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Design and Implementation of e-Book Authoring and Customization

by

Nurul Zawiyah binti Mohamad

Dissertation submitted in partial fulfillment of
the requirements for the
Bachelor of Technology (Hons)
(Information Technology)

JUNE 2005

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CERTIFICATION OF APPROVAL

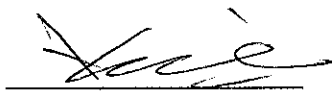
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A project dissertation submitted to the
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Approved by,



(Ms Noreen Izza Arshad)

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
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JUNE 2005

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.



(NURUL ZAWIYAH BINTI MOHAMAD)

ABSTRACT

Electronic book (e-Book) is an electronic version of traditional print book that can be read by using a personal computer or an e-Book reader. Users can purchase an e-Book on diskette or CD, but the most popular method of getting an e-Book is to purchase or download the e-Book from a Web site to be read from the user's computer or reading device. The e-Book future has not been clearly seen yet, as some says that nothing can beat the original printed books but some others would say that e-Book is the future of reading. This report is a final year project involving a research and implementation of an improved version of e-Book. The research is conducted to get a better understanding on the e-Book itself, what it is and what are the advantages and disadvantages of e-Books. On the implementation side, an improved version of e-Book is developed, with the focus on the design, and functionalities and the special facilities. The implementation will also improve the way e-Book is presented. The newly improved e-Book is expected to enhance the reading of e-Book. Scope of study will cover on the e-Book, the comparison between e-Books in the internet, the programming language that is used for the development of the project; which is HTML, PHP and JavaScript, and also on the human and computer interaction to ensure the interactivity between user and the computer. This project adopted the Rapid Application Development methodology to converge early towards an acceptable and a feasible design of the project. The results of this project will cover the survey analysis on e-Books, and the improved version of e-Book.

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ABBREVIATIONS AND NOMENCLATURES

HTML – HyperText Markup Language

PHP – Hypertext Preprocessor

CHAPTER 1

INTRODUCTION

This chapter features the basic information of the project; consisting on its background, its problem statements, its objectives and the scope involved. This project will mainly focus on the design and implementation of e-Book authoring and its customization.

1.1 Background of Study

Reading has become an important verb in this high technology world. Besides just as a hobby, it is the only way for us to reach all the knowledge in the world to be our knowledge. Books are the medium to convey all these knowledge to us humans. Centuries to centuries, human enhanced the implementation of books as a reading material from carving into stones up to printing onto papers. Nowadays, with the presence of high technologies around us, books are transformed into digital format, or electronic format, and called as e-Book.

In the education field, e-Books are designed as learning tools that allow students to learn independently in an interesting and different way. Their purpose is to compliment existing classroom programs. It is also suited to enhance learning outside the classroom, and can significantly reduce the burden associated with computationally intensive course material (i.e. for engineering students).

The e-Book concept was born when everything was made electronic. Names such as, *e-mails, e-commerce, e-banking, e-shopping* leads to e-Book. There is only one common reason for the implementation of the 'electronic thingy', which is for human convenience.

For an e-Book, convenient means to have a downloadable book from the web, and can be read immediately. By convenient, we hope the e-Book is as well as pleasant to read. This factor depends on the design of the e-Book and the type of the e-Book, whether it is for education purposes, business or professional purposes, or entertainment purposes. For example, e-Books for education purposes could have colorful or artistic design, while for business or professional purposes, a professional design should be applied.

1.2 Problem Statement

1.2.1 Problem Identification

This project is about e-Books, and the implementation of them – the design and the interactivity. It is not about comparing e-Book with the real books, but focusing on problems when reading e-Books and ways to boost them. The problems faced when reading an e-Book, can be listed as the followings:

- ❁ Most of the e-Books are in PDF format (other formats are OeB, XML, .LIT), which load slowly when the size of the file is very large. Reading a PDF file format requires readers to have Adobe Acrobat to be installed in their computer.
- ❁ E-Book interface depends on the subject itself. Educational e-Books can be colorful and pleasant to read; but some other e-Books were written in plain white pages and sometimes there are too many words chunked up in one page. This problem will make the readers hard to scan word by word on the page. Another disadvantage is readers will need to scroll down when reading. Aside from that, PDF format replicates book “too well” and many e-Books features can be added.
- ❁ Specific types of format are created for specific readers only (e.g. PDF for Adobe), for specific devices and specific OS.
- ❁ The current e-Books do not have the authoring feature, which is needed for non-IT people /managers who have a lot to share with their employees yet do not have enough time.
- ❁ The current e-Books do not really have all functionalities combined together in a single e-Book. (i.e. functions – search, bookmark, thesauri/dictionary, hyperlink)

1.2.2 Significant of the Project

These e-Books are not only for home readers, but also for business purposes, which means we need to market those e-Books. To sell our product, we need to sell the best we have and not forgetting the contents of it. Mentioning about contents, the interface is one of the important elements that are not to be left out. It is important to emphasize on the human and computer interaction factor when designing the interface. In this computer information age, everything needs to be done very quickly including reading. People will not screen word by word for information, yet they will search for the keywords in the fastest way.

This project will improve the common e-Books features that are found in the web, especially in design and its functionalities. The project also focuses on the uniqueness that is included in the e-Book to optimize the usage of it. The elements those are included in the e-Book:

- ✿ Dictionary and Thesauri
- ✿ Hypertext / Hyperlink function
- ✿ Search facility (jumps between chapters or even better jumps between searched words)
- ✿ Careful designs of buttons and interface
- ✿ Bookmarking

Besides, this project will help new authors or non-IT people who wanted to start off creating their own e-Book using the 'Create e-Book' feature in the e-Book website. Other features included in the website are:

- ✿ Upload and download e-Book (sharing)
- ✿ Color and text customization

1.3 Objectives and Scope of Study

1.3.1 Objectives

The project objectives are as follows:

- ✿ To implement an e-Book that is improved in design, functionalities (i.e. searching, bookmarking) and integrated with added tools (i.e. dictionary, thesauri)
- ✿ To implement an e-Book authoring tool for users who wanted to create their own e-Book
- ✿ To make an e-Book look presentable and attractive that can attract users to read them

1.3.2 Scope of Study

Evaluation and comparison between internet free or downloadable e-Books are done. Points that concern with design and functionalities are analyzed in each e-Book samples. Users' expectations are also taken into account to implement a better e-Book according to their preferences. Besides design and functionalities, the implementation is covering the human-computer interaction factor to ensure interactivity between user and the e-Book.

Other than that, the scope of study also covered the learning of programming languages that are used in developing the project which are HTML, PHP, and JavaScript. Human and computer interaction factors are also taken into account to ensure interactivity between user and computer.

1.3.3 Relevancy of the Project

An improved e-Book will offer several benefits, especially on the promotional side on reading the e-Book. When people in this high technology world is more focused on e-Books, e-Books will have a big potential to breakthrough the online market as well as e-business, e-shopping and other method that is transformed into electronic version. As it is shared in the Internet, user will never bothered to go to store and queue to buy books that are sometimes not even available yet in the bookstore. This will provide convenience to the users or we can say here; to the frequent readers.

1.3.4 Feasibility of project within period

This project is limited and is done under a planned period. Surely, time constraints and possible limitation has been detected during the development of the project. Somehow, the goal is to achieve the main objective, which is to implement e-Book that is improved in design and functionalities. This objective is achieved in the development of the project. Other objectives are achieved as well during the development phase. The limitations of the product have been identified and these limitations could be improved in future enhancements.

CHAPTER 2

LITERATURE REVIEW AND THEORY

2.1 What is e-Book?

From several definitions that have been crossed over on the Internet, e-Book is basically the digital [1] or an electronic version of traditionally print book that is downloadable and can be read at a personal computer or e-Book reader[1][2]. Usually e-Books are available in Adobe PDF or e-Book Reader format, or in Microsoft's LIT format [3]. E-Book are said to be versatile, portable, and convenient [4].

