
iRead: An Application for Enhanced Reader Navigation on E-Reading Tablet Devices

by Sarah Elizabeth Fedigan

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School of Design
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TITLE

**iRead: An Application for Enhanced Reader Navigation
on E-Reading Tablet Devices**

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Abstract

Abstract

iRead: An Application for Enhanced Reader Navigation on E-Reading Tablet Devices

Sarah Fedigan

As the digital world is becoming more and more a part of people's daily lives, the publishing industry has begun to evolve. The traditional print codex form of the book has been challenged by new technologies that have brought traditional books into the digital world—e-books. Reading has become evermore digital. Many of the current technologies for e-reading, whether it is the devices or the applications, are lacking navigation tools which limit the reader's experience in comparison to reading a printed book. The goal of this thesis project was to design an application for reading e-books, to be used on tablet devices such as the iPad, focusing on solving the issues of user wayfinding and orientation for readers of all ages.

To solve the problems of user wayfinding and orientation in e-reading applications research was focused on typography, book design, digital publishing and e-books, e-reading devices, and application design. All aspects related to books, both traditional and digital, as well as application design and user navigation were taken into consideration in order to come up with the most effective solution possible. A survey about e-reading applications was conducted to find out what readers would want when using an e-reading application. The project entailed three phases—graphic design, interactive design, and website design. A two column layout was developed to help users better understand what they were viewing as they navigated through the demonstration. The left column provides a project description and guides users through each section of the project. The project was broken down into four main sections—iPad, iRead, Library, and Book. The right column is a demonstration of the iRead application prototype where users can click on all icons, menus, and options to test how the application would work.

I have designed iRead, a prototype for an e-reading application for the iPad. User testing proved the application prototype to be successful. The iRead application allows readers to navigate through an e-book in a manner that is parallel to that of reading a printed book.

KEYWORDS

Application, e-book, e-reading, e-reading devices, guided user interface, interactive, navigation, personalization, tablet devices, user wayfinding

PROJECT WEBSITE

<http://sarahfedigan.com/thesis/>

Introduction

Introduction

SITUATION ANALYSIS

In today's society, new technologies are constantly emerging and old technologies are being upgraded faster than we can blink. Currently, the publishing industry is evolving, as the digital world is becoming more and more a part of people's daily lives. While the traditional print codex form of the book has been around for hundreds of years, there is a new technology that has brought the traditional book into the digital world—e-books. Reading is becoming evermore digital. Many people around the world are picking up portable e-reading devices, often called e-readers, and are leaving their printed books to collect dust on a shelf. Furthermore, people are surfing the web as well as reading newspaper and magazine articles on the Internet or portable devices. As with any new technology, problems arise that need solving.

In terms of the reading devices themselves, there are issues concerning the quality of the display. Some of the most popular devices, like the Sony Reader, Kindle, and Nook, tend to have low resolution, low contrast, and noise in the background. One device that has improved display quality is the relatively new iPad with its backlit LED screen. Some devices have tactile buttons while others have touch screens or a combination of both. On the user end of the situation, there is the dilemma of screen reading and the personal experience one is accustomed to of holding a book in their hands. When holding a printed book, the reader can navigate through it in any manner they chose. Conversely, e-reading devices limit the reader's navigation options.

Currently, the applications used for reading e-books on portable e-reading devices have only a handful of options for users to choose from in terms of navigating through a book and selecting alternative aesthetics for the text. Additionally, there are design issues—mostly noticed and cared about by those in the design community. The design problems found in e-books mainly revolve around the issues of legibility, readability, and layout. In terms of design, this relates to typographic choices, imagery, and grids. Legibility refers to the quality of the typeface design, and readability refers to how the type is set and placed on the page. Despite all these issues, e-books and portable e-reading devices are becoming popular. Resolving these issues will help readers worldwide and possibly help set up new design standards for the future of digital book design and e-reading applications.

PROBLEM STATEMENT Can an e-reading portable device application improve the user experience of reading an e-book to become more comparable to that of reading a printed book?

Reading literature from a screen is becoming increasingly prevalent both in the workplace and the home. Eyestrain due to screen reading is a growing issue and one of the reasons many still prefer to read printed material. Also, it is often felt that there is a specific, enjoyable experience when reading printed materials. The reader is physically holding a piece of literature and often becomes engrossed in the story, blocking out the real world for a short time. Something is lost when reading from a digital format—this could be due to the coldness of holding a piece of technology, a limited ability to navigate through the e-book, or to the poorly designed electronic piece of literature being displayed on the screen. Traditional books have been designed for thousands of years, allowing for various sets of standards to be made in terms of typographic choices, the underlying grids used for page layout, and cover designs. E-books have rapidly become popular; and it seems that, in the race to make them available to consumers, effective visual communication design has been ignored. Furthermore, e-reading applications seem to have been designed just as hastily, tainting a reader's experience.

Typography has historically been developed for printing purposes, but with the emergence of new technologies has been adapted for digital displays as the computer and other electronics have come to play a growing role in society. Issues of legibility and readability have become a problem. Legibility and the quality of typeface design are one large area of concern on their own. Typographers have made leaps and bounds in developing screen typefaces, but there may be even better solutions waiting in the future. While choice of typeface is one hurdle for designers, another is setting the type. Many variables need to be considered when setting type, including letterspacing (or kerning), wordspacing, linespacing (or leading), line length (or measure), paragraph alignment, size, and color. All these design elements are considered when setting type for print, and the same attention to design needs to be made when setting type for digital mediums as well.

Traditionally, book design has been done with the goal of publishing a printed book as the end product. Designers have been designing within the format of the traditional codex book for hundreds of years. Now, there is a need to design books in a digital environment that will be published electronically and viewed on a screen. Generally, books have a standard set of structural features. At the minimum, books have a front cover, spine, back cover, title page, table of contents, chapters, headers and/or footers, and pagination. Books also have navigational features. Some navigational aspects of books that help the reader are the table of contents, chapter openings, headers, footers, pagination, an index, a glossary, and an appendix. Readers are familiar with these standards and they should be included, with the exception of a spine, in an e-book.

One significant change when translating a book design to digital format, at least in early e-readers, is the loss of the conventional two-page layout. Books are now viewed as a single page layout. Therefore, creating an electronic book is not as simple as saving the files for print in a different format and sending it out to consumers. One of the most noticeable issues, if this is done, is that the column of text will appear to jump from side to side as the reader scrolls through the pages due to opposing margins. Recently, newer portable e-reading devices have incorporated technology that allows the device to be used in portrait or landscape orientation. When in landscape orientation, some applications allow the reader to view the book as a traditional two-page spread. While the physical packaging of the book, the cover, has been replaced by an electronic reading device, this does not mean there is no longer a need for cover art or other art within the pages of the book—they have simply taken another form. Electronic files allow for a few more convenient features such as links, attachments, audio, video, and other multimedia elements. These features are being included in some e-books, known as hybrid books, in an effort to keep readers interested.

While designing an e-book is one challenge, designing an application in which to read that e-book is a whole other problem to overcome. A lack of navigation tools in e-reading portable device applications have left something to be desired in the user experience of reading an e-book. Readers are accustomed to handling a book in a very tactile manner. Reading can be done three ways. First, a reader can meander through a book randomly. Another option is to read consecutively or from the first page to the last page. A last option is non-consecutive reading, but this is usually structured by the author and the reader follows written instructions to move from section to section. Presently, e-reading applications are geared toward consecutive reading. Some applications use traditional pagination while others use a percentage bar. There are not many options available to the reader, beyond searching for a word or selecting a chapter, to engage in random reading or other non-consecutive manners. Also, readers are limited to a very small selection of typefaces and point sizes, if any at all, and have no option to control leading. When it comes to color, there is even less of an opportunity for personalization. In some applications the user can change the text and background color. There is the potential to add an option for appearance themes that would allow the user to select color themes as well as a variety of grid layouts. Another possible feature would be giving the user an option to show text, text and images, or just images. E-reading applications should be more focused on wayfinding and allowing the user to orient themselves with the book in any manner they please.

THESIS STATEMENT

A lot of the current technologies for e-reading, whether it is the devices or the applications, are lacking navigation tools which limit the reader's experience in comparison to reading a printed book. I am designing an application for reading e-books, to be used on tablet devices such as the iPad, focusing on solving the issues of user wayfinding and orientation for readers of all ages. The application will allow readers to navigate through an e-book in a manner parallel to that of reading a printed book.

APPLICATION

iRead – A prototype for an e-reading application for the iPad.

Review of Literature

Review of Literature

To solve the problems of user wayfinding and orientation in e-reading applications it was important to focus research on typography, book design, digital publishing and e-books, e-reading devices, and application design. All aspects related to books, both traditional and digital, as well as application design and user navigation were taken into consideration in order to come up with the most effective solution possible. Looking at current e-reading applications such as iBook, Kindle, and Nook gave me an idea of what currently exists as well as what is lacking within these applications.

TYPOGRAPHY

E-book Type E-volves

Ed Fierro

November 2000

ID Vol. 47 No. 7 P. 99

Wilson Web: September 12, 2010

<http://vnweb.hwwilsonweb.com/hww/jumpstart.jhtml?recid=0bc05f7a67b1790efb7a419fe6ffc6948c20d6afc603eac8c2385dd0e94c40fcc6a9b8bf4d0a255b&fmt=C>

This is a short article discussing the e-book industry and text display and the changes that will affect typography and design. The audience is anyone involved in the e-book industry from both technical and design aspects. Growing competition is going to generate a need for better design and typography. This article is helpful for my thesis because it presents the emerging typography issues in portable e-reading devices, and in some instances the e-books themselves, that designers are now faced with solving.

Typography and Graphic Design: From Antiquity to the Present

Roxane Jubert

Flammarion 2006

This book is a history of typography and graphic design, beginning with the signs and figures of archaic writing and ending with the advent of the digital era. The author remarks on the importance of understanding the vast history of this topic and being able to make comparisons and interconnections across time. Generally, the book is for graphic designers, specifically those interested in gaining knowledge of the history of typography. Having knowledge of the history of typography will greatly improve my thesis content in terms of making typographic choices.

Book Typography

Ari Rafaeli

Oak Knoll Press/The British Library 2005

The author presents a personal view of modern book typography in addition to universal principles, focusing on the design of literary texts, with the intent to instruct. Topics included are page layout, space, page size, use of imagery, and typographic considerations such as point size and typeface. The audience for this book would be a graphic designer who was interested in book design and/or looking to design a book. While I will not be creating a printed book, knowing the principles of traditional book design will allow me to learn from and adapt them to the design of an e-book and deciding what typefaces should be available within the portable e-reading device application.

BOOK DESIGN**Book Art & Web Art: A Forum**

Gwen Allen

March 2006

Umbrella Vol. 29 No. 1

Wilson Web: September 12, 2010

<http://vnweb.hwwilsonweb.com/hww/jumpstart.jhtml?recid=0bc05f7a67b1790efb7a419fe6ffc694e79e9a53020a594ab2f19b1bbf0c6a0e1f254681ed7f0c1f&fmt=H>

The relationship between book art and web art is discussed. Questions are posed about how printed matter will translate to electronic media. The author argues both sides, offering her thoughts on the pros and cons of both the printed page and the screen. Readers of this article would be designers affected by the changes in the industry or those looking to make a transition. This is a useful article in terms of understanding how other artists and designers are viewing the changes from print to electronic as it brings to light things I should keep in mind throughout the entire thesis project.

E-books Will Make Designers More, Not Less, Important

Scott Billings

January 25, 2007

Design Week Vol. 22 No. 4 P. 7

Wilson Web: September 12, 2010

The article discusses the possible impact of e-books on book designers, drawing on views given by speakers at a conference on contemporary book design. The author includes comments from Jim Stoddart, the art director at Penguin Press, who is arguing that e-books will increase the importance of print book designers. Geared toward traditional book designers, this article demonstrates how e-books are affecting the publishing industry. It is useful to know how this new technology is affecting the publishing industry. Also, while this emphasizes the importance of great design for the printed book, it shows that e-books will need to be designed increasingly better in order to compete with the traditional book.

New Book Design

Roger Fawcett-Tang

Laurence King Publishing Ltd 2004

Fawcett-Twang covers all aspects of book design from the external packaging (the cover) to navigation, structure, and finally production specifications. It is specifically geared towards book designers, going beyond the everyday paperback novel to more highly designed artistic books. The section on navigation will be most useful to my thesis work as users of e-books can only view a single page at a time and cannot literally pick up a book and physically orient themselves with it by flipping through it. Also, this book illustrates the competition e-books have with visually stimulating traditional books.

Grid Systems in Graphic Design: A Visual Communication Manual for Graphic Designers, Typographers and Three Dimensional Designers

Joseph Müller-Brockmann

Arthur Niggli Ltd., Publishers 1981

Müller-Brockmann has focused the majority of the books content on grid systems but has also included some information on paper size and typography. Included in the book are a variety of visuals, both line art and photographs. The book was written for graphic designers, typographers, and three dimensional designers. This resource will be most beneficial to me when determining the underlying grid structure of both the e-book and the application.

The Design of Books

Adrian Wilson

Reinhold Publishing Corporation 1967

This book is a great introduction to book design, covering all aspects of the process from preparing layouts to production processes. The author covers layout, typography, printing methods, paper, anatomy of the book, design approaches, binding, jackets and paperback covers, as well as trade book design, text books, references, manuals, and limited editions. Both small run or specialty books and mass-market books are discussed. The book is geared toward graphic designers who has a base knowledge of the terms related to book design. The sections on typography and layout will be most useful to me as those are the main design considerations in e-books. Also, the section on the anatomy of a book will be valuable when deciding what navigational tools to incorporate to help readers easily get to a desired part of the book.

**DIGITAL PUBLISHING
AND E-BOOKS****In Study, Children Cite Appeal of Digital Reading**

Julie Bosman

September 29, 2010

The New York Times P. C3

ProQuest: September 30, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=2149151241&sid=3&Fmt=3&clientId=3589&RQT=309&VName=PQD>

The author talks about children's growing interest in reading books on digital devices. The article is a brief review of a Scholastic study. E-book and e-reading device companies would benefit from reading this as well as parents of children who like to read or use any type of digital device. This article shows that e-reading is becoming more popular. Also, it demonstrates the need to make my e-reading application functional for both children and adult users.

Print and Electronic Text Convergence

Edited by Bill Cope and Diana Kalantzis

Common Ground Publishing 2001

The book is an extensive overview of the emerging and growing book technologies. Each section has been contributed by a different author or multiple authors which allows for a broader view of the topic. The book is geared toward an audience with an intermediate knowledge of publishing. Having a better understanding of how the move from print to digital is taking place and the technologies enabling that transition will be integral in designing an application that gives users the experience and text quality they are accustomed to with the traditional codex book.

The End of Paper?

Michael Copeland

2009

Fortune P. 66-72

Academic Search Elite: October 15, 2010

<http://ezproxy.rit.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=afh&AN=36868773&site=ehost-live>

This article is a discussion of the business model of e-reading, whether it will succeed or fail, focusing mainly on reading newspapers and magazines. The author also writes about the related devices and technology—where it is now and where it is going. The best audience for this article would be professionals in the publishing and advertising industries as well as those interested in reading newspapers and magazines electronically. This article is useful in terms of its discussion of e-reading technology. I am focusing on designing an application for an e-reading device with color capabilities, and in this article emphasis is put on the fact that this industry will only succeed if color can be successfully integrated into these devices.

Electronic Books and ePublishing: A Practical Guide for Authors

Harold Henke

Springer-Verlag London Limited 2001

As a “practical guide” this book includes information on both designing electronic books and electronic publishing. Also, the author includes a history of the evolution of electronic book technology, research from usability testing, and information on the business side of publishing. The book would be useful to anyone who desires to create an electronic book or simply learn about the topic. This will be a resource of substantial importance once work on the thesis project begins, and it is a great supplement to my current knowledge that may aid in the development of the project.

The Handbook of Digital Publishing

Volume 1

Michael L. Kleper

Prentice Hall PTR 2001

The handbook offers vast amounts of information and insight into the workflow of producing and publishing any type of digital document. Kleper has included every step of the process from the initial content generation to distributing the final product. The book is not necessarily best for a beginner as it may seem overwhelming so would be used by an audience that already has a solid knowledge of the subject matter. It is a useful handbook for my task of designing an application for reading e-books. While the information on typography will be of importance for designing the e-book to be used within the application, the section on design and layout for screen will be of greater significance in terms of making choices for the layout of the application.

The Generation Beyond Print-on-Paper

Michael Kleper

Printing Industry Center at Rochester Institute of Technology 2002

This paper compares and contrasts paper and screen display, examines “paper-like” screen display technology, details about the technology used, and includes feedback from experts in the field. The paper is geared towards students and professionals in the printing industry. Designing for screen display has its challenges, but one cannot accomplish this successfully without an understanding of the technology it will be used on. Having a detailed knowledge of the technology my end product, an application and e-book, will be viewed on will result in the best possible use of both typographic and wayfinding elements.

Curling up with Hybrid Books, Videos Included; (The Arts/Cultural Desk)

Motoko Rich

October 1, 2009

The New York Times P. A1

ProQuest: October 1, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=1869564471&sid=1&Fmt=3&clientId=3589&RQT=309&VName=PQD>

Rich discusses hybrid books which are similar to e-books but are supplemented with audio, video, or both. These hybrid books are being produced to “keep readers interested in an archaic form of entertainment.” Various individuals are quoted, speaking of the pros and cons. Someone interested in technology, electronics, or e-books would find this article appealing. I find it useful because it gives me an idea of where technology is going and how people are interacting with e-books.

Of Two Minds About Books

Matt Richtel and Claire Cain Miller

September 2, 2010

The New York Times P. B1

ProQuest: September 30, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=2126804451&sid=2&Fmt=3&clientId=3589&RQT=309&VName=PQD>

The authors discuss the battle between printed books and e-books, presenting quotes from couples who are at odds over which format is better for reading. The couples talk about why they like reading in the opposing formats. Also, information on how the printing industry is dealing with this new technology is included in the discussion. This article is best for anymore trying to sort out the dilemma of reading in print versus reading from a screen. This is useful to me because it reveals what people do and do not like about reading e-books and using e-reading devices. Knowing this will help me when deciding what features to include in the application I design.

E-READING DEVICES

Barnes & Noble Introduces NOOK(TM) for Android(TM) – An Easy-to-Use Free eReader Application for Android Devices

July 22, 2010

Business Wire 1594 words

ABI/INFORM Dateline: October 15, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=2088295501&Fmt=3&clientId=3589&RQT=309&VName=PQD>

Barnes & Noble has introduced its Nook application for Android devices. The article highlights the key features of the application. Users of Android mobile devices would be interested in this information. Knowing what already exists is integral in developing an application that improves the readers experience.

E-Book Readers: They've Never Been Better or Cheaper

December 2010

Consumer Reports P. 40-41

This article compares several e-reading dedicated devices, claiming they are even better than printed books for readability and usability. The intended audience is all consumers looking to purchase an e-reading dedicated device. This is useful to my thesis because it supports e-reading as a viable, or even better, alternative to reading physical printed books.

Photonics: E-ink Goes Colour

2009

Nature P. 1080

MAS Ultra - School Edition: October 15, 2010

<http://dx.doi.org/10.1038/4581080e>

This is a brief article on improvements in color display technologies, describing how this new technology works. The article claims this technology works fast enough for video displays. The article is rather scientific in nature and would be best for professionals in the e-reading device field. This is of importance because it shows that this industry is moving forward and the application I will be developing may have the potential to go even further when video capabilities are integrated into e-reading devices.

Tablets: iPad Faces Challengers

December 2010

Consumer Reports P. 39

This article compares the iPad to a laptop, netbook, and an e-reading specific device. The iPad fares well against the competition and is proved to be more versatile than other portable devices. The intended audience is all consumers interested in portable devices. This is of importance because it shows that multi-purpose tablet devices give consumers versatility and are becoming more popular than e-reader only devices.

Change Your Life to Suit Your iPad

Christopher Breen

September 2010

Macworld Vol. 27 No. 9 P. 30-31

EBSCOhost Academic Search Elite: October 1, 2010

<http://ezproxy.rit.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=afh&AN=53391512&site=ehost-live>

Breen gives a personal review of the iPad after living with it for two months. He discusses how, where, and why he uses the device. Anyone who owns or is interested in purchasing an iPad would find this article of interest. Currently, the iPad is the best tablet device for the e-reading application I will be developing. This article is useful to me because it shows how people interact with the iPad and in what context users would possibly be using the application I design.

Reading E-Books in All the Colors of the Rainbow

Anne Eisenberg

September 11, 2010

The New York Times P. BU3

ProQuest: September 30, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=2135780751&sid=1&Fmt=3&clientId=3589&RQT=309&VName=PQD>

This article discusses the technology of e-reading devices—those that include color and those that currently lack that wonderful feature. The author points out that there are e-book consumers who do not want this feature and that the market will split into two—multifunctional color tablets and e-books readers. The best target audience for this article would be those developing e-reading devices, multifunctional tablets, and e-books. The application I am developing would be for use on a color tablet so it is interesting to know that not all users want color and that some devices may remain colorless.

Finding the Best Way to Read Books on an iPad

Walter S. Mossberg

September 16, 2010

Wall Street Journal P. D1-2

ABI/INFORM Global: October 1, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=2138865811&sid=1&Fmt=3&clientId=3589&RQT=309&VName=PQD>

Mossberg compares three e-reading apps—iBook, Kindle, and Nook, discussing the pros and cons of each and coming to the conclusion that they are all comparable. The best audience for this article is anyone interested in e-books and e-reading devices. The author compares the various features as well as the visual design of all three. This article gives me a better idea of what already exists and what users like and dislike which will help when making decisions about what to include in the e-reading application I create.

Going Out of Print

Wade Roush

May, 2010

Technology Review P. 84-86

ABI/INFORM Global: October 15, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=2063109291&sid=1&Fmt=3&clientId=3589&RQT=309&VName=PQD>

This article discusses e-reading devices and their effect on the publishing industry. The authors emphasizes the need for publishers to adapt and find a way to use e-reading to their advantage if they want to survive this wave of new technology. The best audience for this article would be anyone in the publishing industry or individuals interested in e-reading. This article shows that the e-reading industry is rapidly advancing and that there is reason to develop new applications, devices, etc. for readers.

APPLICATION DESIGN **Tapworthy: Designing Great iPhone Apps**

Josh Clark

O'Reilly Media 2010

While this book is focused on designing apps for the iPhone, it is relevant for creating apps for any similar device or purpose. The book takes the reader through the entire process of deciding what you want the app to do to making it available in the market with other apps. One important section of the book deals with screen rotation which is one major feature becoming more popular in portable e-reading devices. It is targeted to designers, programmers, managers, and marketers looking to create an application for any purpose desired. I will not literally be designing a fully functional application but knowing every little detail that goes into creating one will help when deciding what to include and creating the actual design.

Fonts for iPad & iPhone

Michael Critz

April 4, 2010

Michael Critz: February 1, 2011

<http://www.michaelcritz.com/2010/04/02/fonts-for-ipad-iphone/>

Critz has composed a list of font families supported by the iPhone and the iPad. The iPad has a listing of 57 font families. The article is intended for anyone in the motion graphics and interactive design industries. The article is useful to me in terms of making decisions about what fonts to include as options in my e-reading application for the iPad.

iPad Storybook Apps and the Kids Who Love Them

Omar Gallaga

February 7, 2011

NPR News – Technology: February 9, 2011

<http://www.npr.org/2011/02/07/133280134/ipad-storybook-apps-and-the-kids-who-love-them>

Gallaga describes his primary research with the iPad and e-reading applications targeted at children. The author has tested over 50 applications with his young daughter. All the applications are specific to a single book and are not general e-reading applications. Each of the applications discussed has taken a traditional book and made it interactive and entertaining for children. The audience for this article is anyone who owns an iPad and is interested in e-books for children or e-reading in general. Gallaga's article was of interest to me because the applications he discusses are breaching traditional reading and becoming more interactive for users.

Designing Web Navigation

James Kalbach

O'Reilly Media 2007

The author starts out by discussing the foundations of web navigation and then moves into the framework for navigation design. This book is focused on a single topic of web site development—navigation design. The book is mainly for web designers, creating navigation systems for large, information-rich sites, but would also be beneficial to managers and other non-designers involved in the process. As my focus is on improving user experience through enhanced navigation tools in e-reading applications, this book will be extremely helpful in deciding what to include and how to structure the navigation system.

Designing for iPad: Reality Check

Oliver Reichenstein

April 12, 2010

Information Architects: February 1, 2011

<http://www.informationarchitects.jp/en/designing-for-ipad-reality-check/>

Reichenstein discusses the challenges of designing applications for the iPad, specifically using Apple's iBooks as an example throughout the article. The author discusses technical issues, typography, graphic design, user interface, and interactive design. All professionals developing applications would find this article of use. I found this article useful because it is a detailed evaluation of iBooks and has revealed further issues with current e-reading applications.

Designing the User Interface: Strategies for Effective Human-Computer Interaction

Fourth Edition

Ben Shneiderman and Catherine Plaisant

Pearson Education 2005

The book is about usability of interactive systems and includes sections on development processes, interaction styles, and design issues. This book is written for students, researchers, designers, managers, and evaluators of interactive systems and is intended to be kept and consulted when working on new projects. The section on interaction styles will be most useful to me, mainly chapter seven which covers the topic of menus as I am focusing on wayfinding and user orientation.

Text in the Book Format

Keith Smith

The Sigma Foundation 1989

Smith discusses the format, space, and movement through a book. The book would be most beneficial to a book designer. The sections on format and space will be of use when designing an e-book to be used in the application, but the section on movement which discusses itineraries through a book will be extremely important when creating the application. There are various ways a reader may chose to move through a book, including all possible navigational elements to allow for this movement will be integral to designing an application that enhances user experience.

Web Site Usability: A Designer's Guide

Jared M. Spool

Morgan Kaufmann Publishers 1999

This is a report about the theory of web site design based on extensive research about how people find information. The content covers usability, navigation, links, searching, readability and page layout, and graphic design. Web designers would find this book useful. As I do not have the time to do a lengthy research study, this will help me understand how users prefer to navigate through a web site to get the information they want.

A Defense of Pagination

December 9, 2010

Bob Stein

if:book – A Project of the Institute for the Future of the Book: February 21, 2011
http://www.futureofthebook.org/blog/archives/2010/12/a_defense_of_pagination.html

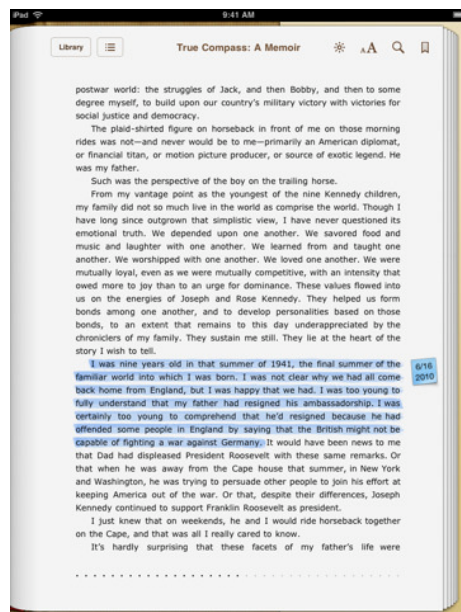
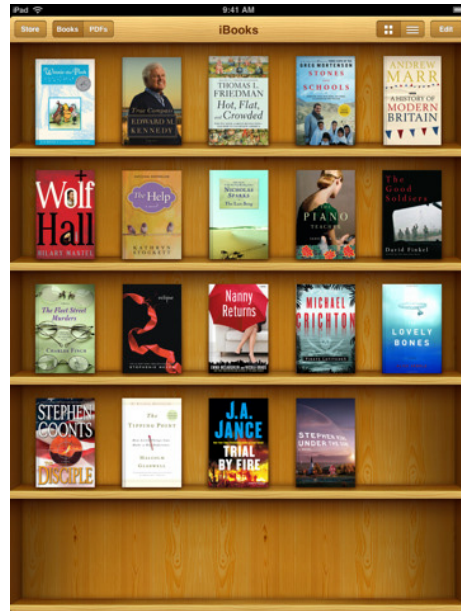
The author discusses the use of traditional and non-traditional forms of pagination being used in digital formats. Stein comments that constraining digital reading to tradition pagination is not the best solution but also reveals that continual scrolling is not the most appropriate solution either. Other readers posted their opinions on this growing issue, comparing traditional horizontal pagination to the more practical scrolling of digital media. The article is intended for anyone interested in e-reading or involved in the development currently taking place in the e-reading industry.

