

Recap

Last Week

We're doing **Research for Design** to Improve Authentication in Stores

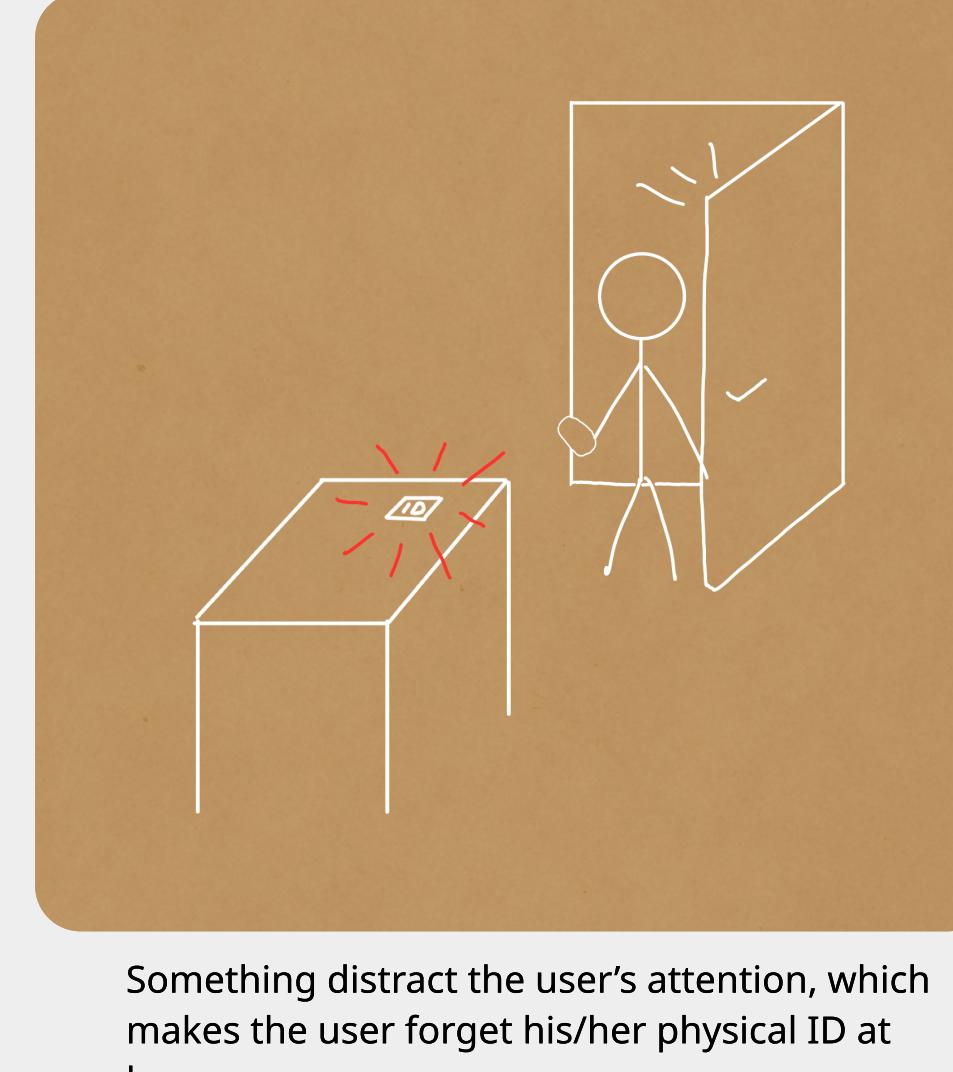
We defined a few concrete opportunities for improved user experience

We made 3 initial "blind blueprints" of potential design improvements and chose methods to test the blueprints and our research questions.

This Week

In this document we present the findings of our first iterations and our planned next steps

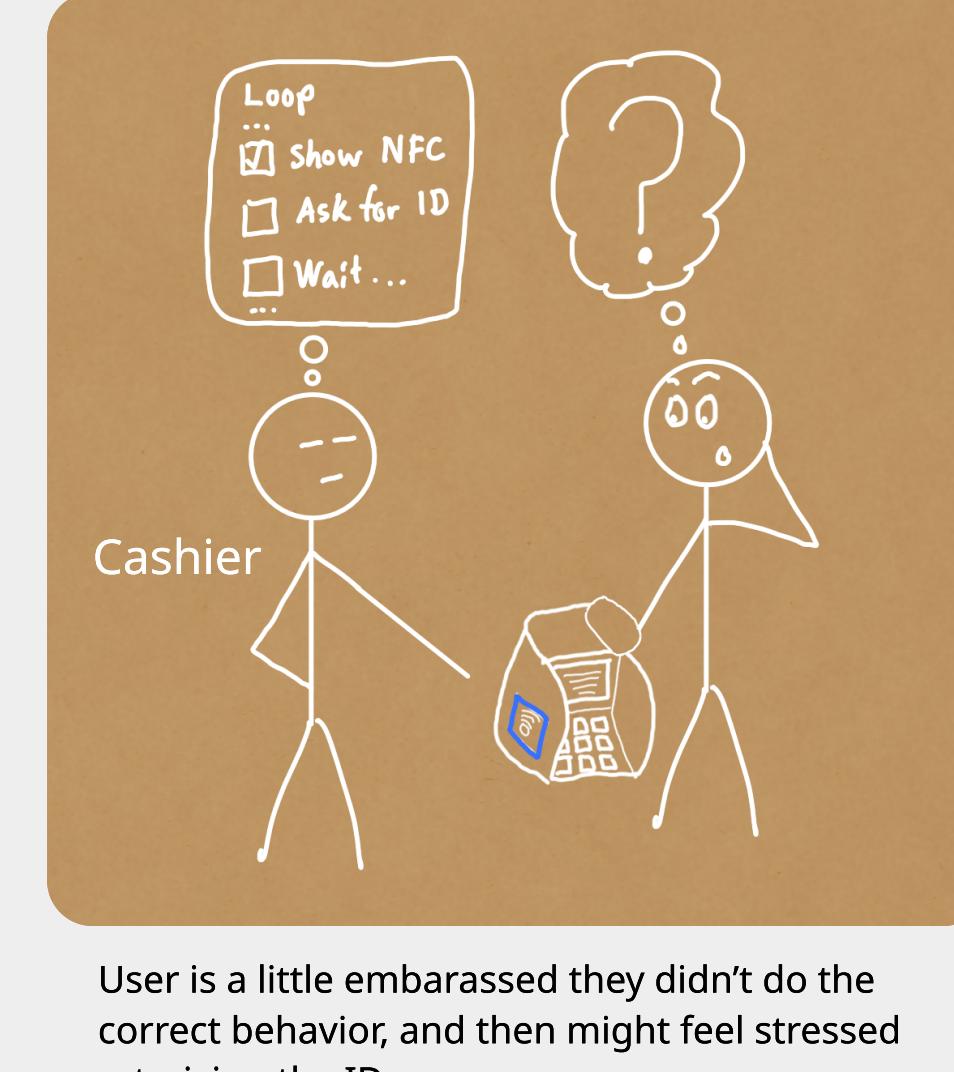
How the Process looks Today, based on our initial observations and participation in the field



