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Ebook reader

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Mid term document

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1 Motivation

The traditional paper-based book, as we know it, has been read for hundreds of years. The simple and intuitive interface, the user-friendly shape and its easy way to adapt, are truly unique qualities.

In the beginning of the 1990s companies tried to make an electronic book reader (ebook reader) based on LCD technology, with the hope to find a substitute for the traditional paper-based book. But the technology was not good enough and those artefacts never became a success.

In 2006 electronic ink was developed by the North American company E Ink¹. The new technology affected the quality of the ebook reader and made it possible to evolve to user-friendly artefacts with a visual quality that is almost like plain paper. These new ebook readers try to copy the traditional paper-based book, both in content and in functionality.

Even though the ebook reader market has been affected by a lack of willingness to allow content to emerge on this new platform, cell phone technology has contributed to the acceptance of ebook readers. A possible convergence of ebook readers and cell phones can create a greater interest for these artefacts (Henke 2001).

Ebook readers and its content are subject to continuous focus in various media. Some of the statements made in the media are based on untruthful information, and the uncertainty about the diffusion of the ebook reader is therefore worth noticing. The ebook reader might be a "hype", or just a toy for a small group of especially interested people.

Problems associated with the user interface development and how the user understands it, should be clarified thoroughly. The Apple Iphone has shown that it is possible to make a new interface between technology and the user. Can a brand new interface revolutionize the way in which we read?

Redesign in cooperation with children might help change the interface and use of the ebook reader. The Children's Museum is under development in Oslo, Norway, and in cooperation with this institution this project will carry out workshops to investigate such an option.

2 Main goal of the project

This report is expected to contain prototyping and redesign of the ebook reader interface. As background we will try to find articles on research and empirical studies about technology for the ebook reader. We will also analyse and make user tests on different types of ebook readers for a practice-based experience, and finally arrange workshops on interface design with children.

2.1 Constraint of the main idea for the project

We find the following question interesting:

¹www.eink.com (Cambridge, MA, USA)

- **Can redesign in cooperation with children help to change the interface and the use of the ebook reader?**

3 Technology

Developers have been working for years on ebook readers based on LCD technology, without success in the market.

After the "electronic paper" came, Sony, Amazon and other companies have used this material to create different types of devices. This new technology has improved the quality of reading experiences significantly.

3.1 The paper book

Although the technology is somewhat outdated, the paper book is a medium that has affected our society for many centuries. Seen from a functional perspective, the book has long life, supports multiple fonts and languages. It is an inexpensive medium for delivering information.

3.2 LCD

LCD ² technology consumes power and is not very user friendly in many contexts. For the ebook reader the technology was not very suitable, for instance it was difficult to read in sunlight, it spends a lot of battery power, and that drawings were not rendered properly.

Two ebook readers with LCD technology were launched in 1998, Soft Book Reader and Rocket ebook. They had 20 and 5 hours of battery life respectively. LCD technology is alive and well and today it has developed support for color. In 2008 the worldwide sales of TV sets with LCD technology passed the sale of those with cathode screen.

3.3 E-paper

The technology beyond e-paper is based on the electronic ink Vizplex (see figure 1 on the following page) developed by the company E-ink ³.

The technology is based on millions of microcapsuls, which have a diameter the size of a human-hair. Each component contains white and black particles which are sensitive to electricity. Electric fields affect these particles to move in ways that create text. Where there should not be text the white particles move on top of the microcapsul so that the black is not visible ⁴. E-paper uses power only when a page is refreshed (Shapira, Shoval, Meyer, Tractinsky, and Mimran 2008).

²Stands for Liquid Crystal Display

³www.eink.com (Cambridge, MA, USA)

⁴<http://www.eink.com/technology/howitworks.html>

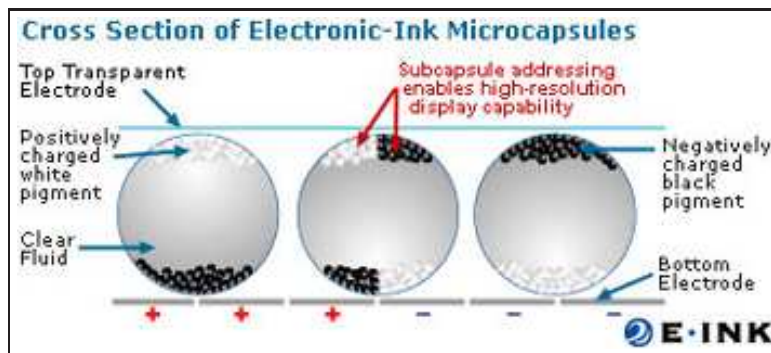


Figure 1: Electronic ink

4 Ebook reader

Ebook readers consist of an enclosure made of plastic or metal, with buttons to navigate through the documents and to activate the menu. The artifact may have support for USB connections and can have separate ports for memory cards⁵. Some of them can offer WiFi and GSM communication. Some ebook readers have interfaces via a touch screen. The size is usually either A4 or A5. They may have support for audio and some have their own web browser.