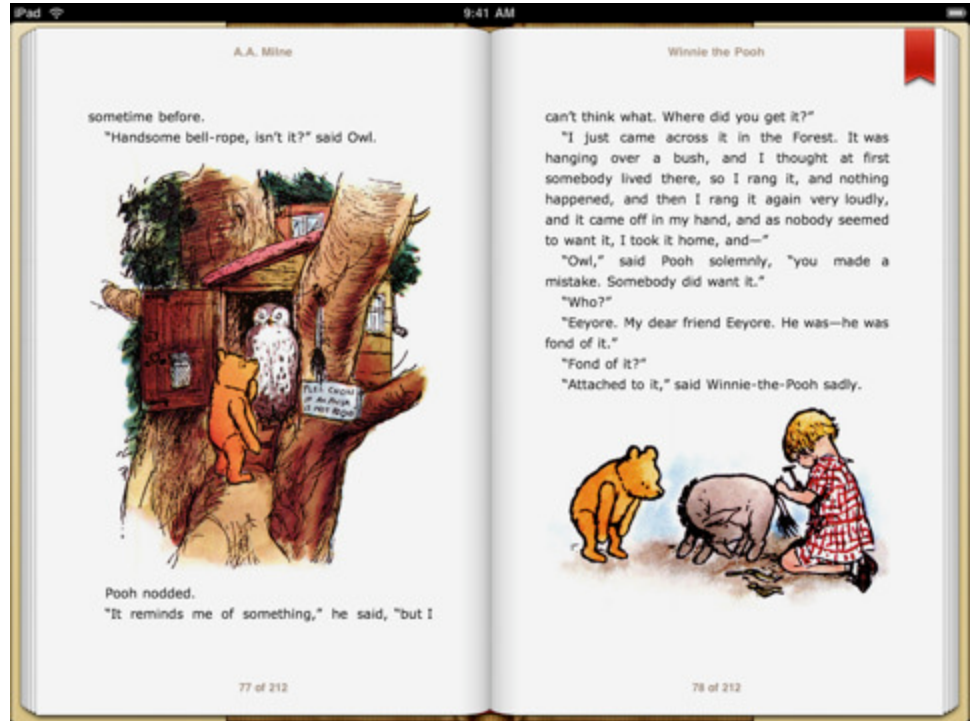
Process

Existing Solutions

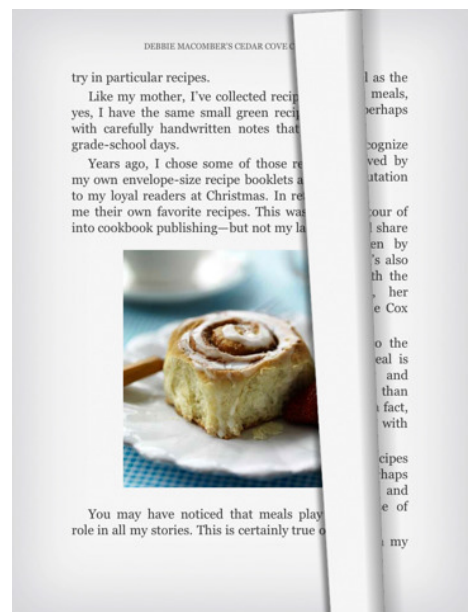
During my research I found there to be three main e-reading applications for the iPad. These three applications were Apple's iBooks, Amazon's Kindle, and Barnes and Noble's Nook. The following are examples of these three applications. (itunes.apple.com)

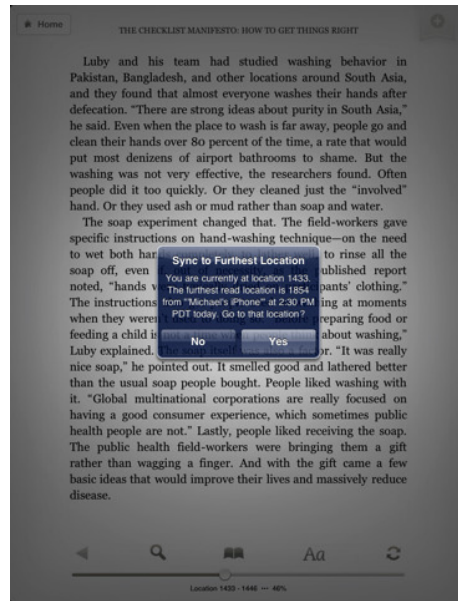
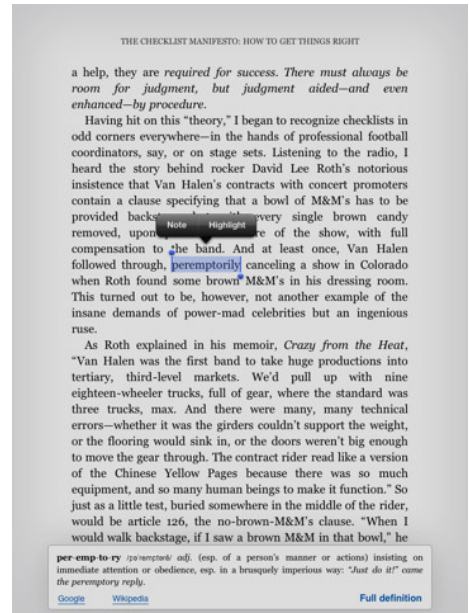
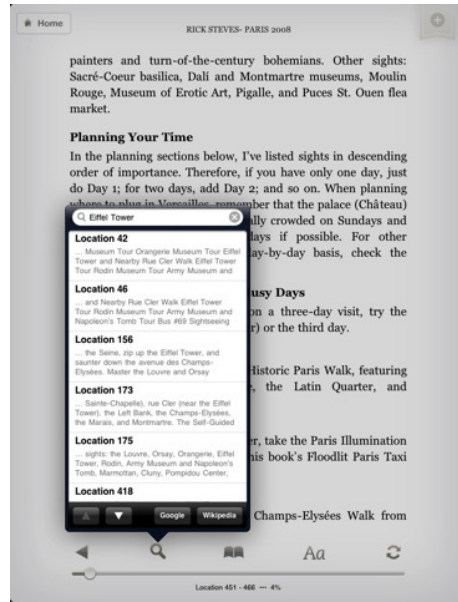
IBOOKS



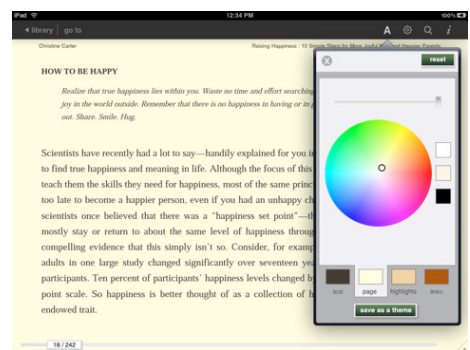
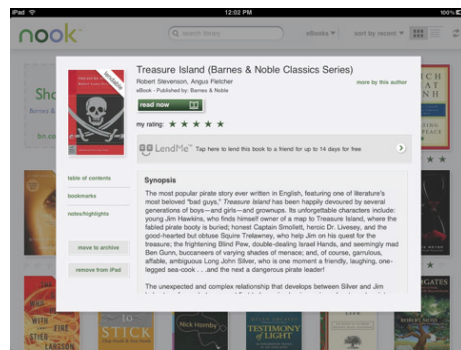
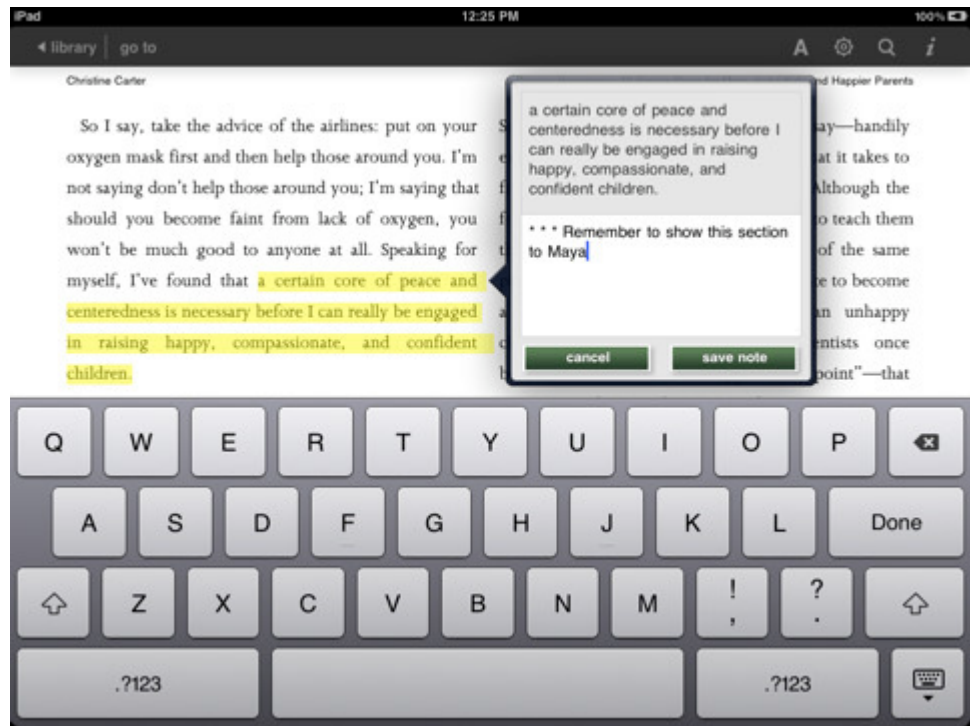
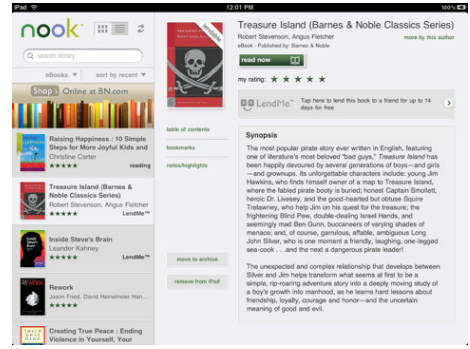
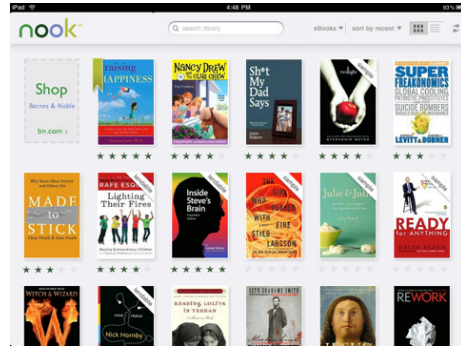


KINDLE





NOOK

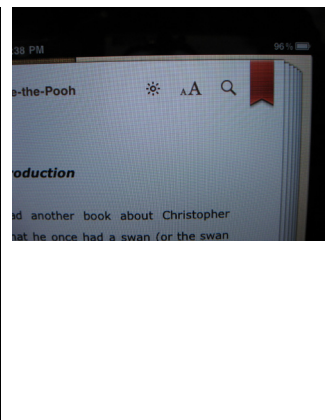
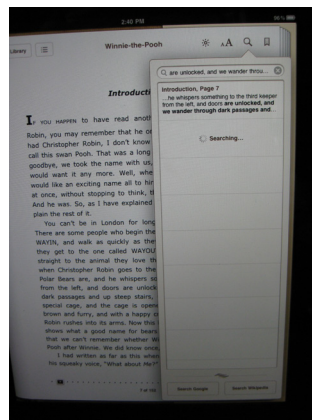
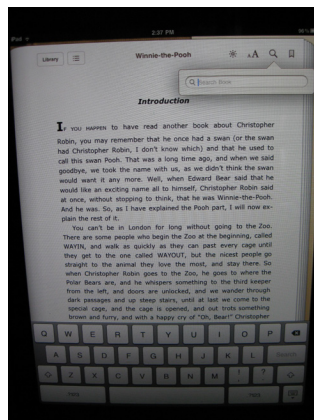
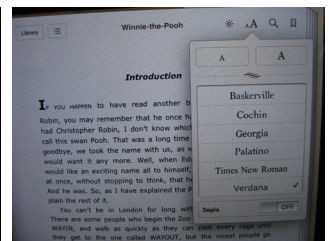
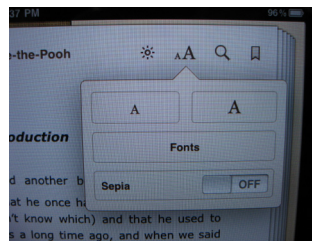
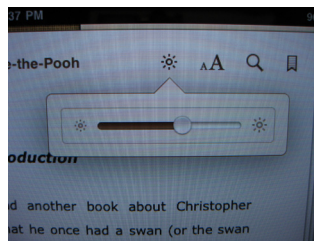
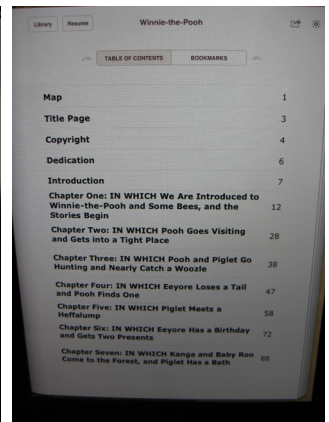
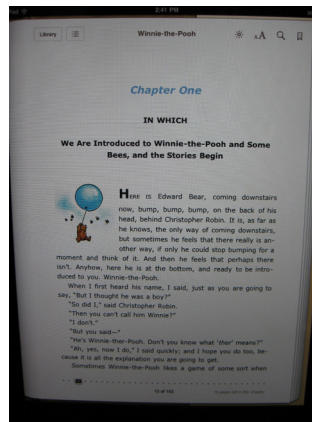
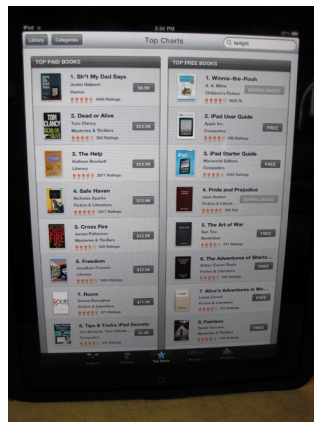
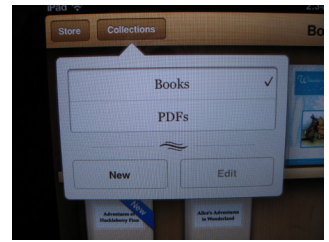
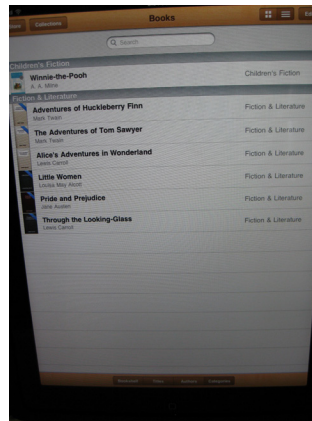


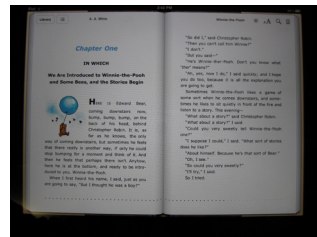
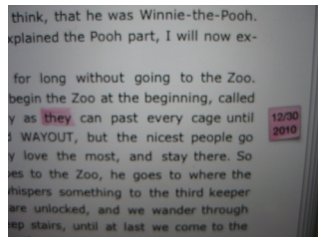
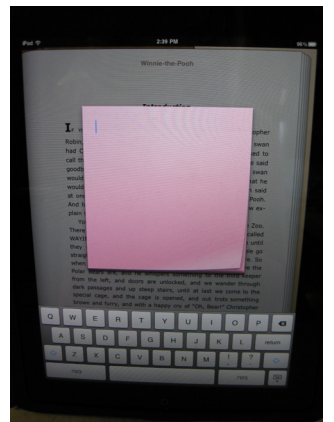
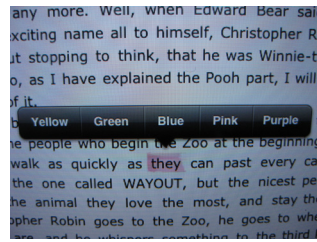
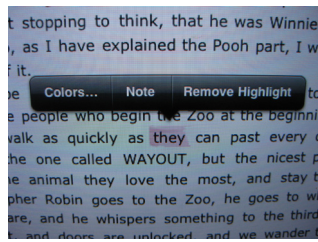
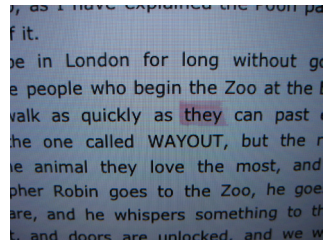
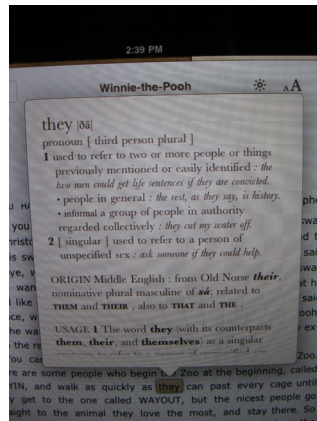
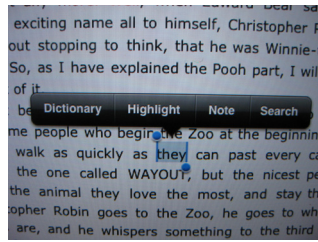
iPad Hands-On Research

Through my initial research of current iPad e-reading applications I was only able to view a small number of static images of the iBooks, Kindle, and Nook applications. I took my research further and downloaded the iBooks, Kindle, Nook, and Free Books applications on the iPad. Exploring each application provided a clearer understanding of the available options within each application as well as how the iPad actually functions in terms of taps and swipes.

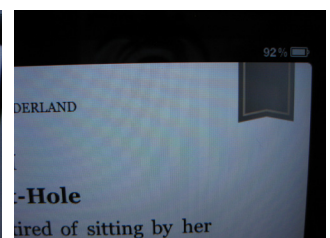
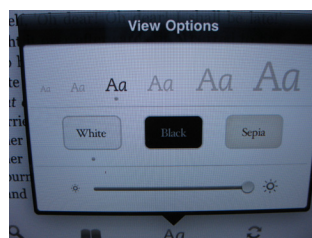
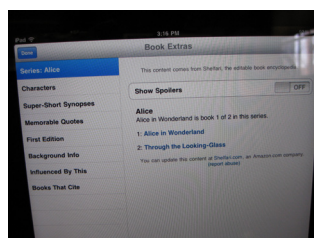
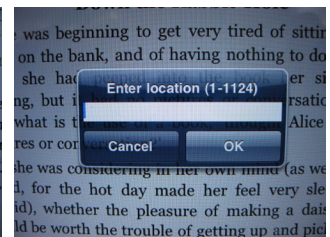
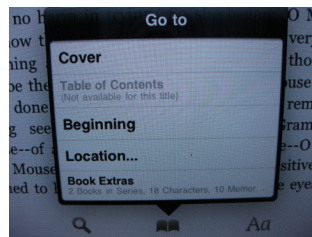
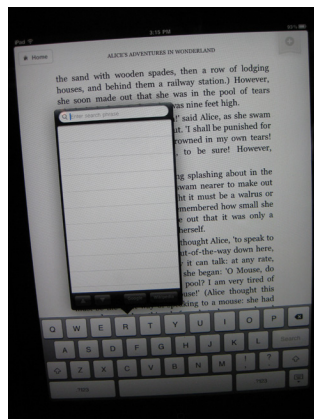
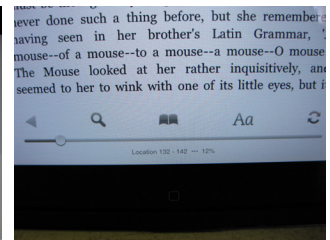
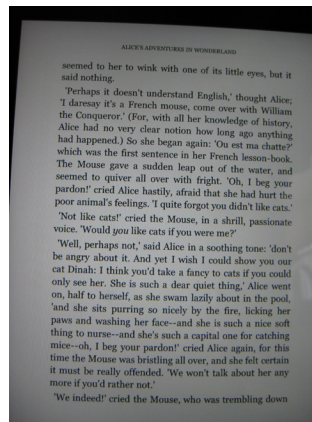
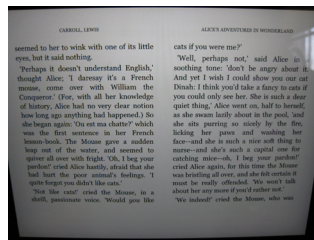
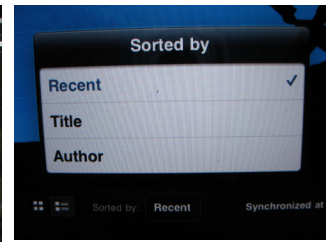
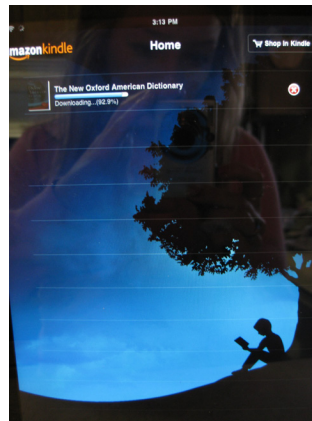
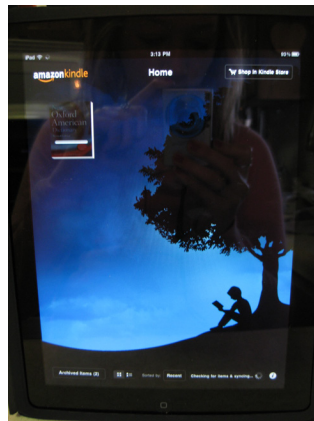


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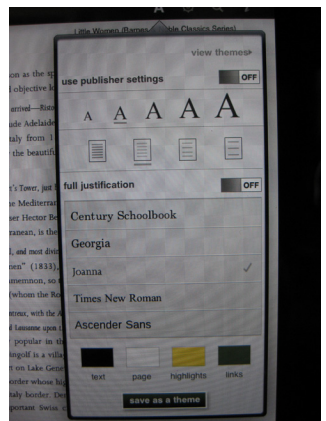
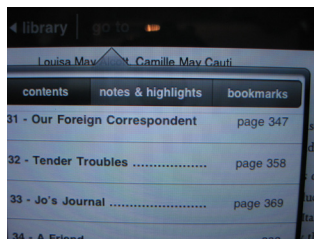
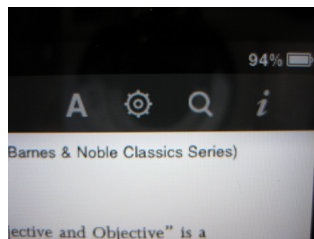
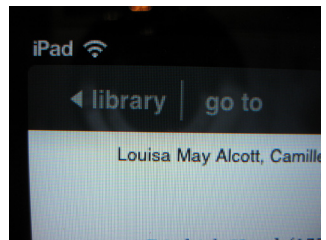
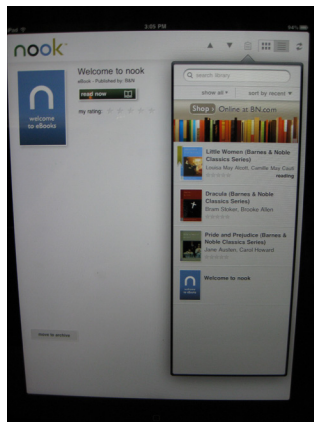
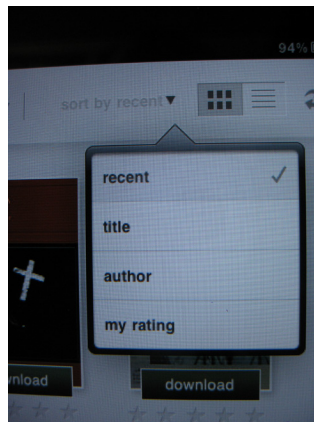
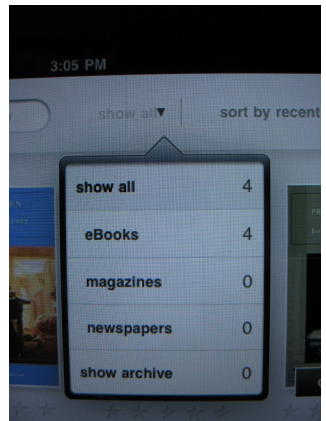
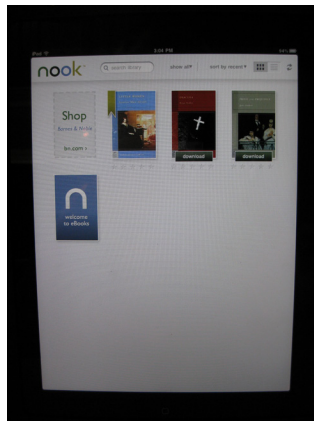
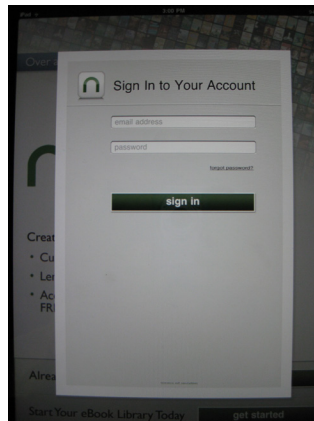


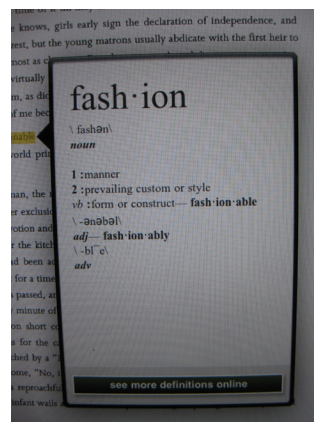
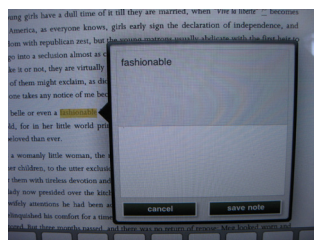
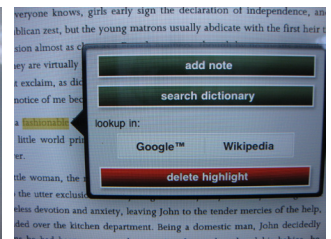
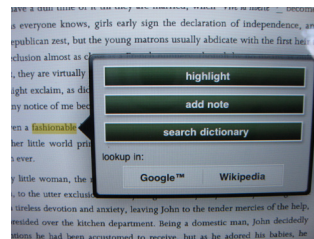
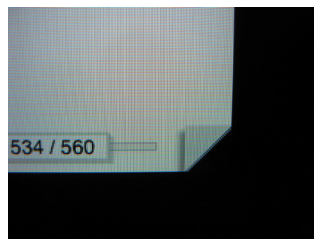
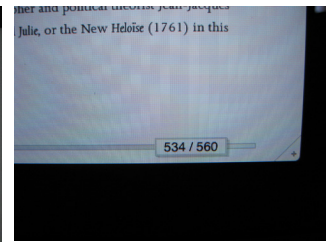
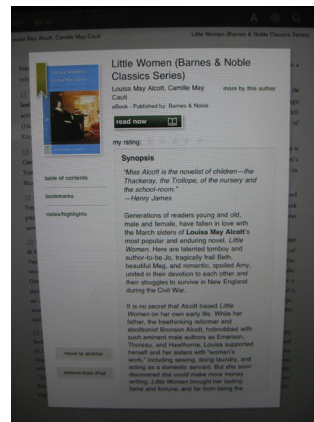
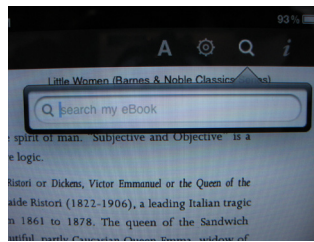
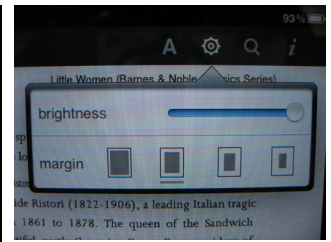
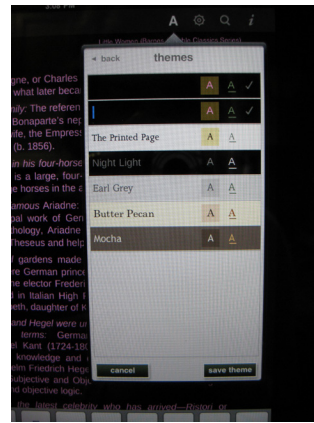
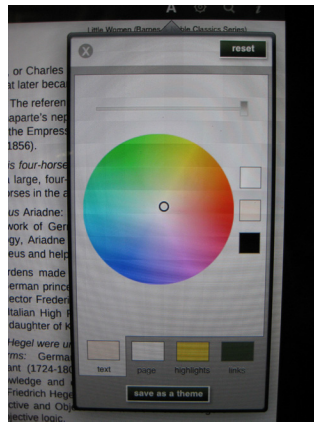


KINDLE

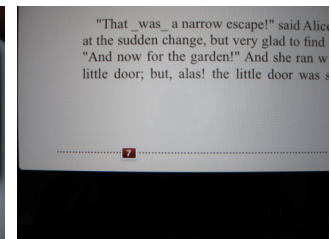
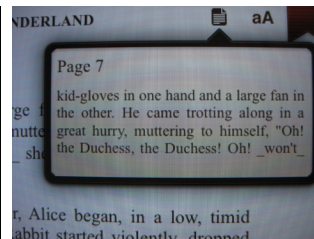
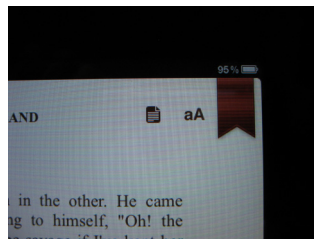
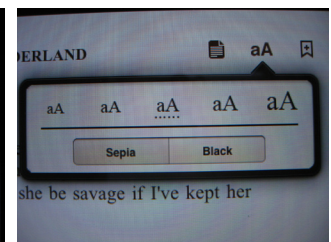
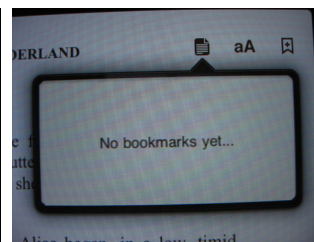
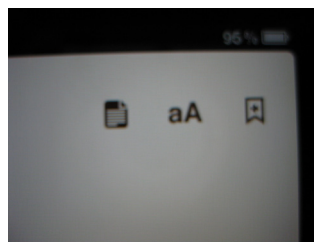
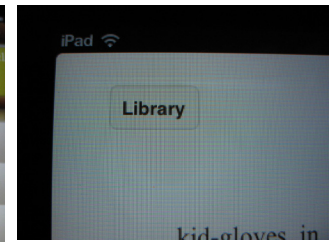


NOOK





FREE BOOKS



Preliminary Survey

The preliminary survey is about e-reading applications to find out what readers would want when using an e-reading application. The answer choices are elements that I have decided to include in my application. I am looking to find out if these are elements users would want and also for ideas of other elements I have not yet considered.

E-READING APPLICATIONS SURVEY

<http://www.surveymonkey.com/s/FC52XML>

QUESTIONS

1. General Information
2. Have you ever used an e-reading portable device? (Sony Reader, Nook, Kindle, iPad, etc)
3. If no, would you ever consider using an e-reading device?
4. How satisfied were you with the e-reading application?
5. What organizational options would you like to be available in the e-reading application to organize the e-books in your library?
6. What typographic personalization options would you like to be available in the e-reading application?
7. What appearance personalization options would you like to be available in the e-reading application?
8. What other personalization options would you like to be available in the e-reading application?
9. In what way would you like to see how far you have progressed in the e-book?
10. What features would you like to see designed into an e-reading application? Any other comments would be greatly appreciated.

RESPONSES

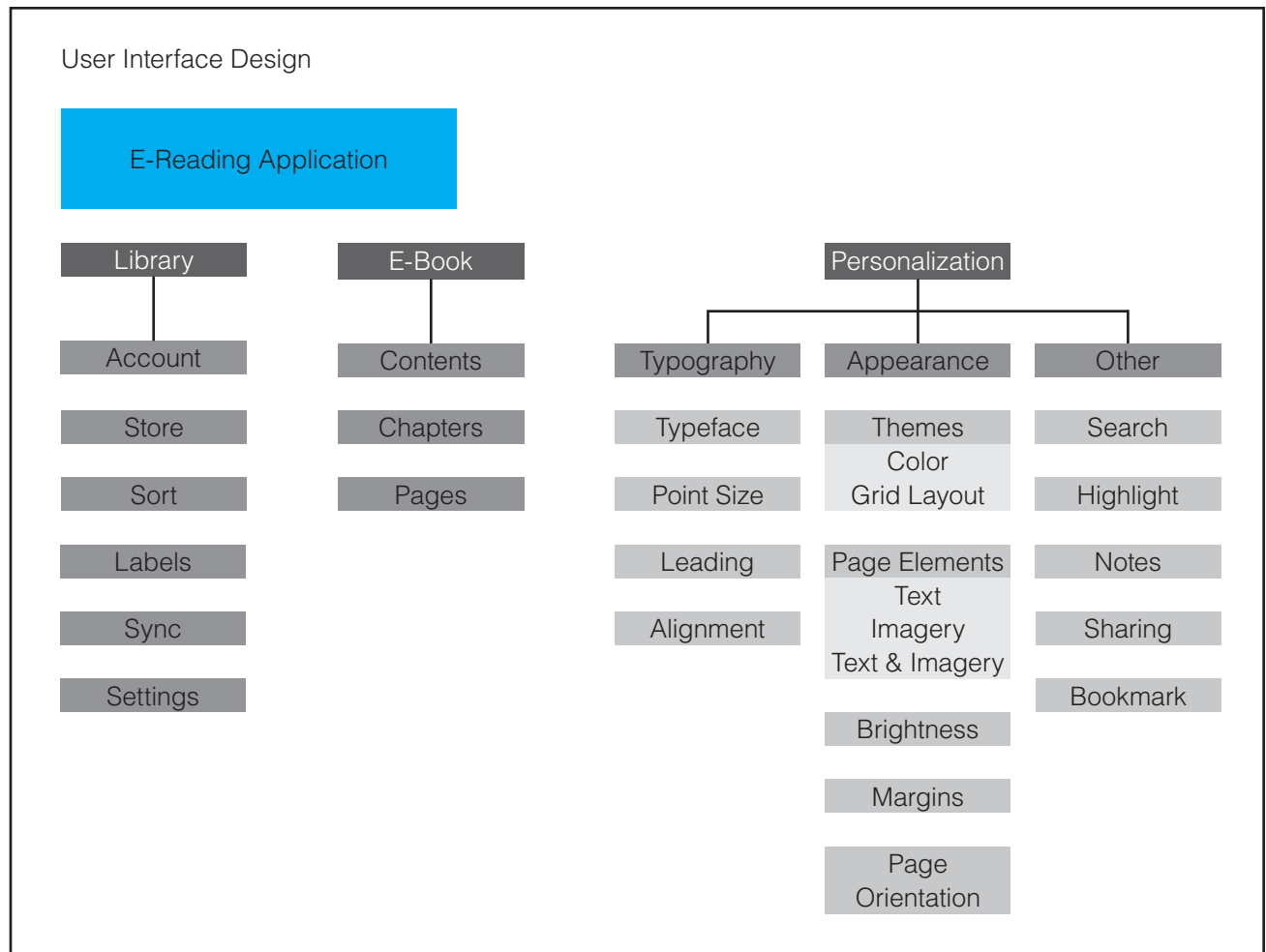
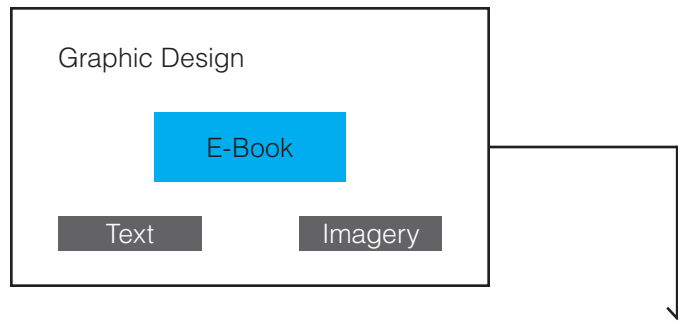
Out of the 28 possible participants there were 22 respondents. The responses were overwhelmingly in favor of all the proposed options.

