

Adapt Swedish “Cost Ceiling” Card into Modern Society

Lisa Andersson
Royal Institute of Technology
Stockholm, Sweden
Lisa5@kth.se

Mikaela Illanes
Royal Institute of Technology
Stockholm, Sweden
Mikaelai@kth.se

ABSTRACT

The cost ceiling for healthcare in Sweden needs modernization, at the moment the system relies on a physical card that the patient need to keep track on. This paper will present a new design concept that will make it easier for the patient to use the cost ceiling card. The methods that were used for the development of the design concept were brainstorming with different sketches and interviewing and presenting design concept to potential users. What was learned in this project was that the cost ceiling card is a good idea but it is old and needs to be modernized, which means introduce it to the world of mobile applications. The result is a prototype of a mobile application that is a representation of a modernized cost ceilings stamp card and free card.

Author Keywords

Höghkostnadsskydd; Cost Ceiling; App; Visualize; Modernize; Easy Access;

INTRODUCTION

In Sweden we have something called Höghkostnadsskydd (cost ceiling) of healthcare and that means that a patient do not need to pay more than 1100 SEK in patient fees within a 12 month period. The problem with this system is that it is up to the patient to keep track/guard their right to use the cost ceiling. Each time a patient visit the doctor the medical staff can write the amount it cost, the date and at what hospital he or she visited on a stamp card, see picture 1. This stamp card is the proof that is needed to be able to get a free card when the patient has reached the 1100 SEK roof. The free card is the patient proof that they do not need to pay any more when they visit the doctor, see picture 2. So, this means that for the patient to have the right of using the cost ceiling they need to bring their stamp card or free card each time they visit the doctor without it, the

patient cannot include that visit in the cost ceiling system and they need to pay for their visit even though they have a free card. The current cost ceiling stamp card is good in the way that it is easy to see how much you have paid and when you are entitled to get a free card. It is also important to bring your id to be able to use your free card, without your id you cannot use your free card.

RELATED WORK

There have been and are attempts to improve and modernize the cost ceiling system.

In the pharmacy sector they also use a cost ceiling system but for prescription medicine. This means that you as a patient get discount on your pharmaceutical costs depending on how much you have paid during a 12 month period. What you as a patient need to do to be able to get the use the cost ceiling system is to register for the cost ceiling database. Then the database will keep track on all your pharmaceutical costs and the discounts will happen automatically. [1]

The problem with this solution is that the patient does not have any type of information on how much discount they are entitled of. They will only know how much the medicine will cost when they are about to pay for it. They do also not know when their 12 month period is over. You as a private person can get the information that is saved in the cost ceiling database by logging in to Vårdguiden with your Mobile ID, and click around until you get to the right place. The positive side of this idea is that the patient don not need to keep track on anything themselves, everything happens automatically.



Picture 1. Example on how a cost ceiling stamp card looks like.



Picture 2. Example on how a free card looks like.

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

December 1, 2015, Stockholm, Sweden

The council of Kalmar has introduced an e-free card which means that patients seeking healthcare in Kalmar do not need the cost ceiling stamp card. Instead they digitally keep track on each patients doctor costs and when then sum of all its costs have reaches the cost ceiling roof and it is time for a free card, the patient will get a letter to their home address with information about their free card. The letter state at what date the patient got their free card and how long it will last. [3]

The negative with this solution is that the burden still lies on the patient to be able to prove that they have a free card and that they need to keep track of a physical letter to be able to prove that they are entitled to have free healthcare. The positive thing with this idea is that the patient has information on the date and how long the free card will last.

The council of Stockholm is introducing electronical free cards in Stockholm during fall 2015. [4] This means that the physical cost ceiling card and free card will be removed. Everything will happen automatically and a database will keep track of all your doctors' appointments.

The positive with this solution is that the patient do not need to keep track of his/her payments and when it is time to have a free card, also the relief of knowing that all your appointments that you pay for is registered in the cost ceiling system. This takes the burden from the patient to keep track of everything. But the negative is that the patient does not have easy access to information about their cost ceiling card e.g. duration time and how much left until free card.

METHOD

Design Process

The design process started with brainstorming within the project team, to come up with interesting design concept that will solve the issues with today's cost ideas we did a low-fi prototype and presented and discussed it to potential users. From the feedback we received we changed the look of the mobile application quite a lot. We got feedback from that design by the same future users and it was quite clear that that design was disliked. After the second feedback session the project team sat down and discussed the pros and cons (based on the feedback) of the two designs, to find a good middle ground and create the best possible design. The final step was to create a prototype that took at the feedback that we have gotten into consideration.



Picture 3. One of the first sketches of the app.

All the designs for the prototype were made first with pen and paper and later on developed in Photoshop. The interactions for the prototype were made with the free version of Invision.