2.2 The pros and cons of e-Book

Everything in this world has its own pros and cons. From the sources that have been collected; e-Books are better than books in many ways. From an article that is written by James M.Bryant (M) entitled 'The paperless book', he said that:

If the electronic book is ever to rival - let alone replace - the paper form, it seems to me that they must be comparable in price and usability. The book buying public must perceive it as an improvement on the paper version. This will not be achieved by promoting entirely new features such as hypertext - valuable as these are - but by emphasizing that the 'e-book' offers a way of overcoming many of the disadvantages of the paper book.

These disadvantages include size, weight and environmental impact – my collection occupies nearly 80m of shelf space and weighs about 1500 kg, probably representing the wood pulp from a medium-sized tree. Moreover, most books are made of acid-pulp paper with glued spines, and have a shelf life expectancy of no more than decades, which can fall to weeks if they are heavily used.[6]

Reading a review by Steve Grant;

"[But] the potential advantages of ebooks are enormous. Publishers and vendors save the costs of printing, binding, warehousing, shipping, and handling retailer returns; content updates are vastly easier. Because publishing a new ebook is less expensive and thus poses lower financial risk for publishers, authors (especially beginning ones) find it easier to get new books published. In fact, authors can even self-publish; they can perhaps even make their first book available for free or at very low cost as a way to acquire a following.[8]

His point of view on the format of eBook, which is in digital format;

"Advantages for readers are manifold, too. There is greater and faster availability—download a book from anywhere, at any time, and begin reading it immediately. Because maintaining a file on a publisher's server costs little, ebooks need never go out of print. You can't lose or damage ebooks....

"The digital format itself offers tremendous advantages to readers: keyword searching, hyperlinked cross references, captions, tables of contents, indexes, and glossaries; changeable fonts; embedded audio...

"Advantages to libraries are also considerable: no unpacking or processing, no shelving and reshelving, no physical circulation (patrons perform self-checkout), no overdue or fine collection, no lost books or replacement of them, no repair, no shelf space required..."

Additional sources regarding e-Book advantages include:

- clicking is easier than page-turning[5]
- you can customize the viewing experience (enlarge font size and style, change orientation on device, modify screen contrast) [5]
- the potential to add multimedia (graphics, audio, video) and hyperlinks to other information, including your own reference materials[5]
- you can read in the dark[5]
- they save trees and paper and avoid pollution (caused by inks, dyes, coloring) [5]
- they require less library space, shelf reading, inventory time, weeding, repair and replacement [5]

Contrasting from the above, e-Books still have the disadvantages comparing to printed books, listed below:

- screen resolution is still much below that of print on paper[5]
- prices of reading devices and e-Books are still too high[5]

2.3 E-Book Design

Based on an article written by Nadia Catenazzi, entitled “The Design and Evaluation of Electronic Books: The Hyper-Book Experience”, it describes their experience in designing and evaluating e-Books. She also stated the electronic medium offers a number of facilities (e.g. ease of updating and customizing, navigation support, history mechanisms, searching and multimedia facilities). These facilities are not fully exploited by the users. In order to make electronic facilities really usable and effective, an important requirement is that information is presented as familiar and user-friendly way.[7]

From the statement above, clearly, a good design with good interactivity with the readers can produce a good e-Book. User friendly way means using the right color to emphasize, using the appropriate icon to symbolize and placing menus on right places where users can see them. We can test the interaction between user and this electronic function by conducting an observation on users to see whether they can use the facilities without facing any problems. Besides, we would like to make sure that users would not get bored reading a plain white document on computers and straining their eyes on the screen at the same time. A mixture of text and graphics would be good for users to enjoy reading an e-Book.

Another factor that has been an important factor is that users will like it better if they can click to turn pages, instead of scrolling down towards the end. Let’s say that a novel e-Book, which contains up to 200 pages in one file, can cause fatigue to the users. The best way is that to keep pages in line with the resolution of the computer or e-Book reader, and to turn the pages, users just need to click to the next page, or jumps to other chapters by clicking on a hypertext.

CHAPTER 3

METHODOLOGY

This chapter will describe the methodology that is used to work on the project. Rapid Application Development was chosen for this project so that the project can be finished on time toward an acceptable and feasible design to all users. Besides, it is also intended to limit this project's exposure to the forces of change. And lastly, to save development time, possibly at the expense of economy or product quality.

3.1 Procedure Identification

3.1.1 Research

For this project, a time constraint factor is involved. A fast methodology is needed that can help save a lot of time while concentrating on many areas. By using rapid application development, project can be developed iteratively, where re-design, re-evaluate and re-specify whenever needed is available in the development stages. This is because the research and development need to be done in the same time. For the research part, survey on e-Book is applied.

3.1.1.1 Survey

To collect information for this project, the followings have been done:

- Reviewing articles – to extract important points of e-Books and its functionalities
- Download free e-Book from the web – to compare between each e-Book and identify problems, advantages and disadvantages of the e-Book.
- Download e-Book authoring software – to see how an e-Book creator works and see what features are to be included to create a good e-Book.

Besides gathering all these information, questionnaire was given out to a sample of users, to see whether they know about e-Book, to see what they are expecting from e-Book, to see whether they are satisfied when reading current e-Book, and what they think of the customization of e-Book. The results are analyzed, and are considered as users' expectation on e-Book, and this information helps to develop a better e-Book, and a good e-Book authoring tool.

3.1.2 Design Methodology

For the design methodology, base of all software development phases are used; which are;

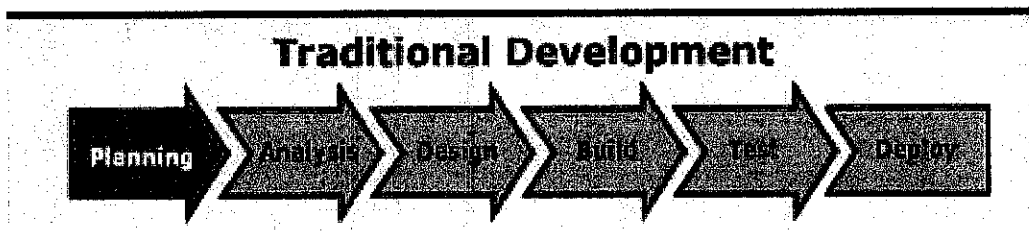


Figure 3.1 Traditional Development Phases (*Creative Data, 2001*)

But to have these phases in a short time of period, it is a need to consider that at some phases, say analyzing phase, the project may needs to be re-analyzed, and in the designing phase, maybe at some point, the project needs to be re-designed. The application needs to be tested every time after one function or several functions have been added to ensure that it is working and meet the expectation on how it works.

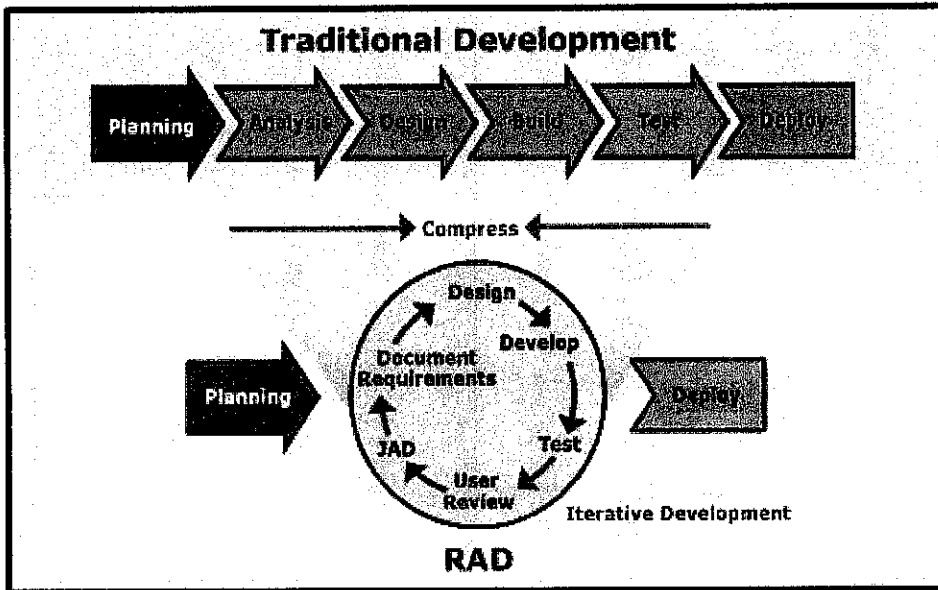


Figure 3.2: Rapid Application Development (*Creative Data, 2001*)

RAD is a methodology for compressing the analysis, design, build, and test phases into a series of short, iterative development cycles [10]. An important, fundamental principle of iterative development is that each iteration delivers a functional version of the final system. It is a properly engineered, fully working portion of the final system and is not the same as a prototype. For example, the first iteration might deliver 100% of 10%, the second iteration 100% of 25% [10]. The stages involved in this methodology are, planning phase, analyzing phase, designing phase, development phase, testing phase, user review and deployment.