APPENDIX II

See Appendix II for details on the entire preliminary survey.

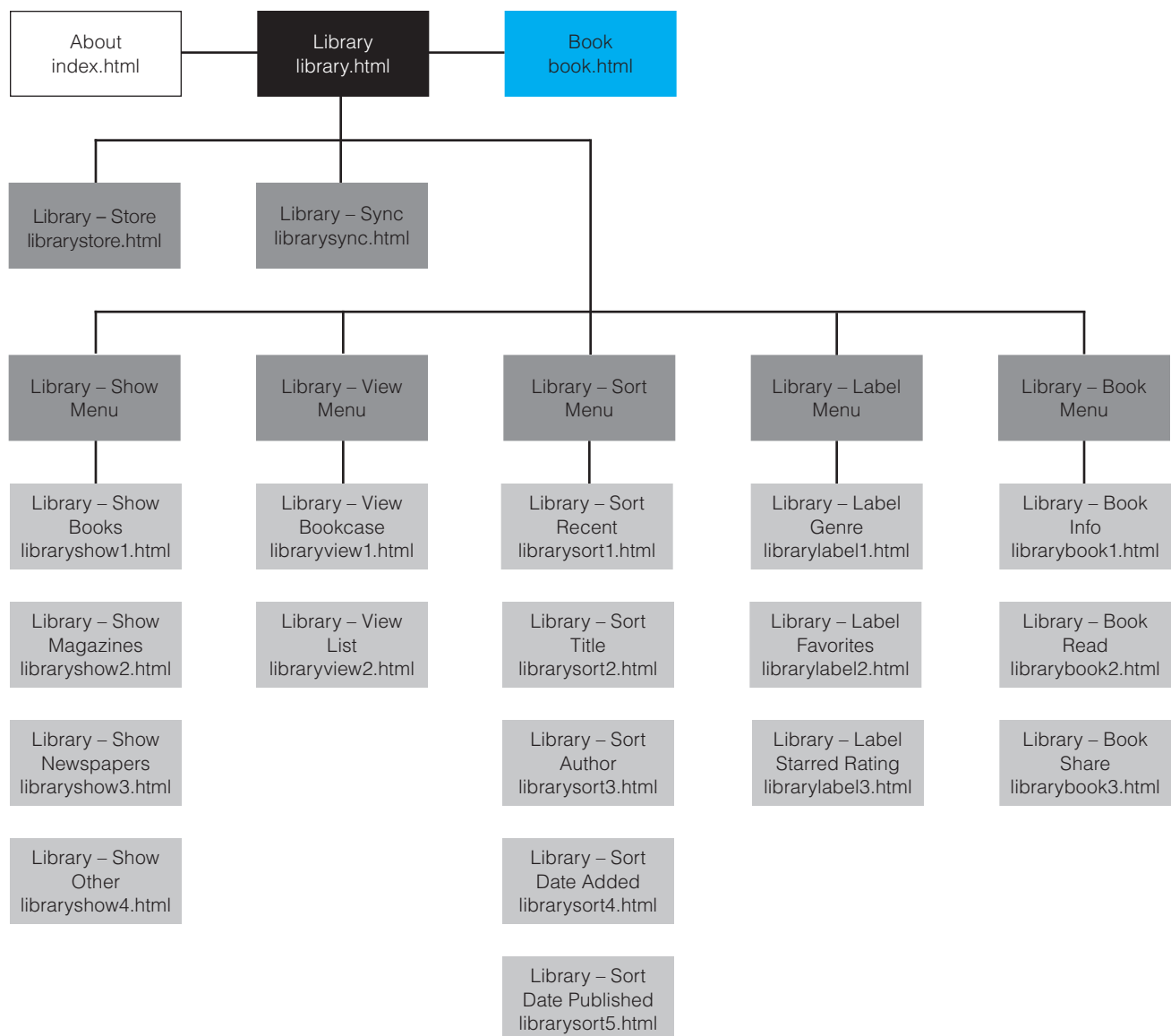
Initial Flow Chart

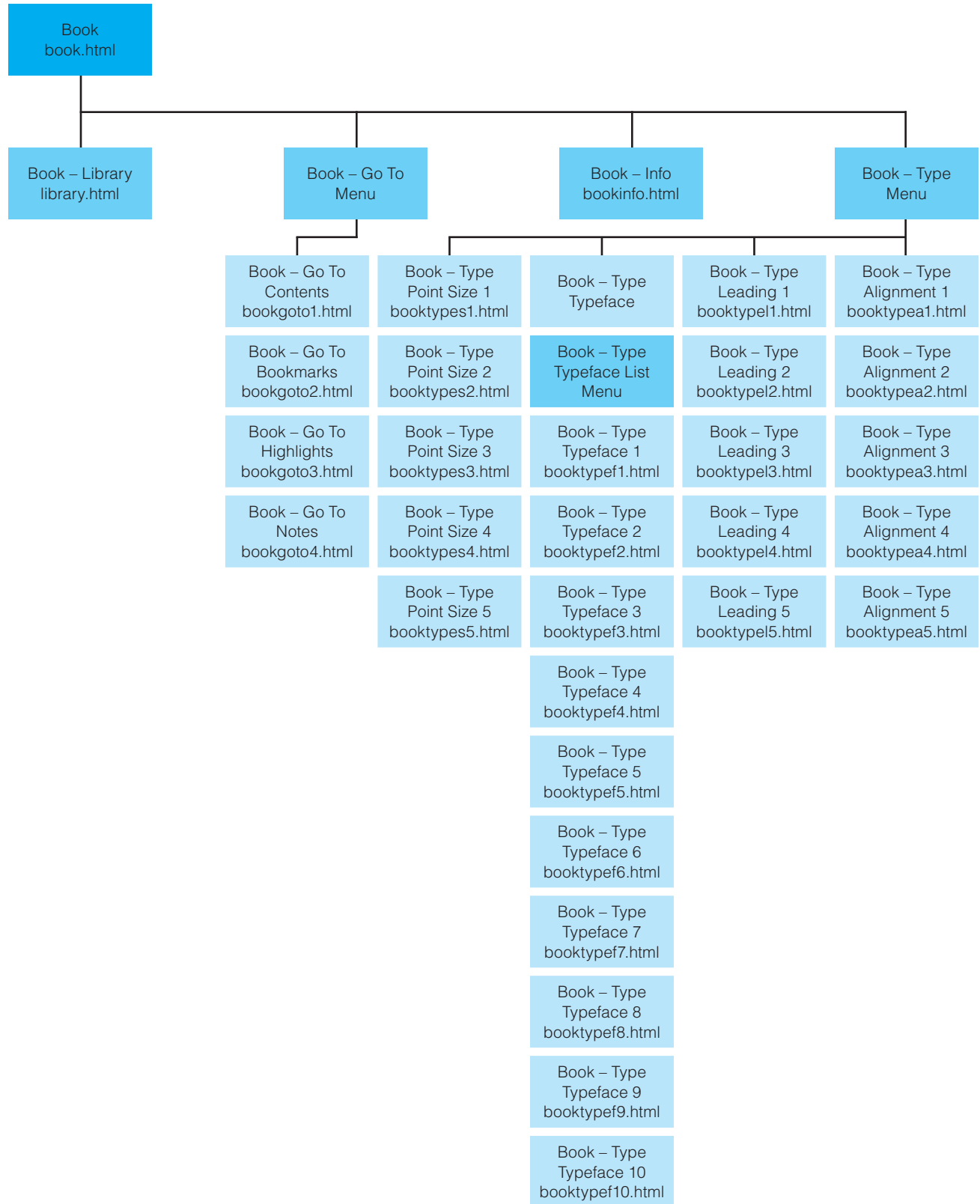
The project has two main elements, the e-book and the e-reading application. The first page of chapter 1 of *Alice's Adventures in Wonderland* by Lewis Carroll was used as example text throughout the iRead application.

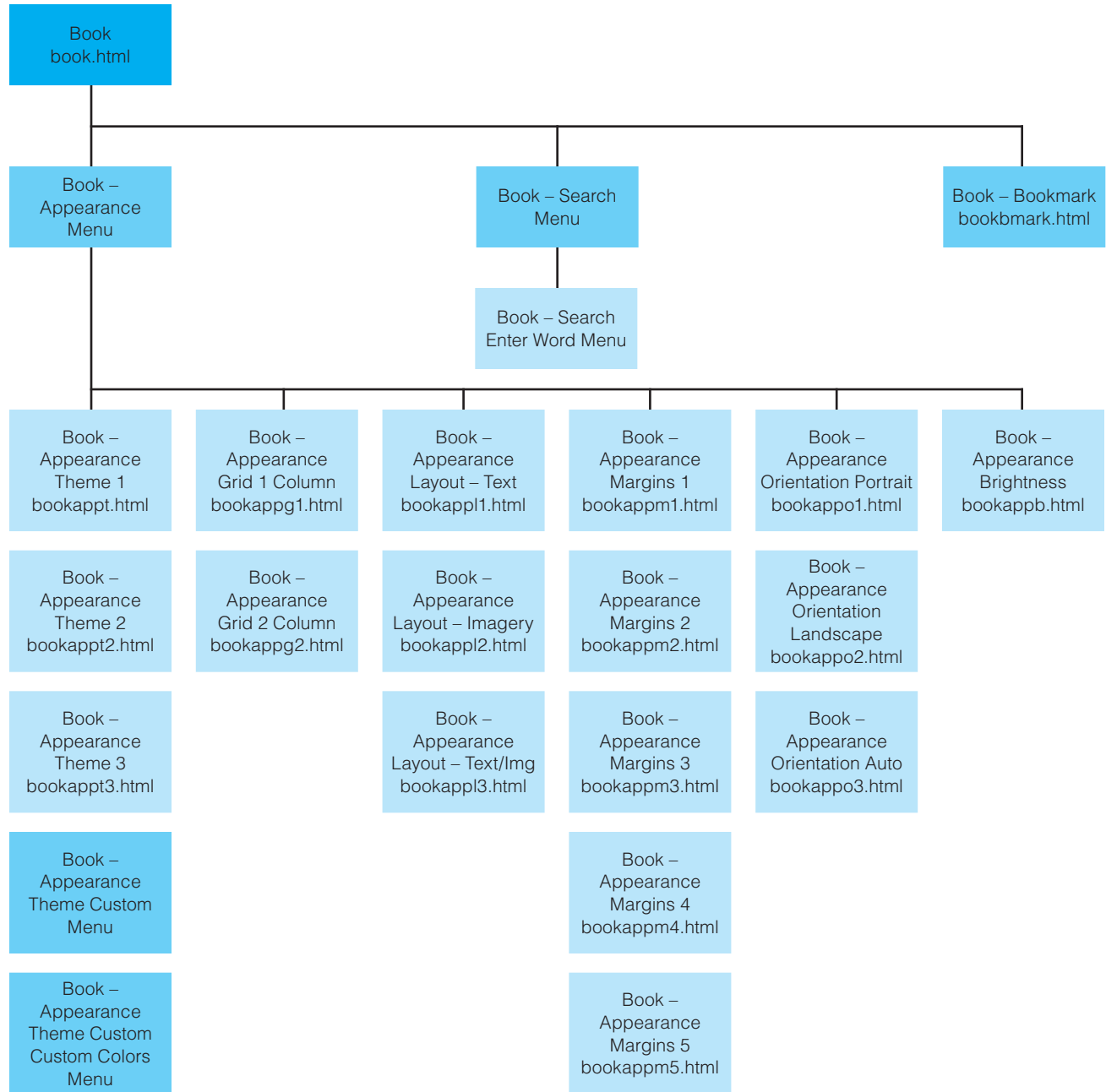


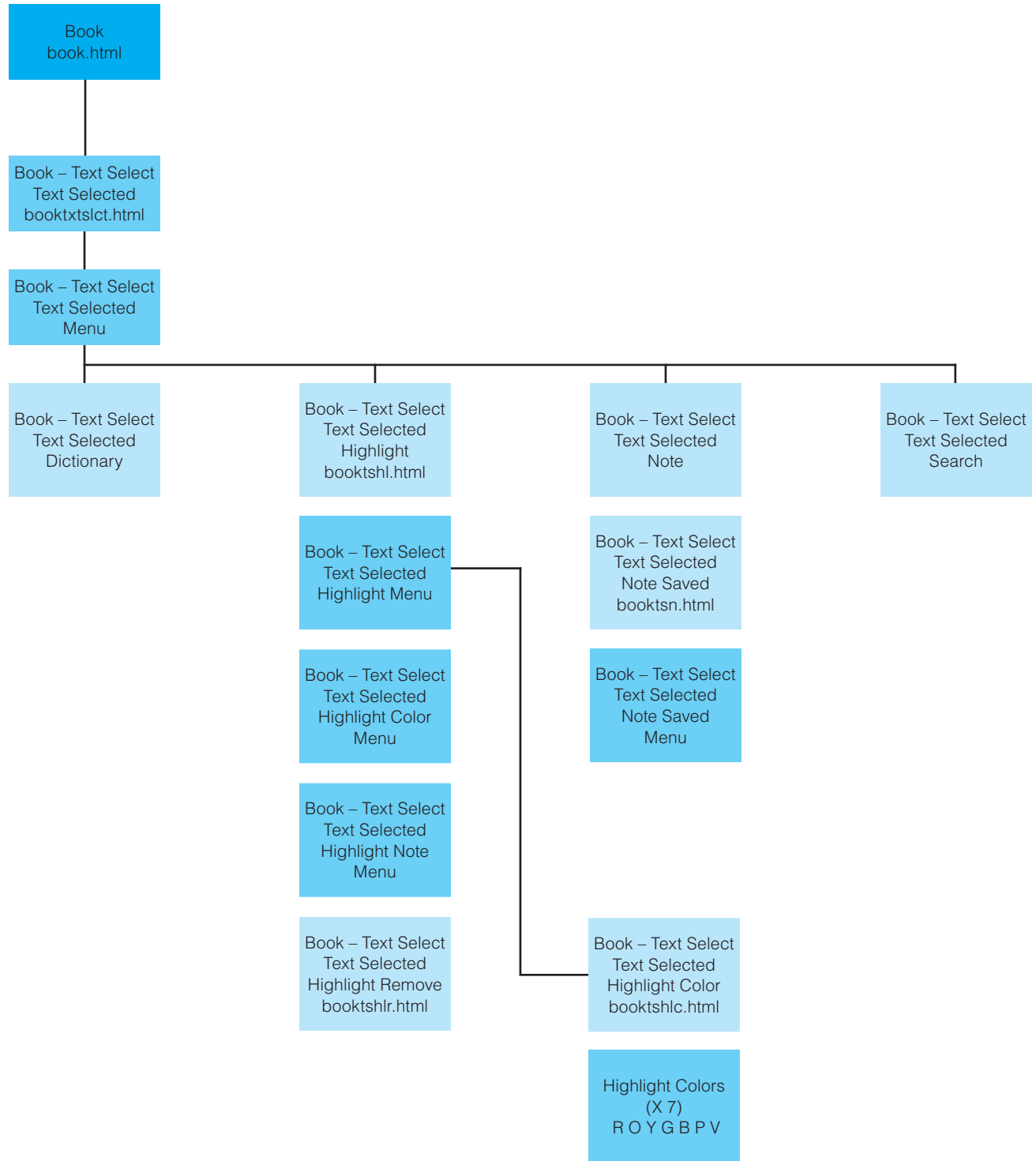
Rough Flow Chart

The final project was intended to be displayed as a website which would enable users to click on all icons and menus to see an example of each option. This flow chart maps out all the necessary pages for the website.



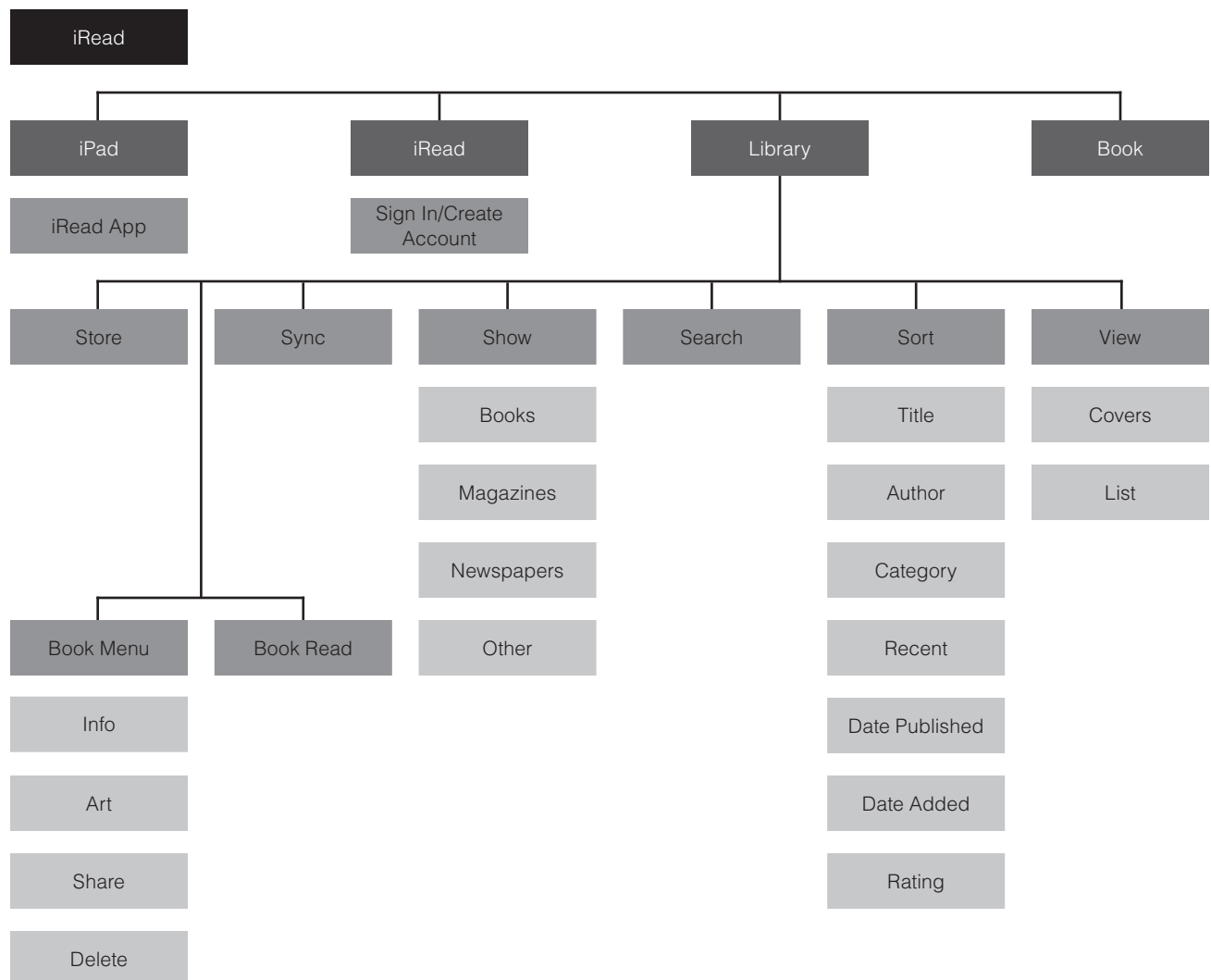


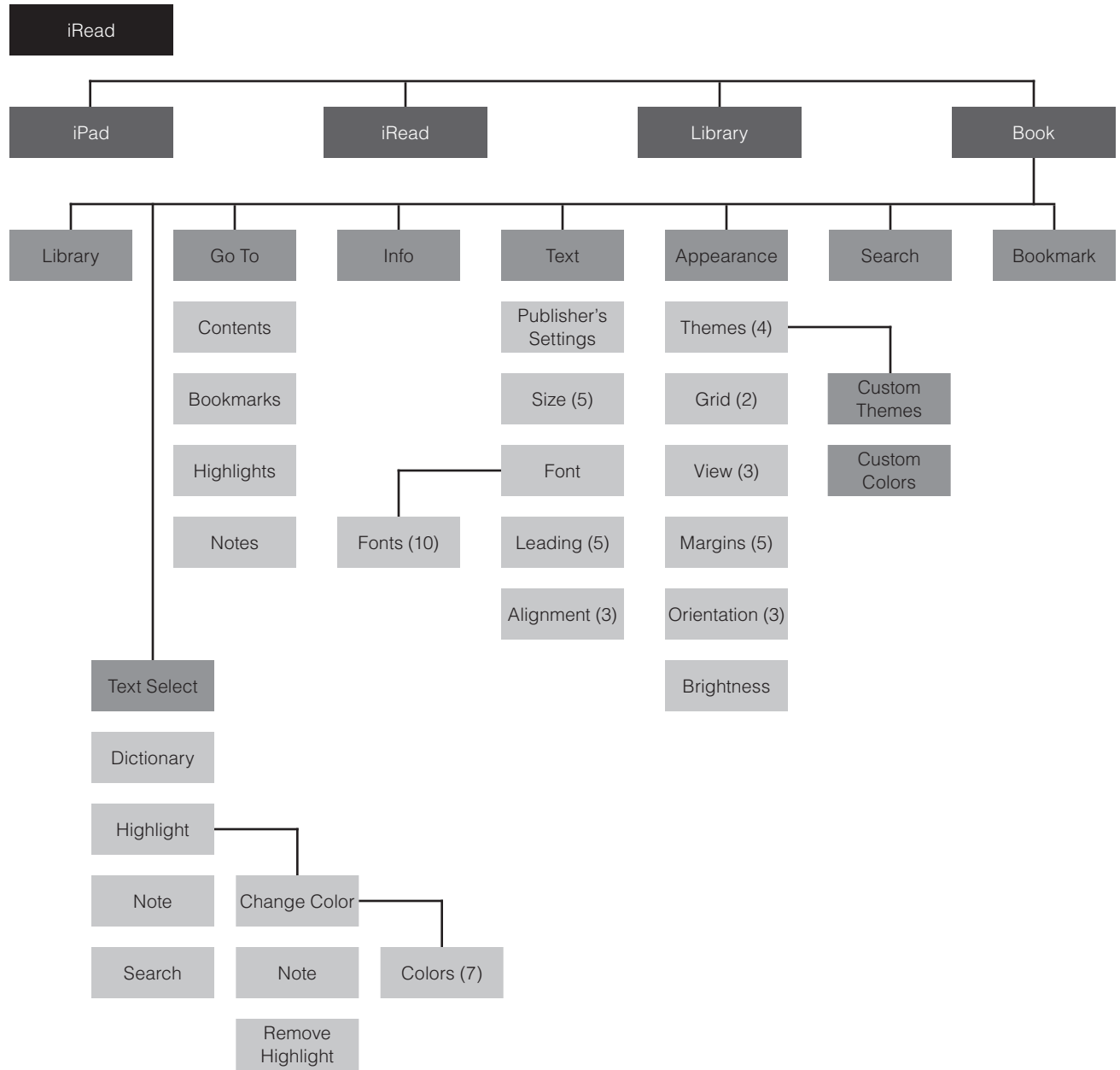




Final Flow Chart

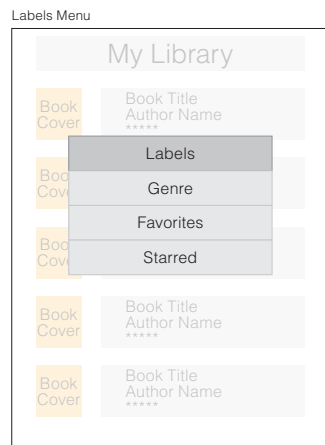
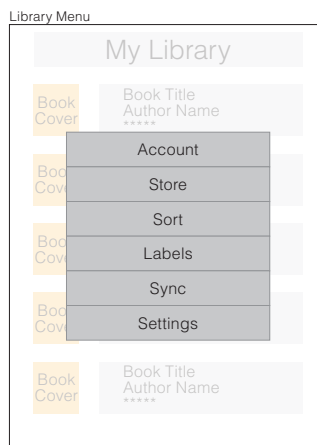
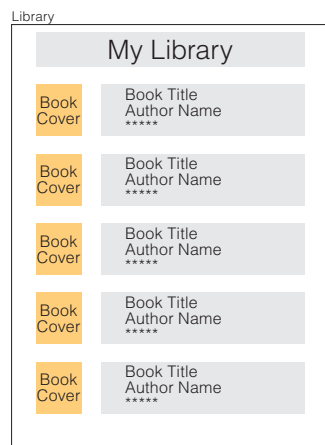
The final project was created in Flash and the .swf file was embedded in a website for the easiest access to users. Users can click on all icons and menus to see an example of each option. This flow chart maps out all the project.



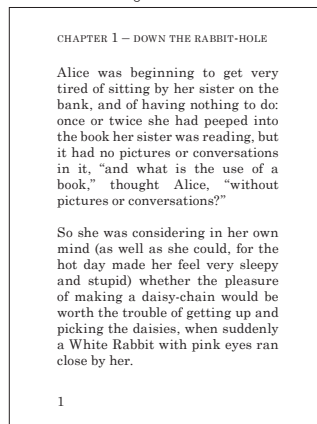


Initial Sketches

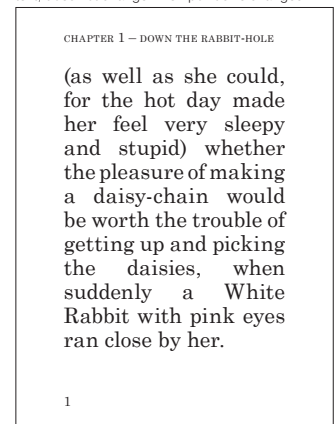
The initial sketches illustrate the design and layout of both the library and book sections of the application. Also, these are initial concepts for the design of the menus and options as well as how they would function from one selection to the next.



