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CONSUMER HEALTH TECH WEARABLE WEB APPLICATION

A case study of web application redesign project

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ABSTRACT

Marianne Sirén: Consumer health tech wearable web application: A case study of web application redesign project
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The purpose of this thesis is to study how well design iterations work in the very early stage of a website redesign project. The focus is on the perspective of how the project team felt about starting design iterations right from the beginning. This study is limited to health tech wearable products where users have a mobile application to use with the health tech wearable device.

Design iterations are a repeatable process, cycles of designing, prototyping, testing and evaluating the outcome with users. The purpose of design iterations is to get quick user feedback of the newest designs. The redesign in the case study was started completely from scratch and deciding the concept for the website is a part of this case study.

Health tech wearables are, for example, sport watches and fitness trackers. Many of the health tech wearable devices work in a way that the data the device collects is synced with a mobile device and the user has a specific mobile application to use with the health tech wearable device. This approach of syncing the health tech wearable with a mobile device gives quite much freedom to the possible web application. Web applications can be completely left out, or it can have more functionalities than the mobile applications have.

The first part of this thesis covers competitor analysis to understand the state of the business. Competitor analysis compares different health tech wearable web applications and shows different solutions how competitors have approached the issue.

The theoretical background of this study focuses on theory about design iterations on website redesign projects. It covers motivations for website redesign and theory about design iterations, user interviews and A/B testing viewed from the perspective of a website redesign.

The case study concentrates on concepting and prototyping a website and evaluating it in design iterations. The first design iteration round started from defining the possible concepts for the web application and building a paper prototype for it. Prototypes are built with three design iteration rounds and they all are low-fidelity mockups presenting the website ideas. The goal for the whole project was to build a web application that users feel brings value to them and would be useful to be used with the mobile application.

The results of the study indicate that design iterations work well also in the early stage of a website redesign project. Design iterations can help to understand users' expectations better already from the beginning. The

project team felt that to get the full benefit of design iterations the amount of design iterations shouldn't be limited to too little.

Keywords: wearable technology, design iterations, user interviews, evaluations, health tech wearable

The originality of this thesis has been checked using the Turnitin OriginalityCheck service.

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1 Introduction

According to research published in the National Library of Medicine, 30% of adults in the United States are using some health tech wearables. Nowadays there are many kinds of different health tech wearables existing. These health tech wearables can be, for example, fitness and wellbeing trackers such as sport watches or more specialized devices that, for example, gather data from glucose levels and blood pressure. The health tech wearable market is constantly growing. In 2018 the market for wearable healthcare devices was estimated to be US \$24.57 billion and it was slated to continue growing annually 24,7% to US \$139.35 billion by 2026. (Chandrasekaran et al. 2020).

Many of these health tech wearables work in a way that the data is synced to the product's mobile application via Bluetooth connection. For example, a Garmin sport watch is synced with Garmin Connect mobile application and an Oura ring synced with Oura mobile application. In practice this means that these health tech wearable users must use the product's mobile application as a primary service in order to get their health wearable data synced.

Besides offering the mobile application to users, many health tech wearable products have their own web applications, too. The web application can be different compared to the mobile application. For example, Whoop has their own web applications to see long term trends and goals. Lynch (2019) describes in an article on Whoop website: "The WHOOP mobile app is a great tool to see real-time feedback on your recovery, strain, and sleep, as well as weekly trends for a brief snapshot of your data. But, did you know you can see trends up to 6 months at a time on the WHOOP web app, along with a plethora of additional insights?". Sports watches Garmin and Polar have also web applications where users can, for example, explore maps and routes (Garmin, Polar Flow).

In this study we are viewing some health tech wearables for consumers that are meant for tracking fitness and improving general wellbeing. That means, for example, sports watches such as Garmin and wristbands such as Whoop are included.

1.1 The product used in the case study

The product which was used in the case study is a health tech wearable that is used for tracking sleep, readiness and activity. Users sync their health tech wearable usually every morning with the mobile application using bluetooth connection.

After the health tech wearable is synced with the mobile application, the mobile application gives insights for the coming day. The mobile application describes how well the user slept last night, how ready the user is for the day and advises what kind of activity to perform during the day. Sleep, Readiness and Activity are different sections in the mobile application and they each contain their own metrics. Each of these sections are given a score that is something between 0-100, where score 100 means optimal.

Sleep and Readiness scores are calculated each morning and they are based on metrics that are measured during the night. That means that every morning the user receives Sleep and Readiness scores. Activity score is calculated during the day and it represents the balance of rest and activity.

1.2 Background for the case study project

Besides being able to use mobile applications, the health tech wearable users are able to access their health tech wearable data from a web application, too. The web application has a data dashboard, which is also a frontpage for the whole web application. The data and the visualizations on the web application are quite similar to what is on the mobile applications in a sense that all the applications are currently focusing on a single day view.

During spring 2022 there was a small project team dedicated to a renewal of the web application. The project team contained two Frontend Engineers, and the author of this thesis was another one of these engineers. First project for the new project team was to redesign the web data dashboard from scratch.

The project team wanted to understand what users would want to see on the data dashboard and what are the things that would bring value to users. Our project team decided to use the design iterations method to include users during the whole redesign project to participate in the outcome. This case study project focuses on the redesigning project for the web data dashboard. This project includes the design and planning phase of the project: concepting the website, prototypes and user interviews. The concept ideas are validated in the evaluation phase of the iteration rounds.

2 Competitor overview

To gain understanding how other health tech wearable companies handle their separate web applications, we did a brief competitor analysis. There are many different kinds of health tech

wearables on the market but focus here is on devices that track their users fitness and general wellbeing, are well-known within the industry and have some kind of web application existing. These devices are not medical devices and they are all paired via bluetooth connection to the users mobile device. Many well-known health tech wearables, such as Firstbeat and Suunto, were left out from this analysis as we found out that they don't offer a web application version at all to their users.

2.1 Whoop

Whoop is a wristband that costs from 20-30 euros a month. The hardware is included in the monthly price. Whoop is a pure wristband that collects data and there is no screen and therefore any kind of notifications.

Whoop web application visualizes the same metrics that are visualized in the mobile application, too. The main difference with the visualizations is that the web application shows metrics in greater detail. Whoop web application also allows users to view and download PDF reports that describe their current wellbeing. (Whoop support 2022).

Whoop web application allows users to select a time period from predefined time periods: 1 day, 1 week, 2 weeks, 1 month, 3 months or 6 months time period. There are plenty of charts available for users to select, such as balance between strain and recovery, shown in Image 2. According to the Whoop article, they even provide some data that is not yet available in their mobile application. (Lynch 2019).



Image 2. Whoop web application. Source: Lynch 2019.

It seems that Whoop web application is very in line with their mobile applications which means that is treated equally within the company compared to the Whoop mobile applications. Whoop invests greatly on web application development, too and offers their users a possibility to use Whoop web application and have seen detailed data in there.

2.2 Garmin

Garmin has activity trackers and sport watches. The prices vary from 90 euros up to more than 2000 euros. Besides Bluetooth connection, Garmin has the capability to sync the tracker or watch data via USB-cable straight to Garmin Connect web application. Garmin watches and sport trackers can be used together with different sensors, such as heart rate sensors to improve the data accuracy.

Garmin has mobile applications and a web application, both called Garmin Connect. According to two review articles about Garmin Connect written by Sawh (2021) and Basinger, some actions can be only executed on the Garmin Connect web application. In the Garmin Connect web applications users can perform various different tasks, such as create customisable dashboard tabs, view individual workouts as shown in Image 3, or create routes that can be imported to the watch (Sawh 2021, Basinger).

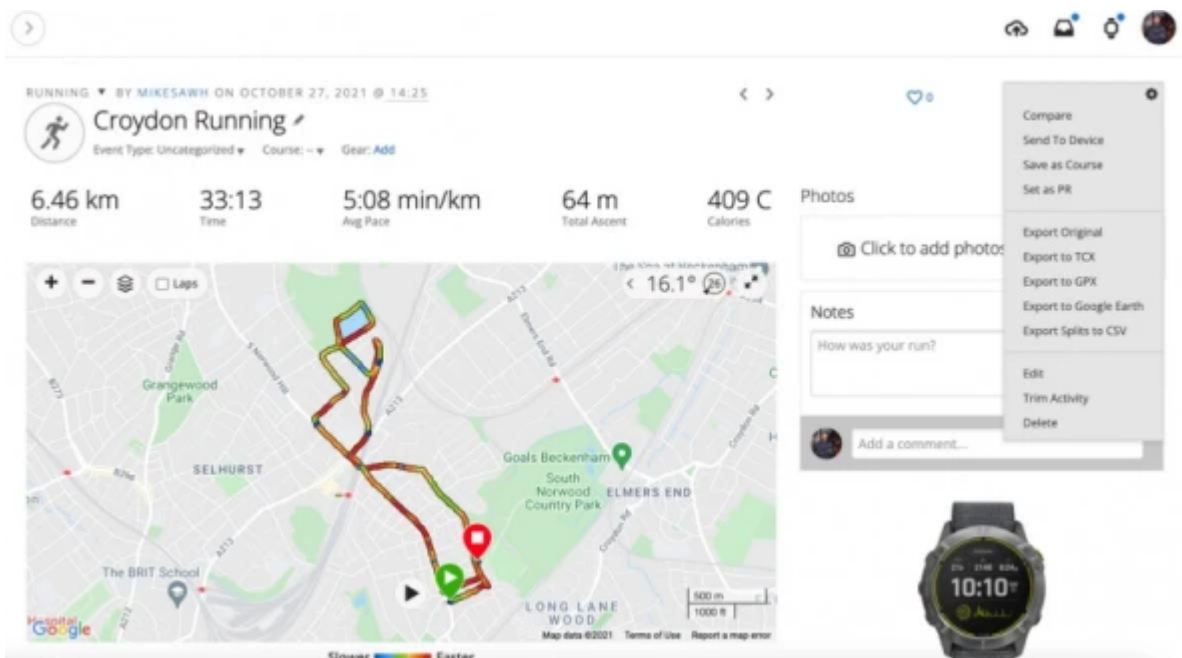


Image 3. Garmin single workout details. Source: Sawh.

It sounds quite clear that Garmin is highly investing in the Garmin Connect web application. Looking from the outside, it actually seems that Garmin is not treating their mobile applications as

primary services and instead the mobile application and the web application are in the same line and treated equally. Some features only exist in the Garmin Connect web application which indicates that the usability of each feature is considered case-by-case and built for the version that makes the most sense.

2.3 Polar

Polar is a fitness watch that costs from 150 euros up to 650 euros at the moment. In addition to transferring data via bluetooth to the mobile application, the data that Polar collects can be transferred directly to the web application with FlowSync software and a USB cable. Polar watches can be used together with different sensors that improves the date accuracy.

Polar Flow web service is Polar's web application where users can do all the same things as they can in the Polar mobile application, and a bit more. There are features and views that are only available on the Polar web application. There is a wide range of things that users can do in the Polar web application, including Polar community features, such as Flow Groups, Flow Clubs and Flow Events, that are available via Polar web application. Image 4 introduces a training report for the whole year 2016 which can be very nicely presented on a wide screen. (Polar Blog 2022).

