

Heidi Roth

Lumina – A Fantasy Story for Young Adults

A Case Study on Designing a Concept for an Experience E-Book

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Tekijä Otsikko Sivumäärä Aika	Heidi Roth <i>Lumina</i> – Fantasia tarina nuorille – Tapaustutkimus kokemus e-kirjan konseptisuunnittelusta 60 sivua + 5 liitettä 20.8.2013
Tutkinto	Medianomi (ylempi AMK)
Koulutusohjelma	Mediatuottaminen
Suuntautumisvaihtoehto	-
Ohjaaja	FT, yliopettaja Robert Arpo
<p>Konseptisuunnittelu tarkoittaa ideaa, joka on suunnittelun takana. Ideaa pitää kehittää, testata ja sen oikeellisuus pitää tarkistaa. Halusin kehittää omaa kokemus e-kirja ideaani, <i>Lumina</i> – fantasia kertomusta nuorille. Tämä tarina tullaan kertomaan digitaalista tarinan-kerrontaa ja kokemus suunnittelua käyttäen.</p> <p>Tutkimukseni aikana halusin tutkia olemassa olevia mahdollisuuksia, joita kokemus e-kirja tarjoaisi. Jaoin kehityskaaren kahteen osaan. Tämän tutkimuksen alla keskityin ensimmäiseen osaan, joka piti sisällään kuusi vaihetta; ideointi ja idea, konseptianalyysi, markkinatutkimus ja esikuva-analyysi, kirjallisuus katselmus, käyttäjäkokemus tutkimus ja tulokset. Tulen jatkamaan Luminan tuotekehitystä näiden vaiheiden jälkeen tarinamaailman kirjoittamisesta tuotantoon asti.</p> <p>Käyttäjäkokemus tutkimus piti sisällään puolistrukturoituja haastatteluita, kyselyn ja havainnointia. Ensimmäisen testiryhmän muodostivat nuoret aikuiset ja toissijaiset testiryhmäläiset olivat aikuisia. Markkinatutkimuksen ja esikuva-analyysin perusteella valittiin kolme interaktiivista e-kirjaa, joita testattiin käyttäjäkokemus tutkimuksessa.</p> <p>Kaikkein merkittävimmäksi tutkimuksen alueeksi ilmeni käyttäjäkokemustulosten luominen konkreettisiksi ehdotuksiksi käyttöliittymään. Vaikkakin visuaalinen suunnittelu on erittäin tärkeä osa kokemus e-kirjaa, tämän tutkimuksen tulokset keskittyivät ainoastaan käyttökemukseen ja käytettävyyteen.</p> <p>Minulla oli mahdollisuus saada tämän tutkimuksen avulla kokonaisvaltainen käsitys uuden median tulevaisuuden mahdollisuuksista. E-kirjojen lukemisen lisääntyessä vuosittain ja kosketusnäyttöisten mobiililaitteiden vallatessa markkinoita, olen varma, että tarinankerronnan uusille tavoille tulee olemaan tarvetta. Digitaalinen tarinankerronta, multimedia ja transmedia tuotannot lisääntyvät viihdeteollisuudessa. Yhden tarinan luomisen sijaan tarinankerronta-, suunnittelu-, tuotanto- sekä markkinointitaidot pitää yhdistää ja tästä voidaan luoda yksi kokonainen tarinamaailma. Yhden tarinamaailman perusteella luodaan monia yksittäisiä tarina kokonaisuuksia, joita voidaan jakaa moneen eri mediaan.</p>	
Avainsanat	Konseptisuunnittelu, kokemus e-kirja, digitaalinen tarinankerronta, transmedia, käytettävyys, käyttökokemus ja -suunnittelu

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<p>Concept design refers to the idea behind the design solution. The idea needs to be developed, tested and validated. My research and development project involves developing my idea for an experience e-book, <i>Lumina – A Fantasy Story for Young Adults</i>. The story will be told by using digital storytelling and experience design.</p> <p>During my development process, I wanted to explore the possibilities that the experience e-book could offer. I divided the development process into two phases. In this thesis, I concentrated on the first phase, which includes six stages: Brainstorming and the Idea, Concept Analysis, Market Research and Benchmarking, Literature Review, User Experience Study and the Results of the User Experience Study. I will continue Lumina's product development after these stages to the second development phase, from writing the story-world until the launch of the finished product.</p> <p>The user experience study consisted of semi-structured interviews, questionnaire and observations. The primary user group were young adults and the secondary user group were adults. On the basis of the market research and benchmarking, three interactive e-books were selected. User groups tested the selected e-books during the user experience study.</p> <p>The most significant area of the study was turning the results of the user experience study into concrete user interface suggestions. Although the visual design is important for an experience e-book, the results in this study concentrated solely on usability and the user experience.</p> <p>This study allowed me to gain an overall insight into new media's future possibilities. As e-book reading grows every year and the tablets conquer the market, I am sure that there is a need for new ways of storytelling. Digital storytelling, multimedia and transmedia productions will increase in the entertainment market. Instead of creating only a story, we need to use our storytelling, designing, producing and marketing skills to create storyworlds. Then from the fundamentals of one coherent storyworld, many story entities are being created and delivered across multiple media.</p>	
Keywords	Concept design, experience e-book, digital storytelling, transmedia, usability, user experience, user interface

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1 Introduction

The Internet has trained us to use the text and the audiovisual information in a new way. Text and videos should be served in small pieces and information should be available from multiple sources in the social media and media network. This caught my interest and I started to wonder if people are used to follow this kind of storytelling; they already have the required abilities and media-reading skills to experience an e-book as a coherent multimedia and interactive art piece.

We have learned from the history that new media formats and contents are usually done in terms of old media. It is easy to adapt the current media into the new media with exactly the same form. This can be seen from the past. For example, when TV was introduced as a new media, the easiest and the most common way was to adapt the well-known format radio to the TV. It took a while until people tried more innovative ways that the new technology had to offer. Instead of just the audio, the television started to develop towards being an audiovisual entity.

The same has happened with traditional printed books and e-books. The publishers have been transforming the printed books into digital user interface, as if they were traditional books. It takes time before a new format of the e-book can be found and established in the publishing market. However, I have found some encouraging experiments with e-books or should I say applications, which take advantage of all the possible features that the touch screen mobile device platform can offer. Sadly, the producers behind these experiments are typically studios or production companies rather than publishing houses.

The purpose of this study is to design a concept for an experience e-book, which would meet the needs of digital natives in terms of reading, watching, listening and interaction with touch screen devices. As a storyteller and producer, I want to create a unique experience, which nevertheless does not dismiss the importance of reading and imagination.

The experience e-book should present a different and modern way to experience a story. The basic starting point for this project is a story, which will be told in writing, in the text format. However, the purpose is to maintain the enjoyment and complex imagi-

nation of reading but also to rich the experience by adding other stimuli, such as visual, audio and interaction. Combining these and enhancing them with the latest technology (augmented reality and 3D animations), it is possible to accomplish a personal experience of entertainment, which has a strong impact on emotions.

As a creator of the whole process from concept designing to storytelling and production, I am able to create a coherent entity through transmedia production. Besides the production and storytelling skills, I will use my professional experience in marketing, communication and international business to develop a concept, which can be multiplied to the global entertainment market.

1.1 Background of the Study

As I got deeper into my question, why I want to design this kind of experience e-book, which I had visualized in my mind for a long time, I had to go as far as cognitive science and neuroscience. The basic concern behind the idea was the decreasing amount of reading, especially amongst the young adults. Lukukeskus is a Finnish reading centre, which promotes reading of fiction. This organization had collected and published ten facts about reading. Among these is the following statement.

Finns are still big readers, but children and young adults' drive for reading is decreasing constantly. It is also an alarming fact that the attitude towards reading in this specific group is getting more negative. (Lukukeskus 2013.)

According to Lukukeskus's studies, it seems that the Internet surfing and superficial reading have replaced the old reading habits. Fayaz Ahmad Loan's study (Loan 2012) reveals the same issue. In his results Loan implies that "the Internet surfing has a great impact on the traditional reading practices and the reading practices are in transition" (Loan 2012).

I	To
Sequential reading	Non-sequential reading
Passive reading	Interactive reading
Concentrated reading	Superficial reading
In-depth reading	Extensive reading

Table 1. Results from the study, Impact of the Internet surfing on reading practices and choices (Loan 2012).

I think that maybe we should not blame the readers for this transition. Maybe we should admit that the world is changing and accept the transition. Maybe we should change the formats that we try to offer people. It is sure that improvements in technology affects on our everyday lives.

The Internet is full of images and short videos and the text is divided into short pieces of information. Generation Y, is an age group, which are born between the late 1970s, or early 1980s and the early 2000s. This group is also referred as the Millennial Generation or digital natives. The experience product that I am developing is targeted at the generation Y as well as at the generation Z, who were born between the mid-1990s and the early 2010s. It can be said that these generations are used to getting the entertainment experience easily. It is surely easier to watch a movie than to read a long novel, as the experience can be achieved with less effort and time. What then? Is there something wrong with these formats and experiences? I read some neuroscience studies and basically the answer lies in the impacts that reading has on our brains.

I have always thought that reading is a great exercise to our brain. According to this idea, I found an interesting study about critical reading and leisure reading made by Michigan State University professor Natalie Phillips. This study was presented in an article on the National Public Radio (NPR 2013) website. This study caught my attention immediately, because I am particularly interested in fiction and fiction stories are mainly dedicated to arouse emotions. Phillips asked: "If neuroscience could inform literature, could literature inform neuroscience?" She conducted a study by looking at how reading affects the brain. She gathered volunteers to lie in a brain scanner while they were reading a novel by Jane Austen. Sometimes Phillips asked the volunteers to only browse the book and sometimes, she asked them to concentrate to the text very deeply. The rest of the study continued so that the researchers scanned the brains with the functional magnetic resonance imaging machine and the computer program tracked volunteer's eye movements at the same time. During the study Phillips expected to see differences in parts of the brain, which regulate attention, because that was the main difference between casual and focused reading but surprisingly her preliminary results showed otherwise. The results of the research reveals that close reading activated unexpected areas of the brain, the areas that involved movement and touch. As unbelievable as it sounds, it was like the participants of the study were physically placing themselves in the story as they analyzed it.

On the basis of this data, the key is the focused reading. This discovery helps me to determine the amount of the text in the experience e-book. The percentage of the story being told in writing should be more than in the regular video games. However, some parts of the story should be told by other means, but I want to make sure that I am not giving the reader too much visual information, which would weaken their ability to imagine things by themselves. It cannot therefore copy the exact model that the information is nowadays presented on the Internet. One good example about the counterforce of superficial reading and diminishing amount of text is the long-format journalism. Emerging online services include forums for long-format journalism, such as LongPlay, Longreads etc.

On September 30, 2010, Reuters reported on an e-book study conducted by Scholastic, the global children's publishing, education and media company, and Harrison Group, a leading marketing and strategic research consulting firm. The study, which had over 1,000 participants, revealed that e-books inspire kids to read.

The amount of time children spend reading books for enjoyment decreases as they use cell phones and other mobile technology, but e-books might just bring them back to literature. Of the kids polled in the study, 57 percent said they would be interested in reading an e-book and about one-third of children said they would read more books for pleasure if e-books were more available to them. (Reuters 2013.)

My purpose is to obtain the same effect that the focused reading offers to our brain. Yet the means are different, because we are not just talking about plain text. I would like to offer the benefits of the reading as well as the elements that the young adults are so familiar with. The content is as meaningful as the format. Fiction is the perfect tool due to its dramatic storytelling and the journey of the hero or heroine.

Anna Alatalo has conducted a research that showed that "the boys - as well as the girls' favourite genres of fiction were suspense and adventure" (Alatalo 2009). We can see further evidence for this, for example, in the success of Harry Potter novels by J.K. Rowling. An article published by YLE, Finland's national public service broadcasting company, suggests that, "fantasy indulges young adults and keeps up the motivation to read and consume these entertainment experiences" (YLE 2010). As my target group are young adults, I decided to design the first experience e-book based on the idea of *Lumina*, which is a fantasy story that combines the elements of suspense and adven-

ture. The genre and the format will create a good foundation and a true need for this kind of project.

1.2 Research Objectives

When I started to work on this research and development project, there were a couple of variables that I wanted to embrace. The first one was the experience. As I would design an overall experience, the design should be done from the perspective of user experience. The second important thing is to gain results, which would place an emphasis on design and intuitive user interface. The objective of this study is to explore the designing possibilities of an experience e-book and offer some suggestions concerning the user interface. After the basic functionalities have been explored and decided, the more precise visual design can be made and adapted to the content. However, the visual design is not included in my current research and it can be done later on.

I will evaluate the usability and potential user experience by using similar interactive e-books as boundary objects. As learned from our concept design classes, Mariana Salgado, the lecturer defines the boundary objects as “artifacts, documents and vocabulary which can help people from different communities build a shared understanding” (Salgado, 2013). Through the boundary objects, I can explore the available technical details. The purpose is to have a basic concept design, which can be multiplied and adapted to each new experience e-book project.

1.3 Research Point-of-View and Limitations

In this project, I see myself as an experience designer. I could also use such terms as interactive media experience designer or developer. I am also the author or the storyteller, as I write my own stories. In addition to this, I can also put emphasis on production and marketing, due to my work experience. Because of my hybrid background, I will be able to present multiple points-of-view for this study. This leads me to the research question for this study, which is: How to design a concept for an experience e-book?

The basic assumption is that there are touch screen device platforms available, which can be used to produce interactive e-book experiences. In this thesis, I will not discuss the potential problems aroused with e-book, such as Digital Rights Management (DRM). DRM is a general term for technologies, which restrict access to or use of digital content. Different service providers use different DRM solutions and currently the e-book readers have problems with most of them.

I will focus on examining the creation and designing of the user experience and possible interface, as well as creating some guidelines for multimedia content production and storytelling. What makes this study special, in addition to this, is the production aspect of the study. In my opinion, the writer should also understand the possibilities and the law of conformity of production and designing for new media. Therefore, I study storytelling, concept design and production hand in hand and I mix those areas.

1.4 Terminology of the Study

In these chapters of the study I will go through the terminology related to the experience e-book designing process.

1.4.1 E-books and Applications

First, there was the printed book. Now book can be also in an electronic format and it is called a digital book or an e-book. Oxford Dictionaries Online (2013) defines the e-book as "an electronic version of a printed book that can be read on a computer or handheld device designed specifically for this purpose" (Oxford Dictionaries Online 2013). However, this definition is not current anymore, because e-books can and do exist without any printed equivalent and the original form of the book can be digital.

The e-books can be divided into two categories. The normal book format adapted to ePUB version or similar, where the content and the layout is the same as the traditional book and interactive e-books, which are usually sold in digital stores under applications in books category.

It is important to understand the difference between e-books and applications (apps), as it is something that often confuses both publishers and consumers. The article of UX Magazine written by Avi Itzkovitch gives these important differences between these

formats.

