

# GO, SURF NORWAY!



HOW CAN A DIGITAL SERVICE ENCOURAGE SURFERS IN  
NORWAY TO CATCH MORE NORWEGIAN WAVES?

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# EXECUTIVE SUMMARY



*The aim of this diploma project is to explore the potential to encourage surfers in Norway to surf more Norwegian waves by designing a digital solution targeted specifically to their needs.*

Steep mountain peaks, lightly covered with snow diving straight into blue, crystal clear, chilled water. Perfect waves are rolling in from the Norwegian sea. Only a few surfers are sharing the waves and this amazing experience of purity and rawness.

Moments like these are what makes surfing in Norway so exotic. However, experiencing moments like these requires knowledge, experience and effort.

This chapter presents an overall summary of the project.



## WHY?

Being a surfer myself, I know fellow surfers that like surfing very much, but still surf very seldom. My overall impression was that this is a quite common behavior amongst surfers in Norway, and I wanted to investigate this further.

There are several existing surfing apps and services that tries to make life easier for surfers. However, very few of them meet Norwegian surfers' needs sufficiently.

Additionally, making surfing in Norway more accessible would help surfers maintaining their skills and become more experienced surfers.

## HOW?

Through a design ethnographic approach I have explored the surf community and daily life of surfers in Norway.

The research revealed four main challenges that guided the project development;

### WILL THERE BE WAVES?

Finding out if, where and when there will be waves requires knowledge and experience

### CONNECT SURFERS

The surf community is very spread and getting in touch with other surfers is not easy

### TRANSPORTATION

Having access to a car is an absolute necessity

### PLANNING

Many surfers find it hard to stay updated on the wave forecasts and plan accordingly

## GO, SURF NORWAY!



### HOW CAN A DIGITAL SERVICE ENCOURAGE SURFERS IN NORWAY TO CATCH MORE NORWEGIAN WAVES?

## WHAT?

The design proposal, Bølgen is a digital service provided by Norwegian Surfing Federation to inspire and connect Norway's surf community in one platform.

Bølgen makes it easy to stay updated and interpret the wave forecasts, let others know that you want to surf, and find a way to get there. These are all aspect that contributes to lowering the threshold to go surfing in Norway.

Join Bølgen and catch more Norwegian waves!

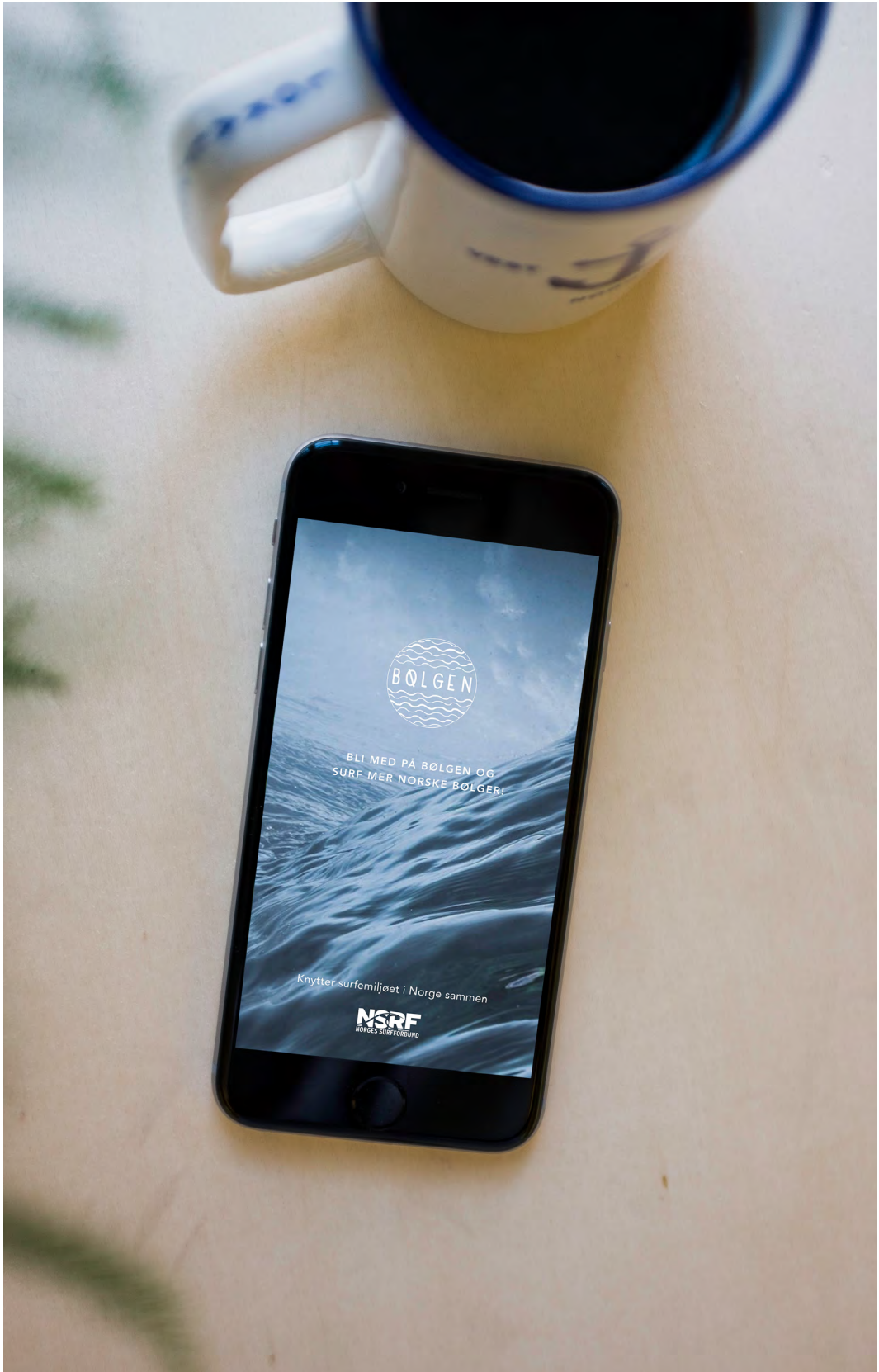
## REFLECTIONS

Bølgen proposal involves core functionality that is highly attached to specific contexts and surfers' state of mind.

These are aspects that are hard to recreate while usability testing. Therefore there are still many unconfirmed hypotheses that needs real data and use contexts to be confirmed.

However, the usability testing conducted throughout this project indicates that Bølgen would solve challenges and create value, both for surfers and NSRF.

My overall impression is that a release of Bølgen would help many surfers in Norway to surf more often.







# INTRODUCTION



*The aim of this diploma project is to explore the potential to encourage surfers in Norway to surf more Norwegian waves by designing a digital solution targeted specifically to their needs.*

Steep mountain peaks, lightly covered with snow diving straight into blue, crystal clear, chilled water. Perfect waves are rolling in from the Norwegian sea. Only a few surfers are sharing the waves and this amazing experience of purity and rawness.

Moments like these are what makes surfing in Norway so exotic. However, experiencing moments like these requires knowledge, experience and effort.

My hypothesis is that many surfers in Norway, even if they love surfing, experience challenges that keep them from surfing as often as they wish.

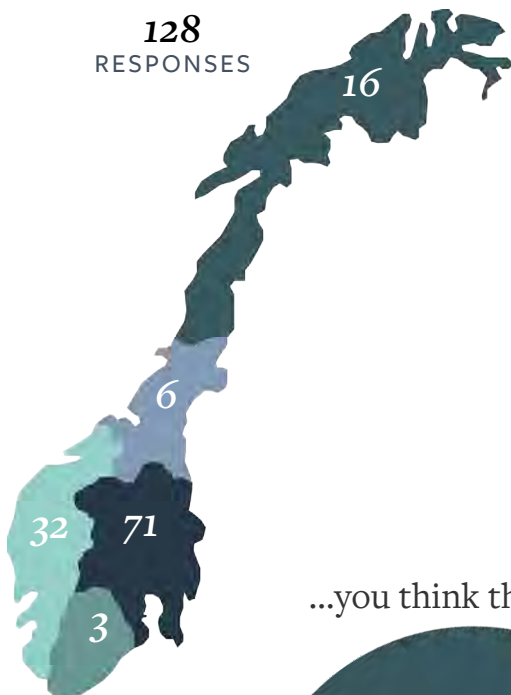
CHAPTER 2

# PRELIMINARY SURVEY

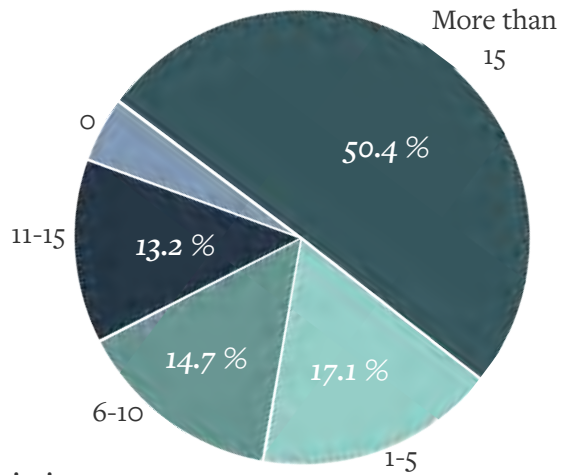
*During the pre-diploma programming course I conducted a survey to verify that the hypothesis was a reasonable statement to base project upon. The questionnaire was distributed via Facebook groups related to surfing in Norway.*

The results of the survey supported my hypothesis. Inaccessibility, limited surf network and inconsistent wave conditions stood out as the main reasons to

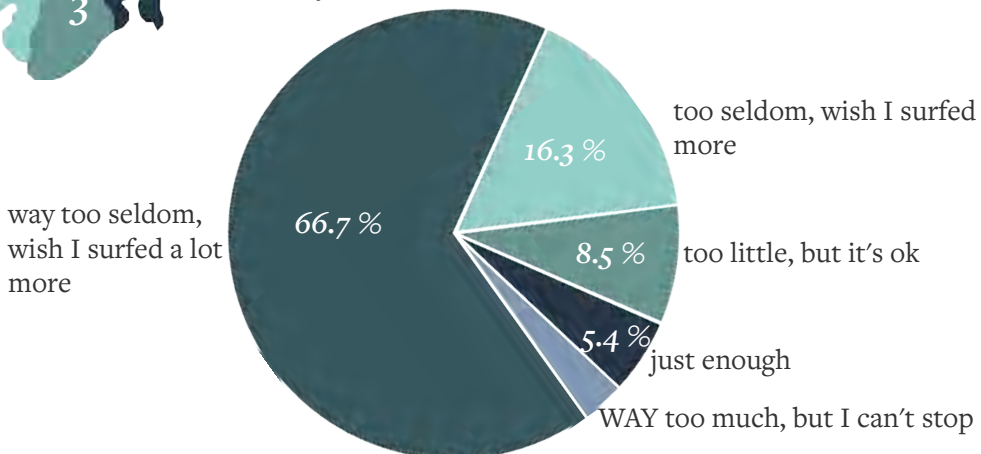
why they did not surf as much as they wanted. I saw this as a good starting point for further investigation through my diploma project.



How many times do you surf in Norway each year?



...you think this is...



# PROJECT OVERVIEW

*Exploring the potential to encourage surfers in Norway to surf more Norwegian waves by designing a digital solution targeted specifically to their needs.*

## Approach

Through a design ethnographic and user centered approach I have explored the surf community and daily life of surfers in Norway. Furthermore I have scoped the project based on insights and findings that revealed throughout the process.

To ensure frequent and varied user feedback throughout the process I collected 70 email addresses to surfers all across the country through the preliminary survey.



## Scope

The scope of the project is limited to a digital service. The service might include physical touchpoints, however I will focus on the digital parts.

## Target group

Surfing in Norway is not for everyone - my target group is surfers interested in surfing in Norway, but experience challenges in order to surf as much as they wish. The specific challenges revealed through the initial research. I will focus on the end users - the surfers. Not secondary users as administrators etc.



## Deliverables

I would like to deliver a high fidelity clickable prototype that users can experience and test.

## Disclaimer

To create a high-fidelity prototype I will have to deal with aspects of graphic design like typography and visual expression. This is not my primary design field and should not be weighted heavily in the evaluation.

# RELEVANCE

*This project might not save the world, but it has a lot of potential to help surfers in Norway surf more often and contribute to sustainable growth of the surf community.*

## Today's services are not sufficient

There are hundreds of surfing apps and digital services that tries to make life better for surfers. They involve communities, forecasts, logs, and discovering new spots. However the main innovation of such services takes place in areas where surfing is more accessible and developed. Thus, they are not meeting Norwegian surfers' needs very well.

## Reducing CO<sub>2</sub> emissions

Most avid surfers in Norway have multiple long distance flights across the globe yearly. Facilitating discovery and encouraging to surf Norwegian waves can thus be a small step in the direction of a more sustainable environment.

## Maintaining surf skills

Help surfers to maintain their surf skills by facilitating surfing in Norway.

## Sustainable community growth

With a growing community comes increasingly crowded spots. This can cause annoying and dangerous situations due to Norwegian surfers' lack of surf etiquette and skills. A service encouraging more surfing should therefore take this aspect into consideration.



Illustration: [www.freevectormaps.com](http://www.freevectormaps.com)

The main innovation of surf related services targets surfers and happen in areas where surfing is more common, developed and accessible. Few of them work well in Norway.

# PERSONAL BACKGROUND & MOTIVATION

I got introduced to surfing during a school trip to Hoddevik, Stadlandet (2009). Since, I surfed very occasionally on vacations. However my interest for surfing bloomed during my exchange to San Diego in 2014. My experience with surfing in Norway was very limited prior to this project, so the desire to explore surfing in Norway was a personal motivation.

Surfing is more than a sport or activity - it's a culture. Through my previous surf experiences I have gained insights and knowledge about the surf culture, both domestic and abroad.

These experiences and insights will be considered as autoethnography (Ellis, Adams, & Bochner, n.d.). I also gained

valuable knowledge about waves and surf forecasting through a project I did with Yr.no last fall.



Me, after one of my first surfs in Norway. During easter vacation at Stadlandet in 2015. Didn't even know that the wetsuit should go over the boots to prevent the water from accumulating in the wetsuit.

## REPORT STRUCTURE

To facilitate a scan-able overview of the report I have highlighted aims in the beginning and key takeaways at the end of each chapter in boxes like this one.

This report aims to present information about surfing that is relevant in order to see how this project is beneficial for surfers in Norway. It gives an overview of the process, highlight main insights and findings that guided and scoped the project. Even though the main research and process is presented in the chapters building up to the final proposal, I will save some of the detailed insights to explaining the design choices while presenting the final design proposal.



KONTEKSTUELL I

Simen Verhau

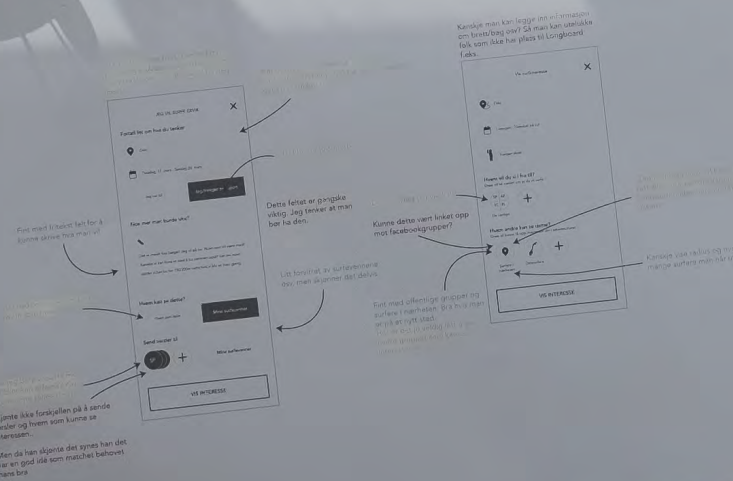
Jenny Kjørstad

Nora Lieungh



SURFINTERESSE OG P

VIS AT DU VIL SURFE



# THE PROCESS

*This chapter presents the design process that led to the final design proposal. It is built up by sub chapters representing each phase of the process and highlights overall findings and takeaways.*

The process is presented somewhat chronologically, however, as you probably know, design processes are messy stuff. It has been modified a little bit to be presented in a good way.

I will start by presenting previous knowledge I have about waves and forecasting as this is highly relevant to understand the project.

Furthermore, I will present initial research and how I scoped the problem areas, how I explored design opportunities and directions, defined the structure and content of the service and lastly the design iterations that led me to the final result.

# WAVES & FORECASTING

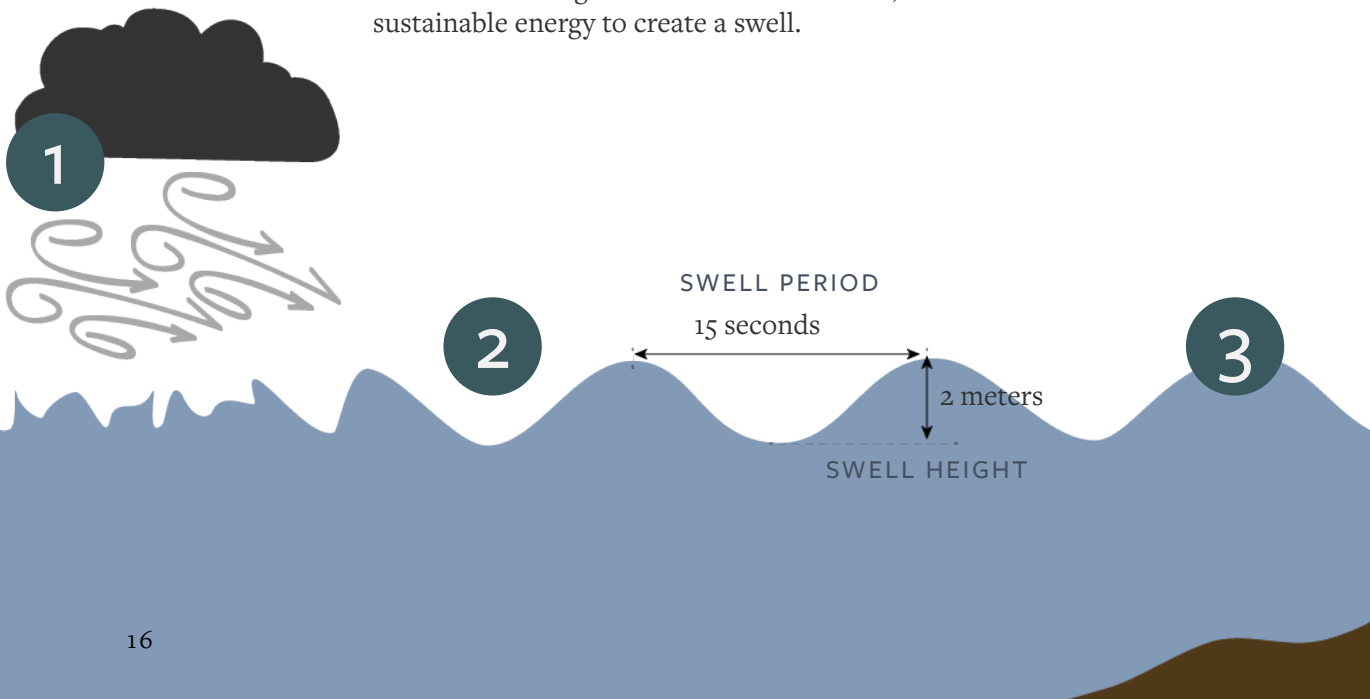
KNOWLEDGE FROM PREVIOUS PROJECT ABOUT  
FORECASTING SURF

*Through this project I gained a lot of insights into how waves originate, are forecasted and how surfers check the surf online in order to decide if they want to go surfing. This is important background information in order to understand the challenges related to surfing in Norway.*

## THE LIFE OF A WAVE (SIMPLIFIED)

### 1. A wave is born

A wave's life starts by wind blowing over the ocean surface. This creates choppy seas, movement and momentum in the water. If the wind is strong and consistent over time, waves are created with sustainable energy to create a swell.





