

1 Introduction

2 Problem area

2.1 Problem Statement

3 Preliminary User Interviews

The purpose for the interviews were twofold. Firstly, to confirm that there is a need for this service which was previously an assumption made on observation from our own networks. Secondly, to understand in what way it would create value for the end user, including what the app should look like and what content it should have.

Gathering information from the users is essential for the project. Hence, considerations had to be made about what method for gathering inputs should be used. Two methods were considered, focus groups and individual interviews. Both would be suitable and can potentially turn up different results. While the focus group can get a discussion going amongst the participants and turn up different perspectives on shared experiences, strong personalities can end up having too much influence on others and take up too much space. Further, in focus groups the moderator's bias can be hard to suppress. In semi structured individual interviews, there is no leader or stronger personality to influence the interviewee and it is significantly easier to suppress the interviewers bias. Further the interviewee is guaranteed to be heard and get to say their piece. It is more time consuming than a focus group both in terms of conducting the interview but also for gathering the findings afterwards. We chose semi structured individual interviews for several reasons. Time is a limited resource and it is difficult to gather people for a focus group as the location and time has to fit into the schedules of all participants. With the semi structured interviews we only have to fit the schedule of one person at a time, proving significantly more efficient planning wise. The choice of having it semi structured allows to ask more open ended questions, which we saw a need for, and allows the interviewee to ask follow up questions to the answers given.

We posted a request in these groups on Facebook to find the participants:

- Expats in Copenhagen
- ITU Students
- International Students in Copenhagen

Further we posted on our own Facebook Feed and got help to spread the word through our network. We chose the range of groups to be limited to the Copenhagen area as this was where we were planning to conduct the interviews. Several people responded and we chose 4 different people to start with. Due to the great response, it would be possible to reach out to more participants if it would prove necessary. As the interviews were semi structured we created an interview guide (appendix: A), as to not reach a dead end in the interview and to remember what we wanted to ask. We chose one person to be the interviewer and one person to be note taker and in charge of recording. This allowed the interviewer to be more present in the interview which would be beneficial as the interview guide was a reference point but there was space for additional questions if needed. This also helped to create a more relaxed atmosphere and increased attention for the participants non verbal expressions.

Before the interviews we did some research in different Facebook groups on the most frequently asked questions. Further we made inquiries in our own network partly to confirm it would make sense to carry on with the idea and partly to understand some of the areas people had found challenging (Appendix: B).

3.1 Findings

After conducting the interview we gathered the overview of findings in a table (see appendix: C). The table of findings for content shows that many of the challenges were experienced by all four participants. There is a clear match with what we had initially found out and noted in the ideas document (Appendix B). Particularly challenges within the public sector, getting the right documents such as CPR, finding accommodation and the job market stands out as the biggest challenges when coming to Denmark. Inherently many of the challenges were due to the same factors such as the language barrier, lack of network to seek advice from and no single point to find the information at.

Based on the table of findings we have chosen to take out the subjects that most or all the participants had found challenges within.

3.1.1 Public Sector - CPR, SU, Tax

Several government websites provide a summary page in English but as one of the participants described it stays "fluffy" in conveying the information. This makes it difficult to rely on the information as it does not provide clear instructions. Further carrying out the actual tasks still needs to be done in Danish. For example tax[1] and SU[2] have summary pages in English but the actual steps to fill out the tax forms or apply for SU. These pages are still in Danish and thus not explained¹. Most of the participants were dependent on services such as Google Translate, which the participant noted is not flawless and it gives a fear that some things get lost in translation.

Noteworthy was also the fact that the majority mentioned lack of customer service, this was both in the public sector. I.e. calling, emailing or going for a given office to get help with practicalities. One participant explained that she had emailed the SU office in English but got a reply in Danish, she was then reliant on Google Translate to understand the email. She proceeded to reply in English and once again received a reply in Danish. There might be a perfectly plausible reason for replying in Danish but the subject was not informed thereof. She further explained that this was an experience where she feared something got lost in translation. Further noteworthy was that upon closer inspection the SU website does not have a contact page in English.