Iterations

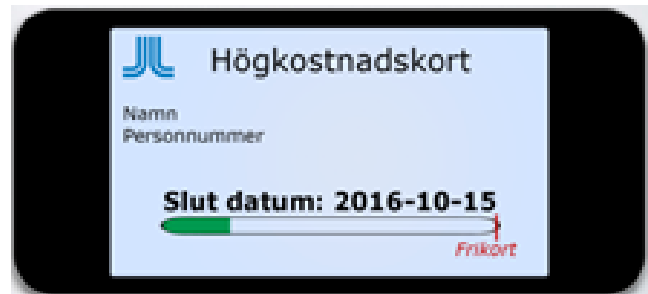
For the first iteration of our prototype we made three very different designs that gave the user information in which state the app is on, if the user has the free card or not. Two of the versions also showed personal information about the patient (name, personal number) and visualized in two different ways how much it was left for the patient to receive the free card. The first one showed it by stating how much money it is left before the free card is gained, *see picture 3*. The second one keeps the old design from the paper stamp card to visualize how much the patient has paid, *see picture 4*. All of these prototypes gives the patient real time feedback and it made it easier for the patient to both keep track of his/hers cost ceiling.

For the second iteration we took the advice from the second feedback session to keep the stamp card version and add the interactions. We did not make any big changes more than add the interaction with the app so that we could let people test the prototype to see if they could understand it. We did not get that much feedback on what to change from our testers more than critique and thoughts of the whole idea.

For the third iteration we simplified the app even more by trying to visualize the amount of money left for the free card with a barometer, *see picture 5*. This version was shown during our third critique session and with the feedback we got we decided to go back to the stamp card since that one was easier to understand for a new user and for the users that are used to the real stamp



Picture 4. One of the first sketches of the app.



Picture 5. A later sketch of the app.

card.

So the fourth and last iteration we kept the stamp card design but deleted the QR-code since we had gotten the information that a database was on its way to the patients. So we concentrated on only a visualization of how much money they needed to pay to get the free card and the duration time. We also added a language feature where the patient could choose the language that fitted them the most.

RESULT

The result from the brainstorming and feedback sessions is a mobile application that is a presentation of the patient's personal cost ceiling card or free card. The application is connected to a database where all the information is stored. The combination of the database and application the patient do not need to keep track of a physical cost ceiling or free card and can easily see information about duration time and how much money it is left until they will have a free card.

The patient downloads the app from any app store and they login to the app through Mobile ID, because the information that is on the app is personal. Then home page of the app is the cost ceiling card, see picture 6. On this page the patient will see duration time of the cost ceiling card and the amount left until a free card.

The application offers a large range of different language options, so regardless your first language you should be able to understand the cost ceiling card and who it works.

CONCLUSION

Our design concept gives the patient both benefits and value in a way that they can easily access their information, in the language they understand. The patient does not need to keep track of a physical card but the still have easy access to the important information that exists on the cost ceiling card. The ability for the patient to choose to see their information will give them comfort.

ACKNOWLEDGMENTS

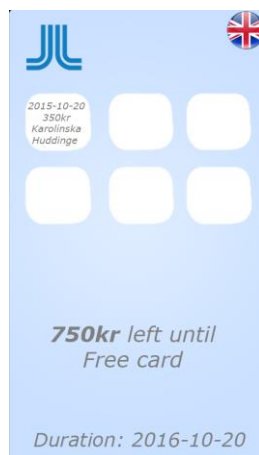
A thanks to the teachers and students how has given great feedback during critique sessions.

REFERENCES

1. Apoteket Hjärtat – Så funkar högkostnadsskydd.
<https://www.apotekhjartat.se/mina-recept/sa-funkar-hogkostnadsskydd/> [25-11-2015].

On each page in the app there is a flag on the right corner that represent what language the app has and the patient can choose what language the app should have by clicking the flag, see picture 6 and 7.

When the patient has reached the cost ceiling roof they receive a free card and this is also represented in the app, see picture 7. The most important information is presented in that page: duration time.



Picture 6. Final version of the app. This is how it looks as a representation of the stamp card.



Picture 7. Final version of the app. This is who it looks when the patient has a free card.

2. eHälsomyndigheten - Högkostnadsdatabasen.
http://www.ehalsomyndigheten.se/ehalsotjanster/e-recepttjanster/vara_register/hogkostnadsdatabasen/?accept_cookies=true [25-11-2015].
3. Landstinget i Kalmar län – Högkostnadsskydd och e-frikort.
<http://www.ltkalmar.se/Documents/H%C3%A4lsa%20och%20v%C3%A5rd/Avgifter%20och%20betalning/Folder%20E-frikort%20och%20enklare%20betalning%20med%20faktura.pdf> [25-11-2015].
4. Stockholm läns landsting – Elektroniskt frikort införs i Stockholms län.
<http://www.sll.se/verksamhet/halsa-och-varld/nyheter-halsa-och-varld/2015/02/Elektroniskt-frikort-infors-i-Stockholms-lan/> [25-11-2015].