is not accessible on the home page
Flexibility and efficiency of use		
Aesthetic and minimalist design		
Help users recognize, diagnose, and recover from errors		
Help and documentation	3 - Major	Explain the main functions to users so they can understand all of the pages' goal.

Table 4: Heuristic evaluation results

3.2. Second iteration – High-Fidelity Prototype

We decided to use Brad Frost's Atomic Design method (*Atomic Design, 2016)* to create our app's design system. Meaning we designed every element starting by the smallest – atoms- and then put them together to create molecules and then organisms. This method seems difficult because you have to design every piece before really designing pages but once the organisms created, it was easier to add the graphic layer to the pages. This method is very convenient if we want to add other features and pages to the app in the development process or in the future.

3.2.1 Atoms – Typography, colors, icons and other basic elements.

First, we created the atoms starting by choosing the fonts and colors we were going to use through the entire app. We decided to use two fonts, Circular Std for the titles and Assistant for the paragraphs and other textual components of the app. They both are sans-serif fonts in order to keep the design simple and easy to read on a screen. The title font is thicker than the font used for the paragraphs so titles are more recognizable and readable for users.

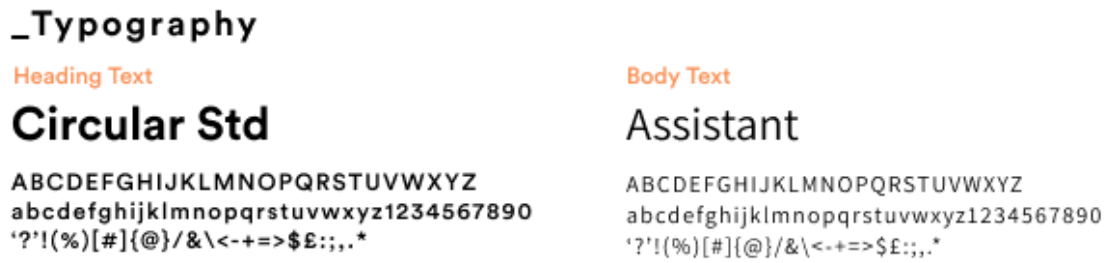


Figure 14 : The two fonts we decided to use in our app

Once we had the font, we looked for colors that would fit our app's goal and our target group. This app is all about enjoying nature, so we decided to use green to represent that aspect and orange to create some contrast for important elements. The colors are used for the clickable elements and buttons.

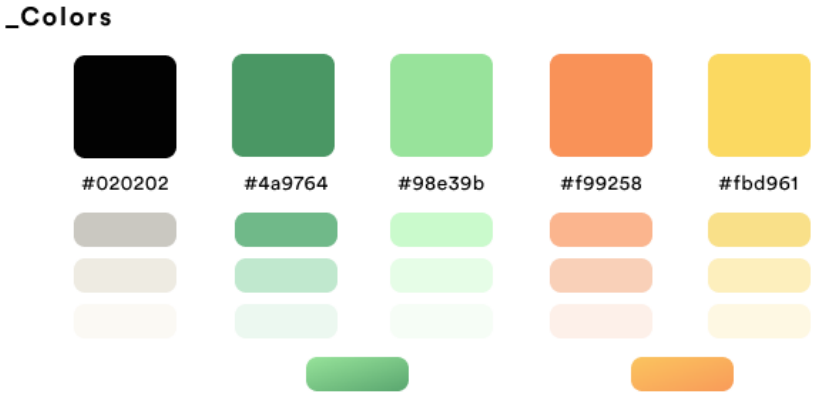


Figure 15 : The app's range colors

Next, we listed all the icons we were going to use in the app. We choose to use Material's icons and apply our main green color on it. Most of the icons are very representative of what they lead to and for the rest we tried to stick to the symbols generally used online such as a letter for the messages or the thumbs for the likes.

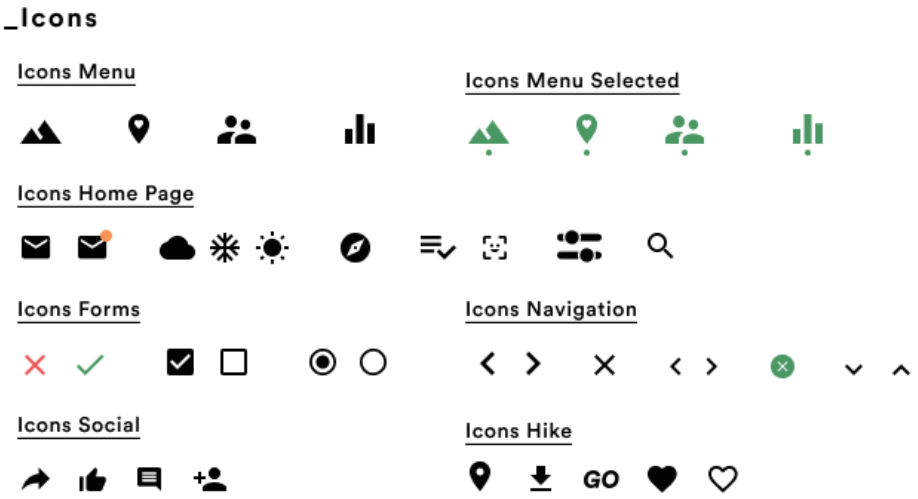


Figure 16: The icons we are going to use for our app.

During the evaluation of our first iteration, our user misread the share icon for an arrow that would start the hike (Figure 19) and therefore we decided to change this icon for an actual arrow that represents more the exchange and thus the act of sharing. These icons were made by Google and we can find them on their platforms like Youtube so users are used to see and use them.

Figure 17: Left: icon used for the first iteration and on the right for the high-fidelity.

Finally, we combined these elements to create other atoms that correspond to html tags (Frost, 2016) and can't be broken into smaller parts. To do so we kept in mind that accessibility is a crucial element of interactive design. That's why we applied some rules to our design. First, we used Colorable tool to make sure the contrast between our button's background color and the text's color was adequate for colorblind people. Moreover, we declined the input text fields for the forms so that the color is not the only indicator of the state of the field. When the user fills out the field, a colored stroke appears around the field indicating if what they put in is wrong or false. Although we could think it's enough, we add a sign in the field so that colorblind users could differentiate the two states. We used the same technique for the menu, a small ellipse is indeed placed under the menu's icon corresponding to the page the user is looking at.

These small elements are useful for accessibility but also for clarity, the more elements you have leading toward the same goal the easier it is for users to understand the meaning of the design.

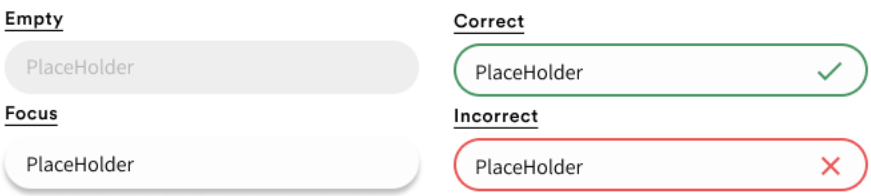


Figure 18: The different states of the text field

3.2.2 Molecules and organisms

Once we had our atoms, we put them together to create some molecules. We ended up with elements that we combined again to create organisms such as a header or cards. Finally, we put everything together to create templates and pages following Frost method.

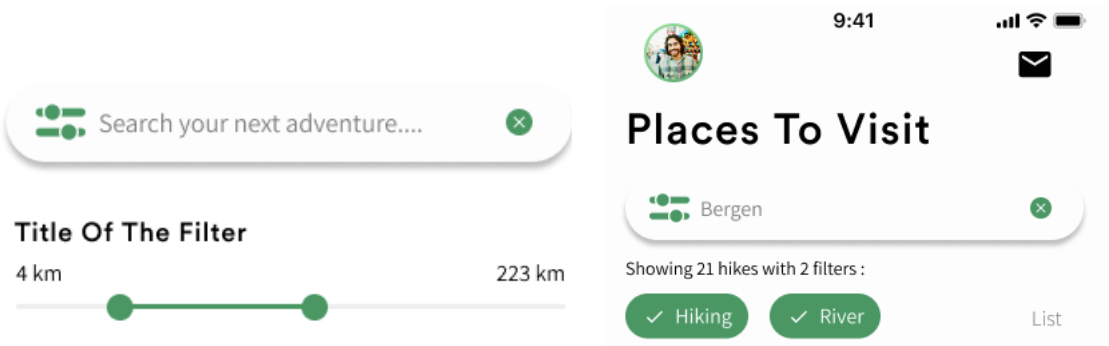


Figure 19: Examples of molecules and organisms.

