Improving Mountain Resort Rentals

An interaction design diploma by Ivy Ferguson

The Oslo School of Architecture & Design
Abstract.

The crisp mountain air is something many Norwegians and visitors of Norway love to go out and experience, often at various mountain resorts.

The rental shop for skis, snowboards, and other gear is many people’s first experience at a mountain, and in some cases their first experience ever skiing or snowboarding.

While crowds at the mountain may sometimes be inevitable, the aim of this design diploma is to explore the potential to make the gear rental process at Norwegian ski resorts more efficient, understandable, and engaging using interaction design.

In this report I will guide you through my diploma journey, from project scope and approach, to research, project development, an overview of methods used, and finally my design proposal, and reflections.
# Index

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>02</td>
</tr>
<tr>
<td>Introduction</td>
<td>11</td>
</tr>
<tr>
<td>Research</td>
<td>16</td>
</tr>
<tr>
<td>Process</td>
<td>44</td>
</tr>
<tr>
<td>Method Overview</td>
<td>66</td>
</tr>
<tr>
<td>Proposal</td>
<td>72</td>
</tr>
<tr>
<td>Context &amp; Goals</td>
<td>06</td>
</tr>
<tr>
<td>Motivation</td>
<td>06</td>
</tr>
<tr>
<td>Designer Goals &amp; Contribution</td>
<td>06</td>
</tr>
<tr>
<td>Approach</td>
<td>07</td>
</tr>
<tr>
<td>Design Proposal</td>
<td>07</td>
</tr>
<tr>
<td>Reflections</td>
<td>07</td>
</tr>
<tr>
<td>Concept Ideation</td>
<td>44</td>
</tr>
<tr>
<td>Wireframe Flows</td>
<td>46</td>
</tr>
<tr>
<td>Lo-Fi Prototyping</td>
<td>48</td>
</tr>
<tr>
<td>Mood Boards</td>
<td>52</td>
</tr>
<tr>
<td>Hi-Fi Prototyping</td>
<td>54</td>
</tr>
<tr>
<td>Reflections</td>
<td>68</td>
</tr>
<tr>
<td>Method Overview</td>
<td>66</td>
</tr>
<tr>
<td>Project Timeline</td>
<td>67</td>
</tr>
<tr>
<td>Overview</td>
<td>67</td>
</tr>
<tr>
<td>Methods</td>
<td>68</td>
</tr>
<tr>
<td>Reflections</td>
<td>68</td>
</tr>
<tr>
<td>Overview</td>
<td>72</td>
</tr>
<tr>
<td>Visual Identity</td>
<td>77</td>
</tr>
<tr>
<td>User Journey</td>
<td>78</td>
</tr>
<tr>
<td>Wireframe Flow</td>
<td>82</td>
</tr>
<tr>
<td>Final Screens</td>
<td>84</td>
</tr>
<tr>
<td>Testing and Feedback</td>
<td>106</td>
</tr>
<tr>
<td>Reflections</td>
<td>111</td>
</tr>
<tr>
<td>Special Thanks</td>
<td>116</td>
</tr>
<tr>
<td>References</td>
<td>117</td>
</tr>
</tbody>
</table>
Executive Summary.

This chapter will provide the executive summary for this project. I will present the context of the project, my motivations and contributions, my approach, an overview of my design proposal, and finally a reflection on this project.

---

06 Context & Goals
06 Motivation
06 Designer Goals & Contribution
07 Approach
07 Design Proposal
07 Reflections
Context & Goals
The aim of this design diploma is to explore the potential to make the gear rental process at Norwegian ski resorts more efficient, understandable, and engaging using interaction design.

Motivation
As someone who grew up on the mountains since age three, I have noticed a recurring and perhaps growing problem and that is overcrowding at ski resorts. While people visiting the resorts and enjoying their leisure time in nature is a good thing, no one, including myself, enjoys lines and crowding.

The current state of rentals differs at each mountain, however during my research I discovered they all include variations of key pain points. For example, problems with signage in the shops, crowds, the information asked of renters, outdated systems, and issues with gear. I will elaborate on these findings in the research section of my report.

As the gear rental process is a starting point for many people’s first experience on the mountain, through this thesis I aim to make it an easier and more positive experience, so that hopefully they continue coming back to the mountain for years to come!

Designer Goals and Contribution
My motivation as a designer was choosing a project where I could immerse myself in my research and implement my previous journalism and design background towards an ethnographic (Dijk, G. V. 2010) approach, and to deliver a digital solution. My contribution as a designer is research and insight into the mountain tourism industry, a potential solution for future rental scenarios, and a digital application.

Approach
Through ethnographic research, interviews, surveys, comparative studies, workshops, analysis and user feedback I have discovered key pain points that have guided my project development which I will discuss further in this report.

Design Proposal
My proposed scalable solution is a digital assistant for the entire booking and rental process at Norwegian resorts. The application guides the renters journey before the mountain, at the mountain, and after.

The application acts as one factor that facilitates how the future of rentals at Norwegian resorts could be, which I will also outline in this report, however the application is my project scope.

This new booking service is proposed as a segment of the existing Skistar app. Skistar is an owner and collaborator of many Norwegian ski resorts, and I will elaborate further in my research section why I chose to place this service for Norwegian resorts within their app.

The reason this project is aimed at Norwegian resorts, and not only one specific mountain is because the rental experience at many different resorts needs improvement. I wanted to make sure my solution was feasible to implement at more than one resort.

I used local mountain Oslo Vinterpark in all of the examples of this proposed scalable solution. Continuously going to Oslo Vinterpark throughout this diploma allowed for easy access to a rental shop, employees, and the renters. Throughout the diploma I also kept in mind other Norwegian resorts, as well as had discussions with users and employees at them.

Reflections
This project has given me the opportunity to work closely within an industry I am passionate about, and is a cumulation of all my previous journalism, graphic, and interaction design education. I am excited to share the process with you.
Introduction.

This chapter will provide an overview of the diploma proper. This chapter includes the project scope, the point of entry for the service, a look into the target users, and what my final deliverables include. I will wrap up this chapter with a summary of the report structure.

11 Project Scope
11 Point of Entry
11 Target User
12 Deliverables
12 The Report
Project Scope
The scope of this project is a digital application that guides the renters journey through the entire booking and rental process. This scope of this project includes physical touchpoints I will mention, however the focus is on the digital aspect.

Point of Entry
This new digital guide is proposed as a segment of the existing Skistar application. Many visitors of Skistar resorts already download the Skistar app in order to check out the weather, browse discounts, and so on.

I believe Skistar owned resorts and other Norwegian resorts would benefit by partnering and expanding upon this existing app, as many people who go to one Norwegian resort, often go to others at some point. The proposed solution would mean increased visibility, business, and usage of the app for all Norwegian resorts involved.

As mentioned in my executive summary, because the rental process is an issue at many resorts, the solution should be feasible to implement at more than one. Many Norwegian resorts already use one of two main rental shop softwares, as well as lift access systems, which means this new service could be integrated with those.