Apps are mostly native iOS or Android software, whereas eBooks are documents of a particular format, such as the open standards EPUB and Mobipocket (.mobi). E-books can be further distinguished from “enhanced eBooks,” which use formats such as ePUB3 for iBooks (Apple) and Kindle Format 8 (KF8) for Kindle Fire (Amazon). Interactive eBooks is a category for apps designed specifically to utilize the powers of tablets to enable users to interact with the storyline in sight, sound, and touch. (UX Magazine 2012.)

According to this definition the *Lumina* project will fall under the category of Interactive e-books, yet the product name can be called *Lumina* - an experience e-book.

1.4.2 Concept Design

One of the most important terms of this study is concept design. Therefore it is good to understand, what it means and where it comes from. The concept design can be describe as the idea behind the design solution. One important key element of the process is the visualizations and the idea needs constant developing, testing and validation.

During my studies of concept design I also learned that “Concept design comes from the analysis of background research, from tacit knowledge, from the dialogue with the users, from your own intuition as a designer, from the organization’s requirements, from community needs and from understanding the context” (Salgado 2012).

In this development project I have tried to put this theory in practise and follow the successful methods of concept design, such as brainstorming and Edward de Bono’s Six Thinking Hat’s among the others.

1.4.3 User Experience (UX) and User Experience Design (UXD, UED)

Due to my referring in this study to user experience and user experience design, I decided to clarify these expressions. User Experience is abbreviated as UX and the abbreviation UXD or UED stands for the User Experience Design. There are many definitions for user experience (UX). Alber (1996) claims User Experience in All about UX the following. “User Experience is all the aspects of how people use an interactive product: the way it feels in their hands, how well they understand how it works, how they feel about it while they’re using it, how well it serves their purposes, and how well

it fits the entire context in which they are using it" (All about UX 2013). He also underlines the understanding that is compiled through all of the senses.

However, the UX Magazine gives definition that "Term User Experience Design refers to the judicious application of certain user-centered design practices, a highly contextual design mentality, and use of certain methods and techniques that are applied through process management to produce cohesive, predictable, and desirable effects in a specific person, or persona (UX Magazine 2013). In the same website it is also said that "the product should meet the user's own goals" (UX Magazine 2013), which is very understandable in my opinion.

Both of the definitions cover widely the terms and enables to understand the core of the experience designing. However, there would be so much more to tell about UX, UXD but I decided focus only on the definition even though I have also familiarized myself in these areas of expertises during my media production studies.

1.4.4 User Interface (UI) and Graphical User Interface (GUI)

In order to understand what I am trying to accomplish in this development project, it is crucial to talk about user interface, which is also called a "UI" or simply an "interface." UI is basically the means that we can control software applications or hardware devices. My goal is to study how to provide an interface, which offers a user-friendly experience through intuitive action.

GUI is an abbreviation of Graphical User Interface. Like the name tells, it means only the graphical part of the interface. Graphical interface of a computer enables the user to click and drag objects with the help of the mouse.

In this thesis, however, I concentrate only on the UI, as I am not a visual designer. The results of the user experience study are presented visually, but they should not be regarded as the final Graphical User Interface.

1.4.5 Usability and Utility

Jakob Nielsen defines usability as "a quality attribute that assesses how easy the user interface is to use. The word "usability" also refers to the methods of improving ease-of-use during the design process" (Nielsen Norman Group 2013).

According to Nielsen there are five quality components, which should be brought up together with usability. The first one of those is learnability, which means how easy the product is. The second one is efficiency, which measures how quickly the user can perform tasks. The third component, which should be taken into consideration, is memorability. Also the errors and satisfaction of the users should be studied within the usability.

In addition to these, there are many other important quality attributes and one important is utility, that refers to the design's functionality and answers to the question: Does it do what the user need?

Usability and utility are both important to the experience e-book. Together they determine whether something is useful. It matters little that something is easy if it is not what the user wants. It is also a problem if the system can hypothetically do what you want, but you can't make it happen, because the user interface is too difficult. By studying the utility of a design, I can use the same user research methods that improve usability.

Lastly, I want to clarify the terms of utility, usability and how they are linked together. Nielsen Norman group gives a clear and simple definition this:

Utility = whether it provides the features you need.
Usability = how easy & pleasant these features are to use.
Useful = usability + utility. (Nielsen Norman Group 2013.)

1.5 Anticipated Uses and Social Significance of the Results

As e-book reading grows every year and the tablets conquer the market, I am sure that there is a demand for new ways of storytelling. Sean Stewart is a storyteller, who is specialized in interactive fiction. He suggests that: "We are now in the middle of Bard 5.0, which means the latest evolution stage in storytelling" (Stewart 2010). He defines and calls Bard 5.0 as a new platform. Digital storytelling enables several possible ways to interact with the audience and transmedia is a definitely key concept in digital storytelling. In Bard 5.0, videos, music, pictures, texts, web pages, searches, emails or even phone calls can be used.

Two important elements in my experience e-book will be interaction and interactive

design. I started to consider the meaning of these elements as I observed my children, whom are born in 2007 and 2009. The first iPad was released on April 3, 2010 and we bought the first iPad as soon it came to the Finnish market. So my first child has used iPad since she was three years old and my second child had an iPad in her hands at the age of one. I have downloaded dozens or even hundreds of games and children's apps and e-books for them while they have used touch screen devices.



Picture 1. My 3-year-old daughter uses iPad and the tested products better and more intuitively than any other of the test users of the study.

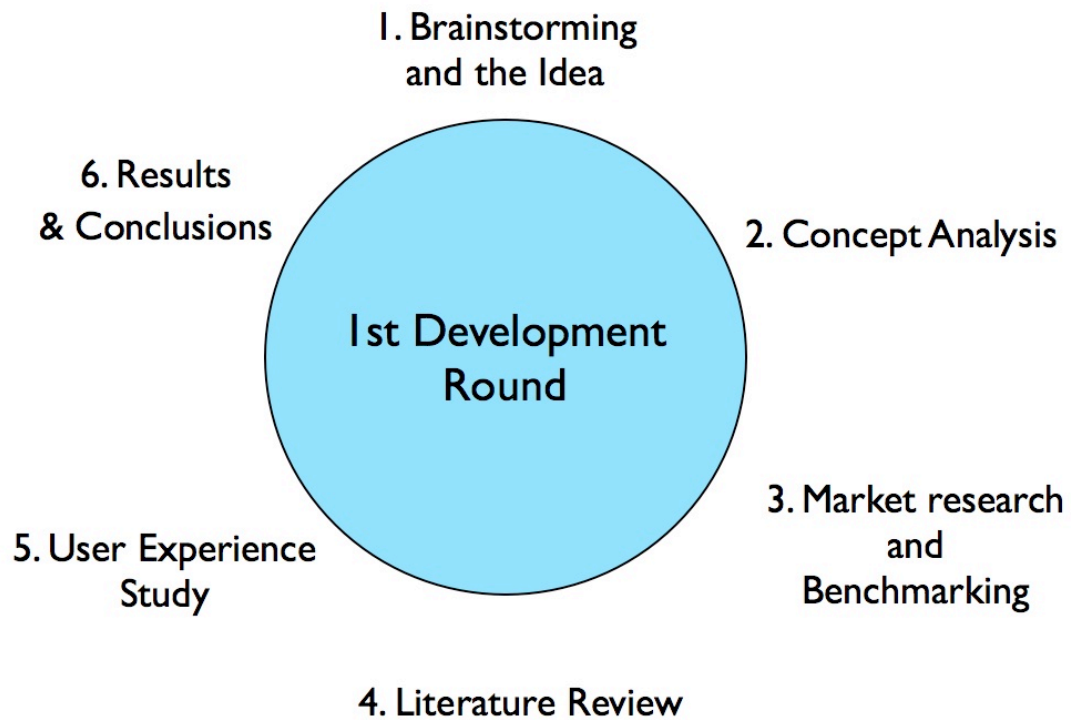
Almost all of the games and interactive e-books for children are based on the interaction between touching and doing. A child touches a section on the screen and she / he learns that something happens. This activates the action. When this generation starts to read, they expect that something is activated when they touch the screen. Therefore, it is crucial to develop new modes and mediums for storytelling and adapt them to the current technology and human behaviour. E-books should be developed as a separate art form and medium, not just versions of the printed books.

Concept designers and content producers, who have a clear vision of the final product, will be needed. Finnish knowhow has one new possible area here, where it could develop, grow and possibly gain a new export opportunity. The usability of this study is

high, because I create something concrete, a prototype, which can be modified into use. However, this doesn't eliminate the need for a thorough, careful graphical design, which includes top quality visual qualities and an easy, functional user interface. All these together will assure a greater user experience, which is something to aim for.

2 Concept Design Development Process

I have divided the development process into two parts: 1st development phase and 2nd development phase.

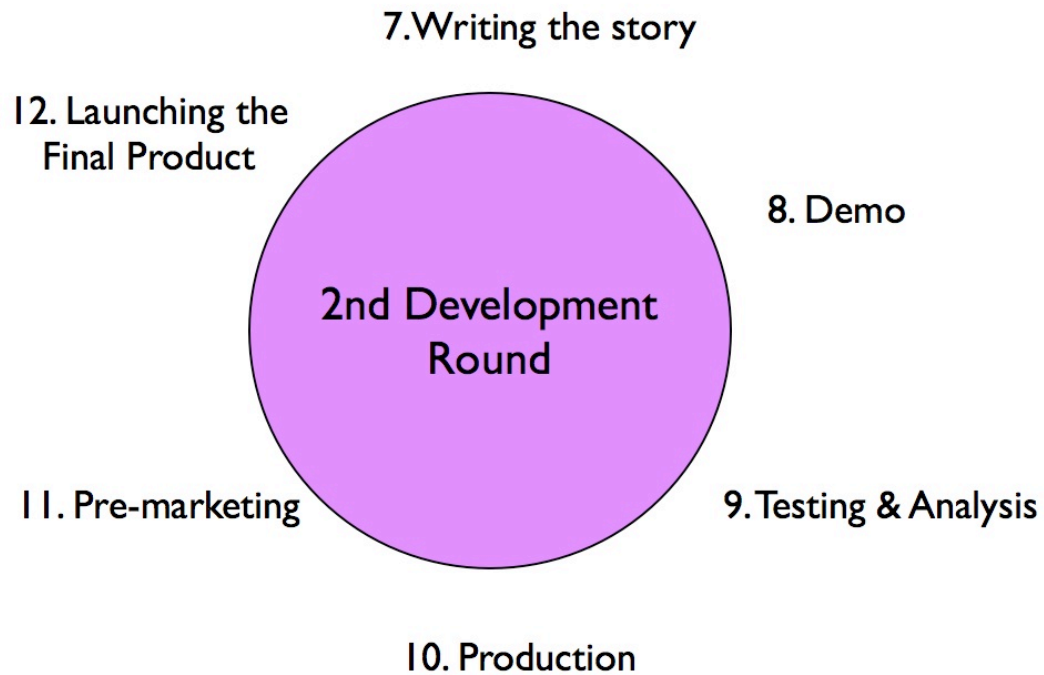


Picture 2. 1st Development Phase of the Experience E-book

The first phase is basically the content of this thesis and the second phase will be completed after I have finished my Master's studies. However, I wanted to present the whole process of development due to its wideness.

I will execute all the six stages of the first development phase in this project, which are Brainstorming and the Idea, Concept Analysis, Market Research and Benchmarking, Literature Review, User Experience Study and the Results and Conclusions.

The remaining six stages of the second development phase; Writing the story, making the Demo, Testing & Analysis of the Demo, Production, Pre-marketing and Launching the Final Product will be done after this thesis.



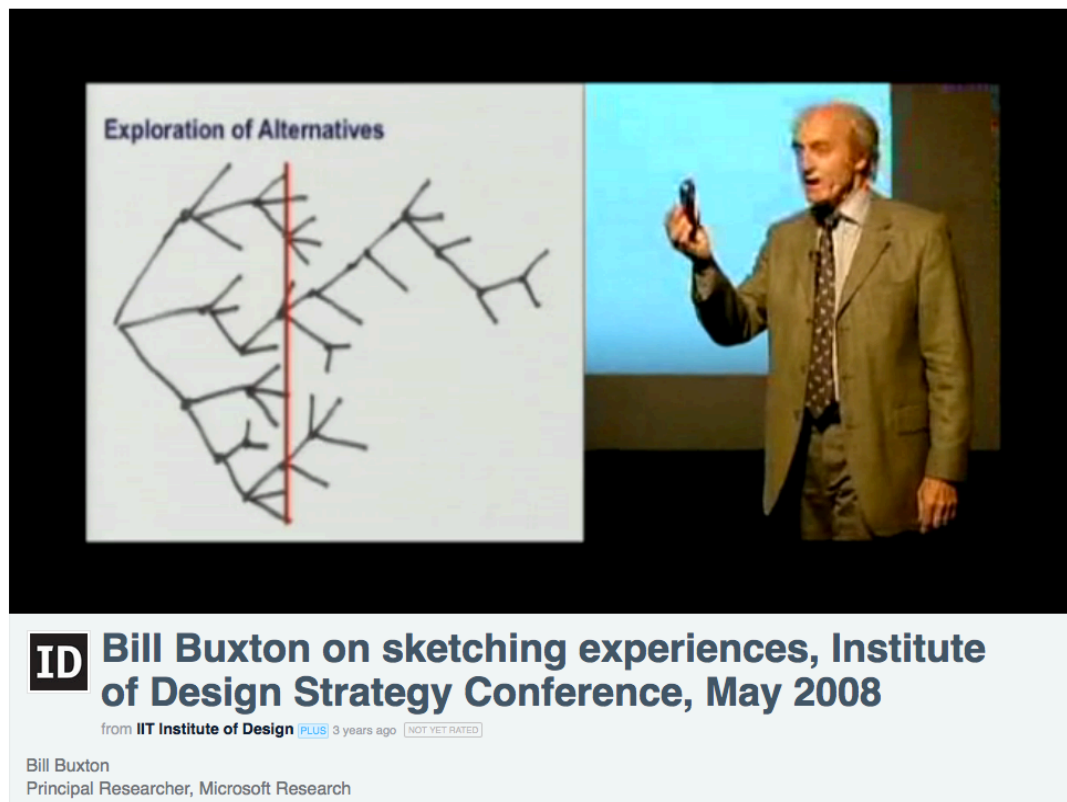
Picture 3. 2nd Development Phase for the Experience E-book

2.1 Brainstorming and the Idea

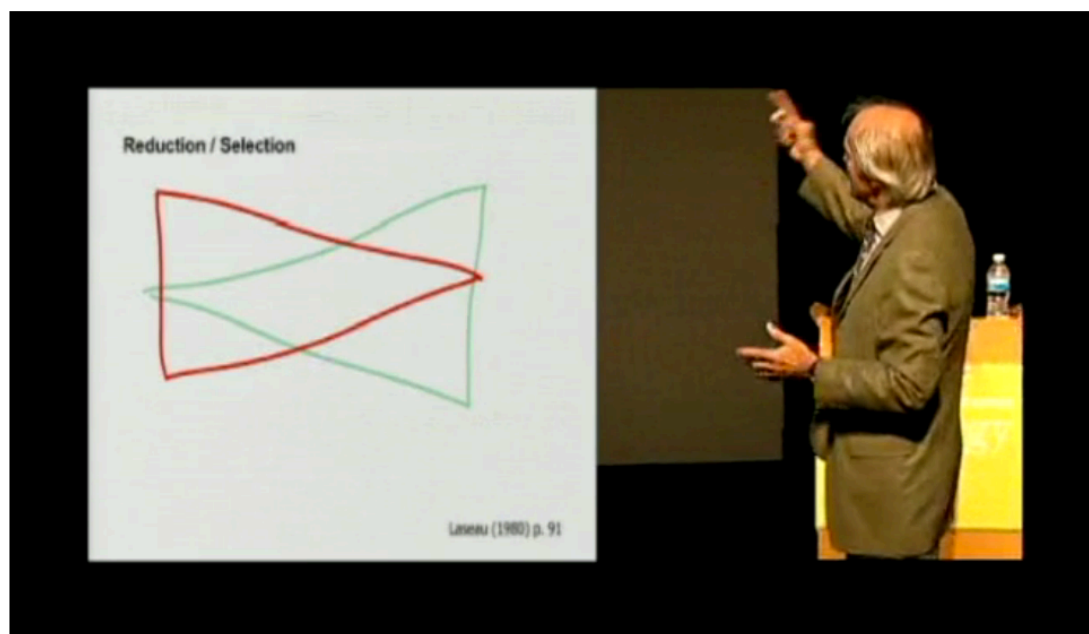
Bill Buxton, who is a well-known designer and researcher, presented in the Institute of Design Strategy Conference in May 2008, that “the exploration of alternatives is important for the designer. Part of the problem solving is to come up with multiple solutions” (Buxton 2008).

