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Analysis of UsabilityTest

Project Casper

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1 Introduction

1.1 Purpose

The purpose of the usability test has been to investigate how the test users interact with the prototype, what problems they have experienced and their opinions about the different steps in the prototype. The purpose is also to receive the test users opinions about what they consider important concerning trust and being in control. The assessment we have done on the basis of the performed usability test shows important aspects to take into consideration regarding the design of the demo. These aspects reflect what we consider important concerning the design of a user-friendly gui. In that lies the importance of the sense of being in control for the user and that the user shall feel trust to use services like the one that the prototype reflects. The analysis will also show what kind of information the users feel that they can give without any restrictions and what they feel is much more sensitive to share with others and the reasons for this.

1.2 Scope

The analysis is based on the usability test we have performed and the result can not be considered as general.

1.3 Terms and Abbreviations

Abbreviations	Description
GUI	Graphical user interface
Shtml	Secure html

1.4 References

In this document we refer to the documents "Usability assurance" and "Enclosure to Usability Assurance". The document "Enclosure to Analysis of UsabilityTest" contains the assessment of the formal interviews.

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2   Course of action

2.1   Test users and environment

We have tried to find test users that agreed with the personas we have created and our aim was to find test users with a variety of age, education and computer skills. On the basis of these criterion we contacted a number of persons whom we thought would fit as test users and we got positive response from nine people that agreed to do the usability test. The reason of this number is that we wanted to do a qualitative test and we considered this being an adequate number of users in respect of our time limit. An exception from this is however the part of the test that concerns the formal interviews. In this part an additional eight people from the Casper project participated.

The nine test users agrees mainly to the personas of "Eva" and "Jens" who represents the target groups 2 and 3, but could to some extent also represent "Bosse" in target group 1. Two of the test users were women, the age of the test users varies between 13 and approximate 55 years old. They represent different professional categories as well as they represent students on different levels. There were also differences in their computer skills as far as we could see which also were confirmed by the interviews.

The test users were invited to do the test in pairs except for the last user. The reason for this were partly that they worked /studied at the same place and partly because it was time saving for us to do one part of the test with one of them while the other person worked with other parts of the test. The time for the complete test took about 45 minutes per person. The test was held in the Casper project room because of practical reasons. In the project room we had the prototype locally stored in one of

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the computers and it was also convenient and time saving for us to be in our working place.

2.2 Test methods

The methods we used during the user tests were video recording, observations and both formal and informal interviews. The reasons of video recording is that it is easy to miss some details by only observing what is going on and when analysing the film it is possible to look closer to sequences of interest. The film also contains all the comments the test users did during the interaction with the prototype. The observations are an important complement to the video recording as it is possible to catch what happens outside the area of video recording which could contribute to the overall picture.

The informal interviews were held with the test users during the interaction with the prototype and it were more like a conversation about different matters that came up. These interviews gave important information to us about aspects that the test users found significant. The test users were doing the formal interviews either before or after the interaction with the prototype. This interview consisted of a questionnaire where the test users were asked to answer questions about their use of mobiles and pc:s as well as their attitudes toward giving information about themselves to others and what they considered as important concerning this.

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3   Analysis

3.1   Feedback

We believe that visual feedback is of utmost importance for users in general. During our usability tests we have seen that users ask for and could be helped by more visual feedback. Several of the test users did not notice that when trying to log in with a user-id, written on a paper form beside the computer, the marker was not placed in the text field. What happened was that they had to do the log-in procedure one more time before succeeding. This happened to both more as well as less experienced computer users. If there had been some sort of sound feedback this would have shortened the log-in procedure for these users as they would have been instantly alerted about their mistake. The users also had some problems understanding the total amount of charges when using our gui prototype even though a detailed specification was shown for them. One way to visualise the costs for the user in a better and more simple way we think could be to insert a sum counter of total costs in the form of an icon. This sum counter could be visual throughout all pages of the whole service procedure. When clicked upon it could link to a page with a detailed specification.