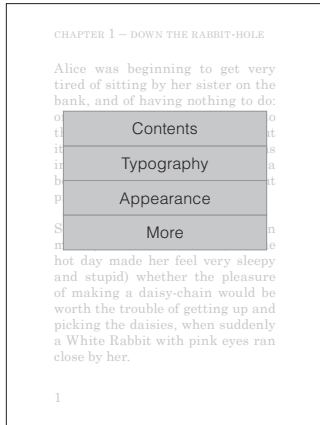
Page View – Headers and footers remain true to traditional book design



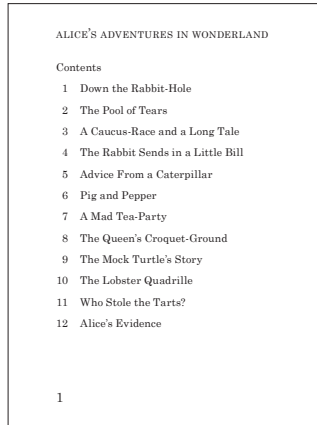
Page View – Page number includes X amount of text, does not change when point size changes



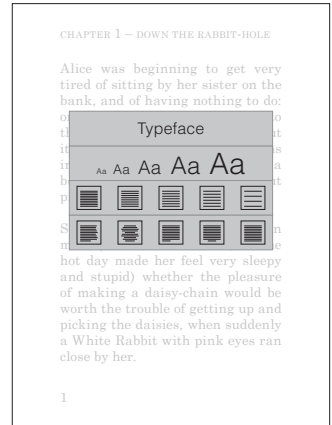
Main Menu (when in the book)



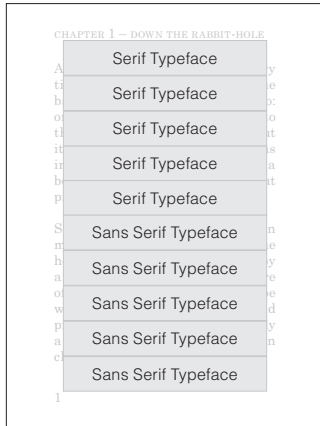
Contents - Tap to jump to chapter



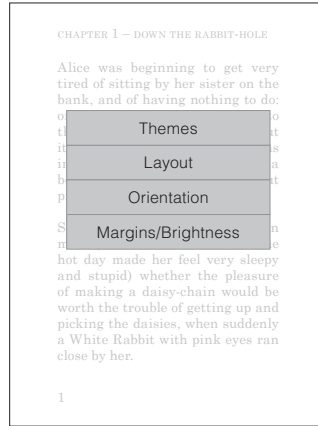
Typography Menu



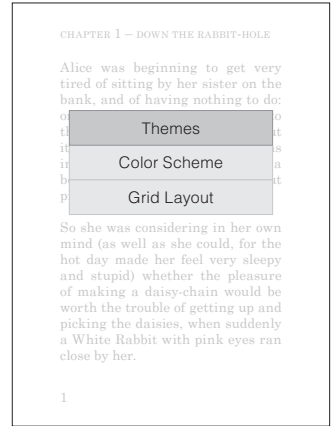
Typeface Menu



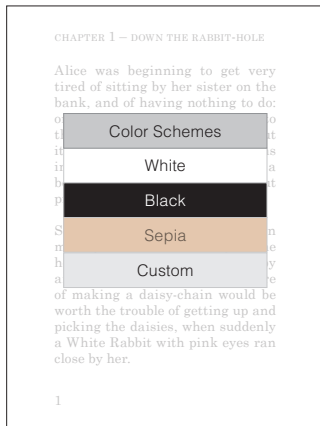
Appearances Menu



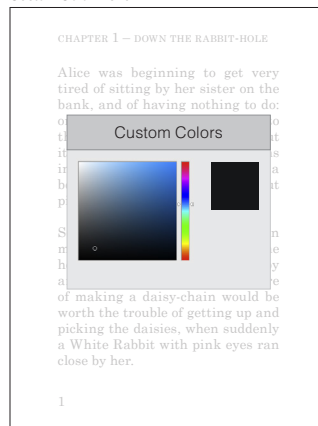
Themes Menu



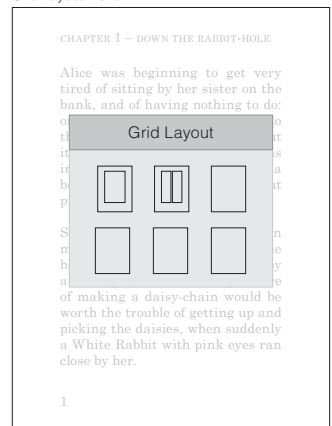
Color Schemes Menu



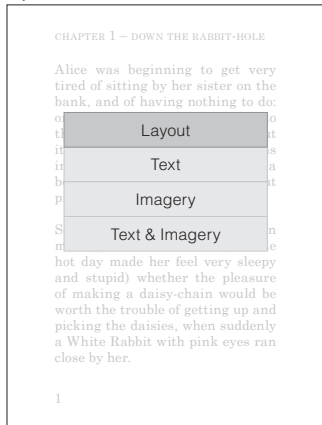
Custom Color Menu



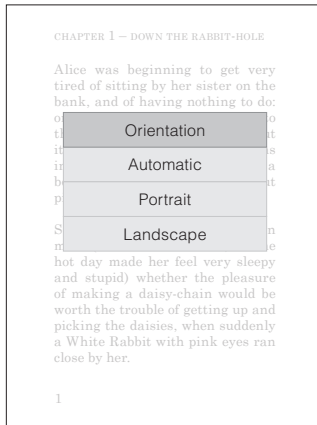
Grid Layout Menu



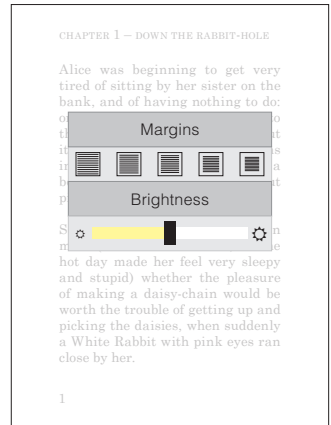
Layout Menu



Orientation Menu

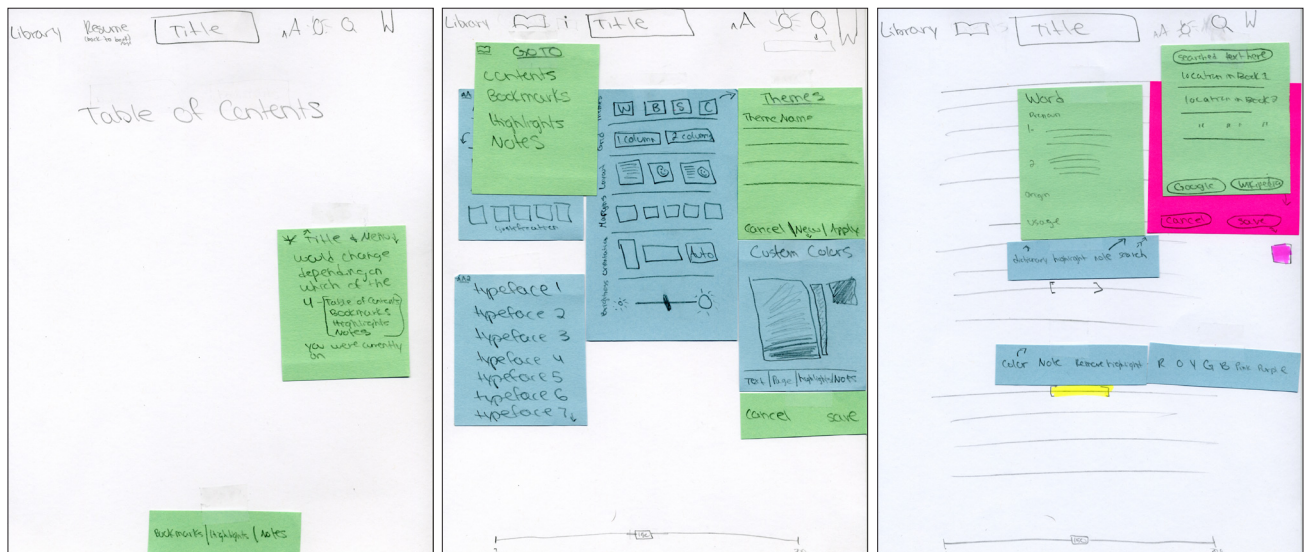
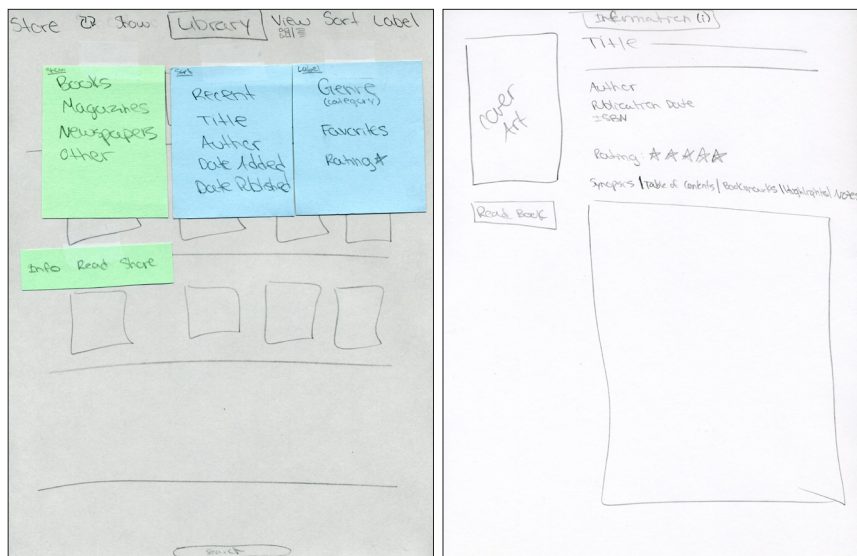


Margins/Brightness Menu



Rough Sketches

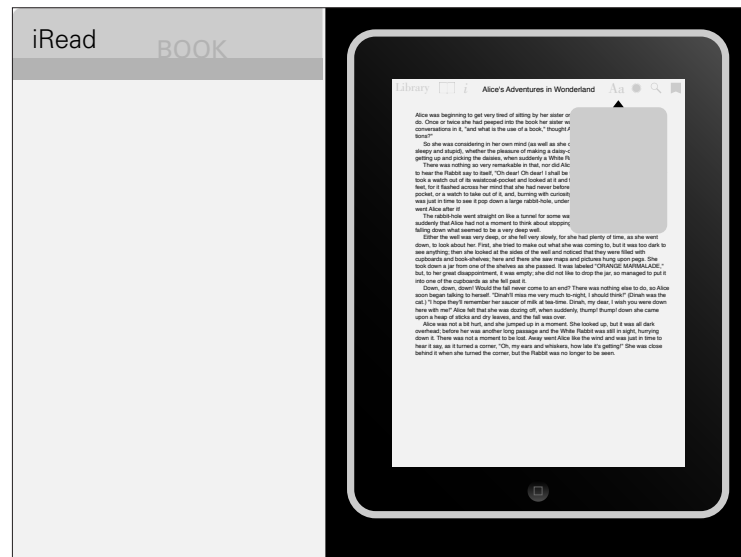
The rough sketches were used to plan out the design and layout of the top menu bars for both the library and book sections of the application. The menus and all of their options were planned out to ensure the easiest navigational flow for users.



Intermediate Sketches

The intermediate sketches are initial ideas for the design and layout of how the prototype of the iRead application would be displayed to users. A two column layout was used. The left column provides a description and guides users through each section of the project. The right column is a demonstration of the iRead application prototype where users can click on all icons, menus, and options to test how the application would work.

VERSION 1



VERSION 2

iRead HOME

PROBLEM
Can an e-reading portable device application improve the user experience of reading an e-book to become more comparable to that of reading a printed book?

THESIS
Many of the current technologies for e-reading, whether it is the devices or the applications, are lacking navigation tools which limit the reader's experience in comparison to reading a printed book. I am designing an application for reading e-books, to be used on tablet devices such as the iPad, focusing on solving the issues of user wayfinding and orientation for readers of all ages. The application will allow readers to navigate through an e-book in a manner parallel to that of reading a printed book.

PROJECT
My project is a prototype for an e-reading application and has been designed with the intention of being used on the iPad. The focus of the project is on navigation and user wayfinding as well as graphic design.

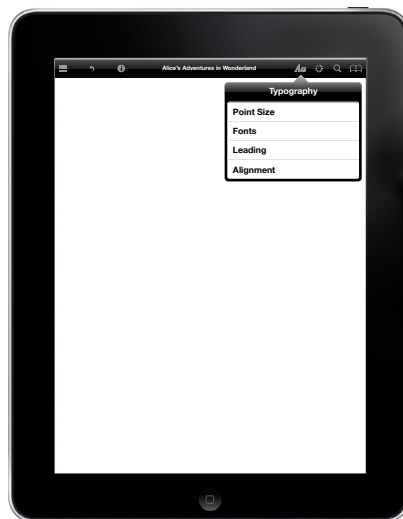
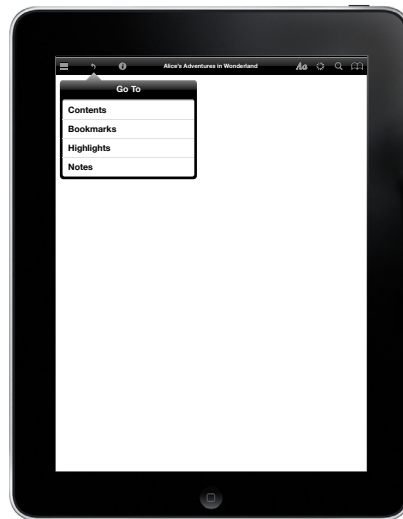
EXPLORE
Click the iRead icon to begin a tour of this e-reading application's features.



iRead BOOK

MENUS
Description goes here.

EXPLORE
Click the icons along the top of the screen to view each of the menus and a sample of each option.



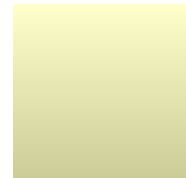
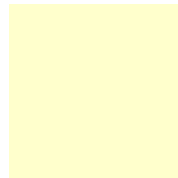
Final Project

IREAD APP ICON

The iRead application icon was designed in Adobe Illustrator. The chosen color scheme was selected to give the application a parchment like color to relate to traditional printed books. Bodoni Std Book was selected because it is a classic typeface and printed books are traditionally set in serif typefaces.

COLOR SCHEME

CMYK	001 000 024 000	022 012 047 000	Gradient
RGB	255 255 204	204 204 153	
WEB	FFFFCC	CCCC99	



TYPOGRAPHY

Bodoni Std Book











FINAL DESIGN



GRAPHIC DESIGN

The project was designed using Adobe Illustrator and Adobe Photoshop. Being a prototype, the project needed some type of explanation for users to be able to understand what they were viewing as they navigated through the demonstration. A two column layout was developed as a solution. The left column provides a project description and guides users through each section of the project. The project was broken down into four main sections—iPad, iRead, Library, and Book. The right column is a demonstration of the iRead application prototype where users can click on all icons, menus, and options to test how the application would work.

COLOR SCHEME

CMYK	001 000 024 000	022 012 047 000	Gradient
RGB	255 255 204	204 204 153	
WEB	FFFFCC	CCCC99	
			
CMYK	075 068 067 090	069 063 062 058	060 051 051 020
RGB	000 000 000	051 051 051	102 102 102
WEB	000000	333333	666666
			
CMYK	043 035 035 001	019 015 016 000	000 000 000 000
RGB	153 153 153	204 204 204	255 255 255
WEB	999999	CCCCCC	FFFFFF
			
CMYK	034 098 096 053		
RGB	102 000 000		
WEB	660000		
			

TYPOGRAPHY

iRead	Bodoni Std Book
GUI text	Helvetica Neue Regular

PROJECT DESCRIPTION PANEL

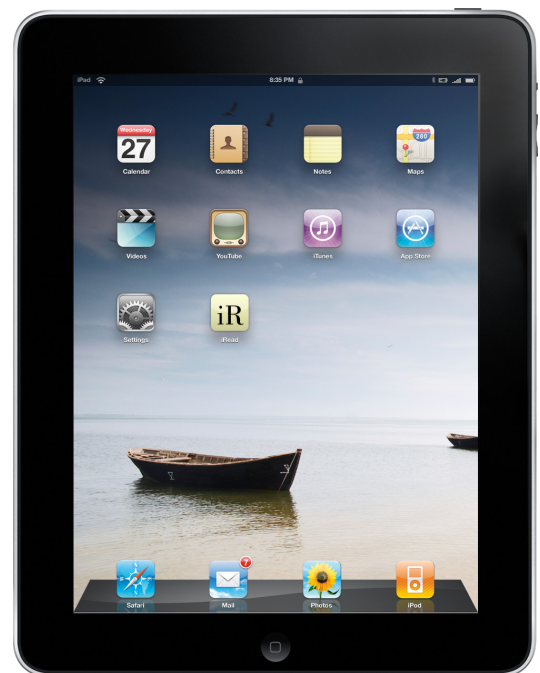
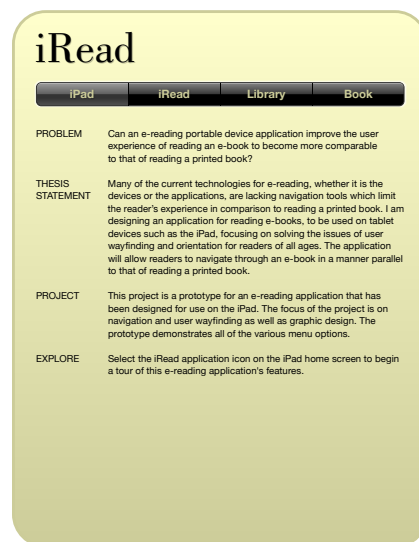
The design for the left panel, project description, uses the same color scheme as the iRead application icon to keep the overall look and feel consistent and focused around the application. The rounded-corner rectangle mimics the shape of both the application icon and the iPad portable device. There is a main navigation system—iPad, iRead, Library, Book—that allows users to easily navigate between the four sections. On the Book section there is a sub-navigation button to take users to a secondary demonstration.

IRead APPLICATION DEMO PANEL

The design for the right panel, iRead application demonstration, uses a vector image of an iPad as the consistent background and the demonstration occurs on the iPad “screen.” The demonstration simulates interaction with the iRead application as if it was actually a functional app on an iPad. The color scheme throughout the iRead application is black, white, and a range of grays. I chose these colors to keep the application simple and subdued so as to not be distracting to readers. I used Helvetica Neue Regular for all the text because it is an unadorned sans serif typeface that is easy to read.

IPAD

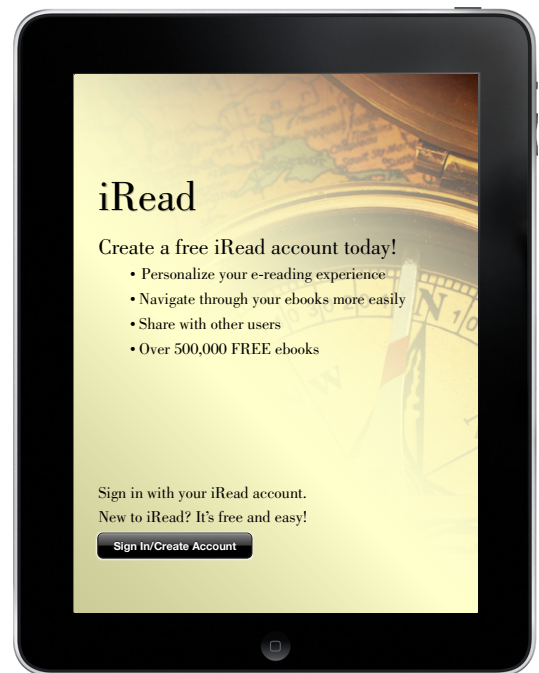
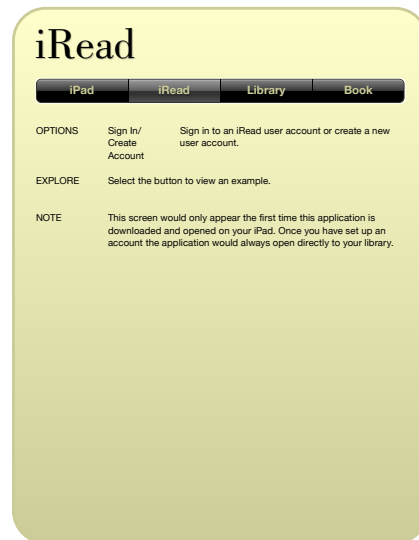
The first section, iPad, is a brief explanation of my thesis and the project. I chose to start with this section because in reality users would initially begin interaction with the home screen of an iPad. The design mimics what would actual be seen on the home screen of an iPad. In this section users simply select the iRead application icon to “open” the application which takes them to the next section, iRead.



IREAD



The second section, iRead, is the initial screen users would see when opening the application. This screen would only appear the first time this application is downloaded and opened on an iPad. Once the user has set up an account the application would always open directly to the users library. In this section users would sign in or create an account. The “Sign In/Create Account” button has been made interactive. When the button is selected, a pop-up window appears where the user would enter an email address and password. Selecting the “Sign In” option would take users to the library of their existing iRead account while selecting “Create Account” would take the user to the next steps for setting up a new account.

The design of this initial iRead screen uses the same color scheme and typeface as the iRead application icon for consistency. The background image was selected because a map and compass symbolize the main focus of the project which is about navigation and user wayfinding, in addition to user personalization. The button uses the same color scheme and typeface that is used for all the guided user interface elements of the iRead application.



LIBRARY

The third section, Library, houses a users books and other types of media and gives access to the application's store. Users can select all icons to see a demonstration. The top menu bar of the Library has the following options:

Library		
Store	Store	Opens the iRead store where books and more can be purchased and downloaded.
Sync	Sync	Synchronizes the device to the users account across all devices.
Show	Show	Select the type of publication currently viewed in the library. (Books, Magazines, Newspapers, Other)
	Search	Enter a phrase to easily find a publication in the library.
Sort	Sort	Organize the books in the library. (Title, Author, Category, Recent, Date Published, Date Added, Rating ★)
	View	View rows of book covers or a list with details.

If a user taps the book cover it opens the book to the first page. A book cover can be tapped and held to open a secondary book menu with the following options:



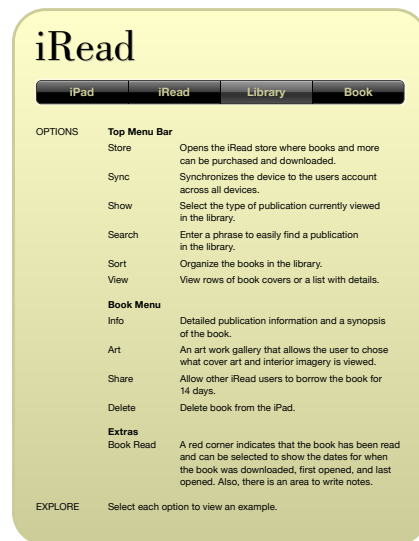
Info	Detailed publication information and a synopsis of the book.
Art	An art work gallery that allows the user to chose what cover art and interior imagery is viewed.
Share	Allow other iRead users to borrow the book for 14 days.
Delete	Delete book from the iPad.

One additional feature is an indicator on the corner of a book cover.











Book Read	A red corner indicates that the book has been read and can be selected to show the dates for when the book was downloaded, first opened, and last opened. Also, there is an area to write notes.
-----------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

The design of the Library background was kept white with light gray divider lines to ensure there was no distraction from or difficulty viewing all the menus and cover images. The menus use the black, white, and gray color scheme as well as the Helvetica Neue Regular typeface that is used for all the guided user interface elements throughout the iRead application. The “Book Read” indicator was designed to be red so that users can quickly identify what books they have already read.



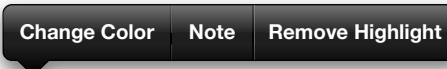


BOOK

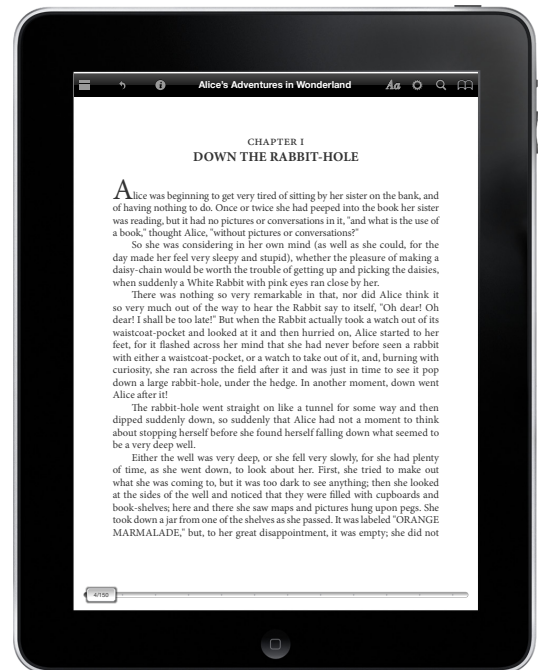
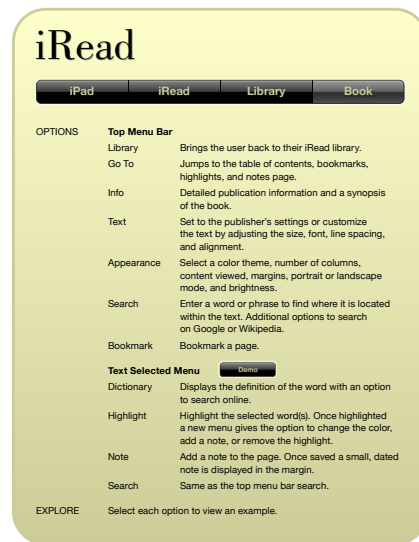
The fourth section, Book, is a demonstration of how the application would function once a user had opened and was reading a book from the Library. Users can select all icons to see a demonstration. The top menu bar of the Book has the following options:

		
	Library	Brings the user back to their iRead library.
	Go To	Jumps to the table of contents, bookmarks, highlights, and notes page. (Contents, Bookmarks, Highlights, Notes)
	Info	Detailed publication information and a synopsis of the book.
	Text	Set to the publisher's settings or customize the text by adjusting the size, font, line spacing, and alignment. (Publishers's Settings, Point Size, Font, Line Spacing, Alignment)
	Appearance	Select a color theme, number of columns, content viewed, margins, portrait or landscape mode, and brightness. (Themes, Grid, Elements Viewed, Margins, Orientation, Brightness)
	Search	Enter a word or phrase to find where it is located within the text. Additional options to search on Google or Wikipedia.
	Bookmark	Bookmark a page.

If a user selects a word or phrase in the book a secondary menu pops up with the following options:

		
		
Dictionary	Displays the definition of the word with an option to search online.	
Highlight	Highlight the selected word(s). Once highlighted a new menu gives the option to change the color, add a note, or remove the highlight.	
Note	Add a note to the page. Once saved a small, dated note is displayed in the margin.	
Search	Same as the top menu bar search.	

The design of the Book background was left as a clean open space for the text to sit on top of so that there were no distracting elements while a user is reading a book. The menus use the black, white, and gray color scheme as well as the Helvetica Neue Regular typeface that is used for all the guided user interface elements throughout the iRead application. The black menu bar at the top blends into the surrounding face of the iPad portable device. The “Bookmark” indicator was designed to be red so that users can easily notice it when flipping through the pages of a book.



MILESTONE

After I had completed all of the design work I reached out to my focus group for feedback on the design before I progressed further into the project. A PDF of static views of the main sections and their corresponding menus was compiled and sent to the entire focus group. I received feedback from a small portion of the focus group. Some of the feedback comments were related to the functionality of the iPad or were things beyond the scope of the prototype. I responded to all participants, giving answers to questions or explanations for resulting changes I made. There was also some very useful feedback that I implemented into the design.

APPENDIX III

See Appendix III for details on the milestone.

INTERACTIVE DESIGN

After the graphic design was completed for all elements of the project, the next step was to make the project interactive. Initially, I had planned on using Adobe Dreamweaver to create the final project as a website. I met with a web design professor to discuss the best way to build the website. After walking through the entire project and explaining how I needed it to look and function, it was concluded that using Adobe Flash would be a much better, easier, faster, and more successful route to complete the project as it was originally intended. Trying to make the project a functional website using HTML, CSS, and various jQuery would have been unnecessarily difficult and would not have enabled me to achieve the functions and look I had planned on.

Adobe Flash was used to add all the interactive functions. The project was coded in Adobe Flash using ActionScript 3.0, invisible buttons, and a small amount of animation.

APPENDIX IV

See Appendix IV for all of the ActionScript code.

WEBSITE DESIGN

Once the interactive work was completed, Adobe Dreamweaver was used to insert the .swf file into a website so that the project was more accessible to users. A header was used to add a descriptive title to the left and right panels. A footer was used for copyright purposes.

<http://sarahfedigan.com/thesis/>

See Appendix V for all of the HTML and CSS code.



Summary

Evaluation Survey

The evaluation survey is about the iRead application prototype to find out if users found the application to be a successful solution. The questions are focused on evaluating the ease of navigation, user wayfinding, and personalization throughout the project.

IREAD APPLICATION EVALUATION SURVEY

<http://www.surveymonkey.com/s/NRD5GK3>

QUESTIONS

1. General Information
2. Is the iRead application easy to navigate and understand?
3. Is the typeface used within the iRead application easy to read?
4. Are the icons throughout the iRead application easy to understand?
5. Are all the instructions and labels within the iRead application clear and easy to follow?
6. Is the iRead application more organized and user friendly than current e-reading applications and devices?
7. Are the background graphics, for both the description panel (left) and the iRead application user interface (right), appropriate and not distracting?
8. Are there any confusing elements in the iRead application?
9. Overall, how satisfied were you with the iRead application as an e-reading application for the iPad?
10. Is there anything missing from the iRead application that would enhance the user experience? Any additional comments would be greatly appreciated.

RESPONSES

Out of the 28 possible participants there were 17 respondents. The responses were overwhelmingly positive, concluding that the iRead application prototype was successful.

APPENDIX V

See Appendix VI for details on the entire evaluation survey.

Conclusion

Conclusion

I have developed a prototype for a new e-reading application for the iPad. I strove to create an application that improved the user experience of reading an e-book to become more comparable to that of reading a printed book. To accomplish this goal, I focused on personalization, navigation, and user wayfinding. Users can now orient themselves and interact with the book through various methods, including highlighting, note-taking, searching, and sharing with other users. The iRead application allows readers to navigate through an e-book in a manner that is more parallel to that of reading a printed book.

There will always be technological advancements and a need for improvements in design. The debate about printed versus digital reading will continue on for years. Multi-purpose tablet devices could become the leading e-readers or consumers may decide they prefer e-reading dedicated devices. Both professionals and everyday consumers have differing opinions and preferences. There is not necessarily a right or wrong answer. One major problem with digital reading has revolved around pagination. While everyone may have certain personal preferences, it should not be left up to consumers to decide what is best. Professionals need to make solid decisions about the best type of pagination to be used in digital formats. Designers and developers will have a constant challenge trying to resolve all of the issues that surround reading and navigation in digital formats. Guided user interface design will be forever evolving and newer and better solutions will be found continuously.

Appendix I

Thesis Proposal

[Name of App]: An Application for Enhanced Reader Navigation on E-Reading Tablet Devices

Sarah Elizabeth Fedigan

Thesis Proposal for the
Master of Fine Arts Degree
Rochester Institute of Technology
College of Imaging Arts and Sciences
School of Design
Graphic Design

Thesis Proposal for the Master of Fine Arts Degree

Rochester Institute of Technology
College of Imaging Arts and Sciences
School of Design
Graphic Design

Title [Name of App]: An Application for Enhanced Reader Navigation
on E-Reading Tablet Devices

Submitted by Sarah Elizabeth Fedigan
Date November 17, 2010

Thesis Committee Approval

Chief Advisor	Date
Associate Professor Nancy A. Ciolek	
Graphic Design	

Associate Advisor	Date
Associate Professor Chris Jackson	
Computer Graphics Design	

Associate Advisor	Date
Curator/Professor David Pankow	
Cary Library/Printing Technologies	

School of Design Chairperson Approval

Chairperson	Date
Patti Lachance	
School of Design	

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Website

sarahfedigan.wordpress.com

Situation Analysis

In today's society, new technologies are constantly emerging and old technologies are being upgraded faster than we can blink. Currently, the publishing industry is evolving, as the digital world is becoming more and more a part of people's daily lives. While the traditional print codex form of the book has been around for hundreds of years, there is a new technology that has brought the traditional book into the digital world—e-books. Reading is becoming evermore digital. Many people around the world are picking up portable e-reading devices, often called e-readers, and are leaving their printed books to collect dust on a shelf. Furthermore, people are surfing the web as well as reading newspaper and magazine articles on the Internet or portable devices. As with any new technology, problems arise that need solving.

In terms of the reading devices themselves, there are issues concerning the quality of the display. Some of the most popular devices, like the Sony Reader, Kindle, and Nook, tend to have low resolution, low contrast, and noise in the background. One device that has improved display quality is the relatively new iPad with its backlit LED screen. Some devices have tactile buttons while others have touch screens or a combination of both. On the user end of the situation, there is the dilemma of screen reading and the personal experience one is accustomed to of holding a book in their hands. When holding a printed book, the reader can navigate through it in any manner they chose. Conversely, e-reading devices limit the reader's navigation options.

Currently, the applications used for reading e-books on portable e-reading devices have only a handful of options for users to choose from in terms of navigating through a book and selecting alternative aesthetics for the text. Additionally, there are design issues—mostly noticed and cared about by those in the design community. The design problems found in e-books mainly revolve around the issues of legibility, readability, and layout. In terms of design, this relates to typographic choices, imagery, and grids. Legibility refers to the quality of the typeface design, and readability refers to how the type is set and placed on the page. Despite all these issues, e-books and portable e-reading devices are becoming popular. Resolving these issues will help readers worldwide and possibly help set up new design standards for the future of digital book design and e-reading applications.

Can an e-reading portable device application improve the user experience of reading an e-book to become more comparable to that of reading a printed book?

Problem Statement

Can an e-reading portable device application improve the user experience of reading an e-book to become more comparable to that of reading a printed book?

Reading literature from a screen is becoming increasingly prevalent both in the workplace and the home. Eyestrain due to screen reading is a growing issue and one of the reasons many still prefer to read printed material. Also, it is often felt that there is a specific, enjoyable experience when reading printed materials. The reader is physically holding a piece of literature and often becomes engrossed in the story, blocking out the real world for a short time. Something is lost when reading from a digital format—this could be due to the coldness of holding a piece of technology, a limited ability to navigate through the e-book, or to the poorly designed electronic piece of literature being displayed on the screen. Traditional books have been designed for thousands of years, allowing for various sets of standards to be made in terms of typographic choices, the underlying grids used for page layout, and cover designs. E-books have rapidly become popular; and it seems that, in the race to make them available to consumers, design has been ignored. Furthermore, e-reading applications seem to have been designed just as hastily, tainting a reader's experience.

Typography has historically been developed for printing purposes but with the emergence of new technologies has been adapted for digital displays as the computer and other electronics have come to play a growing role in society. Issues of legibility and readability have become a problem. Legibility and the quality of typeface design are one large area of concern on their own. Typographers have made leaps and bounds in developing screen typefaces, but there may be even better solutions waiting in the future. While choice of typeface is one hurdle for designers, another is setting the type. Many variables need to be considered when setting type, including letterspacing (or kerning), wordspacing, linespacing (or leading), line length (or measure), paragraph alignment, size, and color. All these design elements are considered when setting type for print, and the same attention to design needs to be made when setting type for digital mediums as well.