Target User
Through my interviews and observations, I have determined three user groups this project would benefit as a whole. The primary users of the application are the first time renters, and the returning renters, however the new service also effects the employee’s way of working which I will touch upon in the proposal section of this report. The first time renter is someone who has never booked with this service before. This is often someone who has never skied or snowboarded before. The returning renter is anyone who has used the service more than once.

The proposed solution would mean increased visibility, business, and usage of the application for all Norwegian resorts involved.
Deliverables
The final deliverables for this project are this report, an overview of the current system and its issues, and a user centered approach to improving mountain rentals. This includes user insights and research, a proposal for an application that acts as a booking and rental assistant, a video that describes the application in use and how it integrates with a newly proposed rental system, and the newly proposed renters journey. Probably not included in the deliverable: my blood, sweat and tears.

The Report
This report will guide you through the process of my diploma in four main sections. These sections include the background and research of my project and how I arrived at my scope, my design process and user testing, the methods used for developing this project, and lastly my design proposal including reflections. The report will also include reflections and key-take aways at the end of every chapter that guide the report into the next chapter.
Research.

I will introduce the most important findings from the “discover” and “define” phases of this project. This includes how I arrived to my project scope, and working within the existing Skistar alliance app, as well as the current situation at Norwegian mountain resorts. This chapter will also cover user research, insights, and persona’s and how they have framed my final solution. Lastly, I will discuss my comparative studies and their influence on my project.
Project Scoping.

Point of Departure
At the start of this diploma thesis, I knew I wanted to focus on improving mountain resort rentals, however I did not know the scope. Before I narrowed down my project to Norwegian resorts, I explored six different mountains in both the US and Norway. During this part of the research phase, I wanted to get a broader understanding of how different mountains approach the rental experience, and to discover what aspects do, and do not work. During my research, I walked through the rental process at these six resorts, filmed and interviewed renters and employees, and sent out surveys to employees for further input. Through this research, I started to notice patterns and differences in the processes at the various resorts. The findings from this phase helped me define key problem areas, and scope further during project development.

This photo is taken in the Mount Baker rental shop. Resorts in Washington State currently legally have to handle all of the customers information by paper and not digitally.

This photo is taken outside of the Stevens Pass rental shop. These ropes are set up on a weekday when I visited, but on a weekend the ropes snake back and forth, as lines can take 1.5-2 hours according Guest Services Manager Jennifer Dumas.
Key Pain Points
From the research and interviews I conducted at the six different resorts, I mapped out key recurring pain points. These included signage in the shops, crowds, information asked of renters, outdated systems, and issues with gear. For example, according to Guest Services Manager Jennifer Dumas from Stevens Pass, renting gear on a peak weekend can take 1.5-2 hours. Peak times at a smaller resort like Oslo Vinterpark takes around 30 minutes, according to employee Emma Julin. Dumas said this could be partially due to the fact that resorts in Washington State, currently legally have to handle all of the customers information by paper and not digitally. Through my analysis I came to the conclusion that every mountain has a similar, yet diverse set of issues when it comes to the rental process, especially in different countries. At this stage I knew it was necessary narrow down the scope of my project.

Norwegian Resorts
As I observed, the rental experience at many different resorts could use improvements. For this reason, I wanted my solution to be scalable and applicable to more than one resort. Defining the scope of this project as a solution for Norwegian resorts was the obvious choice for me, as I wanted to continue with my ethnographic approach throughout the entire duration of this thesis. Another reason I chose Norwegian resorts is because the mountains are a big aspect of the culture and tourism here. Many visitors of one Norwegian resort often end up at other Norwegian resorts, so creating a solution that is familiar to the users would be beneficial for all involved.

Another reason I chose Norwegian resorts is because the mountains are a big aspect of the culture and tourism here. Many visitors of one Norwegian resort often end up at other Norwegian resorts, so creating a solution that is familiar to the users would be beneficial for all involved.
Project Scoping.

Skistar Alliance
As outlined in the introduction of this report, this solution is aimed as an integration into the existing Skistar alliance application. Skistar alliance owns some of the largest Norwegian resorts, such as Hemsedal and Trysil, and is already in collaboration with other Norwegian resorts, such as Oslo Vinterpark. This collaboration allows season passholders of the different mountains to get one free day of riding at the other mountains, but in order to redeem their free lift pass, they are already required to download the app.

Further collaboration between skistar and other resorts around Norway would mean increased visibility, business, and usage of the app for all involved, instead of creating a rival service. Skistars collaboration with other resorts and engagement with it’s customers is a step in the right direction, however my proposed solution will add to this, and the overall rental experience.

SkiStar Application
When it comes to the booking of rentals, and lift passes, the existing Skistar app needs improvement. This is where my solution comes in. The above screens show part of the app as it is today. As it is today, you are only able to book on the Skistar website, and you have to reserve everything such as lift passes, and rentals in a separate process. Additionally, booking through the website does not store your information for future ease of use, which is a feature I have included. It should be noted that many Norwegian ski resorts today allow you to reserve your rentals online, however from my findings, none have integrated usage in app. Through user testing, feedback, and iteration, I believe my solution has improved the user interface, as well as added other useful aspects in the application, and entire rental journey.

What the application does already include is supplemental to my proposal. For example, you can currently check the weather, events, discounts on the mountain, etc.
Current Situation.

The Problem
Anyone who has visited a Norwegian mountain during Easter holiday knows that crowds are often inevitable. However, crowding is not the only issue of the rental experience at Norwegian resorts.

I have previously outlined some of the key pain points encountered at mountain resorts in general, however in order to better understand what exactly a renter goes through, I have followed and filmed around a first time renter at Oslo Vinterpark.

The video is included in my final deliverables along with this report. On the following page, you will see a recreation of this first time renters journey. The difference between the first time and returning renters journey, is the returning renter faces less confusion when returning to the same resort, however once they go to a different Norwegian resort, the process can change and they may be confused again. Another difference is generally the check-in system remembers the returning renters information.

Guests get upset when they have to wait too long, and it causes negative interactions with the staff.

-Iiris Tarvonen, Oslo Vinterpark renter

I wish that I had to spend less time in line. I think I spent an hour my first time renting.

-Thor Nielsen, Oslo Vinterpark renter

I wish they had my size boot to rent, or I knew they wouldn’t ahead of time.

-Emma Julin, Oslo Vinterpark employee

We want to make their experience a good welcome to Hemsedal. We’re the first people they encounter.

-Simon Larsen, Hemsedal rental manager
The Renters Journey.

Kate comes to Oslo
She is from Denmark and decides she wants to snowboard while in Oslo!

Googles Oslo Vinterpark
Sees she can rent a snowboard, and that it is close to Oslo, so she decides to go.

Goes to the mountain
Kate takes the tram, subway and a bus to Oslo Vinterpark.

Fill in renter information
She asks another renter in line, who tells Kate to first fill in her information on the computer.

Print rental receipt
A receipt is printed with Kate’s information on it. This is to be given to the rental employee.

