THE STUDY OF THE DEVELOPMENT THE INTERACTIVE BOOK USING APPLE iBOOK AUTHOR SOFTWARE

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ABSTRACT*: This paper provides the study of the development of the interactive book (iBook) by using Apple iBook Author (iBA) software. The software that's has been used is iBA which created for the Apple iOS platform. This study can help the readers to know the basic knowledge of developing the interactive book using iBA software. The development of widgets in iBook such as interactive images, video and etc will be attractive which can provide new ways to complement present learning materials. With the spread of smart devices and the advance of electronic reading materials like e-books and internet which is providing an alternative for the students. It gives lots of flexibility for them to study anywhere and anytime. The iBook will make the students easy to understand by providing graphics, voice explanations, examples as well as exercises for every topic. There are some iBook advantages that the users should know such as convenience, especially in portability and availability. Users don't need to bring or carry all the books instead of just bring the iPad or iPhone. Users can enjoy a more versatile with interactive and dynamic features book compared to traditional text-based.*

KEYWORDS - *Interactive book, Apple iBook Author (iBA), Apple iOS platform, widgets, e-books*

1.0   Introduction

An efficient online learning environment is the biggest challenge to develop in order to make the teaching pedagogies and learning objectives success. With the developments in communication, skill and knowledge as well as multimedia, the online education have become one of the fastest growing activities for students and educators. Nowadays, most of the people in the institutions realize that the Internet and technology able to provide beneficial services especially for distance education. The using of the Internet for delivery become popular since the related material can give by using online medium to the students. Consequently, most of the Universities are increasing pressure to deliver online courses to their students. They also want to deliver more flexible teaching and learning environment.

By using the electronic media in education can reduce the budget and allow some of universities to become part of the global market. A study conducted by [1] concluded that the online learning techniques are also effective as face to face learning. Recently, versatile education platforms with integrated education pedagogies such as tutorial, group discussion, peer to peer learning as well as examinations and tests were gaining the popularity. Nevertheless, highly effective educators or teachers will design better learning experiences and environment among their students. Nowadays technologies such as such as Facebook, blogs, twitter, online references such as Wikipedia and interactive learning tools can also be applied to complement the existing learning practice as stated by [2].

Therefore, the objective of this paper will focus on the study of developing the interactive book by using Apple iBook Author (iBA) software.

2.0   Literature Review

Nowadays, most of the students choose to learn using today's technology over traditional methods of delivery formats as stated by [3]. In addition, with the growing of the Internet and web-based technologies popularity, the digital libraries and interactive learning are becoming interested. Widget is progressively more popular

technology and can be used to design various tasks based on study conducted by [4] . It is easy to develop, deploy, personalized and interactive make it ideal to use. The widgets can be set to play spontaneously and offering the readers a fun and surprise when the page was turned.

2.1   iBA Software

The iBA is a software that available for all the Macintosh program and its' free. This software is an amazing applications which allows anyone to produce beautiful books for iPhone, iPad and MacBook user [5]. iBA is a simple software which the developer can add text, graphics, movies and others to make the book looks exactly as they want. The developer can drag and drop the image, movies as well as Microsoft Word document and the text also can automatically flows around them [6]. With iBA, it's easy to create an interactive book that's has so much fun to explore and read since it provides an amazing application to create interesting book. Besides, iBA offer nine types of pre-defined widgets such as photo galleries, video or audio media file, interactive tagged images or diagrams, 3D models, review questions, keynote and objects created in HTML as in fig 2.1. [7] States that developer can build their own widgets where charts, tables, shapes, text boxes, and static images can also be inserted anywhere on a page. Furthermore, fig 2.2 shows the template that already exist in iBA application.
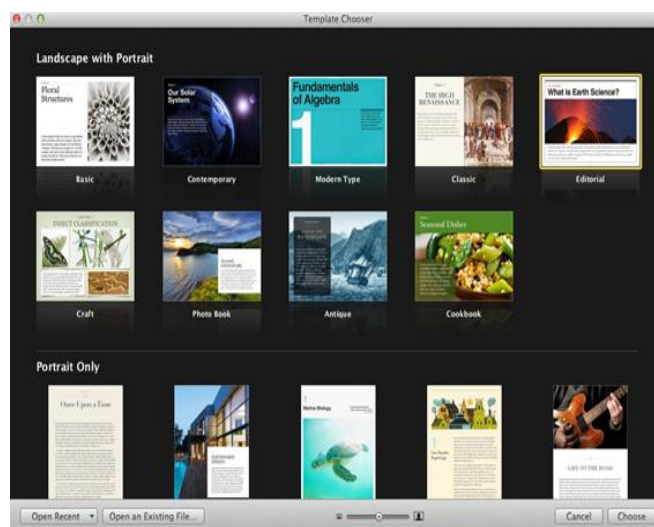

