ABSTRACT
As a result of new technologies like WAP and Java enabled (smart)phones and fast mobile internet connections, many new mobile services are available. One of these new services is mobile banking. Mobile devices differ from normal personal computers in screen size and method of input. But what is the influence of the design and usability in online and mobile banking interfaces on user trust? To answer this question a literary study will be conducted concerning the design of user interfaces, the effects of smaller screens and the different kind of input. After the literary study a user experiment with two different prototypes will be performed to investigate if people evaluate a well designed mobile application as more trustworthy than a other, not so well designed application. The prototypes differ in the implementation of the information, navigation and graphic design guidelines.

Keywords
Trust, Mobile devices, User interface design, Design guidelines, usability, M-commerce

1. INTRODUCTION
Trust is an important issue in commerce and so in electronic commerce [Lan06]. Electronic banking is a sort of electronic commerce with a potential risk for economic loss [Her04] for which trust is extra important. There are several methods to obtain users trust. Things like uncertainty, risk, security, privacy and reputation play a role in obtaining users trust [Lan06]. Another and more visible method to obtain users trust is the interface design and usability [Lan06]. There are many resources available that provide rules and guidelines for designing interfaces for web pages [Ivo01]. Some of these guidelines are modified for small screens [Kär02].

Electronic banking is one of the most successful business-to-consumer applications in electronic commerce. The use of internet banking has grown rapidly. Time savings and freedom of time and place are the most important elements of internet banking [Lau05]. New technologies like WAP and Java enabled mobile (smart)phones and PDA’s and the advance of fast mobile internet connections create opportunities for new kinds of mobile services [Ma04]. Some of these services are financial services, like mobile banking. The first WAP-based interactive banking service was launched in 1999. The usage has grown rapidly, however compared to internet banking the usage of mobile banking services is still significantly less [Hyv05].

In many research projects trust in online applications is studied. These applications are most of the time general e-commerce websites. In this research trust in online mobile applications is studied. As stated before, the interface and usability design is one of the methods to obtain user trust. This research studies the effect on user trust of using different user interface designs on user trust? Do people have more trust in a well designed mobile application (in terms of interface design and usability design) as in a other, not so well designed mobile application?

In this research two different interfaces for mobile banking interface will be created and tested. Before these interfaces will be created a literature study will be conducted concerning the design of user interfaces and the effects of smaller screens and the different kind of input of mobile devices.

2. TRUST AND ELECTRONIC COMMERCE
In literature, trust is seen as an important issue in electronic commerce. Research has shown that trust is one of the keys to success in electronic commerce [Lan06]. Some authors state that the missing trust of consumers is one of the major barriers to the adoption of electronic commerce [Egg01]. This chapter tries to give the definition of trust and methods on how trust can be obtained.

2.1 Definition of trust
What is trust? There are many definitions of trust. Egger states that trust is defined as a type of belief that is in between faith and confidence. It is superior to faith and inferior to confidence [Egg01]. Olsen [from Lan06] believes that trust deals with behavior, “people learn to trust others by noting their behavior”. Other authors say that trust is a cognitive choice. According to Lewis et al. [from Lan06] “we cognitively choose whom we will trust in which respect and under which circumstances, and we base the choice on what we take to be ‘good reasons’ “. There is no ‘true’ definition of trust in the literature. The missing of one definition could stem from the fact that trust is a multifaceted concept. However, it is agreed that trust in a merchant is a good thing, but how it exactly works is not yet completely understood [Lan06].

2.2 Obtaining trust
As stated before, trust is seen as an important issue in e-commerce. For online banking, users security and more specifically trust is a highly rated issue [Nil05].

There are several methods to obtain user trust [Lan06]. Many authors feel that the design of the user interface can influence the trustworthiness of an e-commerce application. According to Lanford, the design of the elements in the interface can produce a feeling of trustworthiness. People have to trust the interface. [Lan06]. Also the overall quality of a website, whether a website has typing or grammar errors, broken links etc. has an effect on the trustworthiness [Lan06]. In specific online banking research user trust is related to interface design [Nil05].