I am trying to follow this advice in my study, as the core of the process is exploration. According to Buxton, “the definition of design is ‘choice’ and the designer should have “millions” of ideas in the beginning and then after exploration, he/she should eliminate the unnecessary ideas and improve the best ideas” (Buxton 2008).

I compare this stage to the beginning of concept design, where one should have many ideas from the brainstorming. Bill Buxton talks about reduction or selection. The triangle that is presented in red in the picture presents the design process. Therefore, the concept design process should start with the brainstorming, where multiple ideas are being explored.



Picture 4. Exploring of Alternatives (Buxton 2008)



Picture 5. Reduction / Selection (Buxton 2008)

I had done brainstorming by myself for several months before I started my project. My idea was to design an interactive extended e-book app for the *Lumina* story. I had a blurred visual image and a thin idea in my mind about what the experience e-book

should be like. Key elements that I wanted to include in my idea were the use of the interactive digital storytelling, multiple narrative levels / storylines and the multimedia elements, such as text, videos, music, pictures, animations, 3D, emails, text messages, letters phone calls, augmented reality (AR), maps, blogs etc. I knew that the experience e-book should include these elements in one form or another and I knew that the experience would achieve the result through multimedia, but I did not know how those would be arranged or fitted to the content and what should the proportions between different mediums be. Further, I did not know what kind the user interface should be or what other possibilities this new format would offer.

2.2 Concept Analysis

To analyse my fresh idea, I used Edward Bono's Six Thinking Hats method. Six Thinking Hats is an important and powerful technique, which helps according to Mind tools website "To look at decisions from a number of important perspectives, which force to move outside of habitual thinking style, and helps to get a more rounded view of a situation" (Mind tools 2013).

In order to explain this method, I will cut it down into the different colour hats according to The de Bono Group, LLC (2013). The Yellow Hat has been said to symbolize brightness and optimism. Under this hat I explore the positives and probe for value and benefit. The Black Hat reflects judgment, in other words why something may not work. One should spot the difficulties and dangers. It should be analyzed where things might go wrong. The Red Hat signifies feelings, hunches and intuition. When using this hat one can express emotions and feelings and share for example fears, likes, dislikes, loves, and hates. The White Hat means information known or needed, basically the facts. The Green Hat concentrates on creativity, the possible possibilities, alternatives and the new ideas. The Green Hat provides an opportunity to express new concepts and new perceptions. The method's last hat is The Blue Hat, which is used to manage the thinking process. "It's the control mechanism that ensures the Six Thinking Hats guidelines are observed" (The de Bono Group 2013). The process of six thinking hats was conducted first in single hats in this order: Yellow hat (possibilities), Black hat (critics), Red hat (feelings), White hat (knowledge), Green hat (new ideas) and Blue hat (the overall picture). I conducted also evaluation sequences of Red and White hats and other sequences of White and Blue hats in the end of the analysis.

Yellow hat



- There are already some of this kind of e-books available. According to their success there is demand in the market.
- This is innovative concept, there is technology available, further designing advisable.
- New way to tell a story, multimedia options, variety, applies to all storytelling!
- Richer entertainment experience
- There is always need for new ways to entertain people.
- Cheap delivery channels (AppStore, Amazon, GooglePlay)

Picture 6. Yellow Hat

Black hat



- Why people would choose this format if they already have movies and traditional books?
- Difficult to produce. It is not just a writer, it needs as well music, animations, videos etc.
- What is the price range? It is expensive to produce but app prices should be low. Is there enough volume in the market?
- Are the stories attractive enough? The interface and the visual aspects needs careful study.
- How to market new format that is not yet established in the market?
- User interface should be outstanding = too expensive.

Picture 7. Black Hat

Red hat



- My intuition has led me to this idea little by little, pieces of the puzzle has started to gather for the clear vision.
- The thinking road has last over 1 year. This idea has been developing at the same time as the first story.
- I feel so passionate about this! It is like my child that I wait to be born to this world.
- I have the feeling that this is my thing and my road has led me here.
- This is hot stuff in the market!

Picture 8. Red Hat

White hat



- Few similar apps has been done successfully, benchmarking opportunity.
- How growing trend are e-books?
- Own research has to be done. There are no official researches that applies exactly to this, although similar cases (e-books studies, ids)
- User experience information is needed!
- Getting the info? Researching what has been done: market research & benchmarking, making own user experience study, etc.

Picture 9. White Hat

Green hat



- Ways to work this out is first to make a demo and then a final product, which can be tested once more before launching.
- This requires courage to try and test a new idea. Continues testing and research & development.
- Maybe define the differences between the target groups: children and young adult and adults. Make the fine-tuning according to their needs.
- Define purposes! etc. intuitive and visual user interface.

Picture 10. Green Hat


Blue hat



- I have collected some information, e.g. e-books formats and publicist.
- Next: Precise plan has to be conducted for the concept design.
- Doing daily basis: writing the thesis (describes the journey of the project process) and make notes at the same time as collecting the information.
- Start brainstorming the content, a fantasy story that can be adapted to this format.

Picture 11. Blue Hat


Other sequences



- Red: There is a growing market for e-books.
- White: Extended e-books would definitely differentiate from the ordinary e-books.
- Red: The thinking road has last over 1 year. This idea has been developing at the same time as the first story.
- White: Own research has to be done. There are no official researches that applies exactly to this, although similar cases (e-books studies, interactive digital storytelling).

Picture 12. Other Sequences: Red and White Hat

Other sequences



- White: Few similar apps has been done successfully, benchmarking opportunity.
- Blue: Next: A precise plan has to be conducted for the concept design: benchmarking and market research.
- White: User experience information is needed!
- Blue: User experience study will be done.

Picture 13. Other Sequences: White and Blue Hat

2.3 Market Research and Benchmarking

I wanted to study the current market of the interactive e-books and benchmark possible international competitors. Therefore I searched from the Apple App Store and the Internet for products, which resembled my idea of experience e-book. I used key words such as enhanced e-books, enriched e-books, interactive e-books and e-book experience. This was called the market research. I took the market research one step deeper and I used the benchmarking which is according to Business dictionary: “the measurement of the quality of an organization’s policies, products, programs, strategies, etc., and their comparison with standard measurements, or similar measurements of its peers” (Business dictionary 2013). In other words, I compared my idea into the idea of the similar products that has been made for this market. The objective of the benchmarking was to determine what and where improvements are needed and to analyze how other producers had achieve their high accomplishments, and to use this information to improve *Lumina*’s performance.

As there are currently only few e-books, which include multimedia on the market, the analysis was quite easy to do. However, there were some restrictions, which I had to take into consideration. One of them was that all the internationally made enhanced e-books were not available in Finnish App Store. One tendency was also that there is no established name for these kinds of books. The most common names are enhanced e-books (EEB), enriched e-books, digi-novels or e-book experiences. I was able to find only a few products, which fitted my concept idea. However, I had to neglect a couple of good candidates, for example, Cathy’s Book, because it could not be downloaded from the Finnish e-stores yet.

The aim for this phase of the study was accomplish and I familiarized myself with the current situation of the e-books. Fortunately, I had done preliminary research over the past year, when I made the market analysis of the children’s interactive e-books for my other app development project and this helped me a lot. Therefore I had quite good knowledge of the overall e-books markets. I also talked with some of the Finnish publishers and participated in a TIEKE seminar, which discussed the situation of e-books. Sadly, many publishers wanted to wait until the standards will be created for the future e-books. As the copyright questions remain unknown for the future, I got the impression that everyone is just holding still to wait someone to make a successful entry into the interactive e-books market. Pioneer and a guru in this field of expertise is a man

called Sean Stewart. He has created Cathy's Book, which is a novel for young adults with an alternative reality game. This experience has been designed especially for the touch screen devices. In my opinion, it is a good example, because it has also the paper version, which has been a success as well. In my opinion, the reason for this success is that it meets the target group's needs and interests. In my market research, I found a couple of entertainment studios, which has specialized in interactive experiences. Also some foreign publishing houses, e.g. Penguin Books and HarperCollins, had adapted these enhanced e-book formats to their product lines.

I also found a good article; Redefining the e-book experience by Parag and Ayesha Khanna (2011). They had written an article about a company, which was established by two former Apple employees. The company is called Pop Push Press. This start-up aims to provide a new digital publishing platform that is redefining the way we publish and experience books. As I saw the video of Pop Push Press presented in Vimeo, I was glad. They had invented a very nice way to show the videos and images, which could be pulled out of the text. However, this platform did not support the interactive narrative model, which is definitely a shortcoming. After searching from App Store and from the Internet all the available material concerning this topic and after I had done the benchmarking, I ended up using these three most suitable interactive e-books that could be tested in the user experience study.

Dark Prophecy
By Dare to Pass, Inc.
Open iTunes to buy and download apps.

Description
** #5 in Top Paid Books**
** #3 in Top Grossing Books **
** Named "New & Notable" by iTunes **

Dark Prophecy Support ...More

What's New in Version 1.2
This release fixes some outstanding bugs, including the notorious "lost text" bug that occurred when starting reading in landscape orientation. ...More

Category: Books
Updated: May 11, 2011
Version: 1.2
Size: 1.03 GB
Language: English
Seller: Crickets & Credits, LLC
© 2011 Dare to Pass, Inc.
Rated 12+ for the following:
Infrequent/Mild Mature/Suggestive Themes
Infrequent/Mild Profanity or Crude Humor
Infrequent/Mild Horror/Fear Themes
Infrequent/Mild Simulated Gambling
Infrequent/Mild Realistic Violence
Infrequent/Mild Alcohol, Tobacco, or Drug Use or References

iPad Screenshots


Anthony E. Zuiker
with Duane Swartz
DARK PROPHECY
A LEVEL 26 THRILLER
FEATURING STEVE DARK
BEGIN READING

DARK PROPHECY: A LEVEL 26 THRILLER
THE HANGED MAN

Picture 14.

Screen Capture of the First Interactive Test E-book: Dark Prophecy (iTunes 2013)

Dracula: The Official Stoker Family Edition [View More By This Developer](#)
 By PadWorx Digital Media Inc.
 Open iTunes to buy and download apps.



Description
 * #1 IPAD APP OF THE WEEK
 * WINNER - PUBLISHING INNOVATION AWARD 2010
 * WINNER - BEST BOOK APP FOR TEENS & TWEENS by COMMON SENSE MEDIA

[Dracula: The Official Stoker Family Edition Support](#) [...More](#)


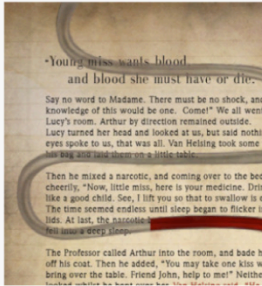
What's New in Version 1.2
 - Updated for iOS 6
 - Minor bug fixes

[View In iTunes](#)

\$1.99
 Category: Books
 Updated: Oct 18, 2011
 Version: 1.2
 Size: 576 MB
 Language: English
 Seller: PadWorx Digital Media Inc.
 © 2010-2011 PadWorx Digital Media Inc.
Rated 12+ for the following:
 Infrequent/Mild Realistic Violence
 Frequent/Intense Horror/Fear Themes
 Infrequent/Mild Mature/Suggestive Themes
 Frequent/Intense Cartoon or Fantasy Violence


Requirements: Compatible with iPad. Requires iOS 4.3 or later.

iPad Screenshots

Picture 15. Screen Capture of the Second Interactive Test E-book: Dracula (iTunes 2013)

The War of the Worlds for iPad [View More By This Developer](#)
 By Smashing Ideas Inc.
 Open iTunes to buy and download apps.



Description
 * "If you need proof of the iPad's unmatched acumen as an e-book reader, look no further than Smashing Ideas' smashing version of the H.G. Wells classic, The War of the Worlds." - CNET *
 * FEATURED in "New and Noteworthy" by Apple! *

[The War of the Worlds for iPad Support](#) [...More](#)

What's New in Version 1.2
 - Fixes for iPad2

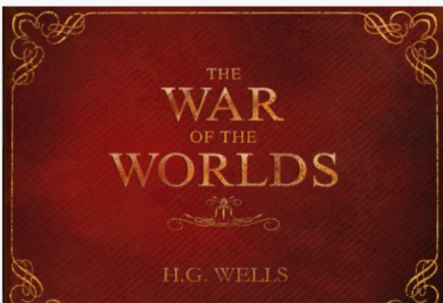

[View In iTunes](#)

\$3.99
 Category: Books
 Updated: Oct 21, 2011
 Version: 1.2
 Size: 385 MB
 Language: English
 Seller: Smashing Ideas, Inc.
 © 2010 Smashing Ideas Inc.
Rated 12+ for the following:
 Infrequent/Mild Cartoon or Fantasy Violence
 Infrequent/Mild Alcohol, Tobacco, or Drug Use or References

Requirements: Compatible with iPad. Requires iOS 3.2 or later.

Customer Ratings
 We have not received enough ratings to display an average for

iPad Screenshots

Picture 16. Screen Capture of the Third Interactive Test E-book: WTW (iTunes 2013)

2.4 Literature Review

The idea of the literature review was to gain in-depth knowledge of areas concerning storytelling, designing and producing an experience e-book and use this information when developing the experience e-book.