Traditionally, book design has been done with the goal of publishing a printed book as the end product. Designers have been designing within the format of the traditional codex book for hundreds of years. Now, there is a need to design books in a digital environment that will be published electronically and viewed on a screen. Generally, books have a standard set of structural features. At the minimum, books have a front cover, spine, back cover, title page, table of contents, chapters, headers and/or footers, and pagination. Books also have navigational features. Some navigational aspects of books that help the reader

are the table of contents, chapter openings, headers, footers, pagination, an index, a glossary, and an appendix. Readers are familiar with these standards and they should be included, with the exception of a spine, in an e-book. One significant change when translating a book design to digital format, at least in early e-readers, is the loss of the conventional two-page layout. Books are now viewed as a single page layout. Therefore, creating an electronic book is not as simple as saving the files for print in a different format and sending it out to consumers. One of the most noticeable issues, if this is done, is that the column of text will appear to jump from side to side as the reader scrolls through the pages due to opposing margins. Recently, newer portable e-reading devices have incorporated technology that allows the device to be used in portrait or landscape orientation. When in landscape orientation, some applications allow the reader to view the book as a traditional two-page spread. While the physical packaging of the book, the cover, has been replaced by an electronic reading device, this does not mean there is no longer a need for cover art or other art within the pages of the book—they have simply taken another form. Electronic files allow for a few more convenient features such as links, attachments, audio, video, and other multimedia elements. These features are being included in some e-books, known as hybrid books, in an effort to keep readers interested.

While designing an e-book is one challenge, designing an application in which to read that e-book is a whole other problem to overcome. A lack of navigation tools in e-reading portable device applications have left something to be desired in the user experience of reading an e-book. Readers are accustomed to handling a book in a very tactile manner. Reading can be done three ways. First, a reader can meander through a book randomly. Another option is to read consecutively or from the first page to the last page. A last option is non-consecutive reading, but this is usually structured by the author and the reader follows written instructions to move from section to section. Presently, e-reading applications are geared toward consecutive reading. Some applications use traditional pagination while others use a percentage bar. There are not many options available to the reader, beyond searching for a word or selecting a chapter, to engage in random reading or other non-consecutive manners. Also, readers are limited to a very small selection of typefaces and point sizes, if any at all, and have no option to control leading. When it comes to color, there is even less of an opportunity for personalization. In some applications the user can change the text and background color. There is the potential to add an option for appearance themes that would allow the user to select color themes as well as a variety of grid layouts. Another possible feature would be giving the user an option to show text, text and images, or just images. E-reading applications should be more focused on wayfinding and allowing the user to orient themselves with the book in any manner they please.

A lot of the current technologies for e-reading, whether it is the devices or the applications, are lacking navigation tools which limit the reader's experience in comparison to reading a printed book. I am designing an application for reading e-books, to be used on tablet devices such as the iPad, focusing on solving the issues of user wayfinding and orientation for readers of all ages. The application will allow readers to navigate through an e-book in a manner parallel to that of reading a printed book.

To solve these problems it will be important to focus research on typography, book design, digital publishing and e-books, e-reading devices, and application design. All aspects related to books, both traditional and digital, as well as application design and user navigation should be taken into consideration in order to come up with the most effective solution possible. Looking at current e-reading applications such as iBook, Kindle, and Nook will give me an idea of what currently exists as well as what is lacking within these applications.

Survey of Literature

TYPOGRAPHY

E-book Type E-volves

Ed Fierro

November 2000

ID Vol. 47 No. 7 P. 99

Wilson Web: September 12, 2010

<http://vnweb.hwwilsonweb.com/hww/jumpstart.jhtml?recid=0bc05f7a67b1790efb7a419fe6ffc6948c20d6afc603eac8c2385dd0e94c40fcc6a9b8bf4d0a255b&fmt=C>

This is a short article discussing the e-book industry and text display and the changes that will affect typography and design. The audience is anyone involved in the e-book industry from both technical and design aspects. Growing competition is going to generate a need for better design and typography. This article is helpful for my thesis because it presents the emerging typography issues in portable e-reading devices, and in some instances the e-books themselves, that designers are now faced with solving.

Typography and Graphic Design: From Antiquity to the Present

Roxane Jubert

Flammarion 2006

This book is a history of typography and graphic design, beginning with the signs and figures of archaic writing and ending with the advent of the digital era. The author remarks on the importance of understanding the vast history of this topic and being able to make comparisons and interconnections across time. Generally, the book is for graphic designers, specifically those interested in a gaining knowledge of the history of typography. Having knowledge of the history of typography will greatly improve my thesis content in terms of making typographic choices.

Book Typography

Ari Rafaeli

Oak Knoll Press/The British Library 2005

The author presents a personal view of modern book typography in addition to universal principles, focusing on the design of literary texts, with the intent to instruct. Topics included are page layout, space, page size, use of imagery, and typographic considerations such as point size and typeface. The audience for this book would be a graphic designer who was interested in book design and/or looking to design a book. While I will not be creating a printed book, knowing the principles of traditional book design will allow me to learn from and adapt them to the design of an e-book and deciding what typefaces should be available within the portable e-reading device application.

BOOK DESIGN**Book Art & Web Art: A Forum**

Gwen Allen

March 2006

Umbrella Vol. 29 No. 1

Wilson Web: September 12, 2010

<http://vnweb.hwwilsonweb.com/hww/jumpstart.jhtml?recid=0bc05f7a67b1790efb7a419fe6ffc694e79e9a53020a594ab2f19b1bbf0c6a0e1f254681ed7f0c1f&fmt=H>

The relationship between book art and web art is discussed. Questions are posed about how printed matter will translate to electronic media. The author argues both sides, offering her thoughts on the pros and cons of both the printed page and the screen. Readers of this article would be designers affected by the changes in the industry or those looking to make a transition. This is a useful article in terms of understanding how other artists and designers are viewing the changes from print to electronic as it brings to light things I should keep in mind throughout the entire thesis project.

E-books Will Make Designers More, Not Less, Important

Scott Billings

January 25, 2007

Design Week Vol. 22 No. 4 P. 7

Wilson Web: September 12, 2010

The article discusses the possible impact of e-books on book designers, drawing on views given by speakers at a conference on contemporary book design. The author includes comments from Jim Stoddart, the art director at Penguin Press, who is arguing that e-books will increase the importance of print book designers. Geared toward traditional book designers, this article demonstrates how e-books are affecting the publishing industry. It is useful to know how this new technology is affecting the publishing industry. Also, while this emphasizes the importance of great design for the printed book, it shows that e-books will need to be designed increasingly better in order to compete with the traditional book.

New Book Design

Roger Fawcett-Tang

Laurence King Publishing Ltd 2004

Fawcett-Twang covers all aspects of book design from the external packaging (the cover) to navigation, structure, and finally production specifications. It is specifically geared towards book designers, going beyond the everyday paperback novel to more highly designed artistic books. The section on navigation will be most useful to my thesis work as users of e-books can only view a single page at a time and cannot literally pick up a book and physically orient themselves with it by flipping through it. Also, this book illustrates the competition e-books have with visually stimulating traditional books.

Grid Systems in Graphic Design: A Visual Communication Manual for Graphic Designers, Typographers and Three Dimensional Designers

Joseph Müller-Brockmann

Arthur Niggli Ltd., Publishers 1981

Müller-Brockmann has focused the majority of the books content on grid systems but has also included some information on paper size and typography. Included in the book are a variety of visuals, both line art and photographs. The book was written for graphic designers, typographers, and three dimensional designers. This resource will be most beneficial to me when determining the underlying grid structure of both the e-book and the application.

The Design of Books

Adrian Wilson

Reinhold Publishing Corporation 1967

This book is a great introduction to book design, covering all aspects of the process from preparing layouts to production processes. The author covers layout, typography, printing methods, paper, anatomy of the book, design approaches, binding, jackets and paperback covers, as well as trade book design, text books, references, manuals, and limited editions. Both small run or specialty books and mass-market books are discussed. The book is geared toward graphic designers who has a base knowledge of the terms related to book design. The sections on typography and layout will be most useful to me as those are the main design considerations in e-books. Also, the section on the anatomy of a book will be valuable when deciding what navigational tools to incorporate to help readers easily get to a desired part of the book.

DIGITAL PUBLISHING AND E-BOOKS

In Study, Children Cite Appeal of Digital Reading

Julie Bosman

September 29, 2010

The New York Times P. C3

ProQuest: September 30, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=2149151241&sid=3&Fmt=3&clientId=3589&RQT=309&VName=PQD>

The author talks about children's growing interest in reading books on digital devices. The article is a brief review of a Scholastic study. E-book and e-reading device companies would benefit from reading this as well as parents of children who like to read or use any type of digital device. This article shows that e-reading is becoming more popular. Also, it demonstrates the need to make my e-reading application functional for both children and adult users.

Print and Electronic Text Convergence

Edited by Bill Cope and Diana Kalantzis

Common Ground Publishing 2001

The book is an extensive overview of the emerging and growing book technologies. Each section has been contributed by a different author or multiple authors which allows for a broader view of the topic. The book is geared toward an audience with an intermediate knowledge of publishing. Having a better understanding of how the move from print to digital is taking place and the technologies enabling that transition will be integral in designing an application that gives users the experience and text quality they are accustomed to with the traditional codex book.

The End of Paper?

Michael Copeland

2009

Fortune P. 66-72

Academic Search Elite: October 15, 2010

<http://ezproxy.rit.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=afh&AN=36868773&site=ehost-live>

This article is a discussion of the business model of e-reading, whether it will succeed or fail, focusing mainly on reading newspapers and magazines. The author also writes about the related devices and technology—where it is now and where it is going. The best audience for this article would be professionals in the publishing and advertising industries as well as those interested in reading newspapers and magazines electronically. This article is useful in terms of its discussion of e-reading technology. I am focusing on designing an application for an e-reading device with color capabilities, and in this article emphasis is put on the fact that this industry will only succeed if color can be successfully integrated into these devices.

Electronic Books and ePublishing: A Practical Guide for Authors

Harold Henke

Springer-Verlag London Limited 2001

As a “practical guide” this book includes information on both designing electronic books and electronic publishing. Also, the author includes a history of the evolution of electronic book technology, research from usability testing, and information on the business side of publishing. The book would be useful to anyone who desires to create an electronic book or simply learn about the topic. This will be a resource of substantial importance once work on the thesis project begins, and it is a great supplement to my current knowledge that may aid in the development of the project.

The Handbook of Digital Publishing

Volume 1

Michael L. Kleper

Prentice Hall PTR 2001

The handbook offers vast amounts of information and insight into the workflow of producing and publishing any type of digital document. Kleper has included every step of the process from the initial content generation to distributing the final product. The book is not necessarily best for a beginner as it may seem overwhelming so would be used by an audience that already has a solid knowledge of the subject matter. It is a useful handbook for my task of designing an application for reading e-books. While the information on typography will be of importance for designing the e-book to be used within the application, the section on design and layout for screen will be of greater significance in terms of making choices for the layout of the application.

The Generation Beyond Print-on-Paper

Michael Kleper

Printing Industry Center at Rochester Institute of Technology 2002

This paper compares and contrasts paper and screen display, examines “paper-like” screen display technology, details about the technology used, and includes feedback from experts in the field. The paper is geared towards students and professionals in the printing industry. Designing for screen display has its challenges, but one cannot accomplish this successfully without an understanding of the technology it will be used on. Having a detailed knowledge of the technology my end product, an application and e-book, will be viewed on will result in the best possible use of both typographic and wayfinding elements.

Curling up with Hybrid Books, Videos Included; (The Arts/Cultural Desk)

Motoko Rich

October 1, 2009

The New York Times P. A1

ProQuest: October 1, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=1869564471&sid=1&Fmt=3&clientId=3589&RQT=309&VName=PQD>

Rich discusses hybrid books which are similar to e-books but are supplemented with audio, video, or both. These hybrid books are being produced to “keep readers interested in an archaic form of entertainment.” Various individuals are quoted, speaking of the pros and cons. Someone interested in technology, electronics, or e-books would find this article appealing. I find it useful because it gives me an idea of where technology is going and how people are interacting with e-books.

Of Two Minds About Books

Matt Richtel and Claire Cain Miller

September 2, 2010

The New York Times P. B1

ProQuest: September 30, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=2126804451&sid=2&Fmt=3&clientId=3589&RQT=309&VName=PQD>

The authors discuss the battle between printed books and e-books, presenting quotes from couples who are at odds over which format is better for reading. The couples talk about why they like reading in the opposing formats. Also, information on how the printing industry is dealing with this new technology is included in the discussion. This article is best for anyone trying to sort out the dilemma of reading in print versus reading from a screen. This is useful to me because it reveals what people do and do not like about reading e-books and using e-reading devices. Knowing this will help me when deciding what features to include in the application I design.

E-READING DEVICES**Barnes & Noble Introduces NOOK(TM) for Android(TM) – An Easy-to-Use Free eReader Application for Android Devices**

July 22, 2010

Business Wire 1594 words

ABI/INFORM Dateline: October 15, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=2088295501&Fmt=3&clientId=3589&RQT=309&VName=PQD>

Barnes & Noble has introduced its Nook application for Android devices. The article highlights the key features of the application. Users of Android mobile devices would be interested in this information. Knowing what already exists is integral in developing an application that improves the readers experience.

Photonics: E-ink Goes Colour

2009

Nature P. 1080

MAS Ultra - School Edition: October 15, 2010

<http://dx.doi.org/10.1038/4581080e>

This is a brief article on improvements in color display technologies, describing how this new technology works. The article claims this technology works fast enough for video displays. The article is rather scientific in nature and would be best for professionals in the e-reading device field. This is of importance because it shows that this industry is moving forward and the application I will be developing may have the potential to go even further when video capabilities are integrated into e-reading devices.

Change Your Life to Suit Your iPad

Christopher Breen

September 2010

Macworld Vol. 27 No. 9 P. 30-31

EBSCOhost Academic Search Elite: October 1, 2010

<http://ezproxy.rit.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=afh&AN=53391512&site=ehost-live>

Breen gives a personal review of the iPad after living with it for two months.

He discusses how, where, and why he uses the device. Anyone who owns or is interested in purchasing an iPad would find this article of interest.

Currently, the iPad is the best tablet device for the e-reading application I will be developing. This article is useful to me because it shows how people interact with the iPad and in what context users would possibly be using the application I design.

Reading E-Books in All the Colors of the Rainbow

Anne Eisenberg

September 11, 2010

The New York Times P. BU3

ProQuest: September 30, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=2135780751&sid=1&Fmt=3&clientId=3589&RQT=309&VName=PQD>

This article discusses the technology of e-reading devices—those that include color and those that currently lack that wonderful feature. The author points out that there are e-book consumers who do not want this feature and that the market will split into two—multifunctional color tablets and e-books readers.

The best target audience for this article would be those developing e-reading devices, multifunctional tablets, and e-books. The application I am developing would be for use on a color tablet so it is interesting to know that not all users want color and that some devices may remain colorless.

Finding the Best Way to Read Books on an iPad

Walter S. Mossberg

September 16, 2010

Wall Street Journal P. D1-2

ABI/INFORM Global.: October 1, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=2138865811&sid=1&Fmt=3&clientId=3589&RQT=309&VName=PQD>

Mossberg compares three e-reading apps—iBook, Kindle, and Nook, discussing the pros and cons of each and coming to the conclusion that they are all comparable. The best audience for this article is anyone interested in e-books and e-reading devices. The author compares the various features as well as the visual design of all three. This article gives me a better idea of what already exists and what users like and dislike which will help when making decisions about what to include in the e-reading application I create.

Going Out of Print

Wade Roush

May, 2010

Technology Review P. 84-86

ABI/INFORM Global: October 15, 2010

<http://ezproxy.rit.edu/login?url=http://proquest.umi.com/pqdweb?did=2063109291&sid=1&Fmt=3&clientId=3589&RQT=309&VName=PQD>

This article discusses e-reading devices and their effect on the publishing industry. The authors emphasize the need for publishers to adapt and find a way to use e-reading to their advantage if they want to survive this wave of new technology. The best audience for this article would be anyone in the publishing industry or individuals interested in e-reading. This article shows that the e-reading industry is rapidly advancing and that there is reason to develop new applications, devices, etc. for readers.

APPLICATION DESIGN**Tapworthy: Designing Great iPhone Apps**

Josh Clark

O'Reilly Media 2010

While this book is focused on designing apps for the iPhone, it is relevant for creating apps for any similar device or purpose. The book takes the reader through the entire process of deciding what you want the app to do to making it available in the market with other apps. One important section of the book deals with screen rotation which is one major feature becoming more popular in portable e-reading devices. It is targeted to designers, programmers, managers, and marketers looking to create an application for any purpose desired. I will not literally be designing a fully functional application but knowing every little detail that goes into creating one will help when deciding what to include and creating the actual design.

Designing Web Navigation

James Kalbach

O'Reilly Media 2007

The author starts out by discussing the foundations of web navigation and then moves into the framework for navigation design. This book is focused on a single topic of web site development—navigation design. The book is mainly for web designers, creating navigation systems for large, information-rich sites, but would also be beneficial to managers and other non-designers involved in the process. As my focus is on improving user experience through enhanced navigation tools in e-reading applications, this book will be extremely helpful in deciding what to include and how to structure the navigation system.

Designing the User Interface: Strategies for Effective Human-Computer Interaction

Fourth Edition

Ben Shneiderman and Catherine Plaisant

Pearson Education 2005

The book is about usability of interactive systems and includes sections on development processes, interaction styles, and design issues. This book is written for students, researchers, designers, managers, and evaluators of interactive systems and is intended to be kept and consulted when working on new projects. The section on interaction styles will be most useful to me, mainly chapter seven which covers the topic of menus as I am focusing on wayfinding and user orientation.

Text in the Book Format

Keith Smith

The Sigma Foundation 1989

Smith discusses the format, space, and movement through a book. The book would be most beneficial to a book designer. The sections on format and space will be of use when designing an e-book to be used in the application, but the section on movement which discusses itineraries through a book will be extremely important when creating the application. There are various ways a reader may chose to move through a book, including all possible navigational elements to allow for this movement will be integral to designing an application that enhances user experience.

Web Site Usability: A Designer's Guide

Jared M. Spool

Morgan Kaufmann Publishers 1999

This is a report about the theory of web site design based on extensive research about how people find information. The content covers usability, navigation, links, searching, readability and page layout, and graphic design. Web designers would find this book useful. As I do not have the time to do a lengthy research study, this will help me understand how users prefer to navigate through a web site to get the information they want.

Methodology

For this project I will be developing an application for portable e-reading devices, specifically for the iPad as it is currently the best technology to support this type of application. This will be a visual representation of the application and would not be fully functional for use on a device.

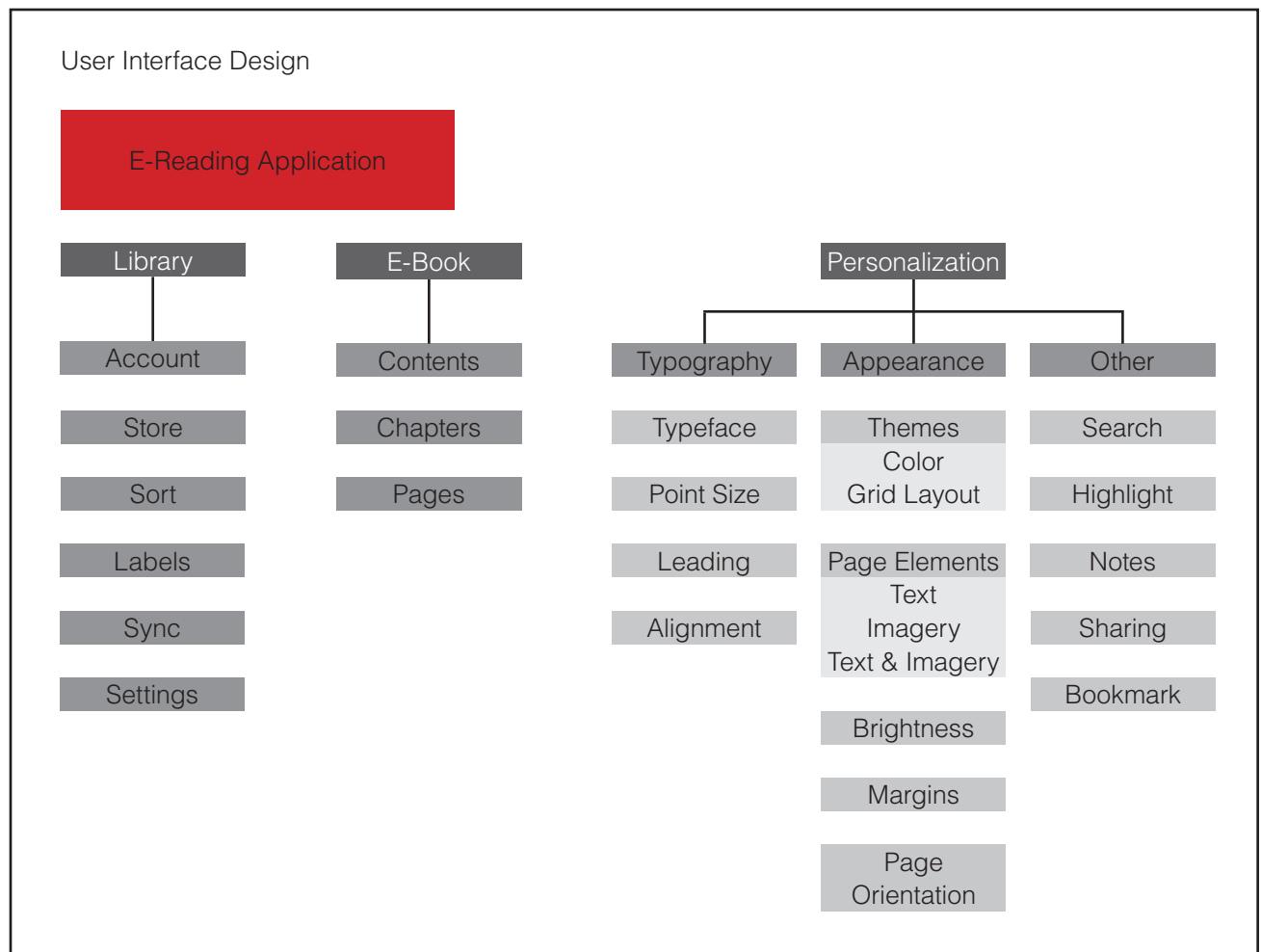
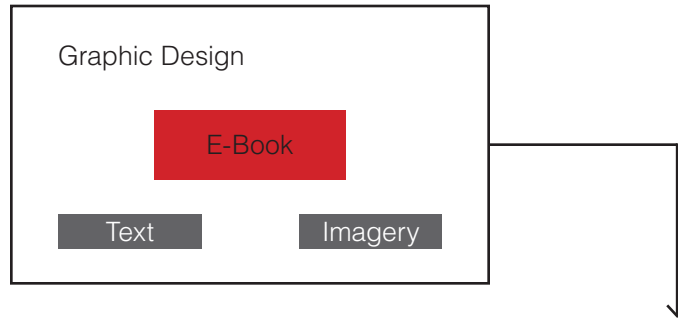
GRAPHIC DESIGN

I will use a copyright free piece of literature from the Gutenberg Project, Alice's Adventure's in Wonderland by Lewis Carroll, to design an e-book to be used within the application for the purpose of demonstrating what the application would be capable of. The chosen piece of literature is one that incorporates both text and imagery.

USER INTERFACE DESIGN

The application will be designed in the format of a web site. Using this format will allow users to actually navigate through the e-book and experience the various features included in the application. I will do a qualitative research study in the form of a survey to test what features users prefer when using a portable e-reading device application. After finding out what users want, like, and dislike, I will determine what wayfinding features will be included in the application.

Flowchart



Target Audience

The application will appeal broadly to a wide target audience. This would include anyone who speaks English and has at least basic reading skills. I have included all age groups as it is becoming more prevalent for both children and adults to have access to and use e-reading portable devices. Both males and females with at least basic reading skills have been included. Individuals or families of the working class or above have been targeted as they have the means to purchase and use e-reading portable devices. Race and marital status are not relevant. Within these demographics, individuals in the target audience would have an interest in reading and possibly interests in electronics and technology. Geographically, the audience would mainly be those living in the United States but may include those who speak and read English in other countries.

DEMOGRAPHICS

Age	All age groups
Gender	Male or female
Income	Working class+
Race	Not applicable
Education	Basic reading skills+
Marital Status	Single or married

PSYCHOGRAPHICS

Interests	Reading Electronics Technology
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GEOGRAPHICS

United States
Other English speaking/reading countries

Implementation Strategies

To complete this project I will use Apple hardware and Adobe software.

TECHNICAL TOOLS

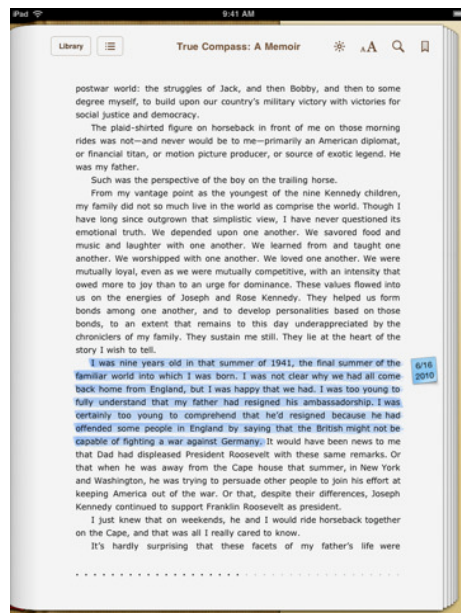
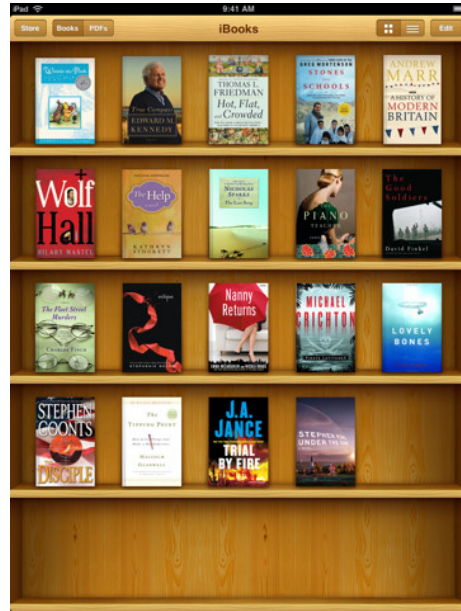
Hardware	MacBook Pro 17" iPad	
Software	Graphic Design	InDesign Illustrator
	User Interface Design	Photoshop Dreamweaver

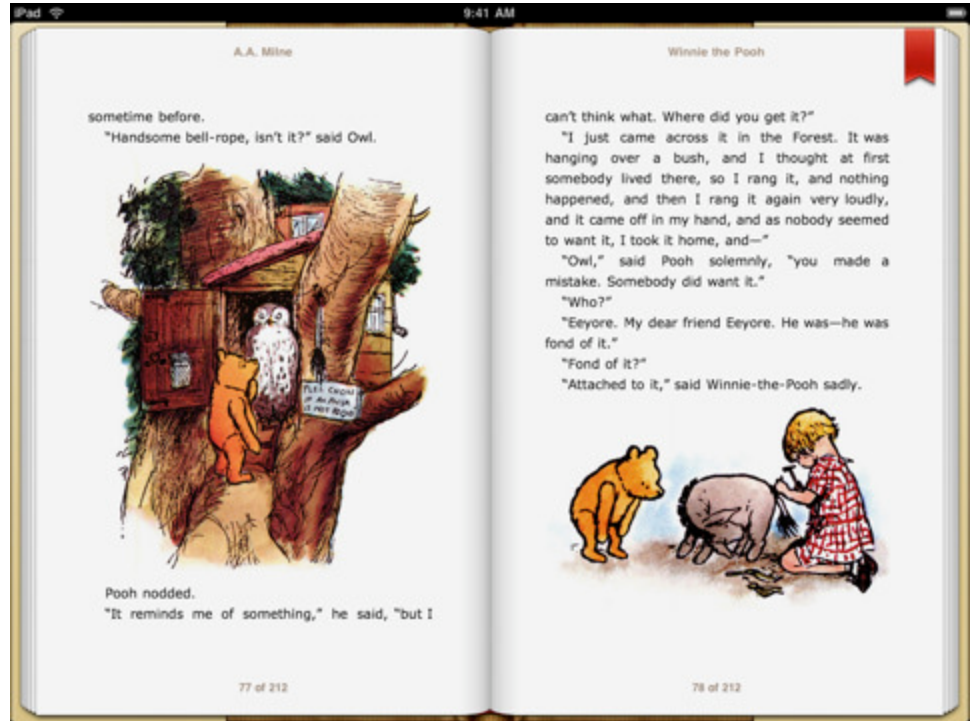
Design Ideation

EXISTING SOLUTIONS

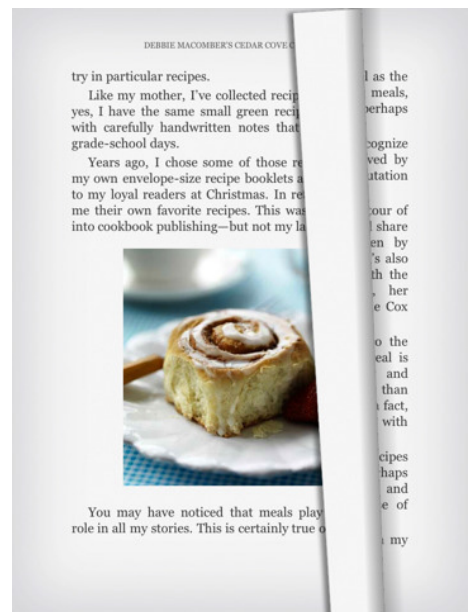
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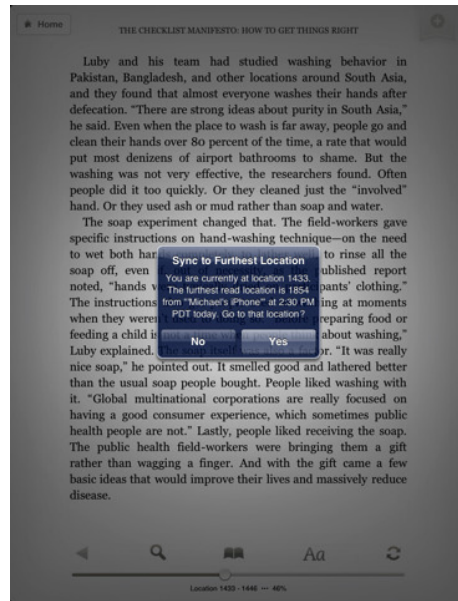
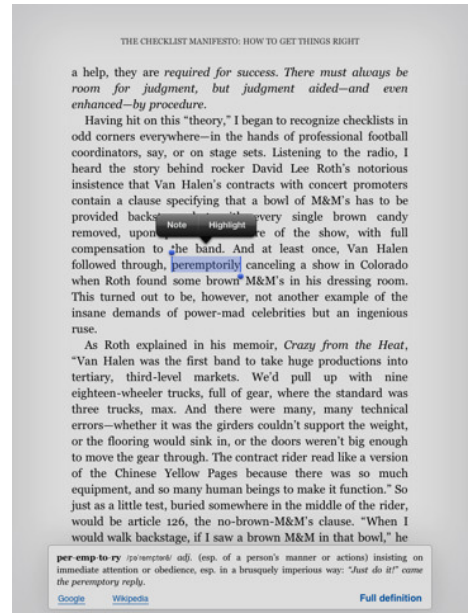
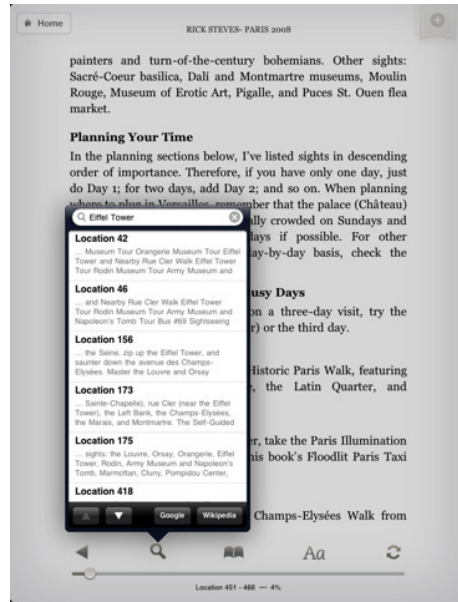
iBooks