The participants brought up the very first challenge in Denmark to be registering for CPR and figuring out residence permit. Not having a clear overview of how to do this and exactly what documents are needed provided a stressful experience for all the participants. This is due to the importance a CPR has in Denmark, not only for obtaining residence permit and proving to be in the country legally but also for other important aspects this had an influence. For example accommodation, getting NemId, opening a bank account etc.

3.1.2 Accommodation

3.1.3 Job market

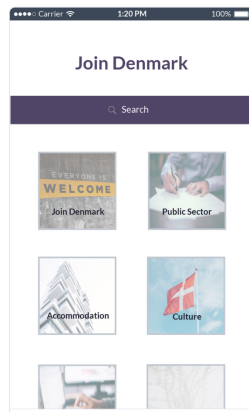
3.1.4 Culture

3.1.5 UI

4 Sketching

4.1 Design choices

Based on the input from the interviews we came up with some sketches. We used Marvel to draw the sketches as Marvel has a tool for testing. Initially we did not decide on a color scheme as we wanted to test the initial sketches and thus get an understanding of how well constructed the sketches were. From the table (Appendix C, UI), which shows our findings from the interviews regards the user interface of the application, we got some initial elements to use. We wanted to keep a focus on minimal information in order to avoid the user getting bombarded with things to process. By keeping the homepage simple it helps the user to get a quick overview which is essential as our focus is to easily find information.



4.1.1 homepage

Figure 1 shows the initial homepage of the app. The tiles with categories was one of the important things to incorporate as all participants mentioned this. We chose to add pictures to the tiles in order to give an easy indicator of the category. The search bar at the top of the homepage is to make it easy for users to look for specific information without going through the tiles. At the bottom is a tab bar with a home button and a settings button. This bar is on all the pages. With one click on the home button the user can then get back to the start page. The idea behind the bar came from the interviews and further other mobile apps from i.e. Instagram and Facebook that most people have daily interaction with.

¹We have confirmed this by logging into to both sites and checked that there is in fact no English option anywhere

Figure 1: Homepage v0.1

4.1.2 Other pages

All other pages than the homepage has a navigation bar at the top. The Back button on the left takes the user back to the previous screen and the magnifying glass enables the user access to the search function at all times when using the app.

The Join Denmark category has a layout with drop down pages divided in steps as a step by step guide was something most of the interviewees requested.

The public sector category is a vast category and hence we decided to have subcategories on this page. This is done with tiles in the same style as the homepage to give a quick overview and making it easier for the user to navigate further.

4.1.3 Category pages

The category pages all contain bars with questions or topics. When the user presses a topic they will be directed to a new page with the corresponding text.

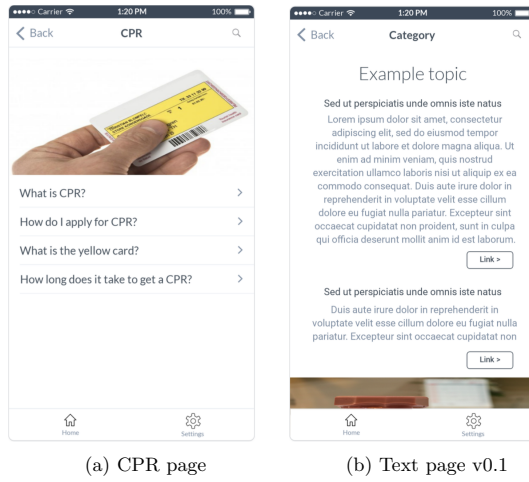


Figure 2: Design of prototype version 0.1

Figure 2a shows the CPR category page and 2b is an example of the design of the page the user gets sent to when pressing one of the questions or topics. During our design we came upon several ways of structuring these category pages. The initial idea was the one described but it also requires more clicks than a drop down would. We have designed the culture category differently in order to be able to ask the users which one they prefer. The alternative design can be seen in 3b and 3c. In the culture category design the user is not taken to another page but instead it incorporates a drop down.

There are several ways to incorporate this drop down and again we chose to have two ways in the culture section sketches in order to ask the users which one they preferred. In figure 3 specifically 3b and 3c illustrates the two designs.

