



The Future of Publishing

The Future of Publishing

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Exploring the shift from print publishing to digital publishing:
a study of content, form and usability on the tablet computer.

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1. Introduction

The research we are doing for our project is necessary to understand the place of our project and product in the media landscape. When creating an innovative, interactive digital magazine format that is engaging and easy to use on both the back and the front end, it is important to know what kind of content will be published and who the target audience is, what the possibilities considering the content are, and what works or doesn't work when it comes to usability. When talking about publishing, whether it is something in print or digital, the target audience is always important. From our assigner Bas Broekhuizen from the University of Amsterdam, we know that his Journalism students will be creating long form content that will be published digitally through our product. Obviously, we need to find out who the target audience for long form journalism is and who use tablet devices: how can those two be combined? Of course, there are more things to consider before we start creating a product. For example, tablets offer more options for content than just the text and images we are used to from our print magazines. In a digital magazine, video and audio can be embedded as well as interactive timelines or data visualisations. How do these different types of content influence the story that is told within an article? Then there is another very important aspect: usability. Everybody knows how to read a magazine, but this is different for digital magazines. There are more options than just flipping through it, but what works best? How can we design a product with a navigation that is so clear that it doesn't distract the tablet user from the reading experience? We came up with a main question that covers those three aspects and chose a sub question for each of these aspects. These questions can be found below.

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1.1 Main Question

How can tablet devices create a more interactive user experience for reading long form journalism in digital magazines?

1.1.1 Sub Question 1

- How can digital magazines on tablet devices be used to increase long form journalism's target audience?

1.1.2 Sub Question 2

- How do tablets influence the types of content of digital magazines as opposed to print magazines?

1.1.3 Sub Question 3

- How does the tablet's usability affect the user in engaging with long form journalism in digital magazines?

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2. Research methods

2.1 Methods

The methods of research we used were as following: we did interviews with tablet users. During these interviews, we asked people to show us some applications they used regularly, in order to observe their usage of the tablet. We did some desk research, which mainly means we explored the world wide web and found a lot of interesting articles and existing applications that could help us further in this project. We have also been looking for academic texts about the three different subjects of long form journalism, interactive content and usability. We created a persona for our target audience and came up with different scenarios in which our product could be used.

2.2 Expectations

Lars:

Users will mainly go for the free apps, the barrier to buy apps is very big.

Elin:

Right now, very few people use tablets already. There probably are a lot of magazines that just make a PDF version of the print edition and present that as their digital version. People prefer reading print when it comes to longer articles or entire magazines.

Arelina:

Users will mainly use the tablet mostly during their leisure time, and not so much for work purposes. Also, digital tablet magazines are not an ‘established’ habit among tablet users.

2.3 Accountability

Our methods of research are suitable to answer our questions because we have been looking for answers to our research questions from different perspectives: we read the opinions of scientists (*academic research*) as well as amateurs (*web research*), we looked at reading on a tablet from the perspective of the user (*interviews*), and we did research on what is already on the market when it comes to (publishing) digital magazines (*research on existing products*).

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3. Results

3.1 Execution

The research was executed between February 13th, 2012 and March 2nd, 2012. However, throughout the concept phase and the design phase, we expect to be able to add more sources to our research.

Lars, Arelina and Elin each worked on a different topic: Lars researched long form journalism, Arelina answered the question about usability and Elin had been focussing on the content. We did the interviews together whenever possible and when it came to having a look at existing digital magazines, we all gave our opinions on usability and content: different people have different views on what is good or less good about a product, which leads to a better understanding of what we would like to see in our product.

The research took place mostly in the MediaLAB in the Hogeschool van Amsterdam, but we used different rooms in the building for interviews, for example. The web research was done by simply searching for digital magazines and existing applications to create digital magazines. Other project teams of the MediaLAB let us know whenever they found something that might be interesting for us.

The academic research was done by searching within the database of the Hogeschool van Amsterdam and Universiteit van Amsterdam, but we also used articles that we had read for courses we took earlier.

Our interviews took place within the Hogeschool van Amsterdam, we interviewed people both male and female between the age of 35 and 48.

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3.2 Answers to sub questions

3.2.1 Sub Question Lars

How can digital magazines on tablet devices be used to increase long-form journalism's target audience?

Digital magazines

History

Digital magazines have a longstanding history before their eventual implementation in tablet devices. The idea of sharing news over a digital medium found its first application in 1983, when the Viewdata system was introduced. The data this system presented to its user consisted of 22-24 rows of text made up of 32-40 characters and was very similar to what we know as 'Teletext'. The next notable event was the presentation of the PDF format by Adobe in 1992 which set a new standard for creating 'facsimile' versions of printed magazines and newspapers, but this phenomenon didn't receive much popularity until 2001. Two years later, in 1994, the Daily Telegraph starts the migration of newspapers to the internet, claiming to be the first newspaper to be present on the web. In the following years magazines and newspapers experimented with distribution on CDs. The implementation of interactivity in these digital formats had to wait until 2006, when the rise of YouTube made it possible to easily share and implement videos (Quinn, 2011).

For portable devices

The release of the iPhone in late 2008 brought along a whole new range of possibilities for newspapers and magazines to create digital formats. Real innovations in digital magazines however had to wait until the iPad's release in April 2010. Several magazines quickly created iPad applications that tried to mimic the look and feel of printed pages. Wired, the Spectator and the Financial Times were among the first to actively use the iPad's functionalities for publishing. The Financial Times subsequently won the first 'Best iPad app award' at the Apple Design Awards 2010.

Long-form journalism: creating a definition

So what exactly is long-form journalism? Searches on the internet show a wide variety of references to the term, but it's incredibly hard to find a concrete definition. The search does, however, show that long-form is often associated with types of journalism such as narrative- and investigative journalism. It's often mentioned alongside these definitions but is hardly ever used as the main definition.