Laberge and Caird found in their research a significant relationship between online banking interface design and the trust and confidence by users in the online banking system [Lab00]. The main conclusion of their research is that trust in an online banking system begins with the user interface. The user should be able to use the banking system effectively.
Laberge and Craid noticed further that it is not only the user interface which plays a role in trusting the online banking system. For example, a customer may be able to use an online interface relatively easy, however trust in the institution which provides the interface may actually determine whether or not the customer will use it [Lab00]. Both studies found that the relative ease of use is an important determinate in online trust. Effective navigation is generally a precondition to communicate e-commerce trust and the perception that sites meet customer needs [Lan06]. So user interface design and usability can play an important role in obtaining user trust in e-commerce applications. In this research, a study concerning user interface design, usability and trust in e-commerce applications will be carried out, but instead of general e-commerce applications, mobile e-commerce applications will be studied.

2.2.1 MoTEC

Egger argued in his studies [Egg00] [Egg01] that the consumers lack of trust forms a major barrier to the adoption of electronic commerce. To address this problem, Egger developed a model of trust and e-commerce. This model is called MoTEC, which stands for Model of Trust for Electronic Commerce. It describes which design factors can influence user trust in electronic commerce. MoTEC consists of four dimensions: the pre-interactional filters, the interface properties, the informational content and the relationship management. Trust can be obtained by these four dimensions. It can be obtained before the online interaction (for example by branding), during online interaction (for example via user interface and user experience) and after the online interaction (for example by service and fulfillment).

For this study the interface properties are the most interesting properties to investigate. The interface properties can make or break the first impression made by the website. Two aspects considered here are branding and usability.

Branding is a term used to describe how easy people can identify the company’s website. When accessing a website for the first time, the first response of a visitor is an emotional one. The graphical design and layout of a website can directly affect the acceptance and usage of the system. Important issues dealing with branding are easy identification of the company and the activities of the company. This can be done by placing logo’s and slogans and using the offline brand attributes like color schemes and style guides. Since branding is also about the first contact users have with the website, professionalism is important too. For example, there should be no typographical errors, outdated content and/or broken links.

The usability issues mentioned by Egger concern the ease of use of the web interface. When users start exploring a website, it is important that they can access the relevant information, the information they are looking for, easily and efficiently. This gives the users a feeling that they are in control. The ease-of-use is perceived as a sign that the company understands, cares for and respects its customers [Egg00] [Egg01].

2.3 Trust and mobile devices

Obtaining user trust in m-commerce is a daunting process [Sia03a]. M-commerce is the mobile variant of electronic commerce, also known as mobile electronic commerce. M-commerce faces the same problems as electronic commerce. But m-commerce has some problems of its own. Mobile devices have some unique characteristics which make obtaining consumer trust more difficult. Shiau and Shen list the following characteristics; mobile devices have smaller screens, lower resolution displays and less multifunctional keypads. Other characteristics Shiau and Shen mentioned are the lower processing power and memory and the limited battery life. Also the connection used for m-commerce plays a role in obtaining user trust. Two examples are the limited bandwidth and the stability of the connection [Sia03b].

3. DESIGN GUIDELINES

A website or an interface is a complex mix of text, links, graphic elements and formatting. Designing an interface addresses diverse aspects. These aspects can be divided into four categories [ivo02];

- Information design. This focuses on identifying and grouping content items. It reflects the interface information structure.
- Navigation design. This focuses on developing mechanisms to facilitate interaction with the interface.
- Graphic design. This focuses on visual presentation.
- Experience design. This encompasses all the three categories, as well as the overall user experience.

In section 4 the limitations of mobile devices are discussed. Below guidelines are provided with special attention for designing user interfaces for small displays. They will be given per category.

3.1 Information design

In this section the information design will be discussed. Important issues in information design for small screens are grouping, the organization of information, alignment and the position(s).

- Grouping. Dettweiler states that “Grouping is about placing items on a screen. Items that are placed in close spatial proximity (i.e. that are grouped with each other) are usually considered to belong together conceptually”. Grouping can be done in sequence of use, frequency of use, importance of use, size or color [Det96].
- Organization of information related to grouping. The most important information has to be presented at the top of the hierarchy. This is in fact grouping by importance of use [Kär02].
- Alignment and the position of elements on the screen are powerful tools for supporting the page’s structure. The visual organization and structure of the elements gives the information a different level of importance [Det96].