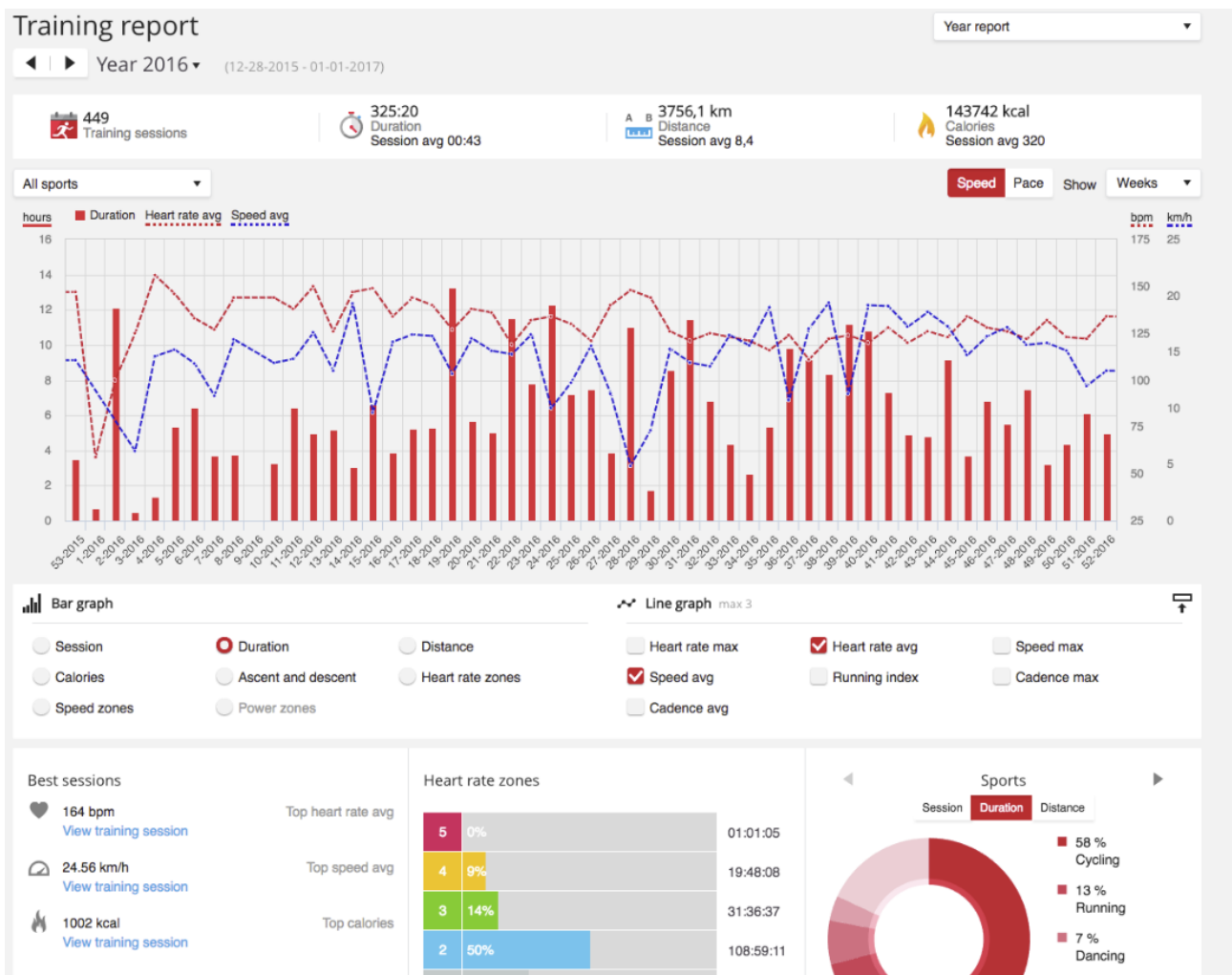


Image 4. Polar web application training report. Source: Polar blog.

Polar is following the same trends as Garmin and Whoop, meaning that they are also investing very highly in their web application.

2.4 Fitbit

Fitbit has two versions of their product: a smartwatch version and a tracker with a screen version. The prices vary from 70 euros up to 250 euros. The membership costs around 7-9 euros in a month.

Fitbit mentions on their site that they have a web dashboard. The dashboard can be seen in Image 5. According to the Fitbit community the web dashboard is lacking many features that can be found from the mobile applications and the web dashboard hasn't been developed in many years (Fitbit Community).



Image 5. Fitbit web dashboard. Source: Fitbit.

Fitbit web application is a very simple dashboard with not many functionalities in it. It seems that Fitbit is not currently developing their web application at all and it is not treated equally compared to the mobile applications.

2.5 Competitor analysis conclusion

As can be seen from the analysis, the quality of web applications vary with different products. While Whoop, Garmin and Polar are investing a lot on web applications, there are many products that don't nowadays even have a separate web application or, like the Fitbit in the analysis, the web application has been left behind from the development. The lack of web application is understandable - if the health tech wearable is synced with users mobile application, it makes a separate web application redundant and a voluntary add-on. A team building the application and updating an unnecessary web application naturally costs money for the company and if there is no demand from the users side, why build and update it?

On the other hand, Whoop, Garmin and Polar seem to be forerunners with their web applications. They give the power of choosing which device to use for their users to decide. In that way, they make users more powerful. Nowadays there are many different health tech wearables for users to

select the best suited for their personal use case. A separate high quality web application might bring more value to some users as it can utilize the wider screen size, visualize longer time periods easily and allow users to dive deep into their health data with different kinds of interactions than what mobile applications offer, such as hovers.

3 Design iterations on website redesign projects

Design iterations are widely used on website design projects and it has been recognised that in almost all cases user interfaces should be designed iteratively (Nielsen, 1993). Nielsen (1993) states that even the best usability experts are not able to design perfect user interfaces in a single attempt and that it is nearly impossible to design user interfaces without usability issues from the start.

When it comes to website redesign projects, they are risky projects and they require coordination and enough resources. Loranger (2015) gives examples of risks that a website redesign project might face: don't stay on schedule, might stop and start several times or some projects might even just fizzle completely. For redesign projects to succeed they should be based on user data, they should have clear goals and the success of the project should be measurable (Loranger 2015).

3.1 Design iterations

Interaction Design Foundation defines User-centered Design (UCD) as follows: “User-centered design (UCD) is an iterative design process in which designers focus on the users and their needs in each phase of the design process.”. Image 6 shows the process of iterative design.

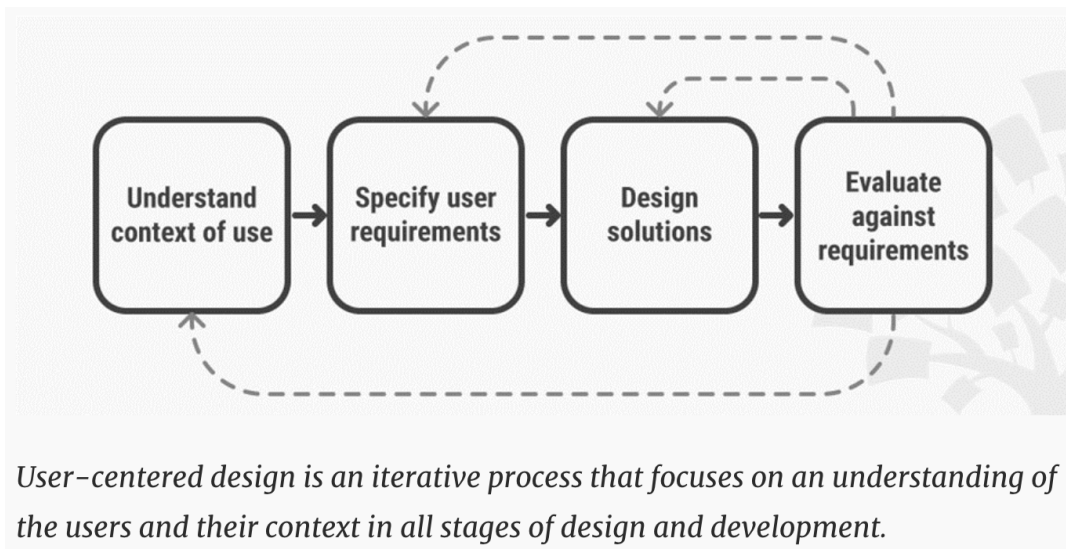


Image 6. Iterative design process. Source: Interaction Design Foundation

As can be seen from the Image 6, at the end of each iteration round there is an evaluation. The evaluation means that the iteration round outcome is evaluated with the actual end users (Interaction Design Foundation). These evaluations are about getting feedback from users and they can be performed, for example, as user tests. Evaluations should be started very early on the project. Nielsen and Tahir (2000) contend that user tests should be performed as early as possible

to maximize the impact on the final site, and the first user tests can be performed with paper mock-ups without any functionalities. Krug (2014, 91) explains early user testing as follows: “If all you have is a rough sketch, for instance, the task may consist of simply asking them to look at it and tell you what they think it is.”. Then as the project continues, everything that is produced will get tested: wireframes, page comps, prototypes, and finally the actual page (Krug, 2014, 91). According to Nielsen and Tahir (2000) five users per study is enough: “You will always have discovered so many blunders in the design that it will be better to go back to the drawing board and redesign the interface than to discover the same usability problems several more times with even more users.”

Nielsen (1993) also describes that not all iterations produce a better design and some changes may turn out for worse. So when the design is evaluated after each iteration round, it is possible that not all changes are better than the previous one. Even if there are some changes that are not for the better, after several iteration rounds eventually the usability of the product will grow (Nielsen 1993). Image 7 displays four case studies of how the usability was eventually improved.

Name of System	Interface Technology	Versions Tested	Subjects per Test	Overall Improvement
Home banking	Personal-computer graphical user interface	5	8	242%
Cash register	Specialized hardware with character-based interface	5	9	87%
Security	Mainframe character-based interface	3	9	882%
Hypertext	Workstation graphical user interface	3	10	41%

Image 7. Four case studies of how much iterative design improved the usability. Source: Nielsen 1993.

So design iterations can help get the project on the right track from the very early stage of the project. Krug (2014) describes that it is not that easy to correct mistakes to a site that is already in use and mistakes that can be corrected early in the process will save from troubles. Every change that is done to a site that is in use can cause unwanted effects (Krug 2014). So spending time with users and understanding the user needs plays a big role. Lowdermilk (2013) states: “We need to accept that time spent with our users is a necessary part of the development process. It’s just as necessary as learning and writing code.”.

3.2 Website redesign projects

Website redesign projects are not that much different compared to regular design projects nor other software projects. The first steps are to define business goals and requirements for the website, build a project plan and get a good understanding of the customer who you are redesigning for (Lopuck 2012). Lopuck (2012) underlines the importance of the set goals as they will directly affect the project in many ways, such as influence to the concept for the page. The concept of the website plays a big role when redesigning a website. Hambeukers (2014) describes the website concept as follows: “When designing a website, the concept is the answer to the problem the site is trying to solve, the story the site is trying to tell”. A concept can be one or more interrelated ideas or thoughts and might change during the project due to new insights, so it doesn’t have to be a fixed entity (Hambeukers 2014).

Clear and measurable goals and requirements are also important for the team members of the project. Braun (2020) highlights the importance of clear goals and states that in order for a project to succeed, the project team should be aware of what they are expected to do and be aware of the desired outcome. Lopuck (2012) contends that there should be one to three prioritized, identified and documented goals that answer a question about what the company is trying to achieve with the new design. The selected goals should be measurable so it is possible to review if they were achieved or not. Requirements are a list of things that the site needs to be able to do. Lopuck (2012) describes that requirements can be thought of with the sentence: “The site should have the ability to X.” Requirements can be prioritized and categorized between must-haves, nice-to-haves and could-have-in-the-future (Lopuck 2012).

When starting a redesign project it is helpful to understand the state of the current website. According to Loranger (2014), Wurm (2021) and Krug (2014, 91) user testing and auditing the current website and understanding the strengths and weaknesses of it will help to understand what parts of the current website works and what not. Performance indicators, such as bounce rates, visit durations and usage by device will give you meaningful insight from the current website (Wurm 2021). Loranger (2014), Wurm (2012) and Krug (2014, 91) also propose that reviewing and testing competitors' websites might bring important insights and help figuring out better ways to do things. It’s also possible to do usability tests for competitive sites before starting the design project. Watching users trying to perform tasks on competitive sites shows what works and what doesn’t work without needing to actually build anything (Krug 2014, 91). Braun (2020) points out also that clear goals help research how competitors are trying to solve the problem in hand.

3.3 Motivations for radical redesign approach

A redesign project shouldn't be done on light grounds. Nieleesen (2009) contends that users don't really care about website designs. Even if a website is redesigned and the new design would have better usability, users might not like it at first because the new design forces them to re-learn how to use the website (Nielsen 2009). Nielsen (2009) explains that in general, it could be said that users don't like changes even though they likely will eventually learn to like the new design. So before starting a redesign project it's important to consider whether to do a complete redesign or would it make more sense to do smaller design updates to the site (Loranger 2015).

There are reasons when to actually do a complete redesign project. Wurm (2021) demonstrates different scenarios when to do a website redesign:

- The website is outdated.
- The website is at least five years old.
- The website doesn't scale on different screen sizes.
- The website has too low conversions and traffic.
- The website has a high bounce rate.
- Competitors have better working websites.
- Small changes to the website are hard or impossible to make.

Loranger (2015) proposes when to redesign a website:

- Making incremental changes doesn't bring much value.
- The technology is outdated which makes critical changes impossible.
- The architect on your site is a mess.
- Low conversion rates on the site.
- Research reveals the website is worse than competitors.

Nieleesen (2009) summaries two different situations when to apply more radical approach to the new design:

- "If you have **almost no current users** and expect a major design improvement to dramatically expand the user base. In this case, the business loss from punishing your current customers is small enough to be worth taking. Of course, it's still a gamble that you'll actually be able to attract a vastly bigger audience. Remember the old adage: a bird in the hand is better than two in the bush. Unless you're sure that there are millions of users in that bush, you might not want to go there.