## 2. Growing up - Swell

A collection of waves that have escaped from the storm that created them and travel across open ocean is called a swell. The further the swell travels, the more defined the waves. Once a significant swell is created only shallow water and stronger storms than the ones creating the swell can affect it. A swell has three main variables, that will highly affect the height, power and shape of the waves as they break at the surf spots.

### SWELL DIRECTION

The direction the swell is coming from. Like wind. Surf spots are facing different direction defining which swell directions that might produce surfable waves at the spot.

### SWELL PERIOD

An average prediction of the time it takes for two waves crests to pass a certain point. Measured in seconds. The period mostly affects the power and energy in the wave, however it will also affect the height.

### SWELL HEIGHT

An average prediction of the overall height of the largest waves in the swell. Measured from trough to crest typically presented in foot or meters.

## 3. Beginning of the end

At this point the swell starts to feel the ocean floor. The waves are slowing down and getting taller. The bottom topography will highly affect the shape of the waves at this point.

## 4. Death - Breaking waves

This is the point of interest for surfers, hereafter referred to as surf conditions. This is also the most unpredictable state of the waves. In addition to the swell variables mentioned earlier, local winds and tidal movement, at least in places where this differs significantly, will highly affect the breaking waves.

### Forecasting breaking waves

Breaking waves are affected by complex variables. The forecasting services do not have sufficiently detailed data to deal with all the factors in a reliable way.

Local knowledge and experience about the surf spots thus play a significant role in predicting the breaking waves. This also varies a lot from surf spot to surf spot. Even if they are located very close to each other.



4

*Forecasting the breaking waves is close to impossible. There are simply too many variables that affect the waves at this stage. The best solution today will be to look at the swell forecasts, local winds and local knowledge about the surf spot in order to predict the breaking waves.*

This was the main takeaway from an interview I conducted with Nils, Yr.no's oceanographer. This was also confirmed during interviews and observations of experienced users checking the surf online.

### **Less experienced users checking the surf**

Because of the need of local knowledge to interpret the wave forecasts properly, most surf forecasts try to provide the surfers with a rough guide to the height and power of the breaking waves. However this is presented very precisely by many forecasting services, giving the users very little insight to understand all the variables that needs to be taken into account.

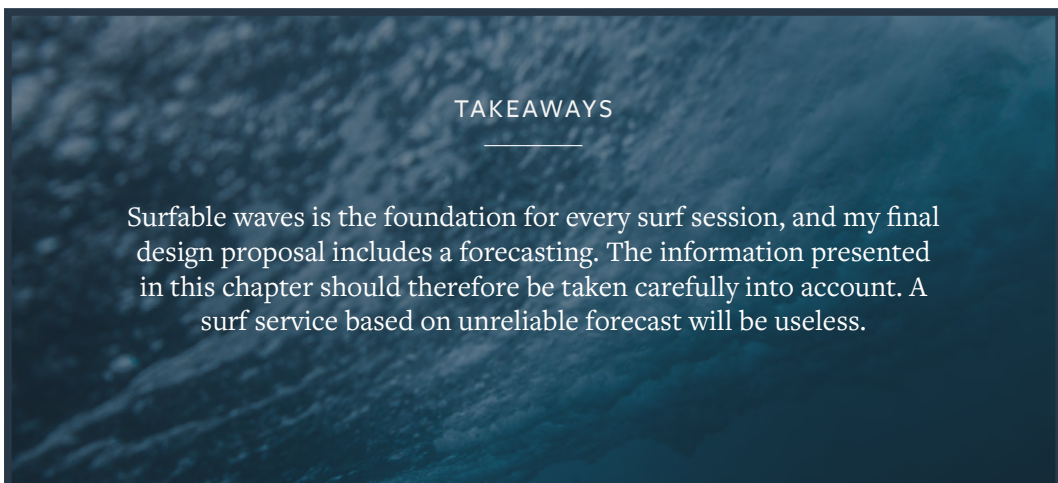
Less experienced users, not having the knowledge to deal with raw swell data and local knowledge, therefore tend to trust the forecasting services' prediction of the breaking waves. When arriving at

the surf spot time after time, seeing that the actual waves are not as predicted by the forecast, the forecasting services loses trust and credibility.

### **Comparing multiple services**

Most surfers have to drive for at least 1.5 hours to their closest surf spot, and want to be pretty certain that there will be surfable waves. Because of this many surfers spend a lot of time comparing many forecasting services when checking the surf. In Norway the most used surf forecasting services are Magicseaweed and Surf-forecast. They provide variable reliability in different parts of the country. Experienced surfers therefore tend to compliment with general meteorological services like Yr.no and Danish Meteorological Institute (DMI).

Example of how an experienced surfer would check the surf at Saltstein is presented on the next page.



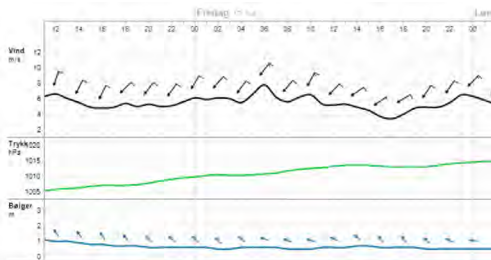
## DETAILED SALTSTEIN SURF CHECK

Thursday- 11/05/2017 - 9:00

	Wed 10 5PM	Wed 10 8PM	Wed 10 11PM	Thu 11 2AM	Thu 11 5AM	Thu 11 8AM	Thu 11 11AM	Thu 11 2PM	Thu 11 5PM	Thu 11 8PM	Thu 11 11PM	Fri 12 2AM	Fri 12 5AM
Largest waves (m) & direction	0.9 SSE	0.9 SSE	0.9 SSE	0.8 SSE	1.1 SE	1.3 SE	1.1 SE	0.1 SW	0.1 SW	0.1 SW	0.1 SW	-	-
Period (s)	5	5	5	5	5	6	6	4	4	4	4	-	-
Max-energy	41	41	33	27	59	96	79	1	1	1	1	0	0
Wind (km/h)	25	25	20	20	20	15	15	15	15	10	10	10	5
Wind State	cross	cross	cross	cross-off	cross-off	cross-off	cross-off	cross-off	cross-off	cross-off	cross-off	off	off

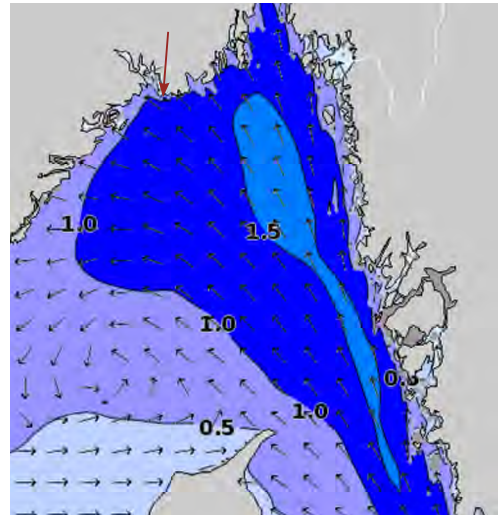
**Surf-forecast:** 1,3 m, from SE, 5 sec period

Mostly used for the spots in western Norway, however some also use it to compare with other services.



**Yr coastal forecast:** 1 m, from SE

Considered as a quite reliable source, however not tailored to surfers. Especially for local wind.



**DMI:** 1 m, from SE

Considered the most reliable wave forecast for Saltstein, however not tailored to surfers.



**Webcam:** FLAT.

Saltstein Surfklubb members get access to the webcam. This is a good tool to check right before getting in the car, however much can happen during the 2,5 hours from leaving home to being in the water for Oslo surfers. Very few spots have webcam.

	Surf	Swell Rating	Primary Swell
Thursday 11/05			
12am	0.2-0.4m		0.6m 4s
3am	0.2m		0.6m 4s
6am	0.2-0.3m		0.9m 5s
9am	0.2-0.3m		1m 6s

**Magic seaweed:** 1 m, from SE, 6 s period

Not considered a very reliable source for Saltstein, however many people use it as an entry point to see if it's worth checking other services. It's pretty good this time. The breaking waves are forecasted 0.2-0.3m and the swell rating is insignificant. Most experienced surfers ignore surf and swell rating and only consider primary and secondary swell combined with wind from other services and local knowledge about the spot.

## Surf check summarized

For this "session" the forecasting services aligned pretty well, even though the wind was very different between the surf services and Yr. The actual conditions were flat because the swell

was too small and with too short period when coming from SE. If coming from S it might have produced surfable conditions. Surfers can spend hours doing this kind of analysis to avoid wasted trips.

# INITIAL RESEARCH



## UNDERSTANDING SURFING IN NORWAY



### POINT OF DEPARTURE AND RESEARCH GOALS

At this point I knew that people did not surf as much as they wish, and that interpreting and making good decisions based on the forecasts requires experience and knowledge about the ocean, local winds and spot characteristics.

Through this research phase I wanted to get an overview of the Norwegian surf community and how surfers in Norway relate to surfing in their daily life. The insights and findings from this phase should be used to define the problem areas and scope the project for further development.

# METHOD OVERVIEW

*During this research phase I utilised a design ethnographic approach (Martin & Hanington, 2012) consisting of many different qualitative methods. I have focused on choosing complimentary methods that uncover different types of findings. Furthermore I have tried to recruit surfers from different locations, experience levels and ages to align with the great variety of people representing the Norwegian surf community.*



Espen - Saltsein local and surfshop.no employee.

## Interviews

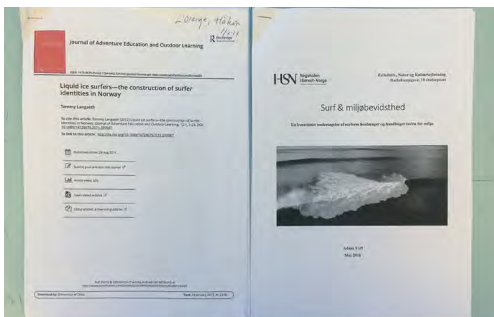
Interviews, if asking the right people the right questions, can uncover invaluable insights about how surfers relate to surfing. I conducted interviews with surfers in Oslo about their relation to surfing in everyday life. To get an overview of the surf community I contacted NSRF as well as surfshop.no which provide surfers across the whole country with equipment.



Ole Fredrik surf check at Sele, Jæren. Often he spends an hour checking the different spots before deciding.

## Observations and contextual interviews

To not merely ask people about what they do, but also observe their actual behavior, I spent time with surfers. Both while surfing and just being. I surfed and hung out both with very experienced surfers in Stavanger and intermediates to beginners in Oslo, Stadtlandet and Ålesund.



Tommy Langseth and Adam Vyff have done research into the Norwegian surf culture.

## Literature research

From meeting surfers in Norway I also got introduced to existing research concerning the Norwegian surf culture and community. Reading these research papers have provided me with a broader overview of the Norwegian surf community as well as the surf culture in the Jæren region.



Oslo surfer announcing her desire to surf at the Facebook group “Surfers in the Oslo area”. Looking for other surfers to share transportation costs, experience and stoke.

## Autoethnography

Autoethnography is an approach to research and writing that seeks to describe and systematically analyze personal experience in order to understand cultural experience (Ellis, Adams, & Bochner, n.d.).

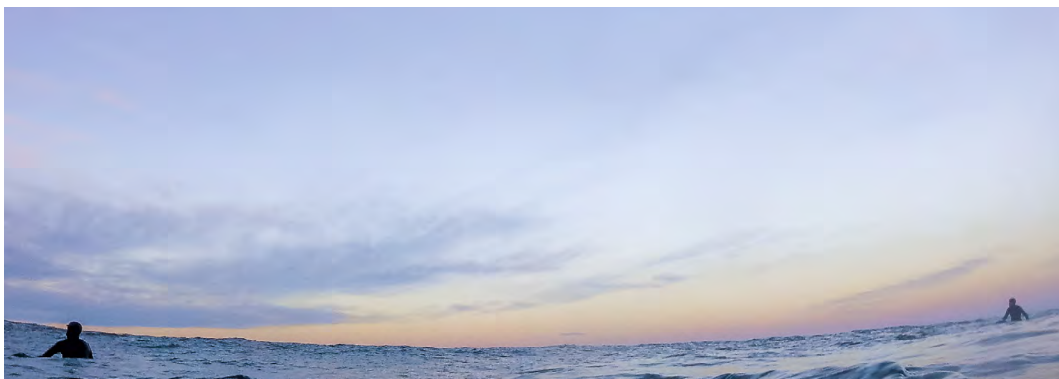
As a surfer myself I occasionally go surfing and engage socially with friends that surf. Whether or not this is with the intention to do research, it contributes to form an overall impression of what it is like being a surfer in Norway. This has been an invaluable resource to form hypotheses, discover interesting aspects to explore, as well as compliment findings throughout the research phase.

## Social media research

To observe surfers in Norway in their “natural” environment not affected by any biases that other research methods might include, I have used social media to monitor the Norwegian surf community. This has enabled me to confirm findings from the other research methods and some of the overall impressions revealed from the autoethnography.



Changing before surfing is often cold, however with a good wetsuit surfing for hours comfortably.



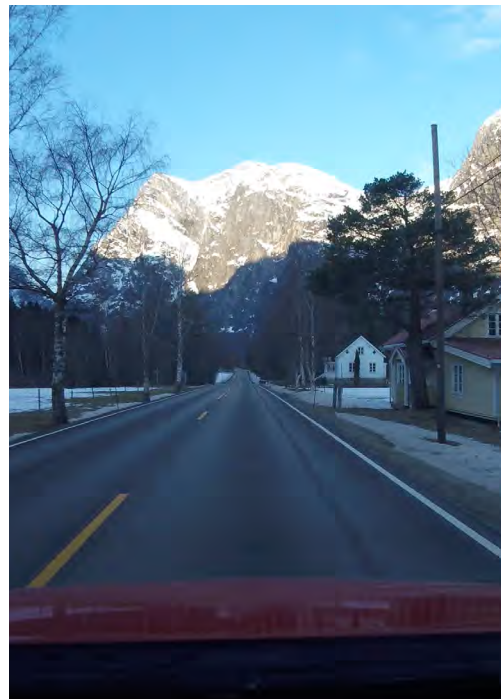
Most of the time, surfing means waiting for set waves. Long period swells arrive in sets with larger waves. The set waves are the largest and most powerful waves in the swell, preferred by most surfers. The distance and time between the sets is determined by the swell period.



**Observing and interviewing experienced surfers** - During a trip to Stavanger in the very beginning of the project I was fortunate to spend time with many experienced surfers central in the Norwegian surf community



**Field observations:** Warming up is important to get the blood circulation going before getting into the cold water.



**Autoethnography:** Surfing in Norway involve a lot of driving. At least the scenery is beautiful!

# SURFING IN NORWAY

*Surfing in Norway originated in the early 1980s in the Jæren region. However it was not until the mid 1990s that the surf population started to grow. The development in wetsuit technology, snowboarders getting into surfing and the general awareness that it was possible to surf in Norway were all factors contributing to a growing community (Langseth, 2012).*

## The Norwegian surf community

Accessibility to reliable data sources is limited since the community itself is young. However a combination of all the research methods have left me with a general overview of the community.

According to Vyff (2016), which have been interpreted superficial due to research methods, the gender distribution is 80% males and 60% of the surfers

in Norway are between 18-29 years old. Furthermore, there seems to be about 30% between 30-39 years old.

Tore Kramer (introduced on the next page) indicates that there are about 2000 active surfers in the Jæren region, which is the most developed surf sub-community in Norway.

 «SURF JÆREN», EN MINISERIE OM SURFEMILJØET PÅ JÆREN

<https://surf-norge.no/videosurf/surf-jaeren-en-miniserie-om-surfemiljo-et-paa-jaeren/>

## Association, clubs and communities

From interviewing Tore Kramer, the head of NSRF – The Norwegian Surfing Federation, and George Lewis, the leader of Stavanger Surfklubb, I learned a lot about how surfing in Norway is organized.

NSRF is a young organization, but have developed over the past few years. It has recently been a formal part of The Norwegian Confederation of Sports (NIF)

through the Norwegian Sailing Federation. NSRF is in the process of changing name to Norsk Surfklubb.

Stavanger Surfklubb is Norway's largest and probably most engaged surf club. They offer surf trainings and occasional social events for their members. A few more clubs are emerging, however, they are very spread and led by locally engaged surfers with no formal connection to NSRF.

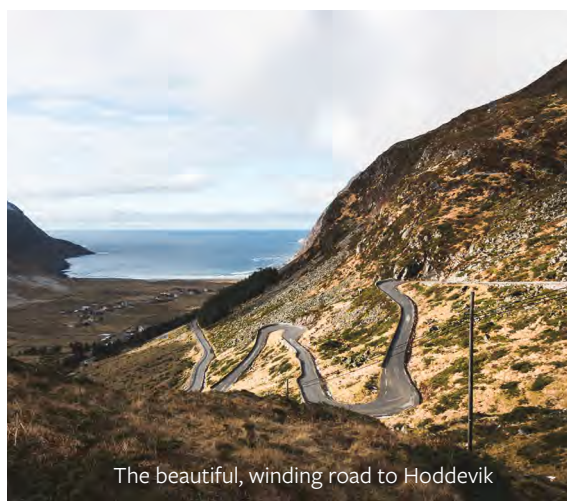
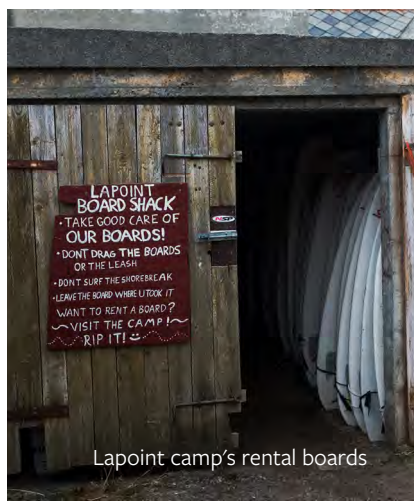


## Commercial actors

There are several commercial actors within the Norwegian surf community. They range from surf camps offering lessons, accommodation and rentals to folk high schools and surf shops - both physical and online. Most of the camps are located at Stadtlandet, because of

the accessibility to consistent surf, but also because these spots are quite beginner friendly.