While browsing through articles mentioning or concerning long-form it becomes apparent that long-form is or was a dying brand of journalism. With titles such as 'The death of the death of

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long-form journalism (sxsw.com), ‘New model to support long-form journalism (sfnblog.com)’, ‘Is long-form journalism dying? (wallstcheatsheet.com)’ and ‘The long-form resurrection (independent.co.uk).’

Similarities and differences between print magazines

For our initial research we investigated some of the available iPad magazine and newspaper applications.

Among others we looked at:

- Our Choice
- Zite
- Longform
- The Ration
- The Atavist
- The Economist
- Sports Illustrated
- Storify
- Flipboard
- Wired
- Popular Science
- GQ
- Newsweek
- Sounds
- National Geographic
- The New Yorker
- Vanity Fair
- The Guardian
- The New York Times
- Esquire

These applications can be naturally categorized into four categories; Newspapers, reader applications, books and magazines. Newspaper applications can be subdivided into two categories as well, namely those with an updatable architectures and those with periodical releases. Newspapers and magazines can again be categorized in terms of usability: Does the format maintain a print-like navigation, look and feel. Or does its build-up refer to a website-like interface design? Among the applications we tested were some non-content specific applications as well. Zite, Flipboard, Storify and Longform were heavily dependant on articles from other news media. The main functionality of these applications lies in presenting the user with new ways of accessing sources and reading content.

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3.2.2 Sub Question Elin

How do tablets influence the types of content of digital magazines as opposed to print magazines?

In order to answer this question, I thought of different questions that together would answer my main question.

1. What are the similarities and differences in content for print magazines compared to digital magazines for tablets?
2. What types of interactive content do existing digital magazines offer?
3. How does the medium affect the message?

Before answering these questions, I will try to explain what the term ‘interactive’ actually means for our project.

Interactivity: what is it?

The idea that I had of interactive content in the context of digital magazines is that it's content that needs an input from the user in order to show (more) information. However, there is a very useful and interesting article written on defining interactivity that is worth exploring.

As Jens Jensen writes in his article ‘Interactivity: tracking a New Concept in Media and Communication Studies’ (1998), it was relatively unclear what the terms ‘interactivity’ or ‘interactive media’ actually mean (p.185). He cites Bordewijk and Kaam, who have come up with four communication patterns: transmission, conversation, consultation and registration. In the first type, there is a central information provider that also controls the distribution: it is one-way communication. The second type, conversation, is when information consumers also distribute information: two-way communication. In consultation, the third type, an information provider produces the information but the consumer has control over when what information is accessed. The last type is registration, where information is produced by the consumer but controlled by the information providers, for example when collecting information about the consumer (p.186-187). There is only one type of communication where there is no feedback at all from the information consumer, so you could say the other three types are interactive.

However, Jensen thinks that the other three types don't cover all forms of communication since there have been new developments in media.

Therefore he looks at three definitions of interaction, used respectively in sociology, communication studies and informatics. In sociology, interaction is when people adapt their behavior to each other. In communication studies ‘interaction’ is synonymous for ‘interpretation, reading’. In informatics, interaction refers to a human operating a machine.

Later in his article he compares different models for the level of interactivity of media.

According to these models, our digital magazine would not be the most interactive thing. They

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would be a ‘form of stored content available by individual request’ (p.193). This is equal to the third form of communication that I mentioned earlier: consultation.

At the end of the article, Jensen combines the four types of communication with forms of interactivity. The first one is transmisional interactivity: the extent to which a user can choose from a stream of information without allowing the user to make requests (f. ex. zapping when watching tv). The second one is consultational interactivity, where the user can make requests for information from a certain selection of information. Thirdly there is conversational interactivity: the user produces his own information in a two-way media system. Finally there is registrational interactivity where the medium registers information and adapts or responds to the user’s actions and needs.

We can conclude that there is not one definition for ‘interactivity’ or ‘interactive media’.

However, Jensen has made the context of our digital magazine clearer. It would fit best in the category ‘consultational interactivity’, because there is certain information available that the user can choose from. Whether this is text, images, video, audio or an interactive map doesn’t matter because it is up to the user to decide what information he wants to see and what information he is not interested in.

Similarities and differences

Since we want to transfer the experience of reading a print magazine to a tablet, it is important to find out what the similarities and differences between print magazines and digital magazines are. There has to be something that attracts the reader to the tablet instead of the print magazine. Therefore we have compared the content of print magazines to the content of digital magazines.

A very obvious difference that can be found when you compare print with digital magazines is that digital magazines can offer interactive content. However, there is more to digital magazines than just the interactivity of the content. For example, Hayman (2010) claims that the idea of monthly magazines will disappear, but he does predict that long form journalism will return. People take more time to read on their tablet compared to the time they want to spend reading an article online, although they are used to reading longer articles in print magazines. The idea of real-time content instead of monthly issues is understandable: people are always up to date on topics that interest them because information on the internet is constantly being updated, and people are online very often. However, Hayman focuses mainly on the web and what he does not address is that print magazines often offer longer articles and background stories. Stories that you won’t read on the internet if you are looking for a quick update on a certain topic, but stories that you take the time for. For our project, this is what’s important: since we are focusing on long form journalism, the stories that digital magazines should offer are similar to the ones that are available in print magazines. But they will be presented in a different way.

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This is where we go from a similarity to a difference; it's where the interactive content comes in. You can tell a story with different types of content. Although there is more to digital magazines than interactive content, this is the major difference between print publishing and digital publishing and therefore it deserves some attention. Print magazines offer us text and images. Digital magazines offer us that, and much more. With tablets lots of new possibilities open up, mainly for interactive content. Audio, video, image galleries, you name it and somebody has put it in their digital magazine.

