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Adopting Mobile Internet? - Findings from a study on
Mobile Internet services using a user centred perspective

Interviews and usability tests

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Interviews and usability tests

01. Introduction

This document is a summary of findings from interviews and usability tests with users and is a part of our Master thesis *Adopting Mobile Internet? Findings from a study on Mobile Internet services using a user centred perspective*. The thesis focuses on the phenomenon of Mobile Internet and its use from a user's point of view. The purpose of the interviews and usability tests is to get an understanding of users' experience and opinions of Mobile Internet.

01.1 Interviews

In all we performed eight individual interviews and tests with eight different users. For the tests and interviews we selected people with different backgrounds, different genders and people of different age. The interest and knowledge among respondents concerning new technologies, such as Mobile Internet also differed greatly.

We conducted the interviews before the usability test not to risk that the test persons would get influenced of the service they would test. This because of that none of our test persons had any experience with Mobile Internet in the way that Vodafone live! offers it. The interviews, which were rather more like discussions, focused on the users' experience and thoughts of Mobile Internet of today and what they thought and hoped Mobile Internet would be in the near future.

01.2 Usability tests

Our primary objective was not to design or change a product but to understand users experience and feelings when using the service tested. The service we tested was the Mobile Internet service Vodafone live!. Since Vodafone live! is an example of what Mobile Internet could be today this usability test also suited well to get users' opinions of what they think of Mobile Internet today. Before the test we encouraged the test persons to think aloud when performing different tasks, this to more easily find out how people felt when facing a task or when performing a certain action.

After the test was finished we asked the test person to fill in a questionnaire based on the System Usability Scale (Brooke 1996). When using the System Usability Scale it is possible to calculate a numeric value of the test person's apprehension and experience of the service and compare it with other users and/or with other services. The main purpose of SUS is to register the users' subjective impressions of the usefulness of different types of products or services. The questions asked are related to the experienced usefulness of the product or service, in this case the Vodafone live! service.

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02. Interviews with users

02.1 Questions

- What is your view of Mobile Internet today?
- Do you use Mobile Internet today?
- What would you like Mobile Internet to be?
- Do you see any differences between the Internet and Mobile Internet?
- How do you see Mobile Internet in 2-3 years?
- If you do use Mobile Internet, what kind of services do you use?
- If you do use Mobile Internet, how do you use it?
- If you do use Mobile Internet, are you satisfied with the services? If not, how would you like it to be?

02.2 Users view of Mobile Internet today

"I see Mobile Internet mostly as a laptop connected to the Internet via a mobile phone."

"A WAP enabled mobile phone where you for example can check stock rates."

"It is cumbersome and expensive."

"Mobile Internet is like a small screen with a tiny web browser."

"It is mostly utilitarian services on the Mobile Internet today."

"Mobile Internet is too slow."

"I think of 3G when it comes to Mobile Internet. I want to be able to do everything I can do on the ordinary Internet, also on the Mobile Internet. For example browse the net, e-mail. Just like using a stationary computer with a modem, but independent of location."

02.3 What/how should Mobile Internet be?

"It should be simple to connect and to access the net directly, not a lots of settings that has to be set. It should preferably be as fast as broadband to your stationary computer."

"It has to be cheaper; you are somewhat stingier as a private person."

"Mobile Internet should be as the ordinary Internet and somewhat more and of course mobile."

"Positioning services, for example to find where my friends are. Where am I? Guides, find the closest restaurant in a foreign city, but when I am on vacation half the pleasure is to find that special restaurant on my own, without technology."

"Use a mobile device to pay with, for example parking lots, maybe book and pay other things as well. Buy train ticket and everything you pay in automats today."

"Stream video sequences to the phone, for example movie trailers, reviews (movies, theatres etc.), perhaps also occasional TV episodes, i.e. Friends."

"Connect devices, for example digital camera, GPS, phone, refrigerator, connection with computer at home, send and receive data between mobile phone and the computer at home. Be able to control and watch over the house. I would like to have Mobile Internet in the car, in combination with the car computer screen and the headset in the car. "

"Mostly communication, ICQ, check status on friends, send MMS, direct contact between people (compare with e-mail which isn't direct contact)."

"Services that can make the everyday life easier, the services shall have an obvious purpose."

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02.4 Examples of wanted Mobile Internet services

- Be able to book appointments i.e. fitness centre, dentist/doctor.
- Check timetables for busses and trains.
- Send and receive e-mails.
- Solve crosswords and rebuses (time killing).
- Access news.
- Get traffic information.
- Get weather information.
- Make pictures and movies and share them with friends and families.
- Order and shop goods and groceries.
- Send information and files.
- See opening and closing hours.
- Find out where a specific location is.
- Kill time.
- See if there are free parking lots in the neighbourhood.
- See the menu or if there are free places at a certain restaurant.
- Perform activities in the home independent of where you are i.e. switching on the heat or air condition before you come home.
- Browse the net as ordinary.
- Use ICQ/MSN Messenger or other instant messaging client.
- Get information about the place I am going to.
- As entertainment when I'm waiting for something.