Something distract the user's attention, which makes the user forget his/her physical ID at home

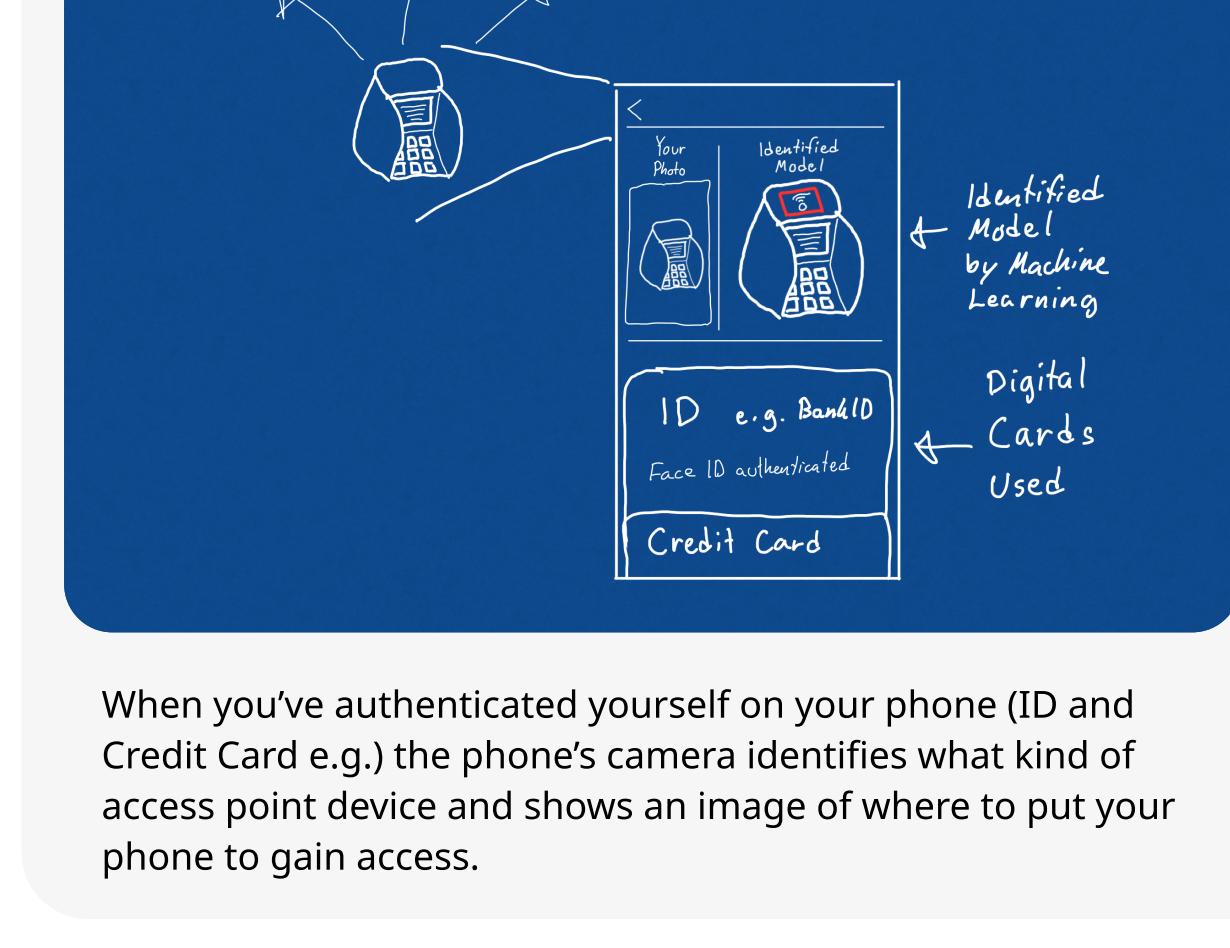


User may be distracted mentally or from environment, so places the phone by habit, incorrectly.