Goes to get boots
She stands back in the line she was previously (wrongly) in, so she can get boots.

Enters the rental shop
She follows the crowds into the main building, which also holds the rental shop.

Goes to wrong counter
It is a bit confusing, so Kate ends up at the shop counter, and not in the rentals area.

Stands in the wrong line
After an employee tells her where to go, she accidentally ends up in the wrong line.

Give receipt to employee
Kate hands the receipt to the employee, who scans a barcode for her information.

Get boots & put them on
It is her first time with snowboard boots, so she tries to figure out how to put them on and if they fit.

Goes to wrong counter
When she goes to get her snowboard, she realizes she is in the line for people to pick up skis.
The Renters Journey.

Goes to get snowboard
Kate notices the same guy who gave the boots to her, is giving her the snowboard at a new counter.

Give receipt to employee
She hands the employee the receipt with her renter information again, which is then scanned again.

Employee scans out gear
The employee scans out the boots and snowboard.

Enters rental shop
Kate goes back to the rental shop to return the gear.

Goes to return gear
She guesses and goes to the same counter she rented boots from, as it’s the closest to the entrance.

Gear is scanned in
This is in fact the correct counter to return gear, and the employee scans her gear back in.

Goes to payment line
Kate goes to a new line with all of her gear to pay.

Pays for rentals and pass
Kate purchases her rental, a lift pass, and a one-time fee for the lift access card.

Renter rides
Kate goes out and snowboards for the first time!

Kate goes home
Kate takes the bus, subway and tram back to Oslo.

Thinks about her trip
Kate really enjoyed her time at the mountain, and wants to go back someday.
The Renters Journey.

Summary
As outlined on the previous pages, both the returning renter and first time renters face similar experiences, however the returning renters journey can become shorter due to a familiarity with the system. This familiarity can go away when the renter goes to a new resort, as the resorts may have a slightly different layout or process.

For example, at Hemsedal, after the user enters their information into a computer, one employee is assigned to assist each renter or group of renters throughout their whole gear retrieval. Handling the renters in this way eliminates many of the extra steps and confusion outlined above, and rental manager Simon Larson said it has increased their efficiency.

By closely following, observing, and talking to renters and employees of Norwegian resorts, I was able to start to notice areas for improvement I then discussed further in a user workshop.

- Pedro Chalabardo, Oslo Vinterpark renter
- Thor Nielsen, Oslo Vinterpark renter
- Steven Blackie, Hemsedal renter
- Eirin Eiken, Oslo Vinterpark employee
Emotion Mapping

Using methods from the Smaply online service design toolkit, I conducted an emotion mapping workshop with three people from my user group. Two of them were first-time renters, and one was a returning renter.

First, we discussed the renter journey’s to make sure everything was listed as accurately to their experiences as possible. Next, I had them go over each step in the journey and rank it from a +2 to a -2. A +2 represented a good experience, such as snowboarding for the first time, and a -2 represented a bad experience, such as having to stand in line multiple times or going to the wrong place.

This workshop allowed me to observe key highs and lows in the rental experience from the eyes of the renter that my solution could aim to fix, and the feedback also solidified the users support and excitement for this project. To the right is a summary of the ways my project should aim to intervene.

The new solution should aim to:

Be more understandable
Be more efficient
Reduce crowding
Reduce Lines
Be engaging and fun!
Before At the Mountain After

1. Kate comes to Oslo
2. Googles Oslo Vinterpark
3. Goes to the mountain
4. Enters the rental shop
5. Goes to wrong counter
6. Stands in the wrong line
7. Fill in renter information
8. Print rental receipt
9. Goes to get boots
10. Enters rental shop
11. Gets boots & puts on
12. Goes to wrong counter
13. Goes to get snowboard
14. Receipt to employee
15. Gear is scanned in
16. Goes to payment line
17. Pays
18. Goes to return gear
19. Gear is scanned out
20. Receipt to employee
21. Thinks about her trip
22. Kate goes home
23. Rides

Summary
As you can see in the diagram above, most of the rental journey today takes place at the mountain, with a few steps before, and a few steps after.

In the case of the first time renter that I followed around, he went to the wrong counter three times, and this confusion is not unusual. You can see in steps 5,6, and 12 the user stands in the wrong line, and it impacts their emotions negatively. By the third time at the wrong counter, their emotion level is at it’s lowest and it only rises above a neutral feeling, or “0” when they go and snowboard.

In steps 7,9,13, and 16 the renter stands in the minimum lines (not including when they go and stand in the wrong place first). This amount may vary at different resorts, such as Hemsedal, but from what I discovered the confusion remains.

These are just a few problem areas my solution needs to address, and in my proposal section you will how my solution aims to improve this journey.
The Users

The First Time Renter:

About
20 years old
Paradise
From Denmark
Visiting Oslo

Technology
Time Saver on Technology
Not Snowboard
Not Skis

Goals
Rent board, boots & jacket
Purchase a discount

Wants
Help knowing what to rent
Help in English
Have a good time
To meet locals

Frustrations
Not sure what to bring to the slopes
Ski & snowboard store confusing
Don’t know how to use the gear

“I’m so excited to skateboard for the first time! I skateboard so I hope I’m good.”

The Returning Renter:

About
19 years old
Student
From Portugal
Lives in Oslo

Technology
Time Saver on Technology
Not Snowboard
Not Skis

Goals
Rent helmet
G airing and cool quality

Wants
Affordable rental
Avoid queues

Frustrations
Helmet had no size
Wanted to keep own helmet
Wanted to be able to ski in the same place

“I’ve been renting a helmet every time I go up. I just started skiing and buying my own gear is very expensive.”

The Rental Technician:

About
26 years old
Rental Technician
From Norway
Lives in Oslo

Technology
Time Saver on Technology
Not Snowboard
Not Skis

Goals
Customer satisfaction
Less stress
Accurate inventory

Wants
Fun at work
To make customers smile
More time focusing on the guests

Frustrations
Selling customers everywhere
Running out of stock
Unhappy customers
Constantly busy

“I wish I spent less time directing people where to go.”

The First Time Renter means someone who has never booked rentals using this application, and it is generally someone who has never gone skiing or snowboarding before. The returning renter is someone who has reserved through the application before, and are familiar with the rental process. As my solution is aimed as something that can be implemented at multiple different resorts using the same application, more users are likely to become returning renters, even if they never go to the same resort twice.
Comparative Research.

Rentals

Just as it is important in life, in the design process I believe it is important to observe other situations to reflect on your own. For my thesis, I did field observations and desktop research in areas besides mountain rental.

Part of this research included mapping out all different types of rentals, and looking further into a select few. The rental areas I chose to research further were car rentals, bicycle rentals, book rentals and hotel rentals. I chose these areas because I know they are implementing technology and giving users more independence in the rental process. I looked into specific companies for each of these processes as an example, and mapped out simple journey’s to see what is being done in these areas.