That brings us to the second important difference between print and digital magazines: whereas people know by now what works for print magazines, nobody knows what kind of content works in digital magazines (Uljee and Lucas, 2011). Koen Denolf (2011) from Het Salon, custom content publisher in Belgium, explains that everybody wanted to be the first to publish a digital magazine for the iPad, to get attention from the media. However, this led to a lot of unnecessary bells and whistles that make the digital magazine more complicated to read. According to Denolf, it is important that the content of a digital magazine has some kind of added value when you compare it to the print version. In order to do this, people put together text, images, video and audio. But it doesn't come together in one story. Digital storytelling is still at its beginning, is what Uljee and Lucas write. As their article and that of Denolf show, nobody knows what kind of content works and what kind of content doesn't work. 'Added value' appears to be a key term when it comes to the content of digital magazines. Something new should be offered, something that actually adds something to the story and doesn't distract from it.

Right now, all the bells and whistles are distracting the reader from the story: they need a manual to show them how the magazine works. Both Denolf and Van Gemert (2011) think that this is not a good idea: it prevents the reader either from actually reading the content and engaging with the story, or from finding the article that they are looking for. This leads to the conclusion that both the design and the choice for different types of content need a lot of thought when producing a digital magazine: the content is the most important. The different qualities of the tablet device should be used to create better content (Van Gemert, 2011), and according to Luke Hayman (2010) "we have the chance to get bigger, brighter, sharper content." With tablets, we can find a way to combine the rich visual content of print with the portability of an e-reader. However, in order to be able to tell a story with different types of content, information design is very important (Hayman, 2010).

What all these articles tell us is that there are a lot of opportunities for content on tablets, but publishers need to be careful with interactive content. As Bas Broekhuizen, teacher in Journalism and Media at the University of Amsterdam, says in Uljee and Lucas' article: "It's not always better."

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Types of interactive content

The most important difference between print magazines and digital magazines is the availability of interactive content. But what kind of interactive content do digital magazines offer exactly? It is clear that publishers are still trying to figure out what works best when publishing their content digitally. However, we have studied some digital magazines that are already out there. This way we could see what publishers have been experimenting with and what we think is good or bad about it. In looking at existing digital magazines we have found different types of content that are obviously not usable in print magazines. I will sum up what we have found so far.

Bright Screenzine offers long videos and even a full-length documentary. However, you have to pay € 3,99 for this app and other than a few videos and images, it doesn't offer a lot of content. There are no long articles; in print magazines text tells the story, in Bright Screenzine videos tell the story. Next to some text, images and more videos, Bright Screenzine offers an interactive map.

Something new *The Ration* offers, is audio narration. You can choose between reading the text yourself or being read to, or even combine the two because the text scrolls down automatically as the voice reads. They also use hypertexting: some words are underlined and a symbol shows what kind of link it is. Sometimes it refers to a website, sometimes there's a video and sometimes tapping the word just opens a small box explaining the meaning of the word.

Although it is a book and not a magazine, something *Al Gore's 'Our Choice'* offers, is pictures with audio added to it. When you enlarge a picture, the tablet starts talking to you to give you some background information. Another feature that the pictures always have is a globe symbol that, if you tap it, shows you a world map with the location of where the picture was taken.

Something *the Guardian* offers in their tablet application is the ability to simply have a look at the news in pictures: there is some kind of collage of the photos. When you enlarge a picture, you also get a description of what's in the photo. You can choose to scroll through the collage or to view all the pictures, or swipe through the enlarged versions with descriptions.

Wired is a digital magazine that even has interactive advertisements: in a free preview I played some kind of game where you would have to find four Lexus Nexuses that were hidden in a picture of a city.

Obviously, there are many options for interactive content. Video, audio narration, audio with pictures, hypertexting, interactive maps, photo galleries, small games, adjustable data visualisations – and that's only what we have seen in the few applications that we tested. We know that there are more options for interactive content, like timelines. Because nobody knows yet what works best and because what works and what does not work is probably different for every genre, it is still a road of trial and error (Uljee and Lucas, 2011). It is something publishers will have to give a lot of thought, because, according to Marshall McLuhan (JAARTAL), the medium is the message. To what extent this goes for digital magazines on tablets, will be discussed below.

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The message

The message of a print magazine is not the same as that of a digital magazine, according to Marshall McLuhan's famous quote "the medium is the message."

In what way do digital magazines on tablets influence the message?

Lev Manovich (2007) writes that the area of use of a device influences the design. If a device is used for work, the design will be focused on efficiency and functionality, but if it's used for pleasure there have to be some playful, friendly, aesthetically pleasing features. From the interviews we did with tablet users, we can conclude that tablets owners use their device both for work and for pleasure. That would mean that the device itself should offer both efficiency and playfulness, but then we are talking about tablet design in general and not about the content. Although it was difficult to find literature on interactive content, I think we have learned a lot from our interviews. Because the device influences the possibilities for different types of content, the medium has an effect on the message.

From our interviews with tablet users as well as from our talk with Pia Pol from Valiz, an art book publishing agency, we have learned that both the design and the types of content that are offered influence the message. If you offer a video next to the text of an article, this changes the message of the story. The story is no longer static in giving you information, but it becomes dynamic when you add interactive content. As said when answering the first sub question about similarities and differences, some digital magazines were created just because their publishers wanted to be the first. This means that they sometimes exaggerated in offering interactive content, and then the different kinds of content distract the reader from the real story.

The users we interviewed obviously do expect interactive content when reading a digital magazine on a tablet. However, the extra features should always add value, either to the story or aesthetically. One of the users we interviewed said that it should always be clear what type of content something is. For example, from our own experience with Al Gore's Our Choice, we found it annoying that you didn't know in advance whether a picture would have sound or not if you enlarged it. Sometimes somebody would start speaking to you, sometimes not. This is why design and content can't be seen separately: in this case the design needs to tell you what kind of content there is on one 'page' or one screen. Something another user pointed us at, was that he didn't want the interactive content to be thrown at him; he wants to have the choice whether or not to interact with it.

It is clear that when we talk about the medium being the message, in our project this means that the medium 'digital magazine on a tablet' influences the message strongly. Although a journalist can write a very good analysis of an event, the way the story is presented has a lot of influence on the way the tablet user understands the message. The presentation of a story consists of both

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design and the different types of content that are used to tell the story. Because there is an endless amount of possibilities for digital magazines when it comes to design and interactive content, it is very, very important to pay a lot of attention to those two aspects. After all, a magazine wants to provide the user with certain information and the question will always be how to get the reader to understand the message in the way it is intended.