4.1 Models

The following ebook readers are to be found on the market at the end of 2009:

- **Kindle** This ebook reader is developed by Amazon, launched in 2007 (Baker 2009) and is available in A5 and A4 format. The latest Kindle DX (A4) is made to read articles and books that contain pictures and graphs.
To transfer the user's own documents to Kindle, the files must be sent via e-mail to Amazon. Then you get a link where you can download it to your own ebook reader.
- **Cybook Gen 3** This ebook reader is developed by the Dutch company BOOKEEN. This artifact uses 23 seconds before it is ready for use, but uses little power. This ebook reader does not support the EPUB standard.
- **iLiad** Manufactured by Bookeen is an ebook reader in A4 format with a touchscreen. Iliad offers the ability to save notes made in documents. In addition, the Iliad can be used as a notebook.
- **FLEPia Color** Manufactured by Fujitsu, was launched in spring 2009, is 12 mm thick and comes in both A4 and A5 format. The interface

⁵SD Card, and other

can be used through a touchscreen. Refresh time for new pages is long.

- **Reader Digital Book PRS 505** Manufactured by Sony. It supports playback of audio, uploading of content is possible via USB and memory card.
- **Reader Digital Book PRS 700** Manufactured by Sony. PRS 700 supports audio, offers background light and touchscreen.
- **E-book reader** Developed by Plastic Logic is thin and use the touchscreen to access the interface. It uses a different technology for e-paper than the one from e-ink.

4.2 Applications for the ebook reader

Future use of the ebook reader should not be limited because of the physical device. One can imagine that the shape of the device could have other formats and packages, such as a sheet of plastic paper in A4 format. This opens up the possibility of many new services and ways to convey information. A tentative list could include the following points:

- **Advertising - Articles - Books - Curriculum - Email - Games - GPS based services - Mobilphone - News - Newspaper - Shoppinglists**

5 Content Providers

5.1 Publishers

Production of content for the ebook reader is increasing. Big savings from digital distribution rather than classic distribution in form of printing, shipping and selling is the driving force behind this.

Publishers can make significant savings because they usually can not return paper books that are not sold. Often, this model entails that the publishers are betting only on authors whose books are guaranteed to sell well (Henke 2001).

A new model, where it is easier to transfer a written document to an e-book platform, can help both small publishers and lesser-known writers. To buy a book that is "out-of-print" will also be much easier.

But publishers also have concerns with the business model of Amazon, since they have acquired full control of communication with the end user and can then dictate the prices.

Since the ebook reader from Amazon⁶ also has the opportunity to view newspapers, books and magazines, the publishers have problem with the fact that it does not display advertising which is otherwise in the editions (Geoffrey and Worthen 2009).

⁶Kindle

5.2 Bookstores

There are online booksellers and bookstores you can visit physically. Amazon ⁷ has the infrastructure to sell and to deliver the content to their own ebook reader ⁸.

Physical bookstores may be affected by the fact that they will be forced to offer downloadable books in the shop.

5.3 Libraries

Companies who design ebook readers seem to not view libraries as a business opportunity, and ebook readers are not developed to be used in libraries. The link between ebook reader and supplier of content is closed. The sale must often go through an ebook reader application and the content itself must be paid by credit card (Gibbons 2001).

This situation makes the lending of ebook readers and content very difficult, and may end in a situation where the content can only be read on the library site. The library should also be able to lend books that are not physically available or are too unique to be lent out. Being able to lend out pre-filled ebook readers will make the reading of online content easier, since reading from a PC monitor can be tiring.

Another question is how libraries will look like in a future where many users can download the books in the same way as many young people do today with music. One way to go might be to think about libraries as a power center in the delivery of quality assured information (Bjørkeng 2009).

6 Content

The material which is offered through the ebook reader may include books, articles, magazines and newspapers. Books come in the form of ebooks. Before ebooks were offered mostly through the PC, but this solution has not been successful. Ebooks on PCs often had their own interface for the presentation of content, sometimes a separate plugin had to be installed.

The problems with the presentation of content on the ebook reader is made by the variety of formats and standards.

6.1 Formats

The various ebook readers do not support all formats. The following list is an overview of the formats that are available and used for presentation of content.