3.2.3 Changes and improvement

Our evaluation revealed that users like to make sure their password is correct before submitting. We first thought of adding a second confirmation field but it could lead to mistakes. Accordingly, and following Nielsen (Nielsen, 2009) about password masking, we took the decision to add an icon in the password field that allows users to see their password.

An icon issue occurred with the filter icon that was not available on the homepage to filter hikes using the user's location. To correct this, we put the filter on the home page in the search bar (Figure 27)

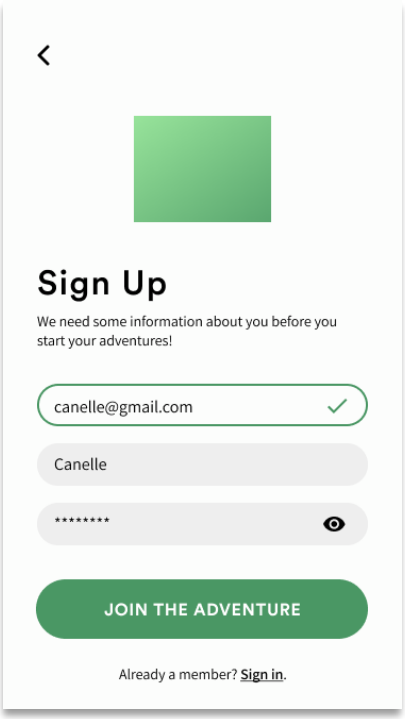


Figure 21: The sign-up form with various states of the text field

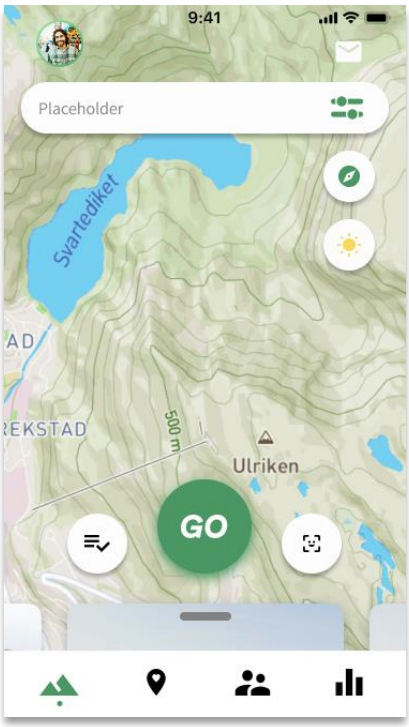


Figure 20: Home page with the new filter option added on the search bar

The second feedback from the evaluation was about the icon on the homepage especially the tag one. We concluded that users couldn't understand the icon if they were not aware that a feature like this one was available on the app. To make sure people are aware of that we decided to have explanatory slides after the sign-up screen (Figure 22)

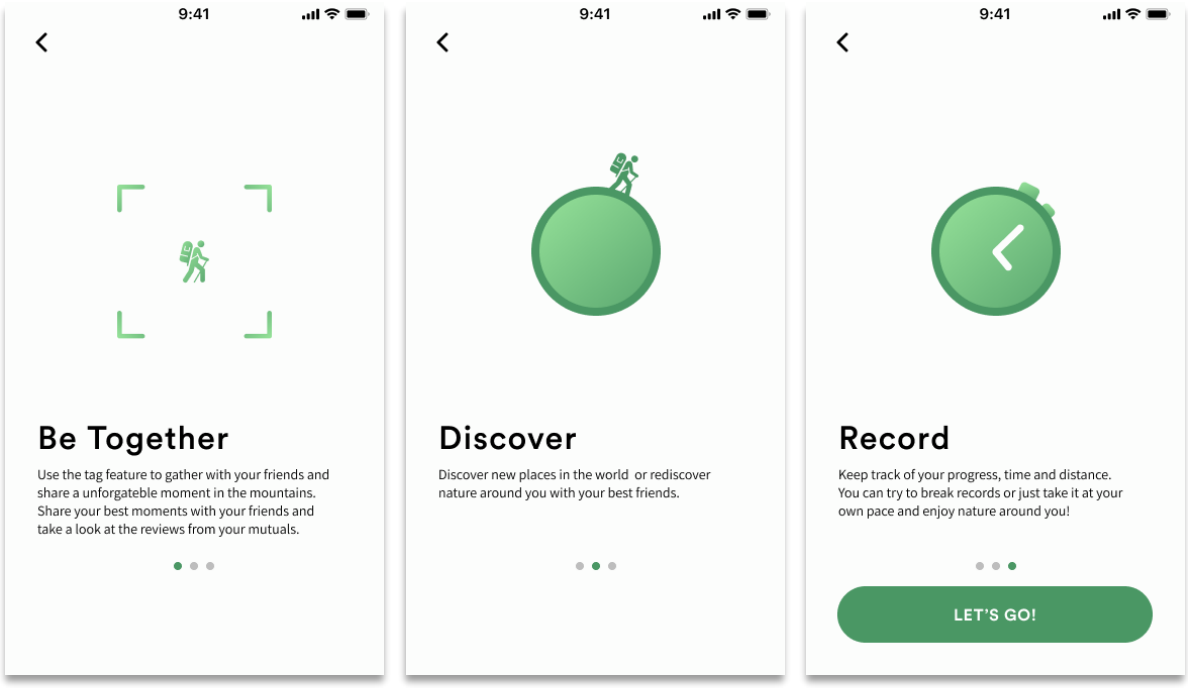


Figure 22: The three explanatory screens new users see when they sign up and log into the app for the first time

We also made changes on the hike page because the icons were confusing. We decided to only keep three buttons to make it simpler to navigate. Other actions were put into a menu available at the top right corner. Doing this, the user shouldn't be confused by the various choices of actions. We also decided to write "Go" on the main button and not use an arrow that could be mistaken for a share feature.

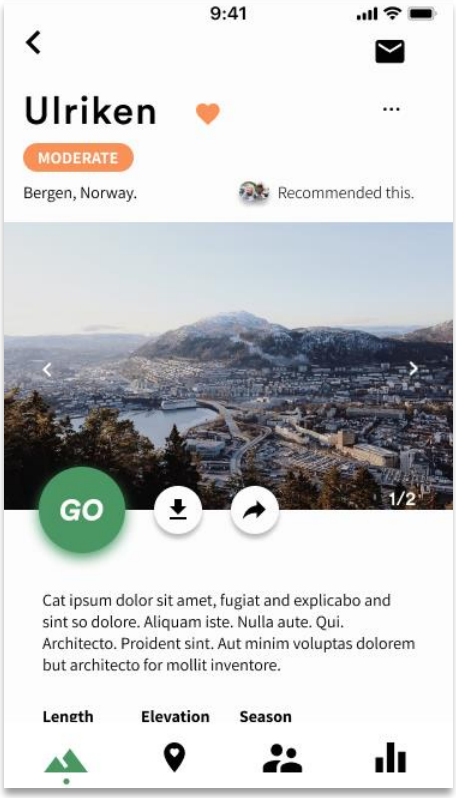


Figure 23: When clicking on a hike, the user gets to a page with more information about it. He can start the hike or download it.

3.2.3 Interactions

Users have to sign in to use the app, to do so they have to us the form or go to the sign-up process clicking on the button. Then, thanks to the menu they access the home page from where they can navigate to the different sections: Saved hikes, community and statistics. Each section is divided in several parts accessible thanks to a submenu. When using this submenu, upperpart of the app is static and only the middle section content shift. Here, users may as well slide between the subsection using a horizontal slide movement.

From the interactive maps, users can access to information about hikes near them. On the homepage, users can also go to the search page by clicking on the search bar or the filters button.

We included transition between pages, for example when users are on the results page and click on a hike, the hike page will slide from right to left to go on top of the previous page. This kind of transition brings a feeling of depth to the app. To go back to a previous page, users can use the arrow on the left but if they are using an iPhone they can also swipe to the right.