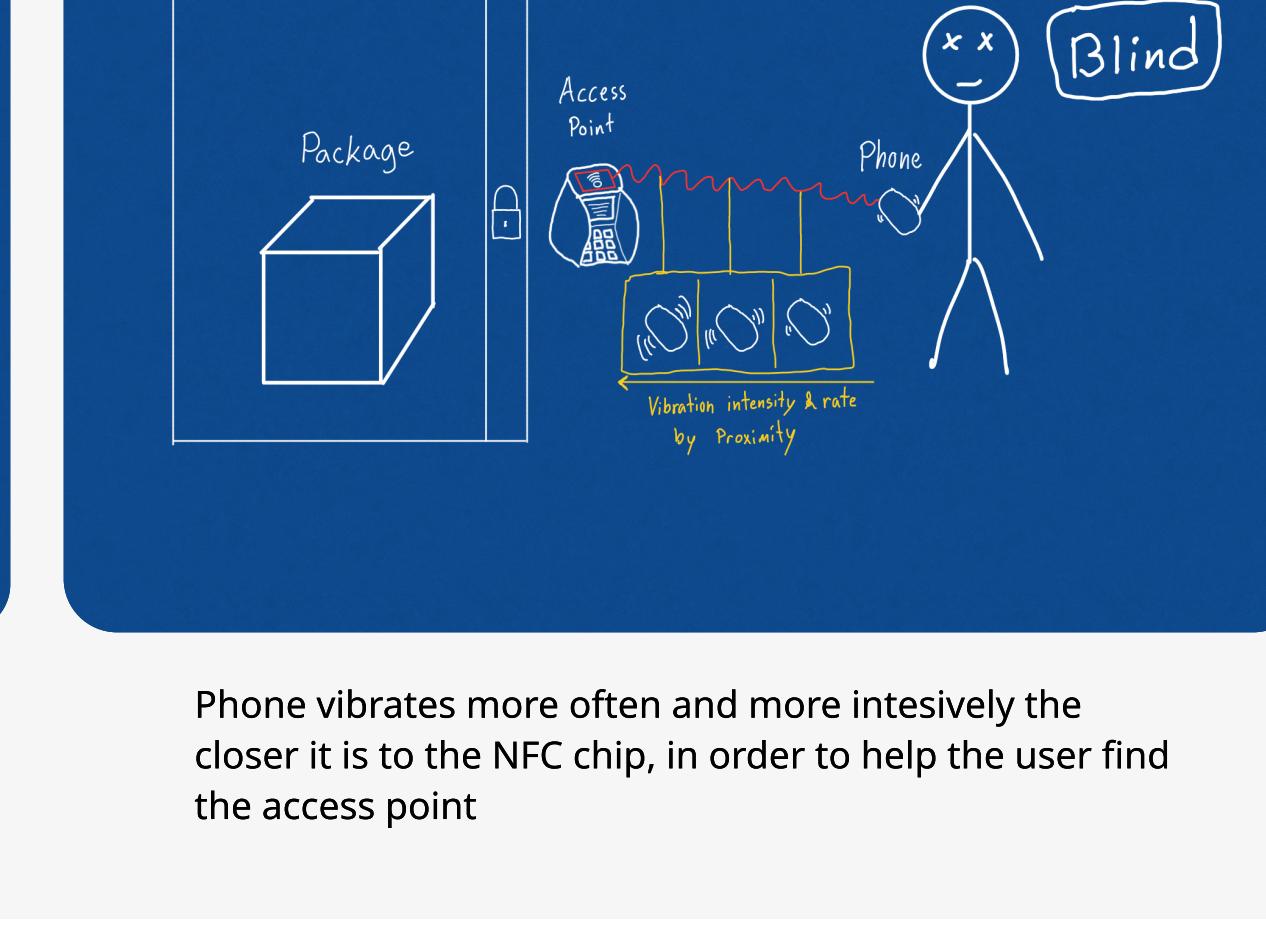


User is a little embarrassed they didn't do the correct behavior, and then might feel stressed retrieving the ID

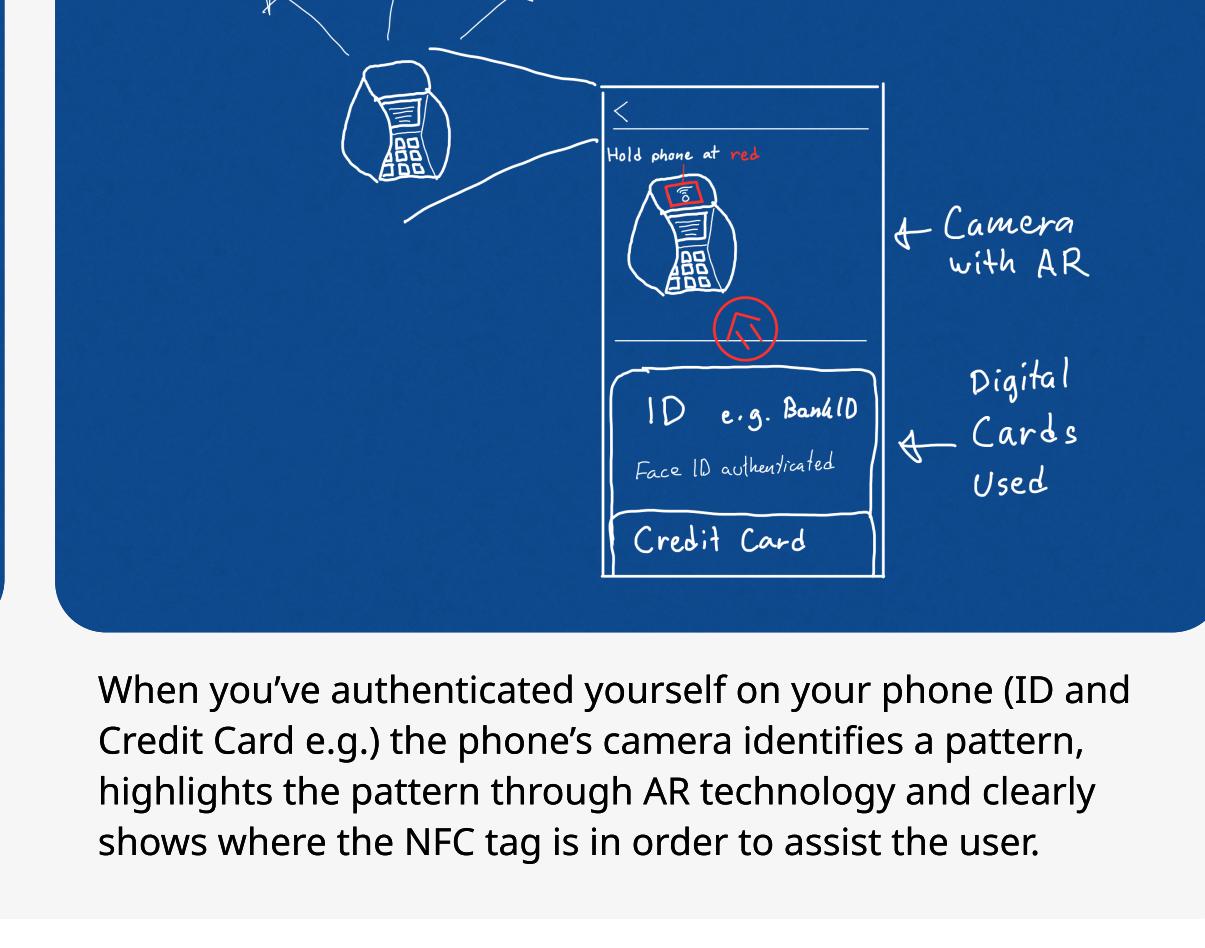
"Blind Blueprints", a few ideas on how to make incremental improvements to this process



