

**iBOOK FOR COMPUTER ENGINEERING II WORKSHOP (MULTISIM AND
PROTEUS)**

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**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
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PROTEUS)**

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**This report is submitted in partial fulfillment of the requirements for the Bachelor
of Computer Science (Interactive Media)**

**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

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SUPERVISOR: _____ DATE: _____

(Dr Norasiken Bt Haji Bakar)

DEDICATION

I dedicated this thesis, especially to both of my parents, family, friends and my supervisor that gives me full support in order to finish this thesis and this project. Sincerely, I would like to thank all the FTK lecturers and students that is involved in this project and their full commitment throughout the process in finishing this project.

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ABSTRACT

This project is iBook project that's based from Computer Engineering II Workshop (Multisim and Proteus). This iBook is delivered by an iPad from Apple. This iBook is an interactive book that contains many multimedia elements such as videos, games, widgets, text, graphics, quizzes and 2D animations.

The objectives of this project is to develop a interactive book (iBook) for Computer Engineering II Workshop (Multisim and Proteus) subject, to identify the suitable multimedia elements that can give a huge impact in interactive book and to identify the suitability of the use of interactive book in conveying Computer Engineering II workshop subject. In order to develop this project, an Addie methodology was used as a guideline. In this iBook there will be 2 chapter that are covered which are Proteus and Multisim.

They are 4 type user that is involved in the testing process which are expert content, multimedia content, student that have little knowledges about the topics (experimental group) and student that have more knowledge about the topics (control group). Besides that they will be also two types of testing, which are alpha testing and beta testing. From the testing, the results show positive outcomes from tester regarding the iBook. The target of this project is to develop an iBook for Computer Engineering II Worksho subject, to find the suitable multimedia element that can give a huge impact on the iBook and to find the suitability of the iBook to be used by engineering students.

ABSTRAK

Projek ini adalah sebuah projek iBook yang berdasarkan subjek Bengkel Kejuruteraan Komputer II (Multisim dan Proteus). IBook ini disampaikan oleh iPad dari Apple. IBook ini adalah sebuah buku interactive yang mengandungi banyak unsur multimedia seperti video, permainan, widget, teks, grafik, kuiz dan animasi 2D.

Objektif projek ini adalah untuk membangunkan sebuah buku interaktif (iBook) untuk subjek Bengkel Kejuruteraan Komputer II (Multisim dan Proteus), untuk mengenal pasti elemen-elemen multimedia yang sesuai yang boleh memberi kesan yang besar dalam buku interaktif dan untuk mengenal pasti kesesuaian tempat penggunaan interaktif buku dalam menyampaikan subjek Bengkel Kejuruteraan Komputer II (Multisim dan Proteus). Dalam membangunkan projek-projek ini, satu kaedah ADDIE digunakan sebagai garis panduan. Di dalam iBook ini mengandungi 2 bab iaitu Proteus dan multisim.

Di dalam mengkaji keberkesanan iBook ini terdapat 4 jenis respondent. Mereka adalah pengguna yang terlibat dalam proses ujian iaitu kandungan pakar, kandungan multimedia, pelajar yang mempunyai pengetahuan sedikit tentang topik-topik (kumpulan eksperimen) dan pelajar yang mempunyai lebih pengetahuan mengenai topik (kumpulan kawalan) yang .Selain itu terdapat jugak 2 jenis ujian yang dijalankan iaitu ujian alpha dan ujian beta. Ketika proses ujian beta berlansung, pelajar dipecahkan kepada 2 kumpulan iaitu kumpulan kawalan dan kumpulan ujian. Untuk kumpulan kawalam, pelajar diberi slide show manakala kumpulan ujian diberi kan iBook untuk belajar. Dari ujian, keputusan menunjukkan hasil positif dari penguji mengenai sasaran iBook. The projek ini adalah untuk membangunkan iBook Kejuruteraan Komputer II Worksho subjek, untuk mencari elemen multimedia yang sesuai yang boleh memberi impak yang besar kepada beliau iBook dan untuk mencari terhadap kesesuaian tempat iBook untuk digunakan oleh pelajar kejuruteraan.

TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGE
	DECLARATION	i
	DEDICATION	ii
	ACKNOWLEDGMENTS	iii
	ABSTRACT	iv
	ABSTRAK	v
	TABLE OF CONTENT	vi
	LIST OF FIGURES	xi
	LIST OF TABLES	xiv
CHAPTER I	INTRODUCTION	1
	1.0 Project Background	1
	1.1 Problem Statements	3
	1.2 Objectives	4
	1.3 Project Scope	4
	1.4 Project Significance	4
	1.5 Expected Output	5
	1.6 Conclusion	5

CHAPTER II	LITERATURE REVIEWS AND PROJECT METHODOLOGY	6
2.0	Introduction	6
2.1	Learning and Teaching Styles in Engineering Education	7
2.2	The iBook as A Reusable Learning Object	9
2.3	The Usage of iPad in Learning and Teaching	10
2.4	Area of Study	11
2.5	Current System	11
2.5.1	Case Study 1: iBook on “ The Concept of Multimedia”	12
2.5.2	Case Study 2: iBook on “ Animation”	15
2.5.3	Case Study 3: eBook on “ Adobe Photoshop for Intermediate User”	19
2.6	Comparison Of existing System	21
2.7	Project Methodology	22
2.7.1	Analysis Phase	23
2.7.2	Design Phase	24
2.7.3	Development Phase	24
2.7.4	Implementation Phase	24
2.7.5	Evaluation Phase	25
2.8	Instructional Design	25
2.8.1	Educational Goals	25
2.8.2	Flow Chart	26
2.8.3	Detailed Course Content	27
2.8.4	Test Question	27
2.9	Project Requirement	27

	2.9.1 Software	28
	2.9.2 Hardware Requirement	30
	2.10 Project Schedule and Milestone	30
	2.11 Conclusion	31
CHAPTER III	ANALYSIS	32
	3.0 Introduction	32
	3.1 Product Analysis	33
	3.1.1 Current Scenario Analysis	34
	3.2 Learning Content	35
	3.2.1 Software Requirement	37
	3.2.2 Hardware Requirement	39
	3.3 Conclusion	39
CHAPTER IV	DESIGN	40
	4.0 Introduction	40
	4.1 Design Process	41
	4.2 Product Development Process	42
	4.3 Design Development	44
	4.3.1 Storyboard Design	44
	4.3.2 User Interface Design	44
	4.4 Conclusion	53
CHAPTER V	IMPLEMENTATION	54
	5.0 Introduction	54
	5.1 Media Creation	54

5.2 Media Integration	56
5.3 Product Configuration Management	57
5.3.1 Configuration Environment Setup	57
5.4 Conclusion	58
CHAPTER VI	TESTING AND EVALUATION
	59
6.0 Introduction	59
6.1 Test Plan	60
6.1.1 User Testing	60
6.1.2 Environment Testing	61
6.1.3 Test Schedule	62
6.2 Test Strategy	63
6.3 Test Implementation	63
6.3.1 Test Description	63
6.3.2 Test Data	69
6.4 Test Results and Analysis	79
6.5 Test Analysis	86
6.6 Conclusion	103
CHAPTER VII	CONCLUSION
	104
7.0 Introduction	104
7.1 Discussion	104
7.1.1 To identify the suitable multimedia elements that can give a huge impact in interactive book.	105

7.1.2 To develop an interactive book for BTCS Students that takes Computer Engineering II subjects.	105
7.1.3 To identify the suitability of the usage of interactive book in conveying Computer Engineering II workshop subject.	106
7.2 Project Weakness and Strength	106
7.2.1 Strength Of Product	106
7.2.2 Weakness Of Product	107
7.3 Future Work	108
7.4 Conclusion	108
REFERENCE	109
APPENDICES	110
A Questionnaire Expert Content	110
B Questionnaire Multimedia Expert	115
C Questionnaire Student	120
D Pre-Test Questionnaire	125
E Post-Test Questionnaire	129