- pdf - html - text - jpg - bmp - prc - LRF - BBeB Book ⁹ - ePub - Topaz - RTF

⁷www.amazon.com

⁸Kindle

⁹SONY product

Three formats are interesting, ePub which is with or without DRM, BBeB Book from SONY and LRF, a variant of SONY's ebook format.

6.2 Standards

Various standards are developed for ebook readers. The motives have been to provide platforms for the conversion of content, as well to safeguard the copyrights.

- Adobe Digital Editions
- Mobi Pocket
- Lexcycle Stanza
- ePub

6.3 Programs for the ebook reader

Tests show that the Iliad and the Sony PRS-505 need special software installed on a PC to transfer and manage the books downloaded in the device. Some of these programs are:

- **Calibre:**
Calibre is an e-book reading, library and conversion program. It is important for users that it converts from various formats to LRF (Sony's Broad Band ebook file format) and EPUB. Since the Calibre is an e-book reader program too, it has the additional possibility of obtaining news by RSS and turning them into a format supported by some ebook readers (Kindle, Sony, cybook, iphone).
- **Mobipocket Desktop Reader:** Mobi Pocket Reader Desktop and creator is a program that can be installed on your PC and helps the user buy and manage the books for the ebook reader Cybook.
- **Ebook Library:**
Used for the ebook readers from Sony. The program retrieves the title and author from the properties of the pdf file so the index of the ebook reader is misleading.

7 Preliminary study

We have conducted a preliminary study of a Sony Reader and the Iliad. These devices have been used by a few testers.

After a period the testers were interviewed. The results have increased our competence, and have partly formed the basis for designing a new prototype.

In addition, we have tried to analyze how we read the analog book, and the experiences surrounding it.

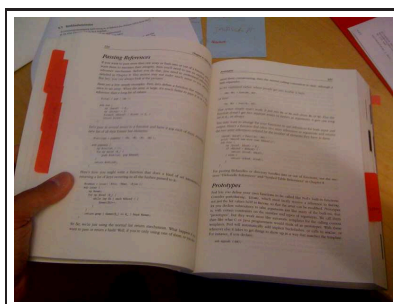


Figure 2: How we grip the book

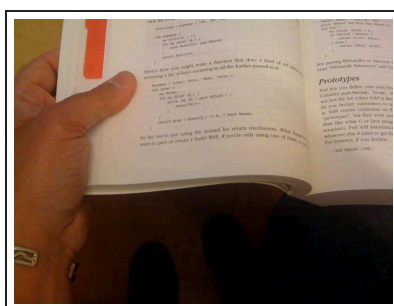


Figure 3: Grip and visual sight gives an impression of the reading progress

7.1 Interviews

The interviews with the users of the ebook reader were made to get feedback about the interface and the analogy to the paper book. Respondents were asked to share their thoughts about possible improvements of the interface.

7.2 The paper book

Using observations of users in the library have made it possible to analyze how we read the paper book. In addition, we have, through a short period observed how our behavior is in relation to reading and use of the library. Both the reading experience and how we treat the physical book can affect our relationship with the paper book.

Discovery and identification of our observations are:

- Sometimes we read a little at a time, while other times we read a portion of the book and let it lie there for years (Baker 2009).
- The smell of a new book may give a sense that something exciting and new can happen.
- The smell of a book you have borrowed in the library or by a friend can also affect you. Some books may smell old, moldy or like perfume.

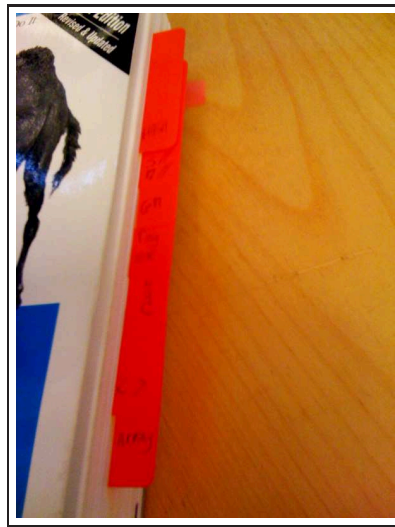


Figure 4: Indexing

- The weight of the book gives an indication of how much reading you have to do.
- What kind of paper is used, such as in paperback books and hardcover enhances the experience of reading.
- When the user keeps the book in his or her hand while reading, the grip of the book provide a sense of how far along one has come in finishing the book, and that may affect the experience or the motivation of reading a book (see figure 3 on the page before).
- Jumping back quickly to a specific location in the book, which contains information that you had misunderstood or forgotten.
- Flipping back and forth between pages. This can happen pretty quickly on the paper book.
- Notes and underlining done by others or ex-libris in books borrowed from the Libraries or purchased at a flea market or inherited, can provide important information to the reader.
- Social navigation can be a tool used to choose a book. When the book is worn, it has probably been read many times. This may affect choosing books in a library.
- Page indexing using post-it notes, or plastic pieces (see figure 4) provides an extra functionality to the paper book.
- Those who read professional articles, may often read the first introduction and conclusion, and if the reader is interested he or she will read the analysis also.