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3.2.3 Sub Question Arelinna

How does the tablet's usability affect the user in engaging with long-form journalism in digital magazines?

Defining usability

There is no clear definition about what usability is. In short it is what makes an eSystem to be characterized as easy to use and user friendly. Usability is relative and it depends on the context, goals and users of each system.

A first definition is the one of the ISO 9241 standard on *Ergonomics of Human System Interaction* (Part 11 1998) that describes *usability* as:

The extent to which a product [service or environment] can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use. (quoted in Petrie and Bevan 2009, 2)

However, Petrie and Bevan (2009, 3) note that many practitioners (Gould and Lewis 1985; Shackel, 1990; 1991; Sharp, Rogers and Preece 2007; Stone et al. 2005) have drawn their attention to the following aspects as important parts of *usability*:

flexibility: the extent to which the system can accommodate changes desired by the user beyond those first specified;

learnability: the time and effort required to reach a specified level of use performance with the system (also known as *ease of learning*);

memorability: the time and effort required to return to a specified level of use performance after a specified period away from the system; and

safety: aspects of the system related to protecting the user from dangerous conditions and undesirable situations.

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The current discussion

Throughout the Web one may find much advice by both professionals and users about what works best with digital magazine applications for the iPad or other tablet PCs. There is not one common direction about what works best or what should definitely be present or absent in a magazine app, but the discussion is growing and more and more knowledge and experience on the issue is shared. The broader use of tablets has resulted into more interest and optimism about the tablet's role in the future of publishing, and especially that of magazines.

Many are those who give usability tips and advice about how to create an engaging and successful digital magazine on the tablet. For example, Ron Matejko, the President of MVP Media, an award-winning digital publishing company, shares “10 Valuable iPad Magazine Design Tips” (Matejko 2012). In short, he drives the creator’s attention towards the following points:

- Horizontal only design for panels
- Vertical scroll for each individual story
- Larger, easy to find interactive icons
- Scrolling text boxes
- When possible, contain design within one panel
- Larger, call to action text by icons
- Scroll down icons
- Larger text font
- Use play icon with embedded video players

These tips reflect the problem that occurs when a publisher translates the print version of a magazine into digital when not paying attention to usability matters. Successful interactivity between the user and the machine is not a given and digital publishers need to acknowledge that. For example, the app Zinio provides the reader only with PDF formats of the magazines it publishes. This means that it is not using the full potential that the tablet as a technology has to offer. In addition, other digital magazine apps that have embedded multimedia and interactive aspects in their content, such as Esquire and Wired, still face some usability issues. The user is often confused by the navigation architecture within the app and as a result is dissatisfied by his or her experience.

Therefore, there is a need to clarify what applies and what does not apply in terms of usability in order to offer the reader the possibility to profit from his or her ‘digital’ reading experience, without being distracted or discouraged by technical or usability issues and malfunctions. This is why it is essential to follow some basic guidelines for usability, especially for digital magazines on tablet computer devices.

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Making usability guidelines

Guidelines and standards for usability have been set for years (Petrie and Bevan 2009, 12). They are to be used as reference, but they must not be followed in detail because each case is different and depends on the context. Two examples of well-established usability guidelines used for evaluation are the following (table 1 and table 2):

Visibility of system status	The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.
Match between system and the real world	The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.
User control and freedom	Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.
Consistency and standards	Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.
Error prevention	Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.
Recognition rather than recall	Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.
Flexibility and efficiency of use	Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.
Aesthetic and minimalist design	Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.
Help users recognize, diagnose, and recover from errors	Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.
Help and documentation	Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

Table 1: Nielsen's usability heuristics (Nielsen 1994, quoted in Petrie and Bevan 2009, 13)

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Strive for consistency	Consistent sequences of actions should be required in similar situations; identical terminology should be used in prompts, menus, and help screens; and consistent commands should be employed throughout.
Enable frequent users to use shortcuts	As the frequency of use increases, so do the user's desires to reduce the number of interactions and to increase the pace of interaction. Abbreviations, function keys, hidden commands, and macro facilities are very helpful to an expert user.
Offer informative feedback	For every operator action, there should be some system feedback. For frequent and minor actions, the response can be modest, while for infrequent and major actions, the response should be more substantial.
Design dialogue to yield closure	Sequences of actions should be organized into groups with a beginning, middle, and end. The informative feedback at the completion of a group of actions gives the operators the satisfaction of accomplishment, a sense of relief, the signal to drop contingency plans and options from their minds, and an indication that the way is clear to prepare for the next group of actions.
Offer simple error handling	As much as possible, design the system so the user cannot make a serious error. If an error is made, the system should be able to detect the error and offer simple, comprehensible mechanisms for handling the error.
Permit easy reversal of actions	This feature relieves anxiety, since the user knows that errors can be undone; it thus encourages exploration of unfamiliar options. The units of reversibility may be a single action, a data entry, or a complete group of actions.
Support internal locus of control	Experienced operators strongly desire the sense that they are in charge of the system and that the system responds to their actions. Design the system to make users the initiators of actions rather than the responders.
Reduce short-term memory load	The limitation of human information processing in short-term memory requires that displays be kept simple, multiple page displays be consolidated, window-motion frequency be reduced, and sufficient training time be allotted for codes, mnemonics, and sequences of actions.

Table 2: Shneiderman's 8 golden principles of good interface design (Shneiderman and Plaisant 2005, quoted in Petrie and Bevan 2009, 13)

However, usability guidelines concerning tablet PCs and iPad devices are still ambiguous. There are not yet any set standards for usability concerning the design and architectural navigation for tablet applications. This can be seen as rather normal since the first release of a tablet device was the iPad's release on the 3rd of April 2010 (U.S.A.). Application creators are experimenting with the opportunities the tablet has to offer, by sometimes succeeding but often failing as well. Norman and Nielsen in their article "Gestural Interfaces: A step Backward in Usability" (2010) state that this is because older well understood standards of interaction design are ignored (p. 46). This happens whenever a new technological development is introduced in the market, in our case the tablet device with the "new" gestural interface. The authors note the need for establishing guidelines for gestural control and resistance to release radically new techniques just for the sake of it, and ignoring the long history of HCI research and findings (*ibid*).