There are also camps at Unstad in Lofoten and a portable surf school at Jæren, located on the different beaches depending on the forecasts.



**Stadtlandet:** Being Norway's most western place, Stadtlandet is very exposed to swells. There are two well known surf spots here - Hoddevik and Ervik. Hoddevik is a little community itself with several surf camps and a beginner friendly beach break used a lot for surf instruction. Very recently, Calle Magnusson from Ervik surfshop took the initiative to make surfing part of the gymnastics curriculum at several schools at Stadtlandet. Surfers that come here often combine the surfing with other beautiful nature experiences.

## Being a surfer in Norway

There are many different characteristics to surfers in Norway, their location, experience level, age, life situation, access to car and the number of surf friends will affect how much they surf and how they relate to surfing in daily life.

Generally speaking, surfers in Norway are not very good or experienced surf-

ers. Most surfers in Norway find it hard to maintain their skills and feed their desire to go surfing. This is because of inaccessibility, time consumption, inconsistent conditions and short days during the surf season.

To many surfers, surfing in Norway is not merely about the surfing, but also the unique nature experiences it involves.

When thinking back on how I grew up surfing I realize how important the social aspect is. We were always four people driving together, and we still do. The social bonds developing from that are truly unique. When talking to less experienced surfers I see that this is what they are searching for. The social aspect. They want to talk to someone about surfing and sharing knowledge and experiences. And this is what we are trying to achieve with Stavanger Surfklubb, an including group where surfers can share experiences and learn from each other.

Tore Kramer talking about the importance of having friends to share experiences, knowledge and surf stoke. This is obviously an impression shared by the four other experienced surfers gathered around the breakfast table this morning.

## Planning a surf trip

Being a surfer in Norway involves planning and organizing. During this research phase I have talked to both dedicated and less dedicated surfers.

### DEDICATED SURFERS

The dedicated surfers continuously stay updated on the forecast, checking the surf daily to look out for possibilities to surf. Furthermore, they arrange they calendars according to this, leaving op spaces for possibilities to surf. To them, this is so incorporated in their daily life, that they might not even be aware of it. To maintain their surf interest in

Norway, this is a necessity.

### LESS DEDICATED SURFERS

Other surfers I have talked to do not seem to have this way of planning surfing incorporated in their daily life - even if they love surfing. They might forget to check the surf or check it too late, when they have planned other activities.

Occasionally they get really upset when seeing pictures/videos of good waves that they could potentially have surfed if they were better at keeping updated on the forecast.

## Will there be waves?

As said in the previous chapter, finding out if there will be waves are not straight forward, even for experienced without the local knowledge. The best approach to check the surf varies a lot depending on which part of the country the spot is located and how well you know it.

Surfers can spend hours switching back and forth between forecasting services to see if the forecasts change as this potentially can lead to a wasted trip.

*I've had more wasted trips to Saltstein than successful trips with good waves*

MALE · 32 · OSLO

*Experienced surfer*

## Who to go with and how to



**Looking for friends and transportation:** Post from the facebook group "Surfers in the Oslo area"

## get there?

Most surfers in Norway get their surf interest during trips abroad. When they get back home, the surf is not equally accessible, they might not be surrounded by the same people and they might not know a lot about surfing at all. These are factors that make maintaining the surf interest quite hard.

## CAR IS A NECESSITY

Most surfers in Norway have to drive between 1-2 hours to get to the closest surf spot. Public transportation to these remote places is not an option. Thus the need for a car is obvious. Also, many surfers in Norway are young people that live in the larger cities where having a car is both impracticable and expensive. This is why many surfers in Norway, even if they could have surfed are stuck in the city.



**Interviewing Oslo surfers:** Experienced Oslo surfer, 34 talking about how surfers whether they want or not, compete about the waves coming in at Saltstein on crowded days. With obviously good forecasts during a weekend there can be 30-40 surfers competing about the waves that break at the main peak at Saltstein. Most of them sharing this surfers' mentality

## Locals vs. visitors

"...because waves are a scarce resource and every surfer wants to maximize the number of waves per session, it becomes important to limit the number of surfers in the water. This paves the way for exclusionary practices, and to some extent legitimizes the use of violence when disputes occur (Olivier, 2010). In order to protect surf spots against crowds, localism of various sorts has developed in many places around the globe. Localism is a form of territorialism where surfers living close to the break feel that they have priority to surf the specific spots." (Langseth, 2012, p. 14).

All the surfers I have met during this project have been very friendly, however the surf culture is not like all other cultures.

Localism is not common in Norway, however Hustadvika has designated as a spot suffering from heavy localism at several points during the research. During a phone call to expert on surf culture in Norway, Tommy Langseth, he

confirmed that Hustadvika had 4-5 very grumpy locals.

I will not directly target grumpy locals with my project. However, their mentality should be kept in mind as there are many people that not want to expose the spots they are surfing wide open to the public, even though they are not douche bags.

I would not recommend going to Hustadvika. The locals there are generally creating a bad mood in the water. When I returned to the car after surfing there, they had wiped a lot of toilet paper around my car.

**Contextual interview:** This story revealed from a contextual interview in the car on the way to Alnes Fyr from Ålesund. We talked about the spots surrounding the Ålesund area.

## Reflections

(This is weird, but I'm referring to takeaways presented on next page)

The research involved in this part of the process has mainly consisted of qualitative methods, reducing the possibility to make generalization across all surfers and aspects in Norway. However my overall impression and gut feeling is that the triangulation of methods and demographic variations between the participants involved in the research have been sufficient to scope the problem areas.

I chose four problem areas rather than scoping the target group. This was based

on my impression that these areas reveal many design opportunities that are attached to real problems.

Solving these problems will create value for many surfers regardless of demographic characteristics. I was also concerned that scoping the problem area even further would limit the target group too much, making it difficult to recruit relevant participants for testing and feedback later in the process.

## TAKEAWAYS

Like most other people, surfers' lives are full of duties and tasks that needs to be done. Surfing in Norway requires a lot of effort, and how much you surf really comes down to prioritization, planning and the resources you have available. The big question then becomes...



These are the four areas I decided to explore further for the ideation phase - Finding out if there will be waves - Connecting surfers - Transportation - Planning. My impression is that helping surfers to plan and facilitate answering the questions above, can lower the threshold to go surfing in Norway. Even though these problem areas are not attached to any specific experience level, my impression is that young surfers - ranging from beginners to intermediates - living far from surf are the most frequent to experience these challenges.

*Surf spots can totally change appearance based on the weather conditions. Just as the weather, the surf conditions can change significantly during a very short time period*



Long period swell arriving at Ales Lighthouse near Ålesund. This swell has been produced far from shore, having time to travel and clean up. This produces clean and defined waves when breaking at a surf spot.



This is from the exact same surf spot, the day before. This is a short period wind swell produced by winds close to shore. The wind producing these waves is most likely the same winds affecting the surf at the spot. Onshore winds make the breaking waves flat, messy and unpredictable when surfing.



# EXPLORING OPPORTUNITIES

## EXPLORING DESIGN OPPORTUNITIES AND FINDING A GOOD WAY TO DEAL WITH THE PROBLEM AREAS

### POINT OF DEPARTURE AND RESEARCH GOALS

At this point I had scoped the future development of the project into four main areas of challenges I wanted to explore further. This served as a base for generating ideas.

The aim of this phase was to generate concept directions to present to and get feedback from users. The feedback was used to determine the overall features and functionality of the design proposal.

I was not trying to develop polished and framed concepts, but providing the user with enough information to help them imagine how the different directions would meet their needs.



# EXISTING SERVICES AND RESEARCH

*Exploring the different design opportunities and finding out what could work and not work involves looking at existing services. I explored many different existing solutions mostly dealing with motivation in some sort, but also surf forecasts and communities.*

## Motivating through goals and data

With the quantified self development, data, metrics and goals have been commonly used ways to motivate through technology. This approach is used by successful services like Strava and Fitbit. When looking into psychological theories, I found that this approach to motivation is pretty much Edwin Locke's Goal-Setting Theory of Motivation put into practice.

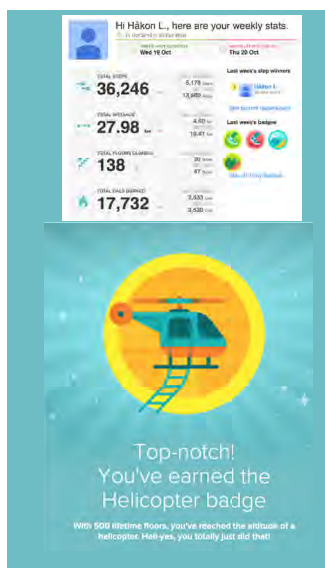
I also read about extrinsic and intrinsic motivation. Extrinsic motivation is

actions driven by external rewards like money, or in digital cases badges, likes, comments, etc. Whereas actions driven by intrinsic motivation are driven by internal rewards such as enjoyment and positive feelings from doing the actual task or activity itself (Denny, 2015).

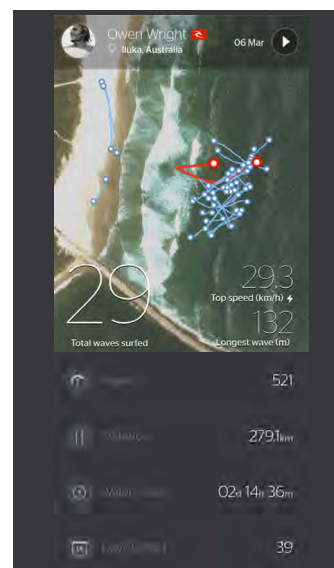
My impression of surfers in Norway is that they are highly driven by intrinsic motivation. However, maybe some extrinsic motivation could give a little extra power?



Headspace: Showing progress and run streaks to motivate headspacers to keep on headspacing.



Fitbit: weekly stats and well done graphical rewards with delightful and cheering copy as extrinsic motivational factors.



Rip Curl's The search: Surf watch and app. Tracking waves and showing statistics to visualize and help surfers keep track of the progression.

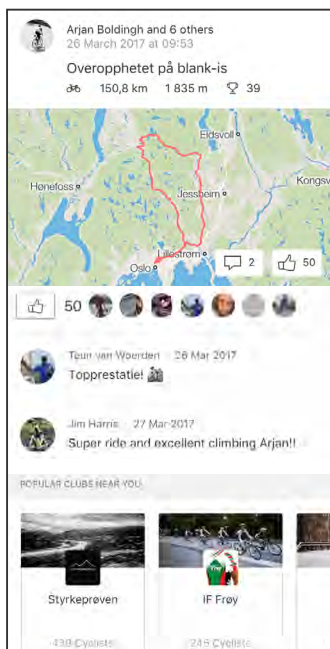
# Doing things together bonds people together

*“The opportunity to be social is also a strong motivating factor. People will be motivated to use a product just because it allows them to connect with others.”*

---

SUSAN WEINSCHENK

(2011, p. 126)



## Strava

Strava enables tracking activity, keeping up and comparing to friends activity and encouraging social interaction through likes and comments. Additionally it facilitates discovery of “real world” communities by suggesting popular clubs nearby.

*“Millions of cyclists and runners around the world not only track and analyze their training with Strava but also use it as their social channel to connect with other athletes and stay motivated”*

---

MARK GAINEY, CEO AT STRAVA

(ReadWrite, 2017)

## Headspace

Headspace is embracing real time data to remind their users that they are part of a larger community. This also creates trust by seeing how many people that are actually using the service.

They also emphasize how friends are important resources to help pushing each other and keep up the motivation throughout the Headspace journey.



# DEVELOPING CONCEPT DIRECTIONS

Going into this phase I had many thoughts and ideas that I collected throughout the whole initial research phase. I combined these ideas with insights from research and inspiration from other services. I wanted to figure out which of the problems that seemed to be the most common, therefore I tried to keep the concepts/directions quite specific.

## "Smart surf forecast"

**Concept description**

**"SMART" SURFEVARSEL**

SURFEVARSEL SOM BLIR SMARTERE JO MER DU BRUKER DET! BASERT PÅ MELDINGER OG DIN FAKTISKE OPPFATNING AV FORHOLDENE BEGYNNER DEN Å "KJENNE" DEG OG VARSLER DEG NÅR DET ER BØLGER SOM PASSER FOR DEG!

MÅLET ER ET MER PÅLITELIG VARSEL SOM STEMMER MED DINE BØLGE-PREFERANSER. I TILLEGG SKAL TELEFONEN FORTELLE DEG NÅR DET ER SURF SÅ DU SLIPPER Å SJEKKE U!

INGEN FLERE BOMTURER!

**1. SETT OPP OG SI DINE PREFERANSER FOR NÅR OG HVOR DU VIL BLI VARSLET**

**2. VARSLER DEG NÅR DET ER MELDT BØLGER SOM PASSER FOR DEG**

**3. RANGER SURFEN OG SI DIN OPPFATNING AV FORHOLDENE**

**4. VET OM DE GODE OPPLEVELSENE OG PRØVER Å MOTIVERE TIL NYE GODE OPPLEVELSER**

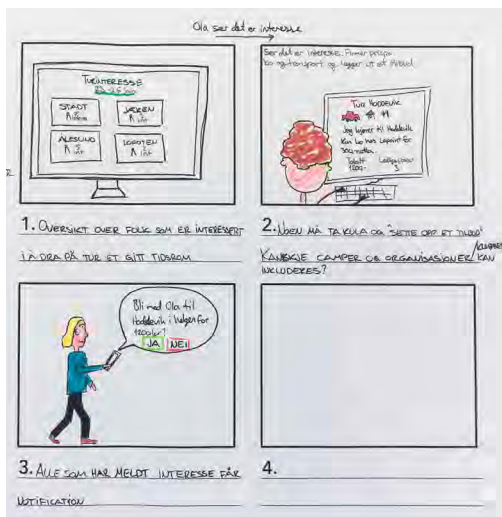
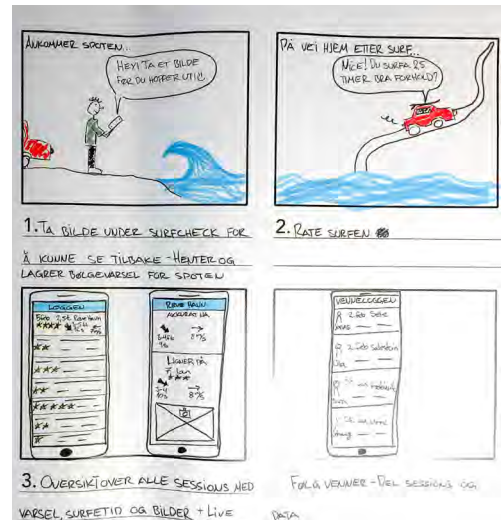
The "smart" surf forecast aims to make it easier to keep updated and find out when there will be waves suitable for the user's level. A surf forecast based heavily on artificial intelligence and user input

after surfing. The more you surf and use the service, the smarter and more reliable it gets. It will also send notifications when the forecast seems to create enjoyable conditions for the surfer.

## You and your friends' surf log

This concept is about encouraging social interaction and helping surfers to keep track of the variables that affect the breaking waves.

The surf log stores the swell forecast prior to the session, the surfer can log his/her impression of the actual breaking waves. By logging and sharing sessions between your friends you can quickly build up a reliable database for their most surfed spots.



## Hop on a surf trip

The more you prepare, the lower the threshold for people to join your trip. This concept is a meeting place facilitated to initiate surf trips.

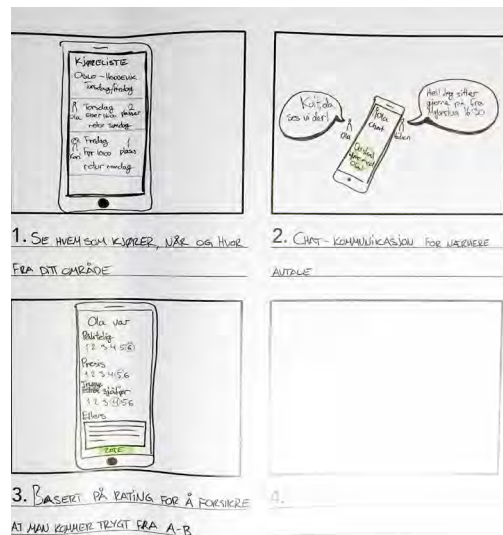
Private surfers and commercial actors can announce surf trips where everything is organized in advance. Like a charter business, but for surfers in Norway. Based on volunteer work and engagement, as well as enabling the commercial actors to be more visible.

## Share the ride!

This concept is facilitating shared transportation to surf spots.

When "testing out" this concept in real life, I realized this was a great way to expand the surf network and learn about surfing from sharing experiences with each other during the drive.

It is also based on the fact that the users commit to a plan - no one wants to be the guy that bails out last minute - potentially leaving the other person without a possibility to surf.



# FEEDBACK FROM USERS

*To get feedback from surfers with varying demographics I sent these concepts to my e-mail list. I got 10 answers that were worth paying attention to, where they had actually sat down to look over the concepts and provide good feedback. I asked for general feedback but also which of the directions that would be most usable.*

*“This looks good! But a little bad too :p Why not put everything into one app?”*

MALE · OSLO

I got both negative and positive feedback on most of the concepts. Amongst negative feedback were skepticism to the AI functionality of the “Smart surf forecast”. Furthermore older and established surfers seemed to prioritize flexibility over shared transportation and getting to know new people.

However these excerpts summarizes the overall feedback quite well. In general the surfers found many of the directions interesting, but they thought a combination of the different concepts would be more effective in terms of encouraging more surfing. There were not one specific direction that stood out as the right choice for further development.

*“Shared driving, or some variation of it. (I never surf alone) I use messenger or sms today, so if this was an app they could maybe be combined with ‘Smart surf forecast’?”*

MALE · LOFOTEN

# REFLECTIONS

## Questionable approach

The e-mail approach to testing these concepts is not one from the “best design practices” books. Getting feedback through e-mail have pros and cons. The respondent will most likely spend less time and provide more superficial feedback than if it was done in person.

However by using this approach I reached out to a wide range of users in an efficient manner. I ignored the “This looks good” comments and focused on the ones that understood the functionality and features of the different concepts.

It may also be that it provides more honest feedback as they are giving feedback through this digital barrier, ignoring the personal connection that might have occurred if I was present.

