Design And Development for iBook: The Concept of Multimedia, Sound and Video

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DEDICATION

This thesis is dedicated specially to my parents for the continuous support towards me. Thank you for putting all their trust and support both physically and emotionally towards me. I hope I will be able to them happy and proud of me. I would also like to dedicate this project to the lecturers who have thought me from the moment I started enrolled into the course until the end. I would not be able to do anything without the knowledge they had gave to me.

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ABSTRACT

This project is an iBook project that is based on the subject of Multimedia System and is delivered to the user by using the iPad from Apple. iBook is an interactive e-book. This iBook will be used by degree students who enrol Multimedia System subject. Hopefully, this iBook are able to help students to learn on their own. The iBook contain interactive elements such as videos, image gallery, popup images, 3D objects and puzzles. This iBook is to attract the Z generation students to read more books. Students get easily bored and sleepy to read a textbook that have fully text in it. So, the iBook is the solution for the students to learn and read the textbook in a fun way. Anyway, the concept of book is they must have text in it. But, the text is less than in the textbook and there are some visual explanations in terms of video or anything else that will help the students to understand better. Besides, this iBook is good for a slow learner student. They can view the examples or the explanations given repeatedly until they understand what it is all about. This project is using iBook Author that can only be used in MacBook or iMac. The iBook Author contain several widgets that helps to develop the content in iBook. For example 'Gallery' widget to insert a bunch of pictures, 'Media' widget to put videos, 'Review' to insert questions for the students to answer to test their understanding regarding the topic, 'Keynote' widget to insert interactive slides from Keynote application, 'Interactive Image' widget to insert image with several parts that can be point and zoom in towards the point, '3D' widget to put 3D image and students can rotate the image, 'Scrolling Sidebar' widget to put text or image with explanation in it, 'Pop Over' widget where user can tap on the image it will pop over the explanation about the image, and 'Html" widget to insert anything from other source. Besides, there are more amazing widgets that developers are able to get from Bookry.com. We can build some puzzle regarding the topic for the students to play and rest their mind while studying. There is Calculator widget, Notepad widget, Before and After widget and many more.

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ABSTRAK

Projek ini adalah suatu projek iBook yang dibangunkan untuk matapelajaran Sistem Multimedia dan akan menggunakan iPad, produk dari Apple sebagai medium penghantarannya. iBook merupakan suatu jenis e-book yang mengandungi interaktiviti. iBook tersebut akan digunakan oleh mahasiswa serta siswi yang mengambil matapelajaran tersebut. Diharapkan agar dengan pembangunan iBook ini, mereka dapat mempelajari matapelajaran Sistem Multimedia dengan sendiri. iBook ini mengandungi pelbagai interaktiviti seperti video, galeri imej, objek-objek 3D dan juga teka silang kata. Pembangunan iBook ini adalah bertujuan untuk menarik perhatian Generasi Z agar mereka membaca lebih banyak buku. Umum diketahui bahawa para pelajar akan cepat berasa bosan apabila membaca buku yang mengandungi teks sahaja semata-mata. Oleh hal yang demikian iBook ini merupakan jalan penyelesaian yang terbaik bagi mahasiswa serta siswi untuk belajar dan membaca buku dengan lebih seronok. Memandang iBook masih lagi mengamal konsep seperti buku, masih terdapat teks di dalam kandungannya. Namun penggunaan teks telah diminimakan dan digantikan dengan penjelasan yang lebih visual seperti video yang boleh membantu menyampaikan maklumat dengan lebih berkesan. Di samping itu, iBook juga sesuai untuk mereka yang memerlukan masa yang lama untuk memahami sesuatu perkara. Mereka boleh mengambil selama mana masa yang diperlukan dan mengulang bahagian yang mereka tidak faham. iBook dibangunkan dengan menggunakan aplikasi 'iBook Author' yang boleh didapati di 'App Store' bagi pengguna Macbook dan iMac. 'iBook Author' mengandungi widget-widget yang boleh membantu dalam membangunkan iBoook. Antaranya adalah 'Gallery' yang boleh menghimpukan imej yang banyak, 'Review' sekiranya ingin memasukkan kuiz, 'Keynote' untuk memasukkan persembahan Keynote, 'Interactive Image', '3D', 'Pop Over Image' dan juga 'Scrolling Sidebar'. Di samping tu, widget-widget lain juga boleh digunakan seperti yang terdapat di Bookry.com.

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LIST OF ABBREVIATION

ABBREVIATION	DESCRIPTION
UTeM	Universiti Teknikal Malaysia Melaka
2D	2 Dimensions
3D	3 Dimensions

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CHAPTER I

INTRODUCTION

1.0 Project Background

Multimedia System (BITM 1113) is a compulsory subject that needs to be enrolled by all first year students of Faculty of Information and Communication Technology. The subject will allow the students to interpret the core concept of multimedia elements as well as construct multimedia applications by combining the elements of multimedia. Under one main project title "Multimedia System iBook for Faculty of Information and Communication Technology (FTMK), Universiti Teknikal Malaysia Melaka (UTeM)", where there are 5 chapters and the chapters given are chapter 1, 5 and 6.