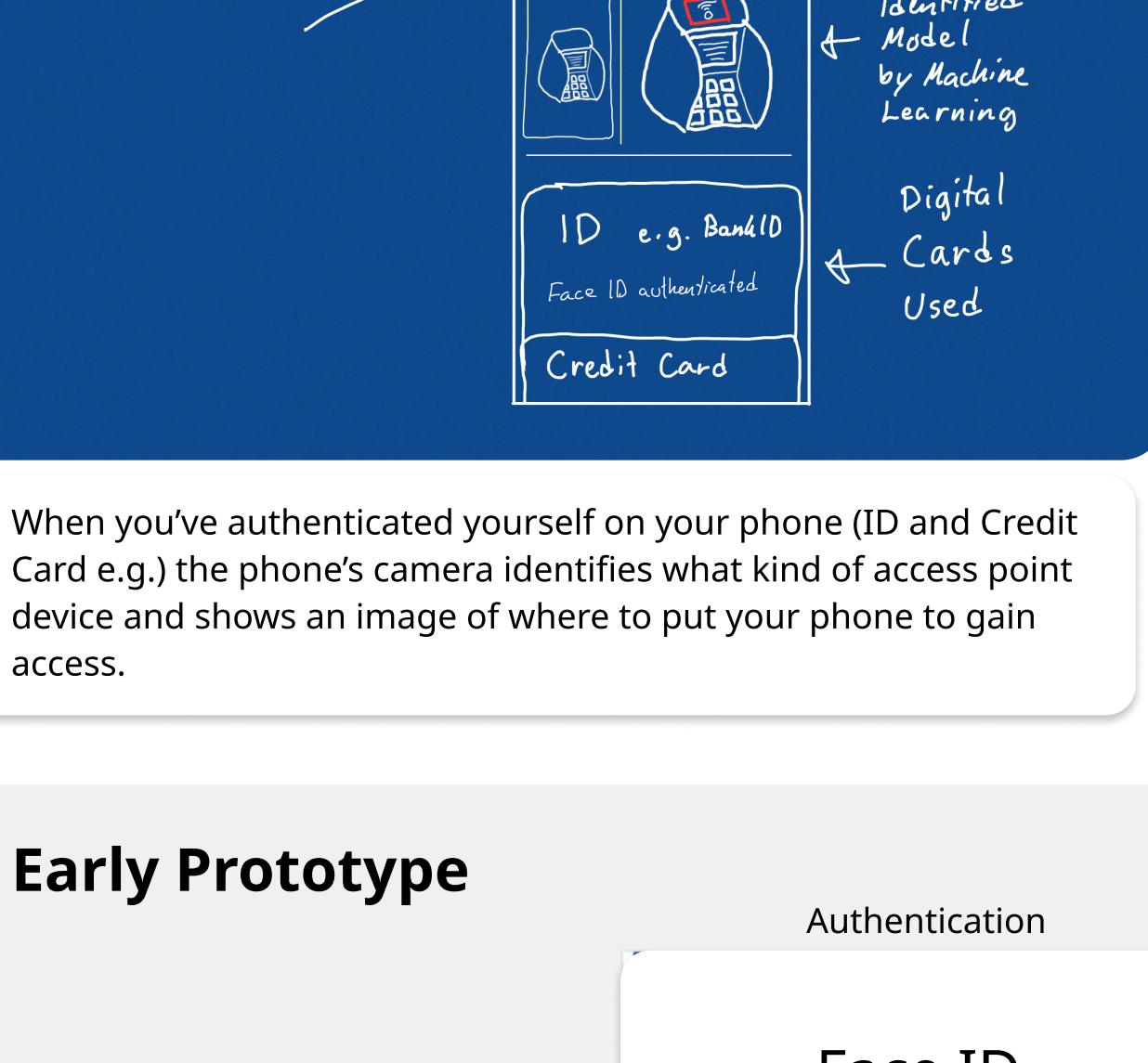
When you've authenticated yourself on your phone (ID and Credit Card e.g.) the phone's camera identifies what kind of access point device and shows an image of where to put your phone to gain access.