## Compliment with in-person feedback

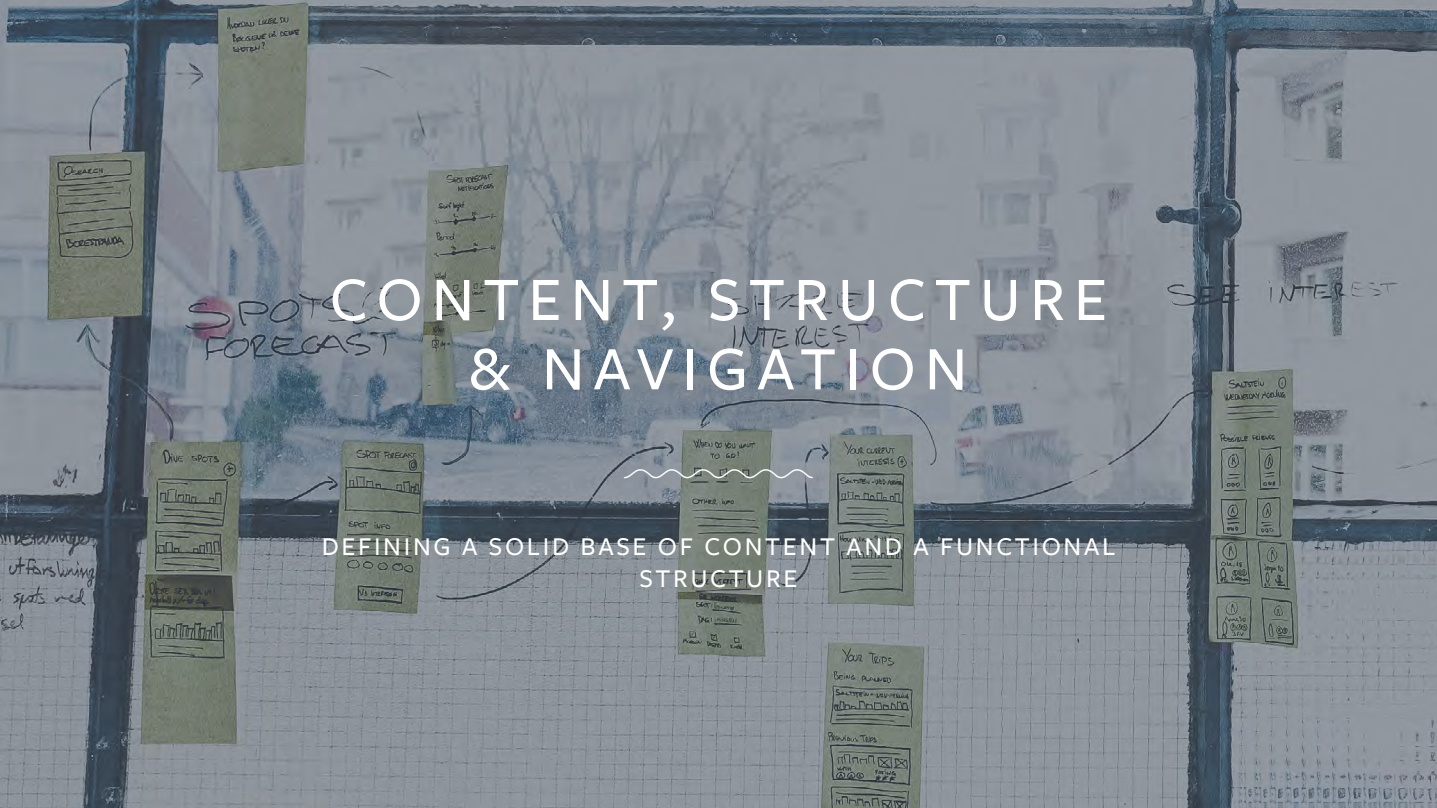
I could have complimented by testing with users in person. However, from the overall feedback, it was clear that a combination were what the respondents wanted. As this came from 10 users with varying age, gender and location, I felt confident proceeding on this base. I also saw the benefits of combining the solutions, because of the many different services they use to meet these needs today.

## Maintaining a decent sized user group

Combining elements was also a matter of maintaining a decent sized user group. Narrowing the solution to just shared transportation would create problems finding test participants, and getting an overview of how many potential users such a service would have. This would also significantly reduce the feeling of belonging to a community.

### TAKEAWAYS

The feedback confirmed that all these concepts aims to solve real challenges that many surfers experience. However there were not any directions that designated significantly, thus I will proceed to focus on a combination of elements from the different directions.



## POINT OF DEPARTURE AND RESEARCH GOALS

Going into this phase of the design process, I had a lot of insights from the concept direction feedback to use as a base when defining the main functionality and features for the service. Furthermore I needed to decide a structure and functionality for the service.

The main focus of this phase was to determine an appropriate structure and navigation pattern for the service. However this can not be done without thinking about the concept. In order to verify my design choices, the aim for this phase was to conduct a formative usability test with a clickable prototype.

# DEFINING FUNCTIONALITY

*In order to make choices about structure and navigation it was important to define the functionality and features more thoroughly. Based on the insights, I set some requirements to guide me.*

## **Forecast as a foundation**

No surfer considers to go surfing without believing that there will be waves. Thus the main foundation of the service should be some sort of forecasting.

## **Realistic expectations to the breaking waves**

Even for surfers with a lot of experience and knowledge, foreseeing the shape and power of the breaking waves is hard. Even if the forecasts were 100% reliable, all the factors involved vary too much from spot to spot. The service should aim to provide the user with resources to do this in a better way than today's solutions.

## **Shared driving and new friends**

It is hard to say how many surfers that are affected by these problems. However the feedback indicates that this is crucial, for the surfers experiencing these challenges, in order to go surfing.

## **Respect the locals**

Locals and pioneers have spent a lot of time, energy and potentially dangerous situations to map out the different surf spots along the coast. Still there are many less commonly known and secret surf spots. In order to design a service that will not be met with a LOT of hate and criticism I have to take this into account. The service should not reveal any secret spots.

## **Maintain safety and surf etiquette**

When the overall aim is to encourage more surfing, the safety aspect of more people in the water have to be taken into consideration. Information about surf etiquette and rules in the water should be easily accessible through the service.





Screenshot: Strandhogg - Martin Salem

**Crowd at Jæren:** Long period swell and offshore winds generally create good surf conditions. On good days, many Norwegian spots can get crowded. The aspect of safety and surf etiquette have to be taken into consideration when encouraging more surfing.



**Shared transportation to Saltstein:** The board members in Saltstein Surfklubb have discussed announcing of shared transportation publicly on Facebook. They suggest that this is not done publicly as it spoils good forecasts potentially leading to crowded sessions.

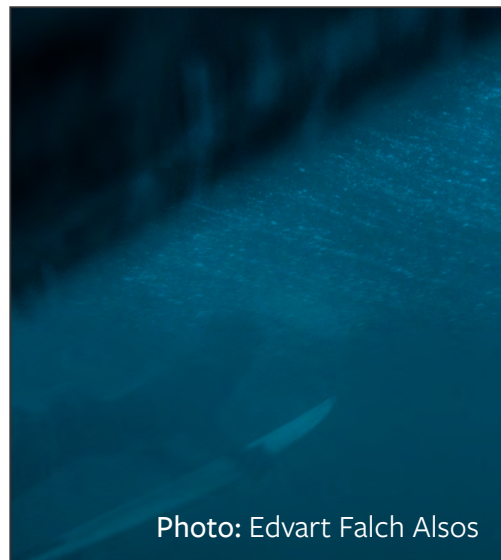


Photo: Edvart Falch Alsos

**Get out of the way:** Duck diving is when a surfer dives under a wave to avoid being washed in by the breaking waves. Another very important aspect of duck diving is to get out of the way when surfing in crowds. This enables the surfer on the wave to do turns and maneuvers without worrying about hurting someone. It is a skill to be learned and might create annoying situations to experienced surfers when less experienced surfers are not able to duck dive properly when they should have.

# STRUCTURE & NAVIGATION

*Defining the structure and navigation of the service was done through an explorative approach consisting of many different methods. Scenarios, flow diagrams, sketching, best practices and looking into similar services were all methods that were used in this phase.*

## Four main sections



SPOTS AND FORECAST

One thing is certain - the forecast concerns all surfers, regardless of experience level and locations this is a necessity and should be the landing section when opening the app. Furthermore surfers have favorite spots that should be easily accessible to facilitate effortless update of the surf forecast.



SURF LOG

By logging the surf, the user should get a better overview of the surf conditions that varying swell and wind variables produce. This information should be possible to share with others, however the range of other surfers that can access this information should be determined by the individual surfer.



PLANNING

In this part of the service surfers should be able to easily announce their desire to surf to friends and strangers. This part should also include information and features to facilitate shared transportation.

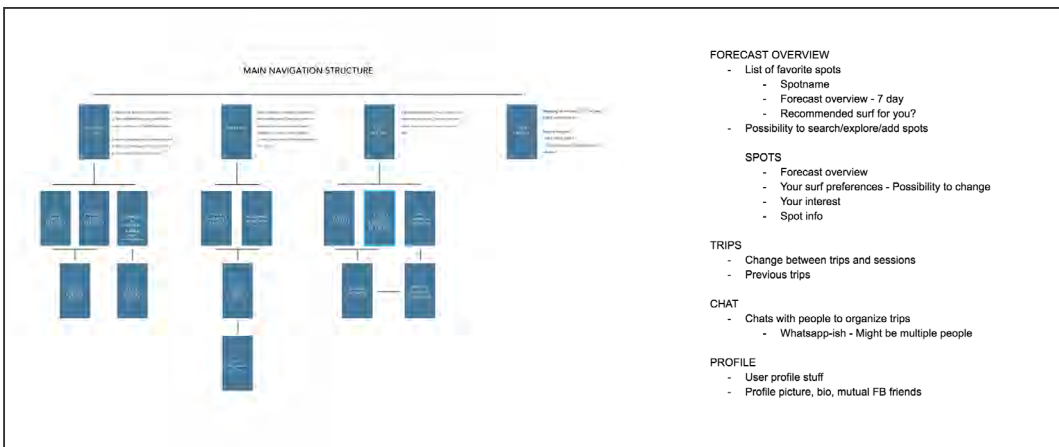


USER PROFILE

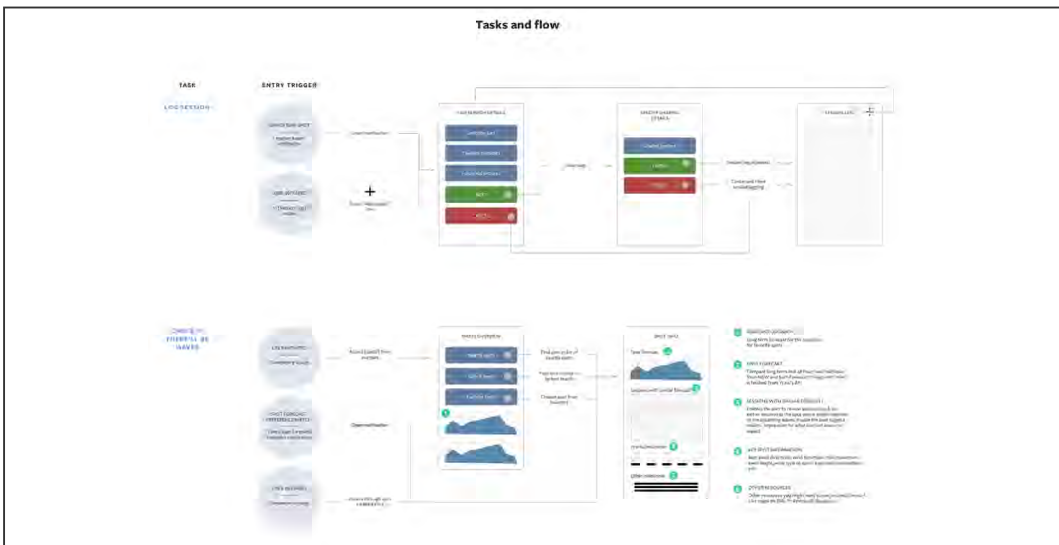
As the service facilitates meeting new people, the surfers should have an opportunity to get some basic information about the other users. Based on the information sharing aspect, this section should also be where users manage how much information they share and who is able access it.



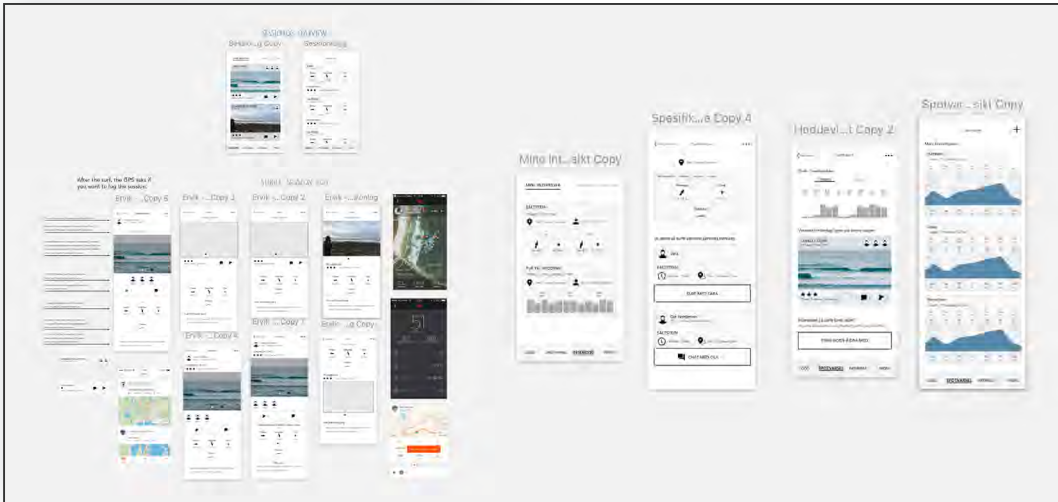
Flow diagrams: Wireframing on post-its and drawing on the window was an efficient way of exploring flow and getting overview of navigation.



Structuring the content: Visual and more textual descriptions provided different views on how the structure and navigation of the service could be.



Task analysis: I also tried to get an overview of different states and triggers to the different tasks and scenarios the features involved.



**Sketching to understand:** Sketching, both digitally and on paper was used as a tool to understand and explore the detailed elements of the UI.

## Bottom tab navigation

I knew that the service included features that would be weighted differently in terms of importance between users in the user group. Some would find the log most important, while others would appreciate the possibility to get in touch with other people and share transportation more. Based on this I decided to keep the sections of equal importance and accessibility.

When researching different top navigation patterns, the bottom tab navigation seemed to be the most appropriate

based on the structure of this service. According to Google Material Design, a bottom tab navigation should be used for mobile apps having three to five top level destinations of equal importance that should be accessible from anywhere in the app. Both Facebook, Instagram and Snapchat are widely used app services utilizing this navigation pattern. This reduces the need for training and explanation as it is already implemented in most users' mental model based on previous experiences.

## Dynamic card interface

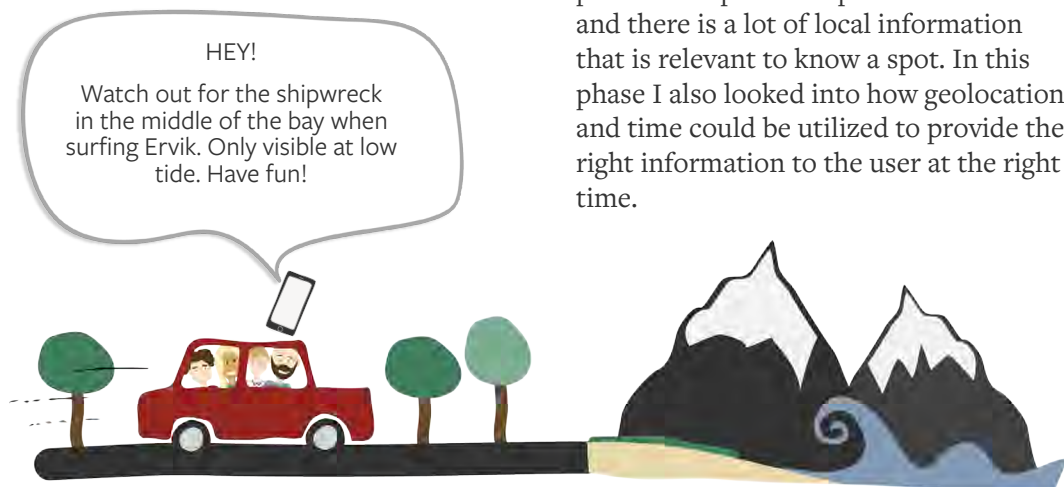
From explorative sketching I quickly discovered that the surf forecast would be very relevant information in many different contexts and sections of the app, varying in detail level and forecast period. The same goes for single session logs which should be showed in the forecast section when a match between forecast and log was found.

To fit these requirements I found interface cards to be a good solution. "Cards are a convenient means of displaying content composed of different elements. They're also well-suited for showcasing elements whose size or supported actions vary..." (Google).

This description fit my needs and requirements well.

## Contextual information

Surfing involves visiting many new places and spots. All spots are different and there is a lot of local information that is relevant to know a spot. In this phase I also looked into how geolocation and time could be utilized to provide the right information to the user at the right time.



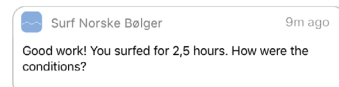
### GOING FOR A SURF

#### Approaching surf spot



### ON THE WAY HOME

#### Rating the surf



## Available on web & mobile

Online surf check and planning of longer surf trips involves comparing many different sources. This kind of activity is best done on larger screen, preferably in a browser where the user can switch back and forth between many tabs.

This service will of course try to reduce the need for this, however it will probably not eliminate the need, and should therefore support this by having at least the spot and forecasting functionality available on a website.



# FORMATIVE USABILITY EVALUATION

*The aim was to confirm the overall structure and navigation, and use the prototype as a means to discuss functionality and content to bring into the next iteration. In order to avoid subjective biases and keep the focus on the structure and functionality, I decided to go with a wireframe-ish fidelity. However I wanted to include realistic text to make it easier for the user to understand how the service would work.*

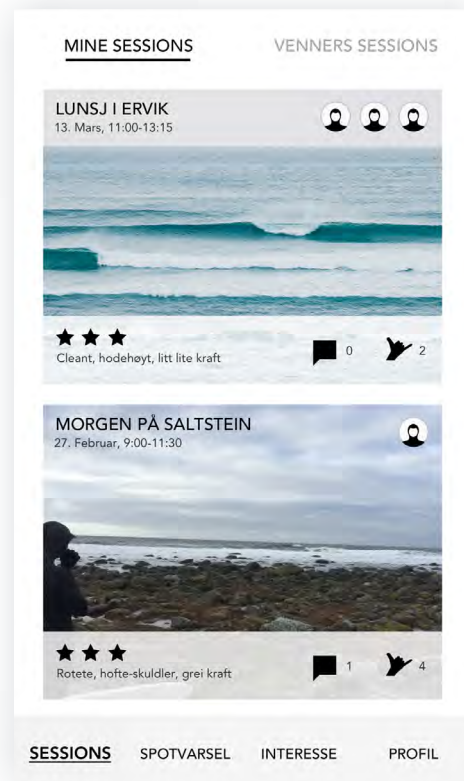


**Video and sound recording:** I recorded video and sound to be able to observe what they actually did and not only listening to what they said.

