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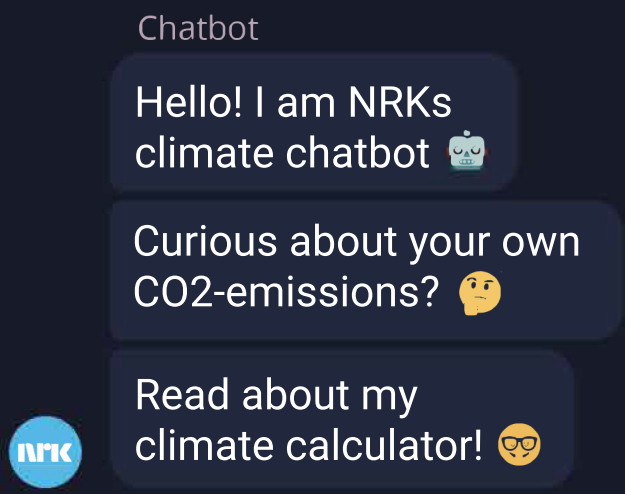
Climate calculator V. 2



Swipe up to read

Test the prototype here:

bit.ly/2M5jJwJ

Walkthrough-video of the prototype:

youtube.com/watch?v=xQ2vjClxb7U

This specification was written as an exam assignment at MIX202 Design for Media Use in the spring of 2020. The course is part of the Bachelor's program Media and Interaction Design at the Department of Information and Media Science at the University of Bergen. The course leader was Professor Lars Nyre. Subject teachers were Professor Andy Opel (Florida State University), senior engineer Zulfikar Fahmy, PhD fellow Fredrik Håland Jensen, PhD fellow Oda Elise Nordberg and master's student Jonathan Lindø Meling. The specification is translated into English by Kristin Eidsheim.

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Introduction

Have you ever wondered how much CO2 you emit? Want to know what it takes to be more climate friendly? We are five undergraduate students in media and interaction design who, in dialogue with NRK, have prototyped a new climate calculator to find out. The calculator should be a feature at nrk.no, where anyone should be able to map their own emissions. The purpose of the calculator is to engage young users in the climate debate, help make them aware of their own emissions and make NRK more relevant for a younger target group. In the first module in the course "Design for Media Use", we evaluated climate-related videos by NRK. Based on young informants' impressions of the content, we gained insight into how to convey complex climate information to this target group. This insight is the basis for the climate calculator.

What are NRKs needs?

In the context of NRK launching a climate dashboard, they want to renew their existing climate calculator that was designed in 2014 (NRK, 2014). The calculator asks the user several questions before calculating his or her emissions in tonnes of CO_2. NRK has expressed that they want to make themselves more relevant to a younger target group, and that they therefore want a new climate calculator adapted to them. Their current calculator is used but does not reach the current standard. The design is outdated, several of the questions are difficult to answer, the emission is not linked and it does not provide constructive feedback to the user (Figure 1). NRK's statistics show that more than half of those who click into the test leave it without pressing anything[1]. Nevertheless, figures from NRK show that the need for a calculator is there, as the number of views has increased in recent years (Figure 2).

Figure 1: NRK's climate calculator from 2014. Screenshot: NRK, 2014.

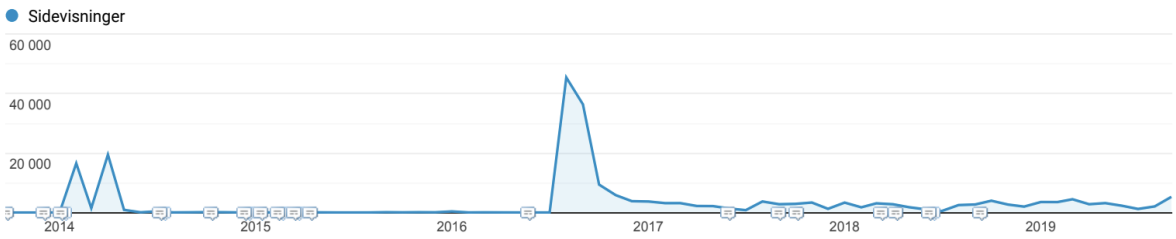

Figure 2: Statistics shows an overview of how many people use NRK's current calculator. In 2016, the calculator had a restoration round, which is why the number of views was up during this period. After that, the number of views has generally been higher than before. Screenshot: document sent by NRK by email, May 22, 2020.