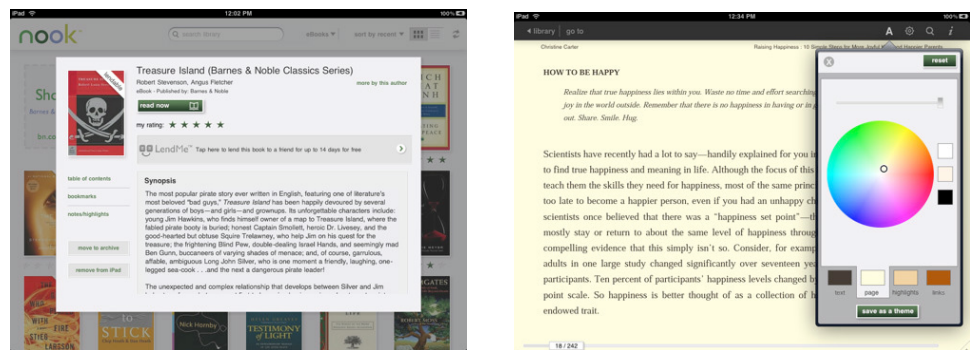
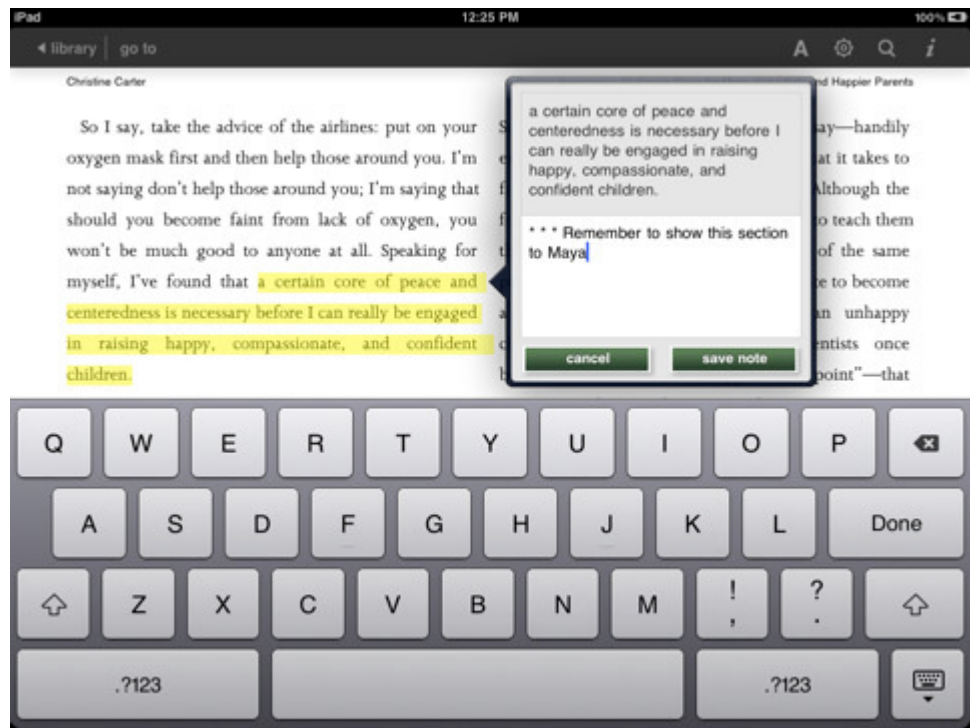
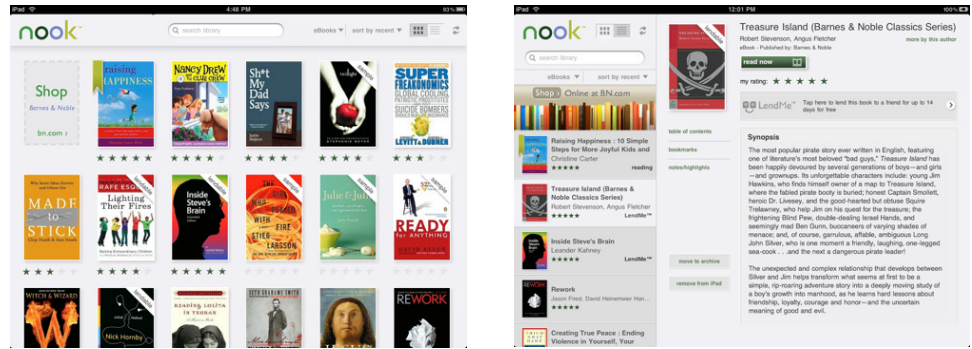


Kindle





Nook

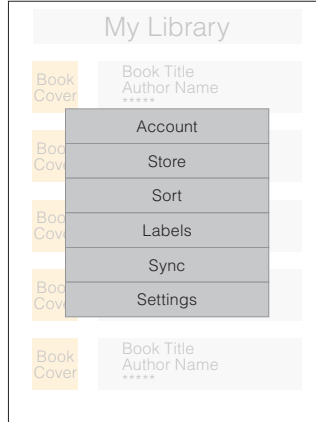


SKETCHES

Library



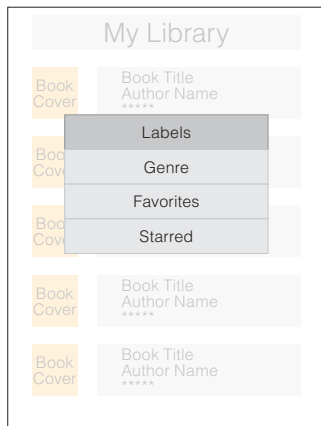
Library Menu



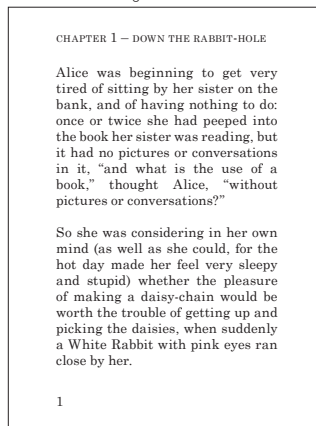
Sort By Menu



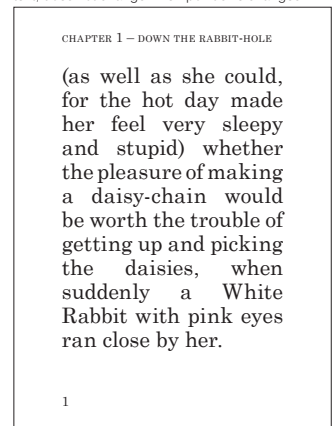
Labels Menu



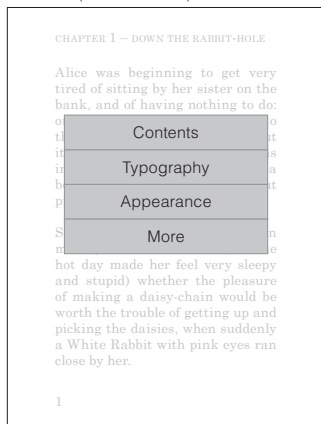
Page View – Headers and footers remain true to traditional book design



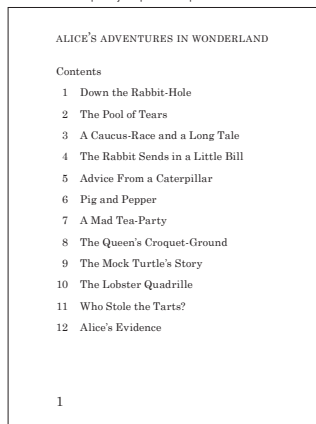
Page View – Page number includes X amount of text, does not change when point size changes



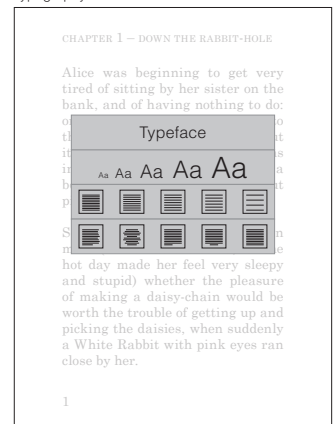
Main Menu (when in the book)



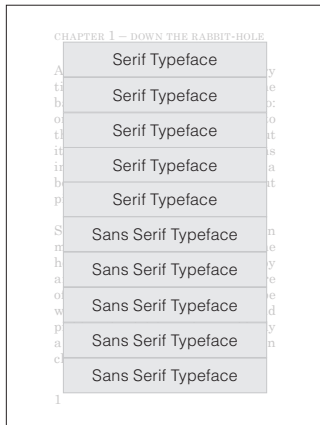
Contents – Tap to jump to chapter



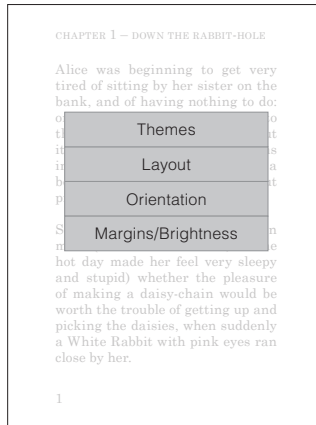
Typography Menu



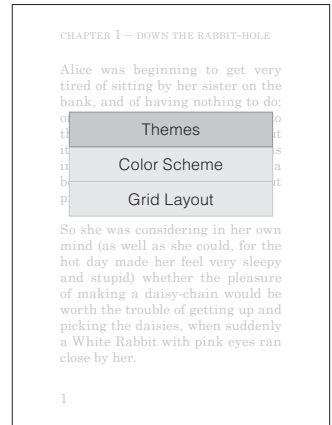
Typface Menu



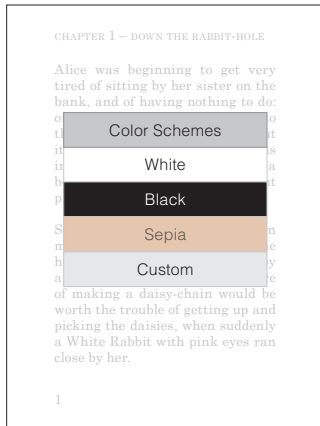
Appearances Menu



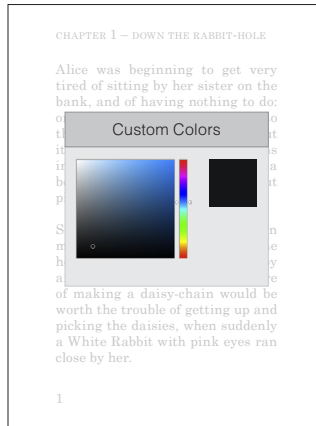
Themes Menu



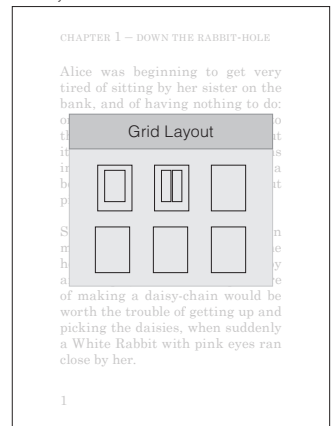
Color Schemes Menu



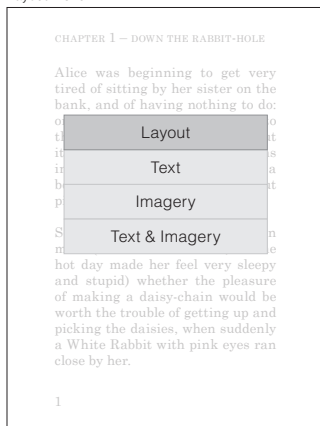
Custom Color Menu



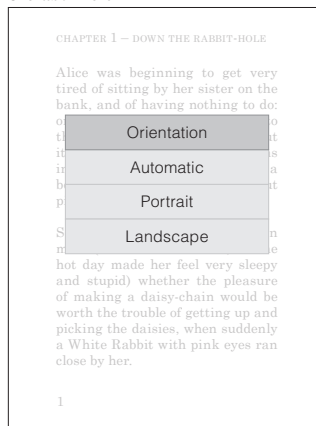
Grid Layout Menu



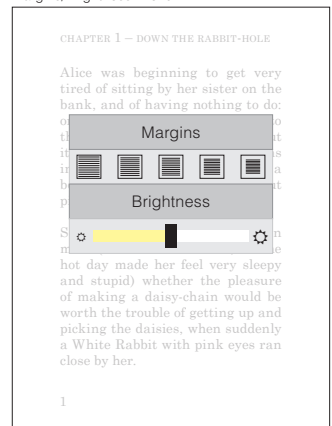
Layout Menu



Orientation Menu



Margins/Brightness Menu



Dissemination

I will distribute my thesis for future audience interaction by posting it on my blog (sarahfedigan.wordpress.com) and personal website (sarahfedigan.com). Also, I will leave printed copies with the RIT Archives and the Graduate Graphic Design program as well as submit electronic copies to the RIT Archives and ProQuest/UMI. Lastly, I will submit my finished project to major graphic design competitions.

Communication Arts – Interactive Competition

October 8, 2011

\$100

Print – Regional Design Annual

April 15, 2011

\$65

ID Magazine – Student Design Review

TBA

TBA

How – Interactive Design Awards

August 31, 2011

\$55

American Design Awards – Monthly, Semiannually, Student

TBA

TBA

These are possibilities but not ALL will be entered. All dates are estimates as 2010 deadlines have closed and 2011 deadlines have not been posted.

Evaluation Plan

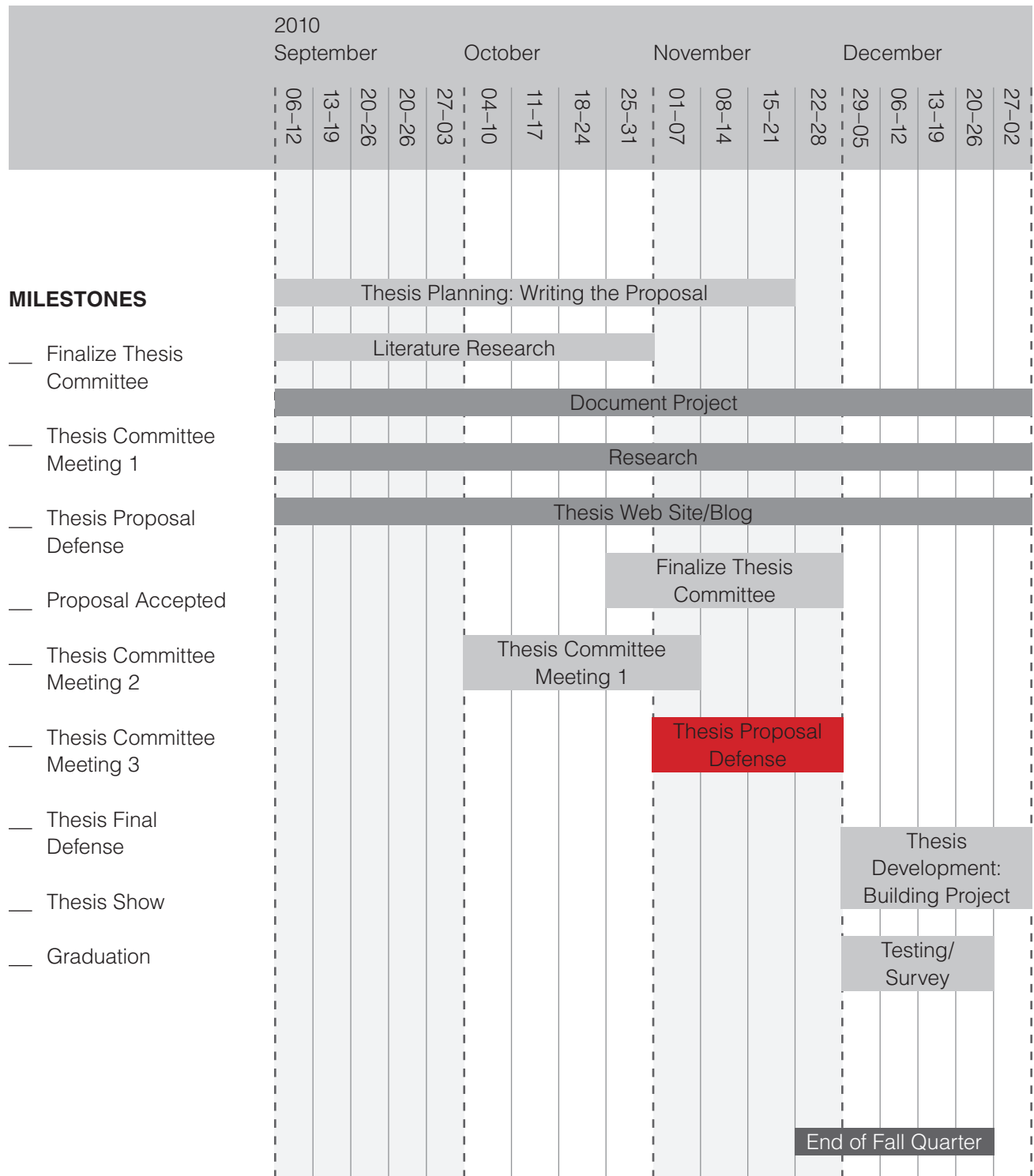
To assess the portable e-reading device application, I will do a qualitative research study in the form of a survey. Participants will assess what they liked, disliked, and would like to have seen in my application. After analyzing the feedback, I will be able to improve my application by implementing my findings.

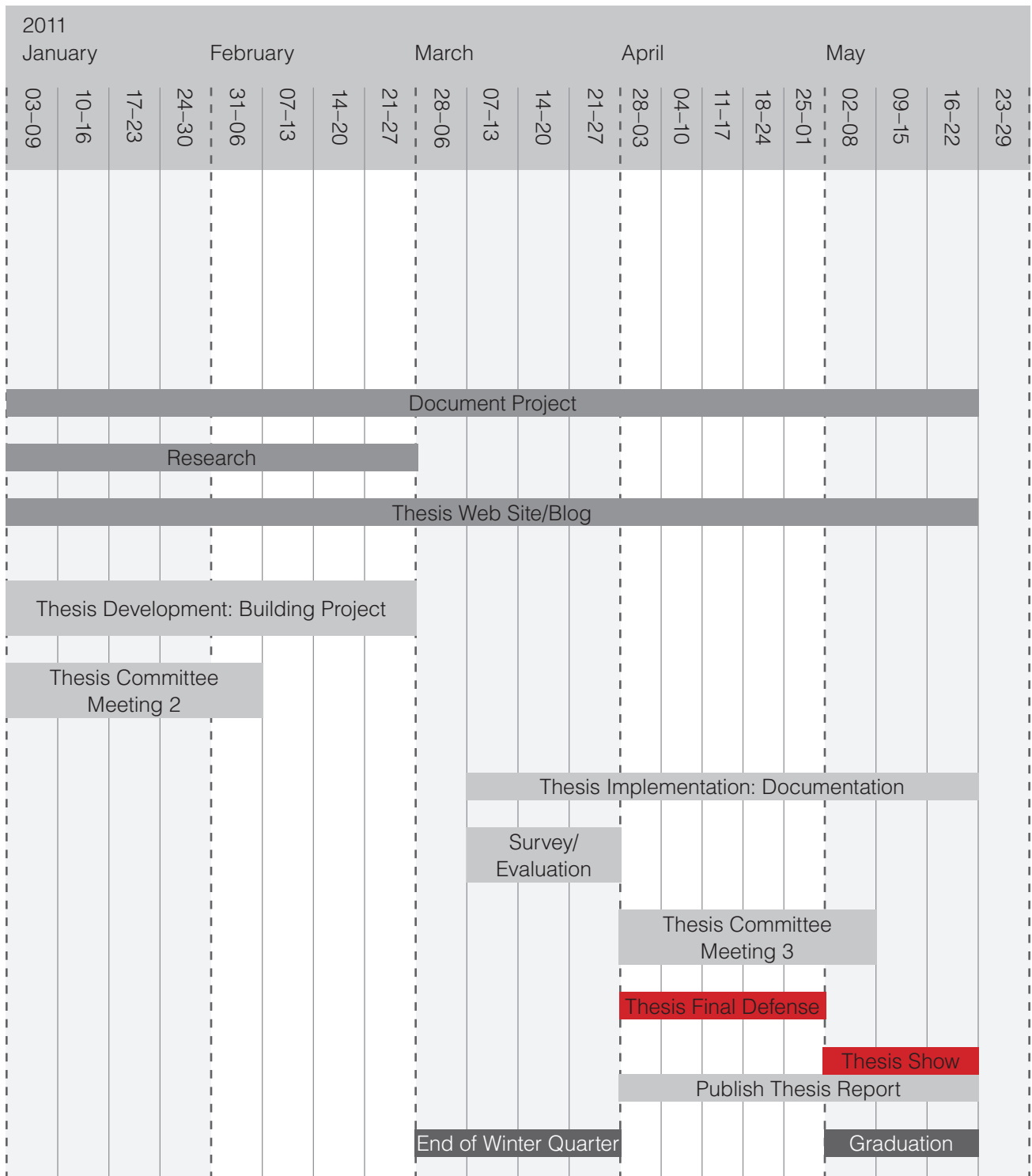
Pragmatic Considerations

BUDGET

Midphase Hosting Service	\$100
Thesis Show Promotional posters, postcards, business cards	\$200
Dissemination Submitting final thesis project to competitions	\$250
Publishing Proposal (2) – GGD and myself Final bound copies (3) – GGD, library, myself	\$100
<hr/>	
Total	\$450

Timeline





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Appendix II

Preliminary Survey

QUESTIONS IN DETAIL

E-Reading Applications Survey

1. General Information

Gender

Age

Field of Expertise

Main Residence (City, State, Country)

**2. Have you ever used an e-reading portable device?
(Sony Reader, Nook, Kindle, iPad, etc)**

Yes

No

If yes, what device(s)?

3. If no, would you ever consider using an e-reading device?

Yes

No

If no, why not?

4. How satisfied were you with the e-reading application?

Very Dissatisfied Dissatisfied Neutral Satisfied Very Satisfied Not Applicable

E-Reading Experience

Please elaborate on what you were dissatisfied or satisfied with.

5. What organizational options would you like to be available in the e-reading application to organize the e-books in your library?

- | | Yes | Maybe | No |
|----------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Sort (e.g., recent, title, author, date added, date published) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Labels (e.g., genre, favorites, starred) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Other or Comments

6. What typographic personalization options would you like to be available in the e-reading application?

- | | Yes | Maybe | No |
|-----------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Typeface/Font | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Point Size/Font Size | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Leading/Line Spacing | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Justification/Paragraph Alignment (e.g., flush left, flush right, centered) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Other or Comments

7. What appearance personalization options would you like to be available in the e-reading application?

	Yes	Maybe	No
Color Themes (e.g., text, background, menus)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grid Layouts (e.g., 1 column or text, 2 column)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Page Elements Viewed (e.g., text, imagery, text and imagery)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Margins	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Page Orientation (e.g., automatic, portrait, landscape)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brightness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other or Comments

8. What other personalization options would you like to be available in the e-reading application?

	Yes	Maybe	No
Search (e.g., within the book, Google, Wikipedia)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Highlight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Note-taking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sharing/Borrowing with Other Readers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bookmark	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dictionary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other or Comments

9. In what way would you like to see how far you have progressed in the e-book?

	Yes	Maybe	No
Page Numbers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Percentage (e.g., 50%)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Progress Bar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other and Comments			

10. What features would you like to see designed into an e-reading application?

Any other comments would be greatly appreciated.

FOCUS GROUP

28 potential participants

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**EMAIL TO
FOCUS GROUP**

Sarah Fedigan E-Reading Applications Survey

Hello Everyone,

For those of you who do not know me, my name is Sarah Fedigan. I am a candidate for the Master of Fine Arts degree in Graphic Design at the Rochester Institute of Technology. I will be graduating in May 2011 and am currently working on my thesis. I spent the fall working on my thesis proposal and am now developing the project.

My thesis committee has advised me to put together a small focus group for the purpose of collecting feedback a few times throughout the development of my project over the next two months. I would be looking for feedback three to four times at the following points:

1. January: Preliminary survey
2. January/February: Feedback on major milestone of project (1 or 2 times)
3. End of February/Beginning of March: Evaluation survey

A brief overview of my thesis:

Title:

"[Name of App]: An Application for Enhanced Read Navigation on E-Reading Tablet Devices."

Problem Statement:

"Can an e-reading portable device application improve the user experience of reading an e-book to become more comparable to that of reading a printed book?"

Thesis Statement:

Many of the current technologies for e-reading, whether it is the devices or the applications, are lacking navigation tools which limit the reader's experience in comparison to reading a printed book. I am designing an application for reading e-books, to be used on tablet devices such as the iPad, focusing on solving the issues of user wayfinding and orientation for readers of all ages. The application will allow readers to navigate through an e-book in a manner parallel to that of reading a printed book.

My project will be a prototype for an e-reading application as I do not have the skills or knowledge to build a fully functional application for the iPad or any other similar mobile device. The focus of the project is on navigation and user wayfinding as well as graphic design. I am currently planning on building it as a website using Adobe Dreamweaver. Creating it in this format allows it to be semi-functional in terms of clicking buttons and seeing an example of what the application is intended to do.

I have attached a PDF of my thesis proposal if you would like to get a better idea of my thesis goal.

The preliminary survey is about e-reading applications to find out what readers would want when using an e-reading application. The answer choices are elements I have decided to include in my application. I am looking to find out if these are elements users would want and also for ideas of other elements I have not yet considered. I hope to collect the data for analysis as soon as possible so please take a few minutes to fill the survey out as soon as you have a free moment. The link below will take you directly to the survey.

E-Reading Applications Survey
<http://www.surveymonkey.com/s/FC52XML>

Please feel free to contact me at anytime if you have any questions or comments. If you are unable to participate, please let me know. Also, if you know others who may be interested in participating, feel free to share this email with them. I just ask that you CC me on the email so that I have their name and email address for future contact as well as for the documentation I am required to submit in order to complete my thesis.

I want to thank you all in advance for taking the time to help me during this process. It is greatly appreciated.

Sincerely,
Sarah Fedigan

PHONE CONVERSATION

Focus group participant Ruth Hart
Sunday, January 9, 2011

Summary of conversation:
Feedback/Comments/ Suggestions

1. Questions to consider asking:
 - How much do people read? (volume)
 - What do you read?
 - How do you read? e.g. physical book or audio book
 - What types (genres) of books do you read?
2. Uses audio books a great deal while commuting or exercising
 - Uses Playaways (playaway.com)
3. Major suggestions for e-readers/e-reading applications:
 - Audio & visual (especially for the handicapped or the multilingual because it helps people learn)
 - Dictionary
 - Backlit screen (problems using a Kindle in poor lighting)

RESPONSES

22 respondents

1. General Information

	Gender	Age	Field of Expertise	Main Residence
1	Male	35	Environmental Consulting	Glenville, NY
2	Female	36	Math Teacher	Glenville, NY
2	Female	57	Medicine	Manlius, NY
4	Male	43	Sales Management	Niskayuna, NY
5	Female	47	Business	Amsterdam, NY
6	Female	47	Graphic Design	Honeoye Falls, NY
7	Female	51	Senior Administrative Assistant	Castleton, NY
8	Male	61	Mechanical Engineering	Altamont, NY
9	Female	19	Science	Castleton, NY
10	Female	62	Academic	Altamont, NY
11	Female	45	Sales/Marketing	Niskayuna, NY
12	Female	49	Medical Insurance	Castleton, NY
13	Female	23	Graphic Design	Rochester, NY
14	Female	57	Retired	Sandwich, MA
15	Male	34	Investment Management	Needham, MA
16	Female	70	Student Advisor	Ticonderoga, NY
17	Female	23	Library Science	Attica, NY
18	Male	27	Geographical Information System Application Development	Flower Mound, TX
19	Male	24	Media Productions	Middletown, CT
20	Female	22	Environmental Science	Orange, TX
21	Female	59	Administrative Assistant	Schenectady, NY
22	Female	25	Computer Software	Cross Plains, WI

2. Have you ever used an e-reading portable device? (Sony Reader, Nook, Kindle, iPad, etc)

	Response Percentage	Response Count
Yes	36.4%	8
No	63.3%	14
	If yes, what device(s)?	
1	The Kindle	
2	I have tried a few, I don't use them regularly. I have tried, Sony Reader, Kindle 2, Kindle DX, iPad, Entourage Edge and the Nook at work before, briefly. My parents own a Nook so I have the most interaction with that.	
3	iPad	
4	Amazon Kindle, iPad	
5	I own a Kindle.	
6	Kindle	
7	Google Books	
8	A Kindle	

3. If no, would you ever consider using an e-reading device?

	Response Percentage	Response Count
Yes	95.5%	8
No	4.5%	1
	If no, why not?	
1	Not sure if I want to let go	
2	n/a	
3	I did not answer this question because I answered the previous question that I own a Kindle.	
4	I love my Kindle!	
5	I put yes because the survey was marking this as a question that required an answer.	

4. How satisfied were you with the e-reading application?

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Not Applicable	Rating Average	Response Count
E-Reading Experience	0.0% (0)	0.0% (0)	9.1% (2)	13.6% (3)	13.6% (3)	63.3% (14)	95.5%	22
	Please elaborate on what you were dissatisfied or satisfied with.							
1	I hadn't used a e-reader before. I enjoyed writing when I was younger so I seemed to prefer a book over something electronic, but I found myself reading the kindle for a pretty long time. I don't own one myself, I bought one for my girlfriend and occasionally use hers.							
2	Since Google books is a free e-reader I can't ask too much. I really like the idea that I can read a book using a web browser and when I close the browser it remembers what page I was on. Then I can pull the book up on my phone and it automatically goes to the same page. What would be nice is a way to view the pages quickly just like you were flipping through a book. Close to a 1 - 5 second view of all the pages. It makes it easy to see how the book is set up (chapter lengths, if there are any pictures, etc.) It would also be nice to be able to add drawings/text onto the margins on the side of the pages. Sometimes it's nice to either create a drawing to help understand something or to write down other questions that may popup while reading.							
3	I like using my e-reader because it is light weight compared to books. If my eyes are tired, I am able to increase the font size to reduce eye strain. I also enjoy that the kindle is not back-lit so it is not stressful on the eyes and is very relaxing. You can also read it outside in bright sunlight.							
4	The portability of the reader. Especially since I read in bed, it is very easy to manage while laying horizontally.							
5	Satisfied with the portability, ability to carry endless reading material, download newspapers remotely.							
6	Like the ability to receive a book in minutes Do not like that it is difficult to read outdoors Do not like the smudges on the screen Wish I could see all the images from the cover and back cover Would like to have page numbers.							
7	I found that sometimes the amount of text shown was limited. Very small paragraphs and made page turning happen quite frequently. Otherwise, I do not prefer one product over the other. I would in reality prefer a printed book than a screen all together.							
8	The Kindle is no different from a book for the content that you are reading. The e-book readers are a great eco-friendly alternative to books that would save a great number of trees. It saves space in your home and for traveling. However, you lose that atmosphere that you get with a paper book in your hand. You lose the smell of the pages and the sounds of the pages turning, and the personal aspect that books have.							

5. What organizational options would you like to be available in the e-reading application to organize the e-books in your library?