- If your old design has incrementally evolved for so many years that the overall user experience has become **overly convoluted** and lost any sense of a unified conceptual structure.”

3.4 User interviews

There are different methods for user interviews, such as structured interview, semi-structured and unstructured interview. The key is to select the interviewing method that suits the best for the situation in hand.

Structured Interviews

Wilson (2013) describes that on structured interviews there are a fixed set of questions and a script to follow during the whole session. In practice this means that usually all interviewees are asked the same questions in the same order and at least mostly the interviewees are asked to select a response from predefined options. Structured interviews work well when the major issues are already known and the team wants to collect detailed information that can easily be analyzed and compared. Creating a structured interviewing script with questions and predefined responses is challenging but on the other hand conducting the actual interview doesn't require that much training. (Wilson 2013).

Unstructured Interviews

Unstructured interviews are like conversations with an agenda (Wilson 2013). Wilson (2013) describes that the goal in unstructured interviews is to gather information about interviewees experiences without any restrictions and are good for exploring new domains, getting first impressions out of new products. King, Horrocks and Brooks raise (2019) the issue that unstructured interviews are challenging for interviewers as the interview can be hard to manage. Also Wilson (2013) points out that the interviewer must be an experienced facilitator as the interviewees might raise various topics during the interview and therefore the discussion might ramble.

Semi-structured Interviews

Semi-structured interview contains parts from structured interview and unstructured interview. So there are predefined questions and open ended explorations. There isn't that tight script to follow as in a structured interview but some document to follow usually exists. The goal for these semi-structured interviews is to gather information about a set of topics but allow exploration about

other topics during the interview. Semi-structured interviews are good when you already have knowledge about specific topics or issues but more details are still needed. (Wilson 2013).

Focus groups

User interviews are also possible to perform in a group and this method is called a focus group. Wilson (2012) describes that in focus groups the participants talk about their opinions, past experiences or reactions to a new concept and there is a moderator or facilitator guiding the discussion. Focus groups are good for quite early stages of development and they are good for quickly getting a sense of users' feelings and opinions, familiarity or interest in a concept and initial impressions (Wilson 2013, Fessenden 2022). Fessenden (2022) states that focus groups can help understanding users' mental models and expectations. Focus group interviews may contain, for example, questionnaires, brainstorming, mini-user trials and observation of product use (Wilson 2013). Wilson (2013) and Fessenden (2022) raise the possible challenges in focus group interviews: group dynamics, dominant individuals and conflicts between participants. Due to possible challenges in group dynamics, focus groups meetings require an experienced moderator (Wilson 2013).

Remote interviews

Interviews are also possible to be done remotely. Remote interviews can be done in different ways: on telephone, on video, or online questionnaires. Wilson (2013) and King et al. (2019) state that remote interviews are a fast way to collect data and they are good when there are interviewees in distributed geographical areas. King et al. (2019) contend that visual cues that are available when seeing interviewees' faces can bring richness and nuances to interviewees' answers. On the other hand, the lack of visual cues might allow better focusing on the research topic and might avoid response biases (King et al. 2019). Visual cues can be available on remote interviews too via video but the requirements for the tools to be used are more demanding than without a video. Remote interviews with video might leave some participants out if they don't have the skills or the required tools (King et al. 2019).

3.5 A/B testing

In practice, A/B testing means that there are two or more different versions of a user interface which are tested with users. The goal is to sort out which version performs the best. Nielsen (1993) describes comparative testing in a similar way: "If one has to choose between two or more interface alternatives, it is possible to perform comparative testing to measure which alternative is

the most usable". Gallo (2017) states that it is also possible to run A/B/C or A/B/C/D tests which means that you have more than two different variations of the thing you want to test. There are of course certain factors that can affect the test results and that need to be taken into account, for example, if a user is using a mobile device or a desktop version. Gallo (2017) describes that users can be split into different groups before performing the tests, for example, mobile device users and desktop version users.

A/B testing is also a valid method to evaluate new ideas. According to Koning et al. (2019) A/B tested idea experimentation is done in three parts: First is the introduction of variation, then testing the alternatives ideas, and finally the selection of candidate solutions. A/B testing helps to determine which one from the competitive ideas is the best solution for the company (Koning et al. 2019). A/B testing can be performed on prototypes as well. This means that the A/B tests are performed on prototypes instead of live production versions of the application. Goldstein (2019) describes that prototypes to be used in A/B testing can vary from paper mockups with low-fidelity to websites with high-fidelity. Some prototypes may have from no functionality to little functionality and they are used in the early brainstorming phase, while other prototypes may contain enough functionality to test user interactions (Goldstein 2019). A/B testing with prototypes enables testing different versions or variations without needing to actually build or implement anything and this approach enables making important decisions earlier.

4 The case study

This case study project is done for a web data dashboard.

Motivation

As proposed in the theory chapter by Nielsen (2009), Wurm (2021) and Loranger (2015) the reasons for radical redesign approach in the case study project are:

- Changing the time perspective of the web application.
- The website doesn't have many active users.
- The website is outdated, over five years old and hasn't got larger updates.
- Making incremental changes will not bring much value.

One key opportunity that the team saw in the radical redesign approach was propounded by Nielsen (2009): "expect a major design improvement to dramatically expand the user base". This was put to the project goals as increasing the amount of monthly active users.

Goals and requirements

As instructed in the theory chapter by Lopuck (2012) and Braun (2020), a website redesign project should have clear goals and requirements. In order to know if the project succeeds or not the goals and requirements should be measurable.

The goals set for the redesign project:

- Increase engagement: Increase the amount of Monthly Active users (MAU) by 10 % by the end of year 2023.
- Retention: User Retention Rate 80% by the end of 2023.

The requirements set for the redesign project:

- Ability to find our product easily (advertisement, links, emails).
- Ability to look at your own data in longer time periods.
- Ability for users to understand the main factors from the data.
- Ability to share your data.

The visio set for the redesign project is:

- Offer a slower pace to see your health data visualized in long term trends.

The website redesign project begins with design iteration rounds. Due to the project schedule the iteration rounds are limited to three which is considered to be the minimum number of iteration rounds (Nielsen 1993). The iteration round steps are described on Diagram 1. The last iteration round prototype will act as a base for the first MVP version of the website. Evaluation will start already in the first iteration round with user interviews as instructed by Krug (2014) in chapter 3.1: Asking users to look at the rough sketches and asking them to share their feelings.

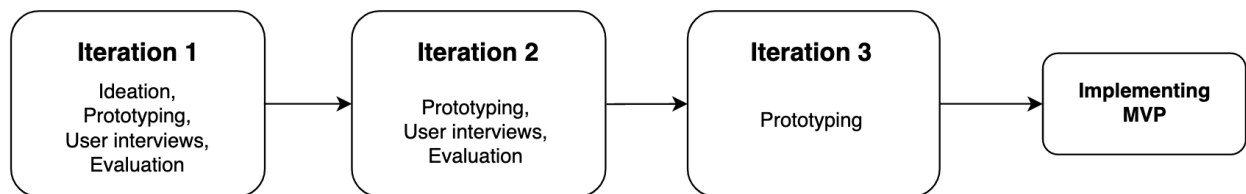


Diagram 1. The iteration round steps in the redesign project.

4.1 First iteration round

The first iteration round began with an ideation workshop to clarify the project. After the ideation workshop the team produced a paper prototype. The paper prototype is a low-fidelity mockup without any interactions. It is the most simplistic version and its purpose is to get very early feedback from users. The goal for the first iteration round is to evaluate how users feel about the concept of longer time periods.

Ideation phase

To get a clearer picture of what the data dashboard could be in practice, our project team held a concepting and brainstorming workshop using Futurice Lean Service Creation questions. Futurice describes their Lean Service Creation (LSC) canvases as follows: “comprehensive set of canvases to guide you through the process in a manner that makes sure you’re asking the right questions and solving the right problems”. The canvases were used as scrap paper to write down ideas that came to mind. The canvases are introduced in Appendix A.

The first canvas is Concept and Value Proposition (filled version in Appendix A.1). The canvas includes sections such as, “How does it work”, “What value it brings to end-users” and “Value to our business”. These help with describing the ideas for the website. Our project team got two ideas:

- First idea was showing longer time periods with the possibility to see correlations between different metrics.
- Second idea was a “slow news” styled web page.
 - Slow news could be formed for example once a week so data wouldn’t change constantly as with mobile apps. Each report could be shareable and exportable. Our one reference was body composition measurement that gives a clear overview of your body measurements.

The second canvas to fill is Business Objective and Context (filled version in Appendix A.2). The canvas contains for example sections “What is our business objective”, “How will we know that we succeeded” and “Risks, restrictions and things we need to take into account”. One key metric to know the success after the project is MAU - Monthly active users. After the ideation workshop, the team decided to move forward with the two introduced ideas and validate the ideas in the design iteration rounds.

First iteration round prototype

The goal for the prototype is to help validate the concept of longer time periods in user interviews. The metrics are grouped into meaningful sections on a paper prototype. These sections would allow them to work differently, for example, each section could even have their own time period depending on what makes the most sense for the data in hand. The prototype is visualized in Appendix B.

The prototype has five sections:

- The first section contains the Personal Goal and metrics related to the goal (Appendix B.1). The metrics vary depending on the selected goal.
- The second section is the Reproductive Health section for users who have enabled the reproductive health features (Appendix B.2).
- The next three sections are highlighted sections of Readiness, Sleep and Activity (Appendix B.3, Appendix B.4, Appendix B.5). These three sections in the prototype are meant to gather highlights from the selected time period.

The key findings from the evaluation

First iteration round contained four user interviews with users. None of the interviews had heard from the client web application previously. All of the interviewees felt that the web application could

be something they check every now and then while the mobile applications would continue to be used daily. All the interviewees were interested to see their data in longer time periods.

Thematic analysis was used to analyze interview results. Rosala (2022) describes thematic analysis descriptively: “a thematic analysis involves finding *themes*.” After thematic analysis of the user interview three main themes came up in every interview.

- **The set personal goal is interesting, but hard to remember.**
 - None of the interviewees didn't remember the goal they had set.
- **Understanding correlations between metrics and how different actions affect metrics.**
 - How actions affected metrics, for example, what bedtime was optimal for sleep.
 - How did workouts with different intensity (easy, moderate, hard) affect metrics?
- **How to understand a key question from the health data: Is my wellbeing going in a good or bad direction?**
 - Shouldn't take too much time to check these, easy to understand.

Other themes that got raised more than once during the interviews:

- Explaining things open in the UI as there is more space than on mobile.
- Being able to share sections or metrics.

The goal for the interviews was to understand if the concept of showing longer time periods is interesting to users. The interviews confirmed that the concept of longer time periods seems interesting to users. The second iteration round continues to validate the two different concept ideas and to resolve the found themes from the evaluation.

4.2 Second iteration round

In the second iteration round the two concept ideas from the first iteration round ideation workshop were introduced to users in evaluation. A/B testing is used to determine which one from the concept ideas feels more valuable to users. The goal for the second iteration round is to decide which one from the concepts is selected for the next iteration round.

Second iteration round prototypes

The prototypes are low-fidelity mock-ups and can be seen on Appendix D. These both prototypes contain six sections and the prototype UIs are similar to each other:

- Personal Goal (Appendix D.1),

- Reproductive Health (Appendix D.2)
- Sleep, Readiness and Activity Highlights (Appendix D.3, Appendix D.4)
- Scores (Appendix D.5).

Three themes that were found on the first iteration round and how to approach the theme on the second iteration round:

- The set personal goal is interesting, but hard to remember.
 - **Solution on second iteration round:** Continue having a personal goal in UI and keep it at top.
- Understanding correlations between metrics and how different actions affect metrics.
 - **Solution on second iteration round:** Wider screen size is utilized better and more written information is added which describes users the patterns that were found from their data.
- How to understand a key question from the health data: Is my wellbeing going in a good or bad direction?
 - **Solution on second iteration round:** Add a history comparison next to charts to see what direction is the health data going.

Concept: The Dashboard

The Dashboard concept is a data dashboard with the latest data. Users are able to access the dashboard any time they want and it always has the newest available data in it. The advantage that a web version would bring is the possibility of digging deeper into data with very detailed views and the help of written information that can be visible at the same time.

Concept: The Report

The Report concept represents the idea of a report styled web page. The report would be formatted, for example, once a month or once a week. Once a user accesses the page the latest reproduced report would be visible and it would be possible to see older reports, too. There is no possibility to change the time periods in the Report concept.