[1] This according to Sigurd Steinum, Digital Development Manager, NRK center region (document received by email 22 May 2020).

What are the target group's needs?

The calculator's target group is young people from 18 to 19 years. Based on interviews in the previous module, we gained insight into the interests and needs of the target group (Aarvik, Ingebrigtsen, Præsttun, Torheim & Westli, 2020, p. 10-20). Here are the key insights:

- Young people are very concerned about climate change and their own emissions.
- Only a few uses NRK's services daily, but everyone believes that they are a credible source.
- The use of experts or well-known people can enhance credibility.
- Too many items at once can be distracting.
- Young people need more than numbers and statistics to understand context and connections.
- In order for the content to engage, both consequences of actions and solutions should be communicated.

The target group therefore needs a climate calculator that is easily accessible, easy to use and that gives a result with value.

What is our concept?

Our climate calculator is more than a calculator, it is a tool for reaching young people and engaging them to do something about their climate future. The calculator is a modernized version of NRK's old climate calculator. It still consists of questions and gives a result presented in tonnes of CO_2, but the similarities end there. In our calculator, the user is greeted by a chatbot who follows them through the test with a friendly tone. The questions that are asked are quick and easy to answer, and the test result is presented through the chat bot. Here you get an overview of your own emissions in a simple and understandable way, as well as constructive feedback and tips for improvement. The visual expression is young and new, and together with the friendly tone of language, the user experience is greatly improved.

How do users discover the calculator?

In the previous module, it was found that only a few young people use NRK's platforms generally. One platform that, on the other hand, is very popular with young people is the social media platform Snapchat. A survey by the Norwegian Media Authority shows that well over 90 per cent of Norwegian children aged 13 to 18 have a Snapchat user (Media Authority, 2020). Therefore, we use this platform as an example of how the calculator can reach the target audience. Figure 3 shows what a young person's exploration page might look like on Snapchat, with the climate calculator story included. In addition to having the calculator here, we want it to be on NRK's future climate dashboard so that it is accessible to everyone at all times.

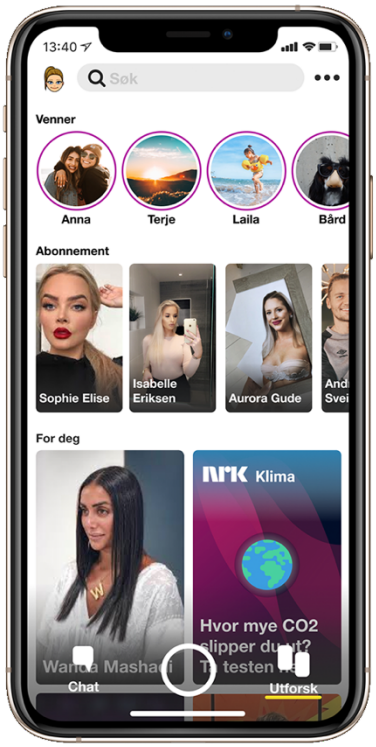

Figure 3: The entrance in Snapchat via Explore. The calculator is located on the bottom right.

How does the calculator work?

The user meets chatbot

On the frontpage, the test is introduced via a chatbot. It gives the user information about what the purpose of the calculator is and how long the test will take. The language is oral and the use of emojis gives the chatbot more personality. Given that the informants perceive NRK as a credible source, we have chosen that the image of the chat boat is the NRK logo, so that it is clear who is conveying the message (Figure 4). The chatbot was a desire from NRK because it aims to reach younger users using an oral language, and is inspired by the BBC's climate chatbot (BBC News Labs, 2019).

Figure 4: Front page. The user is introduced to a chatbot.

The user's habits are mapped

By swiping up from the introductory page, you get to the test that will map the user's habits. Here, various questions are answered within the categories general, transport, food and consumption. The illustrations are adapted to each category, which reinforces the content of each theme (Figure 5).