For example, to the right you can see a journey for Oslo City Box Hotel, and Oslo Bicycle. I also looked into Avis remote car rental system, and Nedap RFID innovative library solutions.
Comparative Research.

What makes a good airport experience?

Airports
Another part of my comparative research included observing the check-in process at multiple different airports, as well as interviewing fellow travelers over my winter holiday to the US (which had far too many delays and transfers that I decided to make use of).

During my short discussions, I asked people what made for a good, or bad airport experience. I think that some of these responses could also be applied to a good, or bad mountain rental experience as both experiences have similar aspects such as a check-in process, or interaction with employees.

Airports have tools such as self check-in kiosks, online check-in, animated displays, baggage weight check, and mobile QR passes which make travelers more independent and helps the efficiency of the process. The integration of technology in airports and other rental systems stood out to me as a good indication of the direction I could see my project going.

“I love the Oslo airport. It’s nice looking, easy to navigate, and modern.”
-Anonymous, Oslo Gardermoen

“I’ve had negative experiences in many American airports. I feel like everyone is really unfriendly.”
-Anonymous, Amsterdam Schiphol

“I remember being very confused in the Amsterdam airport. I ended up walking to the wrong end of it.”
-Anonymous, Chicago O’Hare

“I love that I can have boarding passes on my phone now. It makes it easier.”
-Anonymous, Seattle-Tacoma
Reflections

At this point in the project, I have determined my project scope, which is a scalable solution for Norwegian resorts that acts as a personal assistant through the whole rental journey. This solution is placed within the existing Skistar application and is targeted towards both first time, and returning renters.

The new solution should aim to be more understandable, more efficient, reduce crowding, reduce lines, give the user a better interaction with the employees, and overall be more fun and engaging.

In the following chapter, I will begin to discuss my design process, while keeping all of this in mind.
This chapter presents the iterative design process after my initial research phase that has led to my final design proposal. The chapter will cover ideation and workshops, wireframing, initial concepts and analysis of these concepts, lo-fi and hi-fi user testing and iterations, and my reflections of this process before I present my design proposal in the final chapter of this report.

44 Concept Ideation
46 Wireframe Flows
48 Lo-Fi Prototyping
52 Mood Boards
54 Hi-Fi Prototyping
68 Reflections
Concept Ideation

Keeping in mind my project abstract, and the reflections from the research phase of this project, I moved into concept development.

To begin this phase of the project, I did a few workshops involving fellow designers. One workshop was sketching out one idea per minute with another classmate for 10 minutes, then switching and focusing our ideation on each others projects for 10 minutes.

Another workshop I did was a small game with other designers where I wrote out a series of words related to my project goals. From here, each person picked two words to put together, and drew out a concept for five minutes, then we passed the pages along and repeated the process.

Not only did these workshops allow me to have a fresh set of eyes on my project, they also helped me notice patterns in my own ideas and others. From here, I began to detail four potential concepts.
After detailing out my four potential concepts, I detailed out wireframes for each concept. This more detailed overview of my four potential directions allowed me to analyze and discuss which concept would eliminate the most negative pain points from the renters journey, and help me reach my project goals.

During this analysis, I mapped out which pain points the different solutions would address, to see which one had the most potential.

I decided to go forward with making a booking application for the rental process, as it presented a solution for many of the pain points in the previous renters journey, and also seemed the most feasible for more than one resort to implement into their rental process.

From here, I began prototyping, testing, and iterating my concept until I arrived at my final solution.
Lo-Fi Prototyping.

First Lo-Fi Prototype
Using a combination of Sketch, Invision and paper prototyping, the first version of the application I tested was a booking system that would allow customers to book lift passes and rental gear all at once. Depending on the mountain they are going to, perhaps they would also be able to book lessons or rentals, however since that is not the focus of my project, I did not focus on that in my prototype.

In this early prototype, after the user has completed the reservation and arrives at the mountain, they are prompted to scan a QR code at a kiosk in the rental shop. The kiosk would then print any necessary lift passes, and as well as reserve their place in the queue for help from one of the employee's.

The reason I chose to have the users check-in with a kiosk in this initial version, is so they are only able to check-into the queue when they are up at the mountain, and not for example before they arrive.

Testing
I got feedback on this version of my prototype with one Oslo Vinterpark employee, a returning renter of Oslo Vinterpark, a fellow designer, as well as my tutor Nick.

A key piece of feedback I got was if the user had to check-into a kiosk at the rental shop, that would mean they need to stand in another line. This was one of the main pain-points in the previous journey I was trying to reduce with my solution. After watching the testers and hearing feedback on the usability of this initial prototype, I knew what to take forward into my next prototype and what to leave behind.

For example, the Oslo Vinterpark employee told me what parts of the rental process I may have left out, such as entering the renters weight. I also got feedback from the returning renter and some of the designers about some of the wording I was using, and using too many words, so this was something I needed to refine in my iterations.
Lo-Fi Prototyping.

Second Lo-Fi Prototype
For the second lo-fi version of the app, I made the booking, and check-in process all done in app.

By allowing renters the option to check-in to the virtual queue once at the rental shop, this version eliminates the users need to stand in line at a kiosk in order to check-in. This is done utilizing ibeacon technology, which I will discuss further in my proposal section.

For this version of the app, I also added a feature that shows the renter their place once in the virtual queue, as well as when it is their turn at the rental counter. While this information could be displayed on a large screen in the shop as well, I wanted to see people’s feedback on also displaying this in-app.

You can see a few of the screens from this prototype above.

Testing
When I tested this lo-fi prototype, I tested it with someone from Spain I met on the subway headed to Oslo Vinterpark and renting for the first time, the rental manager at Hemsedal, and a fellow designer.

The first time renter gave me some valuable insight as to what would confuse other first time renters when using this app. For example, he didn’t understand what a “ski pass” was (wording that Skistar currently uses on their website). I have since changed the wording of this to lift pass, as well as focused on refining word usage and tone of voice. He also told me he did not quite understand what he should do once he “checked-in”, but that it was easy to do in the app and he imagined there would be further clarification at the hill.

The designers and employee told me that while the app seemed to get the job done, it seemed like it could be more exciting and helpful to the renter. Also, that it had too many steps per page.
Creating Different Mood Boards
Before moving on to develop and test my hi-fi prototypes, I wanted to develop different mood boards to get feedback on from my users.

I created three different mood boards which were inspired by different mountain scenery. In one of the mood boards I also included colors from Skistar’s current application branding, such as the red color, light gray, and white.

On these mood boards, I also wanted to give examples of UI in order to give users an idea of how the interface could look for each given mood board.

Testing User Opinions
In order to pick out which direction I would design my app in, I printed off my three different mood boards and took them to the Oslo Vinterpark rental shop.

I started by asking the rental employees for their vote. After, I left the sheet at the payment counter and asked my new friend behind the rental payment counter to try to remind customers to put a mark next to their favorite mood board. I was hoping there would also be some comments written while I went out to snowboarding with my friends!