Therefore, Norman and Nielsen suggest seven "fundamental principles of interaction design"

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that may function as a reference to designers in order to produce more usable, appealing and engaging environments for gestural interfaces. Firstly, *visibility* is very important. On the one hand we often experience –or, rather, do not experience–what is called ‘nonexistent signifiers’, when the user does not clearly see and understand that there is a special gesture in order to make an action. For example, ...On the other hand, there are the so-called ‘misleading signifiers’ that are button that are apparent to the user, like the ‘menu’ button on the Android tablets, that do not always do what the user expects them to do, and as a result he or she become confused. For example, some magazine applications may not have a ‘menu’ button, and even if they have one it may not be synchronized with the tablet’s button that already exists there.

Secondly, another important feature is *feedback*. In both Apple and Google’s operating systems the way to return to the previous screen is not very apparent. Especially for the iPad (where there is no permanent ‘back’ button, as in Android devices), it is difficult for the user to find his or her way back and thus, gets confused and starts tapping and swiping back and forth. Also, one major flaw is that continuous tapping of the ‘back’ button leads the user to a forced exit towards the home screen (Norman and Nielsen 2010, 47). Therefore, there should be a hard stop at the top level of the application, so the user always remains within it.

Furthermore, *consistency* of gesture-action compatibility throughout the application makes navigation much easier for the user. It is difficult, and maybe not even desirable, for all operating systems to share the same guidelines, but it is important that there is consistency within one application. For instance, in Al Gore’s (2009) ‘Our Choice’ eBook for the iPad sometimes images enlarge by taping them, but in other cases images have an ‘unfolding’ effect before enlarging.

Discoverability is another user interface feature that is sometimes ignored in tablet devices. Menus are difficult to explore and sometimes they are completely ignored. In digital magazines in particular indexes and menus are often part of the navigation. However, they may be misleading and not very useful for the user. For example, in ‘Wired’ magazine’s iPad version, the menu on the bottom of the page or at the side consists of thumbnails that are too small for the reader to recognize and extra effort is needed in order to know how far he or she is on the magazine.

In addition, different tablet devices have different screen sizes. Therefore, *scalability* must be considered when editing pictures in the app for instance. The various screen sizes may also have an effect on the app’s *reliability*. In other words, accidental selection and activation is common practice in gestural interfaces, such as tablets and because these movements are invisible the user does not understand what caused the problem. Action-result inconsistency leads the user to believe that he or she has lost control over the system, and this weakens the experience. Some possible solutions could be creating larger objects and surrounding them with larger click zones or reinventing the ‘undo’ button, which has been neglected by digital magazine creators.

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Another aspect of touch screen devices that may be annoying to the user is latency. Anderson, Doherty and Ganapathy (2011) conducted a study on this issue by testing the users' resistance to latency by observing them while using a tablet and how latency may influence their ratings of the system's performance while doing touch screen movements (panning, scrolling, zooming, page turning). The findings of the study showed that users were not very annoyed by latency. However, we should bear in mind that the users were positive about the tablet because it was something new and interesting, and that the screen used for the study would update smoothly and did not look choppy. The results indicated a limit of 580 ms in order for the users to accept latency. On the contrary, during our interviews, most of the interviewees said they were annoyed by low speed and latency.

Even though HCI in the form of gestural interfaces in tablet devices are still in their infancy, we should explore new ways of how to benefit from this new opportunity. Shaking, pinching and spreading and rotation and tilting (or even a lock to avoid accidental rotation) are for example gestures not yet used extensively. Nevertheless, new and revolutionary media practices should be combined with the well-researched basic knowledge of the past that holds usability's and interaction design's guidelines and principles.

An interesting example of how the guidelines described above may be incorporated into valuable advice is Budiu and Nielsen's second edition of their study "Usability of iPad apps and Websites" (2011). In their study the authors focus on a case study concerning digital magazines for the iPad.

They point out different usability aspects that they believe should be reconsidered and improved. Firstly, they pose a dilemma about if the navigation bar should be hidden or always visible. Secondly, after reviewing different tables of contents, e. g. Fortune iPad app, they stress the fact that the table of contents should be on the one hand easy to access, and on the other easy to scan and to read. Thirdly, they state that the slider and page viewer, that is essentially a carousel that contains page thumbnails that the user can use to browse through the magazine, is more or less useless. This is because it lacks precision, it can be replaced by other navigation tools already available, like the table of contents and because it is hard to use. Consequently, they do not recommend using a page slider. In addition, they note the fact that none of the magazine apps that they tested had a search box, a feature that most users were seeking for. Budiu and Nielsen also appear negative towards multiple navigation schemes and inconsistency within one app, and definitely do not recommend it. Finally, they denounce splash article pages, while they suggest that it is important that the first page of the article conveys the right information about the article. A picture combined with some text is a better option for a front page of an article in order for the user to decide if he or she wants to read it or not.

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How do people use the tablet?

What?

The study “The Tablet Revolution” conducted by the Pew Research Center Project for Excellence in Journalism in collaboration with The Economist Group demonstrates how people use the tablet and what this means for the future of news. It is based on the findings from seven surveys conducted in the summer of 2011 in the U.S.A. The majority of tablet owners use their tablet for media consuming, except for sending and receiving emails. Consuming news is the next most popular use, after email related activity.