Another kind of feedback we think could be of use is to use different colours for certain activities. If for example the sum in the sum counter changes there could be some sort of colour change in the icon for this. If there is a visual link to the policy document throughout the service procedure this icon could become red (for extra alert) when the user is asked for services that has to be confirmed. This to make the user aware of the possibility to change the policy regarding these services whenever wanted.

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We also got the advice from a test user of using logotypes for operators, creditcards etc, instead of an explaining text[1]. This was on the page for choosing way of payment in our usability test prototype gui. We found this being a good idea as we noticed among the users that they preferred simple, visual effects rather than formatted text strings that they had to read. The users preferred simplicity in the design of information (This is however not the same thing as simplicity in the overall visual design of logotypes, links etc.).

We noticed that almost all of our test users used the back and forward menu options when navigating a second or third time in the gui. As these does not work when using for example shtml we think it would be a good alternative to have backward and forward pointing arrows in the gui for navigation use.[2]

Fig. 1

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[1] See fig 1 for possible view of a page in an interface compared to fig 2 which is a view from a page in the prototype tested.
[2] See footnote 1.

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Way of payment

Pay through your operator
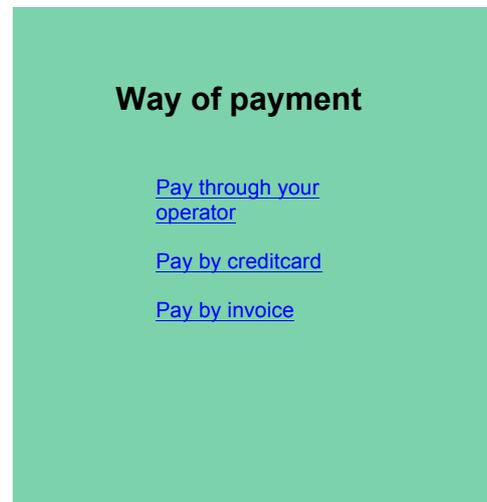
Pay by creditcard

Pay by invoice

Fig. 2

This would reduce the amount of text based information and be self explanatory enough for the user to feel comfortable when using the gui. If using a mobile phone these arrows could be replaced by the arrows already existing among the buttons on the phone.

3.2   User in control

During our user tests we have noticed that people are suspicious of their nature. If something happens on the screen that the user feels he/she has not initiated themselves the user becomes irritated, annoyed or surprised. This was especially visible when it concerned actions that might affect charges on their personal account. We have considered this as a confirmation that people in general want to be in control of what is happening, and especially so when dealing with money.

3.3   Reducing key typing

The general opinion among the test users was that the idea of using input from an address book was very good. To collect information from an address book instead of writing this information by using the keyboard would be both timesaving and effort saving for the user. It would also support the thought of avoiding annoying redundancy. Some users wanted similar kind of automatic information collecting also

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for other activities such as getting suggestion of post numbers automatically from a database when giving a post address. This supports our idea of diminishing the amount of key pressing and using keyboards. This in turn would make the service more usable even for less experienced computer users or computer users that are not very fast or skilled in typing. One could also see an ergonomic gain in reducing the amount of typing for the user.

3.4 Trust

Something that came up during the test was that the users feeling of trust partially depends on the name of the company involved. If the name is already wide known and has a good reputation the user felt trust for the company even if not having used this company on beforehand. Many of the users seemed to feel more secure to make payments through their operator who was already known to them, and used by them ,than by using for example their creditcard. Based on our observation it is our belief that users would not be too keen on letting a service provider charge them directly or handle their information by themselves. When considering the thought that the operator could handle this kind of charges and information handling for them would probably give them a much greater feeling of trust and security. One user said that he felt trust for physical companies that he felt exist in a physical reality, "companies that I can visit or call". He did not feel secure in the same way with companies he thought only exists "on the Internet".