Figure 5: The Iliad from iRex

7.3 Ebook reader

Here is a brief analysis of two ebook readers and their interfaces.

7.3.1 Iliad

Iliad is an ebook reader in A4 format. Navigation is based on the buttons on both the right and left side of the ebook reader and the bottom (see figure 5). The last button allows the user to come to a menu. There the navigation is performed via the touchscreen. The interface is inspired by the PC with folders and files. The price is about 5500 NOK.

7.3.2 Sony Reader PRS-505

This ebook reader is in A5 format. It is equipped with a hard binder in plastic to mimic the shape of the paper book. The ability to scroll based on the buttons on the right side (see figure 6 on the following page), this in order to support scrolling when one has the ebook reader in the other hand.

The second browse button is round with endorsed arrows showing the direction of reading and is located at the bottom left. The interface also offers its own "donkey ears" button and a button to enlarge the text. The PRS505 has separate overview of the "donkey ears" in the menu. Navigation in the menu is based on 10 buttons on the right side, and a round button at the bottom right.

Shortcut to the menu is a separate button on the far right. The Main Menu provides an overview of the books sorted by author, title and date. It also offers an overview of all the "donkey ears" that is enabled on the ebook reader, the display of images and playback of audio files.

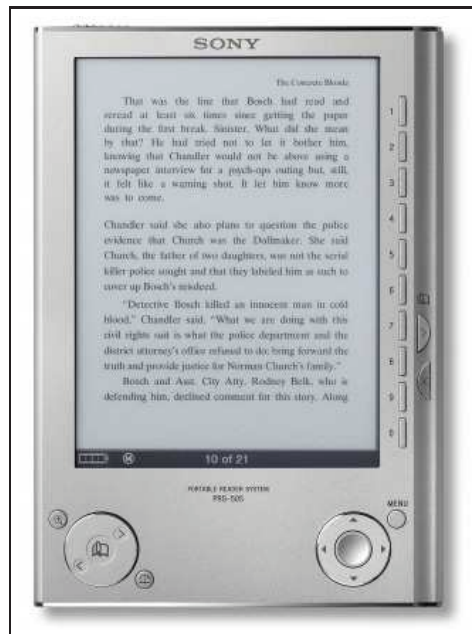


Figure 6: Sony Reader PRS-505

To scroll a PDF page takes about four seconds. This is exacerbated by the fact that the user gets no information that the page is being reformatted. To browse a page on books that are supplied by Sony takes approximately one second. The tests also showed that there are problems with proper representation and enlargement of several formats, including PDF.

7.4 Ebook readers vs the paper book

We may understand the ebook reader as a substitute for the paper book. Strengths and weaknesses of the ebook reader can be summarized as follows:

Strengths:

- An ebook reader weighs less than books, since it may contain many different books.
- Environmental gains are big.
- The ebook reader may allow the user to search through text.
- Many of the ebook readers uses the GSM or Wifi to provide communication!

Weaknesses:

- Expensive start-up cost.

- The technology is not fully mature. For instance, the refresh time of pages is too long.
- A normal user would be hard pressed to fix a broken ebook reader on their own, while a book can often be patched up with some tape.
- Students borrow and lend books amongst themselves, when one's entire curriculum is on an ebook reader, borrowing or lending a single document is not as easy.
- Ebook readers do not have the intuitive navigation a paper book can have.
- The developing world does not have easy access to this technology.
- User groups can have different attitudes in relation to new technology. Diffusion of ebook reader can be difficult.
- It is not easy to manage all the books a user has purchased, between the PC and the ebook reader.

7.5 Conclusion

The interviews, the analysis of the artefact and the paper book gives us a clear image that the ebook reader is made to copy and improve the functionality of the paper book and the way we read them. This concept can give us the idea of simulacra, as stated by Baudrillard (Baudrillard 1995):

Distinctions between image and reality break down due to the proliferation of mass-produced copies. The item's ability to imitate reality threatens to replace the original version

We need to break all the rules, to maybe achieve a better and new product and interface.