Phone vibrates more often and more intensely the closer it is to the NFC chip, in order to help the user find the access point

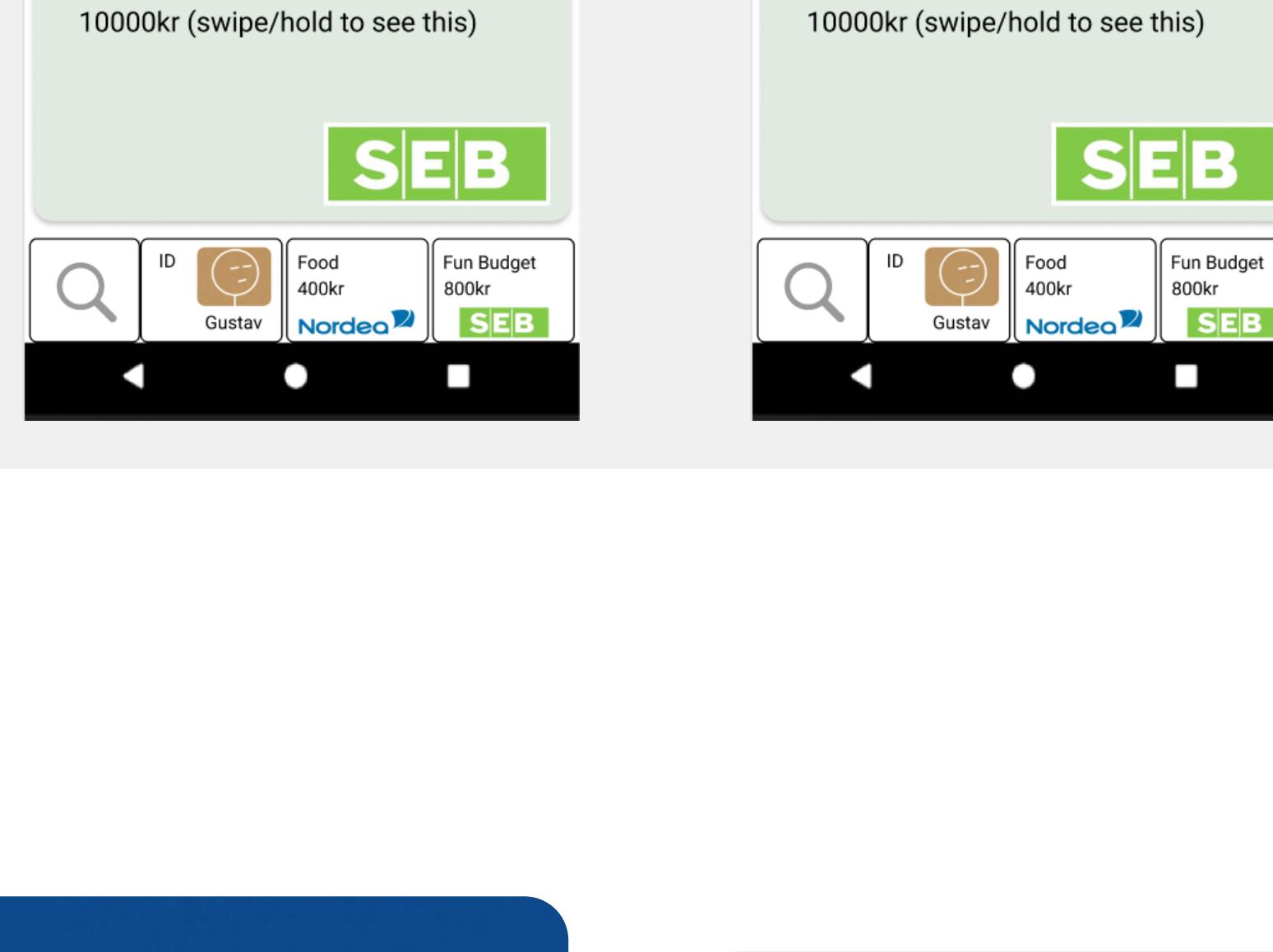


When you've authenticated yourself on your phone (ID and Credit Card e.g.) the phone's camera identifies a pattern, highlights the pattern through AR technology and clearly shows where the NFC tag is in order to assist the user.



When you've authenticated yourself on your phone (ID and Credit Card e.g.) the phone's camera identifies what kind of access point device and shows an image of where to put your phone to gain access.

Early Prototype



The user opens the app, is asked to authenticate, then can change what service they want to authenticate and then get help to access the access point to authorize themselves

Information gathered on Research questions

Can we test if these problems are significant enough to make it worth to add more features to help?