3.2 Navigation design

This section discusses the navigation design. Navigation design focuses on developing mechanisms to facilitate interaction with the interface. Possible methods of navigation are linking and scrolling. Things to take into account when designing for small screens are:

- Rethink the navigation aids. Visual navigation bars require display space. The screens of mobile devices have less display space as a result of the smaller screen. So too many navigation elements on the screen will use too much display space [Kär02].
- Scrolling. When scrolling is used for navigation the amount of scrolling has to be minimized and the scrolling has to be clear to the user by using markers [Jon99].
- Linking. Avoid linking for navigation. Users do not like excessive clicking. When links are used for navigation, the links have to be indicated clearly [Kär02].
• Site maps. When the website is very large, the usage of sitemaps can be helpful.

In general, all the links on a screen have to be visible without scrolling and the navigation tree of the site or program should not be too deep.

3.3 Graphic design

In this section the graphic design category will be discussed. Graphic design deals with the layout of the screen. People have to read information from the screen. Since reading from a mobile device with a small screen is different from reading from a normal screen, the reading process has to be optimized by choosing a readable font [Kär02]. Besides text there can also be pictures on a screen. Pictures require some display space. Because mobile devices have a smaller screen, pictures have to be used with caution [Kär02]. Since most mobile devices are equipped with color displays, it is possible to use colors in an interface. The use of colors for text, menus and backgrounds have to be used and chosen carefully [Det96]. In general the presentation information and functions have to be consequent. So the logos, titles and navigation elements have to be the same design. The consistent positioning on all pages or interfaces of logos, recurring text, buttons and graphics is also very important [Kär02].

3.4 Experience design

Experience design deals with the general impression of a service or website on a user [Ivo02]. Besides the visual elements of a service or website, other aspects play a role in experience design. Some mobile devices have a lower connection speed than normal personal computers. The service has to be designed for this (lower) connection speed. For the interface, this means that the graphical elements in the interface are not allowed to be too large.

The services for mobile devices have to be well focused and well organized [Kär02]. Users of these mobile services will use them with a particular target in mind. For example, when a user wants to check his account balance, he or she should be able to have quick access to this service without much 'browsing'.

4. CHARACTERISTICS OF MOBILE DEVICES

Mobile devices like mobile phones and PDA’s (or combinations of those, like smart phones) differ in many ways from normal personal computers. Some of these differences will be discussed below. Some limitations of mobile devices have already been discussed in section 2.3.

4.1 Display

One of the most visible and characteristic differences between mobile devices and personal computers is the size of the display. The smaller the mobile device, the smaller the screen of the device. Besides the smaller dimensions, the resolution of the displays is lower. Consequence is that there is also less display space to use for mobile user interfaces [Kär02].

4.2 Control and input

The control and input devices of mobile devices also differ from those of personal computers. When using a personal computer the user gives the input via a keyboard and a mouse. The user of a mobile device has different methods for giving input. Mobile phones have a telephone keyboard and some others buttons for control and input depending on model and brand of the device. Other devices, like PDA’s and some smart phones use touch screens for control and input [Kär02].

4.3 Processing capacity

Mobile devices have less processing power than personal computers. Also the amount of memory is less. Since there are online services for mobile devices the connection speed can play a role. The most mobile networks have a lower connection speed than the networks for personal computers [Kär02].

5. METHODOLOGY

The design guidelines for user interfaces in chapter 3 are general guidelines. The guidelines are applicable for all possible user interfaces, and also applicable for small screens of mobile devices.

From the literature it is known that the design and usability of the user interface is one of the methods to obtain user trust [Lan06]. To investigate what the effects are of the interface design and the limitations of mobile devices on user trust, two prototypes of banking interfaces have been developed. These prototypes are based on the findings of chapters 3 and 4. One of the prototypes is designed following strict the design guidelines, whereas the other prototype is designed also following the design guidelines, but not as strictly. Details of the prototypes are given in the next section. The prototypes are developed in HTML and running on the HTML browser of a Nokia E50 Smartphone. The navigation and input is given by the keypad and navigation keys of the telephone. For an impression of the prototypes see figure 1.

Figure 1: The homepage of prototype A

5.1 Prototypes

In chapter 3 design guidelines for user interfaces have been provided. Some of these guidelines are contradictory. For
example the amount of scrolling and linking in the navigation design. Less scrolling means more links and less links means more scrolling. More links also means a deeper navigation tree. This is one of the main differences between the two interfaces. Prototype B has more links and a deeper navigation tree than prototype A. Another difference between the interfaces is the information and graphic design. The navigation menu is placed on different locations. The prototype is developed in Dutch. This will be the main language of the users.