3.5 Rules and patterns

We can not put a too strong emphasis on the importance of mediating clear and simple rules for how to handle different services. If the user feel that he/she understands what is expected of him/her in all situations this will improve his/her feeling of trust and security. By following design patterns commonly used in other existing services already used today this may improve the recognition of earlier

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experiences for the user. This also makes a service more self explanatory for the user, this presupposes of course that the user approve of this design pattern.

3.6   Use of language and vocabulary

The language is very important. Several of our test users had some problems to grasp the contents of written information in the prototype, as the language used was English. However none of the test users admitted this but we noticed it during the test partially because of the way they interpreted the information about charges. For example did more than half of the users believe that the shortening SEK (Swedish Krona) was synonymous with seconds. In other words they thought at first that they were charged for 10 seconds of positioning and a total of 49 seconds for postcards sent. After retrial of our prototype they questioned this and we could explain. Some users also had some problems understanding the vocabulary we used. Words such as positioning, even when said in Swedish, was not at all obvious to them. There were also discussions about terms as "allow once" as this was interpreted such as that a service was allowed to be performed once without permission from the user. This has made us understand that it is very important to use a vocabulary that is very common and hard to misunderstand when writing information in any user interface. We think that a good solution could be the use of symbols and pictures, if appropriate, as people seem to tend to interpret these faster and in an easier way. It is also important to try to use the mother tongue whenever possible.

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4   Conclusion

Through our analysis of the material from the user tests we have found that feedback is very important for the user. The form of feedback may vary though according to situation. Feedback could be presented in many different ways such as visual feedback in form of changing colours, icons, logotypes. Feedback could also be presented by sound effects or as text in pop-up dialog boxes. However did we notice that textbased feedback presented as part of the gui could easily be missed by the test user. We therefore suggest simple visual effects instead of formatted text strings.   Simplicity is also to prefer in the design of information. There should always be an aim to make a gui as self-explanatory as possible. A self-explanatory gui will let the user focus on the purpose of the service presented through the gui instead of focusing on the gui itself. This we believe is possible by using accepted design patterns and visual effects like logotypes, pictures and icons that mediate their purpose through earlier experiences of the user. It would for example be possible to use backwards and forward pointing arrows on buttons for navigation in the gui.

The test users seemed to approve of solutions where key typing was reduced. For example collecting information from existing address books instead of typing addresses and phone numbers. They also liked the idea of getting certain information automatically from databases such as automatically generated postnumbers if they gave an address etc.

The language used in user interfaces is very important. There should be an aim to make it possible for users to get information in their mother tongue. It is also important to use a vocabulary already known and understood by users.

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People in general want to be in control when dealing with money. When dealing with certain other information this is however not of same importance. The most important thing though is that users need to feel that things do not happen which they are not aware of or have not initiated themselves. If the user feel that he/she has control of a procedure this makes the user feel comfortable. During our user tests we also discovered that the name of service providers is important for the feeling of trust for the user to use a service. If the name is well known and if it exists as a physical company, which the user can call or visit, the user felt a greater trust for this company than for other companies. If the company was a national known company it further strengthen the feeling of trust. Several test users said that they would prefer to use service providers approved by their telephone operator. To reach these service providers through the operators home page would also make the user feel a greater trust for service providers never used before.

If we had had more time we would have liked to interview more people and preferably younger ones. We believe that younger people tend to see possibilities rather than limitations and therefor would give us more information about wishes and dreams of future design and techniques. In our usability test we had one test user that was of the age 13 years old. We noticed that even though he was very easy to influence in the user test of the prototype (which of course was a bit negative) he was the only one really expressing his visions in the written questionnaire that we asked our test users to fill in. It would have been interesting to know what more people in his age would have answered to these questions. It was also interesting to see that he had about the same opinion as older people when it came to the feeling of trust.

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5   Revision History

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