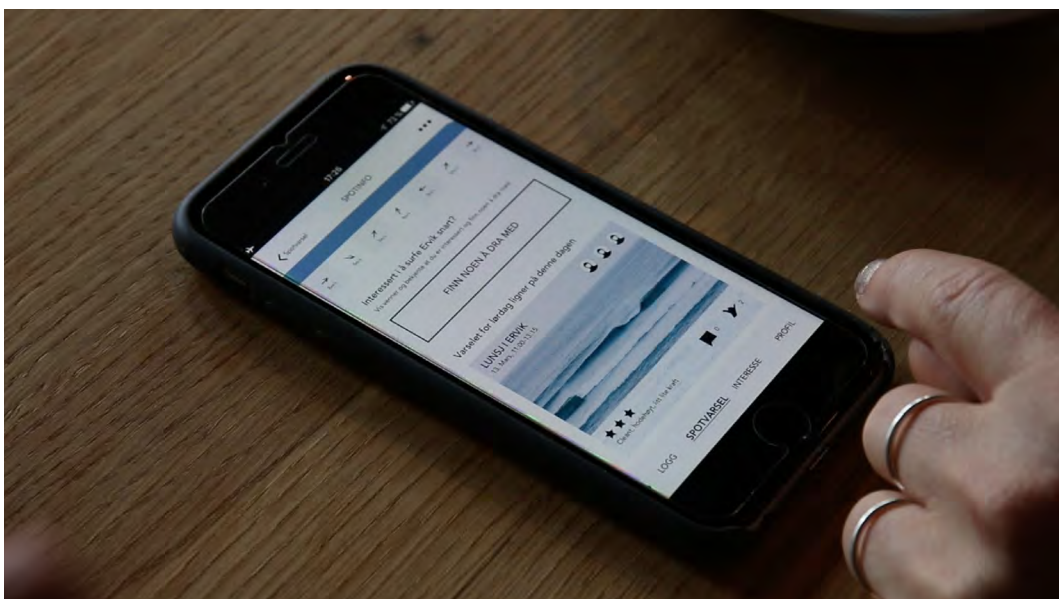
## Test conduction

The prototype was tested in person with three participants with various background. Each testing took about 1 hour and 20 minutes as all the users were very engaged and provided valuable feedback and complementary answers to my questions. It was also distributed to users by e-mail, where I received feedback from three users.

Initially I asked general question about their demographics and surf experience in Norway. Then I briefly explained the concept of the service, before letting the user interact with the prototype while explaining their thoughts and impressions. This part of the test was to see if they understood the structure and navigation.



Real content: All forecasting content and perceptions was based on real sessions, as I had thought about the session log content for quite some time at this point.



**Browsing and thinking out loud:** The users browsed the prototype and explained what they were thinking to me. I mostly observed, very little guidance and explanations were provided as this was to test if the structure and navigation worked.



After browsing moved on to screens printed on paper to lower the threshold to criticize and encourage creative thinking. I asked open ended interview questions as a means to discuss the content and functionality in detail. I provided the user with a couple of variations of

some of the screens to make it easier for them to compare and provide feedback. In this part we also discussed contextual information and interactions, as this was not testable with the clickable prototype.





## Analyzing the test material

After the testing I was left with a lot of video and audio recordings as well as some feedback from the e-mail participants. I reviewed the material and took notes of all observations and interesting

findings into a color coded document to keep track of who said what. This provided me with a very good overview and easy documentation to utilize for further development.



## Feedback

The feedback confirmed that the participants had different views about what was more important. However the overall feedback was very good and all the participants said they would use the service.

### THE STRUCTURE AND NAVIGATION

The top-navigation seemed to be self explanatory as the users quickly got the main structure of the app. However there were some confusion about the forecasting cards being presented differ-

ently in the different sections of the app. Therefore the header and overall design of the cards need to be really clear and consistent in order to immediately convey what kind of information the card shows.

### CONTENT AND FUNCTIONALITY

I got a lot of precise and constructive feedback for detailed improvements and missing information and features. There were also lots of details that should be improved and cleared up in the next iteration.

## Evaluation of testing

Overall I am satisfied with the outcome of this formative usability evaluation. After analyzing the data I was left with good and constructive information to bring into further development. Nevertheless, the test was not perfectly conducted. The participants might have kept negative comments and feedback to themselves to be polite.

### PROVIDING MULTIPLE SOLUTIONS

Providing multiple variations of the same screen seemed to be really valuable. Doing this for all the screens in the prototype would most likely result in even more valuable feedback.

### FEW USERS

Needless to say, generalizations based on three test participants should be done VERY carefully if done at all.

### DON'T LISTEN - OBSERVE

Also relying on people saying "Yes, I would use this and that.." is risky business. People can have thoughts about how they would behave in certain settings, but you will not know until you actually see it. This was also why I filmed the screen while browsing.

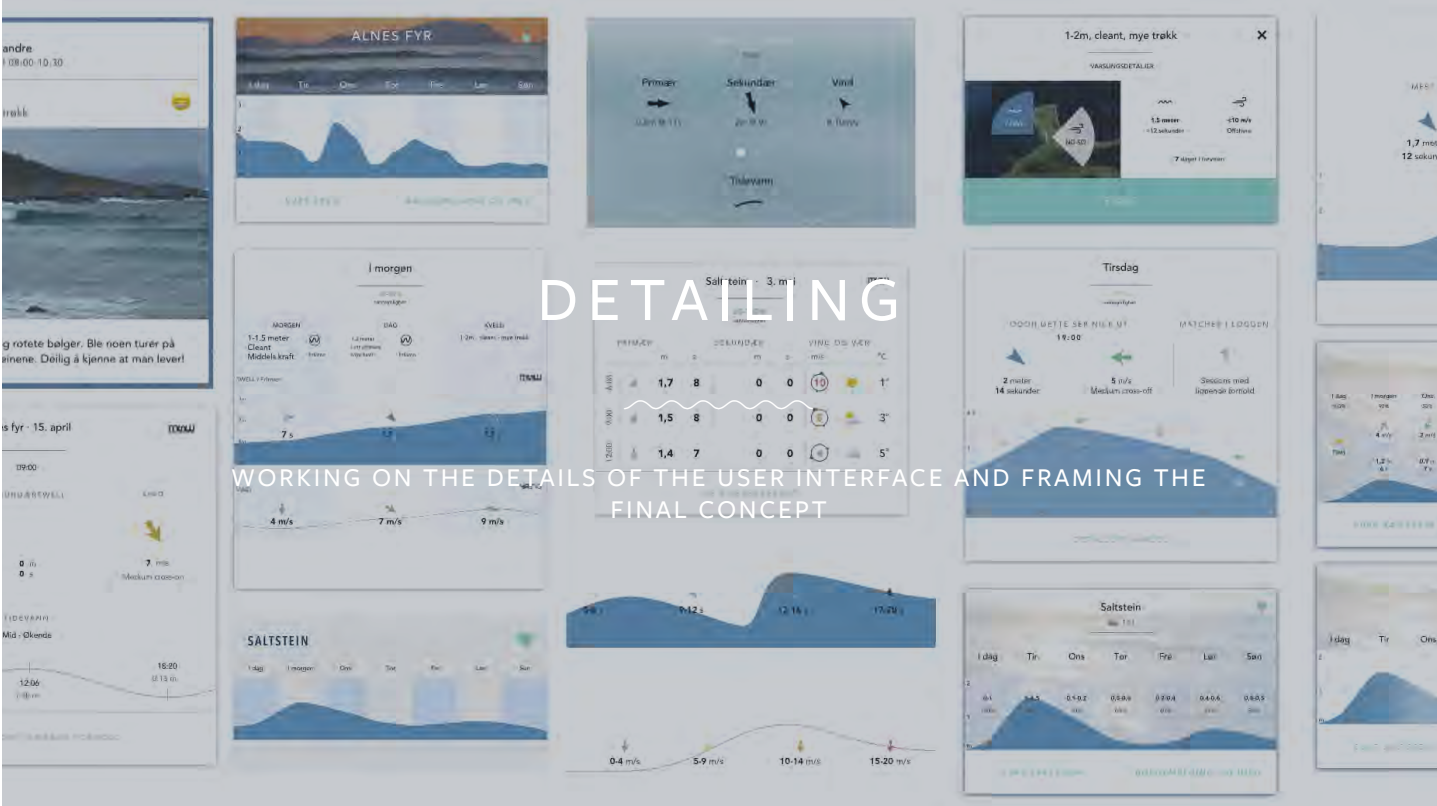


### OVERALL TAKEAWAYS FROM THIS CHAPTER

In this phase I took a lot of central choices about the structure and functionality of the service I am designing. The four main sections are - Spots & forecast, Sessionlog, Planning and user profile.

Furthermore I have chosen a bottom tab navigation to easily access and switch between the sections as this seems reasonable based on tasks the service aims to solve.

The formative evaluation testing confirmed that the navigation was obvious and the different sections seemed to be well defined. I also got a lot of detailed feedback to bring into the next iteration of designing.



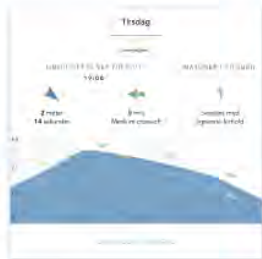
## POINT OF DEPARTURE AND GOALS

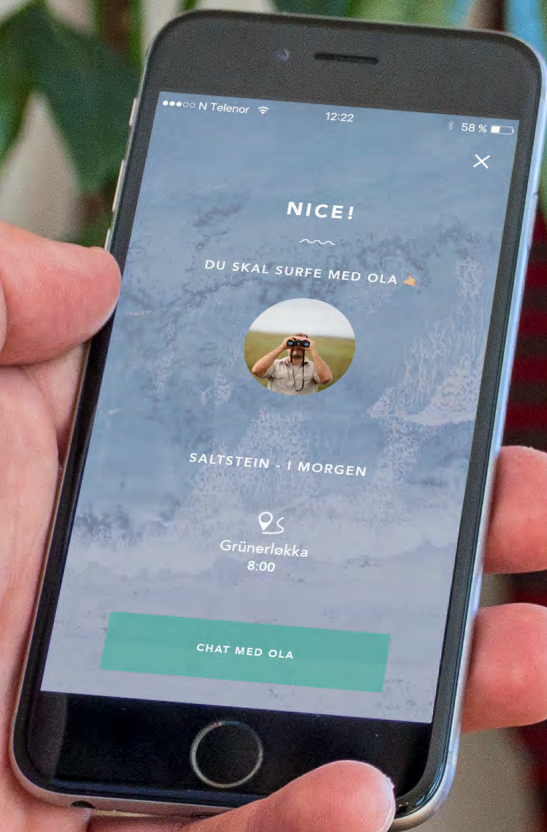
Having decided the main structure, navigation flow and overall functionality I needed to figure out the details.

The aim of this phase was to wrap everything up into a final, presentable design proposal. I'm not going to say a lot about this phase - The next page pretty much sums it up. The result is presented in the design proposal.

*There were a lot that needed to be figured out. Everything from finding a provider of the service, defining the tone of voice and personality, to detailing the different forecasting views. This phase was pretty much like the previous phase - a period of explorative iterations on various levels - paper sketching, digital sketching, reviewing research findings and looking for inspiration.*







# DESIGN PROPOSAL

*Bølgen is a digital service provided by NSRF to inspire and connect Norway's surf community in one platform. Bølgen makes it easy to stay updated on the wave forecasts, let others know that you want to surf, and find a way to get there. Join Bølgen and catch more Norwegian waves!*

The proposal is based on an ideal context where NSRF had the necessary resources to provide such a service. This is not the case today. It is available on web and mobile, however I have only focused on the mobile part.

This chapter pitches Bølgen as a final solution. However, I don't consider it a finished product - It needs more thorough and real testing. In this section I will explain the concept and detailed design choices about the UI and contextual information, as well as presenting how it would be used in three common scenarios.

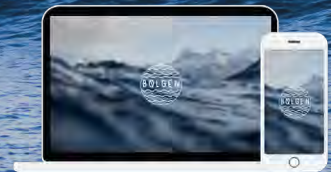
The last section of the chapter presents feedback from NSRF and final test results.



BLI MED PÅ BØLGEN OG  
SURF MER NORSKE BØLGER!

KNYTTER SURFEMILJØET I NORGE SAMMEN

**NSRF**  
NORGES SURFFORBUND



*Bølgen is a digital service provided by NSRF to inspire and connect Norway's surf community in one platform. Bølgen makes it easy to stay updated on the wave forecasts, let others know that you want to surf, and find a way to get there.*

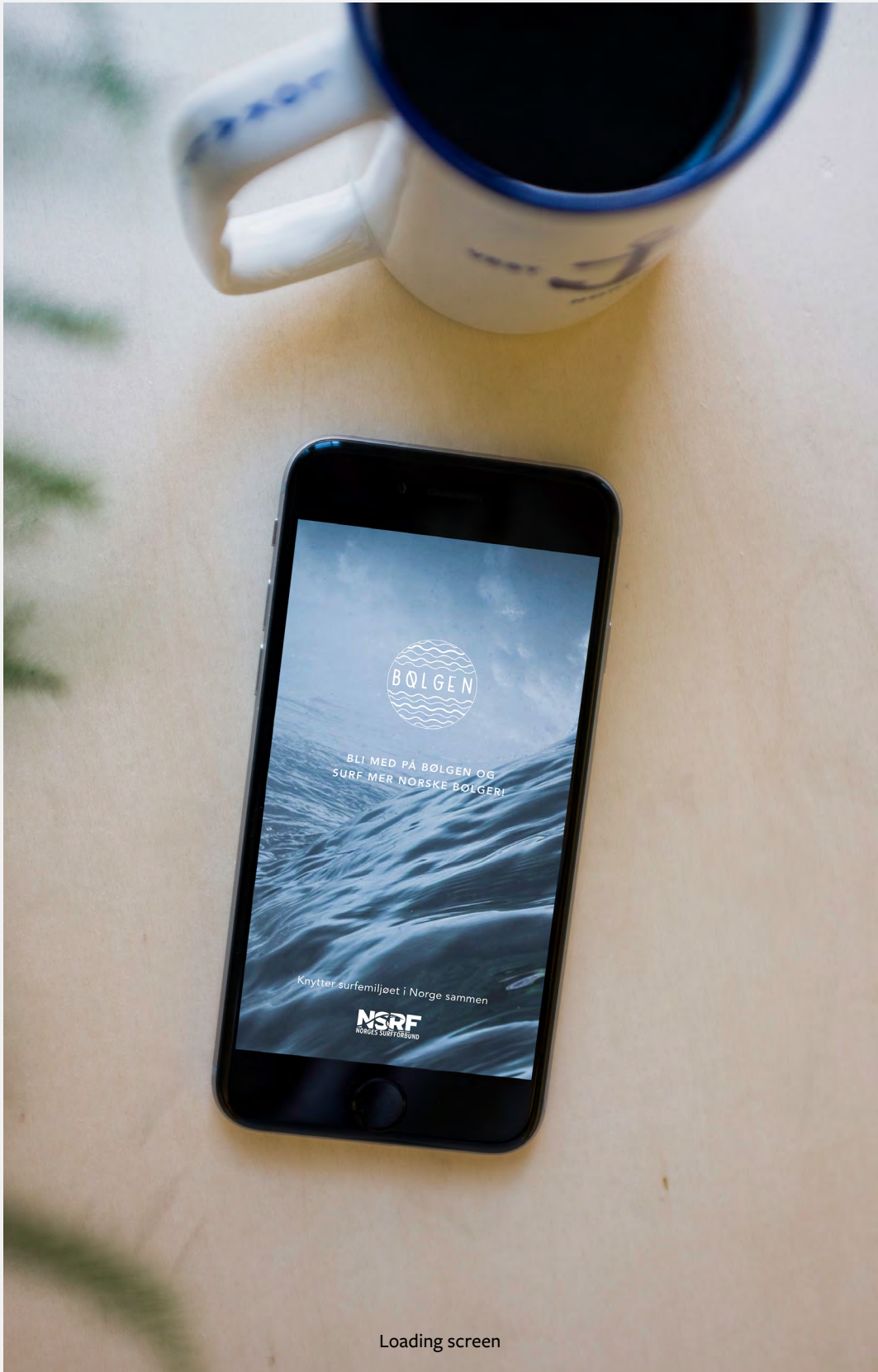
*Join Bølgen and catch more Norwegian waves!*

EXPLORE PROTOTYPE

[www.hakonlorange.no/bolgen/final](http://www.hakonlorange.no/bolgen/final)

In this prototype, you can explore and get an overview of the service. However, all interactions are not included and you might experience some confusion due to some technical limitations from the prototyping service. Specific scenario prototypes are presented later in the chapter.





Loading screen

# INTRODUCTION SCREENS

After the loading screen, the user is met by these screens. They highlight the main benefits of using Bølgen from the users perspective.



## KEEP YOU UPDATED

Get notified when there are waves that suits your level



## REDUCE WASTED TRIPS

The session log makes it easier to get an overview of the swell and wind variables that produce the best waves



FIND SOMEONE TO GO WITH  
Plan surf trips and shared transportation  
with friends and random surfers



GET IN THE WATER  
Call to action - Join the wave

# BØLGEN OVERVIEW

*Bølgen is a service provided by NSRF to unite, connect and encourage surfers in Norway to catch more Norwegian waves. Offering a wide variety of features it aims to be a usable tool for many surfers. This is to connect and gather as many surfers in Norway as possible in one place so NSRF can get a better overview and have a shared communication channel to the surf community.*



PRESENTS...



AVAILABLE ON WEB & MOBILE

To provide portability, but also to be used in combination with others services when necessary



## EVENTS & HAPPENINGS

Announce events and happenings organized by NSRF and surf clubs



## SURF CLUBS & COMMUNITIES

Can be visible, take ownership of spots, inform and recruit members



## COMMERCIAL ACTORS

This channel is also beneficial for targeted advertisement based on the data generated from users

*Making it easier to find good waves that suits the surfer's experience level is the cornerstone of Bølgen. Before explaining anything else, an introduction to the forecast is necessary!*



# BØLGEN'S FORECAST

*Bølgen's forecasts combines swell data from the most used and reliable services in Norway in one place. We acknowledge that Norwegian surfers have a demand for accurate forecasts and do not try to provide simplified interpretations that might not be reliable. However, as other forecasting services, it requires an introduction in order to be interpreted properly!*

## SWELL DATA

Compare between



You can compare swell forecasts fetched directly from MSW and Surf-forecast's APIs. As this might not serve the need for all spots, links to other valuable resources can be found in the spot information. The web version makes comparing this easy!