02.5 What, if any, are the differences between Internet and Mobile Internet?

"Internet and Mobile Internet feels like two different things."

"I do not see any major difference between Internet and Mobile Internet. It is the same net; it is only different types of computers/clients."

"I do not really see WAP as a part of the Internet."

02.6 How do you see Mobile Internet in 2-3 years?

"I do not think that peoples' behaviours can change that much in that short time."

"I think Mobile Internet has exploded with different services, like the Internet did a few years ago."

"It cannot be too expensive if private persons should use it."

"I think it will be more positioning services, for example tourist information and information about how to navigate to a certain location."

"A lot of games and stuff like that."

"Just like information services, like the way it is today."

"I think that MMS will be more popular, perhaps even compete with ordinary SMS."

02.7 How do you believe Mobile Internet is used today?

"To check your e-mail."

"To find out simple stuff, like weather and maybe stock rates."

02.8 General comments from the interviews

"I would find it most useful if it was more web services adapted to the smaller format of a PDA."

"The information has to be presented in a suitable way for the small size of a mobile device."

"More services adapted for mobile use."

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“The mobile phone and the PDA are more personal than a computer.”

“WAP is very basic, but I do not know if that is an advantage, only the most important is shown (and who should decide what I find most important?).”

“I would probably not use the Mobile Internet to download entire movies but maybe see smaller video clips.”

“Identity, reachability, accessibility, the accessibility is better with a mobile phone.”

“I would like positioning services in a PDA, not only in the car.”

“I would probably not sit and browse the net on my mobile phone.”

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03. Usability test

The aim of the usability test was get an understanding of problems and difficulties that can occur when using a mobile service, but also to get users' opinions of an existing Mobile Internet service. The service that was tested was Vodafone live! a WAP-based service provided by Vodafone. The usability test was however not commissioned by Vodafone, the test was independent research undertaken by the authors as a part of our master thesis.

The usability test performed was based on four different scenarios and was centred on first-time, "out-of the box" use – without prior learning for users. The mobile phone that was used during the tests was a Panasonic GD87 but the test focused solely on the Vodafone live! service.

Opinions expressed in this report are those of the test subjects and do not in any way reflect the opinions of the authors. Findings and recommendations made in this report are based on the results of this usability test.

03.1 Test persons

For the usability tests we recruited 8 users from the general public (the same persons that we also interviewed). The users ranged from 'novice' mobile users to 'experts' and the age among the test persons ranged between 17 and 31. The test persons were four males and four females and the occupations of the test persons varied.

03.2 Scenarios

- You are bored and have nothing to do. A friend has recommended you a game called Trivia that is on Vodafone live! Play the game! (Tip! You are interested in sports.)
- It is early in the morning and you sit on the bus on your way to work and wonder how the American Dow Jones index has changed during the night. Check it out!
- You are sick and tired of your boring and ordinary ring tone and would like to download a new one using the Vodafone live! service. (Tip! You are a James Bond fan.)
- You will visit a friend in Malmö this weekend and you now sit on the train. You and your friend would like to see a movie on a cinema. Find out where and when the movie Adaptation is shown in Malmö this weekend.

03.3 Phone related findings

- Most of the users complained over not being able to use the navigation key to left and right but only up and down.
- Some users found out that left and right on the navigation key meant back and forward when using a WAP service. They thought it was quite good but it was not obvious how it worked at first. One user proposed that information about how to left and right navigation key work could be presented when you use the browser for the first time.
- Most users tried a link before the entire page had been downloaded, to the users who pointed that out, we explained that they could use the C-button to stop downloading and then chose a link.

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- One user believed that the numbers up to the left (the downloaded Kbytes in total) were the download speed.
- Most of the users thought it was good when the GPRS icon twinkled to show that downloading was in progress.
- A user expressed that it was good to see the scrollbar; he then knew that there was more on the page than currently visible.

03.4 General findings of Vodafone live!

- It is a very different use of icons. Some of the users watch (almost only) the icons as some more or less ignores them and would rather experience a faster download time than seeing all the icons.
- Several users had problems when navigating up and down in the menu structure. One user asked why you could not use the live!-button to get to the first Vodafone live! page also when being in Vodafone live!.
- "It was really hard to find what you were looking for, everything is so spread out."
- Most users felt that it was quite slow at some stage of the test. One user argued that it felt more expensive when it was slow even if you pay for downloaded Kbytes. He believed that it could be experienced like that since users haven't gotten used to this type of mobile access.
- One user expressed that he would like to have his own favourites in Vodafone live! to be able to access his favourite services instantly.