Chapter 1 is The Concept of Multimedia that will introduce the students with the definition of multimedia, multimedia technology and terminology as well as the type of multimedia system. Chapter 5 is Sound, where students will be able to learn more about the sound in multimedia such as the principles of sound, the audio file formats, the concepts of sounds, the frequency, amplitude and more. Chapter 6 is Video where students will learn about digital video, editing and also using it in multimedia project. Each chapter has its own assessment that needs to be

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CHAPTER I

INTRODUCTION

1.0 Project Background

Multimedia System (BITM 1113) is a compulsory subject that needs to be enrolled by all first year students of Faculty of Information and Communication Technology. The subject will allow the students to interpret the core concept of multimedia elements as well as construct multimedia applications by combining the elements of multimedia. Under one main project title "Multimedia System iBook for Faculty of Information and Communication Technology (FTMK), Universiti Teknikal Malaysia Melaka (UTeM)", where there are 5 chapters and the chapters given are chapter 1, 5 and 6.

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done by the students. An iBook is developed using the iBooks Author which can be downloaded into an iMac or a MacBook. Students can download the iBooks from the iBooks Store directly into their iPad, iPhone and even iPod touch but first they have to download the iBook application from the App Store.

This project is built to create a new learning environment known as flipped classroom where the lecture hours are no longer used to deliver information but used to interact and communicate with the students along with doing some activities in class. This project will also help the students to learn on their own but is able to get the information as in the lecturer is in front of them. This iBook will convey the information and assessments interactively by them communicating with their own iPad or iPhone. This will allow them to absorb information on the own pace where the slow and fast learners can go through the iBook with their own desire.

1.1 Problem Statements

The problem that every lecturer faces every time is how to approach their students who are known as the Generation Z. This generation is very technology oriented and teaching using the conventional way and even using the presentation slides did not seem to help these lecture. Although the subject being teach is called 'Multimedia System' the lecturer did not seem to bother to include the elements in their teaching process. Students need examples in order to understand. To make the students fully understand, lecturers should think on incorporating examples that are closed to the students that they can relate to. Instead of giving example of animation from the movie produce by PIXAR, why not give an example of an animation that was produced locally for example like Upin & Ipin. iBook allows the lecturers to do such thing. The interactivity in available in the iBook will allow the students to explore the subject by themselves thus allowing them to take control of their own learning process.

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Usually each lecturer is given 2 hours of lectures session for them to deliver the information to their students. Due to short amount of time and the large amount of information are needed to be given, the 2 hours' time seem so short. Lecturer did not have time to interact with the students, Q & A session could not be held and even the lecturer can't make sure that all students are able to digest the information that was just given to them. Students should be left to explore a certain topic by themselves. This will help them find the part where their strength and weakness is. Once they enter the class, the student will be able to ask related questions with their lecturer thus making conversation between them possible.

ADDIE model will be used in the entire development process. Hopefully by developing this project the students are able to understand each chapter of iBook complete with interactivity and exercises that can help their interest and engagement of this particular subject.

1.2 Objectives

The objectives of the project must be stated clearly to ensure that the project working properly and smooth. This will not only ease the development of the system but also for those who are involve in this project. Below are the objectives for this project:

- To identify whether iBook can be used in flipped classroom in Univerisiti Teknikal Malaysia Melaka among the first year undergraduates.
- To develop the design element for interactive book.
- To evaluate the effectiveness of the Multimedia System iBook among the students.

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1.3 Scope

The scope of this project is focused on the two fields which are specific user and module or functionality. Each area is described in the Section 1.4.1 for specific user and 1.4.2 for module or functionality.

1.3.1 Specific User

The main target user is for the students of Universiti Teknikal Malaysia Melaka who enrol for the subject Multimedia System (BITM 1113). The iBook can be downloaded into their ipad thus making it very portable and they can read it anywhere they want. Apart than that, the learning tools can be used by lecturer as guideline to teach their student in more interactive approaches.

1.3.2 Specific Functionality

No.	Module	Description
1	Video	Allow users to watch the video included in the iBook. Video is captured and edited by the developer.
2	Interactive image	Allow users to touch the images, playing with them to gain more information.
3	Audio	Allow users to play the audio file embedded in the iBook
4	Crossword puzzles	To avoid users from getting bored, such game can be insert and also allowing users to interact with the iBook
5	3D model	Instead on inserting 2D images, users can see example provided in a 3D model.
6	Quiz	Allow assessment to be done to understand the level of understanding of the students.
7	2D Animation	To helps users understand better, some examples are explain in the form of a 2D animation

Table 1.1: Modules of the project

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