2.4.1 Multimedia and Multilayered Digital Storytelling

I searched information concerning the multimedia and multilayered digital storytelling and I found couple of good sources, which gave me knowledge about these areas. The Knight Digital Media Center is specialised in multimedia and therefore they offered theory and basic principal in the areas of multimedia as the following referring implies.

A multimedia story can be a combination of text, still photographs, video clips, audio, graphics and interactivity presented on a website in a nonlinear format in which the information in each medium is complementary, not redundant. (KDMC 2013.)

It has also been said that, no all stories make good multimedia stories and the best multimedia stories should be multi-dimensional. The Knight Digital Media Center informs in their website that “the multimedia storytelling can be also used in the future journalism, as well as in fiction” (KDMC 2013). This is very exiting news, as I want to use the multimedia storytelling especially in fiction.

Another vital source for me was Joe Lambert’s book *Digital Storytelling Cookbook*, which presented deep insight for digital storytelling. As *Lumina* would contain multiple visual and audio layers, it is important to clarify what these are precisely. Joe Lambert, in *Digital Storytelling Cookbook*, page 22, presents the content like this.

The visual layers are:

- The composition of a single image
- The combination of multiple images within a single frame, either through collage or fading over time
- The juxtaposition of a series of images over time
- Movement applied to a single image, either by panning or zooming or the juxtaposition of a series of cropped details from the whole image
- The use of text on screen in relation to visuals, spoken narration, or sound

The audio layers are:

- Recorded voice-over

– Recorded voice-over in relation to sound, either music or ambient sound –
Music alone or in contrast to another piece of music. (Lambert 2010, 22.)

I will use this information of the digital stories and multimedia when choosing the media elements that the experience e-book could include. In the beginning of the designing process it is important to go through all the possibilities and then choose the right media elements and their use on *Lumina*.

2.4.2 New Media Production

As this is new media production, there will be problems for producers comparing to the traditional production. How do you design an interface that offers navigational choice but at the same time delivers a coherent experience?

Lister et al. refers in their book of New Media, that producers of interactive texts has learned little by little to collaborate with their audiences and in a successful cases the audience will turn into users of new media products. Therefore the producers would need, in Woolgar's (Woolgar 1991) terms, "to "configure" the user, to have some idea of the kinds of behaviours that they want their environment to afford, whilst simultaneously understanding that they can neither wholly predict nor control what users will do within it" (Lister et al. 2009, 25).

Rich forms of interaction have a number of consequences for producers, such as re-defining the producer not as an author but as "experience designer", as I called myself in the beginning of this study. One key issue between just the author and the experience designer is that the author concentrates only to produce the text while the experience designer create open media spaces where the users have the possibility to find their own pathways.

2.4.3 Narrative models

When designing and creating the content, it is important to put emphasis on the narrative guidelines in the beginning as well. The traditional storytelling means cannot be always adapted to this kind of projects and specific interactive narrative models have to be explored.

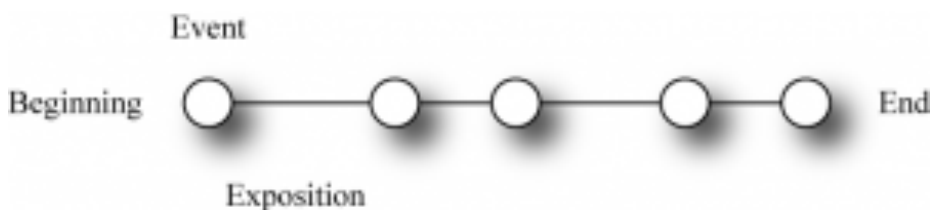
Carlton Reeve has written a blog about learning and games. He shares game designer

Chris Bateman's theory of six categories of game narrative, which almost identifiably describes the main ways one can interact with all content. The six categories of game narratives are:

1. Traditional Linear
2. Branching Narrative
3. Parallel Paths
4. Non-linear Narrative
5. Dynamic Narrative
6. Implied Narrative. (Play with learning 2013.)

I will present the traditional linear narrative, parallel paths as well the non-linear narrative, because I see those as the most suitable narrative lines for the experience e-book of *Lumina*.

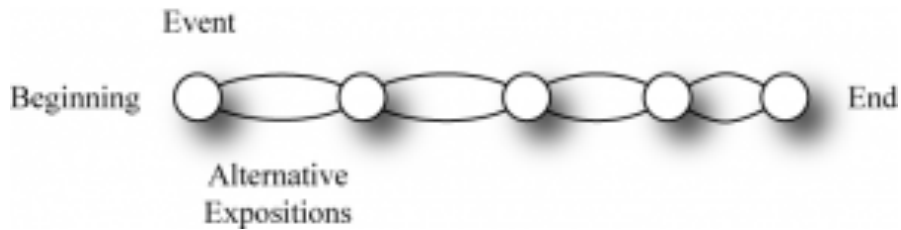
The blog defines the first, traditional linear narrative as the following. "Traditional Linear narrative is the most common and understood form of narrative where all users travel the same path and come to the same ending" (Play with learning 2013).



Picture 17. Linear Narrative (Play with learning 2013)

Parallel paths have two distinct paths and 'junctions' where the tracks combine. According to Bateman, "the user has a high sense of control even if his experience shares much with that of other users" (Play with learning 2013), when story has parallel paths.

However, when talking about parallel paths, they overcome some of the production challenges of a strict branching narrative by reducing the total number of tracks down to just two. This limits the options even further than the constrained branching narrative model but still allows a level of user choice. The picture on the next page gives a good hint how the parallel narrative path behaves.



Picture 18. Parallel Paths (Play with learning 2013)

An alternative for *Lumina* is to use the different routes between common events offered by parallel paths, non-linear narratives offer the user the chance to control the order of the stages between the beginning and the end of the experience.

All the content is predefined but the user can sequence the material in a manner of their choosing, rather like connecting assorted lengths of pipe. Although every viewer receives the same introduction to the narrative and, in most cases, the same ultimately successful conclusion, they choose their own route through the elements.

Moreover Bateman gives a deeper insight of the non-linear narrative. “Each story segment has to be self-contained without any dependency on prior experiences because of the inability to know where the user is coming from but collectively the elements work like a jigsaw puzzle to present the full picture” (Play with learning 2013).



Picture 19. Non-linear Narrative (Play with learning 2013)

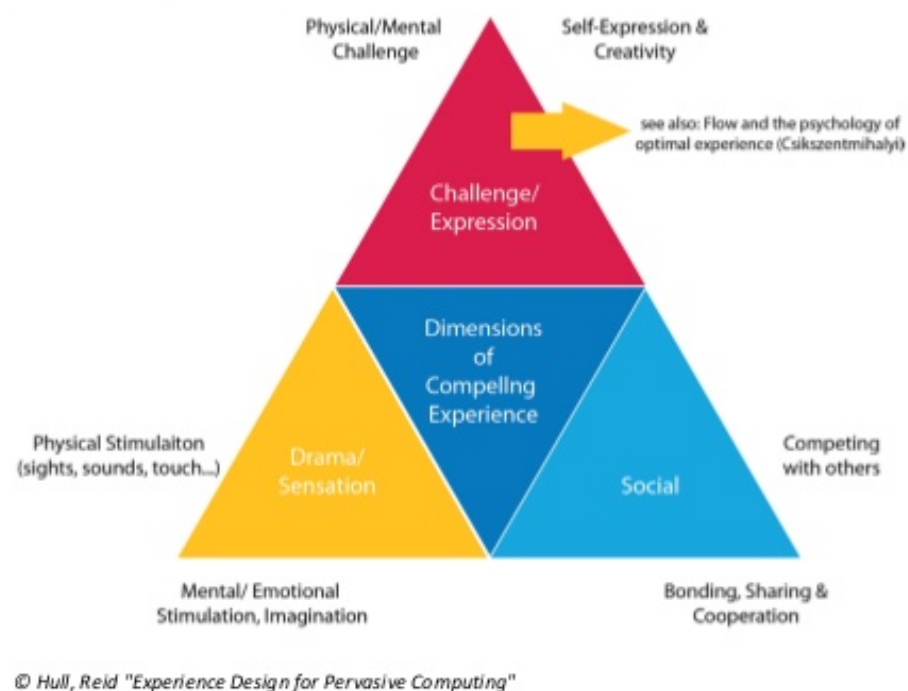
2.5. User Experience Design

When I started my research, I had in mind couple of variables that I wanted to embrace. The first one was the experience. As I would design an overall experience, the design should be done in the perspective of the user experience. The second important thing was to gain results that would emphasis on designing and intuitive user interface. After the basic functionalities would have been designed, the more precise visual design could be made and adapted to the content. This however does not include to my

current research and this can be done later on when finishing the product. The purpose is to have a basic concept design, which can be multiply and adapt to each new experience e-book project.

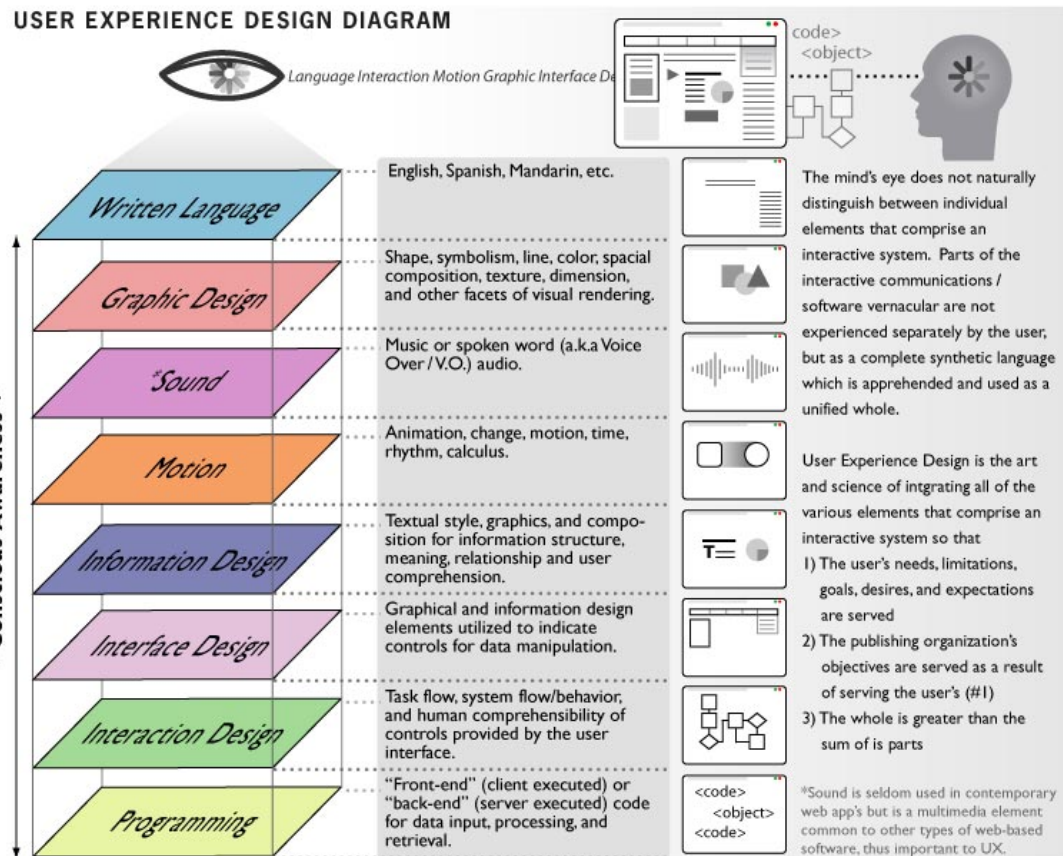
I want to achieve an experience-driven design. Therefore, I must first set UX goals for the concept design. In this case, it is to offer the most pleasant multimedia experience, which gives physical and mental / emotional stimulation. According to this, *Lumina* would be placed in these dimensions of compelling experience to the left corner, to Drama / Sensation Dimension.

Figure 5 Experience design



Picture 20. Experience Design: Dimensions of Compelling Experience (Hull & Reid 2002)

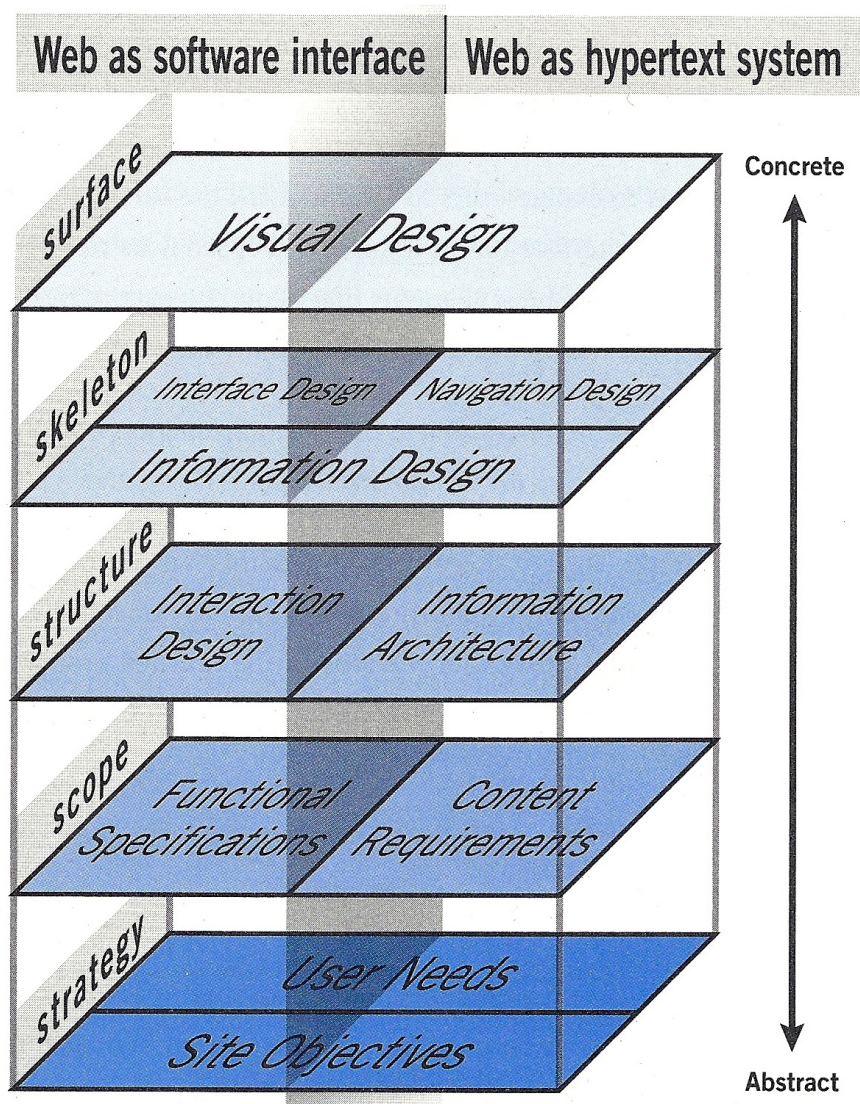
The usability of the product is also important. According to Garrett's theory the usability applies to content, functions and the visual design. More over Garrett writes that: "the practice of creating engaging, efficient user experience is called user-centered design" (Garrett 2003, 19). As I study this practise, it seems that the design should be very simple and the most important thing is to keep in mind the user.