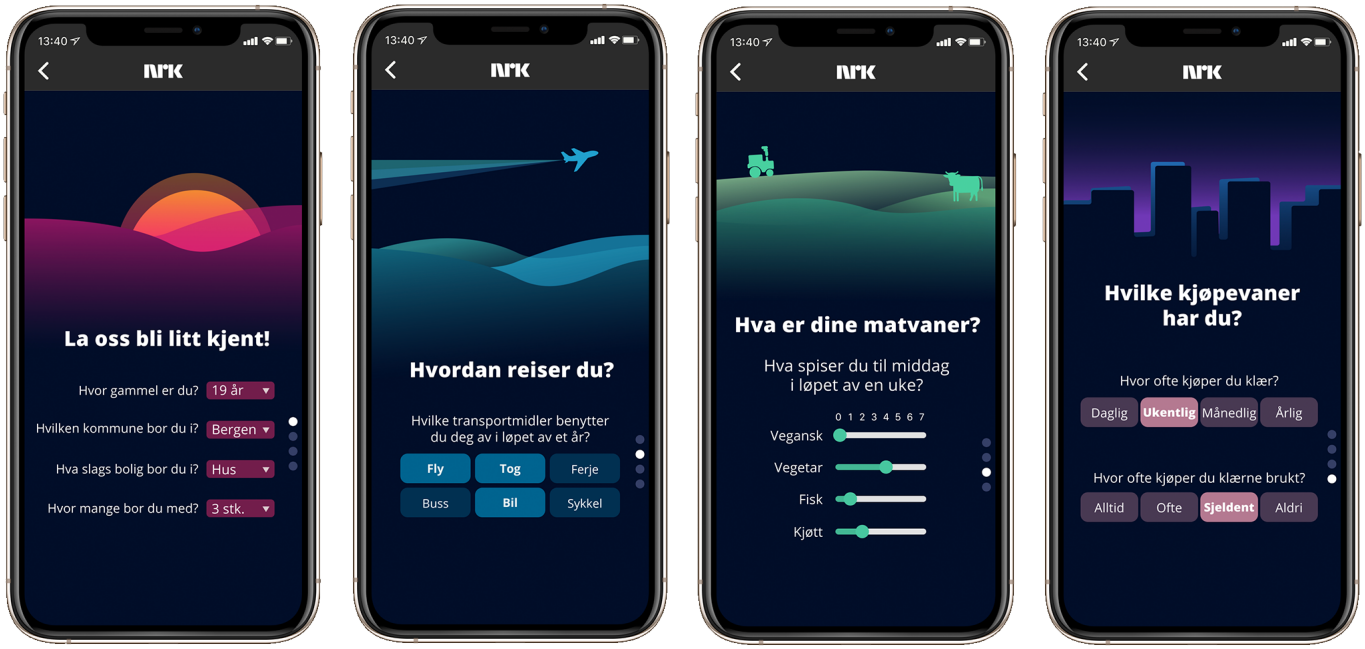

Figure 5: The questions are divided into four categories with different backgrounds adapted to each theme.

To make sure the user completes the test, the questions are easy to answer (Figure 5). Complicated questions may have been the reason why so many departed from the previous calculator without completing, thus we have tried to avoid this. In addition, only buttons and drop-down menus are used for the user to respond, which helps to make the test quick to complete. An exception is that you have the opportunity to look up your own municipality, as this will save time in view of the number of municipalities in Norway. The user answers all the questions by scrolling down the page. To avoid the user being disoriented or demotivated by not knowing how far he has come, illustrating how much is left with the help of an indicator on the right.

Based on what the user answers, relevant follow-up questions will appear. For example, if the user chooses that the means of transport he uses within a year are air, train and car, he will not be asked about ferry, bus and bicycle (Figure 6). This is to make the test more efficient, so we ensure that as many as possible complete. Another feature we have implemented is that the user can bring up an information box on the questions that can be misunderstood (Figure 7).

Figure 6: Example of a follow-up question based on the user's response.

Figure 7: Example of an information box.

Chatbot provides feedback and tips

When all the questions are answered, the chatbot presents the user's emissions compared to the average in the municipality, Norway and the world (Figure 8). In this way, it is easy to see how one compares without too many numbers and statistics involved, which insights in the first module indicated that were not very useful. In addition, several informants expressed that it is easier to understand the amount of emissions when put into perspective. The climate principle of climate causes on a scale confirms this[2]. Comparing oneself to others that are perceived as relatively similar to oneself, for example others in their own municipality, can also create user engagement.