The key findings from the evaluation

Second iteration round contained six user interviews in total, both concepts with three interviewees. After thematic analysis, the four following themes were from the second iteration round:

- **The relevant findings from the data should be more visible.**
- **History comparison and insights are the most interesting ones.**
- **Charts are too hard to understand.**
- **The goal and metrics related to the selected goal are interesting.**

The interviewees were asked to give a grade for the concept that was presented to them. The grade was asked to give to “As an user, how much value this web application would bring to you”. The grade scale was from 1-5. The grades were given as follow:

- **The Dashboard Concept** got grades 3,5, 3 and 3 so overall grade is **9,5**.
- **The Report Concept** got grades 4, 3,5 and 4 so overall grade is **11,5**.

As can be seen from the results, the Report concept seemed a bit more valuable to users. A possibility to deliver the generated personal report by email was interesting to users. The Report Concept was selected for the next iteration round.

4.3 Third iteration round

The selected concept for the website was a report that will be delivered to users on a set day. The prototype created on the third iteration round will show the relevant findings from the data, give insights, and visualize long term trends for history comparison.

Third iteration round prototype

The UI of the prototype has been again split to meaningful sections that are:

- Goal section (Appendix F.1)
 - The goal section contains data from the past eight weeks and the values are a week’s averages. Next to the charts there is a short explanation about the graph.
- Trends section (Appendix F.2)
 - Longer term Trends. This section contains Reproductive Health features for those users who have it enabled.
- Sleep and Readiness sections (Appendix F.3, Appendix F.4)
 - Describe patterns, such as differences with sleep on weekdays versus weekends, that were found from the users data. Contains an Insight message describing what a user could improve.
- Activity (Appendix F.5)

- Focuses on showing visualizing workouts and active time. The top five activities are listed and the workout amounts, such as hours and kilometers, are shown below the activity.

The whole UI of the prototype can be seen on Image 8.

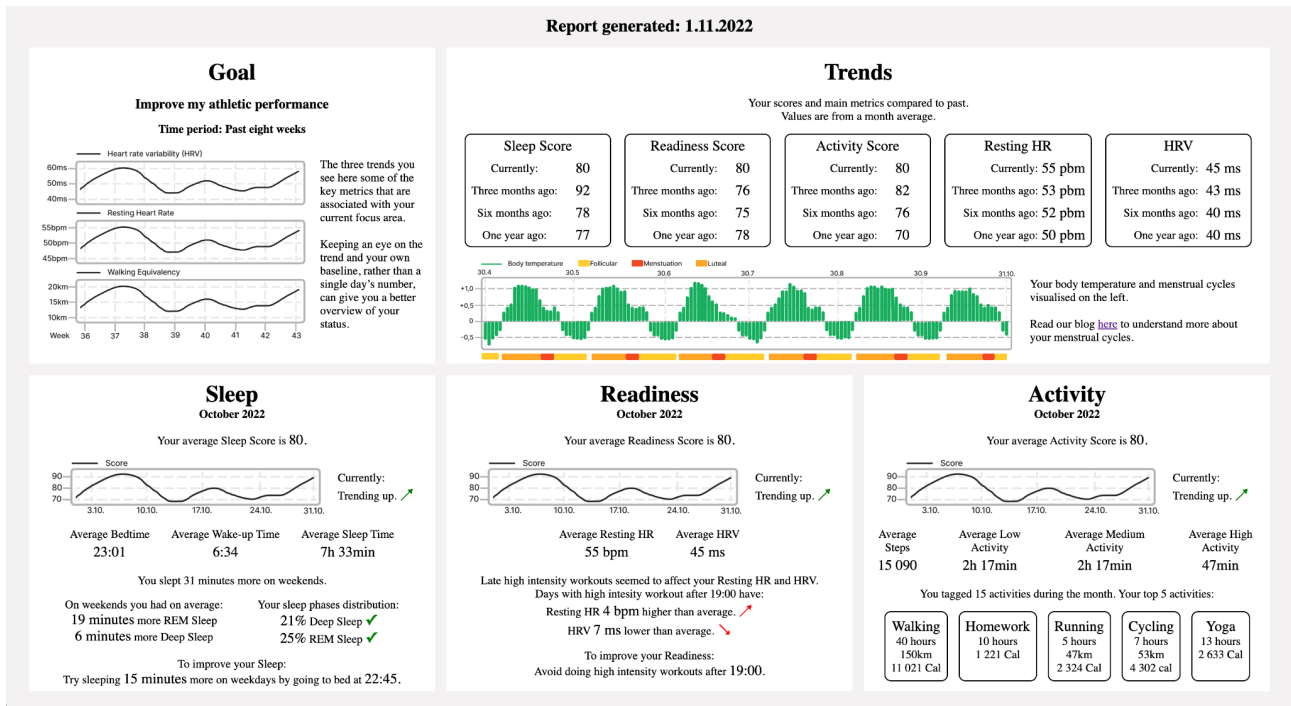


Image 8. Low-fidelity prototype of the outcome.

Four themes that were found on the second iteration round and how to approach the theme on the third iteration round:

- The relevant findings from the data should be more visible.
 - **Solution on the third iteration round:** Simplify and shorten the UI compared to the second iteration round. Have less written information.
- History comparison and insights are the most interesting ones.
 - **Solution on the third iteration round:** Show long enough data periods and keep some amount of written explanation.
- Charts are too hard to understand.
 - **Solution on the third iteration round:** Besides charts there are now pure numbers to make the UI simpler and cleaner.
- The goal and metrics related to the selected goal are interesting.
 - **Solution on the third iteration round:** Continue having a personal goal in UI and keep it at top.

5 Research methods

The website redesign project used the following methods:

- **Iterative design process:**
 - Three iteration rounds for developing a prototype for MVP version of the website. Nielsen (1993) contends: “Three versions (two iterations) should probably be the minimum in an iterative design process.”.
- **From semi-structured to unstructured interviewing methods:**
 - User interviews were used evaluating the outcome.
 - Unstructured interviews are good for getting users’ first impressions and recommended when it is desired to investigate a new product (Wilson 2013).
 - An interviewing guide was used in all user interviews. The Interview guide contained some specific questions to guide the discussion but it was not required to follow it strictly.
 - Notes were taken during the interviews and interviews were recorded but not transcribed.
- **Qualitative data:**
 - Using the qualitative observation methods in the evaluations to understand if the prototypes felt to users that they could bring value to them.
 - The qualitative data collected in evaluation was analyzed using thematic analysis. Thematic analysis is a process of breaking down and organizing rich data from qualitative research (Rosala 2022).
- **A/B Testing:**
 - Second iteration round contained A/B testing with two variations of prototypes.

After the website redesign project, the project team filled a questionnaire regarding using design iterations. The purpose of the questionnaire was to study how our product team felt about using design iterations from the very early stage of the project. The questionnaire contained yes and no answers with a possibility to explain the given answer. Questions are shown in Table 1.

Question:	Answer:	What/Why?
Do you feel that design iterations were working well for the website redesign project?		
Do you think some other approach than design iterations would have been better?		
Is there something you would have done differently in the project?		
Would you recommend project teams taking design iterations in use from the very beginning of the project?		
Do you think design iterations affected the project outcome (that the project was terminated)?		
Anything else you would want to share?		

Table 1. Questions for the project team after the project.

Results

The responses to the questionnaire are presented in Table 2.






Do you feel that design iterations were working well for the website redesign project?	No 0 % Yes  100 %	"Our prototypes were not perfect but every iteration round helped to develop the prototype of MVP further."
Do you think some other approach than design iterations would have been better?	No  100 % Yes 0 %	"I can't think of any other methods that would have involved users similar way and we wanted to get users involved."
Is there something you would have done differently in the project?	No 0 % Yes  100 %	"More iteration rounds, 2 or 3 more rounds at least" "No defining beforehand the amount of iteration rounds."
Would you recommend project teams taking design iterations in use from the very beginning of the project?	No 0 % Yes  100 %	
Do you think design iterations affected the project outcome (that the project was terminated)?	No  100 % Yes 0 %	"It was terminated due to other reasons."

Table 2. Project team responses to the questionnaire.

Besides the project outcome, our team agreed that design iterations were the right choice for this redesign project and that design iterations likely didn't affect the project outcome. We also do recommend design iterations already starting from the very early stage of the project. Our team wasn't aware at this point of other alternatives methods that could have performed better with the redesign project.

According to received answers the only thing that the team would have done differently was the amount of design iteration rounds. Also defining the amount of design iterations is not optimal and instead there should be a possibility to perform design iterations as many as needed. The results indicate that the reality of project resources and schedules compared to the time needed for redesign projects might not always match.

6 Conclusions

The research question on this thesis was to study how well design iterations work in a very early stage of a website redesign project, and the focus was on the perspective of the project team. The design iterations were the only method that was considered for the website redesign project as they enabled including users to the project from the very beginning.

The competitor analysis helped to understand the state of the business and how competitors have approached the issue in hand. As stated in Chapter 3.2 Website redesign projects, reviewing and testing competitors' websites would have brought important insights and helped to determine different ways to do things. It would have been very valuable to do actual usability testing for direct competitors, such as Whoop and Fitbit, but due to tight project schedule and lack of resources that wasn't possible. Usability tests to competitor sites would have also shown us what kind of features users feel are the most interesting to them. And as the competitor analysis showed, there are many ways to visualize the data collected with health tech wearable on a web application. Some products don't have a separate web application, some have stopped adding new features for the web application and for some products, it seems that web application is almost like the primary service in a sense that there are more features available. On the other hand: health tech wearables data is in many cases synced with mobile applications, mobile application is easier to carry everywhere and these easily lead to the mobile application being naturally as the primary service to use.

The information gathered and the methods introduced on the theory chapter were used and they were utilized on the website redesign project. Design iterations was a good way to gain understanding of users' expectations. The Futurice Lean Service Creation canvases were very useful and helped to clarify the project. I highly recommend using something similar when defining a concept and a purpose for a service.

In the iteration rounds, prototypes were introduced to users in user interviews and the themes raised in evaluations were used as a base when developing the next prototype. Focus groups by their nature would have been a valid option for some of the iteration round evaluations but they would have required more experience and resources from the project team. The whole team agreed that the design iterations were working very well. Our project team also agreed that the amount of design iterations was too small and at least two or three more rounds would have been needed for finalizing the prototype for the MVP version.

The design iterations, user interviews and producing the prototypes takes some amount of time. Evaluating the outcome with users already in the planning phase might feel that it is slowing the project down. At the very beginning the project team felt that kicking off the project started a bit slowly. Lowdermilk (2013) explains that in order to actually understand users' expectations it is necessary part of the project to spend time with users: "We have to break through the mindset that if we're not writing code, then our application isn't progressing.". If users' expectations are understood and implemented correctly, that can actually save time by eliminating the need to rebuild the application (Lowdermilk 2013).

Another interesting option for how to start this kind of redesign project could have been to spend more time thinking and validating different concept ideas for the website before introducing them to users. It would have been possible to first select, for example, 3-5 different concept scenarios for the website and present them to users with paper mock-ups in the first iteration round evaluation. The lack of resources and tight project schedule affected the selected methods that were used. Within the scope of this project it is impossible to compare how well these different approaches could have worked.

The research question on this thesis was to find out how well do design iterations work in the very early stage of a website redesign project. The question was focusing on how the project team felt towards design iterations and was limited to consumer health tech wearable products and situations when users are already using a very functional mobile application. According to the team responses: design iterations work well from the project team perspective in the very early stage of a redesign project. How to perform design iterations is another question and depends on the schedule, resources and the project characters.

Limitations

This case study was done with a very small team, only two project team members, and with quite few user interviews. Bigger team would have required more coordination and role splitting. In this project it was clear that the whole team participated in the evaluations. Also there is no comparison for other possible approaches to website redesign projects.

The interviewees were all located in Finland which very likely have affected the results of the evaluations and perhaps even to the results of the research question in this thesis. It can be very different to evaluate the outcome of design iterations if the participants are geographically split.

The project timeline was very limited which forced the case study project to have only three iteration rounds. Unfortunately the redesign project behind this case study was decided to terminate and therefore it will not continue any further. The team agreed that more iteration rounds would have been needed.

Applicability of the case study

Design iterations feel like a certain way to gather information about users' expectations. The team strongly agreed that in order to increase the amount of monthly users, the team must understand what features users would find valuable. Design iteration rounds helped to understand what features users value and what direction to go with the prototypes. Looking from the project team perspective: It can be said with relatively high certainty that design iterations work well in the very early stage of a redesign project according to this study.

The project itself had goals and requirements but it wasn't possible to validate all of them at this point of the project. Goals, such as increasing the amount of monthly active users, could be validated only after releasing the application and seeing the statistics. So looking from the perspective on how the project goals and requirements were met: as the project was terminated, it was very hard to say how well the selected methods were working.