Figure 2. 1: Nine widgets in iBA

Figure 2. 2: iBA templates and pre-designed text and layout

2.2   Interactive book (iBooks)

In 2010 Apple's Company introduces the iPad, the first marketable tablet with a multi touch screen which appropriates the users to interact with completely multimedia elements linked to a personal computer such as images, video, interactive graphics and 3D model. Research carrid out by [8] state that on January 19th, 2012, Apple releases iBA, an authoring tool to create multimedia books for iPhone, iPad and MacBook. The tool was free of charge and demonstrates another step ahead in the development of e-books. iBA enables the users to create and publish an iBook (eBook) for the Apple iOS platform. The greatest advantages of an iBook as a learning tool is the portable nature of the learning object. People can read on iPad, iPhone, iPod touch or Mac is just like reading a book. There are so much more fun in iBooks such as turning pages with a flick on iOS device or a two-finger swipe on Mac track pad. Other than that, people can read one page at a time, or turn on its side and view two pages at once.

2.3   Books

[9] States that the books might be called the social and cultural printed history of the communication. Books are also defined as written texts used by humans for centuries. The purpose of book is to understand how ideas being transmitted through print and the words affected the thought and behaviour of people since the last five hundred years. Occasionally, some of the information is not easy to understand through reading, it needs lots of

imagination, practice and guidance by the instructor as study conducted by [10]. Recently, the digital publishing is developing at a rapid pace and the tools for digital writing becoming more versatile, reachable, and cost effective and user friendly.

2.4   Electronic Books (E- Books)

An e-book is the digital media same with a conventional printed book which is can be downloaded to a laptop, macbook, smartphone or any kind of reading device and is reading on the screen. [11] Highlight that the e-book readers have many characteristics which basically not offered with standard printed text. However, [12] emphasize that the e-book is an application with a multimedia database of instructional resources, that consist of hyperlinked text, instructor's audio and video clips, slides animation, still images and etc. At the most basic level, the e-books also have a simple format, such as a text in PDF. Some of e-book provide user with reality of feeling when reading multimedia content such as video, audio, animation and photo as mentioned in a research done by [13]. Recently, there have been lots of developments in the design and implementation of e-books and the features that interest librarians, educators and teachers. This is the benefit to students by simply log on to the online library and able to access any books from anywhere as long as there is an internet connection according to [14].

2.5   Related Work

There are several related work has been reviewed and it shows that most of the research was conducted in order to prove that the advantages of using interactive books in nowadays learning environment. According to [15] with a research title a framework for authoring interactive, tablet-based books: multimedia textbooks and multi-platform storytelling was describing the intersection of the written word, visual design, educational multimedia and game mechanics. The author provides a tablet-based interactive textbook to demonstrate the basics of transmedia storytelling. The Adobe Digital Publishing Suite was used to create this interactive book which also contains video discussions and demonstrations, interactive graphics, an architect glossary and index navigation system. This book can be reviewed in any portable device such as iPad tablet.

The [16] was presented a prototype for interactive multi touch book with sketching abilities. The books proposed to improve the understanding of engineering graphics concepts as well as imagining skills. The multi touch book integrates word-based features with rich media content and interactional exercises in order to let students practicing the technical drawing in an environment which put on traditional paper based sketching and tools. In addition, students can submit completed drawings through email directly from the digital book which facilitates management tasks. The digital sketching activities were implemented on an iPad tablet with iBook version 3.1 or higher for iPad using Apple's iBA tool.

The research proposed by [17] is the interactive book contents authoring system based on MPEG-4 Laser and Electronic Publication (ePub). By using MPEG-4 Laser can easily and produce interactive book and provides powerful graphic user interface in the form of ePub. MPEG-4 Laser is an open standard for rich media services which offers several multimedia data such as video, audio, text, image, graphics and possible interactions as well as graphic animations. MPEG-4 added Laser extensions has dynamic updates, binary encoding, audio or video support, and etc. The design has been implemented as an application for the android smartphone such as Galaxy S. Recent papers that researched are worth summarized in Table 2.1

Table 2.1: Recent developments in developing interactive books

Authors	Design Technique & Implementation	Advantages	Disadvantages
George-palilonis & King 2013	Using Adobe Digital Publishing Suite & iPad	Contains video discussions and demonstrations, interactive graphics, an architect glossary and index navigation system. Rich, multilayered authoring and tablet-based.	Limited usage, for Apple customer only
De La Torre et al. 2013	Using Apple's iBooks Author & iPad tablet with iBooks version 3.1	Rich media content and interactive exercises.Technical sketching on iPad, no paper used. Completed	Limited usage, for Apple customer only

	or higher	drawings can be submitted through email using iPad.	
Lee et al. 2011	Using MPEG-4 LASeR and ePub & Android smartphone.	Offers several multimedia data such as video, audio, text, image, graphics and possible interactions as well as graphic animations.	Limited usage, for Android smartphone only.