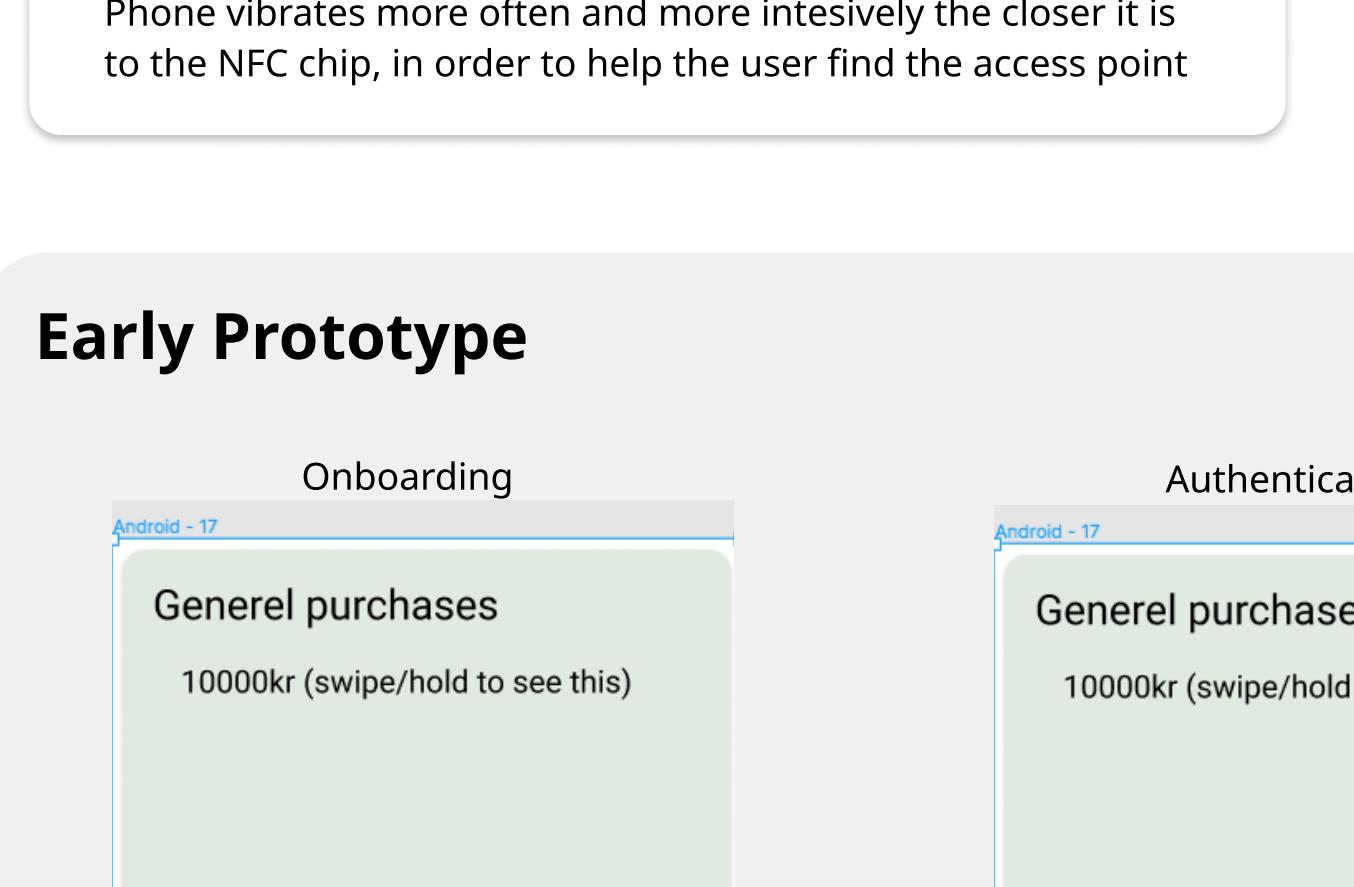
We sent a survey and confirmed that users in the target population had experienced the issue. Peer reviewers could relate to the issues as well. This however was not the best solution, in fact it was the worst.

Is it possible to authenticate ID using faceID?

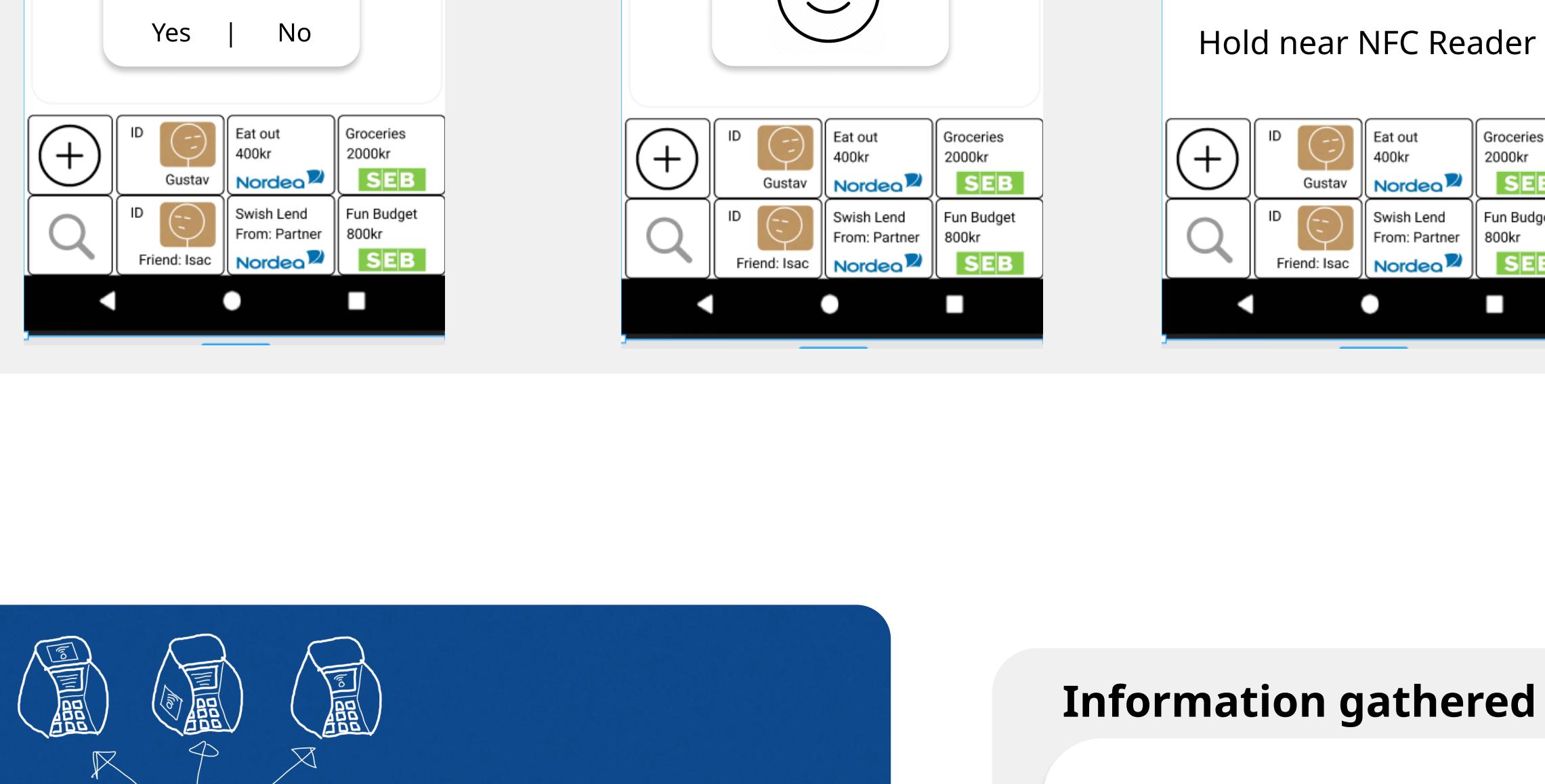
BankID is able to authenticate using faceID which is an electronic identification [1].