03.5 Play a game

- Some users had difficulties to navigate within the game, for example change category during a game or exit the game.
- Some users did not like to confirm when quitting the game.
- Some users experienced a slow connection. "It really takes time to load. Why doesn't anything happen?"
- One female user reacted when Trivia used the phrase "Yes Sir!" when an answer was right. "I am not a Sir!".
- Two of users reacted on the links. "I think it is too many and unattractive links."
- Several users used the About section to find out more about the game before playing it.
- One user reacted on how the categories was divided, for example Easy and Movie & TV.

03.6 Find out Dow Jones index

- Some users experience most of their choices when they are trying to find the specific service as pure guesses – "I take a chance on this one."
- Server errors occurred on DN frequently and server errors were frustrating for most users. "Server error again – Shit!"
- Some users got a server error and could not access the service, this lead to uncertainty about payments when a service could not be provided. "I wonder if I had to pay anyway." It is not that fun if I had to pay 20 SEK and still can't use the service."
- Most of the users at some time chose Svensk börsinformation (does Svensk börsinformation means that it is worldwide stock info in Swedish or only Swedish stock info?).

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- Some users had difficulties when choosing alternatives in a combo box. It was not obvious to them that they should press the centre of the navigation key to select the combo box.
- Most users were pleased with the information they got in advance before using a service that costs extra.

03.7 Download a ring tone

- Some users first choose “Spel och Nöje” (Games and fun) before “Ladda ner” (Download).
- One of the users thought it is too many choices to download “a simple ring tone”.
- Most of the users reacted when they had downloaded a ring tone and still got to the screen where they should select Ok to download. Some users didn’t know if they had downloaded the ring tone so they did it again. “Does it cost 10 kr again? How many times should I pay?”
- “Can’t you not hear the ring tone before you pay for download it?”

03.8 Find information about a movie

- Nearly all users at first choose “Spel och nöje” (Games and Fun) since they perceive going to a cinema as “nöje” (fun).
- Most of the users chose some kind of news or newspaper, probably since they usually check cinema listings in local newspapers.
- For some users it was hard to find the information because they had to go via Sandrews, not all knew that Sandrews are cinemas.
- When users found and entered Sandrews they did seldom meet any problems, most problems occurred before getting to Sandrews.
- One user which had difficulties to find information about the movie asked “I don’t think it is here. How do I connect to the real Internet?”
- One user used the search function to search for “bio” (cinema), the search resulted in zero hits and was a disappointment for the actual user. “It is not quite like Google.”
- Some users felt quite frustrated before they found Sandrews. “If I could access the real internet I would have gone to bioprogrammet.nu and had the information in two seconds, this really takes time.”
- “You really have to know your phone (Vodafone live!) to know that cinemas is under “Mer” (More).”
- Some users expressed that they found Sandrews and information about the movie merely by the method of elimination.

03.9 Summary

- Most users had difficulties to navigate in the menus.
- Server errors were frustrating.
- Several users had difficulties to handle combo boxes.
- Users felt uncertainty about payment when services did not work.
- Almost every user felt uncertainty about payment when downloading a ring tone.
- Users expressed that they think it is good to know prices of services in advance.
- Many times it felt really slow.
- Some users expressed that they like the look of the service. “Damn, this is cool. Nice colours!”
- Critics towards the search engine - “It’s not quite like Google.”

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04. System usability scale

The primary intention with the SUS questionnaire is to get a quick and easy method to test subjective usefulness. The ten questions in the questionnaire shall be answered like a Likert scale. A Likert scale is used to assess the support or dissociation to a specified statement. The scale is divided in five steps and the outermost answers are "Strongly agree" and "Strongly disagree". Every other question has the positive answer as the best answer in a usability point of view, every other the negative. The reason is to try to avoid that a test person fills the questionnaire in a routine-like fashion without reflect about what the questions really say.

The SUS questionnaire was given to the test persons after they had performed the usability test on Vodafone live! The individual SUS scores, ranging from 0-4, should always be as high as possible even if the statement is negatively formulated. The result of the questionnaires are summarised below.

Question	Average SUS value
1. I think that I would like to use this service frequently.	1,4
2. I found the service unnecessarily complex.	2,8
3. I thought the service was easy to use.	2,4
4. I think that I would need the support of a technical person to be able to use this service.	3,3
5. I found the various functions in this service were well integrated.	1,6
6. I thought there was too much inconsistency in this service.	3,1
7. I would imagine that most people would learn to use this service very quickly.	2,3
8. I found the service very cumbersome to use.	1,9
9. I felt very confident using the service.	2,4
10. I needed to learn a lot of things before I could get going with this service.	3,6