Picture 21. User Experience Design Diagram (UX Design 2013)

The whole user experience would be good to break down into its component elements, and it should be looked at in several perspectives. After that, I could be sure, that I know all the ramifications of my decisions. I think this is important task for the product owner as well, if the product owner is different person than the user designer. In my case, I am the user designer as well as the product owner, so it is easy to keep up with the big picture in my head in addition to these small components from which this whole user experience has been created.

J.J. Garrett defines well in his book, *The Elements of user experience*, in page 19, the great idea behind the good user experience. He says: "it is crucial to provide a positive experience for the users. The experience should be coherent, intuitive and maybe even pleasurable – an experience in which everything works the way it should" (Garrett 2003). I agree on this statement and this is something that I will aim for this development project.



Picture 22. Web as Software / Web as Hypertext System (Garrett 2003, 33)

Garrett presents in the picture above the elements of the user experience. It has been designed for the web, but I decided to use his theory by modifying it into the applications for the touch screen devices.

The model explains how these elements create the entire user experience and Garrett has divided the model into two; there is the web as a software interface and web as hypertext system.

2.5.1 Strategy Plane

From the model, we can see that the same strategic concerns both, the software products and information spaces. User needs are the goals for the user design. These

needs are collected outside, from the people. In this case, I will get the information of the user needs through the user experience study.

Site objects could be changed in this case into an application objects due to different terminology. These mean my own objectives as a product owner for the product to be developed. These can be also business goals, but in my case I have also more holistic approach to this questions, which I have explained in the introduction. In order to understand what my users need, I need to know first who they are. In this case when the target group for the case study content is fantasy for the young adults, I know that my primary user group is the same in product users as well. The secondary user group is adults, because only they have access to App Store. In order to understand better the user needs, I conducted the scenarios in the chapter 3.1.

I have used market research methods to gain the information of the usability and the general information about the users. I wanted to know, what the similar products are like in the market. When I founded these products, I used them as a boundary objects for my user experience study. The main idea behind the usability is to seek, what makes the products easier to use. This is something that I will concentrate on my user experience study.

2.5.2 Scope Plane

iOS is the software, which I am probably using first. The strategy is translated into scope through the making of functional specifications, a detailed description of the “feature set” of the product. “On the information space side, scope takes the form of content requirements: a description of the various content elements that will be required” (Garrett 2003, 32). The functional specification should be made clear so that the programmer understands what the goals are and the updating of the specification should be kept in schedule. There are also content requirements related to text, images, audio and video and these should work well together to accomplish a single experience requirement.

Garrett advises in his book also that each of the content features can have a great influence on the user experience decisions that the designer has to make. He also advises, that “the content requirements should provide rough estimates of the size of each feature” (Garrett 2003, 32). These are important facts that I definitely have to think through carefully when writing the content of *Lumina*. This also supports my plans

to make the designing process and writing the story at the parallel time.

2.5.3 Structure Plane

“The scope is given structure on the software side through interaction design, in which we define how the system behaves in response to the user. For the information spaces, the structure is the information architecture: the arrangement of content elements within the information space” (Garrett 2003), Garrett writes on the page 32, where he talks about structure plane. This underlines the fact how important it is to see the big picture and visualize the final coherent product of the *Lumina*.

For the producing phase it means that the most of the interaction design will be done at the same time and after the story has being created and written. This allows agile development, which is a true asset in creative work. However, some of the basic interaction designs can be and should be done before hand writing the story. For example, the narrative model choice will affect on interaction design. If I decide to use non-linear narrative, that affects in great extent to this project.

2.5.4 Skeleton Plane

Due to Garrett, “The skeleton plane breaks down three components. On both sides, we must address information design: the presentation of information in a way that facilitates understanding. For software products, the skeleton also includes interface design” (Garrett 2003, 32). The interface for information means the navigation design.

On the basis of my user experience study, I will be able to contribute to the skeleton plane. The objective is to gain suggestions for interface design as well as navigation design.

2.5.5 Surface Plane

I thought it is good to bring the last plane of Garrett as a part of this theory content even though I will not discuss the surface plane and visual design aspect in this thesis, because it will be done in development phase number two after the thesis.

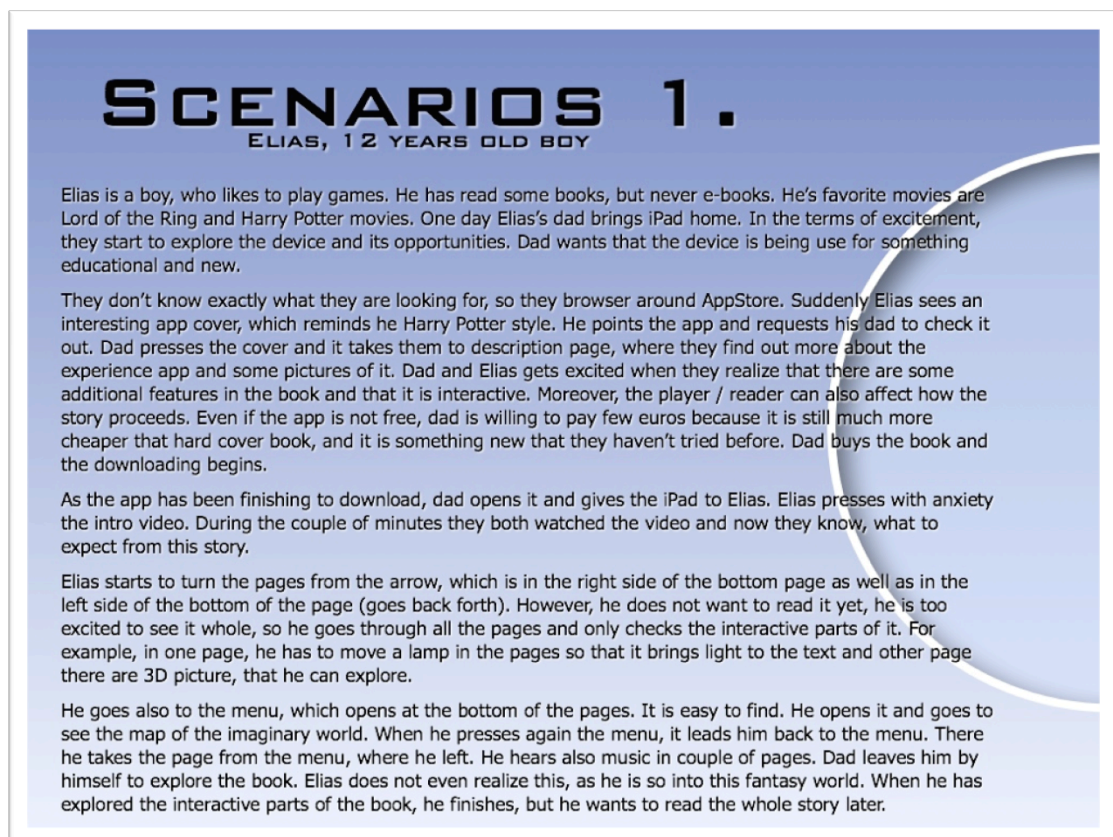
Basically at the top of the mode is the visual design, which implies to both sides. Simply, it is the look of the finished product. “The content, functionality and aesthetics come together to produce a finished design that fulfils all the goals of the other four planes” (Garrett 2003, 140), Garrett says.

3 User Experience Study

3.1 Scenarios

Scenarios are stories, John M. Carroll has said. Scenarios can have different formats. I used text as my format, as I am keen on writing. Other possible presentation formats of scenarios could have been for example videos or storyboards. I made three scenarios: Elias, a 12-years-old-boy, Satu, a 32-years-old-woman and Paul, a 42-years-old-man, were the actors of my scenarios.

Scenarios can also include context, objectives, actions, events and objects. Scenarios are concrete tool to evaluate and test a concept. I wanted to gain deeper understanding of the target audience and their expectations. User experience is the key world for this. To accomplish that goal, I needed to make the concept scenarios and evaluate them. This method allowed me to understand, what the target group wants and what are the possible obstacles. In other words, I identified the concept to meet the expectations of the target audience.



Picture 23. Scenarios 1. Elias, a 12-years-old-boy

SCENARIOS 2.

SATU, 32 YEARS OLD WOMAN

Satu sees advertisement of new kind of e-book app in Facebook add. She gets interested because she belongs to the target group.

Her husband Pauli has bought some time ago iPad. Satu takes it and she goes to AppStore and downloads the extended e-book. It takes a time, when she learns how to use iTunes, because this is the first time she uses it. However, she gets the e-book app downloaded and opens it.

Carefully she touches the screen and little by little she learns the logic of an interactive e-book. There is much more than text in the book. Satu is a bit skeptical, because she just want to experience the interesting story. However, by the time she has done some of the interactive parts of the e-book, she learns to expect something to happen if she touches the screen or get some visual or auditorial stimulus.

Suddenly, she is interrupted; her husband walks to the room. Her husband asks Satu to make some dinner, so Satu has to stop the e-book experience. She closes the iPad and goes to kitchen. One hour later she comes back and opens the iPad again. She opens the e-book and it takes her to that page where she was. Satu finishes the five more chapters in the living room coach and goes to bed.

Picture 24. Scenarios 2. Satu, a 32-years-old-woman

SCENARIOS 3.

PAUL, 45 YEARS OLD MAN

Next day. Paul is technology freak and he always gets the latest devices. As he is home alone, he is using his iPad for Facebook. He also goes to AppStore to check if there is something interesting.

He notices that Satu has bought new application. Even if the cover of the e-book app doesn't inspire him, he wants to know what on earth her wife is reading and especially from an e-book! He takes moment to wonder how his wife has succeeded to download an item to the iPad.

Then he thinks: great job and opens the experience e-book. He gets a bit confused, when the intro video of the story starts to run on the screen. Wait a minute, this was supposed to be an e-book, what is this? Still he continues to watch the video and as it is finished, he realizes that this is more than a book. Wow, he gets more excited. However, he is a bit unfamiliar because the book does not look an ordinary e-book that he is used of, but as he is eager to learn new things, he starts to poke all the items of the book and goes it through anxiously. He does not read the text but he goes tries some of the interactive parts.

He hears that Satu is coming back home from jogging and shuts the iPad and puts the TV on.

Picture 25. Scenarios 3. Paul, a 45-years-old-man

3.2 Methods

I conducted the user experience study during December - February 2012. I needed seven persons to test the interactive e-books. I identified the target group, their needs and qualities.

As my case study story *Lumina* is addressed to young adults, I decided to choose this target group. There are many benefits to start from this target group. This target group can be described as a Y generation people. As my primary target group, they are used to use new technology, Internet and touch screen mobiles. It is easy to offer this kind of product to this target group, because my study of the elements and the structure of using and mixing different mediums and medias are already established among this group.

Although, the young adults are my primary target group, I realized that as they are under 18-years-old, they cannot have credit card and without credit card, one cannot register to App Store. Therefore, it is extremely important that I chose the secondary target group, who would have possibility to have the credit card and the access to App Store.

The final test group consisted of these people:

Primary target group (in pairs):

- Two boys aged 13 and 14
- Two girls aged 14 and 15

Secondary target group (individually):

- A 21-years-old-woman
- A 36-years-old- woman
- A 50-years-old-man

I chose three enhanced e-books for my study. These products can be seen as a boundary objects. The idea of the user test was to show them to my user test group. The chosen books on the basis of market research and benchmarking were the following:

1. Dark Prophecy / Dare to Pass Inc.
2. Dracula: The Official Stoker Family Edition / PadWorx Digital Media Inc.
3. The War of the Worlds for iPad / Smashing Ideas Inc.

When the test group and the e-books were chosen for my user experience research and I decided a suitable time and place for the research. I also made a questionnaire e-book with iBooks author. For the interview situation, I had two iPads, one for testing the e-books and filling the questionnaire and another one for recording the situation. I also had my laptop, so I was able to write down my observations.

The methods that I used for this research were both qualitative and quantitative methods. I did a literature review from the area of digital storytelling, transmedia, multimedia and narrative models. I started the research by examining and collecting the information available from the previous studies, Internet and scientific articles. I conducted a market analysis of the comparable interactive e-books in the markets. I thought the benchmarking was vital to do, in order to think the future commercial possibilities of the product.

The language of the user test was Finnish, due to the young age group and their insufficient language skills. I translated the Finnish results to English.

3.2.1 Interviews

After collecting the data, I had good background information to start to build the next steps. The qualitative part of the study was the interviews. I recruited people from the possible target group to my research group. I aimed that there would be enough variety in the group, for example women and men, in a different age groups, people who read a lot traditional books / haven't ever read e-books, and technology savvy people who are used to read e-books. I presented the chosen e-books for the test users.

I decided to use semi-structured interviews. I tried to engage interviewees in a focused but otherwise natural conversation. I had selected possible themes before hand, which created a rough outline for the interviews.

I used the guideline of Psychology of Usability by Sinkkonen et al., 2009, 226, in my semi-structured interviews. I used the following subjects and I also presented additional questions related to these themes.

1. Substance of the product: meaning of the product for the user, the content and functionality, the user value for the user.

2. Attractiveness of the product; visual layout, brand and value of showing for the user.

The law of the attraction includes several dimensions:

a) Visual layout and esthetics

b) Mental image and emotions

c) Fashion, trend or lifestyle

d) Novelty and familiarity

3. Usability of the product

a) Easy to use

b) Efficiency

c) Amiability (pleasures)

d) Easy to find

e) Accessibility

4. Credibility of the product

a) Visual design

b) Quality

c) Credibility and operational reliability

d) Image and street cred. (Sinkkonen et al. 2009, 226.)

“One has to take into consideration that the experience depends not only the product, but as well the user (personality, previous experiences and state of mind) and circumstances (time limits, physical and social space)” (Sinkkonen et al. 2009).

I aimed that the conversation would flow during the interview situation, because it could give richness to my results. Krippendorff implies, that if the designer seeks guidance for developing a new product, the most informative questions are the ones, which concerns the problems that people have with the particular artifacts. That is why I wanted to use these already existing products to gain the information such as what was wrong with these products and how the user would gain a better user experience.

3.2.2 Questionnaire

The quantitative part of my study was a short questionnaire of twelve questions. I asked the users to fill the questionnaire after every e-book test situation. Altogether the user filled this questionnaire three times. I made a questionnaire with iBooks author, which allowed me to use iPad to collect the information. The example questionnaire in Finnish can be found from the Appendix 1.