8 Design and prototyping

8.1 Understanding users

If we are thinking of a new product or at least a great jump in redesigning the way how do we work with the ones already known, we will need a closer definition of potential user.

Thus we need to concern ourselves about the user group and discover as much of their wishes and needs as we can, which then should help us to aim the main, or at least important attributes of our intended device.

8.1.1 User - who is that?

So, who should be considered as an ebook reader user? Only the children? The people who can read? No, no, no... think further... what about disabled readers, people with reading problems or even more - with seeing impairments... of course there are special devices for those, but we have to realize that this means to use a different device & software applications than the rest of common users.

That's why we would like to include even this user group into our user's family. Let us say to let the devices for both user groups to converge into the one standardized device for all people no matter what their physical abilities are. From these thoughts we came up with the following main questions:

- who will be our target user ?

Primary users

Children visiting the children's museum no matter of their age

Secondary users

Then everybody, in a long term view (with a little bit of exaggeration) - so the target market will be really large.

- what are expectations and all the possibilities of using that device ?
- do we want the user to be able to adjust the device somehow ?

8.1.2 What we do expect from co-operating with children?

Through the co-operation with children and their view of design & concept we would like to reach new and 'somehow universal' way of creating and reading books/newspapers/articles. Because as stated by the research team from the University of Maryland in the their case study ("We have found these intergenerational partnerships can lead to unexpected technology innovations, as well as establishing design methods for working with children." - (Druin, Bederson, Boltman, Miura, and Platt 1999)), it can be very inovative to include children into the design process.

But to avoid false conclusions we have to learn more about the way how children could be influenced by the content of the research focus and try to beware that. Because children are very often having big difficulties to express their individual ideas, as stated in the same article.



Figure 7: Wondering the library

8.2 Design process

8.2.1 Pretesting

We made a pretest of the questions that will be used in the project. We asked two children, both age 11, to write on a paper an interface which answered the following question:

- **If you put all the books from the library in front of you (see figure 7) in a very small computer, how will you wish to find the books you like to read? How will you prefer to read them?**

We received interesting feedback from the question, but the children had problems to fully understand what they were asked. The answers (see Appendix 2) we received were biased by the fact that the children had used computers before. The findings were nevertheless valuable to be brought into this project.

8.3 Data gathering at the Ulverud school

Given that the constraints of the main idea in the project involve cooperation with children, we decided to involve the children of the 3. grade of Ulverud school, in Nittedal.

We found it necessary to tell the parents about us and our project, as well as having them signed a permission-slip where they had some options about allowing pictures of their children to be taken.

Utilizing the methodology of Contextual Inquiry (CI), where the data gathering is in the users own environment (Druin, Bederson, Boltman, Miura, and Platt 1999), and Participatory Design (PD) where we asked direct questions about designs, we had the children showing us how they would



Figure 8: Picture from one of the children in the 3A class at the Ulverud school

physically select a book they would want to read, and tell us why. This showed us what properties the children consider when deciding on a new book to read.

Then we had the children using their imagination and draw how they picture selection of books on a mini-computer (see figure 8).

Afterwards we let them interact with ebook readers (Iliad) we had brought with us. Finally we asked them to do another drawing of how an ebook reader would look if the children themselves had designed it.

This is what Allison Druin in her paper «The Role of Children in the Design of New Technology» calls using the children as informants. This describes how the children can be involved in design process by observing the children with existing products and after the technology is developed, having the children test the new product and offer new feedback (Druin 2002).

But it could also be described as having the children as design partners, which is similar to the above-mentioned «children as informants». When having the children as design partners, the children are equal stakeholders in the design of the new technologies (Druin 2002).

There is hard to define exactly which one of these roles the children have in our project. We find that they fall somewhere in the middle of the two mentioned roles at this stage in the project.

The reason being that we had the children design something from scratch, instead of having them test finished prototypes, but they are not considered equal partners either.

We plan on meeting with the children again with some low fidelity prototypes and perhaps a high fidelity prototype if we have the time. The low fidelity prototypes would be in the form of sketches and perhaps a cardboard model.

As a high fidelity prototype we are thinking of making a webpage where the user can (sort of) interact with the interface we are planning, and we are

also thinking of borrowing a tablet pc to make it look like an ebook reader.

8.4 Prototyping

When designing a prototype we will focus on, not only the data we gathered from the school, but also usability. Usability entails some points:

- **Effectiveness**
- **Efficiency**
- **Safety**
- **Utility**
- **Learnability**
- **Memorability**

(Preece, Rogers, and Sharp 2007)

We would like to design an ebook reader which is intuitive to children, unlike most of the current readers. It should be easily understood by younger people, but not limited to just kids. Adults and even seniors should be considered as regular users. This means the reader must not be too childish, or adults would not be interested in using the device.