	Yes	Maybe	No	Response Count
Sort (e.g., recent, title, author, date added, date published)	95.5% (21)	4.5% (1)	0.0% (0)	22
Labels (e.g., genre, favorites, starred)	59.1% (13)	40.9% (9)	0.0% (0)	22
Other or Comments				
1	It would be nice to be able to sort by tags that I can add to certain pages. So if one book has a section/page about topic A, and a different book has a part about topic A, I can tag both sections as 'A' and then be able to sort by that.			
2	Pictures of covers of books included			

6. What typographic personalization options would you like to be available in the e-reading application?

	Yes	Maybe	No	Response Count
Typeface/Font	72.7% (16)	18.2% (4)	9.1% (2)	22
Point Size/Font Size	86.4% (19)	13.6% (3)	0.0% (0)	22
Leading/Line Spacing	52.4% (11)	42.9% (9)	4.8% (1)	21
Justification/Paragraph Alignment (e.g., flush left, flush right, centered)	45.5% (10)	31.8% (7)	22.7% (5)	22
Other or Comments				
1	I choose maybe because I think perhaps some writers would like to customize their writing as they see fit, or as they intend it to be read. I think the option to change the font and such would be a welcomed addition. However, I think it would be interesting if writer's were able to create their e-book version with a certain type of font, etc. Then again, it would be nice to be able to switch it to some standardized format if the writers intended style is off-putting.			
2	I usually set the Google Books to have a black background with white text. It seems less eye-straining and saves the battery a bit. I also like to change the font size to the smallest possible so that I can fit more on a page if I'm reading on my phone. If I'm reading on a web browser I actually like to view the pages as they are in the book. Some books seem to set a different tone by how the pages are set up on paper.			
3	Having the ability to increase the font size, allows me to read in bed without my glasses, when I enlarge the print.			
4	I would like the justification/paragraph alignment to be the same as in an actual book. Therefore, it would be more like the experience of reading a real book. I wouldn't want it to feel like using a computer with editing, etc.			
5	I would suggest a well-designed text block that is the default setting.			

7. What appearance personalization options would you like to be available in the e-reading application?

	Yes	Maybe	No	Response Count
Color Themes (e.g., text, background, menus)	71.4% (15)	14.3% (3)	14.3% (3)	21
Grid Layouts (e.g., 1 column or text, 2 columns)	40.9% (9)	40.9% (9)	18.2% (4)	22
Page Elements Viewed (e.g., text, imagery, text & imagery)	57.1% (12)	38.1% (8)	4.8% (1)	21
Margins	50.0% (11)	36.4% (8)	13.6% (3)	22
Page Orientation (e.g., automatic, portrait, landscape)	86.4% (19)	13.6% (3)	0.0% (0)	22
Brightness	81.0% (17)	14.3% (3)	4.8% (1)	21
	Other or Comments			
1	I guess this goes with what I wrote above. I like a black background with white text. It would be nice if a book has images that they are shown the same way as they are laid out on the page in a regular book. Margins would be nice if I could 'write' in them or able to place a marker of some sort. Being able to change the brightness is nice for when you're reading out in the sun or in a dark room.			
2	I think that a lot of e-readers, like the kindle and the nook do a good job at replicating what text would look like on regular paper. I think that if users had the option to change the brightness it would mess with the quality of the product and how easy it is to read. It is like old iPods where you could change the contrast. My dad changed it once without realizing it and couldn't figure out why it was so hard to read. It is simpler to not adjust the brightness unless the screen is backlit.			
3	What about highlighting or copying? I like those types of options as well. I would prefer to be able to change the page orientation on my own, I hate automatic page rotation when I don't mean for it to.			
4	My preference would be to keep the e-reading applications as close as possible to the "look and feel" of a real book.			
5	Being able to adjust brightness to accommodate various lighting conditions, whether outdoors in sun or clouds, indoor lighting, reading at night at home/car/plane would be very desirable.			

8. What other personalization options would you like to be available in the e-reading application?

	Yes	Maybe	No	Response Count
Search (e.g., within the book, Google, Wikipedia)	86.4% (19)	9.1% (2)	4.5% (1)	22
Highlight	85.7% (18)	14.3% (3)	0.0% (0)	21
Note-taking	71.4% (15)	19.0% (4)	9.5% (2)	21
Sharing/Borrowing with Other Readers	59.1% (13)	40.9% (9)	0.0% (0)	22
Bookmark	90.9% (20)	4.5% (1)	4.5%	22
Dictionary	85.7% (18)	14.3% (3)	0.0% (0)	21
	Other or Comments			
1	I think these would make great additions.			
2	It would be nice to be able to sort by 'marks' I made in a book. If I'm reading through a book and marking sections that are important, it would be nice to see a list of those marks. Or if I'm highlighting sections in a book, it would be nice to see a list of all highlighted sections. It would be a good way to creak a cheat sheet for the book.			
3	The kindle has most of these features. It underlines, allows for notes, you can share with one other individual, it automatically bookmarks and you can use the dictionary to figure out the meaning. You can search throughout the book for words like a Google search, but you can't use Google or Wikipedia. I like the idea of being able to search Google and Wikipedia in addition to searching the book because sometimes there's a term in the book (usually in a different language) that is not defined in the dictionary and difficult to understand from the sentence of the book.			
4	I would like the ability to borrow from other e-readers books, but I understand that is not good business for Amazon!			
5	Being able to jump back or forward to a page while reading so you don't have to click the previous page button a million times. The highlighting to be saved indefinitely in the book so you can refer back to it.			
6	As you are reading, being able to flip back to a map, genealogy chart, or photos in the book to refer to or clarify your reading is important. Dictionary access is a definite bonus. Having web access to immediately be able to access further info or answer a question or research other works by the author is an excellent feature. Highlighting is a feature I would definitely use where now I sticky note pages to mark quotes to take, recipe ideas, other info/questions I want to research later.			
7	Not sure if too many options takes away from the reading experience. Maybe can be too distracting or more like a computer experience?			

9. In what way would you like to see how far you have progressed in the e-book?

	Yes	Maybe	No	Response Count
Page Numbers	90.9% (20)	4.5% (1)	4.5% (1)	22
Percentage (e.g. 50%)	50.0% (11)	36.4% (8)	13.6% (3)	22
Progress Bar	45.5% (10)	40.9% (9)	13.6% (3)	22
	Other or Comments			
1	Any of these options would be great.			
2	I like the way the Google Books does this. They have a slider at the bottom of the page that shows your progress. If you hover over the progress bar it shows the name of the chapter and page number for that part.			
3	One thing that I don't like about the kindle is that it doesn't have page numbers. There are location numbers, but it doesn't match the page numbers as it would in print. I mainly rely on the progress bar to determine where I am in the book. It is also difficult to jump back to the table of contents to see how far you are.			
4	Pages numbers that corresponded with the printed version would be useful.			

10. What features would you like to see designed into an e-reading application?
Any other comments would be greatly appreciated.

1	Have not yet used,so I have no suggestions.
2	I know you're just working on an e-reader application but it would be cool to have an e-reader application that had flexible pages. Sort of like a device that had a hard spine to hold the processor and everything and then maybe 10 or so flexible pages where the text was electronically controlled. That way you could physically flip pages like you were reading a book. If you run out of flexible pages you would start from the beginning but the device would know to start it with the next page in the book. Esquire actually developed something like this with one of their magazine covers. http://www.youtube.com/watch?v=iKS12PMdJ6w Good Luck!
3	A synopsis of the book in the beginning, as there is on the inside of the cover of books.
4	More interaction to make it different from a printed book, meaning more user involvement.
5	The only theme that keeps coming back is the idea that I would like the application to be as close to real book reading as possible. If it becomes too much technology, then it goes against the whole idea of wanting to pick up a book to begin with. Actual book reading is therapeutic, relaxing, etc. So, the idea of it having too much of a technological feel detracts from the experience.
6	Due to the fact that I have never used an e-book reading device to date I cannot at this time provide any proposed improvement features. As long as the font is adjustable so you can easily read it and as long as the you can read the text in a bright (outside) or dim (inside) setting that would be very important to me.
7	Maybe extras at the end, more info about the author or book reviews etc.
8	Considering I know absolutely nothing about e-reading, I feel limited in my ability to critique or fully comment. However, when giving the option of note taking, is there a possibility of having a voice recording option while reading. You could verbally record notes as reading along as opposed to note taking option. Just a thought. Good job with the project!

Appendix III

Milestone

FOCUS GROUP

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**EMAIL TO
FOCUS GROUP**

Sarah Fedigan Thesis Milestone

Hello Everyone,

I hope everyone has survived winter and that all is well!

I have reached a milestone in my work on my thesis project. I have completed designing all the menus and one example to demonstrate what each menu option would do if selected. I have attached a PDF that includes each of the sections and their menus. However, I have not included the examples of each individual menu option as to keep the number of pages to a minimum. Please take a look at it. Any feedback on any aspect of the project would be very helpful—i.e. options, menus, design, etc.

The PDF takes you through each of the four sections—iPad, iRead, Library, and Book—in chronological order. As you go through it shows the menu for each icon moving from left to right. I realize this may be difficult to follow through because it is just static pages and you cannot click on buttons to navigate. I am just trying to give you an idea of what you would be seeing if it was the live website. Compare the information section on the left to the visuals on the right to help orient yourself. If you are totally lost, please let me know and I will try to give you a better explanation. Also, this PDF has not been saved at the highest resolution to minimize the file size for the purpose of sending it out via email. If there is something you would like to see in better quality, please let me know and I will send it to you.

My next step is to create the website. Over the next few weeks I will be coding everything so that you will be able to click on the icons, menus, and options to see an example.

Please contact me if you have any issues viewing the file or if you have any other questions or comments.

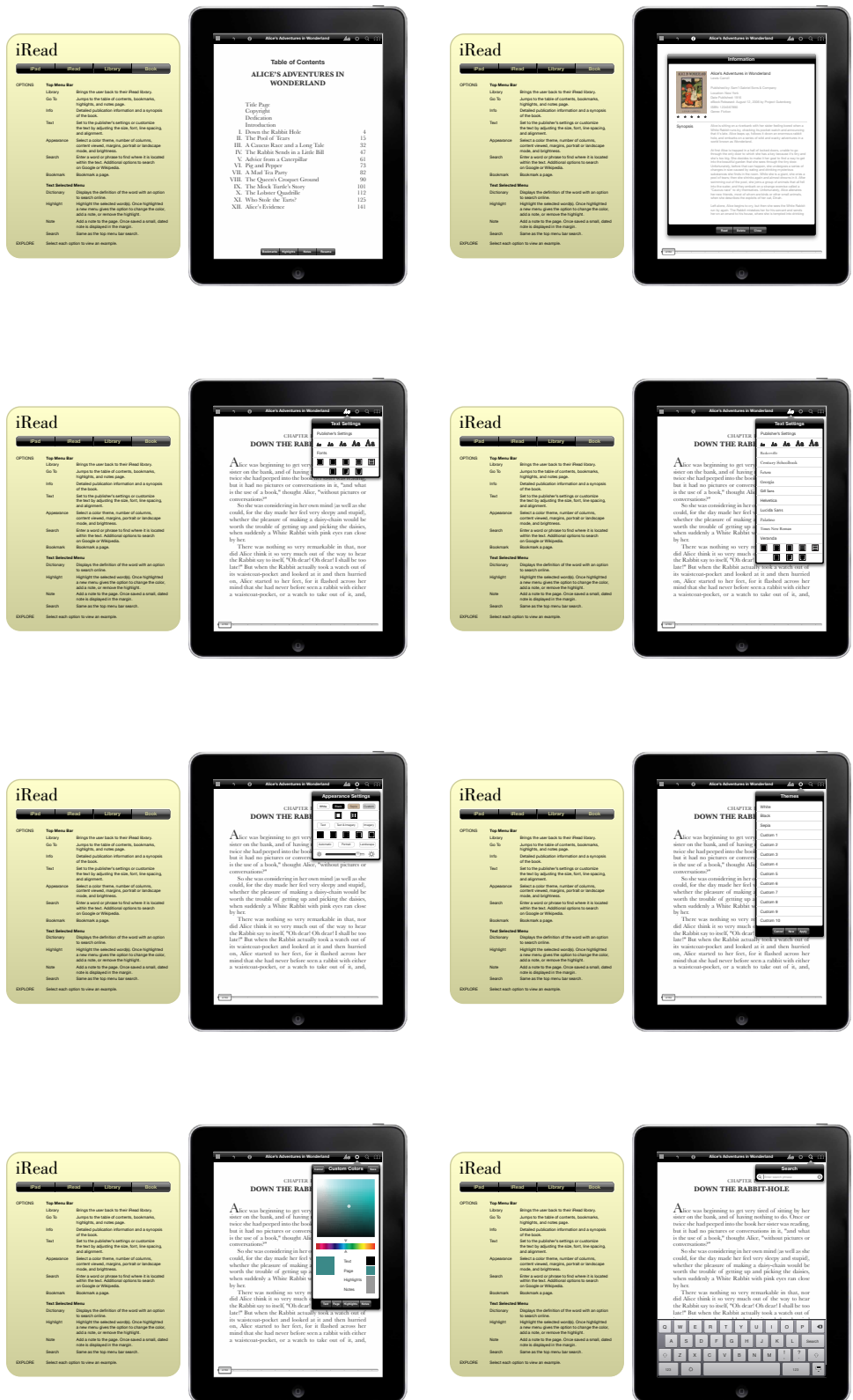
I want to thank you again for taking the time to help me during this process. It is greatly appreciated.

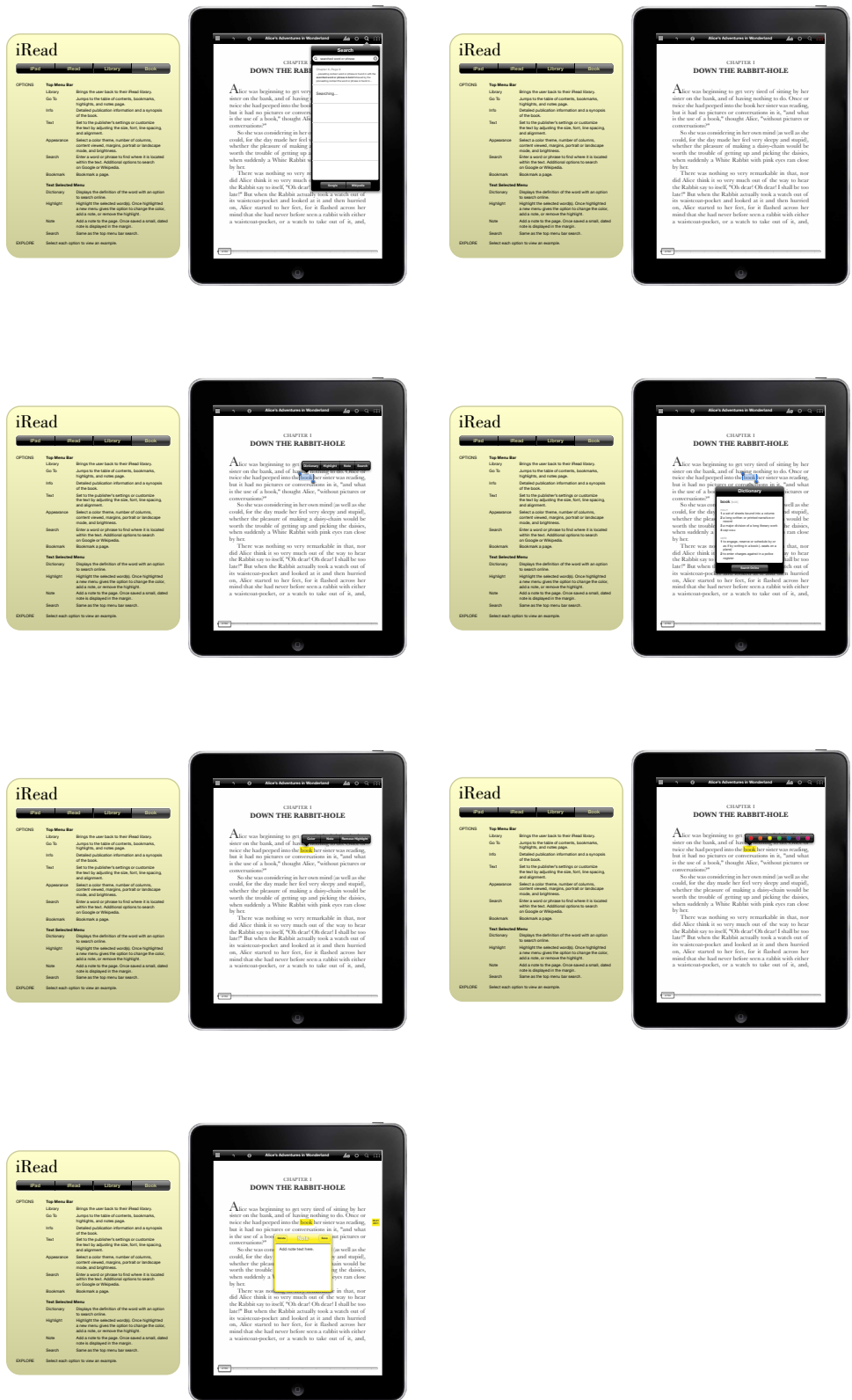
Sincerely,
Sarah Fedigan

PDF ATTACHMENT









RESPONSES

Nine focus group participants responded with feedback on the milestone. Their feedback is included below with my responses to each respondent in gray.

RESPONDENT 1

Looks really great just perusing.

RESPONDENT 2

Page 10

Can you sort by category or topic? (ie: what if I wanted to find any books about horses, but I don't know the author or the title) or maybe I would need to "search" in the library as opposed to "sort by"... right?

Sort – I have added a "Genre" option to the "Sort" menu.

You could also search your library.

Page 11

What is this page supposed to be showing you... where you select a book in your library? I noticed the last button on the right top is highlighted (which means what?) Page 12 shows what you selected to read, page 13 gives you info, page 14 art and page 15 share, etc. What is page 11?

There are two options for the way you view the books in the library. The first option is to view the covers with the star ratings in rows. The second option (displayed on page 11) is a list view that displays your books in a list format with the cover and more detailed information (title, author, genre, star rating). The right most icons allow you to switch between these two viewing options.

Page 16

Would you have the option to OR can you "go to" by page number or chapter from this point? Do have to wait until you get to page 17 and click on the table of contents chapter line to get there?

You could select a chapter from the contents page, do a search, or advance the pagination bar at the bottom. There are indicators on the pagination bar to show where each chapter begins. Also, you could simply rapidly flip through the pages.

Pages 19 & 20

Confused as to the difference between these two pages... they both say "text settings"... would you have to click text setting button (page 19) to get to expanded, drop-down menu (page 20)?

Text Settings – You would click on the "Fonts" option to expand the menu to show the list of fonts.

Page 21, 22, 23

All three pages show you using the same icon button (round circle) but when I go to each page it says you are in a different menu... (ie: appearance settings, themes and custom colors)... how do you click on that one button, but get 3 different menus? Would the original button give you a drop down menu to get to those 3 options?

Appearance Menus – Clicking the “Custom” option brings up the “Themes” menu and from the “Themes” menu, clicking “New” brings up the “Custom Colors” menu. Based on other feedback I have made some revisions to the themes and custom colors menus.

Page 26

The red, top-right icon (looks like open book) means you are in the book reading? What’s going on in this page?

Bookmark Icon – This last icon allows you to bookmark a page. The change to red indicates that this page has been bookmarked.

General comments

1. Search keyboard – I noticed it's missing symbols and numbers (like at the top row of a normal keyboard). Do you have access to type in such? I see you have a 123 button. Is this function in a hidden key or did you not put it in because you wouldn't search by symbols or numbers? Just wondering...
2. I like your “note taking” option menu while reading.
3. I assume the final version will have more color?... specifically, I notice the pages are pretty much set up black and white which made it hard to see what options are being utilized (but I could tell when the button illuminated). I assume its just for now, but once it's final, using colors to accentuate the buttons and drop down menus as you select them will help in identifying where you are. I'm sure that's your plan in the end.

General Comments

1. The “123” button would bring up the numbers and symbols keyboard. Since the keyboard is not functional for my project I did not include the secondary keyboard. This keyboard is what the standard iPad keyboard looks like. Anytime you click in a field where text can be entered this keyboard would pop-up at the bottom of the screen.
2. Thank you. Not everyone would want or use this option but many people would.
3. I chose to use black, white, and gray to keep it simple so as not to be distracting to the user while reading. Many people commented that they wanted the experience to be as much like reading a printed book as possible. Therefore, I wanted the menus to be more subdued. The themes and custom colors options allow users to change the background color of the page, the text, and set colors for the highlights and notes.

RESPONDENT 3

Overall looks great! Questions:

1. What font used in create/log-in screens? Looks like times new roman?
Guess I'm used to non-curly fonts.

The font is called Bodoni. I used the same font for the iRead logo and application icon.

2. In real life, how do I pick the word "book" on page 27?

Selecting text is a function of the iPad – you can drag your finger over the text to select it.

3. On page 31, how do I type message, where's keyboard?

The keyboard would pop-up. I added the keyboard to show on this page with the note example.

RESPONDENT 4

Why would you have to sign in each time you go on this iPad?

Seems like a nuisance to do so.

Opening Page – The sign in/create account would be for the first time you download the app to your iPad and open it. Once you had an account you would no longer see that screen--the app would open directly to your library. Another respondent has given me some feedback on this area and I am rethinking and moving some things around.

Page 5 – An introduction would be great, I am not sure I have that option on my kindle.

What do you mean by an introduction?

Page 5 – Wow, sharing would be wonderful, but doubt that you could do that, with having to buy the books, etc.

Sharing – As far as sharing goes it really depends on the company and their agreement with the publisher, etc. However, Nook has begun to do this. You can share a book with another user for 14 days--it leaves your library, goes to theirs, and is automatically returned at the end of the 14 days... well, this is how I understand it based on what information they have available to the public.

Not sure I understand Art Work Gallery? How many different book covers can you assign to a book?

Art Work Gallery – You can select one set of covers/imagery at a time to be displayed in your library/when your reading the book. If this was really functional, there would be more than two options here. Possibly, art work from all the various print and electronic editions of the book. I am using copyright free work from Project Gutenberg so I am rather limited in how many examples I can show.

Page 18 and Page 13 – both are Info, redundant?

Info – You can access this information pop-up window from both the Library and while reading the book. I was following along the top menus from left to right to show what each would do so in the PDF it is shown twice.

Page 22 – Not sure I understand Themes, guess I am thinking of kindle.

Themes – The iPad is in color so you can change the background color of the page, the text, and set your highlights and notes to a specific color. Another respondent gave me some really helpful feedback on this section so I have modified some things to make it easier on the user.

Page 30 – Color, not sure what you would do with this.

Color – You can change the color of the highlight/note. So instead of yellow you could pick one of the other colors (red, orange, blue, etc.).

RESPONDENT 5

You mention that your next step is to program a web site with this functionality. What language are you going to write the web site in? Is it intended to be portable to the iPad or just a demonstration of functionality?

I was planning on doing it as a website but will now be doing everything in Flash, using buttons. I will most likely embed the .swf in a website (and send the .swf as well) for my evaluation survey and final presentation of my project. It is meant to be of a prototype of the app, demonstrating the available options as the project was more about navigation, user wayfinding, personalization, and of course design.

I'm curious of your goal for this step and how you're going to achieve it. Also, if it's just html, css and maybe some php/mysql, I would offer my help. I live and breathe these languages and can help if you need any!

I met with my web design professor on Thursday. After showing her all my designs and how I needed things to work she concluded that Flash would be a much better, easier, faster route to get my project done and get it done the way I intended it to work. She said trying to make it functional as a website using HTML, CSS, and some jQuery would be incredibly difficult and I would not be able to achieve the functions and look I wanted. So she showed me how to set up buttons in Flash. I also met with one of my thesis committee advisors, who knows Flash like the back of his hand, and he said it was fine to do it this way (he had actually suggested it earlier on but I only know the basics so I steered away from this option). I am meeting with him again next week so he can teach me some things and help me set everything up to a point where I have a sort of template and can continue on my own. Do you know or use Flash at all?

Also, if you just want to chat on the direction of the project, I'd be happy to help there too!

Here are my comments on your work so far:

iRead Comments by Respondent 5 Web Developer and iPad Owner

1) On main menu, you have an iPad button (leftmost). Why do you need this? If someone wants to go back to the iPad screen, they just press the iPad home button.

The left panel (iRead/yellow box) is only for description purposes for my project. What you see on the right, the iPad image, is what would be going on with the application.

Now for a point of clarification. Do you see this application working by storing my books on my iPad? Or is everything in the cloud. If my books are stored on my iPad, I don't want to have to sign in each time. I only want to sign in if I'm going to the store to buy a book. But if everything is in the cloud, then I must login for it to know who I am and find my books. Today, I think that everything is stored locally. But that the store knows what I bought so if I ever delete my copy on my iPad, I can download a new copy at any time. I suggest removing the iPad button, shifting everything to the left and adding a new button called Account. This new button allows me to see my account details, Name, email address, change pw, etc. I would put the login screen as the first step in accessing the store.

This would function like any other app (Kindle, Nook, Kobo...) Everything would be stored in the cloud as well as on your iPad, as long as you wanted it there. The initial iRead page would only be shown the first time you downloaded and opened the app on your iPad. Once an account was created it would automatically open to your library. I added a more detailed description to this section explaining that. Also, I added an "Account" option to the top menu bar of the store.

2) On the Book Information screen, why would you have a delete? The info should always be there, I should not be able to delete "info". But maybe you mean delete book? But shouldn't delete book use the iPad convention where you hold down the icon and then all the books "shake" and have an "x" in the upper left corner?

The "delete" button would allow you to delete the book from your iPad. I know the iPad has the hold > shake > delete function which works when your on the home screen or maybe in other Apple apps but other apps, once you are in them do not necessarily work this way. I could be wrong, my hands-on research with the iPad was mainly focused on the e-reading apps. I removed the "delete" option from the "Info" page and added it to the book menu instead. Also, other changes to the "Info" page – when you chose it from the library the buttons are "Read" and "Close" but when you open it from within a book the only option is "Resume."

3) In your initial Table of Contents page, you have a bottom menu. The last item is resume. But there is nothing to resume here, you are already in the book. I can't see any purpose for this function.

The "Resume" button bring you back to wherever you left off reading in the book to "Go To" the Table of Contents/Bookmarks/etc...

4) Nit Alert - In the first Appearance screen, the top row shows: White, Black, Sepia and Custom. The next screen is titled, Themes. I can only imagine that you got here by pressing the Custom button. But if that's true, then why are you showing White, Black and Sepia again. Maybe the title should be, "Custom Themes" and only show the Custom ones...

I made these changes. Thank you.

5) On the Custom Themes, the bottom menu bar has: Cancel | New | Apply. A couple of thoughts come to mind. First, you have "Add" which means that people can create new ones. That means that you'll need a scroll bar on this window at some point. Secondly, there is no edit button so how do people change existing settings. One option would be to double click the custom item? But is that intuitive? I would think that a double click selects the item (your "apply"). And lastly, there is no delete, so how do you get rid of them when you don't want them anymore? As I think more on this, I'm not sure that I like the order of the current buttons either. Cancel being first seems odd...

All of the items that seem to be needed are: New | Edit | Delete | Apply | Cancel
How about putting the Cancel and Apply buttons at the top of the window like in the next screen, Custom Colors. Put Apply where the Save button is...

That would create a consistent location for those buttons. Then the bottom menu bar would be: New | Edit | Delete

I made these changes. Thank you.

6) On the Custom Colors screen, the bottom menu has four options. Selecting any of these options allows you to change the color. That makes sense, but I'm not seeing how you've made the "active" button look like it's currently in use. Meaning, whichever button is currently active should look different than the other ones. That way you know which one you're changing. You could also highlight the text of the option selected in the body of the panel.

This color picker will not actually work for the purposes of this project. I did change it so that one button is highlighted as well as the corresponding text of the option so it makes more sense for viewers.

7) On the second to last screen, you have a menu bar for words in the content text that says: Color, Note, Remove Highlight. The choice of the word, Color seems fine but then you use Highlight for the last selection. Since you're not using the same word for both items and they reference the same item, it's confusing. So, I recommend either of the following:

Color | Note | Remove Color

Highlight | Note | Remove Highlight

The "Color" is to change the color of the highlight/note to one of the other options (red, orange, purple, etc.) instead of yellow. I changed the word "Color" to "Change Color."

New Ideas...

These are some ideas that I think would make any reader more valuable to me.

1) If I own a book (bought from online store) but decide not to keep it on my iPad (due to limited memory size), I would like the book and artwork to still show up on my iPad but have some method to show me that it's not loaded on the iPad. If I choose to read it, then it would take me to the store and ask me if I want to download it.

I added an "Archived" option to the main menu bar in the store. So, in theory, you would be able to go there and re-download something you had previously removed from your iPad.

2) I would like to be able to set something on each book as a marker that says that I've read a book. Maybe a red colored corner icon over the bottom left of the book corner. I sometimes don't remember if I've read a book since my library is so large. It would be great to be able to click on this corner icon and have a small notes section come up. This would allow me to edit, date read, and a small notes section.

I added a little red corner to the book cover. When clicked, a pop-up menu comes up called "My Notes" and gives you the dates for when the book was downloaded, first opened, and last opened. Also, there is a field to type notes.

RESPONDENT 6

Looks good. Even an old lady like me could use it.

Thank you for the feedback. It is greatly appreciated!

RESPONDENT 7

I realized very quickly when I looked at the first page (iPad) how important graphic design it to me because the “boat picture” was inviting (makes you want to continue). That’s actually more than what you would get in a normal book sometimes. Same thing with the “iread” page... the design there gives an old-world, real-book feel. Makes you feel cozy! That application is important to me. For the purposes of your example, it was great.

The first page of the iPad (with the boat image) is the home screen of the iPad so the image is like your desktop background on your computer.

Under the “Library” tab the search, sort options seem like it would be very easy to navigate. I would consider myself a novice at this type of technology, and those types of things can be frustrating if you haven’t been exposed to them much. I like the artwork gallery for the options... again, it makes it cool like a book. The “share” feature is something I didn’t even think of. Like that one a lot; however, I would need more than 14 days if someone shared with me.

Sharing – As far as sharing goes it really depends on the company and their agreement with the publisher, etc. However, Nook (Barnes & Noble) has begun to do this. You can share a book with another user for 14 days... well, this is how I understand it based on what information they have available to the public.

In the “Book” tab, I really liked the font or text you chose because it really does look like a book. However, I did like that other options were available to choose from. Color and the appearance settings would be fun to play with too.

RESPONDENT 8

This is great! I understood everything. I was able to view everything. Great job. I wouldn’t change anything.

Thank you for the feedback; it is greatly appreciated! I am moving through the next half of the project. I hope to be done and sending out the final project and an evaluation survey at the beginning of next week or shortly thereafter.

RESPONDENT 9

If you remember I have never used an electronic reader (ER). I do enjoy the physical book - especially prefer hardcover.

Feedback:

I like the synopsis feature. Would this be what the particular ER gives you? Or is it where you buy the book? and would you get these features on free downloaded books from the library?

Synopsis – This information would be downloaded along with the book when you purchase it from the application’s store.

Gallery – seems just like busy work, probably would not use.

Gallery – This was an option that was developed based on some of the feedback I received in my preliminary survey. It was expressed that it would be nice to have covers from the various editions so that you could set the cover in your library to see your favorite art work.

Sharing – good feature but it is a short time period, would like to see 30-day like the library.

Sharing – As far as sharing goes it really depends on the company and their agreement with the publisher, etc. However, Nook has begun to do this. You can share a book with another user for 14 days—it leaves your library, goes to theirs, and is automatically returned at the end of the 14 days... well, this is how I understand it based on what information they have available to the public. Good suggestion of keeping it similar to traditional library borrowing.

Like the text and color choices of the custom settings feature – feel like that could be useful wherever you may be when you cannot control the light. Also great idea to make text larger for instance when using the treadmill.

The dictionary feature is one feature that I think is a bonus over reading a hardcopy book.