The questions were the following:

Question 1: This e-book was interesting

Question 2: This e-book was visually well done

Question 3: E-book was easy to use

Question 4: The proportions between text, images, videos and interactive parts were good

Question 5: The interactive parts were the best ones

Question 6: Needs more interactive, game style tasks

Question 7: The length of the videos were good

Question 8: I enjoyed the music, which had been integrated to the e-book

Question 9: This e-book was difficult to use

Question 10: I would rather read this novel as an interactive e-book than an ordinary paperback

Question 11: I would buy this e-book if it would cost less than 5 Euros

Question 12: I would buy this e-book if it would cost more than 5 Euros, yet less than 15 Euros

The answers will be chosen among these variables:

A = Totally agree

B = Almost agree

C = Don't know

D = Slightly disagree

E = Totally disagree

3.2.3 Observations

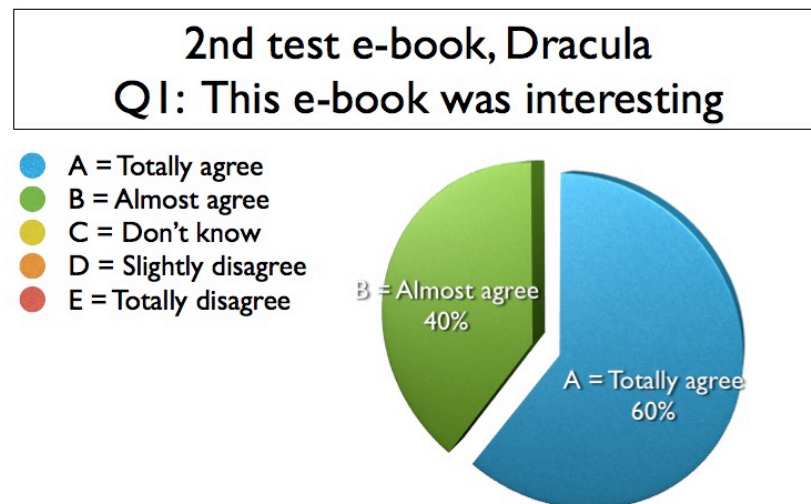
During the user study, I also observed the users, as I watched them to use the e-books. "As no single method can provide everything that designers may want to know about their stakeholders" (Krippendorff 2006, 227), I wanted to use triangulation of the methods presented. After I had executed all the user tests, I collected, transcribed and analysed the data. On the basis of the analysis, I wanted to gain a proposal for the possible user interface of my experience e-book.

4 Results of the User Experience Study

The results that I got from the user experience study were intriguing. Also the test group of users reacted to the test and the tested e-books with very excited attitude. I followed the characteristics features of the semi-structured interview, presented the questionnaires and observed the test. The following results have been conducted from the basis of the user experience study.

The users had experienced a certain situation, which was in this case testing the boundary objects, e-books. They all got three interactive e-books to test and comment. Secondly, as a researcher, I had study beforehand the most important parts of the phenomena, the structures, processes and the entity by doing the market research and study the collected data. The area worth of mentioning was also the psychology of usability, the research of Irmeli Sinkkonen, Hannu Kuoppala, Jarmo Parkkinen, Raino Vastamäki, 2009. This research had a great influence for my thesis, as I wanted to re-search people and their behaviour in a deeper level.

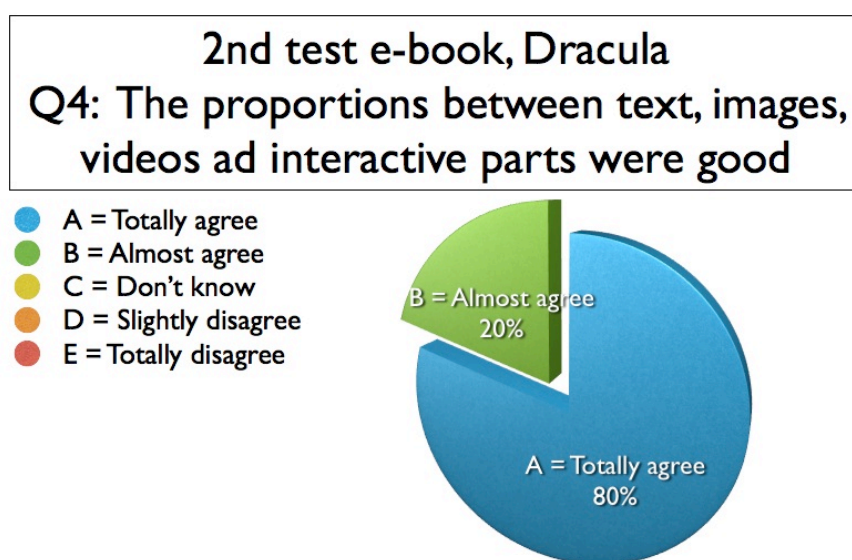
The first question of the questionnaire asked; did the user though the e-book was interesting. I asked this question after each e-book, so that the users got to decide immediately, how they liked the e-book.



Picture 26. 2nd Test E-book, Dracula. Results to the Question Number 1.

According to the questionnaire results, the 2nd test e-book, Dracula, was concerned to be the most interesting e-book of the tested e-books. I got the same results according to the interviews as well. The test group rated Dracula to be the best e-book of the study.

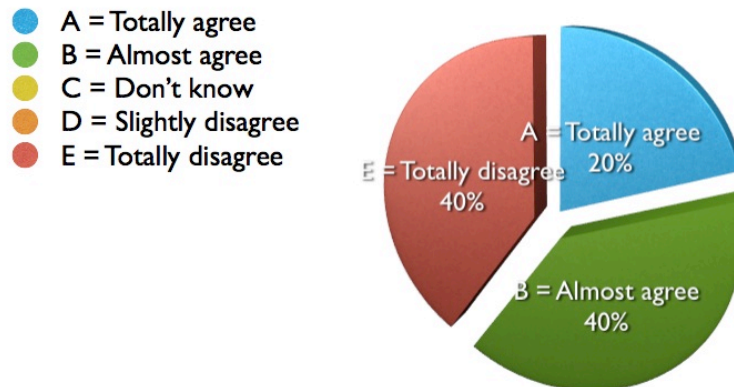
The main reason for this was the interactive parts and the proportions that they were offered in this e-book. I asked what the users thought about the amount of the interactive parts. According to the results, the most successful realization was the Dracula made by PadWorx Digital Media Inc. They had managed to accommodate well the interaction to the text, but everyone thought that it had the maximum amount of interactive parts. It was also remarkable that the Dracula was the only execution, where they had at least tried to found some meaning between the interaction and its results and the context. Dracula also had the best execution of the interactive parts, as they were adapted to the text and did not existed in separate section of the e-book.



Picture 27. 2nd Test E-book, Dracula. Results to the Question Number 4.

The interactive parts of the remaining two e-books were placed to separate sections. Smashing Ideas Inc. had constructed the content of the War of the Worlds so that the first page of every chapter contained interactive touch screen functions. All together the e-book had only four pages of interactive parts. The entire e-book included 378 pages of text. So the amount of the interactive parts or audio was restricted only to these four pages, which made the percent of interactive elements around 5.5%. Comparing to the Dracula, which had interaction almost in every pages, these two e-books were the opposites of the study.

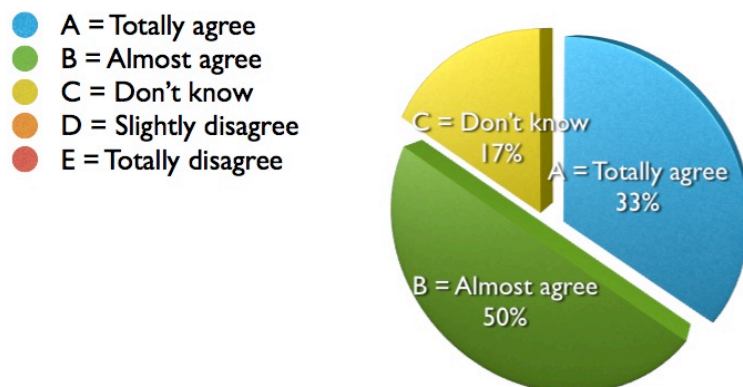
3rd test e-book, WOTW
Q5: The interactive parts were the best ones



Picture 28. 3rd Test E-book, WOTW. Results to the Question Number 5.

The user test group disagreed on the quality of the interactive parts of WOTW. However, there was some dispersion with the results. Option A, totally agree, was voted to win by the young adults boys (pair) and Option E, totally disagree, was voted to win by young adults girls (pair). I started to wonder, how much the subject of the e-book affected to this result. The theme of the book was war. It is a common fact that boys, especially young boys, are more interested in war issues than girls at the approximately same age. Therefore, the age and the gender aspects could explain this dispersion.

3rd test e-book, WOTW
Q6: Needs more interactive, game style tasks



Picture 29. 3rd Test E-book, WOTW. Results to the Question Number 6.

As the WOTW had the lowest amount of interactive parts, it was obvious that after tested Dracula, which was full of interactive elements, this e-book was perceived as it would lack interactive elements. Surprisingly, especially young adults girls and a 50-years-old-man wished more game style tasks for this e-book. It was obvious that the primary target group, young adults, liked the interactive elements overall the most and they really spent more time playing with them. If some element is moving in the screen, it should also respond to touching. This could be the rule number one for the touch screen device user interfaces laws. This intuitive command was not understood in every tested e-books. For example, when e-book Dracula had some moving images, which did not respond to the touching, the user got confused.

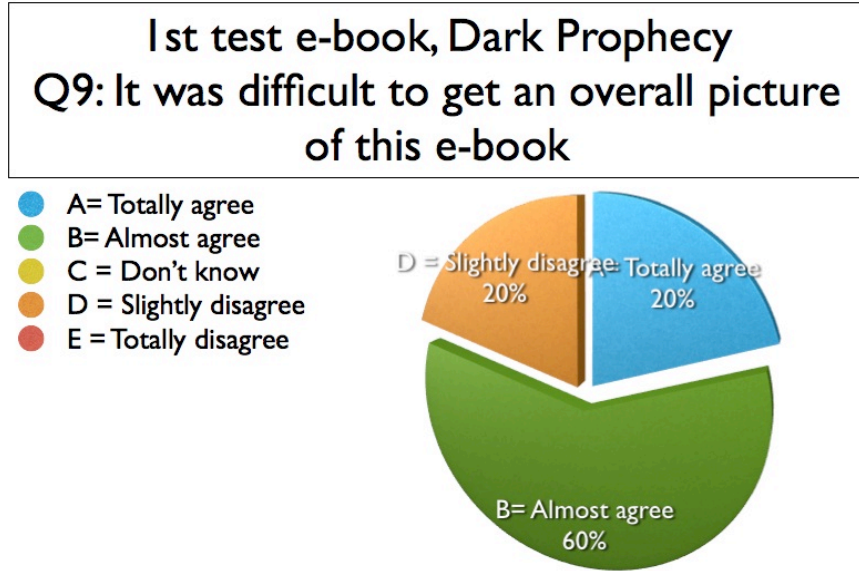
However, the interactive elements should offer a deeper meaning in story wise. The main question aroused with this many times. Especially the secondary target group users, who were older, questioned the importance and meaning of the interactive action. If the meaning did not appear to be clear, these elements were experienced as unnecessary. Therefore I want to make sure that the actions are related to the story or the continuation of the story. This can be analysed also from Jukka's, a 50-years-old-man's, answer. When he did not find the meaning for the interactive elements, he would have liked to skip them or at least would have liked to have the possibility to skip the elements.

“There always should be an exit option for the interactive parts, so that one could skip them if they want” – Jukka

The same information gives the UX Magazine.

The experience of interactive e-books should not be confined to animations based on the touch-and-response interaction, or merely flipping the page; when designing these Books one must ask what is the enhanced experience—why to move from print to digital, and how to create value and fun. (UX Magazine 2012.)

In numerous cases, the importance of perceiving the whole story also aroused. Users wanted to know in which page they were, if the e-book did not have any page numbers in the layout, or then there was the page number, but it did not have the overall number of the pages. I compare this to the traditional book or a movie. It is easy to check from the traditional book how many pages it has. Movie offers also that information, but with time attribute. It is important for human beings to perceive the entity.



Picture 30. 3rd Test E-book, WOTW. Results to the Question Number 6.

This fact was so important, that I suggest design the text layout so that the number of the page is clearly marked in the bottom of the sheet, as well as the numbers of the entity. Another possibility is to use timeline, which would indicate the point where the user is and placed it on the bottom of the screen. The final decision can be made when the content is ready for the *Lumina*.

The only e-book, which had this information presented in the reading page was the War of the Worlds (WOTW). For the question 9: Was it difficult to get an overall picture of the e-book (WOTW), the results were the following. 60% of the users disagreed and 40% of the users almost agreed.

For example, the Dracula had only page numbers in the bottom of the sheets, but if the user wanted to know the entire length of that experience, they needed to search from the menu. From menu one could find the table of contents and the chapters were divided into 27 different chapters and each one of the pages were visualized in thumbnail pictures. The overall number of pages was 285. The results for the question number 9 with these e-books turned out to be almost same as the WOTW e-book.

The Dark Prophecy did offer that information as well, but it was in the menu that the content (table of contents) were explained by divided it into six sections and 53 chapters. In the beginning of each section there were one interactive card and a video. This however aroused difficulty, as the menu was separated from the text and the action.

The menu and the usability of them aroused some deep emotions amongst the user

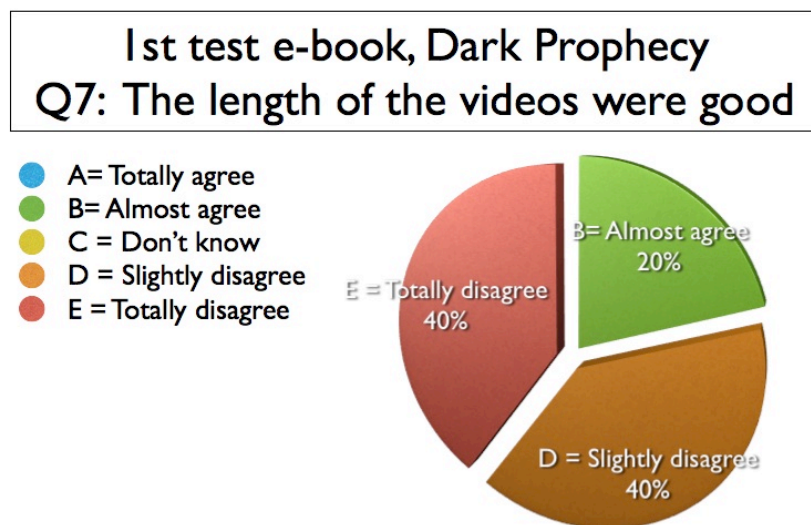
group as well. E-book menus were also referred to games.

“Menu refers to games”- Jukka

If the menu could not be found easily or it was difficult to use, the user’s motivation decrease immediately and the whole user experience was in jeopardy.

“WOTW e-book: Where the menu comes from, I founded it by accident. This menu is unclear and bad, the worse of all “ – Jukka

I also wanted to study the other elements, which separated these interactive e-books from e-books, which are only digital copy of book format. One important element was video. When talking about surfing in Internet, browsing, we know that the suggested length of the videos should be under three minutes in order to keep up the interest of the viewer. The results of the question number 7, which measured this issue, admitted the same fact.