In prototype A the navigation menu is placed on the left side of the page. In prototype B the navigation menu is placed on top of every page. The placing of the navigation menu has some consequences for the available screen space for text. In prototype B the available screen space for text is broader then in prototype A. This has also some consequences for the readability of the text. Because of the more narrow screen space for text the length of the sentences are smaller. For a quick draft of the prototypes see figure 2. The functionality of the two prototypes is the same. The difference between the two prototypes is the number of sub pages, the amount of scrolling, the placing and grouping of the links (the menu) and the total number of links in the prototype. For an overview of the differences between prototype A and prototype B, see table 1. In prototype A the number of sub pages is minimal. Besides the main page, there is for every function one page. All the information for one function is on the screen at the same time. This means that the user has to scroll. The links for navigation are grouped on the left side of the screen, from top to bottom. Prototype B, has a higher number of sub pages. All the information on the screen is visible without scrolling. This means that the number of sub pages and the number of links (to these sub pages) is higher. Also the grouping of information on the screen is different. The links to the functions of the application are placed at the top of the screen. Users of prototype B have to use more links. The text in both prototypes is the same. The fonts, colors and indications of links and scrollbars are also the same. Also the items about branding are the same in both prototypes. The keys in prototype A of the telephone have the same functions as in prototype B. Prototype A is chosen as the well designed prototype because of the minimal number of sub pages, the fewer links and the smaller navigation tree. As stated before these guidelines are contradictory. This means that prototype B has more sub pages, more links and a deeper navigation tree. As a consequence the design guidelines concerning scrolling and layout are better implemented in prototype B.

5.2 Tasks
The participants of the experiment used both the prototypes for two scenarios. In the first scenario the participant has to check his or her bank balance. This is a passive assignment, the participant does not give input. In the second scenario the participant has to transfer some money to a bank account. This is an active assignment. The participants have to fill in some data to transfer money. After completing the tasks for the first prototype they are questioned on paper about that prototype before they start with the second test. When the second test is finished, they are questioned again, this time about the second prototype. At the end of the experiment the participant has to answer some questions in which he or she compares the prototypes. The questions are statements about the prototype. The participant can indicate his opinion on a five point Likert scale. The statements concern the design of the screen, the usability of the prototype and in which prototype the user has more trust when using the prototype.

5.3 Subjects
There were twenty five participants. Nine of them were female and sixteen male. The age of the participants varies. See figure 3. Sixteen of the participants are between the twenty one and thirty years old, four of the participants are between the thirty one and forty years, three of them between the forty one and fifty years and two participants are fifty one years or older. The level of education of the greater part of the participants is high. Sixteen have a high(er) level of education or work, seven of the participants have a medium level of work or education and two participants have a lower level of work or education. The biggest part of the participants have experience with using mobile phones, twenty four out of the twenty five participants have experience with mobile phones. Most of the participants use their mobile phone to make phone calls or to send text messages. Most of the participants do not have any experience with internet on a mobile phone (mobile internet). The majority of the participants have also some experiences with electronic

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**Table 1: Differences in implementation of the design guidelines between prototype A and prototype B**

<table>
<thead>
<tr>
<th></th>
<th>Prototype A</th>
<th>Prototype B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Links (paragraph 3.2)</td>
<td>Only links to the functions of the application via the menu.</td>
<td>More links, beside the links to the functions, also links to the sub pages of the functions.</td>
</tr>
<tr>
<td>Sub pages (paragraph 3.2)</td>
<td>Minimal number of sub pages, Smaller navigation tree</td>
<td>More sub pages, Bigger navigation tree</td>
</tr>
<tr>
<td>Scrolling (paragraph 3.2)</td>
<td>Users have to scroll to see all information and/or links</td>
<td>All info and/or links on the screen visible without scrolling</td>
</tr>
<tr>
<td>Layout (paragraph 3.1 &amp; 3.3)</td>
<td>Menu on the left side of the screen, Narrow screen space for text.</td>
<td>Menu on top of the screen, More screen space for text.</td>
</tr>
</tbody>
</table>
banking, twenty three out of the twenty five participants is using electronic banking.