What's more, when on a hike, an overlay covers the app and show the hike features. This feature is split into three screens, users can navigate through them using the icon at the top or by sliding right and left.

3.3. Evaluation

For this iteration we asked two users to review our design. The first user was the one we have already asked for the previous version and the second user was a new one that has never seen the app before. We discovered that things that were obvious for us were not for the interviewees and especially for the one that had never heard about the app before.

Page / Action	First user previously interrogated	New user
Sign-up screen	The eye icon solution is good and he felt more comfortable being able to see his password before submitting the form.	He went through the sign-up process without encountering any issue.
Comments	The feedback given by the system works well	
Explanatory screens	He understood easily that he had to slide the pages to go to the next one.	He skipped these pages and explain he never read the explanations because he thinks he knows how to use the app even if he does not.
Comments	A lot of people could skip these important explanations. Maybe we could try to add some pop-up screens directly in the pages when the user opens the app for the first one. The second solution may be to keep the explanations really short and use more self-explanatory drawings.	
Home page cards	- Tried to move around the map - Thought the hike's length on the cards were the distance between the user and the starting point. It is actually the length of the hike itself	
Comments	We could add the distance between the user and the start of the hike	
Home page buttons	- Did not understand the tag icon	- Thought the icon on the left was a hamburger menu and not a list. - Did not understand the tag icon
Comments	- We are thinking of changing the icon for something that looks more like a list and less like a menu. - We though that it was normal for the new user to not understand it because he skipped the explanation part but surprisingly the previous user did not get the meaning of the tag icon even if he was aware of the feature. This feature is really tricky to explain because it's new for the users and the icon is not enough for them to figure it out. To fix this, we are thinking of putting the user tag in the account part with a label or sentence such as "my hike tag" so it's more straightforward. In the same way, we can make the scan feature	

	only accessible when the user is on a hike because it's the only time it is actually useful to have it. The new user suggested that we could have a "near me" information pop-up if a friend is near the hiker so they could meet and do the hike together. It is a good idea and we are considering adding friend's location on the homepage's map to make that possible but we have to make sure not to put too much information on the map otherwise it will be unreadable.	
Searching for a hike	- He said it was a good idea to have recommendations for your friends because he trusts his friends	- Easily found and used the search bar - Would like to have a filter according to his position using a radius around the user's location - Map button was to small and not easy to use
Comments	Good idea for the radius filter that suits with our "Closest to you" section We could try to replace the "Map" button by a map icon.	
Community section	- Said that when friends publish something, their position written on the post should be GPS coordinates because the mountain's name is too vague.	
Hike feature	- Said it was confusing to be able to access to the map you downloaded while you are already doing a hike - Chat feature is good to share pictures with the friends you went on a hike with.	- Wanted to know if it was possible to add friends to the hike that you previously added in the app - Chat feature felt unnecessary if you are with your friends you can talk to them directly
	Wanted to be able to access the information about the hike they are currently doing	
Comments	We should add a feature that enables users to search and add friends from their friend's list. Some people start from scratch and others may follow directions after they find a hike on the app so we have to make different options available for users depending on their previous journey through the app. We have to think about the message functions because it's an interesting feature for safety but we have to keep it simple so people focus on enjoying the moment.	
General comments	Doing user tests, we noticed that we have forgotten some requirements, we indeed have to take into account the possibility of users using the app without Internet access. That's why we have to design an offline homepage that only enables user to use the record feature and access his downloaded maps. Moreover, we forgot some important details such as a button to create a new list. After stopping the hike, we plan to add a summary screen with information about the hike.	

Table 5: Results from evaluation

4. Discussion

While developing our design and doing research about similar products, we discovered that a lot of similar apps already exist but without the social dimension of Hiky. However, our ambition to gather people using a hiking app can highlight some dilemmas. First of all, our main goal is to push people to go outside and enjoy nature and it could be seen as contradictory to make an app about this. We had to keep in mind that once users are doing the hike, the app has to be useful but also merge into the outdoor experience so users can enjoy the nature and the time spent with friends.

Finally, an app using users' location generates some ethical dilemmas regarding personal data collected by the app. Users have to be informed that their data are safe and will not be used for commercial purposes.

The last evaluation lead us to think about the improvements we can do to our app especially on the recording feature during an hike. Thanksfully, our choice to use Atom Design would help us to make changes easily if need. We could also think about designing other products around our app such as smarwatch app.

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Appendix

Appendix A: Data gathering

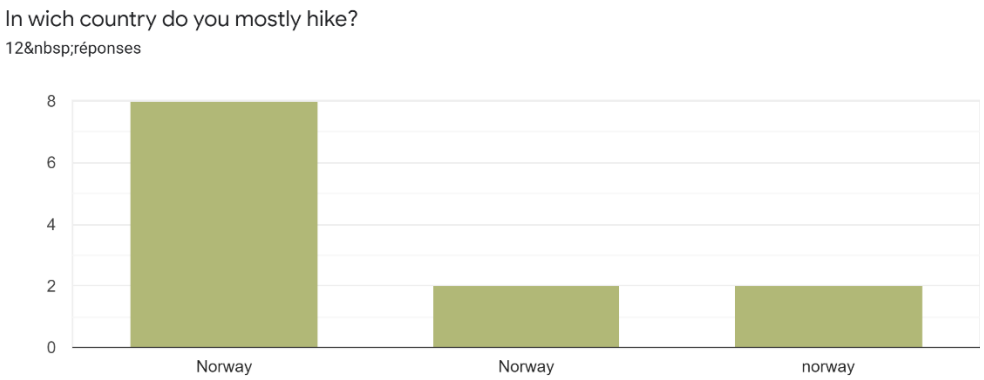

Figure 24: Graphic showing where people go hiking the most

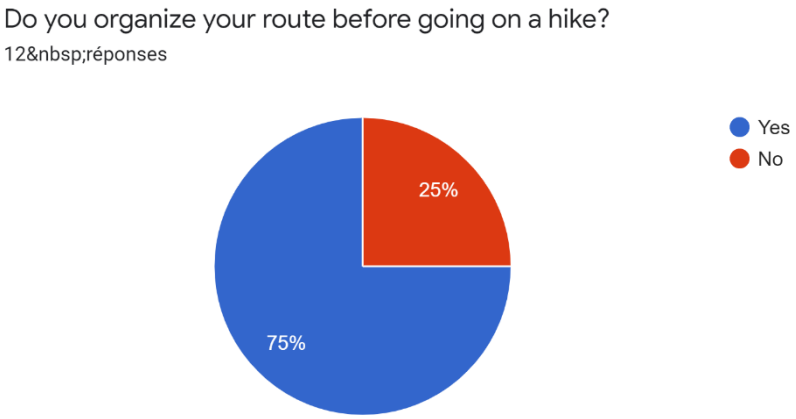

Figure 25: Graphic showing how many participants organize their route before going on a hike

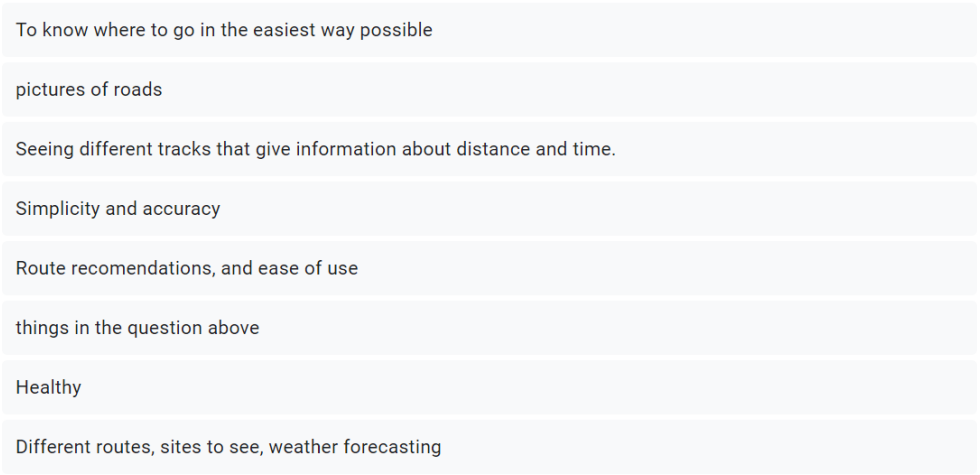

Figure 26 : Answers to the question "What are you looking for in a hiking app?