Picture 31. 1st Test E-book, Dark Prophecy. Results to the Question Number 7.

The Dark Prophecy e-book included six videos. The length of the presented videos varied from three minutes until up to nine minutes. Needless to say, the users thought that these were too long to watch. Dark Prophecy’s originally format was TV-series. I guess the developers of this application just wanted to present all the available audio-visual material in this e-book, but it was a mistake as we can see from the results.

There was also a discussion about should the e-book reveal the characters visually, as the idea of reading is to imagine the characters. The opinions varied. For example Jukka did not liked that the characters were handed visually ready, but the younger generation did not see a problem with that. In fact, they thought it was a good thing.

“Dark Prophecy e-book: We liked the video. It is good that the faces are presented, we get the better grip of the characters”- Young adults, Boys

Jukka suggested that instead of giving the main characters’ faces, the point of view in videos and interactive parts could be done from the users point-of-view, like in many games. I think this is good idea, as it would also increase the gaming effect to overall experience.

“It would be great, if the user’s point-of-view could be added to the interactive or video parts” – Jukka

We discussed with Jukka also with the possibility of the storytelling aspects and the levels of the storytelling. I agreed with him that the videos and other elements should be aimed to act in other levels of the story, if possible.

“The video should act visually in other level of the story”- Jukka

The last important element, which was presented in these e-books were the sound effects and the music.

“Music right in the beginning. It is a strong element to arouse emotions” - Jukka

Question number 8 concerned this issue. Did the users enjoy the music, which was integrated to these e-books.

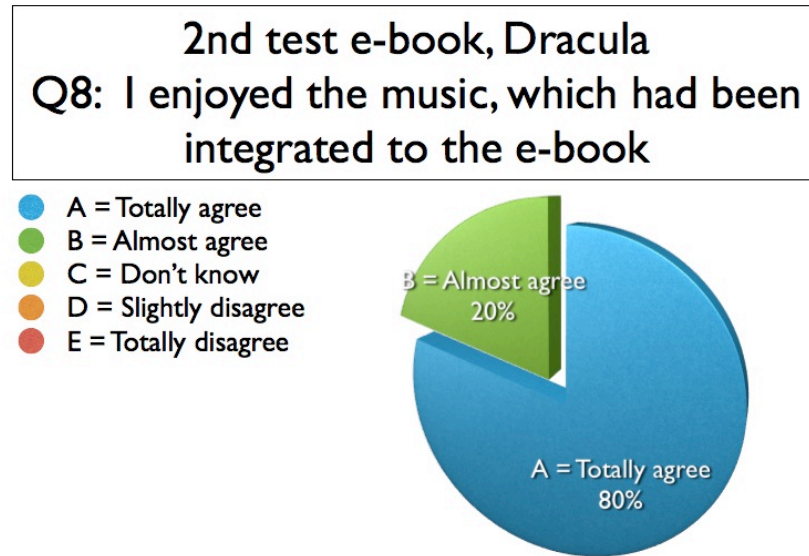
Both Dark Prophecy and Dracula had included sound effects during the reading experience, but the audio aids that the last e-book, WOTW had, were only those with the interactive elements.

“WOTW e-book: Text needs definitely audio aids” - Tiina (a 36-years-old-woman)

That could have affected to the results, as 40% of the respondents answered yes; 20% totally agreed and 20 % agreed, but 40% answered C: Don’t know and one person, 20% totally disagreed.

40% of the respondents enjoyed Dark Prophecy's music, but the greater percentage, 60% of the user group, thought that the audio solutions were not the best in this e-book.

The best results from this question got the test e-book 2, Dracula, as 80 % of the respondents totally agreed to this question and the rest of the 20% agreed.



Picture 32. 1st Test E-book, Dark Prophecy. Results to the Question Number 7.

5 Conclusion

As a conclusion, I provide draft guidelines for the use of storytellers, designers, producers and marketing professionals based on my research and development project. In my opinion, storytelling as well as product design, production and marketing need to walk hand in hand in order to achieve the most coherent result. I do not claim that the other parts or participants in this project are not important. Yet, this project involves the first phase of the development, the concept design part, which justifies this emphasis.

Due to the large amount of studying the area of e-books and other key issues, I had good contextual knowledge of the subject, which allowed me to understand its wider social and historical meaning. I studied the material with a future target in mind - to be able to develop and design a user-friendly and emotionally engaging experience for the user of the product. According to this context and situation analysis, I ended up with certain presumptions about the consequences of my project for the users. On the basis of the user experience study, I collected and composed suggestions for the experience e-book *Lumina* (Appendix 2). However, the visual designer's job is to create the graphical user interface (GUI) and the final touch. Therefore, the appendix should be treated only as a draft guideline in the terms of usability and utility.

As Apple does not have any comprehensive pre-built GUI resources for app development, it is very hard to match the uniformed style of the iPhone or the iPad. One will need to create its own. To help streamline *Lumina's* iPhone app design and development, Specky Boy has put together a fairly comprehensive collection of iPhone & iPad GUI kits that "will allow one to focus on developing rather than having to design everything from scratch" (Specky Boy 2013).

5.1 User Experience Design

Even though the idea for this e-book was to present a totally different and modern way to experience a story, the basic starting point for this project was our beloved book format, a story, which is in text format. However, the purpose is to maintain the enjoyment and complex imagination of reading but also to enrich the experience by adding other stimuli, such as visual, audio and interaction (doing). Combining these and enhancing them with the latest technology (augmented reality and 3D animations), it is possible to

accomplish a more truthful and stronger entertainment experience.

These are the Multiple Media Elements that I wanted to add to the *Lumina*'s storyline:

1. Text
2. Visual (still and moving images)
3. Audio (music & sound effects)
4. Interactive elements
5. Augmented reality

What interests me the most is the psychology of the user experience and the user design. I wanted to know why the user acts as they do and how my design could affect the overall experience on a deeper level of motivation; needs and emotions. Therefore, an important source for my study has been the Finnish book, *Käytettävyyden psykologia* (Psychology of Usability) by Sinkkonen, Kuoppala, Parkkinen and Vastamäki.

People acquire information from the surrounding world through senses, which can be defined as electromagnetic radiation, chemical or mechanical stimuli and brain interprets the sense messages. All the sense images are gathered by the brain, which allows us to form a coherent picture of an observation or an experience. The power of the stimuli can be described as the intensity and quality of the modality, senses. Our five spheres of senses are sight, hearing, touch, smell and taste. In addition to these, we have the sense of movement and balance. One sense, which has not been recognized yet, is intuition, which is also called the sixth sense.

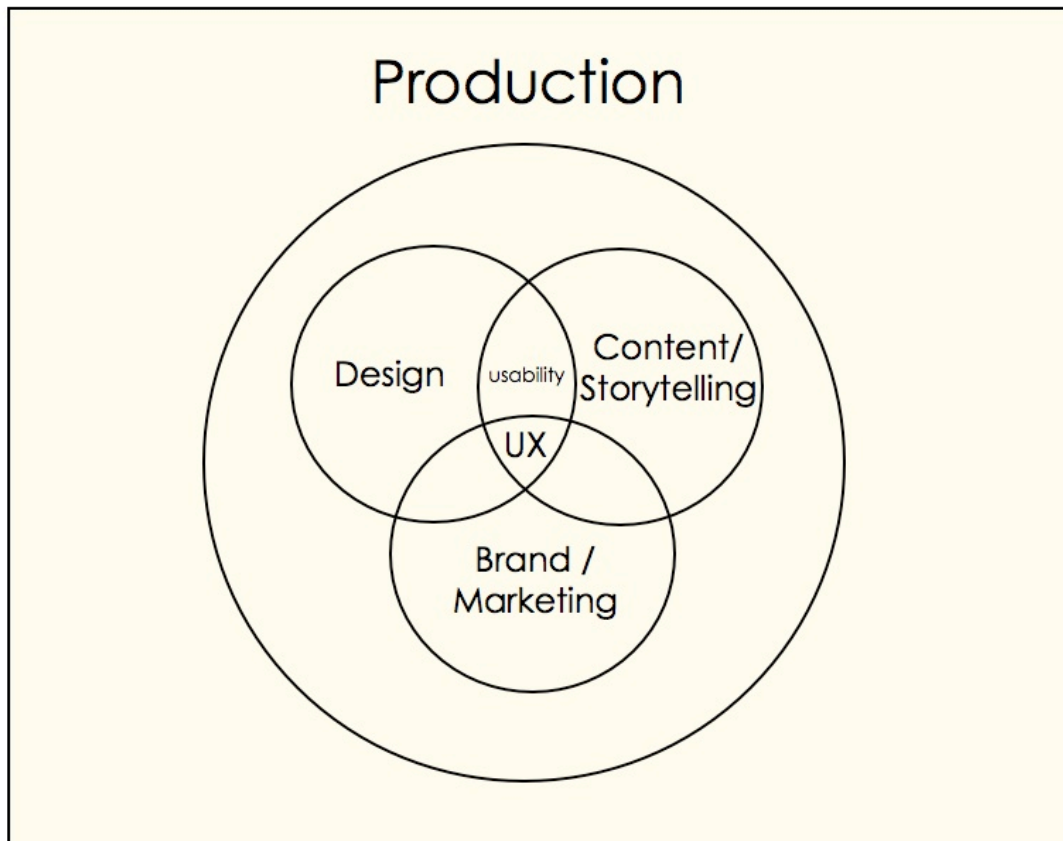
The reason why I wanted to bring our attention to the human senses is that we are talking about experience. This kind of product that I am designing is definitely based on the senses and the intensity with which they are brought to the user, is in fact an extremely important question.

I use movies as an example to compare the experience. When watching a movie, we get stimuli through sight and hearing. Movies include moving pictures and sound. The sound can be divided into sound effects and music.

What comes to this concept design, I want to use sense stimuli, which correspond to the sight and hearing as well as touch. Similar to music, the product includes moving pictures and sound (effects and music). In addition, the user's brain gets information

5.2 Production

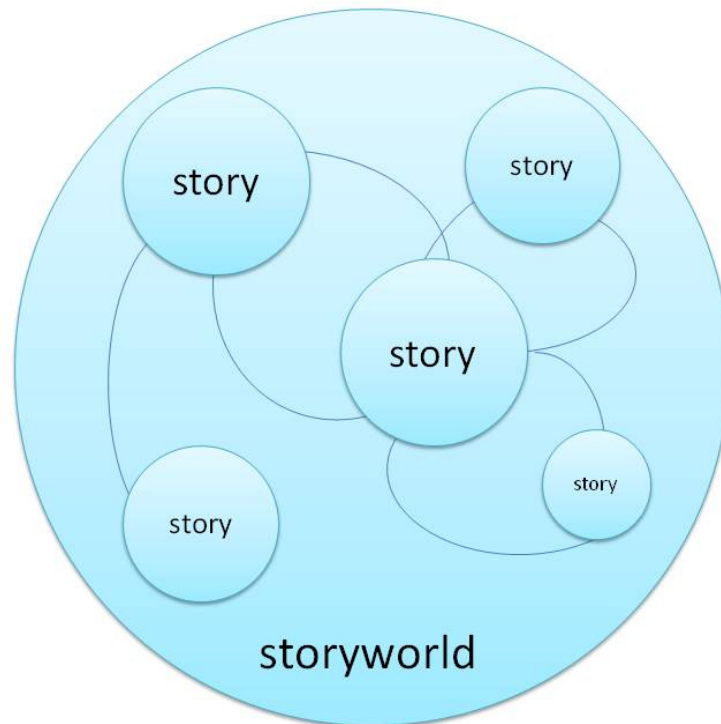
The chart in the next page shows that all the main aspects of this research and development project should be placed under the headline of production. When designing the content and the design, the usability is affected. All the aspects: content / storytelling, marketing / brand and design have an impact on the user experience (UX) of the product.



Picture 34. Production Chart

After completing my study, I am more convinced that transmedia goes hand in hand with digital storytelling. Experience e-books are well suited for the transmedia concept and therefore the production should be thought as a transmedia production, starting from the first stages of development. The story world that has been designed for the experience e-book will have endless possibilities to be modified into a different format. For example, when I am developing the more specific story world and the stories for *Lumina*, at the same time I am thinking, if some of the stories could be produced e.g. in the form of movies, games, web series and so on.

As I have discussed the story world and transmedia to some extent in this thesis, I wanted to present the Picture number 35, Story vs. Storyworld made by Robert Pratten, who is a transmedia storyteller. This diagram reveals the basic idea behind *Lumina*. The production will be done in terms of transmedia in order to gain more possibilities and continuation in the future. The fact that I am developing this case story to be a trilogy as well, confirms this decision. It is not a necessity that all the sequel productions should be done in the same format? This could be an interesting option.



Picture 35. Story vs. Storyworld (Work Book Project, Pratten, 2011)

There are many possibilities to add more new technology elements and mediums to the story experience. One can use, for example, crowd sourcing, social media, online communities and virtual worlds integrated into the e-book experience or use them to create further transmedia production with the same brand and the same storyworld, yet transforming them into separate productions and stories.

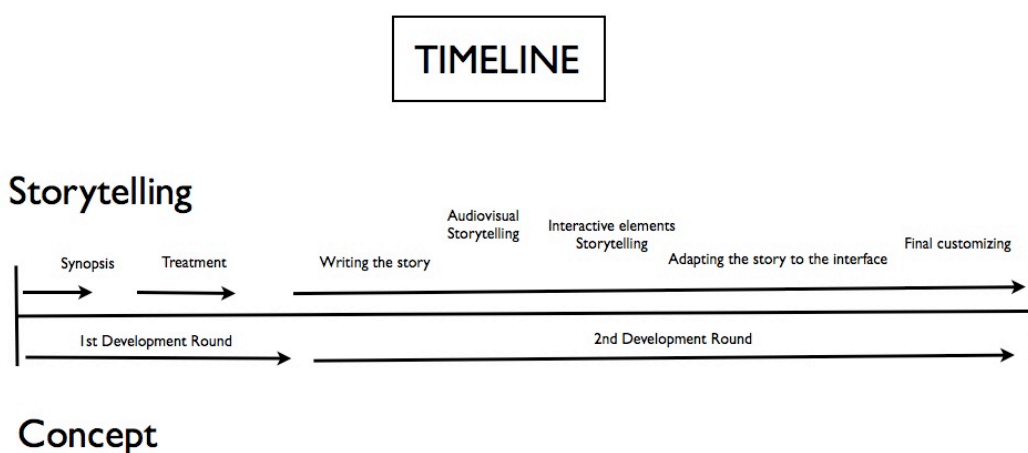
5.3 Storytelling

In order to help graphical designers in their work, the storyteller should make a moodboard of the story. That would help the visual designer to catch the vision and the mood that the storyteller has in mind.

Moodboards are collection of “abstract” media, (visuals, texts, shapes, forms, colours attitudes, etc) which aim at visually encapsulating different qualities like atmosphere, voice, mood, etc. that should guide a project (Salgado 2013).