![Age of the participants](image)

**Figure 3: Age of the participants**

5.4 **Procedure**

The order of which prototype the participant used first alternates. The participants of the experiment do not know what the difference is between the two prototypes. A participant of the experiment is visited and asked to take part in the experiment. The experiments are held on location. The participants consist of friends and family. The list of questions is on paper. Before the experiment starts a short motivation for the experiment is given. After this introduction the user will be asked to fill in some personal data: gender, age category, level of education/work, experience with mobile phones and electronic banking and, when the participant has some experience with a mobile phone or electronic banking, what sort of experience with mobile phones and electronic banking. The language of the questionnaire is Dutch. Before the practical part of the experiment starts, the participant will get a short explanation of the Nokia E50. The functions of the keys are explained and the participant is asked if he is familiar with T9 text input. The telephone uses T9 by default for text input which is used as input for the data to transfer money. Some participants have trouble with the navigation key, a sort of small joystick. After some practice they become familiar with the key. Another ‘problem’ during the experiment was an incoming telephone call. The mobile phone stops the HTML browser and goes into telephone mode. After rejecting the incoming call, the telephone restarts the HTML browser and the participant is able to carry on with the experiment.

6. **TEST RESULTS**

By analysing the results of the questionnaire after the practical assignments of both prototypes some conclusions could be drawn. The mean scores of participants were overall the same. There were no significant differences found between the average scores of questions concerning prototype A and prototype B with a Paired Samples T-Test. See table 2 for the average score per question per prototype.

The scores of the questions 1m 2 and 3 are nearly the same for prototype A and prototype B. The questions about the amount of information on the screen and about the number of links in the prototype are almost the same for prototype A as for prototype B. A score of 1 stands for ‘less’ and a score of 5 for ‘much’ for the questions on how easy the prototype is in use no differences are found in score between prototype A and prototype B. In this case a score of 1 stands for ‘less’ and a score of a 5 for ‘much’ for the questions about the number of links and the times a participant has to scroll. The question concerning how easy the prototype is in use a score of a 1 stands for ‘easy’, while the score of a 5 stands for ‘difficult’. See table 2 for the mean scores of both prototypes.

On the whole analysing the results of the questions about trust show no big differences between prototype A and prototype B. The question concerning the amount of trust during the checking of the account balance, the question concerning the amount of trust during transferring some money, and the question concerning the trust in the application, prototype A and prototype B score the same overall. See table 2 for the mean scores of both prototypes.

Comparing the scores of the questions about the passive scenario, where the participant has to check his or her account balance, and the active scenario, where the participant has to transfer some money, some similarities are visible. The score of the passive scenario is higher than the score of the active scenario for prototype A as well as for prototype B. Participants have more trust in the system during the passive scenario than in the active scenario. In prototype A as well as in prototype B the participant gives higher scores to the questions about the scenario where the user has to check his bank account, the passive scenario, than to the scenario where the user has to transfer some money, the active scenario. The average score of the passive scenario of prototype A is 3,82 and 3,70 for prototype B. The average score of the active scenario for prototype A is 3,02 and 3,22 for prototype B. See figure 4, 1 represents ‘no trust’ and 5 represents ‘a lot of trust’ in the application. It seems reasonable that passive task obtains more trust than the active task. The active task brings more risk and hence one needs more trust.

The questions concerning the amount of trust in the active scenario and the amount of trust in the application, prototype B obtains more trust than prototype A. Comparing the mean scores of prototype A and prototype B with a Paired Samples T-Test, the mean score for prototype B is significant higher than the score for prototype A on the question about the active scenario (t(24) = -2,309, p<0,05) and the question about trust in the application (prototype B: t(24) = -2,400, p<0,05). See table 3.

Analyzing the scores of the questions for prototype A and prototype B do not bring in big differences. The participants of the experiments also have to compare the two prototypes after completing the assignments. The participant has to choose between prototype A and prototype B. In table 4 the comparison between prototype A and prototype B is given. Questions concerning the ease of use, the screen design and trust the majority of the participants prefer prototype A. The questions are translated from Dutch.