1. Resume from the interviews

- Target group age 72:

Three generations of a family and their friends.

They have traditional hiking in the mountains twice a year. Somebody was lost in the mountains, so they used a compass to find out the way back home. Others have already been in the same situation, but they used the smoke to show up in the sky where they were. A helicopter came to take them back.

- Target group 30:

They were impressed by the fact that we develop an application for hiking, and they have never heard about it before. But they think it is a nice idea to develop some kind of technology to help people, and they never got lost.

- Target group 22, 12, 18:

They have almost the same answers. They appreciate all kinds of type technologies to help them organize the hiking tour in the application

They never have been lost.

- Target group 60 years older:

They are very active people, hiking several times, and they use the compass, Google Maps, Facebook fowling me, Google Plus. They take pictures, share them with friends on social media. They have accounts for the following list of social media: Facebook, workplace, Instagram, Google Plus, linking, YouTube.

Appendix B: First iteration design

Sign up process:

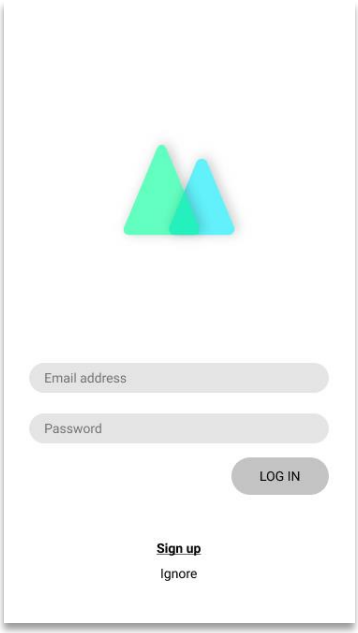

Figure 27: Sign-in page

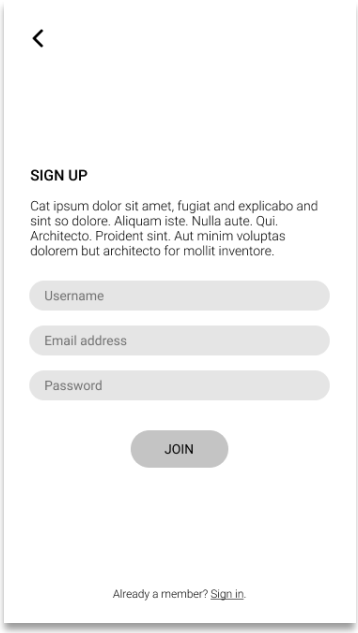

Figure 28: Sign-up page

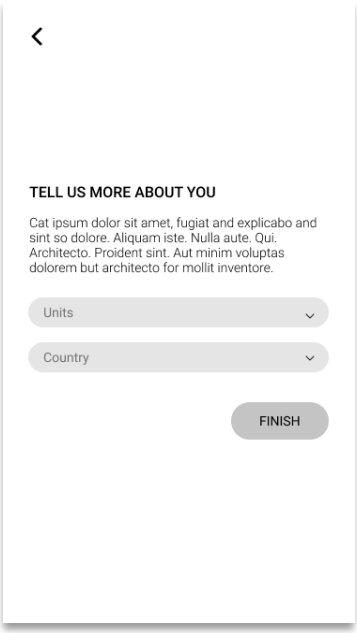

Figure 29: More information

Figure 30: Home page

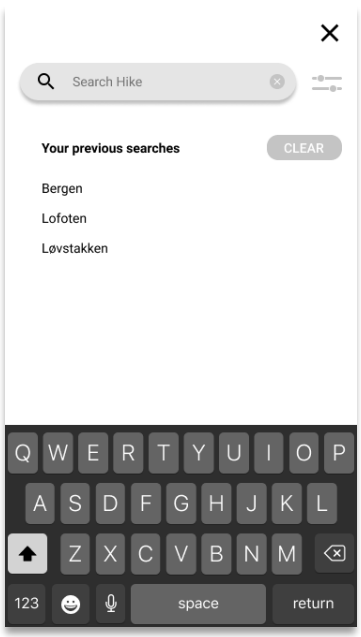

Figure 31: Search page

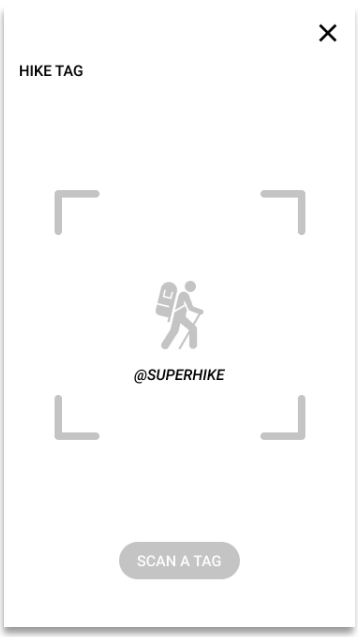

Figure 32: Tag page that can be scanned

Research process:

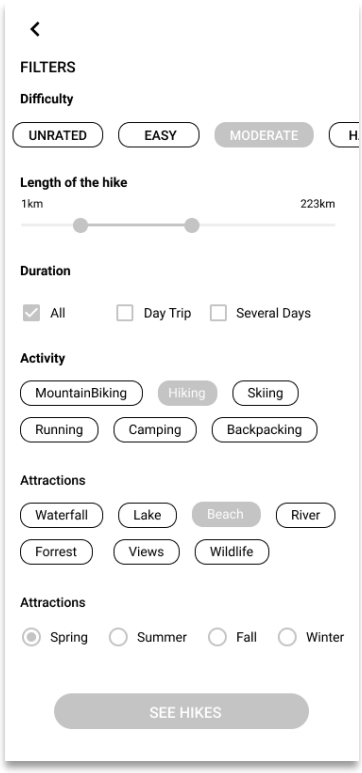

Figure 33: Filter page

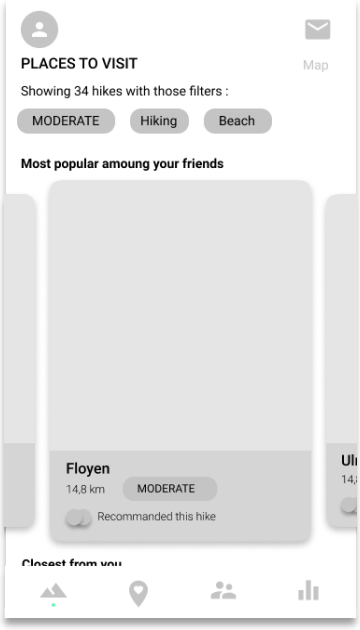

Figure 34: Results page after applying filters

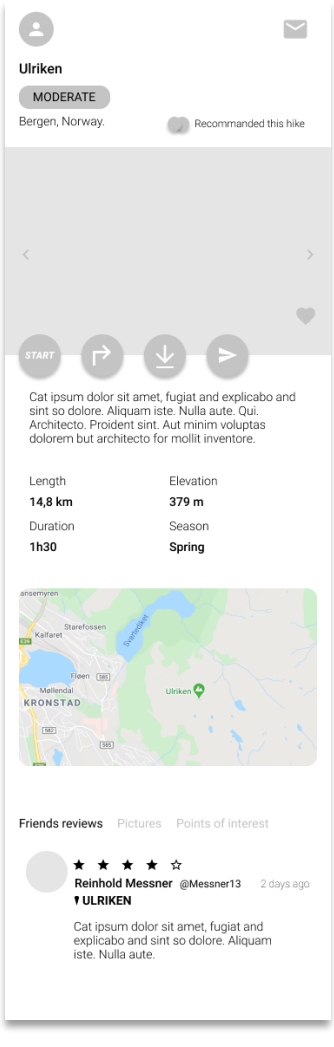

Figure 35: Ulriken hike page with information about the hike

Saved hikes section:

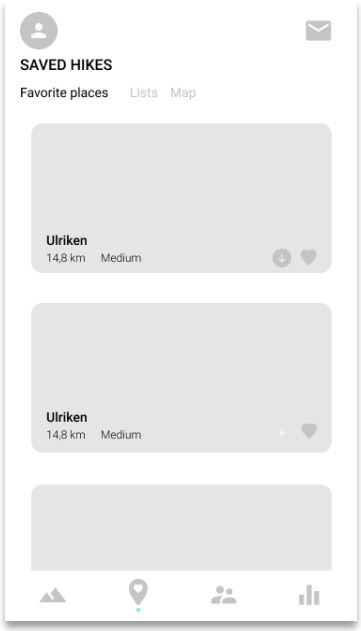

Figure 36: Map showing the saved hikes

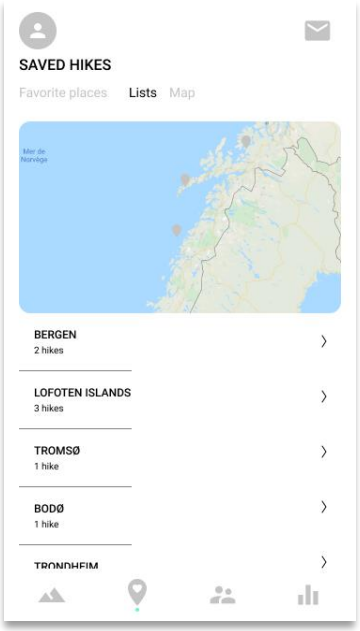

Figure 37: Hikes saved by the user

Figure 38: Lists to organize hikes

Community section:

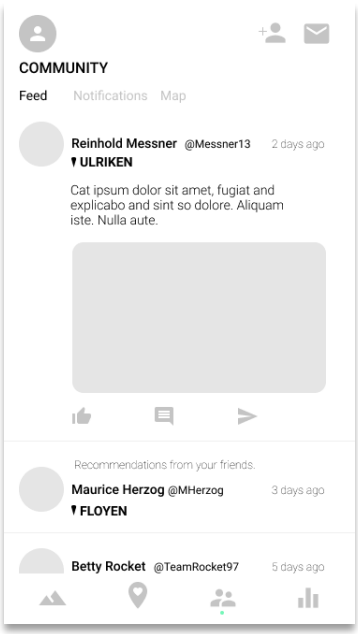

Figure 39: Feed showing friend's posts.