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8 Appendices

8.1 Appendix A: Planning with Futurice Lean Service Creation papers

Appendix A.1: Concept and Value Proposition paper.

CONCEPT AND VALUE PROPOSITION

Concept name?
[REDACTED] "Päivien lehti"

How does it work?

<ul style="list-style-type: none"> - Longer timeframe in focus - Delightful dashboard ^{and} or report report - Has nice and understandable data exports - Curated collection of charts <ul style="list-style-type: none"> - with some customization 	<p style="text-align: center;">Dashboard</p> <ul style="list-style-type: none"> - "weekly report" - curated content - predefined timespans <p style="text-align: center;">"This time last year"</p>	<p style="text-align: center;">Trends</p> <ul style="list-style-type: none"> - Amplitude-like experience - curated defaults <ul style="list-style-type: none"> → can also choose from documented options (metrics) - timespan can be selected by user <p style="text-align: center;">→ "Advanced mode" ie. current Trends</p>
---	---	---

Value to the end-user?

Another point of view to "how am I doing".

LOVE THE PROBLEM NOT THE SOLUTION

FUTURICE

What differentiates it from other solutions to the same problem?

Dashboard:

- "slow news"
- Kehonkäytösmitäus tekeminen
 - Tiivistys siitä, miten voin.
 - Tarvittavia sen voi arastella, tai jättää esim. läikälle.

Trends:

- Mobiili applikaatioiden trends.
- Ihmääräisiä tapa katso pidemmän aikavälin trendit
- Isompi ruidukoko helpottaa
- Interaktio merkitelmät (siiri • räppäri)

Value to our business? ^{käyttäjryhmien}

Lisäarvo tiettyjen käyttäjien retention ja engagementin lisäämiseen

Mahdollisuus analysoida enemmän (trends), mahdollisuus tarkastella miten voin tällä hetkellä (dashboard).

#humanfirst palvelu erilaisia käyttäjiä

Written value proposition:

End-user: Light-downshifter

Fewer sessions, all insights (no FOMO)

Need: -----

Solution:
Curated collection of relevant charts and key values/trends

FAKE ADVERTISEMENT
THE FIRST PROTOTYPE

Create the first prototype of your service by creating a fake ad. You can use it to test your value proposition.

Picture

Caption

Headline

Copy

Lean Service Creation Toolbox By Futurice Ltd & licensed under a Creative Commons Attribution-ShareAlike 4.0 International license.

The Value Proposition Canvas is the property of Strategyzer and Strategyzer AG. www.strategyzer.com

futurice LEAN SERVICE CREATION

Appendix A.2: Business Objective and Context paper.

BUSINESS OBJECTIVE AND CONTEXT

Fill together with the person funding this project

Who needs to be involved?
(stakeholders, old and related projects..)

- Enterprise Squad (within Teams)
- CX
- Marketing
- Cloud Platform Squad
- Security team
- Mobile app TPM
- Engagement mission lead

How will we know that we have succeeded?
(After a month? After one year?)

MAU ↗
"Exit discussion"

What is our business objective?
(business problem/need/opportunity..)

- Lisätään rekettiota
- Tarjotaan ominaisuuksia joita mobiilissa ei voi tarjota
- Lisätään engagementia
- Käyttäjä omistaa datansa
 - export
 - Generate health report(s)

User research
- why use web
→ reasons ++?
→ has a reason to exist

Why is it important?
(How does it fit our strategy?)

- Kuukausimaksun myötä rekettiota on tärkeää
- Own your own health

ASK WHY.

What enables us?
(Brand strategy, competences, market position, ..)

- Huikkeit tekijät 😊
- Käyttäjien tarpeet ja halu vastata niihin
- GDPR
- Ei tarvitse alistua muiden mielipiteille
- Kk-maksu: enemmän tarvetta tarjota palveluita

Risks, restrictions and things we need to take into account?
(Budget, Schedule, Organization, Legal, Current business..)

- Design competence
- Backend ?
- Product owner
- Firman sisäinen arvostus

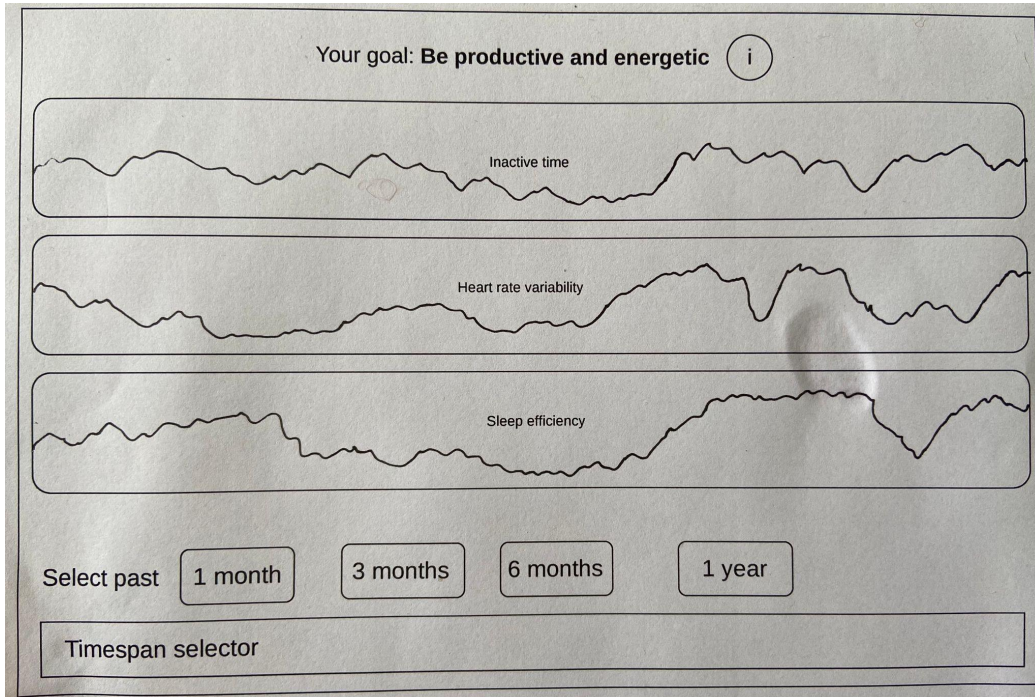
Based on what facts?
(The most essential data we have about the objective?)

- Ulkoa päin tulleat tiedot on liittyneet datan omistamiseen, kuten exportteihin

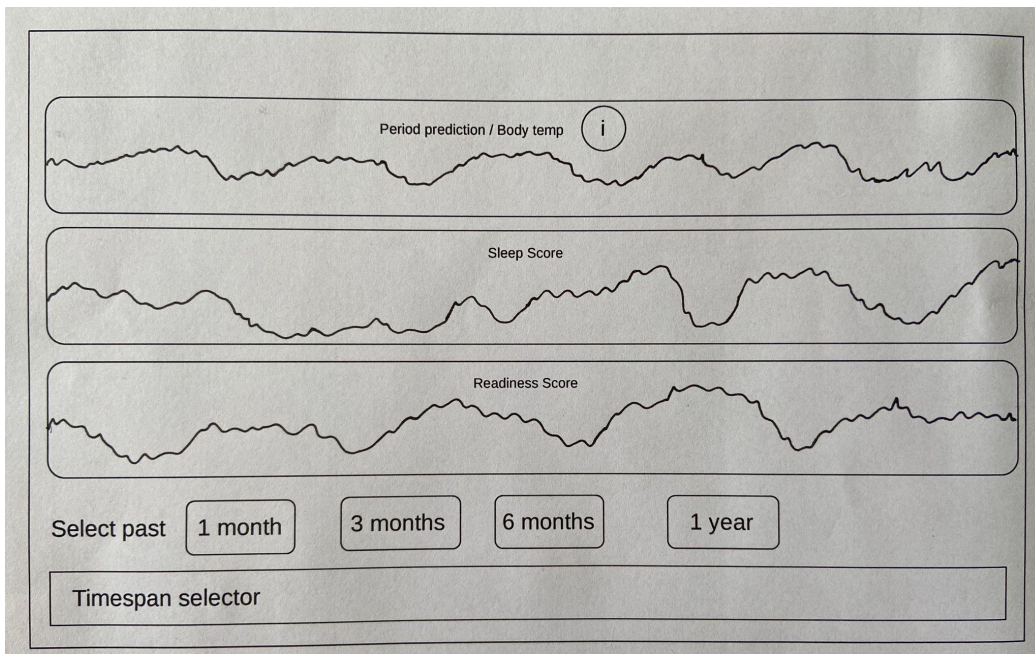
LEAN SERVICE CREATION
future

8.2 Appendix B: Prototype on the first iteration round

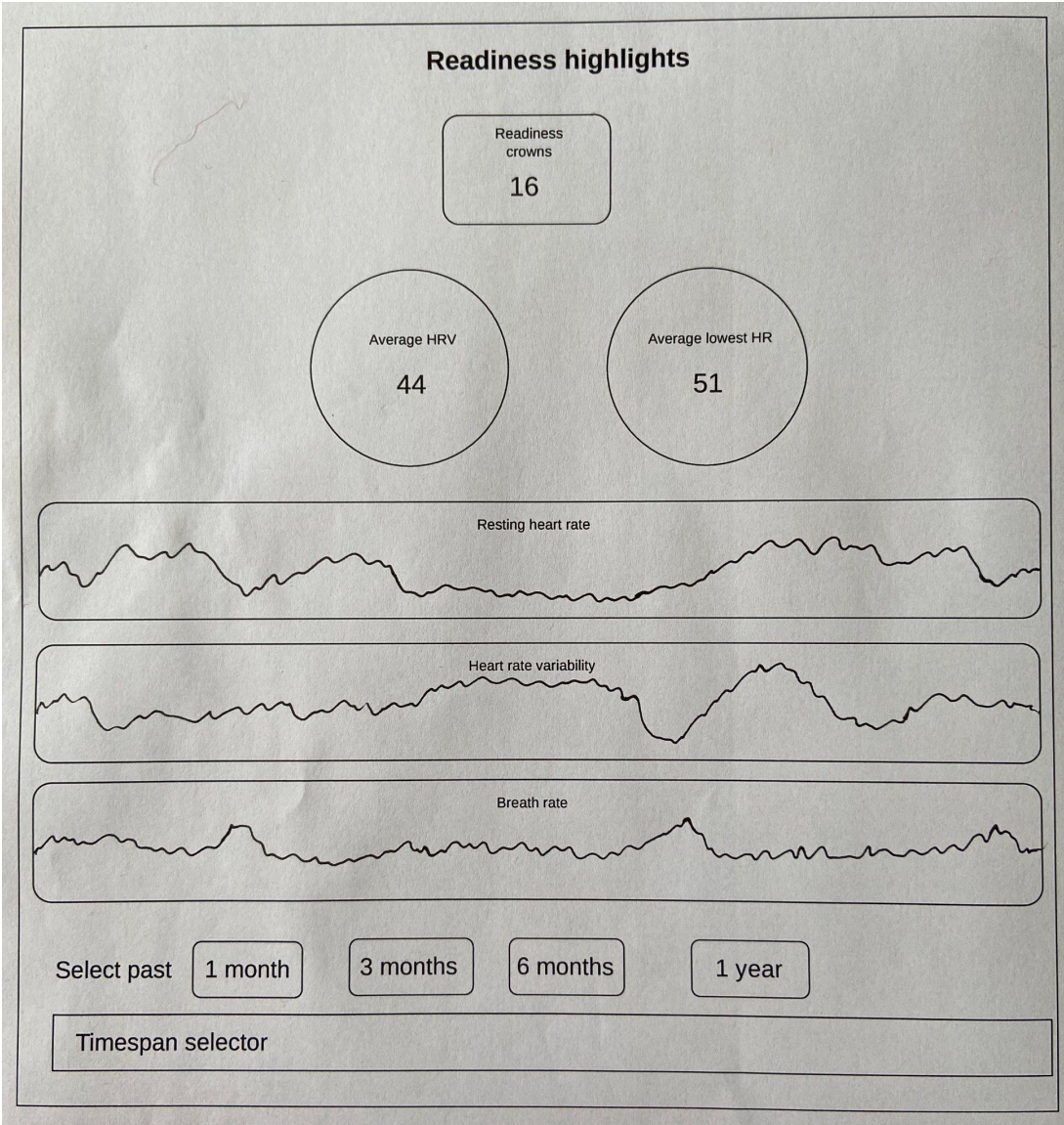
Appendix B.1: Personal goal section.