3.1.2.1 Planning

For the planning stage, brainstorming was done, listing down the task that should be done. A set of questions were written to trigger information needed for this project. The planning phase also involved planning the design of the project, plan on how to implement the project, meaning how to start and end the project. Planning phase is very important, as this project is depending on the limited time schedule, so everything that is planned, has to be followed accordingly.

3.1.2.2 Analysis

This phase is for the research part, where materials for the project need to be collected and analyzed, to dig out useful and needed information for the project. As mentioned above, samples of e-Book and samples of e-Book authoring software has been downloaded and compared to each other, and articles and journals about e-Book have been reviewed and analyzed. The importance of this phase is that to make sure everything is analyzed because the findings are be used to develop this project. During this phase, there might be a recycle of activities, or in other words, some documents, information may need to be re-analyzed to get accurate and valid findings.

3.1.2.3 Design

This phase is the one of the most important phase in this methodology. Careful design need to be planned, to meet users' expectations, and to ensure product's interactivity. The design phase is divided into two small parts, because this project needs an implementation of improved e-Book version and another one is the implementation of an e-Book authoring tool. First round outputs such as storyboard of the design were analyzed, to find any defect, and after finding a better solution,

the original design can be re-designed. After some cycles of redesigning, it is tested to check any errors or bugs, until the best output is achieved.

3.1.2.4 Develop and Testing

This phase, is the critical phase, where after the initial phases are done, everything is developed one by one. This phase also will take most of the development time, and will be facing many problems while executing the application. This phase was going through a number of testing phases, to check for errors, and to find a better solution for the best output.

3.1.2.5 User Review

This phase is a phase whereby some end users were needed to run the product while being observed. The thing that is evaluated during the user review phase is the interactivity of the product, whether the product can give correct feedback to user or not. After observation is done, points that are taken during the observation were revised to improve the interactivity of the product.

3.1.2.6 Deploy

In this phase, everything that has been done from the beginning is executed. The final product is a working product, after small refinements and improvements during the development.

For both Joint Application Development (JAD) and Document Requirements, these phases have been skipped during the development of this project, because it is not applicable to the project.

3.2 Tools required

3.2.1 Software

- Adobe Photoshop 7.0
- Adobe Acrobat 6.0 Professional
- Macromedia Dreamweaver
- Macromedia SwishMax

3.2.2 Hardware

- Personal computer

CHAPTER 4

RESULTS AND DISCUSSIONS

In this chapter, the findings of the questionnaire that has been given out to a sample of users will be analyzed. It will be a guideline in creating a better e-Book. In creating this e-Book, some points might need to be taken into account. The e-Book needs to be marketable, and could encourage people to read it; especially the e-Book readers. The questionnaire is given to a sample of 40 persons

4.1 Questionnaire

The questionnaire is one of the important elements during the research. It will collect all the users' opinions and expectations on current e-Books and the findings will be analyzed to aid in creating an upgraded version of e-Book.

Q1. Percentage of users that know what is an e-Book

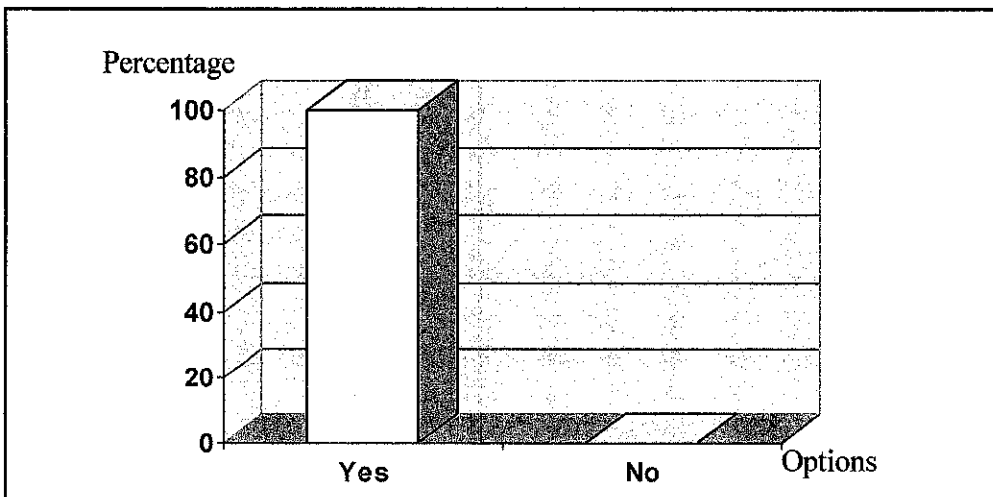


Figure 4.1 Percentage of users that know what is an e-Book

For this question, 100% of the users know what an e-Book is, and none answered 'No'.

Q2. Source of e-Books

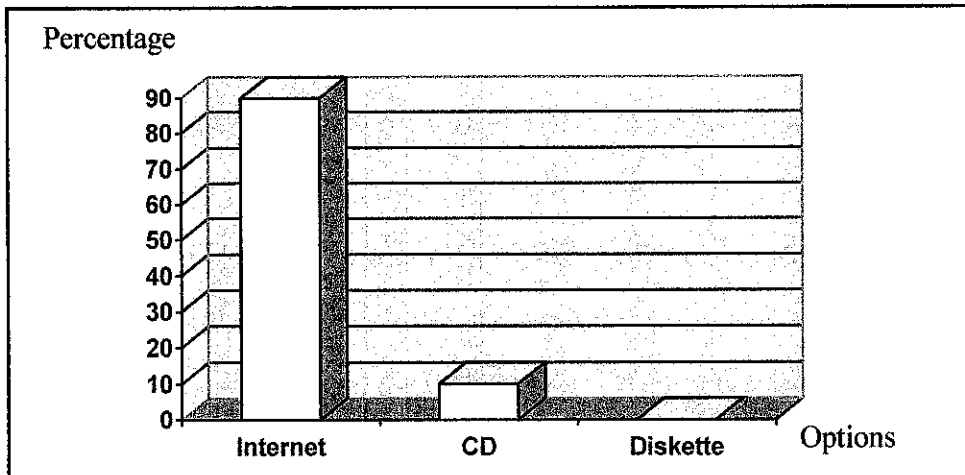


Figure 4.2 Percentage of the sources of e-Book according to users

From the question, which asked users to select the source of their e-Books, the graph shows a very big percentage of users who selected Internet as their source of e-Books. 90% from 40 people, which is 36 people, answered for 'Internet', 10%, which is 4 people selected 'CD' and none selecting 'Diskette'.

Q3 and Q4 are about whether the users have ever purchased an e-Book online; and if they do, they need to state the differences from the free e-Book, if there is any. For these questions, 100% answered 'No', which means none of them in the sample has ever purchased an e-Book online. Most probably, they only downloaded free versions of e-Book that are available in the Internet. If there is any difference between purchased e-Book and free e-Book, the differences cannot be predicted unless the questionnaire is given to more samples.