Results from Methods Used

We combined the initial idea from the blind blueprint with a few existing authentication solutions like Apple Wallet, Authy and a few more. Then we iterated on the prototype a few cycles with the limited time we had, during which we used heuristics listed in the lecture by Morten Fjeld, and had a few user personas in mind while doing cognitive walkthrough. We realize there are more improvements to be made, but did our best to do quick and rough prototypes. The results are shown below.



Early Prototype



Phone vibrates more often and more intensely the closer it is to the NFC chip, in order to help the user find the access point

Information gathered on Research questions

Can we test if these problems are significant enough to make it worth to add more features to help?

With the survey that we sent out, we received confirmation that it indeed was a problem.

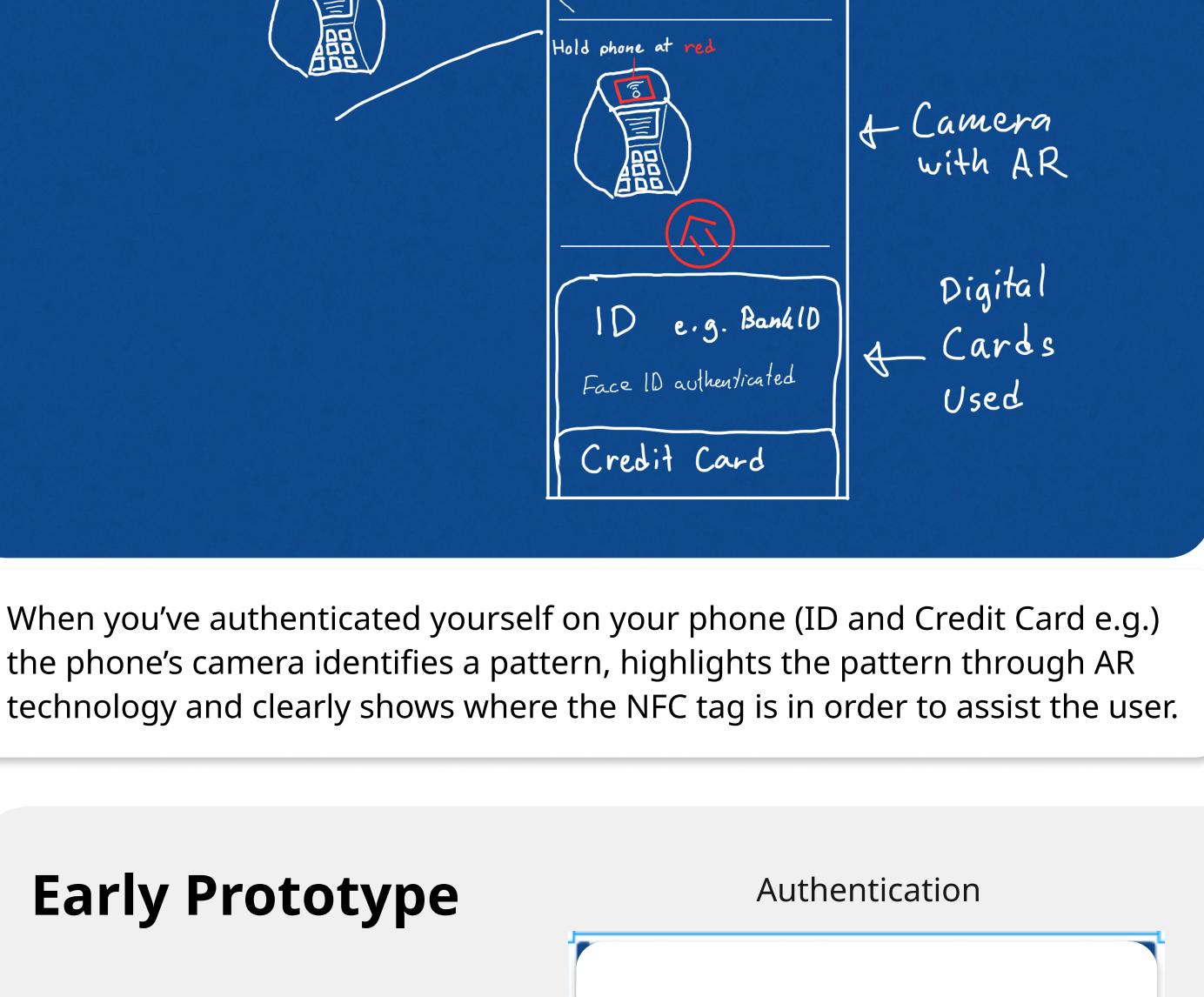
How long is the NFC range?