## WIND DATA



Wind and weather data comes from Yr, the most reliable source for wind along Norway's coast. Taking surrounding topography like mountains into account, it provides highly detailed forecasts at the spot. Not the 5 kilometers off shore kind that you get from the surf forecasting services.

## Hidden gold

*Bølgen's forecast views are carefully designed to make detailed information accessible at a glance. Being able to do this without leaving details out and creating a mess requires some hidden information that needs additional explanation.*

### Swell arrows

Bølgens swell arrows do not only show the direction, the swell period can also roughly be determined by the different nuances of blue.

The day you discover a lot of dark blue arrows on the forecast you can expect powerful breaking waves that might be two times as high as the swell height.



5-8 SECS



9-12 SECS



13-16 SECS



17-20 SECS



**Winds affecting the waves:** Local winds will highly affect the breaking waves. Generally no wind is preferred, creating glassy waves without a single bump. Second choice is offshore winds, creating steeper, more powerful waves with more defined shape. However this varies from spot to spot, some spots might benefit from cross shore winds, whereas onshore wind produces flat and messy waves. This will also affect the experience level needed to surf the waves.

## Wind arrows

The winds strength and direction should be obvious from the numbers and arrows. The strength is measured in m/s. By the way, all measurements in Bølgen can be changed based on the user's preferences.

The color indicates whether the direction of the wind is good, decent or bad in relation to the facing direction of the spot. Not indicating the strength!



OFFSHORE



CROSS-SHORE



ONSHORE

## Experience levels

The experience levels are based on data from the surfers' session logs from the specific spot.

The colors and swing/wave height indicates experience level.



ANYBODY



INTERMEDIATE



EXPERIENCED

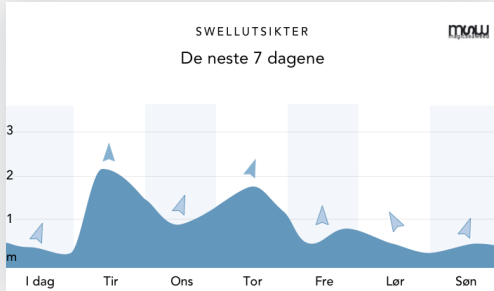


PRO/KAMIKAZE

## Three levels of detail

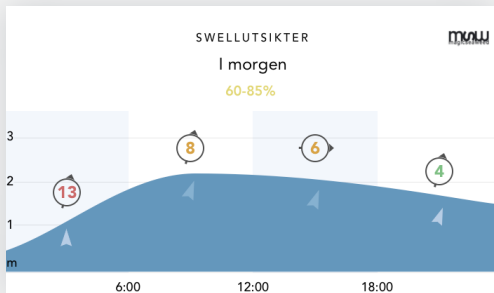
*The different detail level might appear on forecasting cards throughout the app. The detail level is determined from the context in which it is showed.*

### LONG TERM OVERVIEW



The long term view is the least detailed forecast level. It shows swell height, direction and period changes throughout the week at a glance. Immediately showing the user if there are possibilities to score waves.

### DAY OVERVIEW



This is the second detail level. Showing swell, but here also wind development throughout the day. If the forecast is provided by MSW, an average forecasting probability is included.

This level of detail should be sufficient if the user know the spot quite well.

### DETAILED 3 HOUR FORECAST

kl	PRIMÆR		SEKUNDÆR		VIND OG VÆR	
	m	s	m	s	m/s	°C
00	1,8	12	0,4	5	10	2°
03	1,8	12	0,8	6	8	3°
06	1,8	12	0,5	6	8	3°
09	2	14	0	0	6	5°
12	2,1	14	0	0	7	6°
15	2,2	15	0	0	6	10°
18	2,1	14	0	0	5	10°
21	2,1	13	0	0	4	10°

This is the highest level of detail. The list view provides direct and systemic comparison of the forecast variables between the time rows.

It also includes secondary swell forecast as it might create more messy conditions by merging with the primary swell. Knowing if there will be sun, snow, hail or rain is also a good thing.

### CONTEXT DEPENDENT

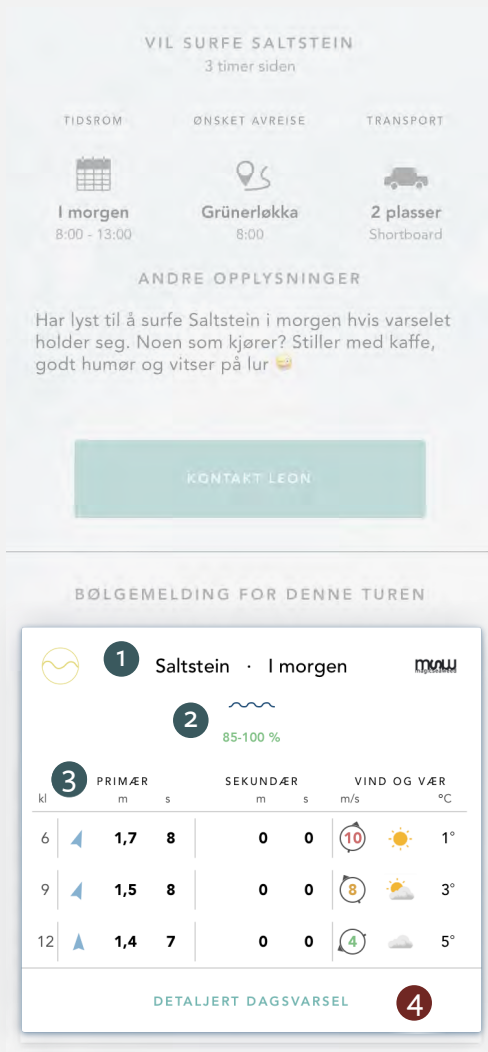
The level of detail needed for a forecast shown in context of a weekend trip to a spot 500km away or a session in the backyard tomorrow morning differs significantly.

This modular system aims to satisfy the needs related to the specific context based on time and location.



## Forecasting cards

*As forecasting is the foundation of Bølgen, the forecasting cards are everywhere. Whether it is in the context of a logged session, overview for your favorite spot, or the trip you consider joining for the weekend, the forecasting cards are designed to provide the level of detail, information and attached functionalities needed.*



### CONTEXT: PLANNED SESSION

Saltstein · Tomorrow · 8:00-13:00

#### 1. CARD HEADER - METADATA

This card contains information about tomorrow's forecast from MSW and the publicly suggested experience level for the conditions this forecast produces at Saltstein suits intermediate surfers

#### 2. HEIGHT & PROBABILITY

Decorative detail and height indication as well as forecasting probability.

#### 3. THE ACTUAL FORECAST

No need to scan for the relevant time period, it's right there in the surfer's face. The times and level of detail is determined by the trip/session period.

#### 4. ACCESS TO MORE DETAILS

You never know. This surfer might be a detail freak. Access to detailed day forecast with comparison and explanations are provided.



CONTEXT: DAY BY DAY FORECAST  
Alnes Fyr · Spot overview

1. CARD HEADER - METADATA

This card contains information about saturday's forecast from Surf-forecast and the publicly suggested experience level for the conditions this forecast produces at Alnes Fyr suits experienced surfers

2. HEIGHT & LOG MATCH

Decorative detail, indicating the height. Additionally also showing that there is one session log with similar forecast.

3. THE ACTUAL FORECAST

Since this is 6 days ahead and shows the overview of the day it includes the second level of detail.

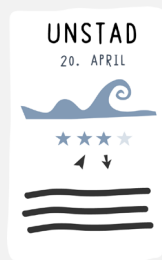
4. ACCESS TO MORE DETAILS

# FOUR MAIN SECTIONS

*The service consists of four main sections. However information from the different sections is often relevant in different contexts and thus combined to avoid unnecessary switching back and forth between the sections.*

## SESSIONLOGG

(Sessionlog)



## SPOTS OG BØLGER

(Spots and waves)



ENTRY SECTION



## SURFELYSTEN

(Surf desire)



## MEG

(Me - User profile)



# SURFLYSTEN / SURF DESIRE

"Are someone planning to surf soon?"

*Knowing that someone would like to surf with you is a huge call to action, therefore Surfelysten is the entry section of the app! Surfelysten shows surfers' desire to surf. Get in touch with friends and random surfers, plan trips and transportation to surf locations. Surfelysten can be shown from many places in Bølgen, including prefilled, contextbased content.*

## SURFLYSTEN OVERVIEW

To avoid spoiling good conditions and crowds, only the *surfelysts* for you are shown. The *surfelysts* appearing in the overview are either publicly available, targeted to networks you are part of or specifically targeted to you. If a car is full, the *surfelyst* will be removed.

### 1. FILTERS

Location range, networks, personal characteristics and spot filters can be used to limit the *surfelysts* of interest.

### 2. CHAT CONVERSATIONS

No more unorganized Messenger conversations, SMS, emails or whatever you use to plan and organize your trips. The chat overview organizes all the planning neatly in one place.

### 3. SURFLYST CARD

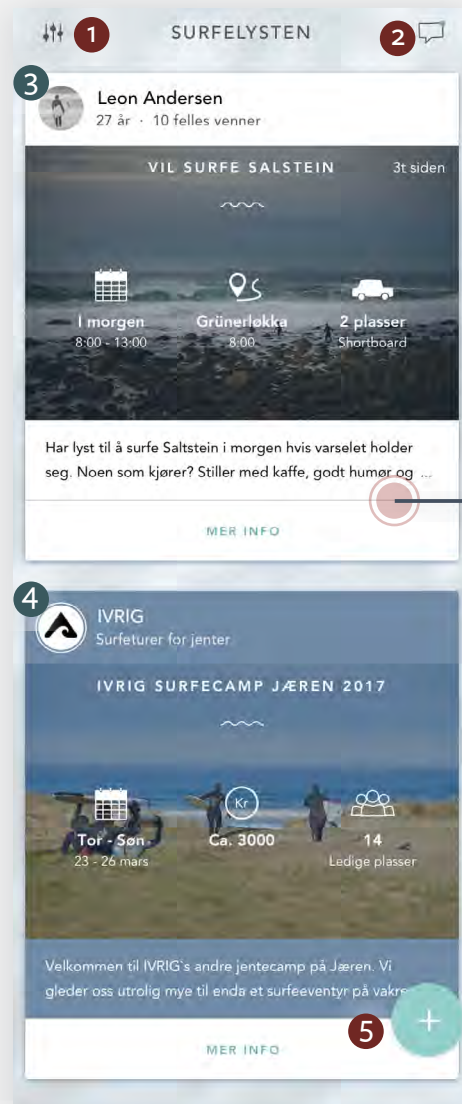
Showing key session/trip information at a glance to quickly confirm whether or not the announced *surfelyst* matches with your own. Click anywhere on the card for more information

### 4. ORGANIZATIONS AND CAMPS

These are surf related events arranged by non private surfers.

### 5. SHOW SURFLYST

Floating action button is always available to quickly let others know about your desire to surf.



“If I know that someone wants to surf, then I’ll check the forecast”

FEMALE · 28 · OSLO

*Experienced surfer*

### SURFLYST

< SURF MED LEON



**Leon Andersen**  
27, Oslo, 10 felles venner

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VIL SURFE SALTSTEIN  
3 timer siden

TIDSROM      ØNSKET AVREISE      TRANSPORT

 **I morgen**  
8:00 - 13:00

 **Grünerløkka**  
8:00

 **2 plasser**  
Shortboard

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ANDRE OPPLYSNINGER

Har lyst til å surfe Saltstein i morgen hvis varselet holder seg. Noen som kjører? Stiller med kaffe, godt humør og vitser på lur 😊

**KONTAKT LEON**

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BØLGEMELDING FOR DENNE TUREN

 Saltstein · I morgen 

85-100%

kl	PRIMÆR		SEKUNDER		VIND OG VÆR	
	m	s	m	s	m/s	°C
6	1,7	8	0	0	10	1°
9	1,5	8	0	0	8	3°
12	1,4	7	0	0	4	5°

DETALJERT DAGSVARSEL

When considering to join a surf trip, you get access to more information. Check the other surfers profile, read the full description of the *surfelyst*, confirm that the forecast is worth the trip and get in touch.

Double check the pickup location and time in the chat and commit to join the ride when you are asked for a spot.

The chat also enables adding more users which is useful for groups planning a trip.

### CHAT

< LEON

Saltstein - I morgen - 8:00 - 13:00

Hey! Følede at plukke om å surfe i morgen? Jeg er interessert i å være med! 🤙

Hei! Ja, kult! Sender deg en forespørsel om å sitte på nå.

Leon lurer på om du vil sitte på

Avreise  
Grünerløkka - 8:00

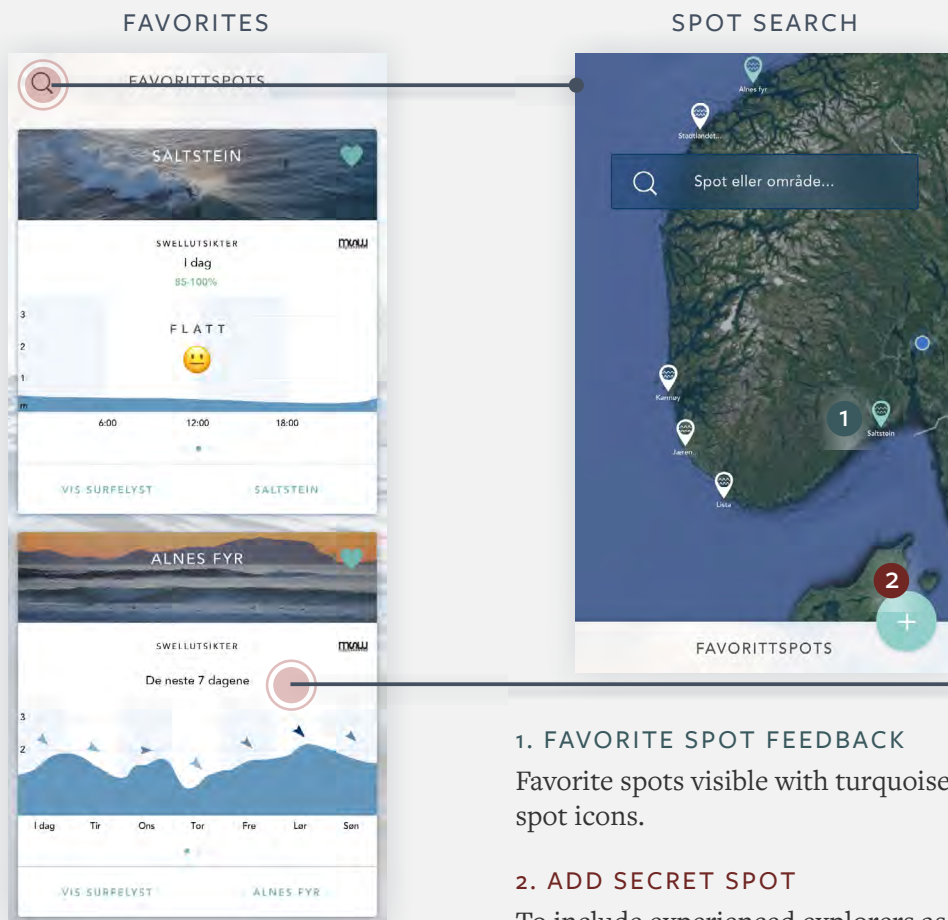
**SETT PÅ MED LEON**

Skriv melding...

# SPOTS & WAVES

*Will there be waves? How good will they be?*

*This section of Bølgen allows the user to see the swell forecast and info for all commonly known spots in Norway. Showing the forecast outlooks for the user's favorite spot right in the face when tapping this section, makes it easy to keep updated on the upcoming surf possibilities. Additionally the user can set up push notifications based on his/her own preferences or logged sessions.*



## 1. FAVORITE SPOT FEEDBACK

Favorite spots visible with turquoise spot icons.

## 2. ADD SECRET SPOT

To include experienced explorers as well, this feature is to see forecasts and log sessions for their secret spots.

The spot overview screen includes all the information about the spot. The forecast is the highest prioritized information as this is dynamically changing info that users are coming back for.

The spot information provides spot characteristics and traveling information and much more. Some of this information is available from Magicseaweed. However, if there are surf clubs taking responsibility for the spot, they should be the main information provider.

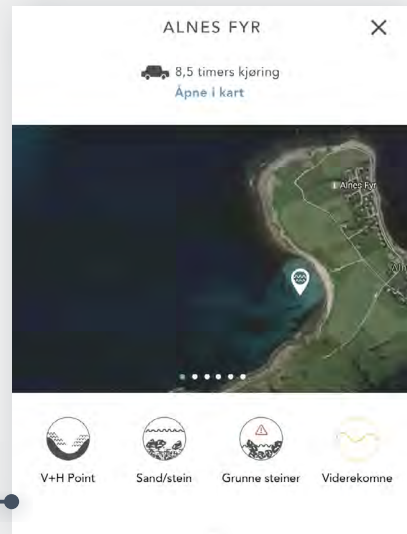
### SPOT OVERVIEW



### 3. FORECAST SETTINGS

This is where the user manages forecast notifications and changes default forecasting service for this spot.

### SPOT INFO



### DETAILED DAY FORECAST

The detailed day forecast combines a lot of usable features and information to determine if and when to surf during the day.

Recommended experience level and rough computer based text interpretation based on logged sessions from all users that have surfed the spot in similar conditions.

Comparison of forecast from both services on the highest detail level.

Time for low and high tides as well as sunrise and sunset.

Session logs from sessions with similar forecasts and the specific time for the match.

And finally easy accessibility to show *surfelyst*.



# THE SESSION LOG

*"How was the surf?"*

*Most importantly, the Session log helps surfers get an overview of which swell and wind variables that produce the best surf. It also keeps the user updated on happenings in the surf community and encourages social interactions through likes, comments and sharing.*

## SESSIONLOG OVERVIEW

This is where surfers keep up with other surfers' sessions, comment or send out a shaka (like) to cred the other each other. Testing and research revealed that seeing others' activities is both useful, motivating and fun!

### 1. FILTERS

When considering surfing new spots or looking for a specific type of waves, the filters can be used to find what you are looking for.