Q5. Users' preferences

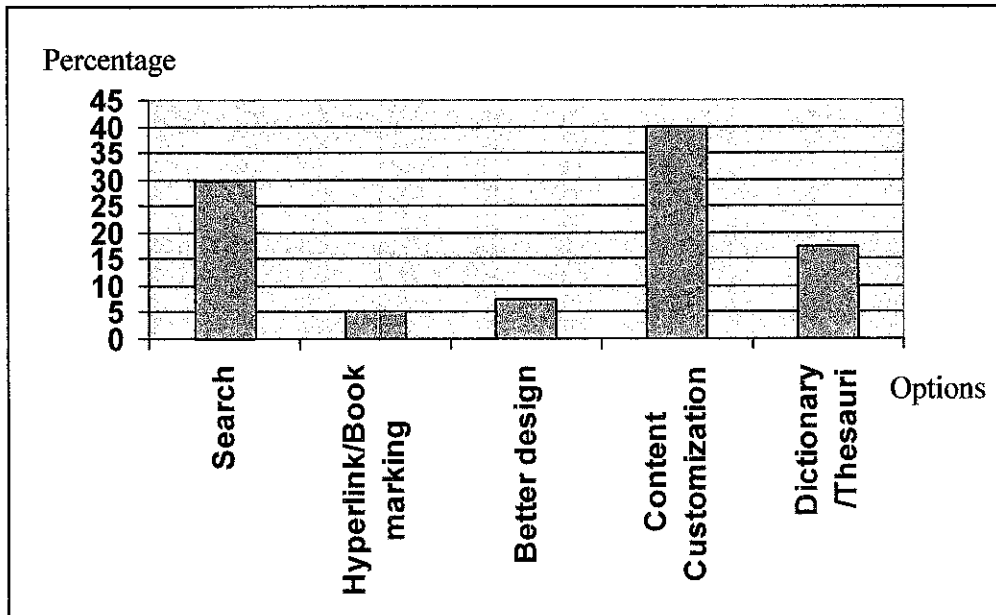


Figure 4.3 Users' preferences

From the bar graph, 'Content Customization' is the most preferred element, with 40% of percentage. The second rank is the 'Search' function which holds the percentage value 30%, third rank is the 'Dictionary/Thesauri' function with holds 17.5% of percentage value, fourth rank is the 'Better Design' element, 7.5%, which consists of colors, button designs, and last rank is the 'Hyperlink and Bookmarking' function which holds 5% of percentage value. The calculation was based on the majority of each function, which is then converted into percentage. From the finding, it is clear that users preferred content customization because this would be interesting when they can customize the e-Book according to their own preferences.

Q6. User satisfaction when reading current e-Book

This question is in the form of interval scale, where user can select a value from the scale from 1 which means 'Not satisfied', 4 means 'Satisfied' and 7 which means 'Very Satisfied'. 42.5% the middle value, which is 4, that means 'Satisfied'. For this question they tend to select the average value because some of them are unsure of there level of satisfaction. However, in the table below will list the percentage of this matter.

Scale Value	Percentage (%)	Number of users
1 (Not Satisfied)	5%	2
2	7.5%	3
3	7.5%	3
4 (Satisfied)	42.5%	17
5	25%	10
6	7.5%	3
7 (Very satisfied)	5%	2

Table 4.1 Percentage of user satisfaction while reading e-Book

Q7. Efficiency in having reading customization while reading e-Book

This question also is in form of interval scale, and the results are shown in the table below.

Scale Value	Percentage (%)	Number of users
1 (Not Efficient)	0%	0
2	0%	0
3	0%	0
4 (Efficient)	20%	8
5	25%	10
6	37.5%	15
7 (Very efficient)	17.5%	7

Table 4.2 Percentage of efficiency in having reading customization

From the table above, it is clear that users think it is efficient to have the reading customization function in the e-Book. This result will make the project meaningful if the function is implemented in every e-Book. It can promote the e-Book itself, while attract many users to read the e-Book that is authored.

4.2 Product Analysis

4.2.1 E-book functions

In this project, the e-books created have the 'All-In-One' function, which consists of:

Functions	Description
Search	<ul style="list-style-type: none">- search within a single page- search the entire e-book
Hyperlink	<ul style="list-style-type: none">- hyperlinking from one page to another
Bookmark	<ul style="list-style-type: none">- automatically saves the e-book address in the Favorites list
Dictionary and Thesauri	<ul style="list-style-type: none">- connects to a free online dictionary after double-clicking the word selected.

Table 4.3 All-In-One function in e-book

i) Search function

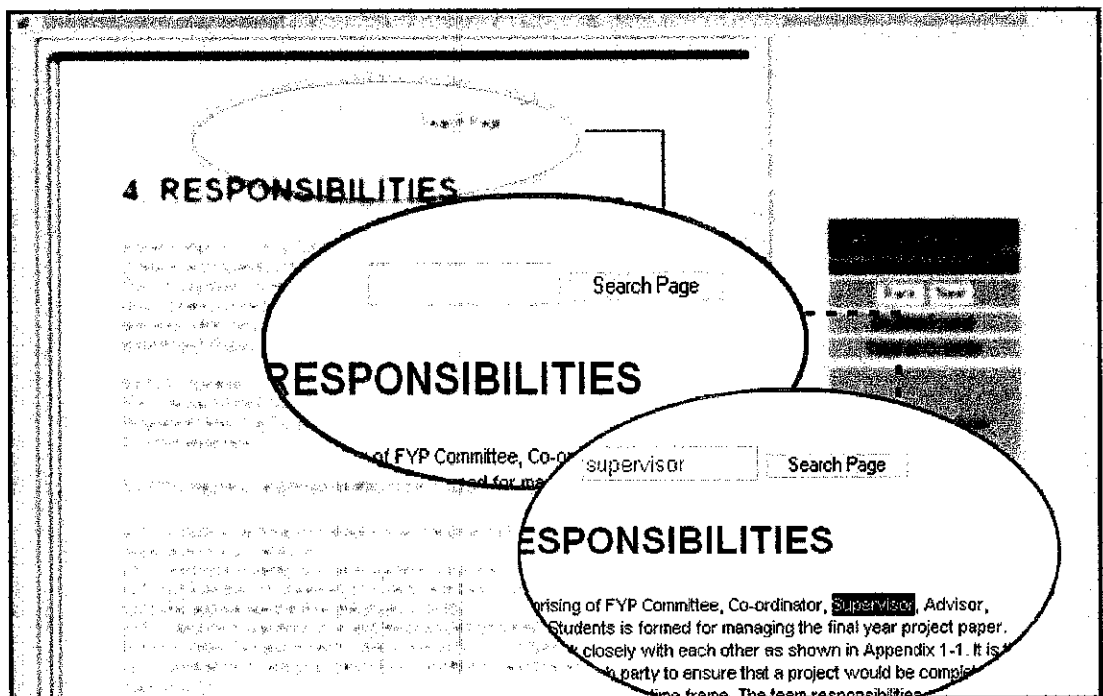


Figure 4.4 Search function (searches in a single page)

This function is used when a user would like to search for a keyword in a single page opened. User should enter a keyword in the text box, and click the 'Search Page' button, and it will move to the first matched word that is in the page. For example, when user insert 'supervisor' in the text box, it will highlight the first 'supervisor' word that is in the page. It will continue highlighting the matched word until the user find what he or she is searching. If the word is not in the page, an alert with the message 'Phrase/word not found' will appear.

Another search function that is available in the e-book is the function where user can search the entire e-book. It is located in the navigation frame on the right side of the e-book.

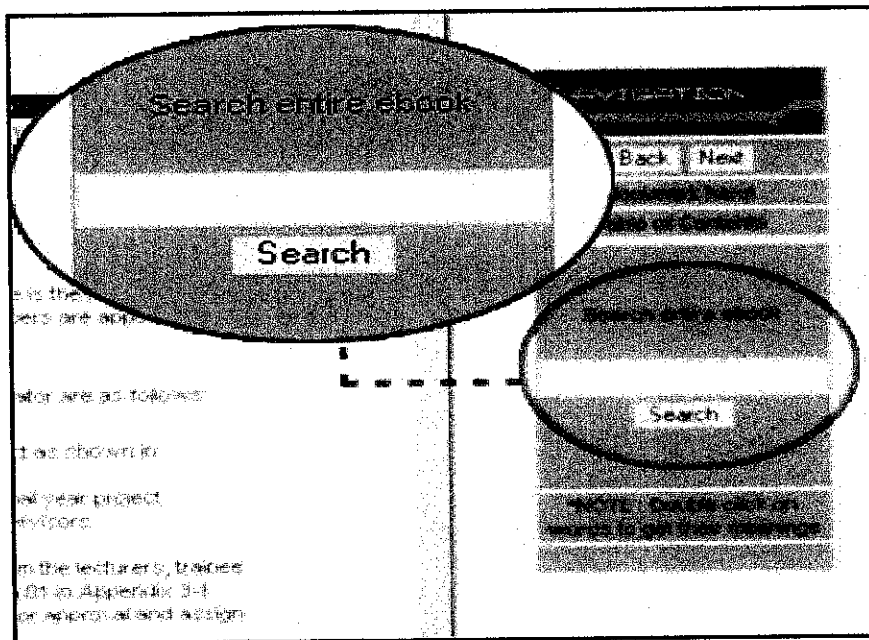


Figure 4.5 Search function (searches the entire e-book)

This function allows user to move from chapter to chapter if the user is not sure which chapter to go. The user should type the word in the text field and click 'Search'. The results will appear in a new window where the main topics are listed

with their ranks. The most relevant topic will be on top. The search results listed contain the chapter title, relevancy to the searched word, a little bit description of the chapter, and the address of the chapter. User can click on the topic name to go to the page intended.