When I came back in, I had gotten 14 total votes for blue, 9 votes for purple, and 3 votes for red, however I wasn’t surprised there were no comments.

After asking a few more people in the rental shop, some helpful responses I got were, “I like the bright and fun look of the blue and purple” and “The red seems a little corporate.” In the end my final decision was to go with the blue and vibrant mood board.
Hi-Fi Prototyping.

First Hi-Fi Prototype
After I tested the lo-fi versions of my prototype and got feedback on the concept and key aspects of usability, I went forward to creating my first hi-fi prototype which included more details, images, and illustrations. This included a detailed walk-through of the personal booking and rental shop assistant, as well as inspiration from my blue mood board.

As I found out from my previous two versions, I wanted my solution to allow for booking of lift passes and rentals through the app, as well as allow renters to check into a virtual queue, and be notified when it is their turn for assistance.

I needed to make sure the wording used throughout the interface was understandable for new users, while also keeping it concise. Another aspect of this application I needed to work on was making it come off as friendly, helpful, and perhaps exciting. I wanted to make sure the users would feel prepared and happy before, during and after their rental experience.

“Why do you need the whole calendar showing? It makes the page seem busy.”
“Here is a lot of text that I just don’t want to read.”

“All of these options look like they are for the same thing, and that you can pick more than one. You should use radio buttons.”
“I didn’t get that you had to tap the check marks to add the items you want to your cart. And, they too small for my fat thumbs.”
Hi-Fi Prototyping.

First Hi-Fi Testing
At this point, I understood what features my application should have, and key information that was needed in the rental process from employee feedback. I decided to test this version with three fellow diploma candidates who have not previously seen my app, or rented gear in recent years. This allowed them to easily take on the perspective of the first time renter, while also providing valuable input on design choices.

One aspect they all liked, was the scan card feature and bright blue illustration on the card. They told me I should try to use more visuals to guide the renter.

The screen they all seemed to dislike the most was the confirmation of payment, that also told the user what will happen once they arrive to the mountain. One of them quoted “We can’t wait to meet you” in a very sarcastic and dry tone. I could see what exactly what she meant and knew I needed to focus on making the experience more engaging for my final prototype.

Thank You
“Thank You Kathrin!
You spent too much!

You will see your rental under opening tomatos. Your remaining balance will then be charged to you.

We will send a receipt to your email.

Next Step

Welcome
“I think that the pop-up is nice, it demands your attention.”

Place in Queue
“It would be nice if this looked more of a countdown.”

Your Turn
“It’s a nice feature that it has the employee’s name and the counter number so it is easier to find where you need to go.”
Hi-Fi Prototyping.

Second Hi-Fi Prototype
Going forward from my last hi-fi prototype, I wanted to work on incorporating more visuals, a walk-through for the first-time renter, and adding more elements that would help the user feel more prepared in their rental journey.

For my final scenario, I wanted to showcase what it would look like if there was more than one person booking together, for example two friends or a family. After refining the necessary information and wording needed for each step of the booking process, I decided I wanted to present this information as “cards”. This would allow for booking for an unlimited number of renters in a clear and concise way.

I brought forward other elements of previous versions that worked well in testing, such as the scan your card to pay feature, and pop-up notifications.
Hi-Fi Prototyping.

Testing With Shortcut Designers
I decided to ask the designers at my future job, Shortcut AS to test the last version of my app before my final changes and user testing. I saw this as a good opportunity to practice how to conduct my final user testing, as well as get to know some of my future colleagues and get feedback.

First, I presented a summary of my concept and target users, then I presented them with the scenario they would be testing as. Afterwards I had 4 different designers test the app one-by-one while I filmed them for audio and re-actions, as well as their hands and what they were clicking.

The main things I needed to fix before testing with my users, was making the cards look more like swipeable cards, and making sure every button, such as the “add renter profile” looked clickable. The designers also liked the “guide” aspect of the app, which is something I decided to bring forward even more in the final version.

“Scan Card”

“Walk-through”

“This page looks good. If it is for Norwegian resorts, maybe you should add Vipps?”

“Edit Booking”

“It’s nice it tells you how much time you have. The buttons on the bottom seem kind of like an awkward option here though.”

“Place in Queue”

“I feel like this section could be more different than how you saw it before when you had no bookings.”

“Testing With Shortcut Designers”

I decided to ask the designers at my future job, Shortcut AS to test the last version of my app before my final changes and user testing. I saw this as a good opportunity to practice how to conduct my final user testing, as well as get to know some of my future colleagues and get feedback.

First, I presented a summary of my concept and target users, then I presented them with the scenario they would be testing as. Afterwards I had 4 different designers test the app one-by-one while I filmed them for audio and re-actions, as well as their hands and what they were clicking.

The main things I needed to fix before testing with my users, was making the cards look more like swipeable cards, and making sure every button, such as the “add renter profile” looked clickable. The designers also liked the “guide” aspect of the app, which is something I decided to bring forward even more in the final version.

“This page looks good. If it is for Norwegian resorts, maybe you should add Vipps?”

“It’s nice it tells you how much time you have. The buttons on the bottom seem kind of like an awkward option here though.”

“I feel like this section could be more different than how you saw it before when you had no bookings.”
Reflections.

During this phase of my project, I went from initial concept development to detailing out different concepts, and evaluating them, to lastly iterating and testing my chosen concept.

I had a variety of testers throughout the different iterations, which was helpful in receiving varied feedback, as well as noticing patterns in design feedback and usability.

Through each iteration I noticed my concept evolving bit by bit, in order to create a solution that would address and improve more of the original pain points I set out to improve. For example, through my iterations my concept has evolved to reduce the amount of lines the user will stand in, and will help users to understand the renter journey from start to finish.

In the next chapter, I will provide an overview of the methods used in this design process, and finally I will present my final proposal.
This chapter provides insight into the choices of methods used to develop my final concept. First, I will provide an overview and my project timeline, followed by the various methods used to develop my project and my reflections.
Overview
The methods I used in this project combined traditional design frameworks, such as the double diamond, with an ethnographic approach throughout the project ("The Design Process: What is the Double Diamond"). The double diamond approach is divided into four distinct phases, discover, define, develop and deliver. The project outline to the left outlines what each of these phases have included for this project, although I have split the develop phase into two sections, which also includes the design phase. In this iterative process, a mixture of divergent and convergent thinking is used in order to arrive at the final solution.

Ethnographic Research
As stated in my motivation, I chose a project where I could immerse myself between the users, or the renters, and their experience. I did this by continuously doing field observations, interviews, and testing as well as photographing and filming throughout the process as a “fly on the wall.” This allowed me to have a deeper understanding of my users, their pain points, and motivations, which acted as a guide for my project.

Comparative Studies
Just as it is important in life, in the design process I believe it is important to observe other situations to reflect on your own. For my thesis, I did field observations and desktop research in areas besides mountain rental. This included other rental processes, as well as observations and interviews regarding the check-in process at various airports. Similar to mountain rentals, these areas both integrate technology, line management, and customer and employee interaction.