### 2. NOTIFICATION CENTER

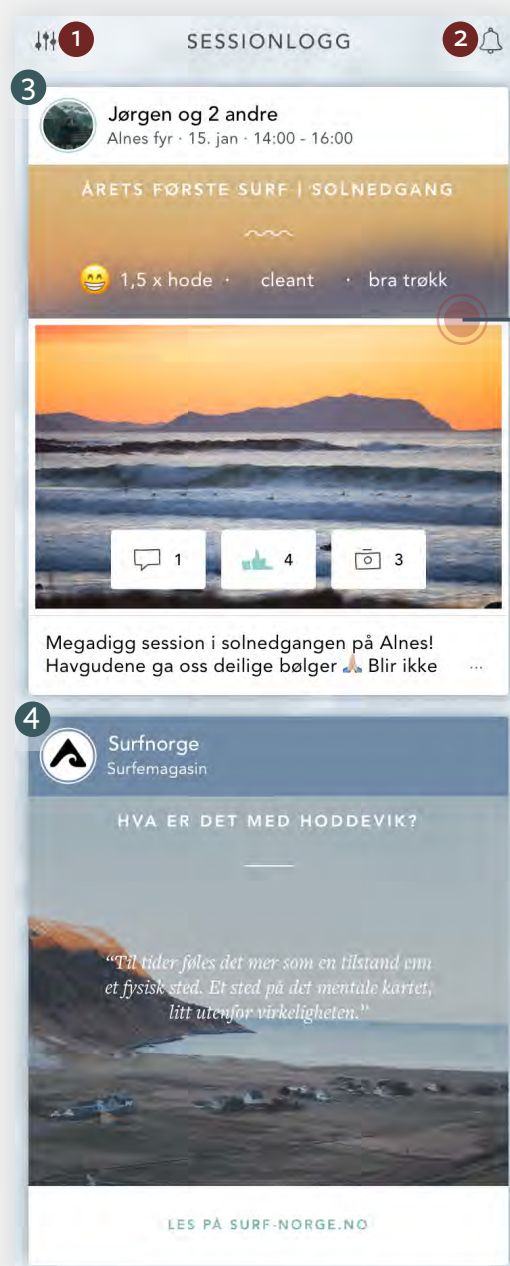
Overview of everything happening in the app. New friends, likes, comments, forecast alerts and chat messages.

### 3. SESSIONLOG CARD

Showing key session information to decide if the user wants to see more detailed information, send a shaka or comment the session. They appear here and in the detailed day forecast when a match is found.

### 4. SYSTEM CONTENT CARD

These cards keep surfers updated, inspired and enables discovering great deals on equipment. As they are not user generated they are clearly separated from sessionlogs with blue card background.





*“This is cool! I have actually tried to do this, but it just becomes a large mess of unorganized forecast screen shots and pictures that is useless..”*

MALE · 26 · OSLO

*Experienced surfer*

**From formative usability testing:** Marcus’ reaction when seeing the surf log section of the app.



## SESSION

A logged session serves many purposes - Both as a memory, a useful resource and a way to show others, even outside the service how the surf was in details.

The logging of the surf is initiated by push notification after surf.

### 5. "METADATA"

Providing the user with information about session before getting into the details.

### 6. SESSION OWNER'S IMPRESSION OF THE CONDITIONS

Useful when knowing the experience level of the owner. The user can always "stalk" the owner's profile to get a sense of his/her experience level by clicking the profile pictures.

### 7. ADDITIONAL INFO

### 8. SHARE SESSION

Share internal or via Facebook messenger/SMS to show friends how the surf was. Possibly good onboarding for new users

### 9. STORED FORECAST

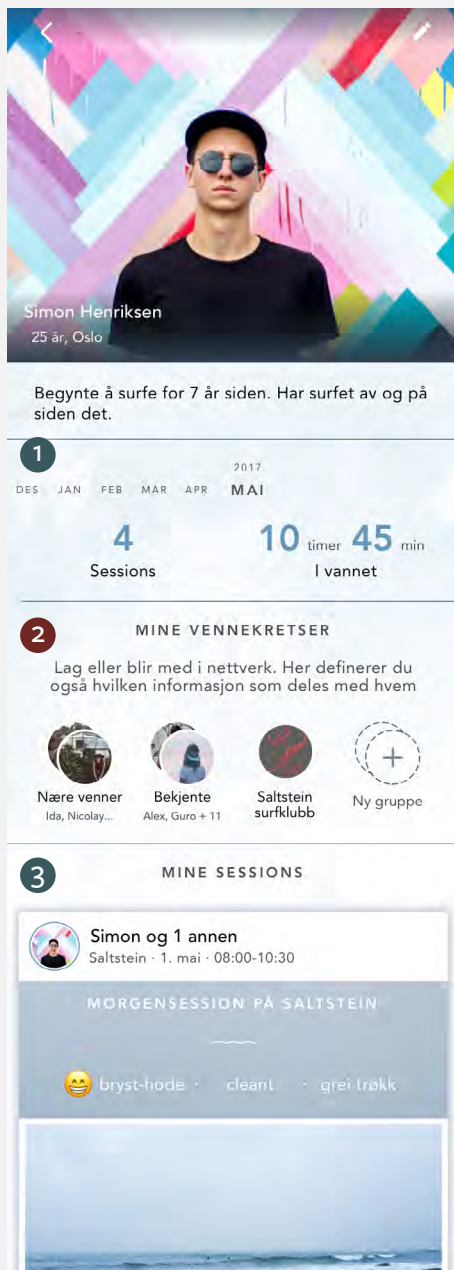
### 10. CONTEXTUAL FEATURES

Go to the spot or set up an alert to get notified about similar conditions in the future.

# ME / USER PROFILE

*"Who is this surfer and how much do he/she surf"*

*The user profile presents information about the surfer, enabling visiting surfers to know a little bit about other surfers on Bølgen. Seeing surf statistics, managing friend networks and information sharing. Additionally it serves as the surfer's personal sessionlog.*



## USER PROFILE

This is the user profile of the surfers that is logged in.

### 1. SURF STATISTICS

In addition to creating awareness, this enables visiting users to get an impression of how dedicated the surfer is. Usability testing showed that knowing a little bit about the surfers experience level would be nice in order to decide if he/would be a good surfing partner.

This information also enables creating long period statistical overviews like [Spotify's year in music](#) or [Strava's activity year](#) which seems to be loved by their users.

### 2. SURF NETWORKS

Surfers often have a group of close friends that they surf with most often, and an "outer" circle of acquaintances that they can contact as a second option. The networks are used when deciding the range of people want can see your logged sessions and when showing *surfelysts*.

### 3. PERSONAL SESSIONLOG

All the surfer's logged sessions are also here. Enabling visiting surfers to get an overview of the experience level. Also a nice place to reminisce and look back the amazing session you had a year ago!

# DESIGN PERSONA

*“If your website were a person, who would it be?”*

AARON WALTER, 2011



Photo: Stian's private

**Stian** - A friendly, including, wise, tough and funny guy. Great personality to motivate responsible surfing!

*Bølgen's appearance and personality should be like Stian's. Lively and fun, yet wise and trustworthy. Stian is the kind of surf friend that is always updated on the forecast, interprets it very well and encourages friends to go surfing if it suits their level!*

Stian is easy going, friendly and welcoming. His smile and snappy jokes makes it easy and inviting to get in touch with Stian. Even though he jokes a lot, his experience and knowledge about surfing shines through and creates a trustworthy and respected relationship to fellow surfers.

## Brand traits

**PLAYFUL** but not foolish

**ENCOURAGING** but not nagging

**CONFIDENT** but not cocky

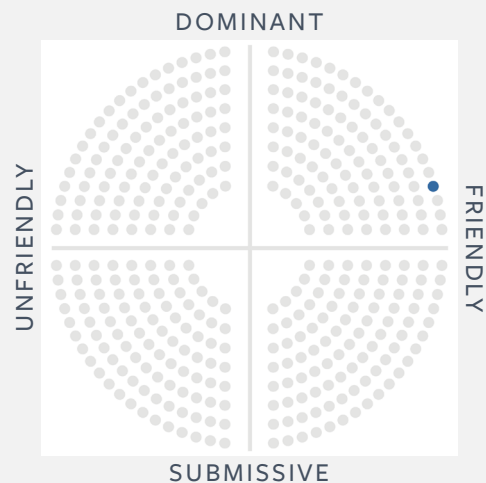
**EASY** but not simplistic

**WELCOMING** but not spoiling

**TRUSTWORTHY** but not boring

**PRACTICAL** but not annoying

## PERSONALITY MAP



## TONE OF VOICE

The service's main audience are Norwegians, thus the main language is Norwegian. Bølgen's voice is human and friendly, using slang and surf terms to convey personality and create a trustworthy, human relationship to the surfers. The service should talk like a surfer trying to convince a friend to go surfing.

Bølgen uses short, expressive, human words to express emotions and personality when reacting to surfer's behavior.

Punctuation and emojis are also used to create a human personality.

One of the service's visions is to challenge the closed surf culture when it comes to information sharing. If the user is very limited on sharing information it might change to a more cheeky voice to express how silly it is. However building up with arguments to how sharing information can benefit the user himself as well as the whole surf community.

## Examples for notifications and system time (saving etc)

### Reaction to posted session log

*"Yeah! Bra session, kompis! / Yeah! Sick session buddy"*

### Notification based on personal forecast alert

*"Ooohh!! Ser ut til å bli bra på Saltstein i helgen. Du burde dra :) / Wooah!! Saltstein looks great this weekend. You should go :)"*

### Encourage surfing based on good session log and similar forecast

*"Hey! Husker du de [cleane] bølgene fra denne sessionen? Det er meldt ganske likt på søndag ;) / Hey! Remember the [clean] waves from this session? Sunday's looks pretty much the same ;)"*

### Someone want to surf with you

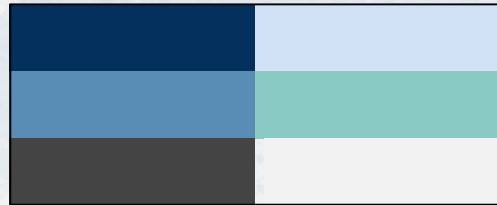
*"Nice! Henrik vil surfe med deg i morgen :) Good times! / Nice! Henrik wants to surf with you tomorrow :) Good times!"*

## VISUAL STYLING

*Surfing in Norway comes with both really harsh weather or beautiful glassy midnight sun sessions without a wind gust. Bølgen's visual expression tries to reflect this contrast by using a lot of pictures, provided by local photographers from the different surf communities. Semitransparent pictures of abstract water patterns are utilized to create a subtle background noise, reflecting the rough conditions.*

### COLORS

Bølgen's color palette is taken from the clear and fresh water in Norway. However more neutral colors are also chosen to provide contrast for readability for a wide range of background nuances.



### TYPOGRAPHY

Bølgen is playful, simple and trustworthy. The typography should reflect this personality. Avenir's minimalistic expression communicates ease and trust. Another important reason was Avenir's legibility on screen in small sizes.

### ICONOGRAPHY

Bølgen uses some "hand drawn" iconography when presenting spot information.

This contributes to the playful expression. However more crucial icons related to interactions look more simplistic and professional.

The hand drawn icons might not be understandable at first sight due to the fact that surf icons have no conventions. According to Nielsen Norman Group, all icons should have text labels to overcome confusion and ambiguity (NNGroup, n.d). Bølgen's UI follows this principle to reduce the risk of poor usability.

# SURFER'S SCENARIOS

*This section presents Bølgen's usability presented in the context of three common scenarios involving the challenges that stood out from the initial research.*



1

## FIND A RIDE TO SALTSTEIN

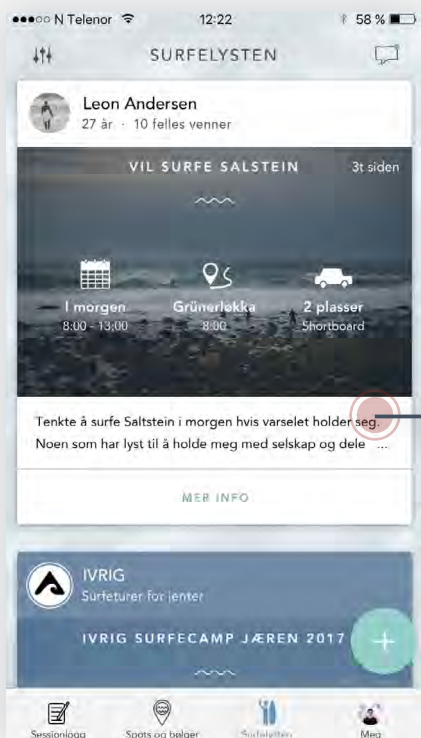
*You are having a day off tomorrow, but none of your friends do. You do not have a car, but you really want to surf. Let's see if Bølgen can help you*

FOLLOW THE FLOW:

[hakonlorange.no/bolgen/scenario1](https://hakonlorange.no/bolgen/scenario1)

This prototype is designed specifically for this scenario. You can not explore anything else in this prototype.

1



## 1 SURFELYSTEN OVERVIEW

Opening the app takes you straight to Surfelysten. As there are content there you know there's hope. You quickly see that Leon wants to surf Saltstein tomorrow and that he has two spots available in the car. Luckily you are surfing a shortboard that can fit in his car!

## 2 CHECK THE DETAILS

You are quite familiar with Saltstein and can quickly confirm that the forecast looks good! However you are a little curious about who this guy is and check his user profile.

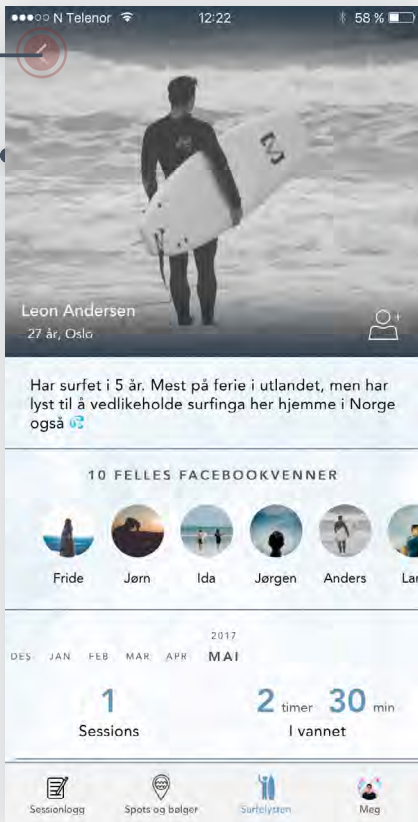


## 3 GETTING TO KNOW LEON

Leon seems like a nice guy! As Bølgen's onboarding is through Facebook, you can see that you have 10 mutual friends. They are pretty decent people, so you assume he is too! He has also surfed quite recently in conditions that suit you. Doesn't seem like surfing Saltstein with Leon should be a problem, so you go back to get in touch with him.



3



4



5



#### 4 CONFIRMING THE DETAILS

You ask Leon if he still has a spot available. He quickly responds and sends you a request for one of the spots in his car. Nice!

You immediately confirm, being a little afraid that the spot would be taken by someone else if you are slow.

#### 5 DONE, DEAL. YOU'RE GONNA SURF!

Great! You are going to surf tomorrow, and you might even get a new friend. With a car! How nice :)

You get stoked by frequent Saltstein photographer Morten Holbein's nice picture from a big day a while ago and can't wait for tomorrow.

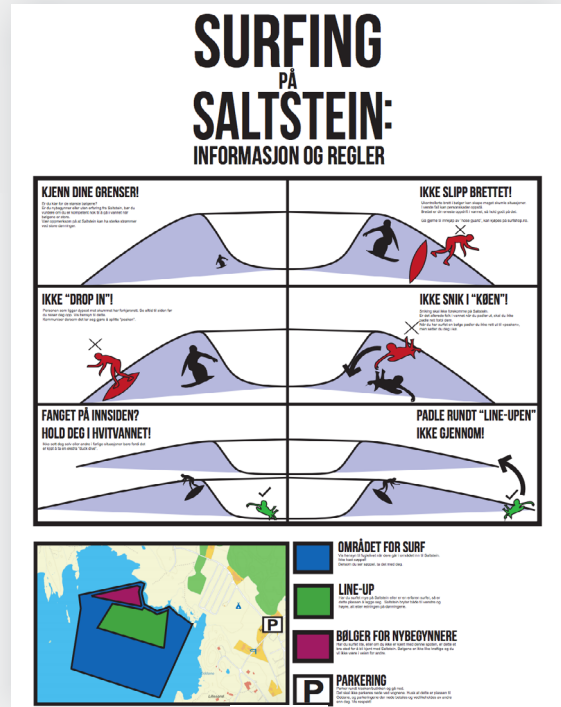
It's also nice to know that you can find Leon's phone number in the chat in case of emergency. Let's hope not!

## Maintaining safety in the water

Do you remember that first time at Saltstein? When you were new to surfing and had very little knowledge about the spot.

Just before you arrived you got a reminder from Bølgen, showing you Saltstein surf club's rules and general surf etiquette. That was quite usable - knowing about the different peaks that suits different experience levels and where to park.

You don't need that information anymore, so it's a good thing that you only get it the first time. Nevertheless it is always accessible in the Saltstein spot information if it needs review.



### Contextual information

Bølgen utilizes geolocation and time actively to give reminders and information when the users need it. This is very crucial and has to be done carefully to avoid being an annoying and nagging service.

### Sharing information

By making information about spots, forecasts, surf rules and etiquette more accessible, Bølgen aims to educate surfers. This should enable surfers to take more informed choices and choose sessions with waves suitable for their conditions.

Hopefully this will reduce annoyances and dangers caused by inexperienced surfers being at the wrong place at the right time (for experienced ones).

# 2

## LOG SESSION

*You just got out of the water from a great morning session at Saltstein. You have changed to dry, warm clothes and are on your way back home. On the phone waits a notification from Bølgen...*

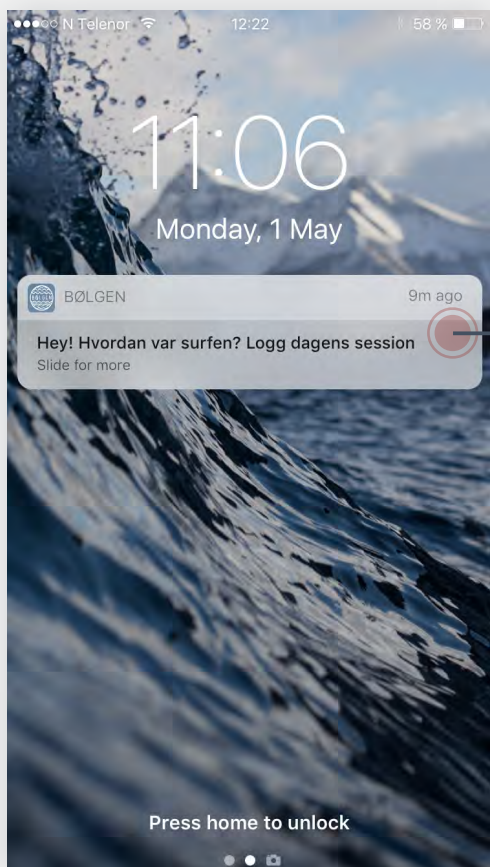


FOLLOW THE FLOW:

[hakonlorange.no/bolgen/scenario2](https://hakonlorange.no/bolgen/scenario2)

This prototype is designed specifically for this scenario. You can not explore anything else in this prototype.