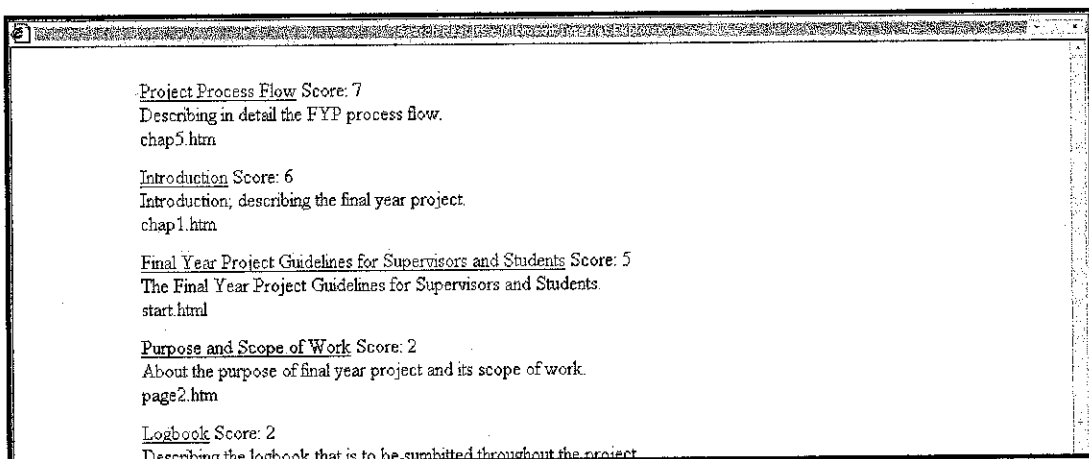


Figure 4.6 Chapter search results

ii) Hyperlink

In this e-book, the hyperlink function is used to skip from chapter to chapter. The reason that a hyperlink is being included in the e-book is to avoid too much scrolling in the e-book. Too much scrolling throughout the content can cause eyestrain, besides causing the readers to feel bored reading the e-book. For a short e-book, scrolling may not be a big problem, but for a lengthy e-book, say 100 pages, scrolling is a big deal. In this e-book, hyperlink is available in the 'Table of Contents' page. (see Figure 4.7)

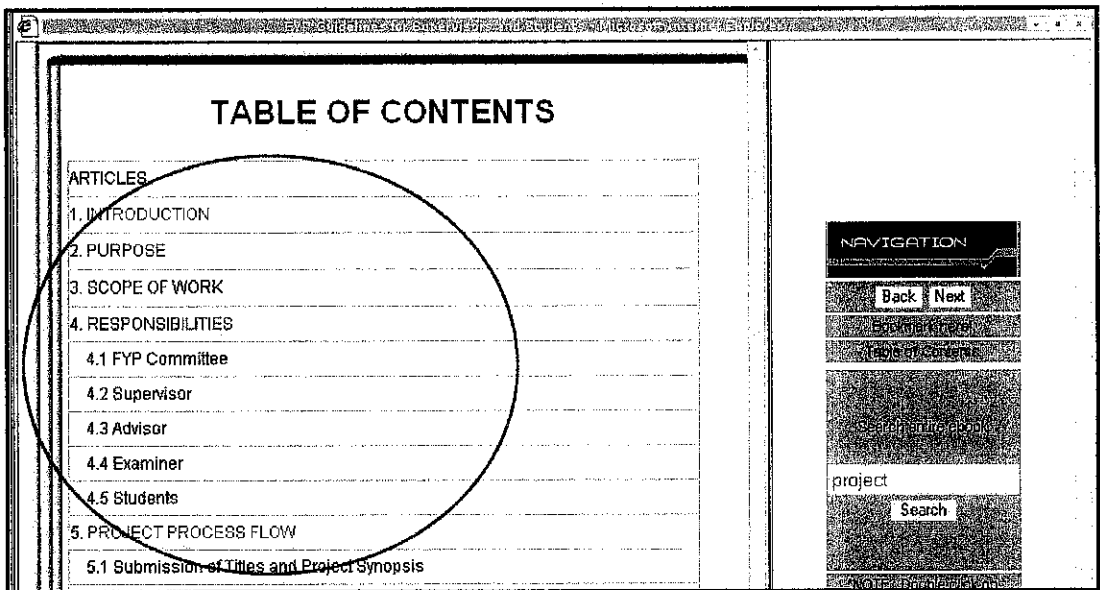


Figure 4.7 Hyperlinks

iii) Bookmark

Using this function, user can automatically save the e-book in their Favorites list, by just clicking the link 'Click here to bookmark'. The Favorites box will appear, and it is up to the user to locate the e-book.

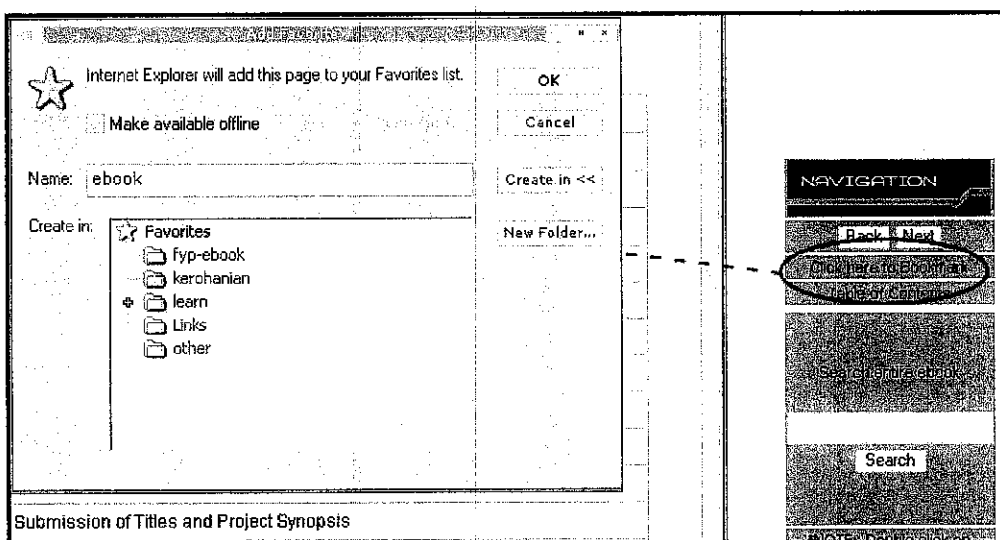


Figure 4.8 Bookmark function

iv) Dictionary and Thesauri

To see the meaning or the thesaurus on certain words in the e-book, the user just need to double-click on the word, and it will automatically connects to the online free dictionary where the definition and thesaurus for the selected word are displayed. This function will be depending on the internet connection, the faster the connection, the faster the page loads.

The screenshot shows a two-pane interface. The left pane contains text from an e-book with a search box and a 'Search Page' button. The right pane displays the dictionary entry for 'feasible' from the American Heritage Dictionary, including its definition, synonyms, and thesaurus.

2. PURPOSE

The purpose of the project is to develop a framework, which students' skills in the process of applying knowledge, expand solving problems independently and presenting findings through guidance and supervision.