Interviews and Surveys
My research started at six different mountain resorts throughout the US and Norway. Alongside observations of the rental procedure, I interviewed employees, managers, and renters of these resorts. I also sent surveys out to employees at the various resorts for further insights. As I scoped my project in, I conducted more detailed interviews with employee’s and first time and returning renters of Norwegian mountain resorts. Some of these users have supported me throughout project development and testing.

Workshops
I conducted various workshops throughout this process, for example journey and emotion mapping with my user group using methods from the online Smaply toolkit. Smaply is an online service design toolkit, which allowed me to learn and apply aspects of service design thinking into this project since I have no prior education in this area.
I also held ideation workshops with other designers during the concept development phase. These sessions allowed for further user input, as well as outside perspective and fresh eyes.

**Analysis**

Using the double-diamond design method throughout the process, I continuously analyzed my findings for key take-aways throughout each phase of the design process. These analyses can be found as “reflections” at the end of each chapter in this report.

**Concept Development**

The concept development phase of this project included various ideation workshops. This phase also included wireframing, lo-fi prototyping and testing these in order to narrow into my final concept. During concept development I kept my user emotion mapping workshop in mind, in order to develop a solution that would make their experience more efficient, understandable and engaging. From here, I went on to hi-fi prototyping, user and designer testing, and iterating, in order to arrive at my final deliverable.

**Designer Feedback**

Throughout my design process, I discussed and tested concepts with other designers, including fellow diploma students, my tutors, and designers at Shortcut As. This allowed for a fresh set of eyes on project development, for example in the concept development phase, or the phase of the project when you have been staring at your own work for far too long! This also gave me insight into other methods designers are using, and the environment of my future job.

**User Testing**

In order to refine my concept and final solution, I tested various concepts and versions of my prototype with my user group throughout the design process. I had one representative from the employees, a first time renter, and a returning renter (of the current system) testing with me throughout the process. I also conducted one-time tests with users in my target group in order to get fresh reactions and feedback.

**Reflections**

I have learned as a designer with a journalism background, I appreciate an ethnographic approach to design, and establishing a strong understanding and empathy for the users and their needs. I hope you enjoyed my process, and now I will go on to my final proposal.
This chapter will present my final design proposal, a personal digital guide for the entire booking and rental process at Norwegian mountain resorts.

I will provide an overview of the concept, the new user journey, the information architecture of the app, my final screens and design reasoning, user testing and feedback, and finally my reflections on the project as a whole, acknowledgments, and references.
Overview.

The Design Proposal
The proposed solution is a digital assistant for the entire booking and gear rental process at Norwegian mountain resorts. This new booking service is proposed as a segment of the existing Skistar app.

The application acts as a personal guide for the renters journey before the mountain, at the mountain, and after. The aim of this proposal is to make the gear rental process more efficient, understandable and engaging.
Overview.

Use Context: Home
One of the primary areas of use for this application is the home of the user, although it could be used any other location the user wishes to book their trip to the mountain.

A large majority of the interaction with the application is done in this context and at the users own leisure, allowing users to spend less time in the rental shop at the mountain and more time out on the slopes.

Use Context: At the Mountain
Another context of use for this application is at various Norwegian resorts. The use of the application in this setting is when the users are prompted to check-in to the virtual queue, when they are notified of their place in line, when it is their turn at the counter, and when they have returned their gear.

Visual Identity.

A New Visual Identity
As stated in the process section of the report, I decided to apply a vibrant blue identity that represents mountain scenery. This is not using the branding of the current Skistar application, however I have taken some visual cues. For example, the implementation of cards in the UI, or using a light background with bold sans serif titles.

I included a combination of illustrations and imagery in order to contribute to the engaging expression of the application and to get users excited for their trip to the mountain. The image style used on the renter cards is mountain scenery with colored overlays, much like you see throughout this report. The illustration style is vibrant yet minimal, taking inspiration from my earlier mood board. The illustrations also include text that is personalized. For example, on the check-in page you see in the image above, the Oslo Vinterpark logo will be replaced depending on which mountain the user goes to. This will make the app feel more like it is there to personally assist the user in the journey.
User Journey.

1. **Ingvild and Kate come to Oslo**
   They have come from Copenhagen to check out Oslo for the first time!

2. **Ingvild googles Oslo Vinterpark**
   They heard it is really easy to get to from the city center and want to check it out.

3. **They receive a reminder of their trip**
   They have already read the first time renter walkthrough, and the day before their trip they get a friendly reminder.

4. **Ingvild downloads the Skistar app**
   Ingvild heard about the app on Oslo Vinterpark website.

5. **Completes the booking for them**
   Ingvild completes a reservation for rentals and lift passes, and pays.

6. **They go to the mountain**
   They take the bus, tram and subway to the mountain, and find it easy since the Skistar app also had directions.

7. **Get a notification to check-in**
   Once they arrive within range of the rental shop, they receive a notification to check-in to the virtual queue.

8. **App tells them their place in queue**
   They receive their place in the queue, with approximate wait time and live updates so they can do what they like while they wait.
Notifies them of their turn
The app notifies them when it is their turn, this also is shown on large screens.

They get all of their gear
The friendly employee has all their gear pulled and ready for them.

Gear is scanned out
The employee confirms all the gear is right for them, and then scans it out.

They return their gear
The return counter is clearly labeled and the renters leave their gear with an employee here.

Get a notification gear is returned
They get a confirmation everything is returned. This also provides other calls to action, such as showing upcoming events.

They go back to Oslo
They leave the mountain back to the city the same way they came. They don’t need directions from the app this time!

Think about their trip
They had a lot of fun, and can’t wait to try snowboarding again!

They snowboard
The best part about the day!

80 81
Wireframe Flow.
Booking Homepage.

Booking Tab
My whole design proposal takes place under the “Booking tab” of my newly proposed update to the Skistar app. In this project scope, I have not redesigned the other sections of the app, however I have redesigned the icons to match better to the new visual identity.

Your Bookings
The top section of the booking homepage provides an overview of your upcoming, and previous bookings. In this first screen, you can see there is no upcoming or previous bookings.

Book New
In the lower half of this page, you select the dates you want to go, and how many guests you are booking for. The amount of lift passes and rentals will adjust automatically according to how many guests are going, however you can adjust this manually if for example one person only needs a lift pass.
Renters Information.

Search settings

These are the settings previously selected on the booking home page, however they also appear on this page as well for easy adjustment if necessary.

Renter Information Cards

The card UI allows for the user to easily navigate booking for multiple people. For example, a family or two friends. The first card in the deck will always be the user of the app, and will feature information previously stored to the profile upon signing up for the app. This information can always be changed later on. In this scenario, Ingvild has created a profile on the Skistar app, however she has never selected her rental preferences so she will have to enter those. Additional renters information will also have to be added, as you can see on the card to the right.
Add Renter Profile.

Add Profile Photo
When creating a new renter profile, the user is prompted to add a new photo for the renter they are adding. This will make it easy to book with people from your rental history in the future, and if the user is buying lift tickets for over a week, a photo already required by some mountains.