1



## 1 LOG REMINDER

In a magical way (GPS and motion patterns) Bølgen know that you surfed Saltstein this morning and ask you how the waves were.

## 2 LOG INFORMATION

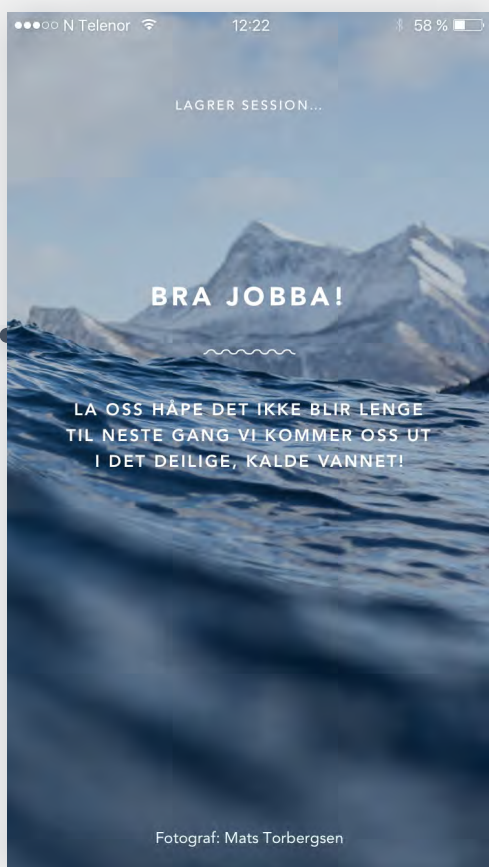
You look over the prefilled info that Bølgen have assumed about the session and fill out the rest yourself. It's done in less than a minute. You have a two hour drive back home anyway, so there is no reason to rush.

When you are satisfied you click to save the session.

2



3



### 3 SAVING SESSION

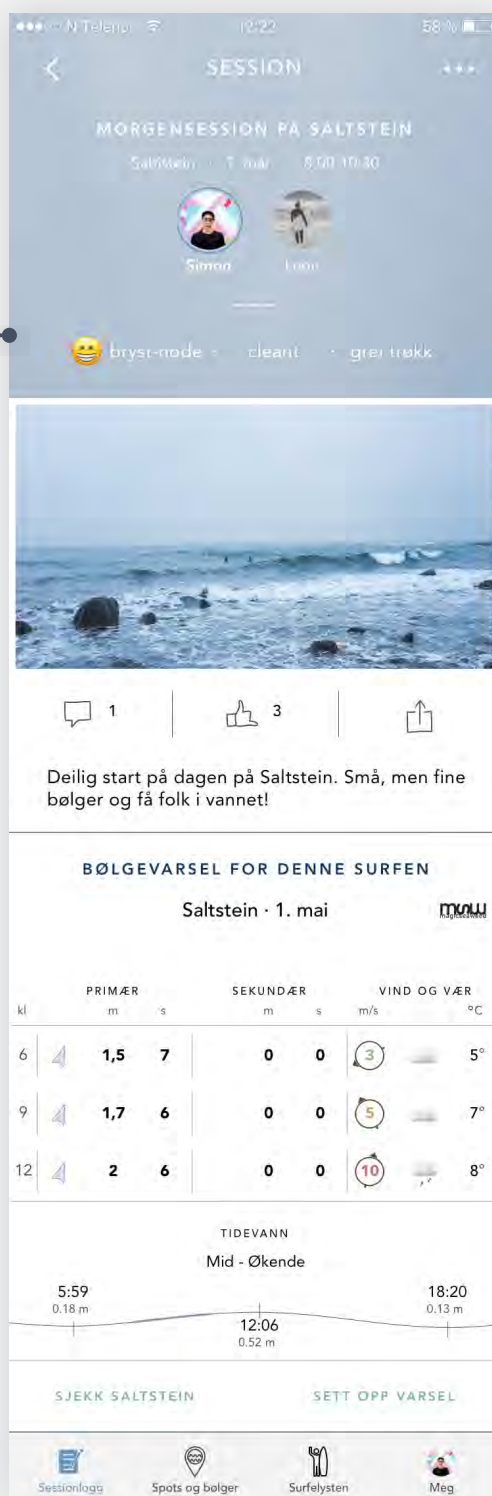
As if you were not hyped from the session, the beautiful picture shown while bølgen is saving the session makes you dream of new adventures exploring the hidden treasures of the Norwegian coast.

### 4 SESSION LOGGED

You see your logged session. The visual look makes the session unique as the colors will be different from any other session.

Bølgen noticed that you surfed with Leon and stored the forecast for you. Now you can share the session with your friends that missed it, or set up an alert to get reminded the next time the forecast is similar to today's. Anyway.. The session is ready to be matched with similar forecasts in the future, giving a realistic indication for what kind of waves to expect.

4







3

## ARE SOMEONE INTERESTED IN SURFING ALNES?

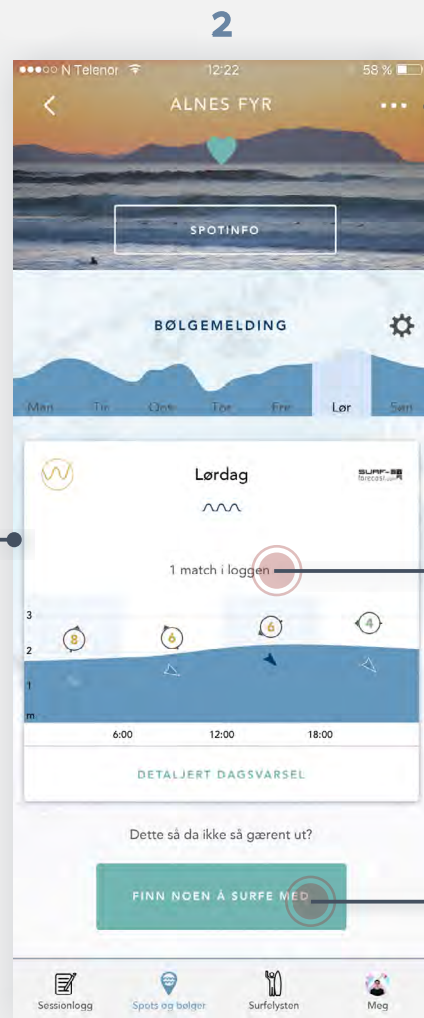
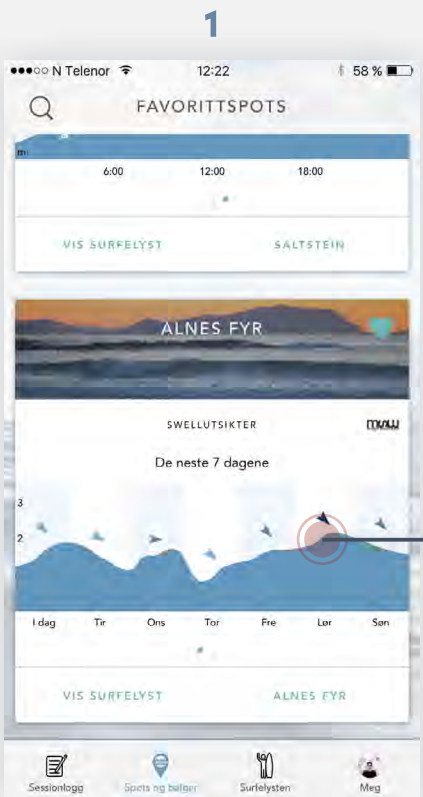
*An extended weekend is coming up, and you consider to go surfing Alnes Fyr near Ålesund. However, the eight hour drive and the lack sufficiently dedicated friends makes you consider if it's worth it. Let's check it out*

FOLLOW THE FLOW:

[hakonlorange.no/bolgen/scenario3](https://hakonlorange.no/bolgen/scenario3)

This prototype is designed specifically for this scenario. You can not explore anything else in this prototype.

Photo: Daniel Lunder Husøy



## 1 LONG TERM OVERVIEW

As Alnes is one of your favorite spots it's right there when you go to the forecast section to see if there will be waves. You immediately see that there's a lot going on in the coming week. Saturday looks really promising and you click to see more.

## 2 SATURDAY FORECAST

2m swell from NW, long period and almost no wind. This has to be good! But sadly, it's only Monday, and the forecast will probably change. There's no need to check the details quite yet. Nevertheless, you go ahead to check the matching log to see what kind of waves this swell forecast can produce.

## 3 CHECK LOG MATCH

OMG! The description of the waves and the pictures in the matching log looks like soooo much fun! You go back to let others know your desire to surf Alnes, and see if someone would like to join you.

## 4 FILL OUT THE DETAILS

Bølgen knows Norwegian surfers' behaviours and prefilled a lot of information for you. You go over and add other necessary information, choose who you want to be able to see the interest, notify your new friend, Leon specifically and post the *surfelyst*.

## 5 POSTED

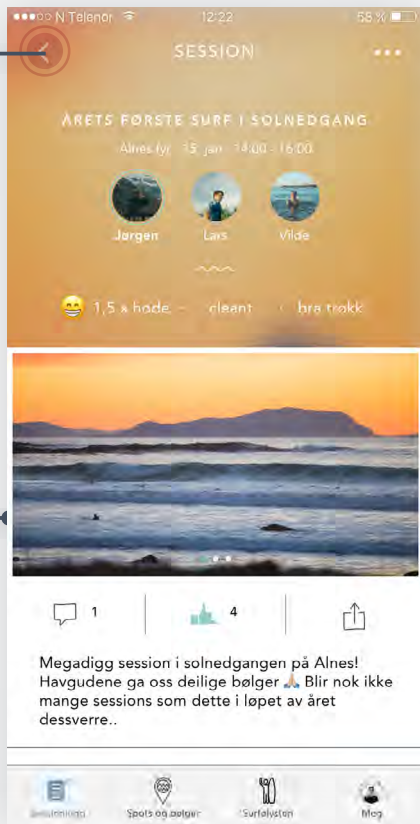
Your *surfelyst* appear in the top and present people that have shown interest by chatting with you.

Hopefully the forecast will not change significantly and someone will join you! Bølgen notifies you if that's the case.

Fingers crossed!



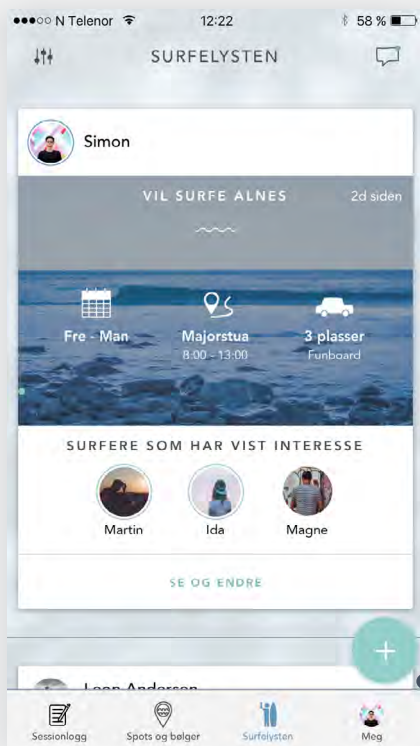
3



4



5





# FINAL PROPOSAL FEEDBACK

REACTIONS TO THE CONCEPT AS A WHOLE FROM  
USERS AND NSRF

*The goal of this final round of testing was to get feedback on the concept as a whole. The final prototype of Bølgen was presented to NSRF and tested on surfers that had very limited knowledge about the project in advance.*

*The final prototype you now have experienced and read about have gone through minor, detailed changes since this test, however it has not changed in terms of functionality or features.*

## Presenting to NSRF

*“If I were you I would’ve made an english version and sold it to Magicseaweed”*

---

TORE KRAMER

*Head of NSRF*

## Approach

I developed and framed this concept without talking to NSRF in advance. The main focus of this project have been the users, however in order to make NSRF see how they could benefit from being a provider of a service like Bølgen, I had to take their needs into account as well. This was based on my overall impression of their needs and challenges that

revealed through the initial research.

The final prototype and a very brief concept presentation were sent to Tore Kramer and Tommy Langseth by e-mail. I later called each of them and discussed NSRF as a potential provider of a service like Bølgen.

## Feedback

Generally the feedback was very positive, and it seemed realistic to consider NSRF as a provider of Bølgen if they had the necessary economical resources.

Tore indicated some skepticism about the information sharing aspect as he thought this part might be considered as challenging the core of the surf culture by many surfers.

However they saw many benefits from collecting data about the Norwegian surf community.

They also indicated that this would be very useful, both for many surfers in Norway and for NSRF to reach out to the community and promote surfing as wide-ranging activity, not just a sport. Overall it seemed reasonable to assume that NSRF could be a potential provider of this service.

*“For the wide-ranging perspective, I think that this would be very good!”*

---

TOMMY LANGSETH

*NSRF board member*

# USABILITY TESTING

*„Imagine that you have available time this weekend and you consider going to Ålesund to surf Alnes fyr. Can you take me through the process of deciding whether you are going or not?“*

## Approach

To test the final prototype I wanted someone that had very limited involvement and previous knowledge of the service. I recruited two participants to test and see how their reaction to the overall service was, and how well they understood the different features and functionality.

### GETTING FAMILIAR

I provided no background information about the concept or service to the participants, but let them go through the intro screens and browse the prototype

for about 30 seconds before starting going to the next phase. I asked them to think aloud and tell me what they saw and how they perceived it.

### SETTING UP SCENARIOS

Because most of the features in Bølgen is highly connected to a specific context and state of mind, I tried to set up realistic scenarios.

The scenarios, and the fact that it was tested in a “natural” setting was done in order to simulate a real context.



## Takeaways

The overall feedback and takeaways from these testing sessions is that most of the features seems to be usable.

However, this way of forecasting and in general having these resources available is new to many surfers. It's not implemented in their mental model of checking the surf yet.

Therefore it takes a little bit of exploring and explanation to understand all the benefits of using Bølgen.

### FORECASTS ARE COMPLEX STUFF

The participants struggled a bit seeing how the forecast work immediately. It took some time and they were left with

a couple of questions and some hidden clues were not even noticed. It definitely needs an easily accessible explanation of the forecasting!

It's a fine balance between making information accessible, understandable at a glance while keeping all the details. The forecasts might have been more understandable and accessible if simplified. However, simplifying often requires leaving out details, which is not Bølgen's intention.

*“I think the most usable feature is the push notification when there's good waves approaching”*

---

MALE · 27 · OSLO

*Intermediate surfer*

## Evaluation

Overall the usability test became a bit messy and confusing for the user due to technical limitations from invisio and lack of time to prototype all possible interactions.

### TECHNICAL CHALLENGES

Invisio mobile app, which was used for the testing enables the user to swipe between all the screens in the prototype when swiping a non-interactive area. I did not take the time to make all the intended functionality and interactive parts of the prototype working. This would be a lot of time spent for limited extra reward. Therefore swiping parts of the screen that were not implemented in the prototype caused confusion for the test participants as it took them out of the original flow.

### SCENARIO CHALLENGES

I experienced that the users had trouble being in the imaginary situation I tried to provide with the scenarios. This is especially true for the task of checking the surf and deciding whether to go or not. It is hard to recreate a scenario where the possible outcome of a bad surf check is 4 hours in a car and a half day wasted for nothing. Also the trust aspect is hard to test - would they dare to stop checking other services?

This affected the reliability of the test results. To really be able to see if this prototype would work, it would require a real context. Putting real data into the prototype and asking the user to check the surf and try to let other friends know.

### OVERALL TAKEAWAYS FROM DESIGN PROPOSAL

Bølgen is a digital service provided by NSRF that aims to connect the Norwegian surf community and encourage more surfing in Norway.

Usability testing and presentation of Bølgen to NSRF indicates that the service would meet needs and create value, both for surfers and NSRF. Today, there is no similar service to Bølgen. The forecasting model and other features seems to need some introduction and exploration in order to get the user to understand the benefits of the service.

Even though not fully worked out I am very satisfied with the outcome and strongly believe that this would be a successful service if developed properly.



# FINAL REFLECTIONS



*When working on a project like this, you continuously learn and figure out how things could, and maybe should have been done differently. This project is no exception.*

Overall I am very satisfied with the outcome of the project, and think it would help many surfers in Norway to surf more! However, I also have many thoughts about weaknesses and things that could have been done differently. This chapter presents final reflections and discussion of the project as a whole.



# BØLGEN IS NOT READY TO BE SHIPPED!

I consider the final design proposal as a set of roughly tested hypothesis that would serve as a good starting point for a real project. It needs to be tested with real data in realistic contexts. Both contextual interactions and trust are aspects that are hard to test in imaginary settings. If I were to take this further and had the resources, I would approach the project from a Lean UX perspective starting with forecasting alerts and continuing with small iterations from there.

## Needs more and different testing

I realize I have tried to do too much, leaving little time to dig into details and test them properly. There are still parts of the service that have not been thought thoroughly through. I wish I did more testing of smaller separate parts of the service, not focusing so much on testing the holistic service at each stage. As there are so many feature dependencies across the different sections of the app, I found it hard to see how to do the testing in a good way without having most of the functionality figured out.

There are definitely graphical design aspects that needs to be worked on in order to align with the goals of the design persona.

## Cultural aspects

Also other cultural aspects like sharing information about conditions etc is very hard to test without having a live product. Even though Bølgen facilitates information sharing, the surfers themselves can determine who and how much data they want to share with others. This would information more accessible than

it is today. It would be really interesting to see how the surf community would react to such a service. Would it eventually would contribute to a more open community seeing the benefits of sharing information rather than keeping it within closed groups?

## Expand internationally

As Tore Kramer indicated when seeing the final prototype, such a service could have international potential as well. Even though I have merely focused on surfers in Norway for this project, there are many shared needs with surfers other places in the world. Especially the ones living far from surf spots. Today there are no solution that combines all the elements that Bølgen includes.

## Expand to other activities

Connecting and opening up a small and spread community, keeping updated on weather forecasts and utilizing previous conditions to understand the complex variables that nature involves, are aspects shared by other activities as well. Backcountry skiing and base jumping are amongst other activities it is reasonable to assume that could be dealing with some of the same challenges that Bølgen tries to tackle.

## Would Bølgen help surfers to surf more?

This is a tough one. Based on everything said above, I don't have a final answer to this question. If I were stupid enough to rely on what people said from user testing and overall impression of people that have seen and heard about the project, the answer would be yes!

*Thanks a lot for making it all the way through to this page and the very end of this report! Hope you had fun or at least got a better feel of what surfing in Norway is like ;)*

A SPECIAL THANKS TO MY SUPERVISORS

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IF THIS PROJECT LASTED FOR ONE MORE DAY...

*Håkon Jor L'orange*

DIPLOMA SPRING 2017  
THE OSLO SCHOOL OF ARCHITECTURE AND DESIGN