3. SCOPE OF WORK

The project can be in the form of laboratory experiments, computer programming, modeling, simulations, analysis and product design to explore research/design problems, build research/design of appropriate methodology, analyse and/or produce the outcome findings. The area and scope of the project should be narrow; the project is **feasible** and could be completed within the allocated time. The project work must exhibit element of originality, which is suitable level for the final year bachelor degree programme.

www.microstrain.com

feasible ^{ˈfiːzəbəl}

adj.

1. Capable of being accomplished or brought about; possible; a *feasible* plan.
2. Used or dealt with successfully; suitable: *feasible new sources*.
3. Logical; likely: *a feasible explanation*.

[Middle English *fesable*, from Old French *faisable*, from *faire* Latin *facere*; see *dhǣ-* in Indo-European roots.]

fea'si-bil'i-ty, fea'si-ble-ness *n.*

fea'si-bly *adv.*

The American Heritage® Dictionary of the English Language, Fourth Edition edited by Crystal Ballantine. Updated in 2003. Published by Houghton Mifflin Company.

Thesaurus

Legend: **S** Synonyms **R** Related Words **A** Antonyms

Adj. 1. **feasible** - capable of being done with means at hand and circumstances favorable; **executable, viable, workable, practicable**

possible - capable of happening or existing; "a breakthrough may be possible"; "anything is possible"; "warned of possible consequences"

Adv. 1. **feasible** - in a practicable manner; so as to be feasible

practicably

Examples from classic literature

Figure 4.9 Dictionary /Thesauri function

4.2.2 Website functions

4.2.2.1 Upload and Download

The website is created to host e-book sharing among users. Users can upload their e-book, and can download other e-books as well. To upload, users can go to the upload page, browse for the e-book that they wanted to share, and simply upload it. Uploaded files will appear in the e-book gallery, where it will be available for other users to download.

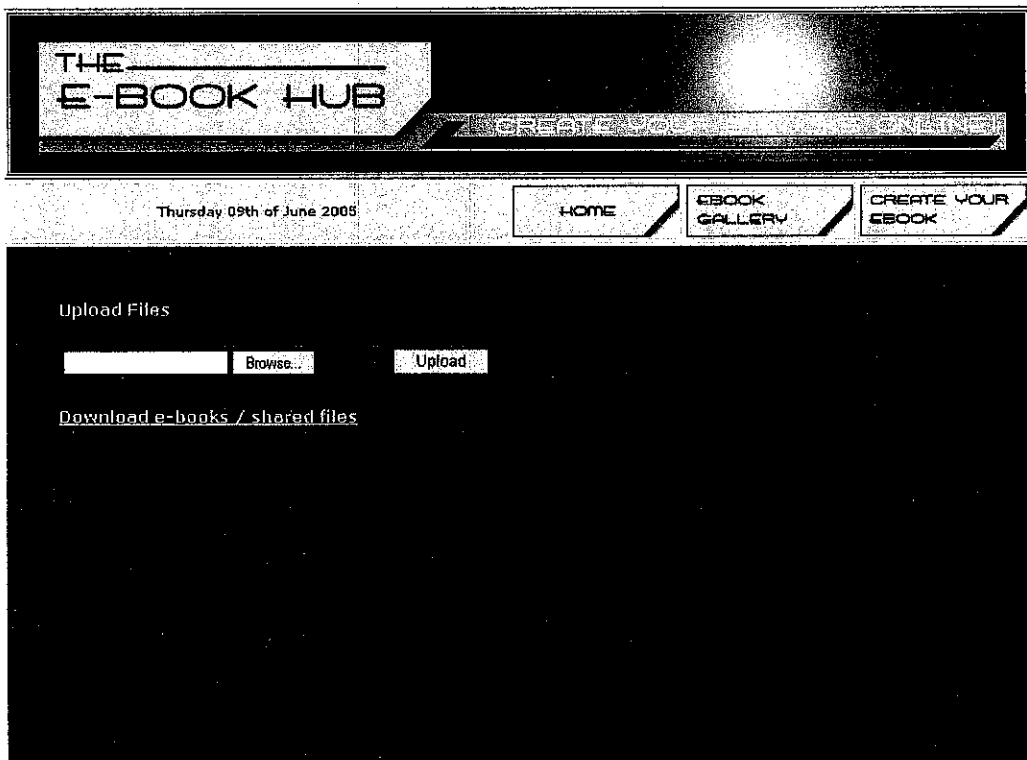


Figure 4.10 Upload page (E-book Gallery)

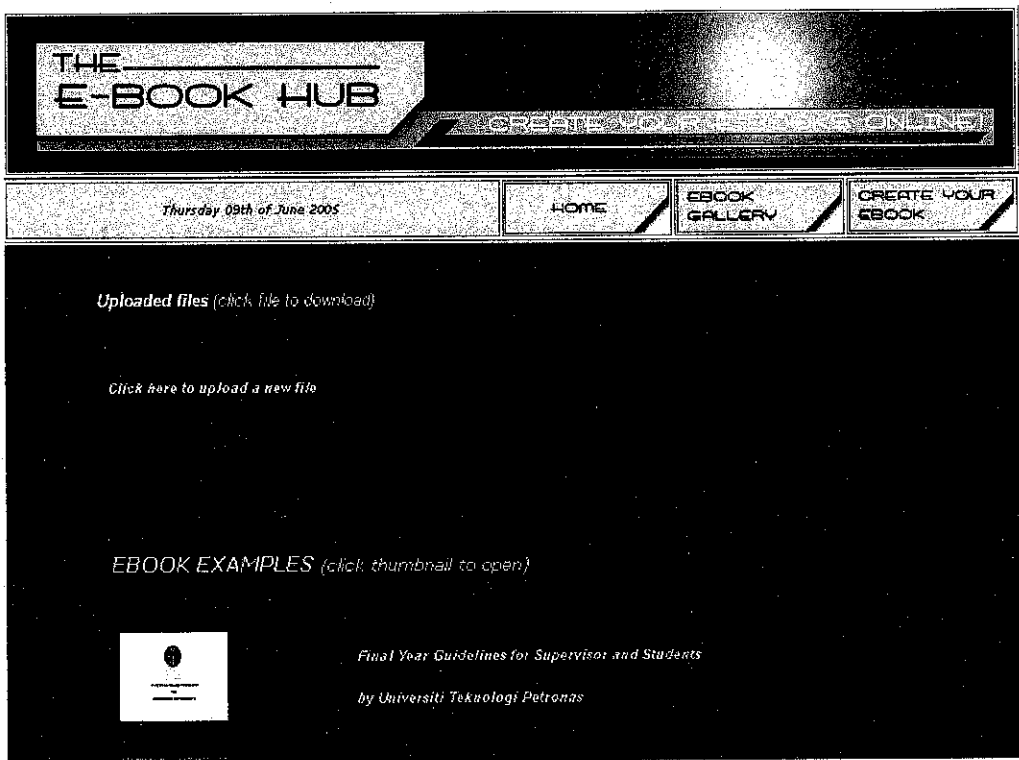


Figure 4.11 Download page (E-book Gallery)

4.2.2.2 Create trial e-book

This function allows users to try creating their own e-book. They are required to fill in some fields and just typed in anything but limited to 5000 characters. They can include images and links in the text area, by clicking the buttons provided. After finished entering all the particulars, users should click on the Generate Source button, to generate all that has been written into HTML format. It will not be saved, unless users copied and pasted it in their own text editor and saved it in HTML format. However, the users are able to preview their e-book before finalizing it.

(see Figure 4.12)

THE
E-BOOK HUB

HOME
EBOOK GALLERY
CREATE YOUR EBOOK

Instructions:

1. Fill out the table with the things you want to appear on your page.
2. Click on Generate Source.
3. Make adjustments if you want in the text area.
4. Click on View to check out your page. If you want to save the source as a file you will have to cut and paste to a text editor.

Ebook Title	<input style="width: 95%;" type="text"/>
Author	<input style="width: 95%;" type="text"/>
Email Address	<input style="width: 95%;" type="text"/>
Homepage URL	<input style="width: 95%;" type="text"/>

Contents

Header1
Header2
Header3
Bold
Italic

Paragraph
Break
Line
Link
Graphic

5000 characters left

Generate Source

If you want to add some color in your e-Book click [here](#) to get HTML color hex.