3.0   Research Methodology

The methodology used to certify the theory in the previous chapter will be discussed in more details. This chapter explains the relevant process of developing and designing the interactive book for the iBA.

3.1   Developing interactive book using iBA

The iBA is a free download software for the Mac App Store. In order to develop the interactive book there is a workflow that must be followed. The workflow is not necessarily same as in this research. The developer can decorate the workflow as they want. The widgets can insert into iBooks which can help to bring the books to life and make the books different to other text book. There are several steps must follow in order to develop the iBooks using iBA software as in fig as in fig.3.1.
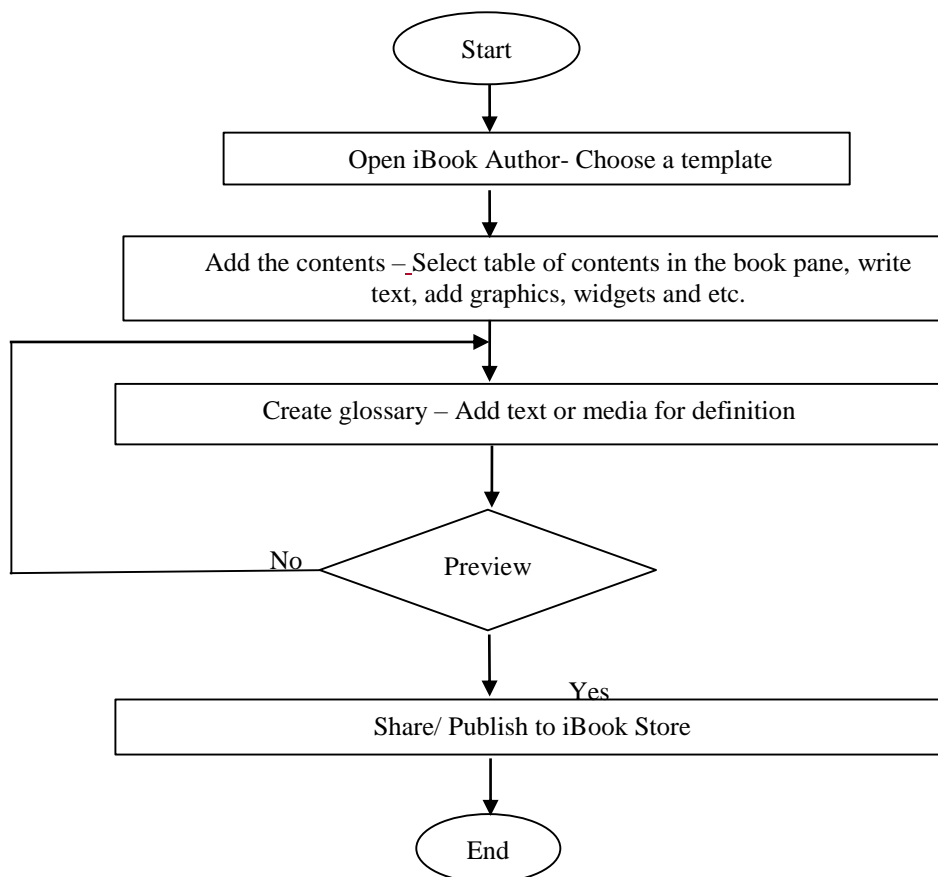

Figure 3.1: Flow chart for developing interactive book using iBA [6]

The developers can edit the book title, add, remove, and reposition text and the background as the developer want. The steps can be one or more of the following:

i. Add a title - Select the title checkbox.

ii. Add a caption - Select the caption checkbox.

iii. Customize the title or caption such as adjust the spacing of the title and caption using the margin control

iv. Adjust the position of the title and caption - Choose an option from the layout pop up menu.

v. Change the numbering and formatting - Choose edit label styles from the label pop-up menu, and choose options from the label format and character style pop-up menu.