Figure 8: Comparison of user emissions with the average in the municipality, Norway and the world.

2 A study on climate journalism claims that people do not necessarily understand the link between climate change and their daily lives. Therefore, it is recommended to display the information in scale (Corner et al., 2015, p. 25).

In the prototype we have assumed that the user has a high consumption. The reason for this is that we want to show how to have a positive tone despite a poor result. Climate impacts can cause a feeling of hopelessness, so it is important that the content is not overly charged[3]. We want to motivate all users to improve their habits, regardless of results.

After showing the user's discharge, he is given the opportunity to interact with the chatbot. Each time the chatbot provides more information, the user is asked whether he would like to receive it, or skip to the next question. This is an attempt to create engagement because our experience is that young people are more open to feedback if they have chosen to receive it themselves. This gives the feeling that the chatbot is talking directly to the user, thus the feedback will be more personal.

Figure 9: The user gets an overview of their own emissions, using a pie chart among other things.

Figure 10: The chatbot provides positive feedback on the user's good habits.

Figure 11: The chatbot gives tips for reducing emissions, and Jenny Skavlan recommends buying used clothes.

[3] In a study of climate journalism tools, images that show climatic consequences attract attention and produce strong emotional emotions (Corner, et al., 2015).

The first thing the user can choose to see is an overview of their own emissions. This shows which areas the user can improve on (Figure 9). Then the user gets to see what they are doing correctly (Figure 10). This is to brag about good habits and to encourage the user to maintain them.

Furthermore, the user can get tips on how to improve their habits (Figure 11). In this way, the result is not just an overview of the user's emissions, it also includes clear advice on how to improve. This can motivate a change in the user's habits and help him become more environmentally conscious. In the first module we found that a sender who is an expert in the field reinforces the message. One of the tips the user gets is therefore conveyed by a celebrity people associate with the theme. In the prototype we have used the NRK profile Jenny Skavlan as an example, where she encourages to buy used clothes and refers to her own TV series on the theme (figure 11). Finally, the user can give feedback on the test in the form of an emoji, which can give NRK a clue as to how the users perceive the test. In addition, there is a choice between going to the climate dashboard or sharing the calculator with others, so that NRK can engage even more young users (Figure 12).

Figure 12: The user is given the opportunity to give feedback. The user can then choose to go to NRK's climate dashboard or share the test.

Visual aspects of the calculator

The visual design of the calculator is characterized by dark colors and is inspired by flat art. Dark designs have become popular over the years, helping to increase readability and reduce eye strain (Sinha, 2019). Flat art is a design style that uses simple two-dimensional elements (Interaction design foundation, 2002). The style is well suited for mobile and is often combined with strong colors that contribute to a positive tone (Yalanska, 2019). The calculator's style is characterized by a pleasant amount of graphical elements, which makes

then enriching and not distracting. In addition, strong color contrasts help to make the features clear to the user, and the design is thus supported by the principle of visibility[4].

In a society where we are bombarded with information every second, we are selective about what catches our attention (Kucheriavy, 2017). Therefore, it is important that the test maintains the user's attention. We have chosen to have parallax scrolling which means that some elements move while others stand still (Envato, 2016). In our case, the background stands still, while the questions within each category move as you scroll. This effect makes the test last longer for the user's interest (Idler, 2012).

Further development of the prototype

The prototype is made in Figma, a prototyping tool where you can quickly implement basic functionality and design. Figma allowed us to collaborate in real time on the same prototype over the web. The tool has its limitations, and therefore some of the visual and large parts of the functionality of the prototype were not possible to implement. As we mentioned earlier, we wanted to create a parallax effect. This is not possible in Figma, and the background of each category is therefore repeated on each question. In the prototype, the user cannot even answer the questions that are asked. Therefore, the follow-up questions are adapted to the answers that have been posted in advance. Above the table of contents of this document is a video showing an approximation of how we want the product to work.

The biggest limitation to the prototype is that no calculations are made to produce a personal result. However, this is not the goal of the prototype, it just shows how we want the user experience to be. The results page therefore shows just one example of what the feedback could look like.

Overall, we believe that our climate calculator is a solid foundation for creating a calculator that enables young people to become more climate friendly, regardless of the starting point!

[4] Visibility is about making features clear to the user (Nordbø, 2017, p. 38–40).

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