Renter Information
This is where the renter fills in any necessary information, such as if they already have a Skistar alliance card. The Skistar alliance card allows them lift access when loaded up, and is a one time fee which can be used at all collaborating mountains.
Rental Offers

After all of the renters information is entered, they are each presented with their rental options in the same card format based off their preferences. For example, the renter, Ingvild does not already have a Skistar alliance card, so she has to pay the mandatory one time fee, along with the lift pass fee for her selected riding days. The user also has some items that are optional to delete, such as boots if the user already has their own pair.
The user has three options for payment method: manual entry, scanning their card, or paying by popular Norwegian app, Vipps. At the top of this page they are reminded of their total.
Walkthrough.

(For First Time Renters)

Thank you Ingvild and Kate! We can't wait to meet you.

Your Booking
View or edit your booking under upcoming bookings.

Check-In
You will receive a notification to check-in to the virtual queue once you arrive at the rental shop.

Personalized Help
Our expert employees will help find the right gear for you and answer any questions.

Enjoy your time on the mountain!
Upcoming Booking.

Upcoming Booking
Once their booking is completed, the user can view or edit their upcoming booking. For the sake of my project scope and time, I have not designed out this screen.

Upcoming Notification
The renter will also receive a notification the day before their reservation as a friendly reminder. The notification will include other features that can be found in the app, for example the weather, or possibly a first time renters guide for those it applies to. I have integrated bits of the existing Skistar app, such as the weather forecast to prove how the existing app compliments my proposal, and vice versa.
Check-in

Upon arriving within the range of the rental shop, the user will receive a notification to check-in. This notification is prompted by the use of iBeacon technology once the user comes within range ("What is iBeacon"). The use of iBeacon technology allows the users to only check-in once they are nearby the rental shop, and not for example while they are still on their way to the mountain. After checking-in, the user receives a confirmation and further instructions saying they will get a notification when it is their turn, or that they can look for their name on a large shop screen.

No App? No Problem.
What happens if someone hasn’t downloaded the app? Forgot their phone? While this is not the focus of my diploma, I have not forgotten about this scenario. There will be kiosks at the rental shop with a similar interface to the application. Users who have already booked on the app can easily search their name and check-in. Users who have made previous bookings can also search their name to pull up their information quickly, and new renters can input all of their information, pay, and check-in to the queue all in one place. Next to the kiosks, the resorts will ideally also advertise for users to download the app.
Place in Queue.

Queue Management
Upon checking-in the renter immediately gets a notification of their place in the queue along with an approximate wait time. There is also suggestions of how to pass the time, such as cafe discounts available through the app. There will be live feedback available at the top of the app if the user navigates elsewhere in the app, along with an approximate three minute warning to stand near the rental counters and wait for their name to be called.

No App? No Problem.
If users have checked-in on the kiosks, they can keep track of their place in the queue via large screens in the rental shop which relay the renters name and approximate wait time. In this circumstance, the renter will have to stand nearby the screens in order to keep an eye on their place in the queue whereas with the app they would not.
Your turn.

Gear is Prepared
Part of this new proposal is slightly re-framing the way the rental employees work. Similar to how chef's in restaurants work, the employees will be able to view each rental "order" ahead of time, and be able to prepare it behind-the-scenes before the renter arrives to the counter. This gives the renter the illusion that the whole experience was quicker, as they are able to wait for their turn wherever they like, and once they arrive to the counter the gear is ready for them. This also has the potential to relieve some stress from the employees.

No App? No Problem.
If users have checked-in on the kiosks, they can keep track of their place in the queue via large screens in the rental shop which relay when it is their turn and which counter they should go to.

Your turn!
A notification appears telling the renter it is their turn to go to the counter for personal assistance receiving their gear. The notification also tells them the counter number, as well as employees name.
Returning Gear

Gear is Returned
The renter receives a notification confirming their gear is all scanned in and returned, and thanks them for their visit to the mountain.

Gear is Not Returned?
The renter who might have forgotten and gone straight to the after-ski would alternatively receive a friendly reminder to return their gear as it is nearing the end of the day.

Call to Action
This notification is also paired with a call to action in order to continue the renters interaction with the app, and the mountain!

No App? No Problem.
The renters are able to also watch the employees scan their gear back in, and of course the friendly employees will also thank them for their visit to the mountain and maybe even remind them to download the app for next time!
Testing & Feedback.

Scenario

I conducted testing of my final prototype with five different users. Two of the users have rented once before and have never seen my app, (but are users I’ve previously spoken to), one of the renters has rented multiple times throughout the season and has tested previous versions of my app, one was an employee of the rental shop and has tested previous versions of my app, and one was someone who has never rented and never seen my app before. I gave the users a scenario (see above) to keep in mind while going through the prototype, and asked them to think out loud while going through the prototype.

With two of my testers, I also wanted to try to re-create the situation of going to the mountain and using the application upon arrival. Since all the mountains were closed at time of testing, I mocked this by going one stop from our starting location on a bus, then verbally “notifying” the tester to check-in, and so on. I even had them bring their skateboards to simulate the best part of the day: riding, and after they returned the gear I “notified” them it was all returned, just like the app does.

I REALLY hated standing in line. If I could use this and just wait outside and smoke, that would be great.

--Thor Nielsen, Oslo Vinterpark renter

I think this app would make me feel more comfortable with going. I liked the walkthrough part a lot too.

--Ada Karlsen, has never rented

What would happen if the renter did not have the app? Or forgot their phone?

--Thor Nielsen, Oslo Vinterpark renter

If I walked in with the app, I think it would have made the whole experience easier.

--Pedro Chalabardo, Oslo Vinterpark renter
Testing & Feedback.

Takeaways
After conducting my testing and hearing feedback on usability, I conducted small interviews to see what the users understood from the concept as a whole, if they could see themselves using this service, and so on. The overall feedback from this testing session seemed positive and that the application would make their experience easier.

The feedback from the employee of Oslo Vinterpark was that they could see this being easy to implement at their resort, as they are soon remodeling their rental shop. She also could imagine other resorts implementing this at various degrees depending on how much money the resorts were willing to spend. But that, “Booking in the application is a great place to start”.

I was not surprised one user said his favorite part of the testing was when he got to skateboard, which just goes to show no matter how much work I put into this project the best part of the experience will probably always be the riding! And I’m perfectly fine with that.

Technical Limitations
The usability test was a bit confusing to the user due to technical limitations from Invision. For example, some screens that were meant to be animations, such as a loading payment confirm check, the user had to click through instead of it animating automatically. Another main issue with Invisons mobile app, is the user being able to swipe between all the screens, even when swiping a non-interactive area. In some circumstances them swiping took them out of the intended flow and I had to intervene which caused confusion.

Most people are not used to seeing something that looks like an app but doesn’t act fully like a polished app, so I think there will always be some awkwardness about testing with prototypes.