Further along in the project we will have sketches and other prototypes, with descriptions. Currently we are working on a first design concept.

8.5 Conceptual Model

We define a conceptual model as a high level description of how a system is organized and operates.

The aim of this project is to deliver a prototype or framework of a new interface that might enable a new way of reading written media. The prototype is based on an ebook reader with a touch screen and an audio system.

If possible we will not replicate the way we use a traditional paper-based book. Therefore we need a new way of turning pages, and possibilities to navigate within the text must be looked at closely. Information on where a user is in the reading path may be necessary.

If the user of an ebook reader is reading a novel, it is necessary to be able to read the story in a linear mode. But the experience of reading could be changed if the system activates a specific music or sound for a predefined text area. A feature that activates voice reading of the book is another approach to a different interface.

The interface must also give access to the content. Books, articles, images and sound files will in this respect be presented with a new interface.

8.6 Evaluation

While we went on in the project, we made some observations about design principles used in interaction design. Those must be used with regard since the context between the user and technology is in change all the time, and the interface design for ebook readers is also in continuous evolution.

The preliminary research and the interviews with adults gave us better competence and experience.

The planning of the design testing at the school proved to be more resource demanding than expected. Also the analyzing of the research data is a lot more time-consuming than expected.

Further will a meeting with the staff and the leader of the Children Museum in Oslo, give us a better framework for the project.

9 Acknowledgement

We wish to thanks Magnus Ugletveit for the English review. Bente Nes and the 3 A class at the Ulverud children school in Nittedal Norway for the cooperation.

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10 Appendix 1 Interviews pre-survey

10.1 Interview 1

Can the ebook reader challenge the paper book?

Interview with Else Dagfrid Bratland roughly 30 years of age

Date: 5.08.2009

Occupation: Librarian

Clarification of references with names: ok

- **What ebook reader did you try?**

Sony Reader PRS-505

- **Which features do you miss in relation to the paper book?**

I want to be able to scroll quickly in the book, like as if you jump out 50-60 pages, such as when you are in the bookstore or library and you see fast through a textbook.

One can not make yet the analog book!

- **What will it take for you to use the ebook reader?**

- it should be possible to search through the entire ebook reader

- It should be easy to jump 50 pages at a time

- It should be easy to see easily where you are in the book. You could have use a scroll bar that you can go back and forth like on youtube

- There should be a clickable table of contents

- Fonts must be selected easily and formatting of the pages must be such that you can read an entire page

- **Do you think that the ebook reader will affect how we read and feel books?**

I think that some of the charm or respect for the book is lost when a user read the board. It's like an "undefined sense", but it's very subjective. It could be that we create us a new "feeling" for which we have been using a ebook reader.

I do not think designers should try to emulate the analog book. It must a groundbreaking artefacts!

10.2 Interview 2

Can the ebook reader challenge the paper book?

Interview with Frank Paul Silye

Date: 10.08.2009

Occupation: over.ing

Clarification of references with names:

- **What ebook reader did you try?**

Cybook Gen 3

- **Which features do you miss in relation to the paper book?**

I am very happy with the Cybook Gen 3 as an ebook reader for literary books and I must have bought 7 books (three books Eragon, Golden Compass trilogy and Da Vinci Code), but believe that ebook readers have their clear limitations for technical books. Partly due to the support of the format, but also software limitations on the readers.

As IT manager I read often "Bibles" for operating systems. Right now, I read the Windows 7 Unleashed. A book that goes in depth on most issues / problems with this new operating system, based on that you are an advanced user or system administrator. This is a book of more than 700 pages and is not intended read from start to finish, but is more a reference work. And here the ebook reader often have problems. They lack detailed tables of contents, advanced bookmark management, search functionality and not least the index registers.

Moreover, it should be able to make notes in the margins and highlight parts of the text crucial, and this is where most ebook readers fails today. Maybe with an exception, some of IREX models. They come with Wacom[®] Penabled touchscreen. They are probably the most impressive models on the market.

- **What will it take for you to use the ebook reader?**

Yes, I believe that we need better software than the Caliber and Mobi Pocket Desktop Reader. They need a more accessible user interface. It should be intuitive to use them, in order to reach large masses of users. Yes, it should be as easy to use as iTunes is today.

Built-in mobile phone is something else, and an even better solution. This would lead to an App Store-solution to read the ebook reader, and one would to a large factor could drop synchronization with computers. The latest generation from BeBook Iliad and now comes with built-in 3G mobile broadband.