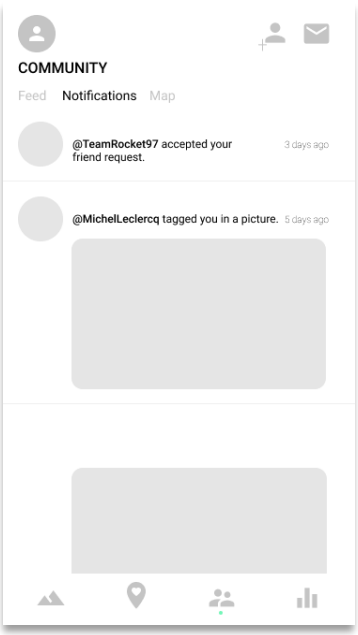

Figure 40: Notifications center

Figure 41: Map showing where your friends are

Appendix C: High-Fidelity Prototype

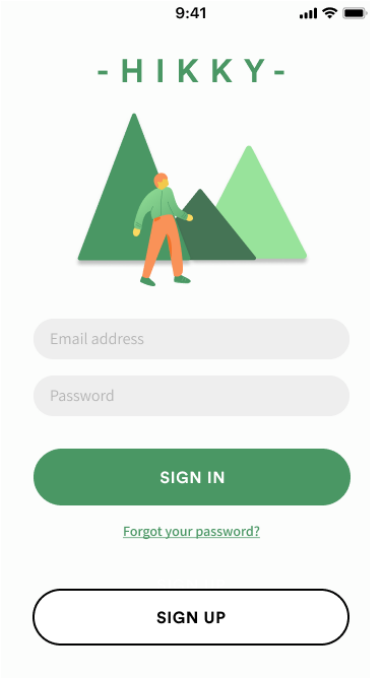

Figure 42: Sign-in page with graphic layer

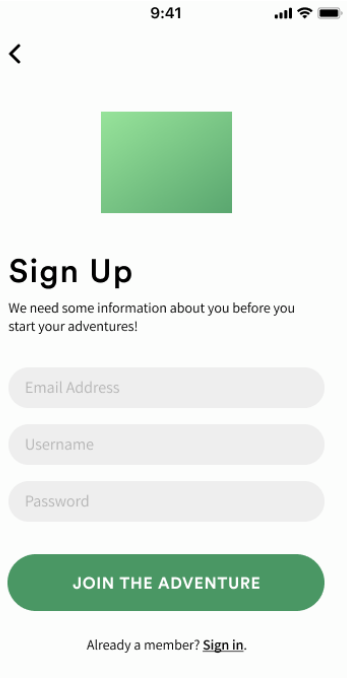

Figure 43: Empty sign-up page

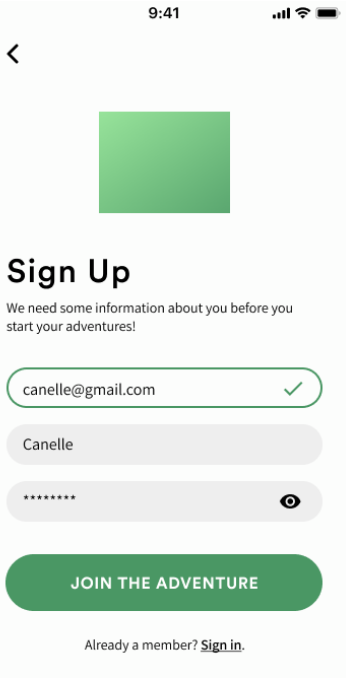

Figure 44: Filled sign-up page

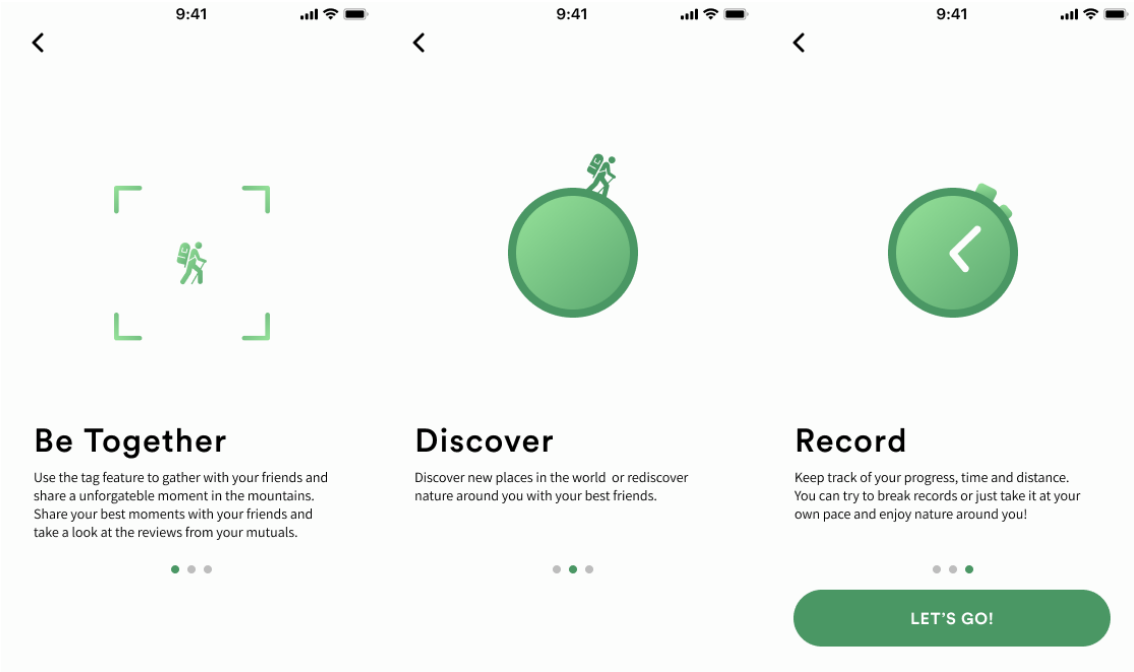

Figure 45: Explanations pages

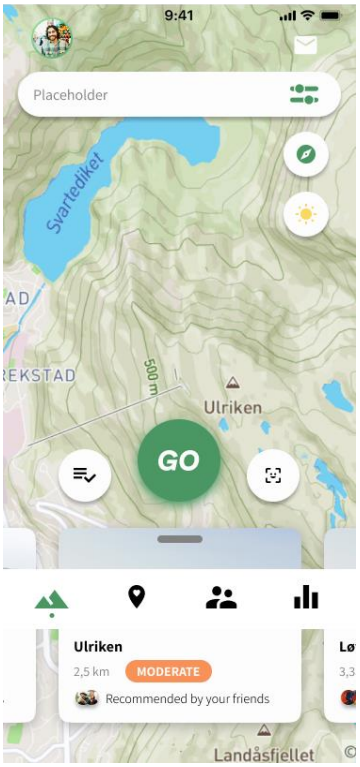

Figure 46: Home page

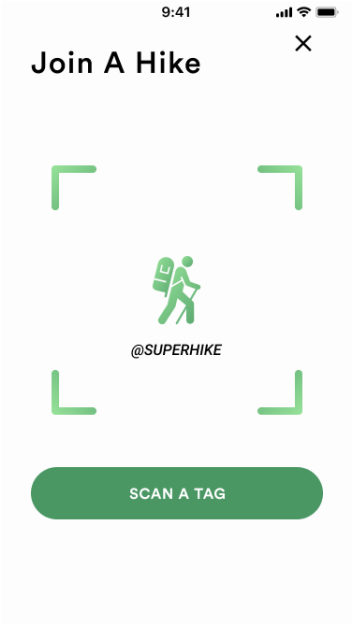

Figure 47: Tag page from a user

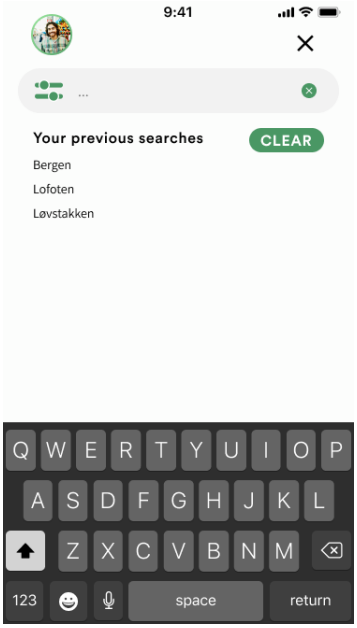

Figure 48: Search page to type in

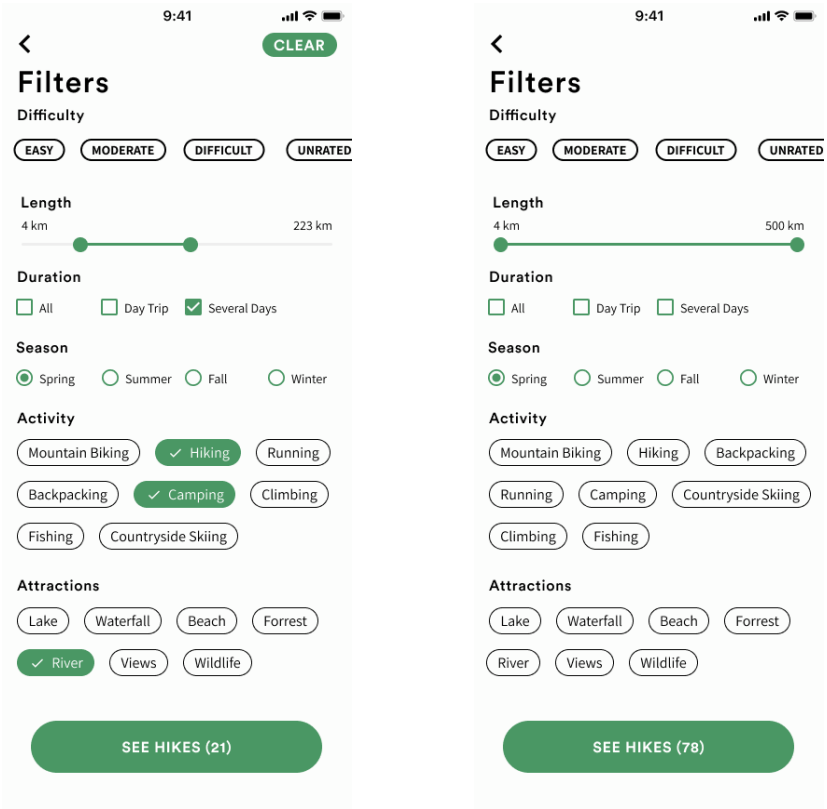

Figure 49: Filter page with and without filters selected.
The user can clear every filter by clicking the top right corner button

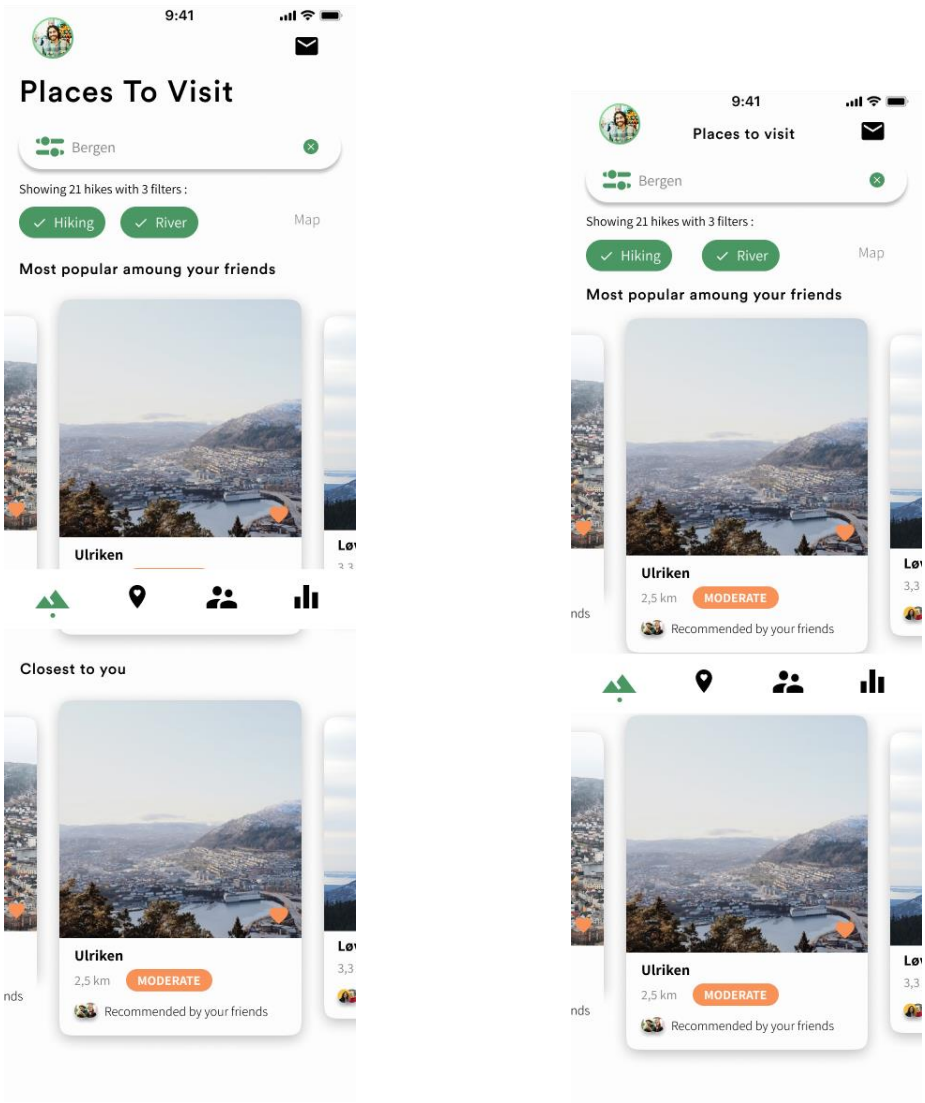

Figure 50: Results page. Once users have typed in their research and used the filters a list of results appears. The results are organized into different categories. The second screen is the scroll version, we can see that the top menu changes.