Since the testing I have put my prototype into Principle, a program I learned for the first time during this project. Principle has allowed for smoother transitions and a more realistic app feeling. Given more time with the project, I would have loved to test with this slightly more polished version as well as refine and add even more refined transitions.

Regarding the Testing Scenario
I gave my users a scenario to imagine, that they were two friends booking in the app together and heading to Oslo Vinterpark for the first time. I don’t think that this was hard to imagine, since it was their first time using this app, or this version of the app.

I think what was most difficult about the scenario, was testing the users reaction to the service as a whole when just testing in the school. I was not able to test at any mountains as all of the nearby mountains have closed at this point. This is why with two of the users, I decided to simulate a trip to the mountain and the whole experience of getting rental gear, riding, and so on. This was my first time doing testing like this, and while it helped me to put the users more into the scenario, the imaginary scenario, along with the complications with the Invision prototype might have confused them. That said, they still seemed to be having more fun then when I tested with the other three users. I think that says something about recreating the experience of going to the mountain, and being able to gauge their emotional reaction to each step in the proposal.

In order to accurately see how participants respond to this prototype, as well as my overall concept, It would really have to be tested at the mountain with some participation from employees. However, overall I am satisfied with my test results and methods.
Reflections.

Personal Goal
Looking back on this project, overall I am really satisfied with this diploma and excited about what I have learned. I got to apply aspects from my former journalism and graphic design education, as well as what I have learned through the interaction design program AHO. With such a long design process I also noticed which parts of the design process I value the most, such as connecting to my users, or meticulously pushing pixels back and forth on my designs. I also used Principle for the first time for my final prototype, which I am quite excited about using in the future. This project should be about applying all my previous education, as well as continuously learning, and I believe I have done just that. Additionally, I got a job at a company that only makes apps, so it was nice that I focused my last school project on creating an app to prepare me for that.

Overall, I am really satisfied with this diploma and excited about what I have learned.

Limiting the Proposal to an App
Obviously, an app is not an end-all solution for mountain resort rentals. There will always be people who are not aware of the app, who don’t want to use the app, or do not have a phone. Ideally this proposal would have included a booking design for web, as well as a kiosk in the rental shops that would include check-in features for the new queuing system. That said, for the time and target of this project, I decided it was best to focus only on designing the application and I am happy I went in this direction.

Skistar Lack of Response
Hopefully after reading this long report you have notice that I’ve mentioned multiple times that this service is to be provided by Skistar alliance within their existing application. You also have probably noticed that I have not mentioned anything about an official collaboration with Skistar, or even feedback from them.

Unfortunately, I have reached out to Skistar a few times without much response. At the beginning of the project, when looking for potential collaborators, the head of their IT department told me they did not have the time at the moment. When I reached out to them again towards the end of the project asking for input on my proposal and solution, I did not receive any response.

I’ll just assume they were too busy enjoying the last of the season on the slopes, and leave it at that. I stand by my arguments to place my service within this existing app. That said, even if it was not within the Skistar app and it’s own application for Norwegian resorts, I believe it would receive the same user feedback and have the same impact.
Future Development
Given more time to work on this project, there are some things I would add. Like mentioned, I think it would be important for this new solution to also implement a new design for booking on the web, as well as a kiosk interface for at the rental shop. I would also like to design out the “Past Bookings” section, to show what it would look like if the user wanted to quickly book the same rental. I also would design out the “View or edit bookings”, and possibly additional features such as a “First time renters guide” which is mentioned on one of the pop-ups as a feature this application would include. I think that another nice feature to look into is rental punch cards for returning renters, like what is done at many coffee shops. The reason I didn’t design these now is I did not find them to be the most important part of my solution, and wanted to focus my time on refining other aspects.

Impact
If this project was to be implemented, I believe it would greatly impact the users experience in a positive way, based on my user feedback and based off of the current situation in rental shops. I believe that this solution will be more understandable, reduce crowding and lines, improve interaction with employees, and make the users feel more confident about their rental experience. On the diagram on the next page, you will once again see the users emotional journey as it is today, and my hypothesis of the new emotional experience based off user feedback and my proposal. You will see that the journey is shorter overall, and that more steps take place before the mountain than in the current journey. I also believe that this solution could provide more organization and reduce the stress on the employees and rental shops, largely since they will be pulling all of the gear before the customer arrives to the counter. Another impact of this solution, is that it would ensure people who book ahead of time that gear in their size is reserved for them. This solution also has the potential to increase business, visibility and usage of the app for all involved.

I believe that this solution will be more understandable, reduce crowding and lines, improve interaction with employees, and make users feel more confident about their rental experience.

All in All
I have had a lot of fun during this diploma, but have also worked hard and learned a lot. I am happy that every time I went to the mountain there was an opportunity to work on this diploma, and vice versa. I’m crossing my fingers that in the future I’ll work on another project related to this industry but for now I am ready for this project to come to an end.
Reflections.

Before

1. Comes to Oslo
2. Googles Oslo Vinterpark
3. Goes to the mountain
4. Enters the rental shop
5. Goes to wrong counter
6. Stands in the wrong line
7. Fill in renter information
8. Print rental receipt
9. Goes to get boots
10. Enters rental shop
11. Gets boots & puts on
12. Goes to wrong counter
13. Goes to get snowboard
14. Receipt to employee
15. Receipt to employee
16. Goes to payment line
17. Pays
18. Rides
19. Receipt to employee
20. Goes to return gear
21. Gear is scanned in
22. Kate goes home
23. Thinks about her trip

At the Mountain

1. Comes to Oslo
2. Googles Oslo Vinterpark
3. Downloads the app
4. Completes app booking
5. Reminder before trip
6. Goes to the mountain
7. Notification to check-in
8. App tells place in queue
9. Notifies you of your turn
10. Gets all the gear at once
11. Gear is scanned out
12. Renter rides
13. Returns gear
14. Gets a notification gear is returned
15. Goes home
16. Thinks about trip

After
Special Thanks.

A very special thank you to all the people who helped make this project possible and enjoyable, and thank you for taking the time to read through this report.

To my supervisors Nick Stevens and Jørn Knutsen for their continuous support, guidance and knowledge throughout this project.

To all my informants who have provided me with valuable insights and feedback, especially to the Oslo Vinterpark employees for and constantly putting up with my picture taking and questions.

To my video and photo models, Ingvild, Kate and Emma for putting up with my awkward directing and improvising.

To Rachel, Trude, Tove and the rest of the AHO design institute for their guidance during this project and my time at the institute.

And last but not least to the other diploma students sitting in S8, especially the ones who shared coffee.

References.

On a Design Ethnographic Approach
Stickdorn, M., Schneider, J., & Dijk, G. V. (2010). This is service design thinking Amsterdam: BIS.

On Double Diamond Design

On Skistar booking system

Oslo Vinterpark Rentals

Comparative Studies: Oslo Citybox

Comparative Studies: OsloBysykkel

Smaply Service Design Toolkit

On Ibeacon Technology

On the Psychology of Waiting in Lines