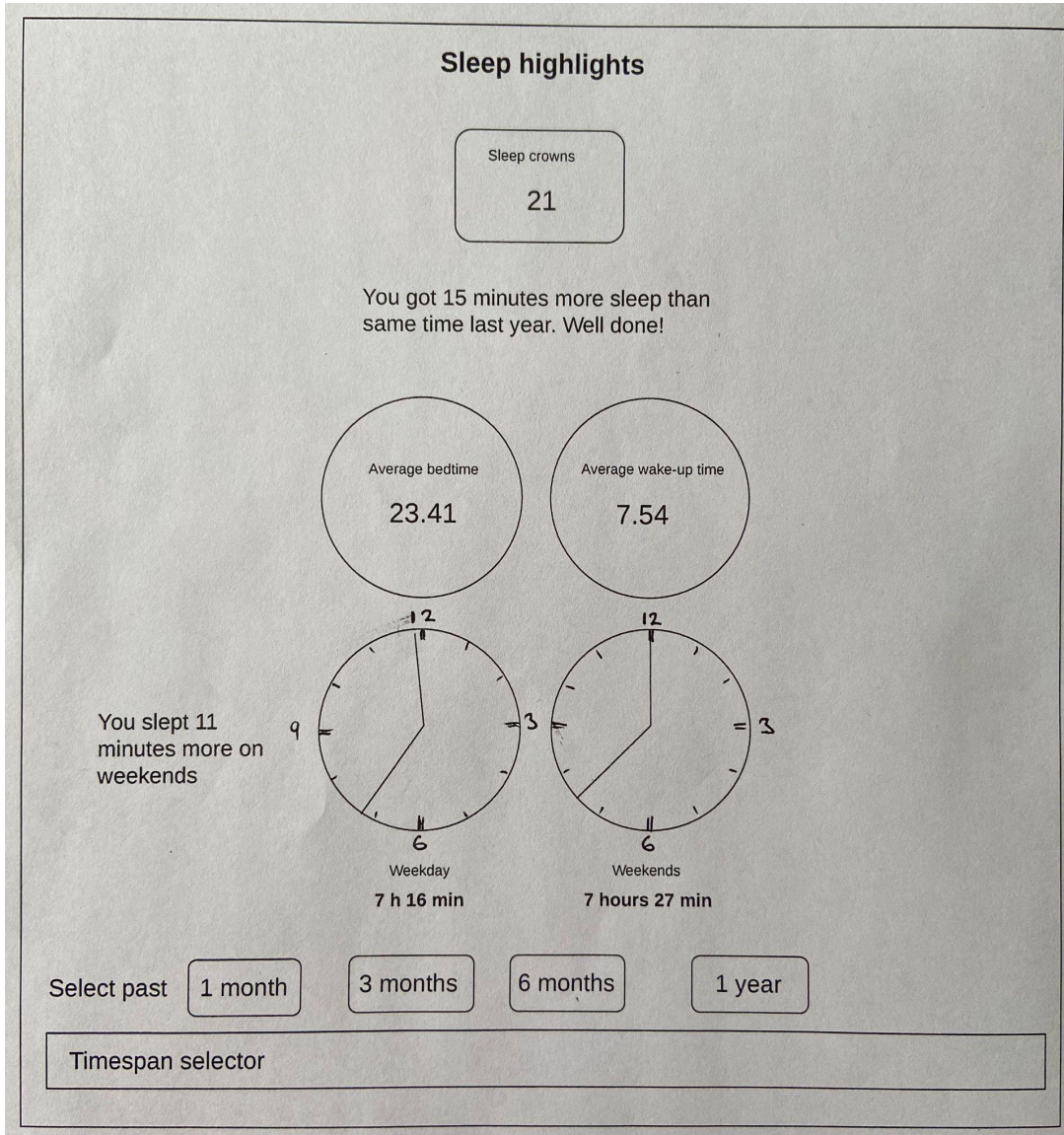
Appendix B.2: Reproductive health section.



Appendix B.3: Readiness highlights.



Appendix B.4: Sleep highlights.



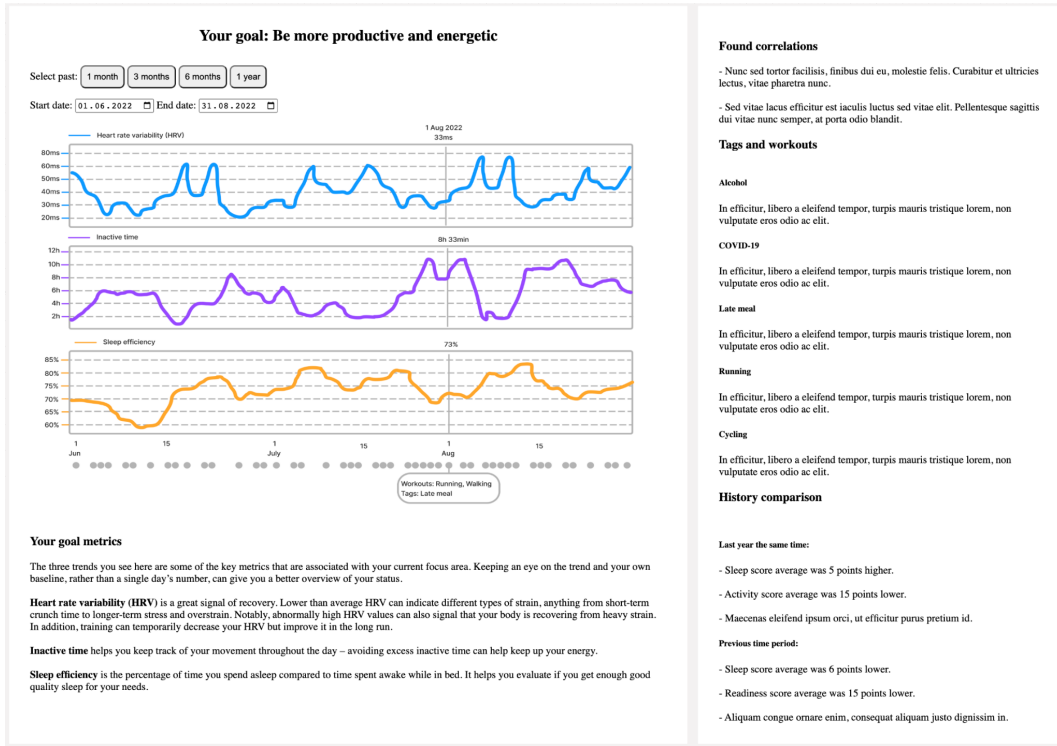
8.3 Appendix C: Interview Guide on the first iteration round

Appendix C.1: A spreadsheet used for recording questions and notes in the user interviews.

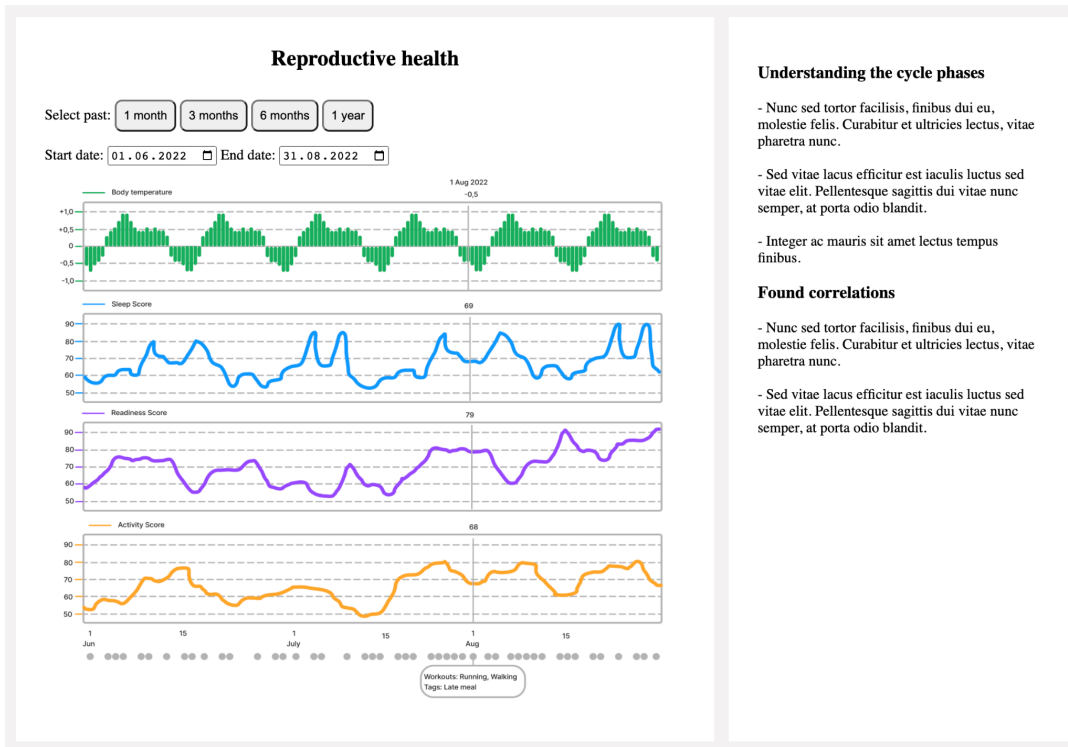
Section	Quotes/Verbatims	Notes / Analysis / Themes
Section I: Intro - 2 min		
<i>[Goal: introduce ourselves; outline goals for interview; set expectations for next ~40 min]</i>		
Introduction round.		
- I'd like to spend some time today learning a bit about yourself, how you currently use [redacted] and then we'll walk through a prototype that our team created. - There are no wrong answers, so please feel free to be absolutely candid with us. - Will be taking notes and recording this session. Is that ok with you?		
Section II. Warmup - 3 min		
<i>[Goal: learn about the person's background to ground future learnings; warm them up and get comfortable to share thoughts candidly]</i>		
Tell me a little about yourself.		
- Which [redacted] do you own? How long have you had one? - Other health apps / wearables? - Any other streaming video/audio services for fitness and/or wellness that you use?		
Section III. Using the [redacted] - 5 min		
- How do you currently use [redacted] - What feature(s) are the most important to you? - Do you take [redacted]?		
Section IV. Prototype Intro (2min)		
In this interview, we are going to go through a prototype around content. As we go through, please make sure to speak your thoughts out loud.		
Section V. Prototype run through (15min)		
Make sure to leave room for the participant to share their thoughts - silence is key!		
How do you feel about this prototype?		
Do you know what goal you have selected from [redacted]?		
In the prototype there are different metrics shown based on the goal you have set. How do you feel about that?		
What information you are expecting to see here?		
How long time periods you would want to see here?		
What data you would want to see in sleep highlists part? Is there something missig from there? What value it would bring to you?		
What data you would want to see in movement highlists part? Is there something missig from there? What value it would bring to you?		
What data you would want to see in readiness highlists part? Is there something missig from there? What value it would bring to you?		
Section VI. Conclusion (5min)		
- What else do you wish [redacted] the web could do?		