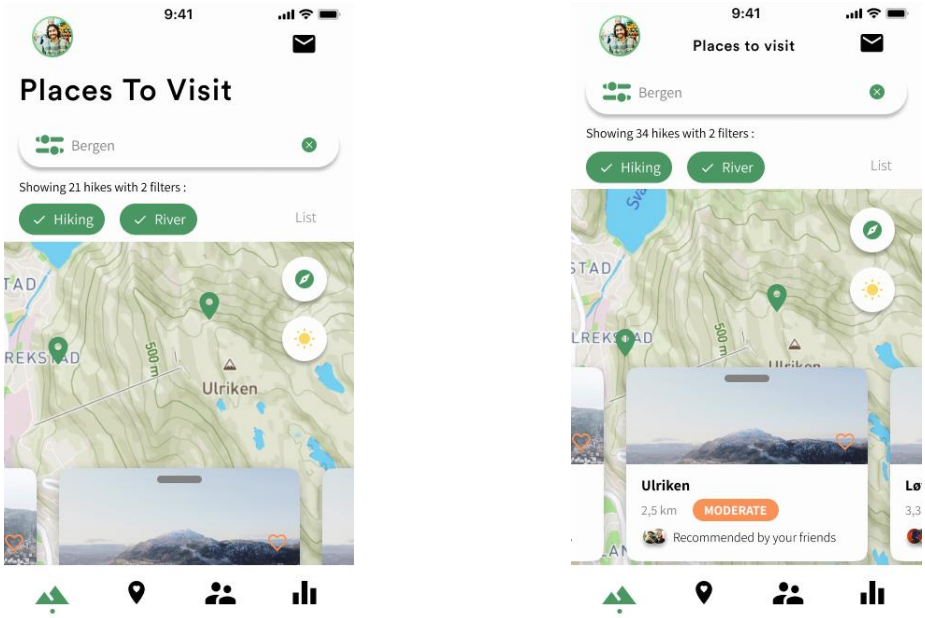

Figure 51: Results displayed on a map. The second screen is the scroll version where the user can scroll horizontally through the results.

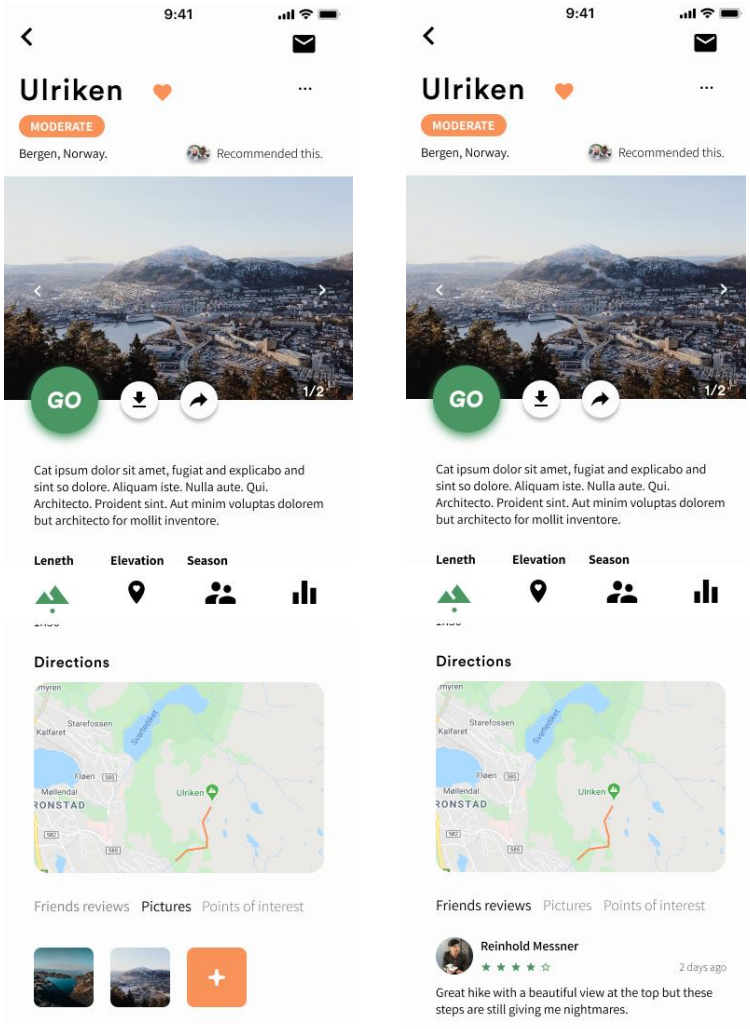

Figure 52: The user can click on a hike and go on this hike page to have more information. The bottom menu enables users to go through reviews or pictures posted about the hike.

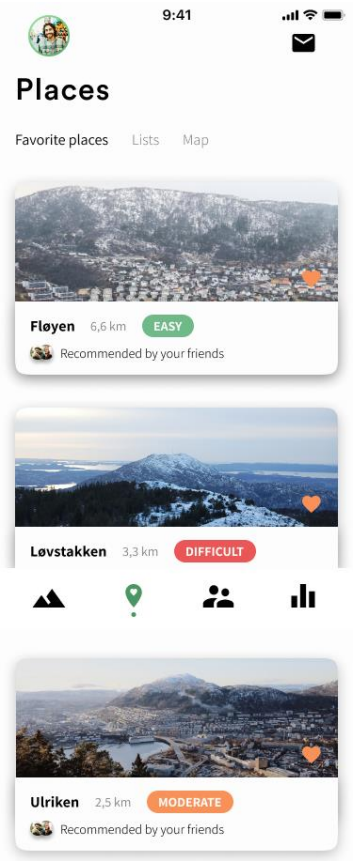

Figure 53: Page where the user can find all the hikes, they put into their favorites

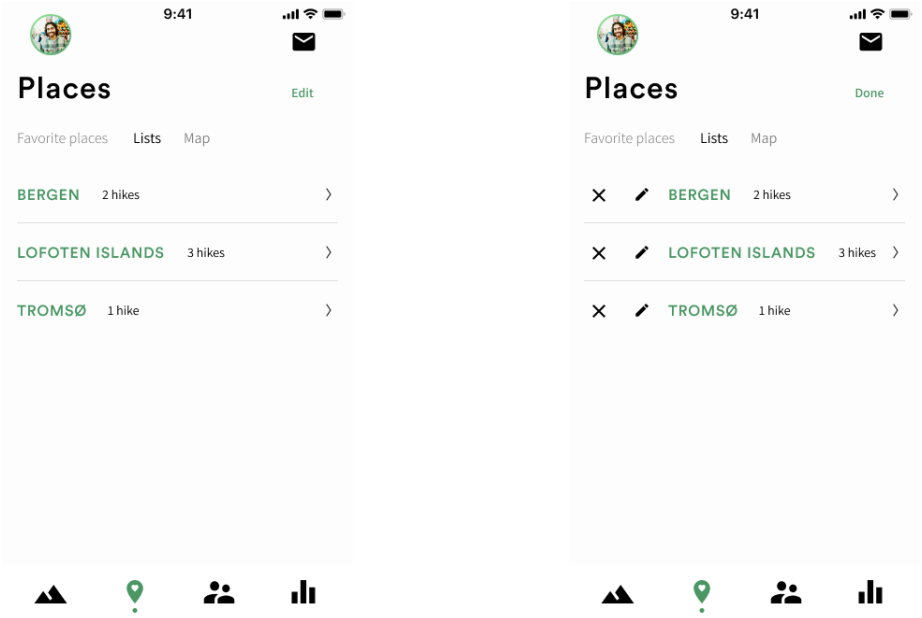

Figure 54: Lists of saved hikes. This list can be modified using the button on the top-right corner