Percent of tablet users who do these activities daily



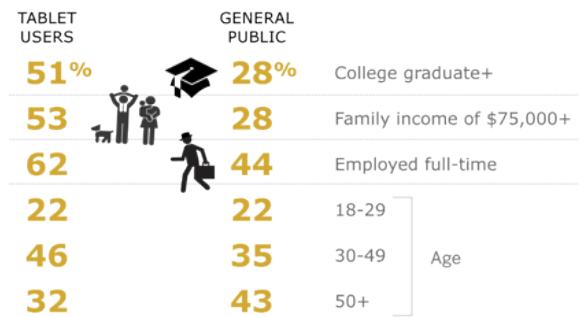
Pew Research Center's Project For Excellence In Journalism
in collaboration with The Economist Group

Who?

Tablet users are mostly well educated, well paid and fully employed people. It is worth mentioning that this device is mostly used among the 30-49 year olds, rather than younger people who usually engage quicker with most new technological developments. In addition, the tablet, at least for the present, appears to be a shared device, and not personal like mobile phones. Tablet owners who do not live alone usually share their tablet device with other family members. For example, children use tablets to play games.

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Educated, Employed and Earning Money But Not Necessarily Young



N=504 tablet users; General public data from the June 2011 Census Bureau's Current Population Survey; Employment from June 2011 survey by the Pew Research Center for the People & the Press

Pew Research Center's Project For Excellence In Journalism
in collaboration with The Economist Group

Who owns tablet computers

% of adults in each group who own a tablet computer, in Nov. 2010 and May 2011

	% of each group who owned a tablet computer in Nov 2010	% of each group who own a tablet computer in May 2011
All adults in the U.S.	5	8
Gender		
Male	6	10
Female	4	6
Race/Ethnicity		
White	4	7
African American	4	8
Hispanic	7	15
Age		
18-29	6	12
30-49	6	9
50-64	4	8
65+	2	2
Education		
Some high school	4	4
High school	3	5
Some college	4	10
College graduate	8	13
Household income		
< \$30,000	4	4
\$30,000 - \$49,999	3	8
\$50,000 - \$74,999	3	8
\$75,000+	9	17

Source: The Pew Research Center's Internet & American Life Project, April 26-May 22, 2011 tracking survey. N=2,277 adults ages 18 and older. Interviews conducted in English and Spanish.

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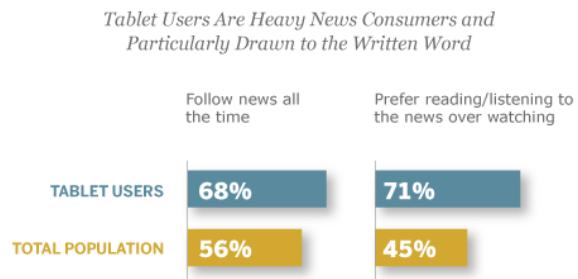
Where?

According to Budiu and Nielsen (2011) people carry their tablet computer with them rather frequently, and they mostly use it at home or while travelling. From our interviews we also understood that more heavy users use the tablet during work also.

News consuming on the tablet

A lot of tablet users have the habit of reading on their tablet. This has taken time from their reading print magazines and newspaper. But what happens with the ‘quality of reading’. The Miratech team conducted a study because they wanted to know how reading patterns differ between an iPad and a printed newspaper. The results indicated that reading on the iPad is efficient but more superficial than reading on the newspaper, as people remember more when reading on the later medium. However, tablet users read twice as many articles on a tablet than in a printed newspaper (35% of articles read on the iPad, compared with 18% on paper) because people skim through the tablet.

In addition, the “Tablet Revolution” study, mentioned above explores tablet users’ news consuming habits as 53% of them get news on a tablet every day. It is important to note that according to the study tablet users are already heavy news consumers and particularly drawn to the written word and reading especially when compared to the total population.



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Magazine Reading

38% read back issues of magazines on their tablets

Of those...

14% read back issues of magazines **MORE OFTEN** than before

N=894 tablet users who get news at least weekly

Pew Research Center's Project For Excellence In Journalism in collaboration with The Economist Group

A finding that particularly suits “The future of publishing project” is that tablet news users are interested in reading in-depth articles (42%) about as much as they check headlines (52%). Magazine reading may not be the most popular activity, as 22% of tablet users confirm reading some kind of magazine on their tablet at least weekly, but it is still an important percentage because it is twice the percentage of the general population habits of reading a print or online magazine. Also, those who use apps are twice as likely to read magazines daily on the their tablet compared to those who mainly use the browser (13% versus 6% browser and 9% both-7% all news users).

Magazine Reading

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Of those...

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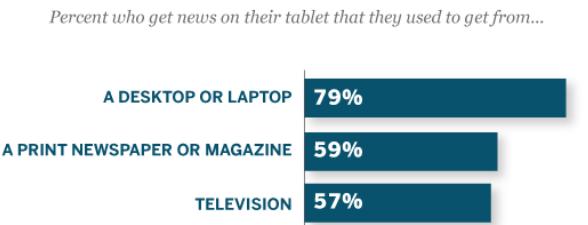
N=894 tablet users who get news at least weekly

Pew Research Center's Project For Excellence In Journalism in collaboration with The Economist Group

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Another interesting fact shown by the study, but also from the tablet user interviews our team conducted, is that the tablet has replaced some of the news consuming time previous done on a laptop, print newspaper or magazine and television. In addition, tablet users declare that they are particularly satisfied with this platform compared to the others for both checking headlines and reading longer articles. However, it is worth mentioning that the users who prefer using apps over the browser, consume more news and spend more time on reading while they are more satisfied by their experience overall.



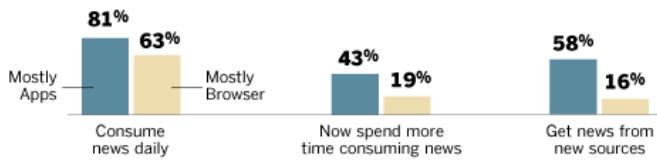
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The tablet is already the platform of choice for both headlines and longer articles.

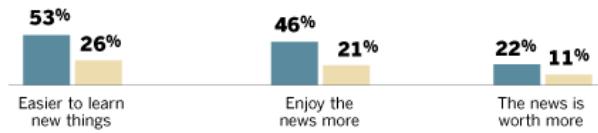


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Those Who Rely on Apps Are Power News Users



And They are More Satisfied With Their Tablet News Experience



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Comparison with earlier expectations

After the interviews it showed that, unlike Lars expected, the barrier to buy apps was quite low.