Today I synchronize a number of RSS feeds and read them on the subway from time to another on the way to work or whenever I have 10-15 minutes to kill. It's too buggy and awkward to start the day by turning on the computer and synchronize read the board with the latest news so you should have something to read on the way to work. In order to have such reading habits should be easier and less time-consuming to obtain the content.

It would be best to buy the daily newspaper in a ebook reader format directly from reading the board.

If the ebook readers will be a success, then the screens could must be used for more than just reading. That's why Apple will not come with a clean ebook reader, and rumor has it that they are working on a tablet. Steve Jobs said that the reason that the iPhone was a success is that it is a product that can do virtually everything, and therefore Apple can say that they sell 10-century million units per year. Amazon does not come with any figures on how many devices they sell. This is probably due to their sales figures are rather modest.

• **Do you think that the ebook reader will affect how we read and feel books?**

As a technocrat, the ebook reader have give me the opportunity to read more, I buy only the books that are good, especially when I'm on vacation. Avoiding focus on the weight of the luggage. In addition, I can download free books from Manybooks.net, Amazon and look closely at Google's huge selection of free books.

I think the technology, unfortunately, is too immature. People are not ready to change their study methods because of a "widget". The underscore methods to help 1. 2. and 3 reading of the syllabus is very common. Writing in the margin, too.

Free books can be downloaded from more places than Amazon. There are only a small selection there. Should I make it a habit, so I would NOK first seen Manybooks.net and looked closely at Google's huge selection of free books.

10.3 Interview 3

Can the ebook reader challenge the paper book?

Interview with an anonymous man

Date: 10.08.2009

Occupation: Doctor. Phil.

Clarification of references with names: no

- **What ebook reader did you try?** Sony reader PRS-505

- **Which features do you miss in relation to the paper book?**

It must be faster to browse the pages. Expectations for speed is the based on services we get from the web. So, quick response. Ability to read in blocks, like in the Bible, is missing in the SONY reader. When the text is fragmented, you lose the peace related to the reading experience. Tactile identification disappears, too. Especially when it comes to the research literature there are many errors.

- **What will it take for you to use the ebook reader?**

Foreign literature in the original language is absolutely necessary for me if I should take advantage of an ebook reader, I feel that ebook reader is best for hobby or home use. Research literature must be presented better. Text search is very important features to have, this also in the research context.

- **Do you think that the ebook reader will affect how we read and feel books?**

Presumably the technology will change how we perceive reading. Nevertheless, it is important to note that the ebook reader supports up to a "restlessness" in the reading. The culture around the physical book is also important. From the ebook reader you get only plain text! It is also expected that people know what to read, if you plan to just download the books to ebook reader. Especially in the course literature it is great choices and many possibility to do errors. Here, students do not know what they should read. Thus a liberal ideology is not suitable in all contexts.

10.4 Interview 4

Can the ebook reader challenge the paper book?

Interview with anonymus student

Date: 12.08.2009

Occupation: student about 35 years old

Clarification of references with names: not

- **What ebook reader did you try?**

Sony Reader PRS-505

- **Which features do you miss in relation to the paper book?**

The possibility to move fast between the pages. An easy overview of what the books have.

- **What will it take for you to use the ebook reader?**

I must have the possibility to search all the text. It must be easy to navigate between pages. and since it is too difficult to understand the interface, we must and .

- **Do you think that the ebook reader will affect how we read and feel books?**

Not in the way they work now. Too difficult to understand the interface and .

11 Appendix 2 Drawing from the pre-test of prototyping with children

This two figure 9 on the next page and 10 on page 27 show the drawing from the testing described in 9.2.1.