Appendix IV

Interactive Design

CODE – FRAME 1

```
import flash.events.MouseEvent;

stop();

//Left – Main Navigation//
btn_MainNav_iPad.addEventListener(MouseEvent.CLICK, gotoframe1);
btn_MainNav_iRead.addEventListener(MouseEvent.CLICK, gotoframe2);
btn_MainNav_Library.addEventListener(MouseEvent.CLICK, gotoframe4);
btn_MainNav_Book.addEventListener(MouseEvent.CLICK, gotoframe20);

//Right – iPad App Icon btn//
btn_iR_AppIcon.addEventListener(MouseEvent.CLICK, gotoframe2);

//Right – iRead “Sign In/Create Account” btn//
btn_iRead_Account.addEventListener(MouseEvent.CLICK, gotoframe3);
btn_iRead_Account_Close.addEventListener(MouseEvent.CLICK, gotoframe2);

//Right – Library btns – Top Menu//
btn_Library_Store.addEventListener(MouseEvent.CLICK, gotoframe5);
btn_Library_Store_Library.addEventListener(MouseEvent.CLICK, gotoframe4);
btn_Library_Sync.addEventListener(MouseEvent.CLICK, gotoframe6);
btn_Library_Sync_Cancel.addEventListener(MouseEvent.CLICK, gotoframe4);
btn_Library_Show.addEventListener(MouseEvent.CLICK, gotoframe7);
btn_Library_Search.addEventListener(MouseEvent.CLICK, gotoframe8);
btn_Library_Sort.addEventListener(MouseEvent.CLICK, gotoframe9);
btn_Library_View1.addEventListener(MouseEvent.CLICK, gotoframe4);
btn_Library_View2.addEventListener(MouseEvent.CLICK, gotoframe10);
//Right – Library btns – Book Menu//
btn_Library_BookMenu.addEventListener(MouseEvent.CLICK, gotoframe11);
btn_Library_BookMenu_Info.addEventListener(MouseEvent.CLICK, gotoframe12);
btn_Library_BookMenu_Info_Read.addEventListener(MouseEvent.CLICK, gotoframe20);
btn_Library_BookMenu_Info_Close.addEventListener(MouseEvent.CLICK, gotoframe4);
btn_Library_BookMenu_Art.addEventListener(MouseEvent.CLICK, gotoframe13);
btn_Library_BookMenu_Art_Cancel.addEventListener(MouseEvent.CLICK, gotoframe4);
btn_Library_BookMenu_Share.addEventListener(MouseEvent.CLICK, gotoframe14);
btn_Library_BookMenu_Share_Cancel.addEventListener(MouseEvent.CLICK, gotoframe4);
btn_Library_BookMenu_Delete.addEventListener(MouseEvent.CLICK, gotoframe15);
btn_Library_BookMenu_Delete_Close.addEventListener(MouseEvent.CLICK, gotoframe4);
btn_Library_BookRead_Info.addEventListener(MouseEvent.CLICK, gotoframe16);
btn_Library_BookRead_Info_Close.addEventListener(MouseEvent.CLICK, gotoframe4);
```

```
//Right – Book btns – Top Menu//
btn_Book_Library.addEventListener(MouseEvent.CLICK, gotoframe4);
btn_Book_GoTo.addEventListener(MouseEvent.CLICK, gotoframe21);
btn_Book_Info.addEventListener(MouseEvent.CLICK, gotoframe26);
btn_Book_Text.addEventListener(MouseEvent.CLICK, gotoframe35);
btn_Book_Appearance.addEventListener(MouseEvent.CLICK, gotoframe70);
btn_Book_Search.addEventListener(MouseEvent.CLICK, gotoframe90);
btn_Book_Bookmark.addEventListener(MouseEvent.CLICK, gotoframe131);
//Right – Book btns – Go To Menu//
btn_Book_GoTo_Contents.addEventListener(MouseEvent.CLICK, gotoframe22);
btn_Book_GoTo_Bookmarks.addEventListener(MouseEvent.CLICK, gotoframe23);
btn_Book_GoTo_Highlights.addEventListener(MouseEvent.CLICK, gotoframe24);
btn_Book_GoTo_Notes.addEventListener(MouseEvent.CLICK, gotoframe25);
//Right – Book btns – Go To Page Menu//
btn_GoTo_PageMenu_Contents.addEventListener(MouseEvent.CLICK, gotoframe22);
btn_GoTo_PageMenu_Bookmarks.addEventListener(MouseEvent.CLICK, gotoframe23);
btn_GoTo_PageMenu_Highlights.addEventListener(MouseEvent.CLICK, gotoframe24);
btn_GoTo_PageMenu_Notes.addEventListener(MouseEvent.CLICK, gotoframe25);
btn_GoTo_PageMenu_Resume.addEventListener(MouseEvent.CLICK, gotoframe20);
//Right – Book btns – Info//
btn_Book_Info_Resume.addEventListener(MouseEvent.CLICK, gotoframe20);
//Right – Book btns – Text//
btn_Book_Text_01pubset.addEventListener(MouseEvent.CLICK, gotoframe20);
btn_Book_Text_02size1.addEventListener(MouseEvent.CLICK, gotoframe36);
btn_Book_Text_03size2.addEventListener(MouseEvent.CLICK, gotoframe37);
btn_Book_Text_04size3.addEventListener(MouseEvent.CLICK, gotoframe38);
btn_Book_Text_05size4.addEventListener(MouseEvent.CLICK, gotoframe39);
btn_Book_Text_06size5.addEventListener(MouseEvent.CLICK, gotoframe40);
btn_Book_Text_Fonts.addEventListener(MouseEvent.CLICK, gotoframe50);
btn_Book_Text_17lead1.addEventListener(MouseEvent.CLICK, gotoframe41);
btn_Book_Text_18lead2.addEventListener(MouseEvent.CLICK, gotoframe42);
btn_Book_Text_19lead3.addEventListener(MouseEvent.CLICK, gotoframe43);
btn_Book_Text_20lead4.addEventListener(MouseEvent.CLICK, gotoframe44);
btn_Book_Text_21lead5.addEventListener(MouseEvent.CLICK, gotoframe45);
btn_Book_Text_22align1.addEventListener(MouseEvent.CLICK, gotoframe46);
btn_Book_Text_23align2.addEventListener(MouseEvent.CLICK, gotoframe47);
btn_Book_Text_24align3.addEventListener(MouseEvent.CLICK, gotoframe48);
btn_Book_Text_08font1.addEventListener(MouseEvent.CLICK, gotoframe51);
btn_Book_Text_09font2.addEventListener(MouseEvent.CLICK, gotoframe52);
btn_Book_Text_10font3.addEventListener(MouseEvent.CLICK, gotoframe53);
btn_Book_Text_11font4.addEventListener(MouseEvent.CLICK, gotoframe54);
btn_Book_Text_12font5.addEventListener(MouseEvent.CLICK, gotoframe55);
btn_Book_Text_13font6.addEventListener(MouseEvent.CLICK, gotoframe56);
btn_Book_Text_14font7.addEventListener(MouseEvent.CLICK, gotoframe57);
btn_Book_Text_15font8.addEventListener(MouseEvent.CLICK, gotoframe58);
```

```
btn_Book_Text_16font9.addEventListener(MouseEvent.CLICK, gotoframe59);
btn_Book_Text_17font10.addEventListener(MouseEvent.CLICK, gotoframe60);
//Right – Book btns – Appearance Menu//
btn_Book_App_01thm1.addEventListener(MouseEvent.CLICK, gotoframe71);
btn_Book_App_02thm2.addEventListener(MouseEvent.CLICK, gotoframe72);
btn_Book_App_03thm3.addEventListener(MouseEvent.CLICK, gotoframe73);
btn_Book_App_04thm4.addEventListener(MouseEvent.CLICK, gotoframe74);
btn_Book_App_05grid1.addEventListener(MouseEvent.CLICK, gotoframe76);
btn_Book_App_06grid2.addEventListener(MouseEvent.CLICK, gotoframe77);
btn_Book_App_07lay1.addEventListener(MouseEvent.CLICK, gotoframe78);
btn_Book_App_08lay2.addEventListener(MouseEvent.CLICK, gotoframe79);
btn_Book_App_09lay3.addEventListener(MouseEvent.CLICK, gotoframe80);
btn_Book_App_10marg1.addEventListener(MouseEvent.CLICK, gotoframe81);
btn_Book_App_11marg2.addEventListener(MouseEvent.CLICK, gotoframe82);
btn_Book_App_12marg3.addEventListener(MouseEvent.CLICK, gotoframe83);
btn_Book_App_13marg4.addEventListener(MouseEvent.CLICK, gotoframe84);
btn_Book_App_14marg5.addEventListener(MouseEvent.CLICK, gotoframe85);
btn_Book_App_00orien0.addEventListener(MouseEvent.CLICK, gotoframe20);
btn_Book_App_15orien1.addEventListener(MouseEvent.CLICK, gotoframe20);
btn_Book_App_16orien2.addEventListener(MouseEvent.CLICK, gotoframe86);
btn_Book_App_16orien2_Close.addEventListener(MouseEvent.CLICK, gotoframe20);
//Right – Book btns – Appearance Menu2//
btn_AppMenu2_Cancel.addEventListener(MouseEvent.CLICK, gotoframe20);
btn_AppMenu2_New.addEventListener(MouseEvent.CLICK, gotoframe75);
//Right – Book btns – Appearance Menu3//
btn_AppMenu3_Cancel.addEventListener(MouseEvent.CLICK, gotoframe74);
//Right – Book btns – Search//
btn_Book_Search_Close.addEventListener(MouseEvent.CLICK, gotoframe20);

//Left – Book btns – Text Selected Demo//
btn_Book_TSDemo.addEventListener(MouseEvent.CLICK, gotoframe140);
btn_TSDemo_Dictionary.addEventListener(MouseEvent.CLICK, gotoframe141);
btn_TSDemo_Highlight.addEventListener(MouseEvent.CLICK, gotoframe142);
btn_TSDemo_Note.addEventListener(MouseEvent.CLICK, gotoframe145);
btn_TSDemo_Search.addEventListener(MouseEvent.CLICK, gotoframe90);
btn_Book_TS_Dictionary_Close.addEventListener(MouseEvent.CLICK, gotoframe140);
btn_Book_TS_HL1.addEventListener(MouseEvent.CLICK, gotoframe143);
btn_Book_TS_HL2_ChangeColor.addEventListener(MouseEvent.CLICK, gotoframe144);
btn_Book_TS_HL2_Note.addEventListener(MouseEvent.CLICK, gotoframe145);
btn_Book_TS_HL2_RemoveHL.addEventListener(MouseEvent.CLICK, gotoframe140);
btn_Book_TS_HL3_Close.addEventListener(MouseEvent.CLICK, gotoframe143);
btn_Book_TS_Note1_Delete.addEventListener(MouseEvent.CLICK, gotoframe142);
btn_Book_TS_Note1_Save.addEventListener(MouseEvent.CLICK, gotoframe146);
btn_Book_TS_Note2.addEventListener(MouseEvent.CLICK, gotoframe145);
```

```
function gotoframe1(e:MouseEvent) {
    gotoAndStop(1);
}
function gotoframe2(e:MouseEvent) {
    gotoAndStop(2);
}
function gotoframe3(e:MouseEvent) {
    gotoAndStop(3);
}
function gotoframe4(e:MouseEvent) {
    gotoAndStop(4);
}
function gotoframe5(e:MouseEvent) {
    gotoAndStop(5);
}
function gotoframe6(e:MouseEvent) {
    gotoAndStop(6);
}
function gotoframe7(e:MouseEvent) {
    gotoAndStop(7);
}
function gotoframe8(e:MouseEvent) {
    gotoAndStop(8);
}
function gotoframe9(e:MouseEvent) {
    gotoAndStop(9);
}
function gotoframe10(e:MouseEvent) {
    gotoAndStop(10);
}
function gotoframe11(e:MouseEvent) {
    gotoAndStop(11);
}
function gotoframe12(e:MouseEvent) {
    gotoAndStop(12);
}
function gotoframe13(e:MouseEvent) {
    gotoAndStop(13);
}
function gotoframe14(e:MouseEvent) {
    gotoAndStop(14);
}
function gotoframe15(e:MouseEvent) {
    gotoAndStop(15);
}
```

```
function gotoframe16(e:MouseEvent) {
    gotoAndStop(16);
}

function gotoframe20(e:MouseEvent) {
    gotoAndStop(20);
}
function gotoframe21(e:MouseEvent) {
    gotoAndStop(21);
}
function gotoframe22(e:MouseEvent) {
    gotoAndStop(22);
}
function gotoframe23(e:MouseEvent) {
    gotoAndStop(23);
}
function gotoframe24(e:MouseEvent) {
    gotoAndStop(24);
}
function gotoframe25(e:MouseEvent) {
    gotoAndStop(25);
}
function gotoframe26(e:MouseEvent) {
    gotoAndStop(26);
}

function gotoframe35(e:MouseEvent){
    gotoAndStop(35);
}
function gotoframe36(e:MouseEvent){
    gotoAndStop(36);
}
function gotoframe37(e:MouseEvent){
    gotoAndStop(37);
}
function gotoframe38(e:MouseEvent){
    gotoAndStop(38);
}
function gotoframe39(e:MouseEvent){
    gotoAndStop(39);
}
function gotoframe40(e:MouseEvent){
    gotoAndStop(40);
}
```

```
function gotoframe41(e:MouseEvent){
    gotoAndStop(41);
}
function gotoframe42(e:MouseEvent){
    gotoAndStop(42);
}
function gotoframe43(e:MouseEvent){
    gotoAndStop(43);
}
function gotoframe44(e:MouseEvent){
    gotoAndStop(44);
}
function gotoframe45(e:MouseEvent){
    gotoAndStop(45);
}
function gotoframe46(e:MouseEvent){
    gotoAndStop(46);
}
function gotoframe47(e:MouseEvent){
    gotoAndStop(47);
}
function gotoframe48(e:MouseEvent){
    gotoAndStop(48);
}

function gotoframe50(e:MouseEvent){
    gotoAndStop(50);
}
function gotoframe51(e:MouseEvent){
    gotoAndStop(51);
}
function gotoframe52(e:MouseEvent){
    gotoAndStop(52);
}
function gotoframe53(e:MouseEvent){
    gotoAndStop(53);
}
function gotoframe54(e:MouseEvent){
    gotoAndStop(54);
}
function gotoframe55(e:MouseEvent){
    gotoAndStop(55);
}
```



```
function gotoframe56(e:MouseEvent){
    gotoAndStop(56);
}
function gotoframe57(e:MouseEvent){
    gotoAndStop(57);
}
function gotoframe58(e:MouseEvent){
    gotoAndStop(58);
}
function gotoframe59(e:MouseEvent){
    gotoAndStop(59);
}
function gotoframe60(e:MouseEvent){
    gotoAndStop(60);
}

function gotoframe70(e:MouseEvent){
    gotoAndStop(70);
}
function gotoframe71(e:MouseEvent){
    gotoAndStop(71);
}
function gotoframe72(e:MouseEvent){
    gotoAndStop(72);
}
function gotoframe73(e:MouseEvent){
    gotoAndStop(73);
}
function gotoframe74(e:MouseEvent){
    gotoAndStop(74);
}
function gotoframe75(e:MouseEvent){
    gotoAndStop(75);
}
function gotoframe76(e:MouseEvent){
    gotoAndStop(76);
}
function gotoframe77(e:MouseEvent){
    gotoAndStop(77);
}
function gotoframe78(e:MouseEvent){
    gotoAndStop(78);
}
```

```
function gotoframe79(e:MouseEvent){
    gotoAndStop(79);
}
function gotoframe80(e:MouseEvent){
    gotoAndStop(80);
}
function gotoframe81(e:MouseEvent){
    gotoAndStop(81);
}
function gotoframe82(e:MouseEvent){
    gotoAndStop(82);
}
function gotoframe83(e:MouseEvent){
    gotoAndStop(83);
}
function gotoframe84(e:MouseEvent){
    gotoAndStop(84);
}
function gotoframe85(e:MouseEvent){
    gotoAndStop(85);
}
function gotoframe86(e:MouseEvent){
    gotoAndStop(86);
}

function gotoframe90(e:MouseEvent){
    gotoAndPlay(90);
}

function gotoframe131(e:MouseEvent){
    gotoAndStop(131);
}

function gotoframe140(e:MouseEvent){
    gotoAndStop(140);
}
function gotoframe141(e:MouseEvent){
    gotoAndStop(141);
}
function gotoframe142(e:MouseEvent){
    gotoAndStop(142);
}
function gotoframe143(e:MouseEvent){
    gotoAndStop(143);
}
```

```
function gotoframe144(e:MouseEvent){
    gotoAndStop(144);
}
function gotoframe145(e:MouseEvent){
    gotoAndStop(145);
}
function gotoframe146(e:MouseEvent){
    gotoAndStop(146);
}
```

CODE – FRAME 130

```
stop();
```

Appendix V

Website Design

CODE – INDEX.HTML

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/
xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">

<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
<title>Sarah Fedigan's MFA Thesis – iRead</title>
<link rel="stylesheet" type="text/css" href="css/reset.css">
<link rel="stylesheet" type="text/css" href="css/styles.css" media="screen"/>
<script src="Scripts/swfobject_modified.js" type="text/javascript"></script>
</head>

<body>

<div id="page_container">

<!-- Start Header -->
<div class="header">
<h1>PROJECT DESCRIPTION</h1>
</div>

<div class="header2">
<h1>IREAD APPLICATION DEMO</h1>
</div>
<!-- End Header -->

<!-- Start iRead .swf -->
<div class="swf_container">
  <object classid="clsid:D27CDB6E-AE6D-11cf-96B8-444553540000" width="1000" height="700"
id="FlashID" title="Sarah Fedigan's MFA Thesis – iRead">
  <param name="movie" value="images/iRead.swf" />
  <param name="quality" value="high" />
  <param name="wmode" value="opaque" />
  <param name="swfversion" value="6.0.65.0" />
  <!-- This param tag prompts users with Flash Player 6.0 r65 and higher to download the latest version of
Flash Player. Delete it if you don't want users to see the prompt. -->
  <param name="expressinstall" value="Scripts/expressInstall.swf" />
  <!-- Next object tag is for non-IE browsers. So hide it from IE using IECC. -->
  <!--[if !IE]>-->
```

```
<object type="application/x-shockwave-flash" data="images/iRead.swf" width="1000" height="700">
  <!--<![endif]-->
  <param name="quality" value="high" />
  <param name="wmode" value="opaque" />
  <param name="swfversion" value="6.0.65.0" />
  <param name="expressinstall" value="Scripts/expressInstall.swf" />
  <!-- The browser displays the following alternative content for users with Flash Player 6.0 and older. -->
  <div>
    <h4>Content on this page requires a newer version of Adobe Flash Player.</h4>
    <p><a href="http://www.adobe.com/go/getflashplayer"></
a></p>
  </div>
  <!--[if !IE]>-->
</object>
<!--<![endif]-->
</object>
</div>
<script type="text/javascript">
swfobject.registerObject("FlashID");
</script>
<!-- End iRead. swf -->

<!-- Start Footer -->
<div class="footer">
<p>&copy; 2011 SARAH FEDIGAN</p>
</div>
<!-- End Footer -->

</div>

</body>

</html>
```

CODE – RESET.CSS

```
/* XHTML, HTML4, HTML5 Reset
```

```
-----*/
```

```
a,  
abbr,  
acronym,  
address,  
applet,  
article,  
aside,  
audio,  
b,  
big,  
blockquote,  
body,  
canvas,  
caption,  
center,  
cite,  
code,  
dd,  
del,  
details,  
dfn,  
dialog,  
div,  
dl,  
dt,  
em,  
embed,  
fieldset,  
figcaption,  
figure,  
font,  
footer,  
form,  
h1,  
h2,  
h3,  
h4,  
h5,  
h6,  
header,
```

hgroup,
hr,
html,
i,
iframe,
img,
ins,
kbd,
label,
legend,
li,
mark,
menu,
meter,
nav,
object,
ol,
output,
p,
pre,
progress,
q,
rp,
rt,
ruby,
s,
samp,
section,
small,
span,
strike,
strong,
sub,
summary,
sup,
table,
tbody,
td,
tfoot,
th,
thead,
time,
tr,
tt,
u,


```
ul,
var,
video,
xmp {
  border: 0;
  margin: 0;
  padding: 0;
  font-size: 100%;
}

html,
body {
  height: 100%;
}

article,
aside,
details,
figcaption,
figure,
footer,
header,
hgroup,
menu,
nav,
section {
/*
  Override the default (display: inline) for
  browsers that do not recognize HTML5 tags.

  IE8 (and lower) requires a shiv:
  http://ejohn.org/blog/html5-shiv
*/
  display: block;
}

b,
strong {
/*
  Makes browsers agree.
  IE + Opera = font-weight: bold.
  Gecko + WebKit = font-weight: bolder.
*/
  font-weight: bold;
}
```

```
img {
  color: transparent;
  font-size: 0;
  vertical-align: middle;
/*
  For IE.
  http://css-tricks.com/ie-fix-bicubic-scaling-for-images
*/
  -ms-interpolation-mode: bicubic;
}

li {
/*
  For IE6 + IE7.
*/
  display: list-item;
}

table {
  border-collapse: collapse;
  border-spacing: 0;
}

th,
td,
caption {
  font-weight: normal;
  vertical-align: top;
  text-align: left;
}

svg {
/*
  For IE9.
*/
  overflow: hidden;
}
```

CODE – STYLES.CSS

```
@charset "UTF-8";
/* CSS Document */

body {
    background-color: #FFF;
    font-family: Arial, Helvetica, sans-serif;
    text-align: center;
}

#page_container {
    display: block;
    margin-left: auto;
    margin-right: auto;
    width: 1020px;
    border-left: 10px solid #000;
    border-right: 10px solid #000;
}

.header {
    width: 450px;
    background-color: #000;
    border-right: 2px solid #CCCC99;
    margin: 0px;
    padding: 5px 0px 5px 0px;
    top: 0 px;
    z-index: 10;
    float: left;
}

.header h1 {
    font-size: 12px;
    font-weight: 100;
    color: #CCCC99;
    text-align: center;
}
```

```
.header2 {
  width: 568px;
  background-color: #000;
  margin-left: 452px;
  padding: 5px 0px 5px 0px;
  top: 0 px;
  z-index: 10;
  float: inherit;
}

.header2 h1 {
  font-size: 12px;
  font-weight: 100;
  color: #CCCC99;
  text-align: center;
}

.swf_container {
  width: 1000px;
  height: 700px;
  margin: 0px;
  padding: 0px;
  border: 10px solid #FFF;
  z-index: 0;
}

.footer {
  width: 1020px;
  background-color: #000;
  margin: 0px;
  padding: 2.5px 0px 2.5px 0px;
  bottom: 0px;
  z-index: 5;
}

.footer p {
  font-size: 10px;
  color: #CCCC99;
  text-align: center;
}
```

Appendix VI

Evaluation Survey

QUESTIONS IN DETAIL

iRead Application Evaluation Survey

1. General Information

Gender

Age

Field of Expertise

Main Residence (City, State, Country)

2. Is the iRead application easy to navigate and understand?

Yes

No

If no, please explain why.

3. Is the typeface used within the iRead application easy to read?

Yes

No

If no, please explain why.

4. Are the icons throughout the iRead application easy to understand?

- Yes
- No

If no, please explain why.

5. Are all the instructions and labels within the iRead application clear and easy to follow?

- Yes
- No

If no, please explain why.

6. Is the iRead application more organized and user friendly than current e-reading applications and devices?

- Yes
- No

If no, please explain why.

7. Are the background graphics, for both the description panel (left) and the iRead application user interface (right), appropriate and not distracting?

- Yes
- No

If no, please explain why.

8. Are there any confusing elements in the iRead application?

- Yes
- No

If yes, please explain why.

9. Overall, how satisfied were you with the iRead application as an e-reading application for the iPad?

- | | | | | | | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Very Dissatisfied | Dissatisfied | Neutral | Satisfied | Very Satisfied | Not Applicable |
| iRead Application | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Please elaborate on what you were dissatisfied or satisfied with.

10. Is there anything missing from the iRead application that would enhance the user experience?

Any additional comments would be greatly appreciated.

- Yes
- No

If yes, please explain why.

FOCUS GROUP

28 potential participants

	Name	Email Address
1	Aaron Yecies	rockhound12065@yahoo.com
2	Carrie Peppard Yecies	cpeppard@aol.com
3	Dawn House	dawnnybuoy@gmail.com
4	Deborah Fedigan	rfedigan@gmail.com
5	Jenna Nichols	jenna.l.nichols@gmail.com
		jln3174@rit.edu
6	Karen Korona Hastings	karenhastings57@yahoo.com
7	Kelly McCann	kbear92@gmail.com
8	Kristen Fedigan	kafedigan@gmail.com
9	Lee Roy	royls1@nycap.rr.com
10	Lynne Korona	lmk.korona@gmail.com
11	Michael Hastings	mikehastings33@yahoo.com
12	Richard Fedigan	rfedigan@gmail.com
13	Rick Seppa	rseppa1@nycap.rr.com
14	Sharon Peppard	sipeppard@hotmail.com
15	Sher Seppa	sseppa@fmcc.suny.edu
16	Bob Jansing	rommie_nola@yahoo.com
17	Maureen Conlon	mconlon@nycap.rr.com
18	Stephanie Davidson	sd275705@gmail.com
19	Kristen Clarke	kristenclarke1@gmail.com
20	Lisa Pensenstadler-Mauro	lmauro@rochester.rr.com
		ljm8700@rit.edu
21	Jeff Fedigan	jafedigan@gmail.com
22	Eileen Anderson	eileenco@buffalo.edu
23	Brian Peppard	brian.peppard@hotmail.com
24	Bruce Peppard	brucepep@aol.com
25	Ruth Hart	ruth.h.hart@att.net
26	Joe Malangoni	jmalangoni@gmail.com
27	Dennis Daudelin	DENNIS@daudelin.net
28	Lynn Daudelin	MWDAUDELIN@daudelin.net

**EMAIL TO
FOCUS GROUP**

Sarah Fedigan Thesis – iRead Application Evaluation Survey

Hello Everyone,

I have completed my thesis project and put together an evaluation survey. I have presented the project as a website but the interactive project section was created using Flash. If you do not have Adobe Flash Player on your computer you will need to download it in order to view and explore the project. I have included all the necessary links below.

Sarah Fedigan's MFA Thesis – iRead

<http://sarahfedigan.com/thesis/>

iRead Application Evaluation Survey

<http://www.surveymonkey.com/s/NRD5GK3>

Adobe Flash Player

<http://www.adobe.com/support/flashplayer/downloads.html>

The left panel serves as a description of the four sections and allows you to navigate between them. The right panel is a demonstration of the iRead application where you can click on the various icons and menus to see an example of each option. Please keep in mind that this is a prototype. The project is a demonstration to simulate the available options within the application. Always try clicking on all icons, menus, options, and highlighted areas to get to new menus and options.

Please contact me if you have any issues viewing or understanding the project, accessing the survey or if you have any other questions or comments.

I want to thank you again for taking the time to help me during this process. It is greatly appreciated.

Sincerely,
Sarah Fedigan

RESPONSES

17 respondents

1. General Information

	Gender	Age	Field of Expertise	Main Residence
1	Female	47	Business	Amsterdam, NY
2	Female	51	Senior Administrative Assistant	Castleton, NY
2	Female	23	Environmental Education	Orange, TX
4	Female	37	Teacher	Glenville, NY
5	Male	56	Computers	Sandwich, MA
6	Female	59	Administrative Assistant	Schenectady, NY
7	Male	64	Science – Biology/Chemistry	Castleton, NY
8	Female	26	Technical Services	Madison, Wi
9	Male	65	Engineering	McKinney, TX
10	Female	70	Own a Kindle	Ticonderoga, NY
11	Female	50	Insurance	Castleton, NY
12	Male	24	Media Production	Hartford, CT
13	Female	62	Professor	Altamont, New York
14	Female	57	Retired – Corporate Human Resources	Sandwich, MA
15	Female	47	Graphic Design	Honeoye Falls NY
16	Female	19	Science Student	Castleton, NY
17	Male	36	Project Management	Glenville, NY

2. Is the iRead application easy to navigate and understand?

	Response Percentage	Response Count
Yes	100.0%	17
No	0.0%	0
	If no, please explain why.	

3. Is the typeface used within the iRead application easy to read?

	Response Percentage	Response Count
Yes	100.0%	17
No	0.0%	0
	If no, please explain why.	

4. Are the icons throughout the iRead application easy to understand?

	Response Percentage	Response Count
Yes	100.0%	17
No	0.0%	0
	If no, please explain why.	

5. Are all the instructions and labels within the iRead application clear and easy to follow?

	Response Percentage	Response Count
Yes	94.1%	16
No	5.9%	1
	If no, please explain why.	
1	I would choose another word in place of "synch" under library. It seems too technical.	

6. Is the iRead application more organized and user friendly than current e-reading applications and devices?

	Response Percentage	Response Count
Yes	82.4%	14
No	17.6%	3
	If no, please explain why.	
1	Answer is really an N/A since I do not have one.	
2	I do not have access to any e-reading applications and devices, so I do not know.	
3	Haven't experienced any other e-reading applications or devices	

7. Are the background graphics, for both the description panel (left) and the iRead application user interface (right), appropriate and not distracting?

	Response Percentage	Response Count
Yes	100.0%	17
No	0.0%	0
	If no, please explain why.	

8. Are there any confusing elements in the iRead application?

	Response Percentage	Response Count
Yes	0.0%	0
No	100.0%	17
	If yes, please explain why.	

9. Overall, how satisfied were you with the iRead application as an e-reading application for the iPad?

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Not Applicable	Rating Average	Response Count
iRead Application	0.0% (0)	0.0% (0)	0.0% (0)	29.4% (5)	70.6% (12)	0.0% (0)	4.71	17
	Please elaborate on what you were dissatisfied or satisfied with.							
1	The various options, menus and icons allows each user to easily customize and enhance their reading experience to suit their individual needs.							
2	Aside from physically holding a book in my hands, which an e-reader will never do, this app enables me to easily and more efficiently do the things I interactively do with a conventional book. I frequently flip back and forth through pages to reread to remember, clarify, and reinforce text; refer to photos, drawings, maps, and family trees to orient myself in the story; and put sticky notes in to mark meaningful quotes, passages, thoughts, advice, or even recipes. The dictionary option is excellent for when you don't have one handy and want to clarify something without having to make a note to look it up later.							
3	Everything was easy to navigate, especially for someone who doesn't have a lot of experience with an iPad/iPhone or these type of reading applications							
4	Very user friendly and easy to navigate.							
5	I thought that the interface was intuitive and easy to use!							
6	The experience makes me want to try an e-reader. Probably would still read hardcopy books.							
7	Problem was clearly stated and presentation does a very good job of explaining what iRead is and what its capabilities are. iRead icon layout is very easy to navigate. Fonts and even choice of colors make iRead very user friendly.							
8	Easy to navigate and to change to my custom format.							
9	It would make me interested in purchasing one.							
10	Sarah, Its very clean, logical and easy to follow considering there is a lot of content. You did a nice job organizing it for the user.							

10. Is there anything missing from the iRead application that would enhance the user experience? Any additional comments would be greatly appreciated.

	Response Percentage	Response Count
Yes	11.8%	2
No	88.2%	15
	If yes, please explain why.	
1	The application portrays e-reading navigation at its best! Great job.	
2	The book publication information should include previous books by the author if it does not do so.	
3	I like the feature that allows you to show that you have read the book with dates and room for comments on the book. I do not believe the Kindle has that option.	
4	I think there are more than I might actually use, but its nice to have them available if I want them.	
5	A bookmark function that would open the book to the bookmarked paged if someone was switching from book to book.	

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