When doing research on the internet and testing applications, there appeared to be quite a few existing applications that had been given a lot of thought and that were actually trying to offer something new. Elin didn't expect to find that many interesting projects and apps, she thought there would be a lot of PDF-file digital magazines.

After three weeks of research Arelina's initial expectations have somewhat altered. Firstly, our findings show that tablet users use their tablet not only during their leisure time for consuming media, but also during work. The tablet is helpful for organizing information and collecting texts, with apps such as Evernote and Goodread. Secondly, digital magazines are not yet a standard habit of tablet owners. Even though the digital magazines' reach is growing, users are still seeking for a usable magazine. This is probably due to the fact that the tablet's potential is not yet reached and because the balance between text and multimedia / interactivity on the tablet needs to be tested and reviewed more extensively.

4. Conclusion

How can tablet devices create a more interactive user experience for reading long-form journalism in digital magazines?

After dividing our main question up into three sub questions we each went our own way in researching the different subjects that compose our main question. Our findings can therefore be subdivided into three subjects: usability, content and long-form journalism.

Long-form journalism turned out to have a long and interesting history of which the largest part is composed of it being on the brink of extinction. In recent years long-form journalism has regained public interest. But the general vibe the articles regarding the concept of long-form journalism gives off states that there currently is a very limited target group. A few websites and even a couple of iPad apps have sprouted to cater to that group of readers, but none, at this moment, accomplish this feat with great success. Another point of interest that can be noted is the way popular news media like the New York Times and Wired claim the tablet computer to be long-form journalism's instrument of revival. Stating that the larger format reclaims the field of writing lost on the smartphone's smaller format.

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Regarding the content of tablet-based magazines we found out that a substantial danger lies in maintaining a comfortable balance between text and multimedia/interactive content. The two applications we researched most thoroughly lie on exact opposite ends of the spectrum; Ration/the Atavist is based around text and does not actively show images, videos and interactive elements while Wired blends in every possible kind of multimedia/interactive content in its text. The danger in Ration/the Atavist lies in it being too bland, it doesn't actively convince the user to actually use the available extra content. The danger in Wired lies in the extra content distracting the user too much from the main body of text.

Our most important and interesting findings were done in the field of usability. By analysing a few applications and comparing them to general usability guidelines and rules we found out that there were very few applications that tried to obey all the rules. The perceived danger in developing iPad apps therefore lies in the need developers feel to create new guidelines and to be innovative at the cost of ignoring the existing guidelines. The main danger in our own project lies in this statement; we need to be innovative while trying to obey general rules of navigation and information architecture.

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5. List of references

Anderson, Glen, Rina Doherty and Subhashini Ganapathy. "User Perception of Touch Screen Latency." A. Marcus (Ed.) *Design, User Experience, and Usability, Pt I, HCII 2011, LNCS 6769* (2011): 195–202.

Bevan, Nigel and Helen Petrie. "The evaluation of accessibility, usability and user experience." *The Universal Access Handbook*, ed C. Stepanidis. CRC Press. (2009): 2-30.

Budiu, Raluca and Jakob Nielsen. *Usability of iPad Apps and Websites, 2nd edition*. 2011.
Visited on 15-02-2012 <<http://www.nngroup.com/reports/mobile/ipad/>>

Denolf, Koen. '10 redenen waarom de iPad niet geschikt is voor customer media'. *Het Salon*. 22-02-2011. Visited on 15-02-2012 <http://www.het-salon.be/uploads/10_redenen_waarom_de_iPad_niet_geschikt_is_voor_customer_media.pdf>

Gemert, Vasilis van. 'Online magazines: het draait om de content!' *Frankwatching*. 17-11-2011.
Visited on 13-02-2012 <<http://www.frankwatching.com/archive/2011/11/17/online-magazines-het-draait-om-de-content/>>

Hayman, Luke. 'Five ways the iPad will change magazine design.' *Pentagram*. 27-01-2010.
Visited on 15-02-2012 <<http://pentagram.com/en/new/2010/01/five-ways-the-ipad-will-change-ipad.php>>

International Standards Organization. "ISO 9241-11: Ergonomic requirements for office work with visual display terminals (VDTs)." *Part 11: Guidance on usability*. Geneva: International Standards Organization. 1998.

Jensen, Jens F. (1998). "Interactivity". Tracking a New Concept in Media and Communication Studies," *Nordicom Review*. 19(1): 185-204.

Manovich, Lev. 2007. Information as an aesthetic event. Visited on 24-02-2010.
<<http://manovich.net/>>

Matejko, Ron. "10 Valuable iPad Magazine Design Tips." (2012) Visited on 28-02-2012

The Future of Publishing

<<http://www.pubexec.com/blog/10-valuable-ipad-magazine-design-tips>>

McLuhan, Marshall. *Understanding Me*. Ed. Stephanie McLuhan and David Staines. Cambridge: The MIT Press, 2003.

Miratech. “We skim on an iPad and we read on paper.” February 2011. Visited on 28-02-2012.
<<http://www.miratech.com/blog/eye-tracking-etude-iPad-vs-journal2.html>>

Nielsen Jacob. “Heuristic evaluation.” *Usability Inspection Methods*, eds J. Nielsen and R. L. Mack. New York, NY: John Wiley & Sons, 1994.

Norman, Donald A. and Jakob Nielsen. “Gestural interfaces: a step backward in usability.” *Interactions* 5 (September and October 2010): 46-49

Pew Research Center Project for Excellence in Journalism and The Economist Group. “The Tablet Revolution.” 12-10-2011. Visited on 28-02-2012
<http://www.journalism.org/analysis_report/tablet>

Quinn, T. “Digital Magazines: a history timeline”. 2011. Visited on 06-03-2012
<http://www.magforum.com/digital_history.htm#rom>

Shneiderman, B. and C. Plaisant. *Designing the user interface: strategies for effective human-computer interaction*. London: Pearson Education, 2005.