I have already created the storyworld and the main plot (synopsis and treatment) for *Lumina*. The next step in storytelling is to make the moodboard and write the first story for iOS app / experience e-book after making this thesis. As I have now explored the technical possibilities and ideas, I have a framework for my work, which helps me when I am designing the story.

I conducted this timeline, which implies the interrelation of the Storytelling and Concept Development Process. As the main part of the writing of the story will happen in stage two, the storyteller should be developing the product all the way through the project until the product is finished. The reason for this is that the storyteller is an expert in creating the drama and emotions. This is needed also when creating the audiovisual and interactive parts of the story. It would be a true asset, if the storyteller could help also with possible storyboards and other creative parts.



Picture 36. Timeline for the Intergrated Storytelling and Concept Development Process

The ideal extended role for storyteller or author would be the product owner, as he/she

would have the overall picture of the whole storyline in his/her head. For example, *Lumina* is going to be a trilogy and therefore the scope of the storyworld is huge. In other cases, where there would be, for example, previous art work of the subject, such as a novel, the storyteller's product ownership is not as important as in this case, where the experience e-book is the first art form of the story.

The storytelling can be designed in terms of transmedia and different narrative storylines. It is good to keep in mind the interaction that the e-book can offer. The different media elements can be used in the future as well. This concept will be designed so that it is easy to make a transmedia production from the whole story. Therefore visual images should systematically obey the brand management guide, so that they can be used in other "subsidiary productions". Just to mention few, the video parts of the e-book can be shared in social media as teasers and therefore it is crucial that every video part adheres to Aristotle's storytelling rules. Every independent part, despite of the media, should have a beginning, a middle and the end. Cliff-hangers in the end are advisable; also the whole journey of the hero or heroine has to be taken into consideration.

One of my main ideas is that I want to use different levels of storytelling in the same product. The levels can be used to enhance each other or moving between the different medias to tell the story in different formats. A few examples: if there is an exciting part in the text, one can use sound effects to strengthen the experience. I can combine several media at the same time and yet use them one by one to achieve complexity. When using only one media, it is advisable that this format takes the story forward. For example, this can be used so that the video tells the story visually and then the user comes back to the written text. It is highly important that this advice is being observed; otherwise the user might feel that the add-on element was pointless. The add-on element always has to have a purpose in the story, whether is it an interactive, a game type of animation or a video.

The narrative theory needs to be clarified as well before writing the text and the story. There are possibilities to use different linear or non-linear narrative lines. Whether to offer a complete designed story for the user or to give the user the possibility to affect on the story.

In the story that I will write and design, I would like to use a structure that allows a more game driven experience. I have thought about this question for a long time and my intuition and experience tells me that I should build a basic storyline, which has a solid beginning and an end. These are the given parts, which cannot be changed by the user. However, if I think of myself as a user, I would still like to be able to have an impact on the story. I would like to make a decision and see where it would lead me. The safest solution that I have been considering, and which was confirmed by the answers I got in my interviews is that the narrative line would have parallel paths.

In terms of storytelling, it would mean creating a few plots, but I would like to give the user the same beginning and the same end, which are not affected by the choices that the user makes during the experience. I will design carefully and precise the places where it is possible to choose, which route to experience the e-book. There would be two options and depending on the choice, the story would be slightly different. However, the story line would arrive to the same joint point and continue as one storyline. I would place these choices in the beginning of 2/3 of the story plot and in the beginning of 3/3 of the story. So, altogether the user would have four stories in the same product.

Interactive part – RESULT (C)

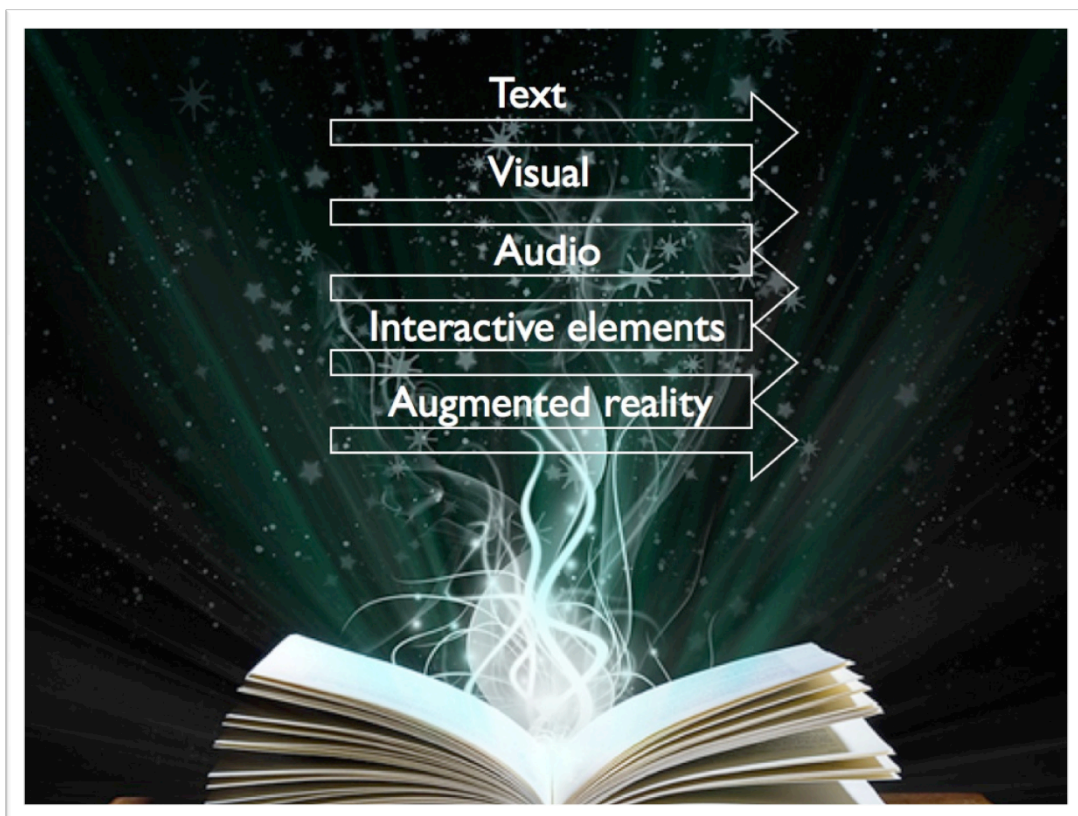
A----→ C

B----→ C

These pit stops, as I call them, are perfect for interactive elements. These are so called mini games, which would result in something. After the result, the experience would go back to the text format, until the narrative lines would join together again, in point C. This means that the storyteller must write two texts, which would differ and yet still would have the same outcome, when arriving to point C.

The second level of storytelling will happen with the help of still and moving images. It is important that we will not tell the same thing on the first level (text) and the second level (the images). I want to tell something more with different stimuli. There should be constant attention to the visual emphases. It is important that the images correspond to high quality specs. The still and moving images can be 2D or 3D. The video parts should not be more than 3 minutes long, as the attention of the viewer will lower after that. This assumption is based on the suggested video lengths on the Internet. Naturally, videos can include also music.

The third level will consist of solely music and sound effects. These are not meant to offer new information. The purpose is to enhance the first or second level of storytelling model, i.e., the text or the images. In some cases, the amount of audio material can be added. For example, in order to lighten up a heavy text, some parts, such as phone calls or audio recordings can be performed by audio attachments that the user can listen. These ideas are worth a try, as the audio books have gained success in the publishing world. It cannot emphasise enough, how deeply the music transforms the emotions and therefore the music and sound effects have to be composed with the cooperation with the storyteller.



Picture 37. The Multiple Media Elements Which Can be Included in an Experience E-book.

I use interactive elements as a fourth level of e-book experience. The concept will be designed so that there will be parts where the user can touch the screen and thus cause a reaction. I want to use this function, because people learn and absorb information in different ways. Some of us learn by through hearing (auditive learners), whereas others understand new things better if they see a picture (visual learners), or perform a movement (kinaesthetic learners). It is crucial that the fourth level will have some meaning. If the user does not understand the meaning of the interactive parts or if it is

unclear, it can destroy the whole experience. Therefore the interactive parts have to be designed carefully, and they must be made visually as attractive as possible.

I learned from my leadership course that the opposite of meaningfulness is emptiness. For example, depression is often described as a feeling emptiness. Therefore I definitely don't want the product users to feel these emotions. I want to obtain a meaning for every part of the story and the medium that I am transforming the message to the audience.

PURPOSE ----→ ACTION ----→ RESULT

When comparing the test e-books, I realized that their interactive parts did not have any meaning. They were just simple play around objects, which had only a visual connection to the story. This was shown especially amongst the secondary focus group. Adults needed to have some meaning for the interactive game parts, while the younger ones did not know how to request it, but I was able to draw the same conclusion during the observation. The time that they wanted to spend playing these non-meaningful interactive parts was quite short. They got bored very easily and when I asked if these parts were nice to have, they gave me a lame yes for an answer. So I assume that these interactive action parts should have some goal or some purpose, so that the users would have understood them better and they would have gotten more satisfaction from those.

To conclude, I could say that if one designs interactive parts to the experience e-book, they should lead to something. These interactive parts should be small games, and their purpose should be stated clearly in the beginning. Then the user is able to act and enjoy the game. Suggested forms of interactive parts could be, e.g., puzzles, riddles or mystery solving. After fulfilling the assignment, there would be a resolution, which would lead to some new stage or new chapter of the story. However, the difficulty level of the interactive parts and possible short cuts need to be taken into consideration, so that these interactive parts would not deny the access to proceed in the experience.

The fifth level of e-book experience is the augmented reality. It can be fitted to the story so that it leaps near the interaction part as well as the second level, images. Augmented reality can include also music or sound effects. The purpose of augmented reality is to offer something extra to the user. It can be described as a flavour to the

entity. The augmented reality parts include 3D, which make them appealing and more realistic to the younger generation. However, if the augmented reality effects cannot be fitted to the experience e-book, they would make an excellent add-on to the printed book of *Lumina*.

The main thing is to creatively benefit from all the elements that can be done for the experience e-book. One should also think this aspect at the same time, when creating these aids, because these separate elements can be used for marketing purposes as well. For example, the trailer and the other short videos can be shared and distributed through social media and the visual elements can be used to create the brand.

For further studies, I would suggest more specific areas of the development process, as the first phase of six stages was quite a wide entity. For this case study, after writing the story and making a demo, there will be a need for a new user test and analysis. I am also aware that it is highly possible that the features and the user interface of the final product will not be exactly the same as presented in this report. However, this is called development and you always have to start the development from somewhere. In my case, I started it from the scratch. The benefits of this case study have been very encouraging to me, as I now have a clear idea of the direction where the *Lumina* story should be developed and how it should be written. For the production part of the project, I also found an excellent transmedia production guide template made by Screen Australia, Gary P. Hayes, which I will definitely use for the *Lumina* project.

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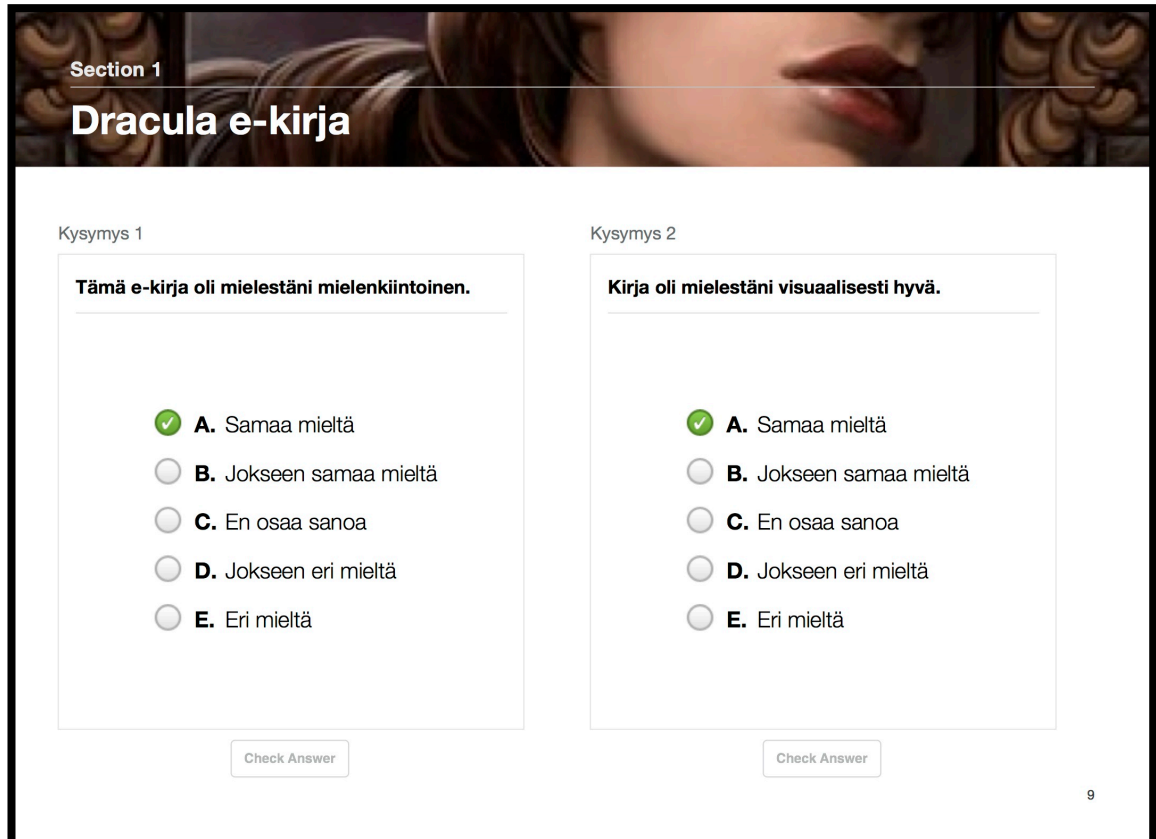
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Questionnaire Example

The questionnaires were made with iBooks author. The language was Finnish. I made three identical copies of each question pattern for each of the three e-books.



The screenshot shows a questionnaire interface for 'Dracula e-kirja'. The background features a close-up of a woman's face. The interface is divided into two columns, each containing a question and a list of five radio button options. The first question asks if the e-book was interesting, and the second asks if it was visually good. Both questions have 'A. Samaa mieltä' (Same opinion) selected as the correct answer. Each question box has a 'Check Answer' button below it. The page number '9' is visible in the bottom right corner.

Section 1
Dracula e-kirja

Kysymys 1
Tämä e-kirja oli mielestäni mielenkiintoinen.

- A.** Samaa mieltä
- B.** Jokseen samaa mieltä
- C.** En osaa sanoa
- D.** Jokseen eri mieltä
- E.** Eri mieltä

Check Answer

Kysymys 2
Kirja oli mielestäni visuaalisesti hyvä.

- A.** Samaa mieltä
- B.** Jokseen samaa mieltä
- C.** En osaa sanoa
- D.** Jokseen eri mieltä
- E.** Eri mieltä

Check Answer

9

Suggestions for the User Interface