10 to 20cm according to [2], 20 cm seems to be ok to try out this interaction, even if a longer distance would probably make the concept more desirable. We still feel like the idea would be an improvement for accessibility, and that if it works well, we could look further into complimenting NFC with some another signal hardware that could detect proximity at longer distances. Upon reflection we don't think people want to authenticate from a long distance, for security reasons, so making the NFC range bigger isn't necessarily the way to go.

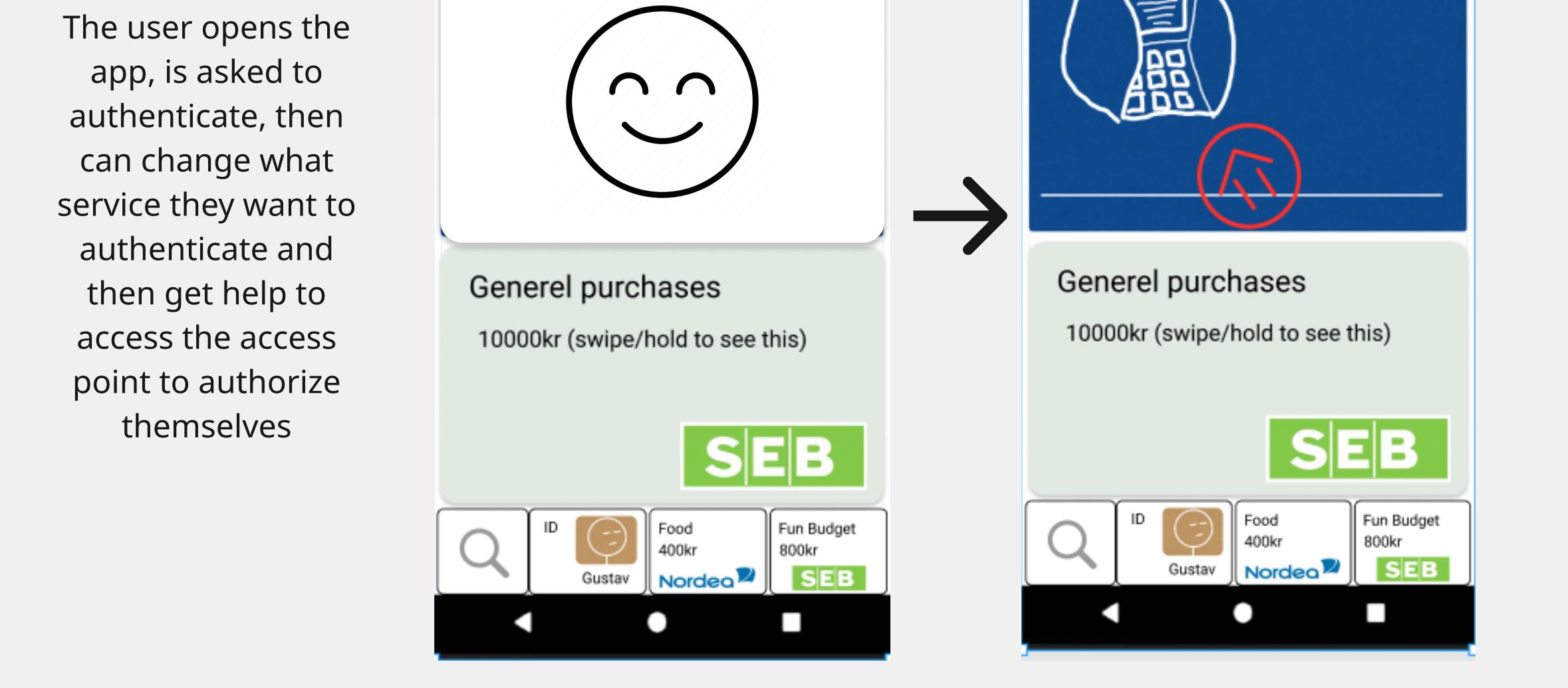
Results from methods used

We got asked if it was actually a problem, so we created a survey and sent it out in order to gather data. We received some responses that indicated that it indeed could be an issue which was further supported by our peer reviews.

Similarly to concept 1, we used cognitive walkthrough and heuristic evaluation, but here we adapted it for the vibration concept, so a lot of the reasoning is similar as in concept 1.



Early Prototype



The user opens the app, is asked to authenticate, then can change what service they want to authenticate and then get help to access the access point to authorize themselves

Information gathered on Research questions

Is possible to use face recognition to authenticate digital ID?

Yes it is, bankID is able to authenticate using faceID [1].

Is it a feasible idea?

It is quite out of comfort zone. We realized this idea was a little too ambitious, learning both AR and ML together with a new language would be time consuming even though we think it is an interesting idea.

Methods

We combined the initial idea from the blind blueprint with a few existing authentication solutions like Apple Wallet, Authy and a few more. Then we iterated on the prototype a few cycles with the limited time we had, during which we used heuristics listed in the lecture by Morten Fjeld, and had a few user personas in mind while doing cognitive walkthrough.

We realize there are more improvements to be made, but did our best to do quick and rough prototypes. The results are shown below.

Next Steps

We scrap this idea too, even if it seems desirable and feasible, it seem too time consuming and concept 2 seems better anyway