8.4 Appendix D: Prototype on second iteration round

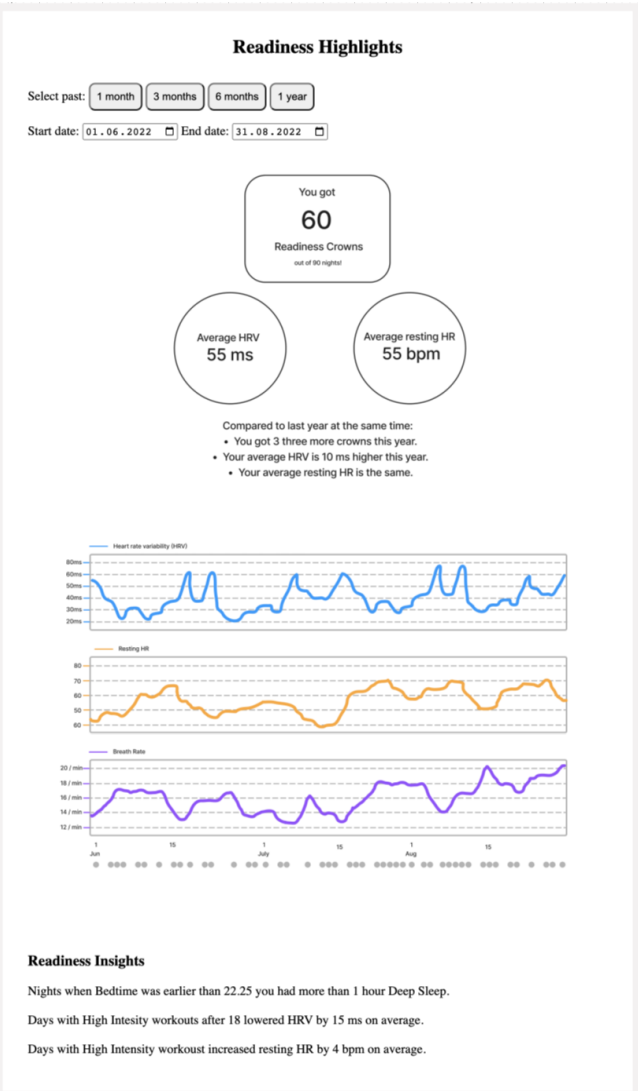
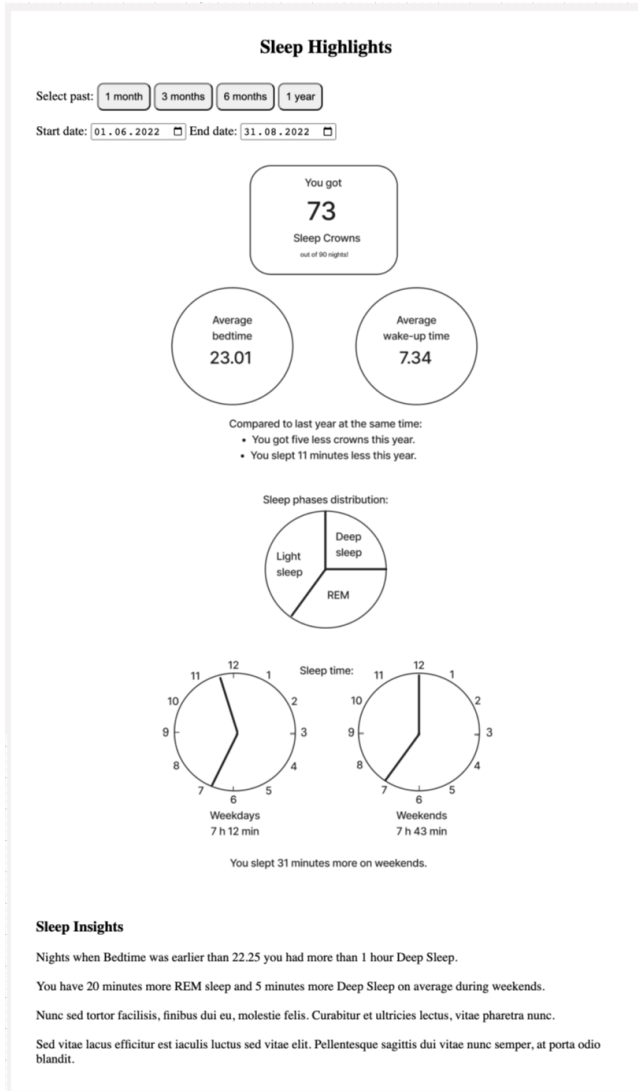
Appendix D.1: Personal goal.



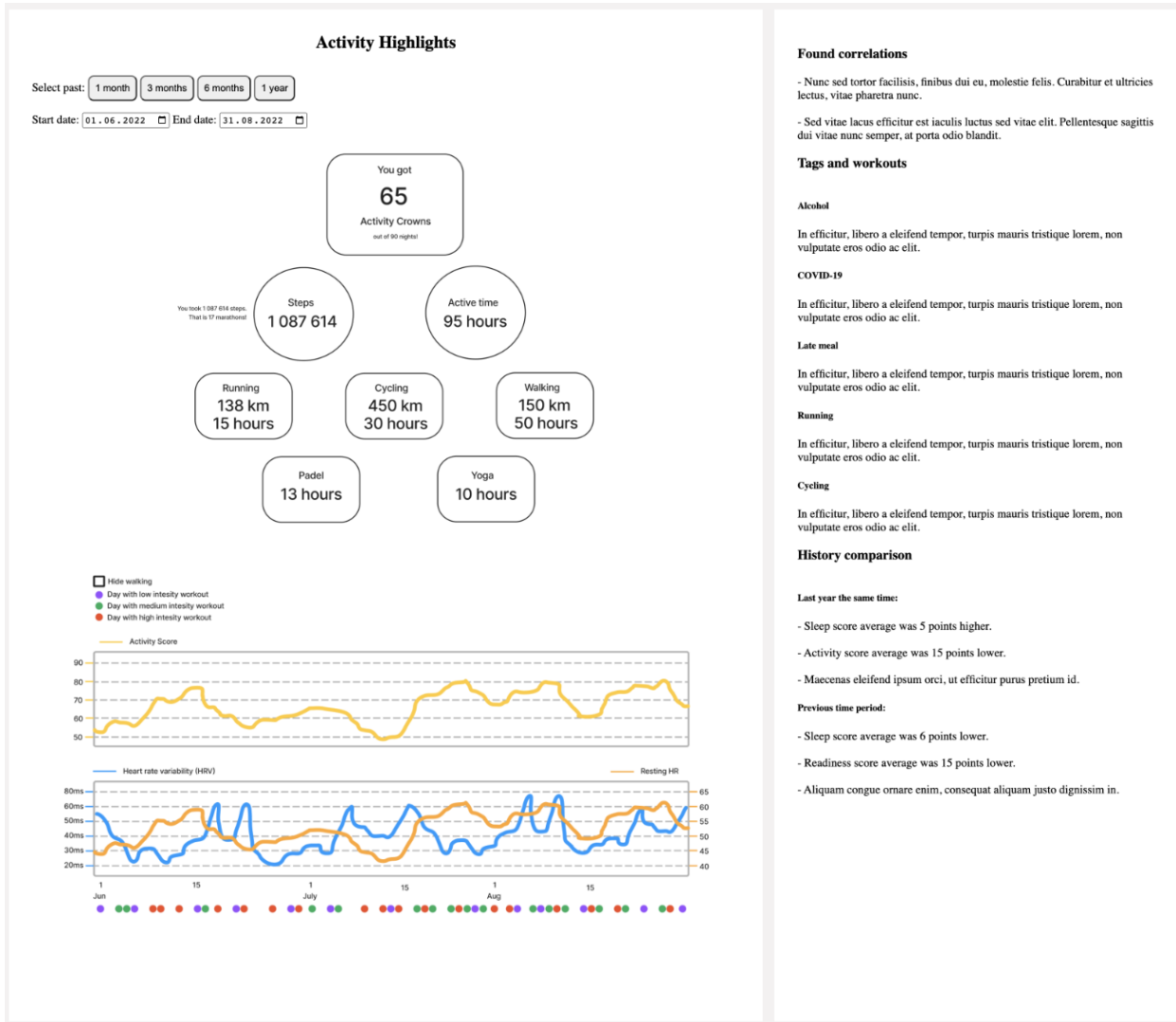
Appendix D.2: Reproductive health section.



Appendix D.3: Sleep and Readiness highlights.



Appendix D.4: Activity Highlights.



Found correlations

- Nunc sed tortor facilisis, finibus dui eu, molestie felis. Curabitur et ultricies lectus, vitae pharetra nunc.
- Sed vitae lacus efficitur est iaculis luctus sed vitae elit. Pellentesque sagittis dui vitae nunc semper, at porta odio blandit.

Tags and workouts

Alcohol

In efficitur, libero a eleifend tempor, turpis mauris tristique lorem, non vulputate eros odio ac elit.

COVID-19

In efficitur, libero a eleifend tempor, turpis mauris tristique lorem, non vulputate eros odio ac elit.

Late meal

In efficitur, libero a eleifend tempor, turpis mauris tristique lorem, non vulputate eros odio ac elit.

Running

In efficitur, libero a eleifend tempor, turpis mauris tristique lorem, non vulputate eros odio ac elit.

Cycling

In efficitur, libero a eleifend tempor, turpis mauris tristique lorem, non vulputate eros odio ac elit.

History comparison

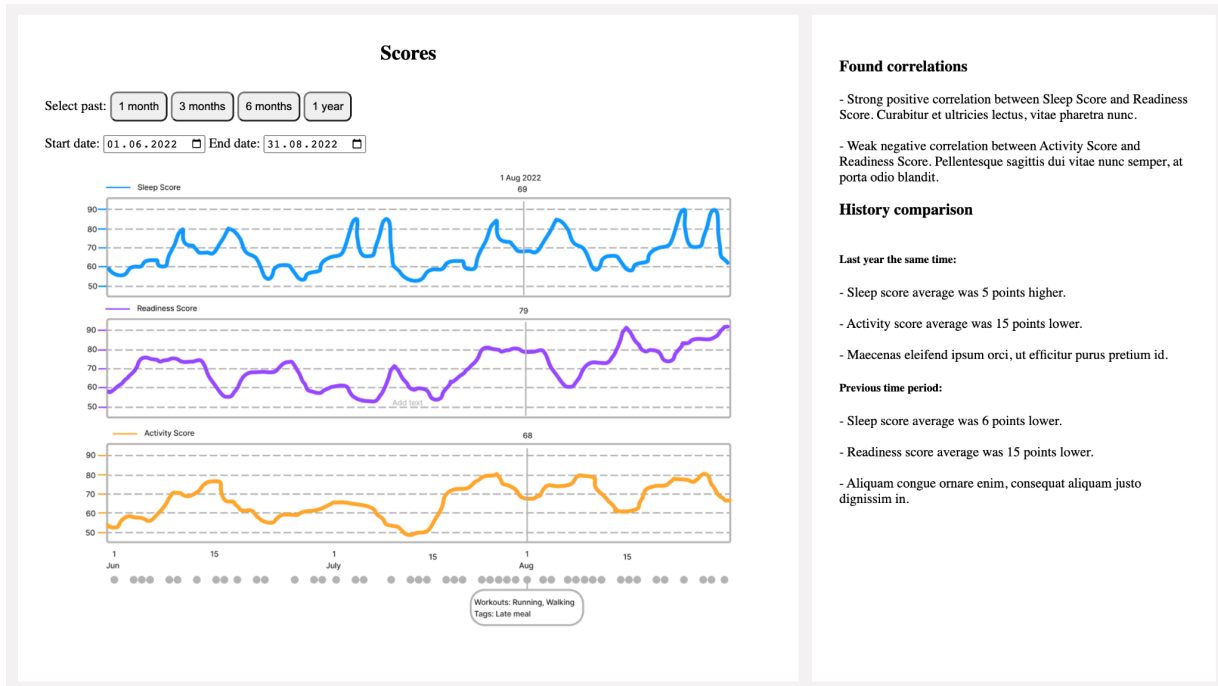
Last year the same time:

- Sleep score average was 5 points higher.
- Activity score average was 15 points lower.
- Maecenas eleifend ipsum orci, ut efficitur purus pretium id.

Previous time period:

- Sleep score average was 6 points lower.
- Readiness score average was 15 points lower.
- Aliquam congue ornare enim, consequat aliquam justo dignissim in.

Appendix D.5: Scores section.



Found correlations

- Strong positive correlation between Sleep Score and Readiness Score. Curabitur et ultricies lectus, vitae pharetra nunc.

- Weak negative correlation between Activity Score and Readiness Score. Pellentesque sagittis dui vitae nunc semper, at porta odio blandit.

History comparison

Last year the same time:

- Sleep score average was 5 points higher.
- Activity score average was 15 points lower.
- Maecenas eleifend ipsum orci, ut efficitur purus pretium id.

Previous time period:

- Sleep score average was 6 points lower.
- Readiness score average was 15 points lower.
- Aliquam congue ornare enim, consequat aliquam justo dignissim in.