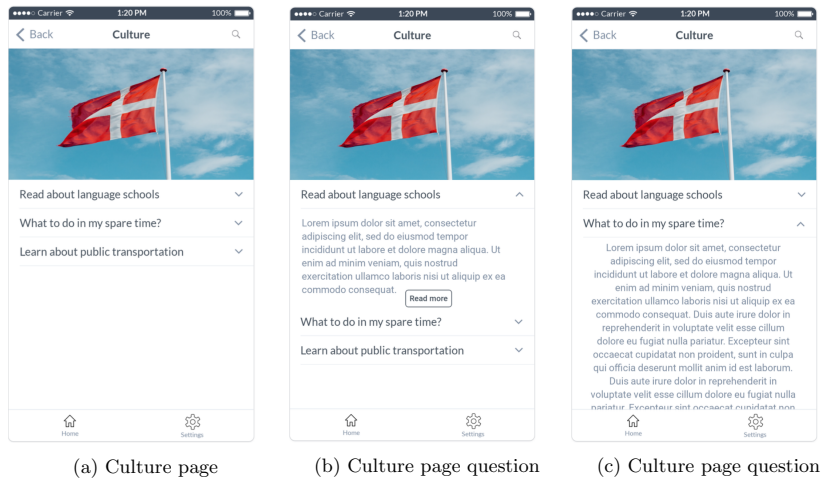


Figure 3: Culture pages

Lastly we chose to sketch the design adapted for mobile view as we focus on making the application in a mobile friendly format. The application is intended helping people and if it can be opened on the phone the user will always have information ready at hand.

4.2 Test 1

The first test was made as a think aloud test of the initial prototype on one of the participants we had already interviewed in the preliminary stage. As the first prototype was relatively primitive both due to content and design her impressions of the prototype showed signs of that things could be improved. In regards to the design of the application, she mentioned that more colors would help it to be more catchy and welcoming. Secondly, she found it hard to read the text on the tiles due to the faded picture in the background. Lastly, she found the tab bar superfluous. On the homepage she did not want to have a home icon and on the other pages she wanted it to be centred.

The Join Denmark category contains a step by step guide which replicates information from the other categories and present it in the order you need it. As seen in figure 1 the Join Denmark tile is on the same level as the other tiles in our prototype. Our test person suggested to make it look different in order to show that the category have a different composition. Lastly, she mentioned that it needs to be clear which links that leads to external page and which links that leads to an other page in the application.

4.3 Changes/adapting feedback

After the first test, we found that we needed to improve the design of the application in order to get better feedback on the design. Therefore, we choose to make some changes in the design before the next tests. First, we found a color scheme and added colors to all pages of the prototype. Secondly, as seen in figure 4a we decided to remove the tab bar causing us to present the home icon and the settings icon in a different way. We moved the settings icon to the upper right corner of the homepage and put the home icon as a button on all pages except the homepage as seen in figure 4b. We did not implemented the rest of the suggested improvements from the first test as we wanted to have more feedback on the prototype before changing it.

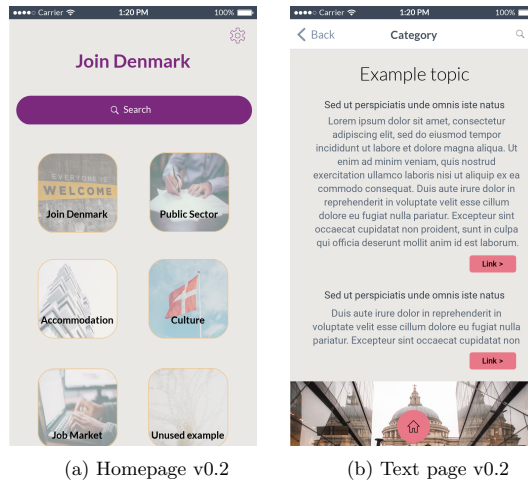


Figure 4: Design of prototype version 0.2

4.4 Test 2

4.5 Test 3

4.6 Changes/adapting feedback

4.7 Other design choices