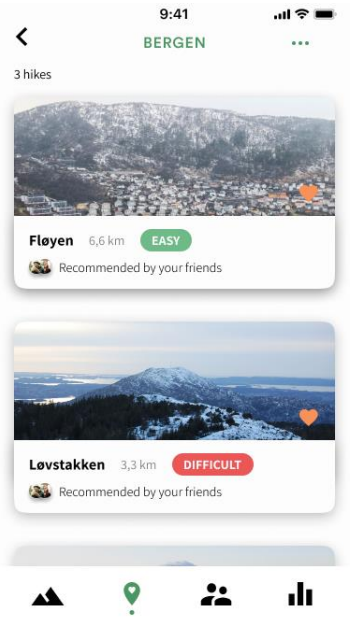

Figure 55: In a list created by the user

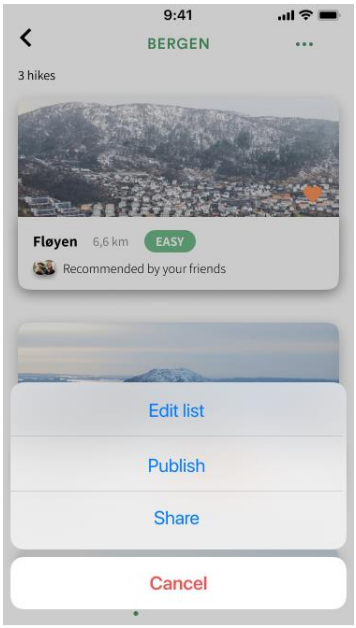

Figure 56: The three dots open a menu

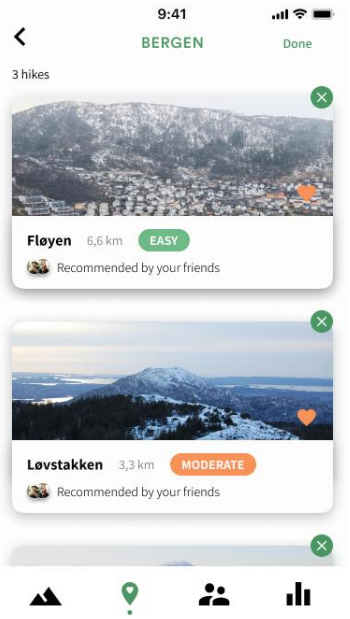

Figure 57: Users can modify the list

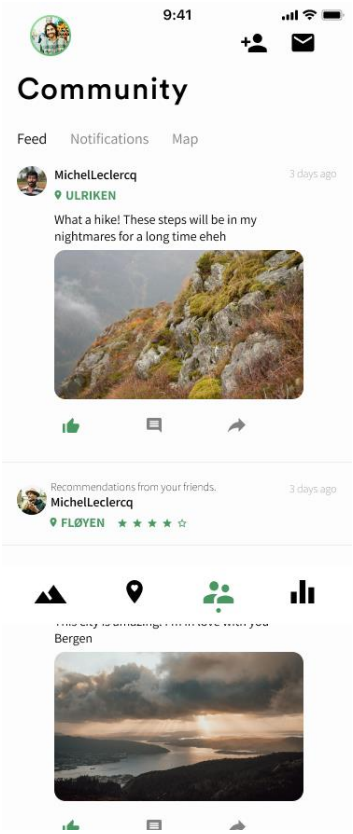

Figure 58: Feed

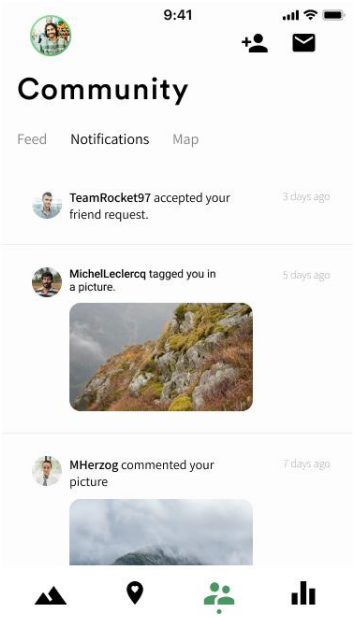

Figure 59: Notifications center

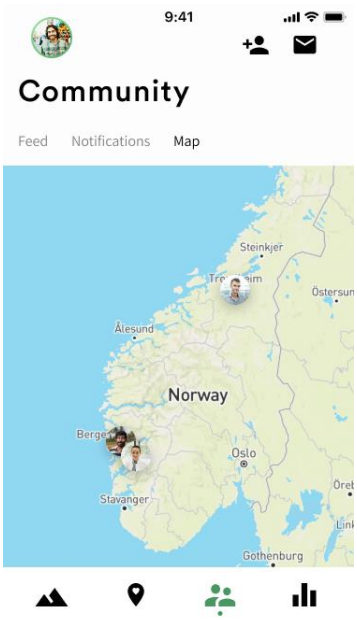

Figure 60: Map showing friends' location

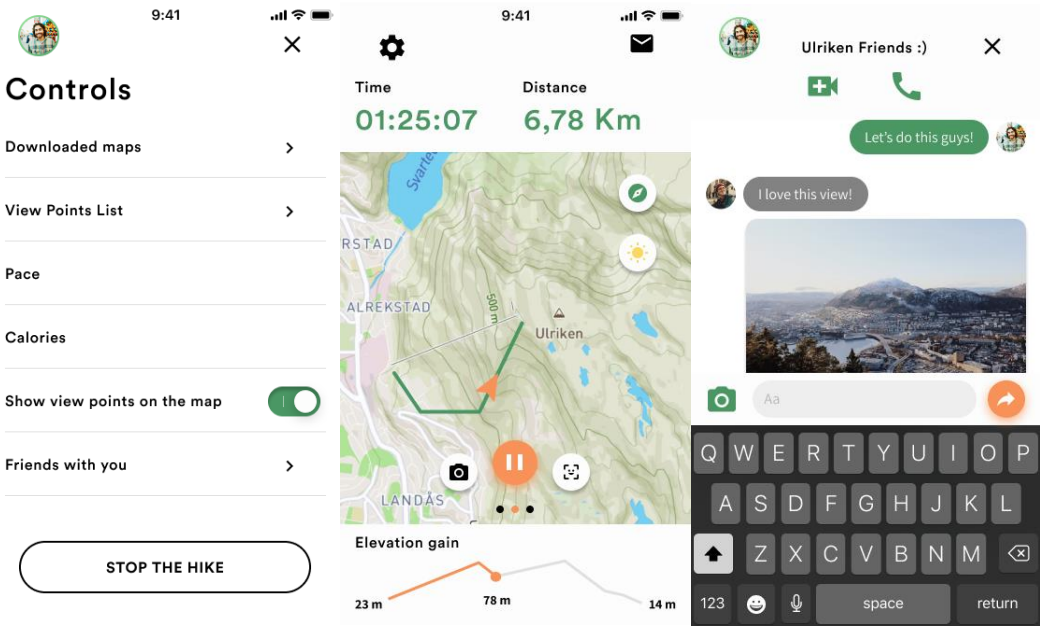

Figure 61: When users are on a hike, they can access these three screens. The one on the left is a control center, the one in the middle shows data about the hike and finally the last one is a chat feature to talk with the people you are hiking with.

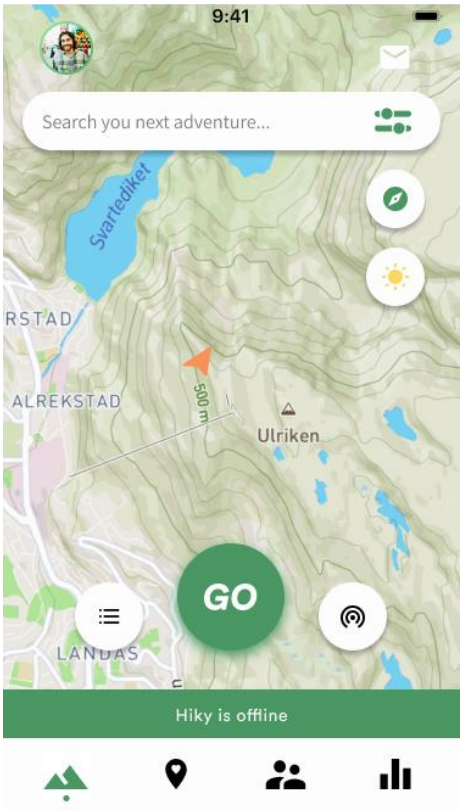

Figure 62: Home page when users are offline