The developer also can add the movie, video or music for introduction media to make the book more interesting. Then, the technique how to use or explore the book to make users easy to go through and play with the contents also can be added. Fig 3.2 shows the design of introduction media and fig 3.3 shows how to explore this book.
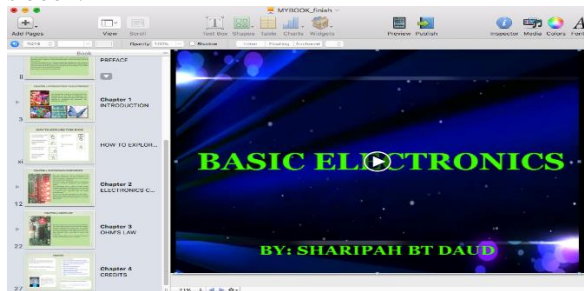

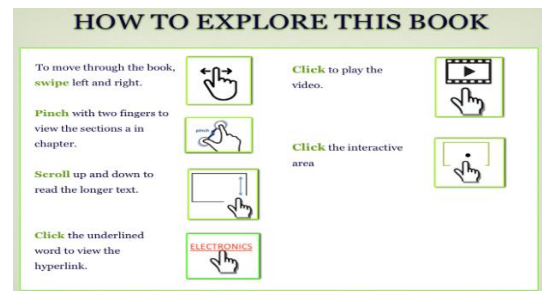Figure 3.2**:** Introduction media for this book

Figure 3.6: How to explore this book

4.0   Result and Disscussion

The study of developing the interactive book using iBA was successfully conducted and to make it real the parts of interactive book using iBA software was developed. The developer can add some features for example movie, video or music for introduction media to make the book different from others. The developer also can write text, add graphics, and add widgets such as images, movies, review questions and HTML and so on. The nine widgets that available in iBA can be used in order to structure the content to become more attractive. Fig 4.1 shows the example of a cover page, fig 4.2; preface for this book and fig 4.3 is the preview of iBooks on Mac or iPad that's already developed. When the contents already complete, the developer can preview the book on iPad or Mac to check and see the animations as well as contents that has been developed. The developer can preview at any time on their Mac or iPad to see the progress.
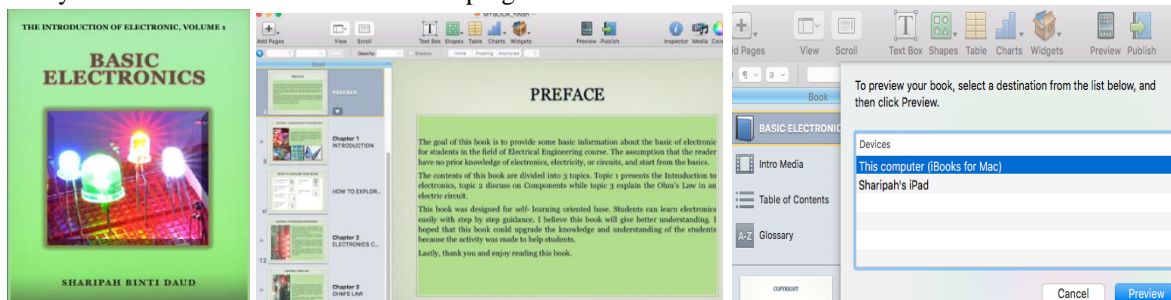

Figure 4.1: Cover page   Figure 4.2: Preface for this book Figure   4.3: Preview iBooks on Mac or iPad.

Lastly the book can be submitted to the iBooks store and request to publish. There are several steps must developer followed in order to publish the iBooks to make it available to the public. However, before publishing to the iBooks store, the developer require to do the following steps:

i. Have an Apple ID and a credit card linked with Apple ID on the iTunes Store.
ii. Enable iTunes connected with Apple ID to choose whether the developer want to sell or offer the books for free.
iii. Download iTunes producer and the application use in order to submit the book to the iBooks store.
iv. Create a sample book for customers to view for free before deciding to purchase the book. During the publication process, iBA can generate a sample based on one of the book's chapters.

5.0   Conclusion

The goal of this study is to help the readers to know the basic knowledge of developing the interactive book using iBA software. The interactive books will provides the great improvement in flexibility to deliver the learning material. Learning activity can be done anywhere whenever the learners are. In addition, all the contents in iBooks are available on the learners' hand. It makes the learning activity become simpler, meaningful and fun. All the contents in iBooks are special design with interactive features that interact with learners and more easily for learners undergo independent learning with or without an internet connection. Users can enjoy a more versatile with interactive and dynamic features book compared to traditional text-based. There are some iBook advantages that the users should know such as convenience, especially in portability and availability. Users don't need to bring or carry all the books instead of just bring the iPad or iPhone. iBook provides fast lookup of words

to find a certain word or phrase is an easy. Most of iBooks are cheaper to buy and also free. The readers also can bookmarks for many works as they want.

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