Reset
View

Figure 4.12 Creating trial e-book page

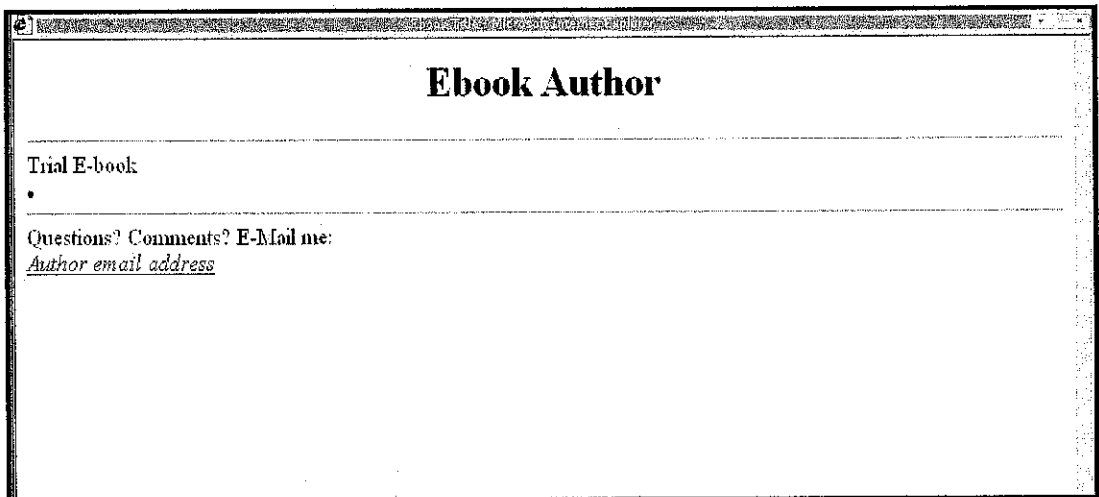


Figure 4.13 Example of layout preview

4.2.2.3 Content Customization

Content customization feature is also provided to allow users to set their basic content colors to their own preferences. This page will have the HTML coding for the background colors, link colors and text color so that user can use them to create the trial e-book. This will give the users simplicity to choose a color without having to search for its hexadecimal value to be written in html files.

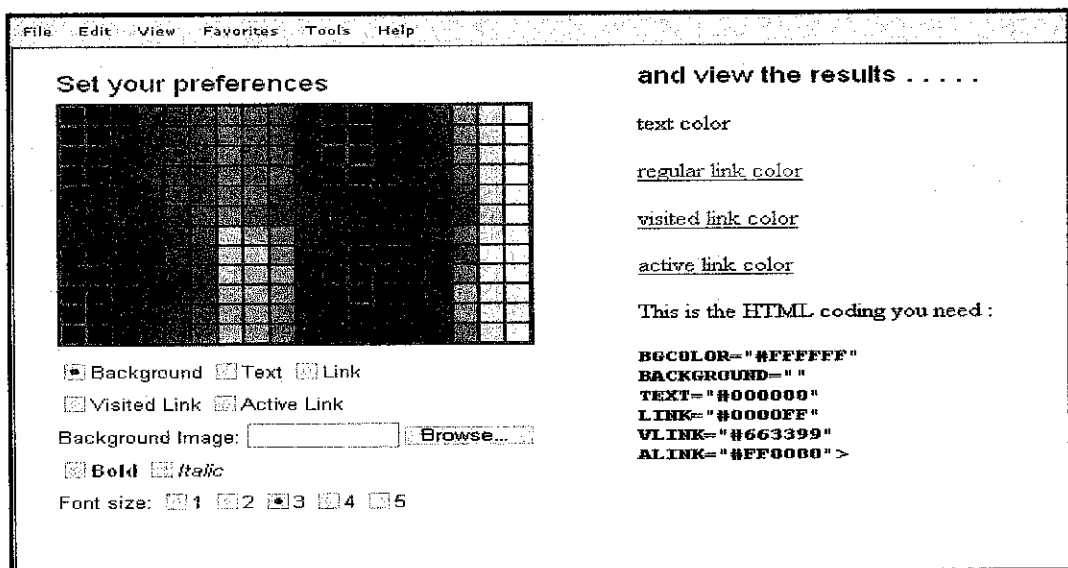


Figure 4.14 Content customization

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This project is designed to prove that e-Book has a big potential to boost the online market especially in the education department. The project itself is about making a better version of e-Book, which has the enhanced elements such as, own search function, hypertext in the e-Book, and aided with dictionary and thesauri. Implementing the improved version is the major part of the project and is the main objective. Besides this, a website is created to provide a host to users who wanted to share their e-Book (authored by themselves) to others. They can upload and download from the host and can read each other's e-Book. Another minor part of the project is to create the authoring tool for users to write short e-Books or trial version of e-Books.

During the development process, some constraints and limitations has been experienced in the project due to some problems such as the author is not very familiar with the coding language and the scope is changing after the internal exhibition. It is fully recommended that the project will be enhanced in timely manner. Things that can be done include increasing the efficiency and reliability of the product itself by enhancing the coding part.

5.2 Future Enhancements

For future enhancements, it is recommended that a research needs to be conducted in order to differentiate between free e-Books and purchased e-Books. The research should be focusing on the elements in the e-Book itself, including the design and the

functions. Besides, a built in dictionary can be added, to provide convenience with users who does not have internet connection while reading the e-Book. Another future enhancement that can be done is to add more functionalities in the create e-Book page, for example have the HTML code to be saved automatically inside the server and available for downloads. The bookmarking function could be improved to bookmark the current page that the user is reading instead of bookmarking the whole e-Book.

REFERENCES

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Available: <http://www.iln.net/main/resources/dictionary/>

APPENDICES

APPENDIX A

Source Code

Dictionary / Thesauri function

```
<SCRIPT LANGUAGE="JavaScript">
<!-- Original: Nick Simonov (nicks@iln.net) -->
<!-- Web Site: http://www.iln.net -->
function opennewwin(text) {
if (text > "") {
newwin = window.open('http://www.iln.net/main/resources/dictionary/default.asp?Word='+text, 'dictionary', 'width=600,
height=600, resizable=yes, menubar=no, toolbar=no, scrollbars=yes');
setTimeout(newwin.focus(), 100);
}
}
// End -->
</script>
```

Search (word by word) function

```
<script language="JavaScript">
<!-- Original by http://javascript.internet.com -->

var NS4 = (document.layers); // Which browser?
var IE4 = (document.all);

var win = window; // window to search.
var n = 0;

function findInPage(str) {

var txt, i, found;

if (str == "")
return false;

// Find next occurrence of the given string on the page, wrap around to the
// start of the page if necessary.

if (NS4) {

// Look for match starting at the current point. If not found, rewind
// back to the first match.

if (!win.find(str))
while(win.find(str, false, true))
n++;
```

```

else
    n++;

// If not found in either direction, give message.

if (n == 0)
    alert("Not found.");
}

if (IE4) {
    txt = win.document.body.createTextRange();

// Find the nth match from the top of the page.

for (i = 0; i <= n && (found = txt.findText(str)) != false; i++) {
    txt.moveStart("character", 1);
    txt.moveEnd("textedit");
}

// If found, mark it and scroll it into view.

if (found) {
    txt.moveStart("character", -1);
    txt.findText(str);
    txt.select();
    txt.scrollIntoView();
    n++;
}

// Otherwise, start over at the top of the page and find first match.

else {
    if (n > 0) {
        n = 0;
        findInPage(str);
    }

// Not found anywhere, give message.

else
    alert("Phrase/word not found.");
}

return false;
}

</script>