7. **CONCLUSIONS**

The experiment as well as the literary study are carried out to answer the question on what the consequences of the design and usability are on users trust. Do people evaluate a good designed
Table 2: The mean scores per question and per prototype

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean score prototype A</th>
<th>Mean score prototype B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The amount of information on the screen</td>
<td>3.24</td>
<td>3.12</td>
</tr>
<tr>
<td>2. The number of links</td>
<td>3.20</td>
<td>3.26</td>
</tr>
<tr>
<td>3. The times the participant has to scroll</td>
<td>3.36</td>
<td>3.58</td>
</tr>
<tr>
<td>4. The number of links that have to be used</td>
<td>3.16</td>
<td>3.14</td>
</tr>
<tr>
<td>5. How easy the prototype is in use</td>
<td>3.34</td>
<td>3.38</td>
</tr>
<tr>
<td>6. The amount of trust while checking the account balance</td>
<td>3.82</td>
<td>3.70</td>
</tr>
<tr>
<td>7. Concerning the amount of trust while transferring some money</td>
<td>3.02</td>
<td>3.22</td>
</tr>
<tr>
<td>8. Concerning the trust in the application</td>
<td>3.50</td>
<td>3.72</td>
</tr>
</tbody>
</table>

Figure 4: Mean scores of the passive task and the active task on trust

Table 3: Mean scores of prototype A and B with signification

<table>
<thead>
<tr>
<th>Topic of the question</th>
<th>#prototype A</th>
<th>#prototype B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which prototype is more pleasant in usage?</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>Which prototype is more easy to use?</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>In which prototype the placing of links is better?</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>In which prototype the desired information is found more easily?</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td>Which prototype is more trustful?</td>
<td>18</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 4: comparison of prototype A and prototype B by the participants

<table>
<thead>
<tr>
<th>Topic of the question</th>
<th>#prototype A</th>
<th>#prototype B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust in transfer money</td>
<td>3.02</td>
<td>3.22</td>
</tr>
<tr>
<td>Trust in the application</td>
<td>3.50</td>
<td>3.72</td>
</tr>
</tbody>
</table>

application (in terms of interface design and usability design) as more trustworthy than a other, not so well designed application. Prototype A is designed following strict the design guidelines given in chapter 3, whereas prototype B is designed also following the design guidelines, but not as strictly as prototype A. The main conclusion of this experiment which can be drown is that there is no big difference between prototype A and prototype B. Both prototypes score the same in general. The score concerning the amount of information and links on the screen are almost the same, see questions one and two in table 2. One possible explanation for this can be found in the fact that the text and links in prototype A and prototype B are the same. Only the placing of the links and, as a consequence of the placing, the layout of the text on the screen are different (see figure 2). Another conclusion which can be drawn states the fact that the prototypes are not seen as difficult. An explanation of this can be the fact that most of the participants are (highly) experienced using a mobile phone. Besides the experience using mobile phones, almost all of the participants are familiar with electronic banking using the internet.

When comparing the sort of activity the participant has carried out instead of comparing the two prototypes some different conclusions can be drawn. The participants have more trust in the application when they are checking their account balance (the passive scenario), than when they are transferring money to another bank account (the active scenario). This is the case for prototype A as well as for prototype B. See figure 4. It applies to all participants that they have more or at least as much trust in the passive scenario than in the active scenario.

When the participants have to compare both prototypes, prototype A is seen as more trustworthy than prototype B. But when comparing the mean scores of the prototypes, prototype B is seen as more trustworthy then prototype A. See tables 3 and 4. These findings seems to be contradictory. One possible cause for this may be the fact that the participants having more trust in prototype B are more explicit in their opinion by giving higher scores.

During the analysis of the results of the experiment another remarkable similarity in answers was found. All the participants that rated one of the two prototypes to be more pleasant in usage also rated that same prototype as more trustworthy. Also all the participants that rated one of the two prototypes to be more easy to use also rated that same prototype as more trustworthy.

In literature the design and usability of an interface is seen as a method to obtain user trust. So a well designed prototype should obtain more trust than a other, not so well designed prototype. In this research no big difference in the amount of trust is found. The participants of the experiment evaluated both prototypes the same on trustworthiness.
8. FUTURE WORK

The online banking application in this experiment was a prototype of a mobile banking application. It was not a real application and the participants did not check their own account or transfer real money.

At this time more and more banking companies in the Netherlands provide their customers mobile versions of their online banking application. In a future study these real mobile banking applications can be used for a same sort of experiment. When the participants have to use a real system which deals with real money and a potential risk for economic loss, other results can be found. Another possibility can be that the differences in the interfaces have to be bigger and maybe a new type of interface can be developed and tested.

REFERENCES