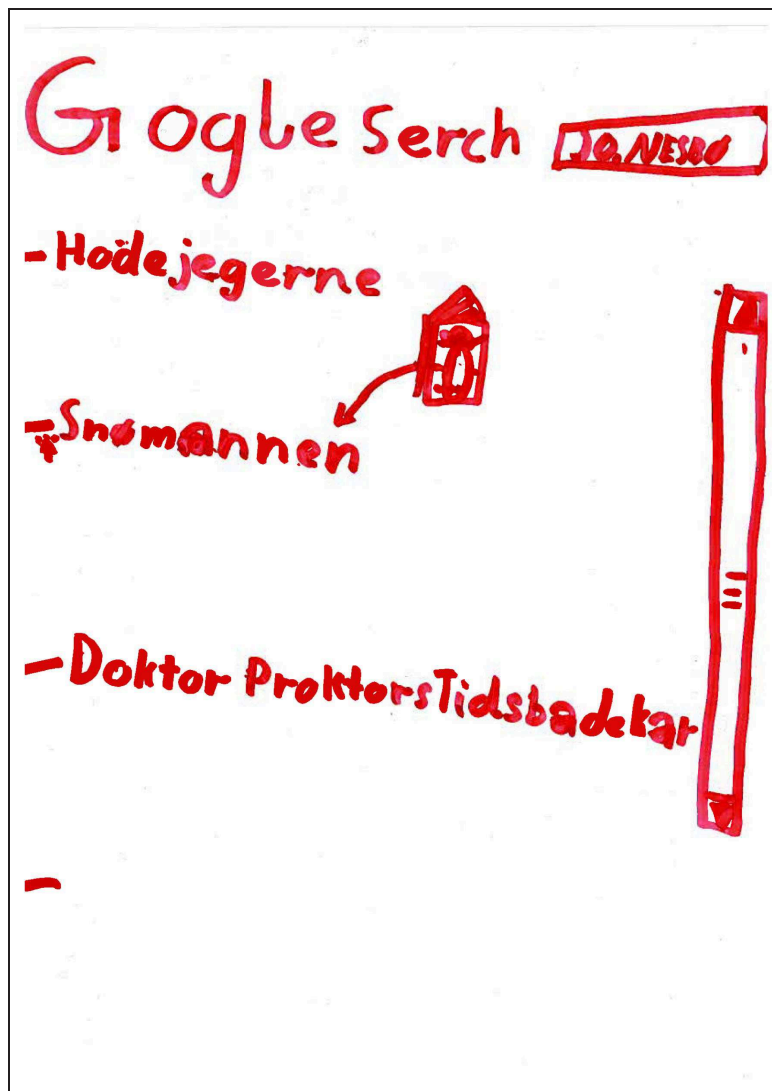


Figure 9: How to find books on an ebook reader I

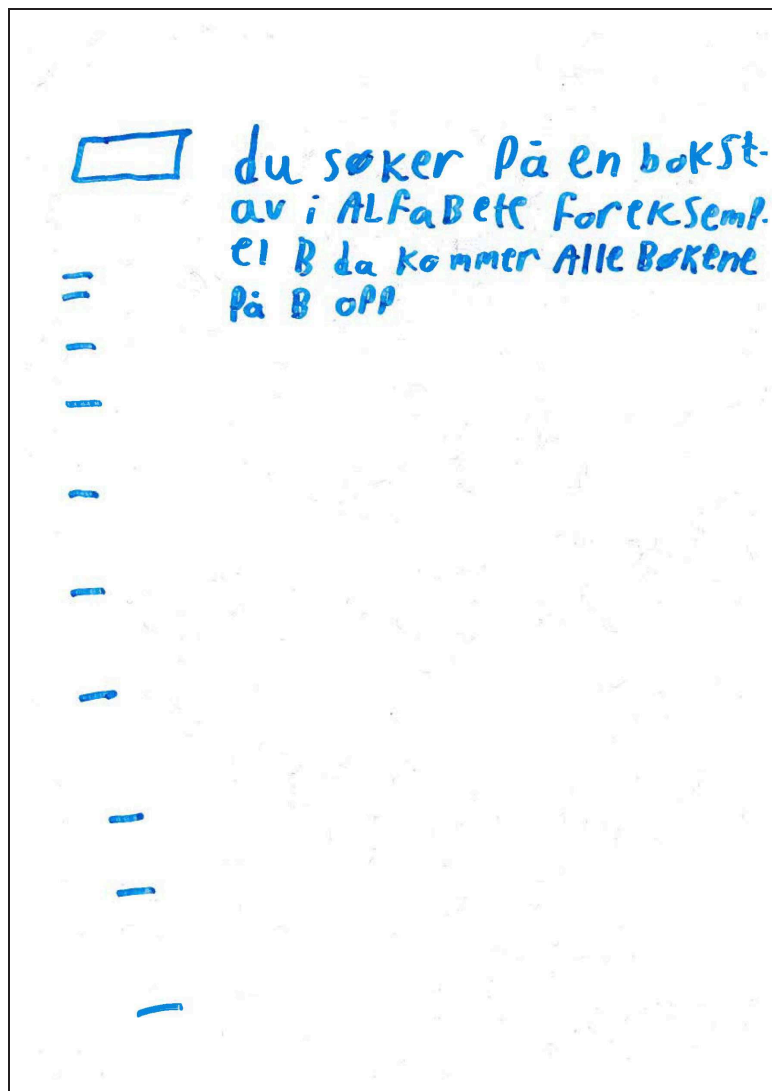


Figure 10: How to find books on an ebook reader II