```

Search (entire e-Book) function

```
<SCRIPT LANGUAGE="JavaScript">
<!--Source : http://javascript.internet.com-->

<!-- Begin
var item = new Array();

/* Here is where all the magic happens.
   Just enter as many additional pages that
   that you want to search, then fill in the
   additional listings for each page.
*/

// "Page Name", "path", "Page Title", "Many,Key,Words", "Descriptive Comments"

c=0; item[c]=new Array("start.htm!","", "Final Year Project Guidelines for Supervisors and Students", "front, page", "The Final
Year Project Guidelines for Supervisors and Students.");
c++; item[c]=new Array("page2.htm", "", "Purpose and Scope of Work", "purpose,scope,work", "About the purpose of final year
project and its scope of work.");
c++; item[c]=new
Array("resp.htm", "", "Responsibilities", "commitee,supervisor,fyp,students,advisor,examiner,responsibility", "Responsibilities of
the FYP Committee, Supervisor,Advisor,Panel of Examiners and Students ");
c++; item[c]=new Array("chap5.htm", "", "Project Process Flow", "process,flow,submission,approval,title,project", "Describing
in detail the FYP process flow.");
c++; item[c]=new Array("chap6.htm", "", "Wirting Format", "report,outline,writing,format", "All the documentation details,
report writing guidelines and format");
c++; item[c]=new Array("chap7.htm", "", "Logbook", "logbook,activities,activity,detail", "Describing the logbook that is to be
sumbitted throughout the project");
c++; item[c]=new Array("chap8.htm", "", "Evaluation", "evaluation,grading,structure,evaluated,presentation", "The grading
structure for the final year project. Assessment contribution from supervisor and panel of examiners");
c++; item[c]=new Array("chap9.htm", "", "Grading Scheme", "grading,scheme,grade", "Grading scheme for students' project.");
c++; item[c]=new Array("chap10.htm", "", "Copyright", "copyright,patents,findings", "Copyright of the final year project");
c++; item[c]=new Array("chap1.htm", "", "Introduction", "intoduction,project,semester,credit hour", "Introduction; describing the
final year project.");

page="<html><head><title>Search Results</title></head><body bgcolor='white'><center><table border=0 cellspacing=10
width=80%>";

function search(frm) {
win = window.open("", "", "scrollbars");
win.document.write(page);
txt = frm.srchval.value.split(" ");
```



```

fnd = new Array(); total=0;
for (i = 0; i < item.length; i++) {
fnd[i] = 0; order = new Array(0, 4, 2, 3);
for (j = 0; j < order.length; j++)
for (k = 0; k < txt.length; k++)
if (item[i][order[j]].toLowerCase().indexOf(txt[k]) > -1 && txt[k] != "")
fnd[i] += (j+1);
}
for (i = 0; i < fnd.length; i++) {
n = 0; w = -1;
for (j = 0; j < fnd.length; j++)
if (fnd[j] > n) { n = fnd[j]; w = j; };
if (w > -1) total += show(w, win, n);
fnd[w] = 0;
}
win.document.write("</table><br>Total found: "+total+"<br></body></html>");
win.document.close();
}
function show(which,wind,num) {
link = item[which][1] + item[which][0];
line = "<tr><td><a href='"+link+"'>"+item[which][2]+</a> Score: "+num+"<br>";
line += item[which][4] + "<br>"+link+"</td></tr>";
wind.document.write(line);
return 1;
}
// End -->
</script>

```

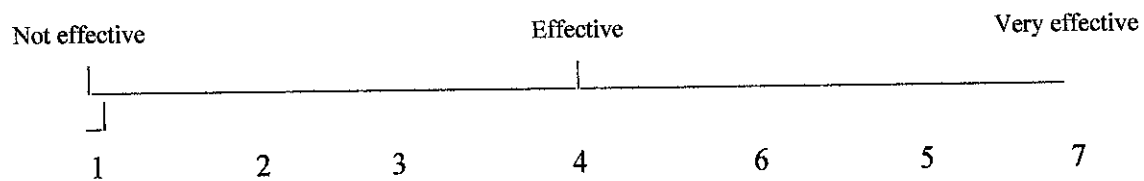
Bookmarking function

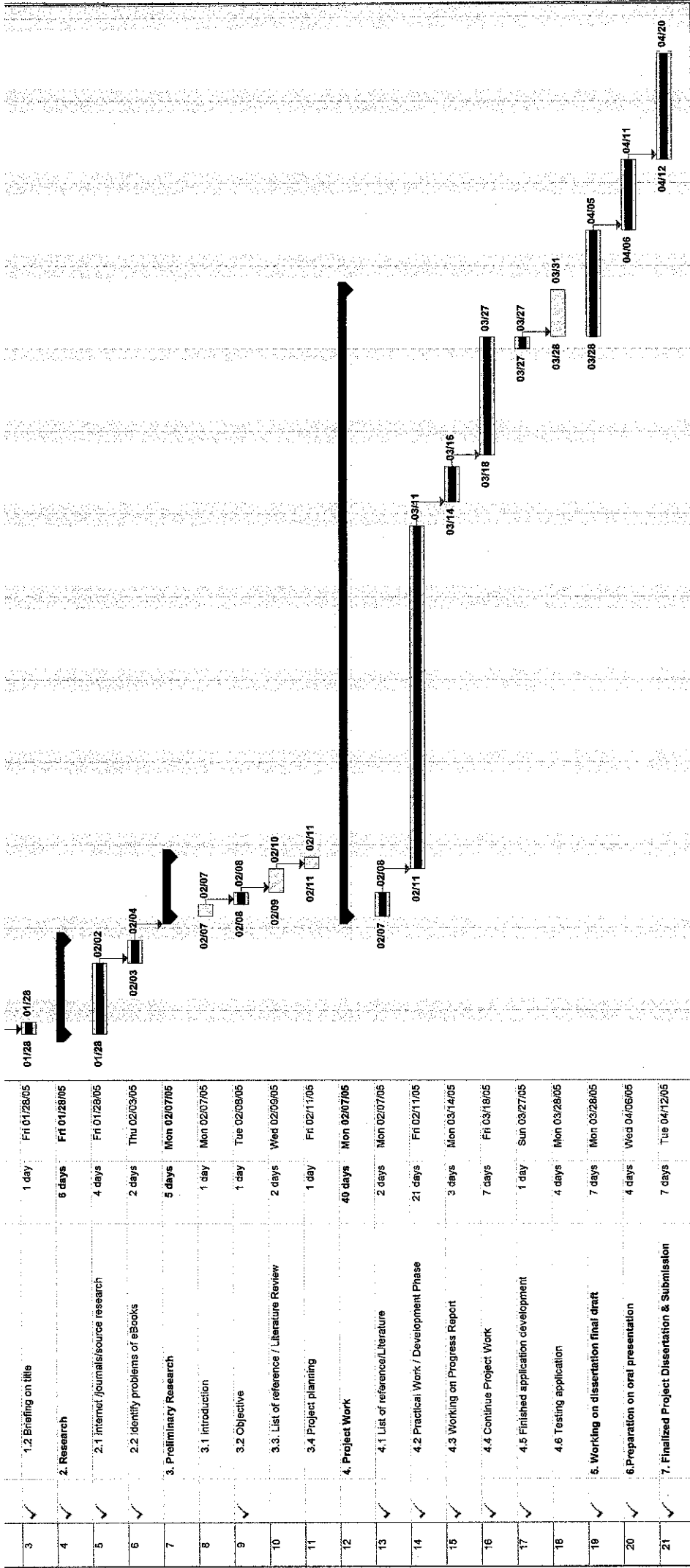
```

<SCRIPT LANGUAGE="JavaScript">
<!--Source : http://javascript.internet.com-->
if ((navigator.appName == "Microsoft Internet Explorer")
&& (parseInt(navigator.appVersion) >= 4))
{
var url="HTTP://localhost/ebook/ebook1/index.html";
var title="ebook";
document.write("<A HREF='javascript:window.external.AddFavorite(url,title);'>");
document.write("<small>Click here to Bookmark</small><br></a>");
}
else {
var msg = "<b>Bookmark me!</b>";
if(navigator.appName == "Netscape") msg += " <b> - press(Ctrl-D) on your keyboard.<br>Mac users press Command-D</b>";
document.write(msg);
}
}
</script>

```


7. Do you think that it is efficient to have reading customization while reading an ebook?





Project: C:\Documents and Settings\N Date: Mon 06/20/05

Task Progress

Milestone Summary

Rolled Up Task Rolled Up Milestone

Rolled Up Progress Split

External Tasks Project Summary

Group By Summary