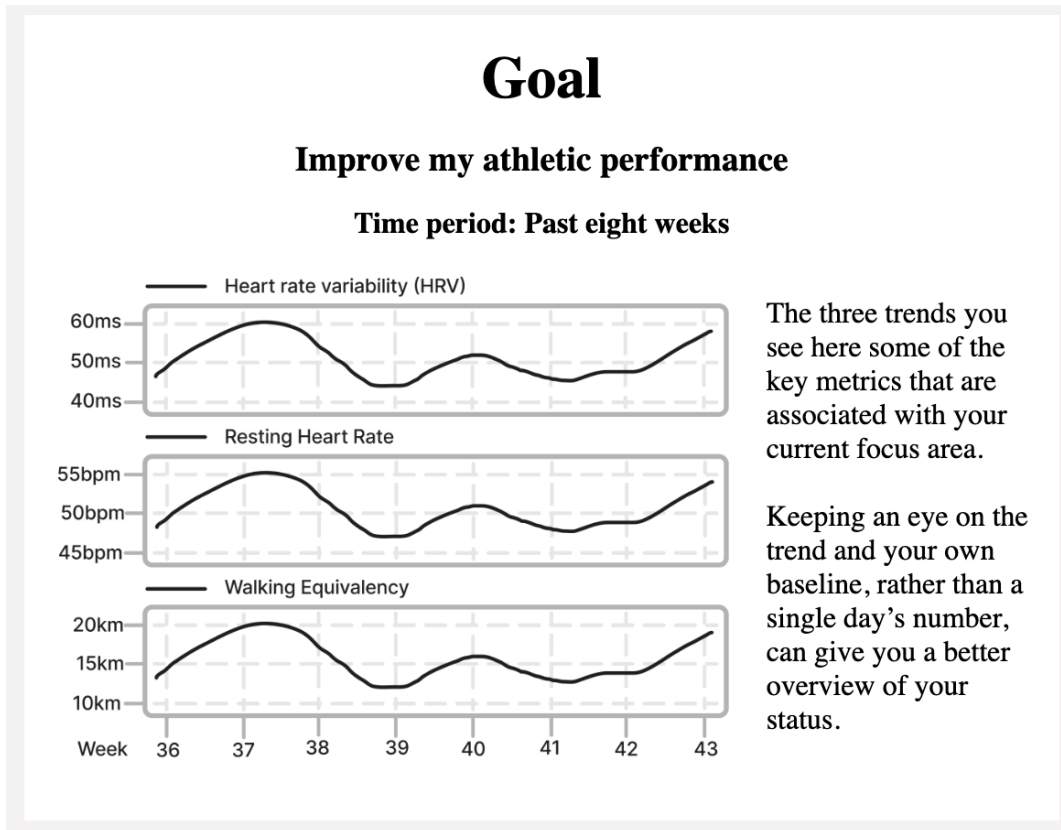
8.5 Appendix E: Interview Guide on second iteration round

Appendix E.1: A spreadsheet used for recording questions and notes in the user interviews.

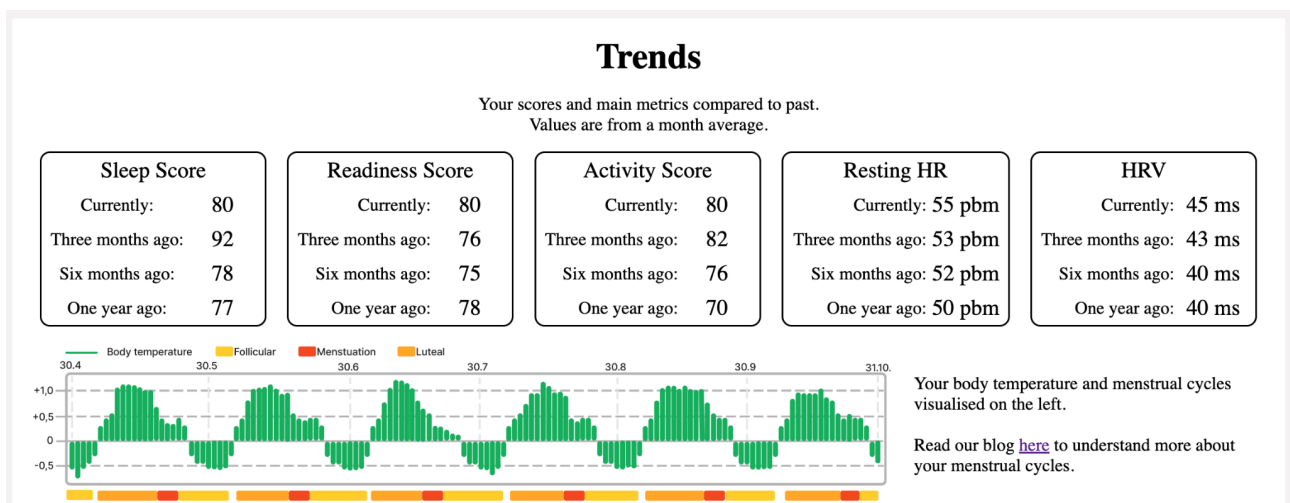
Section	Quotes/Verbatims	Notes / Analysis / Themes
Section I: Intro - 2 min		
<i>[Goal: introduce ourselves; outline goals for interview; set expectations for next ~40 min]</i>		
Introduction round.		
<ul style="list-style-type: none"> - I'd like to spend some time today learning a bit about yourself, how you currently use [redacted] and then we'll walk through a prototype that our team created. - There are no wrong answers, so please feel free to be absolutely candid with us. - Will be taking notes and recording this session. Is that ok with you? 		
Section II. Warmup - 3 min		
<i>[Goal: learn about the person's background to ground future learnings; warm them up and get comfortable to share thoughts candidly]</i>		
Tell me a little about yourself.		
<ul style="list-style-type: none"> - Which [redacted] do you own? How long have you had one? - Other health apps / wearables? - Any other streaming video/audio services for fitness and/or wellness that you use? 		
Section III. Using the [redacted] - 5 min		
<ul style="list-style-type: none"> - How do you currently use [redacted] - What feature(s) are the most important to you? - Do you take [redacted]? 		
Section IV. Prototype Intro (2min)		
In this interview, we are going to go through a prototype around content. As we go through, please make sure to speak your thoughts out loud.		
Section V. Prototype run through (15min)		
Make sure to leave room for the participant to share their thoughts - silence is key!		
How do you feel about this prototype?		
Do you know what goal you have selected from [redacted] app?		
In the prototype there are different metrics shown based on the goal you have set. How do feel about that?		
What information you are expecting to see here?		
How long time periods you would want to see here?		
How would this kind of service bring value to you? What kind of value?		
How often you think you would check these?		
Is there something missing? Is there some data that you would like to see here?		
Section VI. Conclusion (5min)		
- What else do you wish [redacted] the web could do?		
- What grade you would give to this concept from 1 to 5 considering how much value it would bring to you?		

8.6 Appendix F: Prototype for the selected concept.

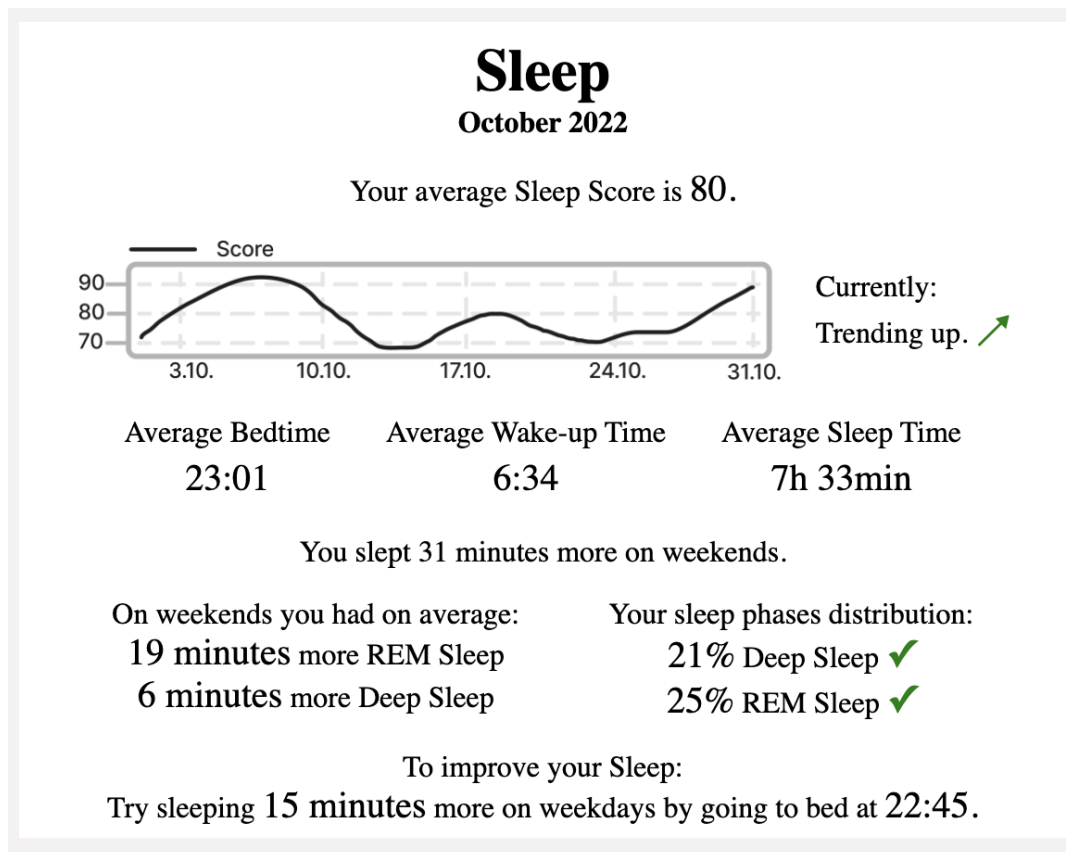
Appendix F.1: Personal goal section.



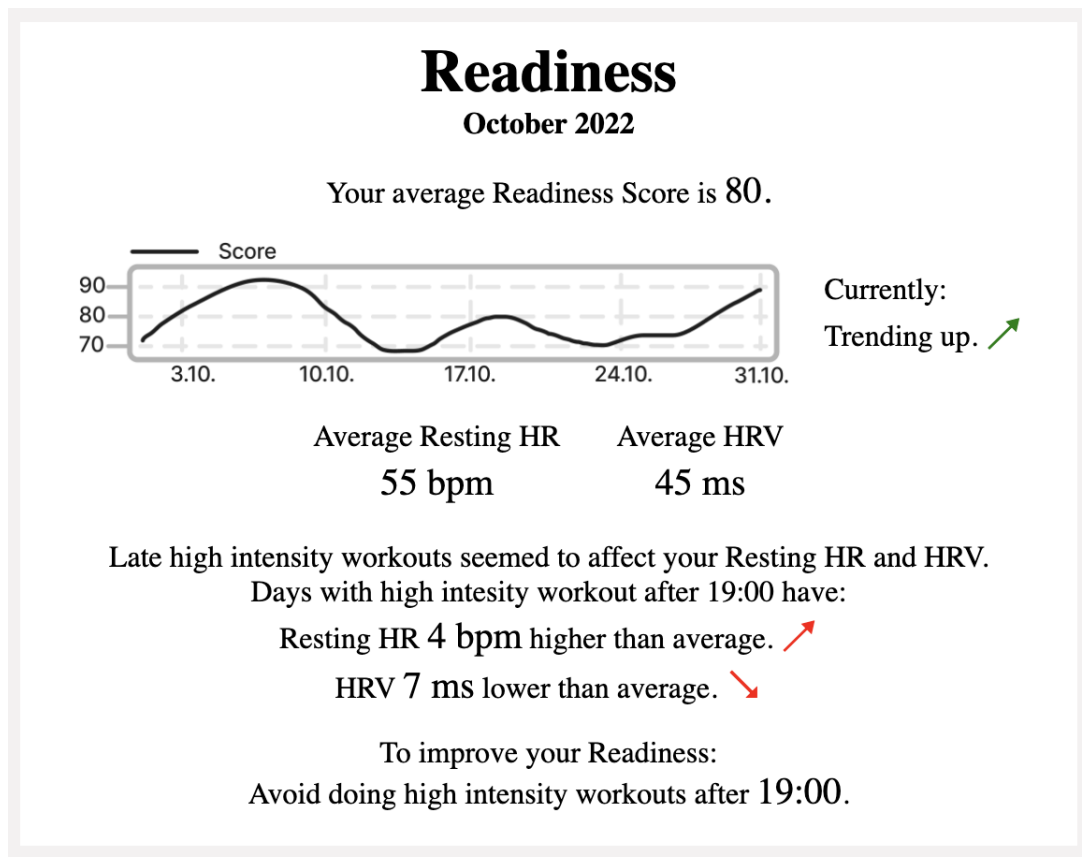
Appendix F.2: Trends section.



Appendix F.3: Sleep Section.



Appendix F. 4: Readiness section.

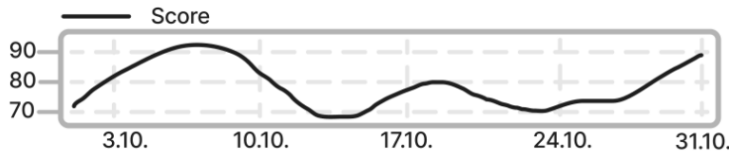


Appendix F.5: Activity section

Activity

October 2022

Your average Activity Score is 80.



Currently:
Trending up.

Average Steps	Average Low Activity	Average Medium Activity	Average High Activity
15 090	2h 17min	2h 17min	47min

You tagged 15 activities during the month. Your top 5 activities:

Walking 40 hours 150km 11 021 Cal	Homework 10 hours 1 221 Cal	Running 5 hours 47km 2 324 Cal	Cycling 7 hours 53km 4 302 cal	Yoga 13 hours 2 633 Cal
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