Uljee, Marcel and Edwin Lucas. ‘Digitale magazines: een weg van trial and error.’ *Frankwatching*. 26-09-2011. Visited on 13-02-2012
<<http://www.frankwatching.com/archive/2011/09/26/digitale-magazines-een-weg-van-trial-and-error/>>

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6. Attachments

Interview 1 - Male 48

- Uses iPad 1, liked synching with his iPhone. But doesn't currently own one at this point.
- Buys 1-2 apps a month.
- Apps he likes: Evernote, Feedler Pro (Integrates with Evernote), Good Reader, BBC iPlayer, the Guardian and Flipboard.
- Likes reading long articles on his iPad, reminisces about the time when print magazines still published decent long-form journalism.
- Doesn't mind paying for good quality apps, but highly appreciates it if there is a lite version available to check it out first.
- Thinks the navigation and interactive content in Wired's iPad app is over the top.
- Uses his tablet for work as well as for entertainment about 2 hours a day on average.
- Thinks the iPad 1 is too heavy to comfortably read from.
- Main source for finding new apps are word of mouth, Twitter, RSS-feeds, related websites and sometimes the genius functionality.
- Likes reading, not particularly fond of interactive content. Is quickly and easily distracted.
- Buying magazines on the iPad saves huge amounts of space otherwise occupied by piles of magazines.
- Saves print magazines in order to maybe someday read them again.
- Prefers native apps to browsing, because they are better designed for the iPad's screen.
- Uses Wi-Fi functionalities only, occasionally creates a 3G Wi-Fi hotspot with his android phone.
- His preferred genres are: technology, applications of technology in society, music journalism, sports and general news.
- He experiences the most difficulty with apps that desire to be clever instead of helpful.
- He prefers reading his books in printed format.

Interview 2 - Female 35

- Uses iPad 2 in combination with Macbook Pro and iPhone.
- Prefers iPad because of the synching capabilities with her other Apple devices.
- This is her second iPad, her children took over the first one.
- Uses iPad mainly for entertainment purposes, but also on occasion for work related purposes.
- Main source for finding new apps are word of mouth and reviews.
- Likes reading and interactive content, not particularly fond of the Wired app because she doesn't find it clear what content is interactive and what isn't.

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- Buying magazines on the iPad saves huge amounts of space otherwise occupied by piles of magazines.
- Her favourite app is This American Life, in which she likes the sharing functionalities. Evernote is another app she really likes.
- Expects apps to be useful offline as well as online.
- Prefers apps over browsing.
- Uses her iPad 2-3 hours a day, mainly for reading and listening to the radio. Occasionally uses it for work.
- She only pays for an application when the content is really good. Subscriptions depend on price. Before buying she wants to see a preview.
- Uses only Wi-Fi functionalities.
- Her preferred genres of reading are general news and technological news.
- She prefers text over multimedia/interactive content. But does like multimedia/interactive content if it blends in well and adds something.
- When navigating a digital magazine she wants a visual index to be available and visible at all times.
- Experiences most difficulties with apps crashing.
- Regarding reading and buying print books over reading and buying digital books she states that digital books have lost the social aspect. You can't let a friend borrow a digital book, only recommend them to buy it themselves.
- She prefers reading on her iPad over reading on her laptop, it's more comfortable. Uses her phone for quick reading only.

Interview 3

- Male 39

- His iPad 1 is his first tablet, he's had it for 2 years.
- Downloads a new app 2 – 3 times a week.
- Finds new interesting apps by reading blogs, recommendations from friends and by searching for specific functionalities when they are needed.
- He finds the games on his iPad the most useless application, the most useful are Zite, Flipboard, Evernote and Wunderkid.
- He prefers browsing over apps.
- He was the second person in the Netherlands to get an iPad 1.
- He mainly uses his iPad for reading and presentations.
- His iPad takes away time he would usually spend reading books, but it doesn't affect the time he spends on his laptop.
- Uses his iPhone for e-mail and Twitter, because it's faster.
- Before downloading an app he will get the free version first for testing.

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- He pays for apps recommended to him by friends and he pays for the tools he needs to work.
- He only uses the Wi-Fi functionality of the iPad.
- He mainly reads digital magazines at home and in the commute to work in the morning, evening and occasionally during lunch.
- He expects a digital magazine on the iPad to have extra features that add value. He does not want a collection of PDFs.
- Wired has less interactive functionality than he expected.
- He prefers reading short articles about music and technology.
- The balance between text and multimedia/interactivity on the iPad needs to be different from old media. There are new possibilities to transfer information, he highly appreciates new ways of datavisualizations.
- He prefers an intuitive navigation, but he still wants visual pointers to accompany it. But he states that this depends on age.
- He would like to explore the possibilities of speech navigation.
- When visiting an index in a digital magazine he wants multiple ways of visualizing the overview.
- The biggest difficulty he encounters while reading digital magazines on the iPad is the loading speed of the pages. Furthermore he wants to be able to adjust the content to his reading needs.

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Persona



Media-usage: iPad, Macbook Pro, iPhone, de Volkskrant, Bright, Wired, Evernote.

Purposes:

- Staying in touch.
- Finding out a bit more about the background in an article.
- Discovering new possibilities and features in the usage of new media applications.

Ron van Rijn

“Gadgetfreak”

Primary Persona

“I like finding out new ways to stay up to date with the latest news. I prefer taking the time to learn just that little bit more about a certain subject.”

Demographic information:

Age: 45

Profession: Journalist

Family: Wife and 1 child

Income: €33.000 / year

Marital status: Married

Use of leisure time:

Reading magazines, books, newspapers and playing with the latest gadgets.

Behavior:

- Often looking for new ways to make use of the iPad's possibilities and functionalities.
- Likes to take some time to read in the evening at home or when riding the train to work.
- Mainly uses iPad for entertainment purposes, on rare occasions uses it for work related purposes.

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