LIST OF FIGURES

FIGURES	TITLES	PAGE
2.0	Cover Page for iBook “The Concept of Multimedia”	13
2.1	Interface for iBook “The Concept of Multimedia”	14
2.2	Interface for iBook “Animation”	16
2.3	Interface Quiz for iBook “Animation”	17
2.4	Interface Game for iBook “Animation”	18
2.5	Interface for eBook “Adobe Photoshop for User”Intermediate	20
2.6	The Addie Model	23
2.7	Flow Chart System	26
4.0	Basic Flow Of The System	41
4.1	Course Map For Chapter 1 (Introduction To Multisim)	42
4.2	Course Map For Chapter 2 (Proteus)	43
4.3	Cover Book	45
4.4	Intro Media	45
4.5	Table Of Content Interface	46
4.6	Objective Of Learning Interface	46
4.7	Introduction To Multisim Interface	47
4.8	Continuation Introduction To Multisim Interface	47
4.9	Continuation Introduction To Multisim (Basic Virtual Instruments) Interface	48
4.10	Quiz And Games Introduction To Multisim Interface	48

4.11	Quiz And Games Interface For Introduction To Multisim	49
4.12	Introduction To Multisim Interface	49
4.13	Continuation Of Introduction To Multisim Interface (Controlling Circuit Display)	50
4.14	Component Toolbar Interface	50
4.15	Continuation Of Component Toolbar (Virtual Component) Interface	51
4.16	Quiz And Games Interface For Component Toolbar	51
4.17	Placing Component Interface	52
4.18	Placing Component Interface (Wiring)	52
4.19	Editing With Basic Schematics In Multisim	53
5.0	Flow Chart for Media Integration	56
6.0	Graph For the Learnibility Testing For Alpha Tester (Multimedia Expert)	87
6.1	Graph For the Effectiveness Testing For Alpha Tester (Multimedia Expert)	88
6.2	Graph For the Ease Of Use Testing For Alpha Tester (Multimedia Expert)	89
6.3	Graph For the Flexibility Testing For Alpha Tester (Multimedia Expert)	90
6.4	Graph For the Learnibility Testing For Alpha Tester (Content Expert)	91
6.5	Graph For the Effectiveness Testing For Alpha Tester (Content Expert)	92
6.6	Graph For the Ease Of Use Testing For Alpha Tester (Content Expert)	93
6.7	Graph For the Flexibility Testing For Alpha Tester (Content Expert)	94

6.8	Graph For the Learnibility Testing For Alpha Tester (Students)	95
6.9	Graph For Multimedia Element Testing For Alpha Tester (Students)	96
6.10	Graph For Flexibility Testing For Alpha Tester (Students)	97
6.11	Graph For Opinion Towards Computer Engineering II Workshops For Alpha Tester (Students)	98
6.12	Graph For Opinion On Computer Engineering II Workhop Subject Slide Alpha Tester (Students)	99
6.13	Graph Suitable Multimedia Elements Gives A huge Impact in Interactive Book Alpha Tester (Students)	100
6.14	Graph for Pre-Test and Post-Test Marks in Percentage for Control Group	101
6.15	Graph for Pre-Test and Post-Test Marks in Percentage for Experimental Group	101

LIST OF TABLES

TABLES	TITLE	PAGE
2.0	Comparison Of The Case Studies	21
2.1	Hardware Requirement	30
3.0	Hardware Requirement	39
5.0	Configuration Setup	57
6.0	Testing Activity Schedule	62
6.1	Testing Form for Learnability Testing	64
6.2	Testing Form For Effectiveness	65
6.3	Testing Form For Ease Of Use	67
6.4	Testing Form For Flexibility	68
6.5	List of Name of The Multimedia Experts and Content Experts	69
6.6	Test Data for Learnibility Testing For Alpha Tester (Multimedia Expert)	70
6.7	Test Data for effectiveness Testing For Alpha Tester (Multimedia Expert)	70
6.8	Test Data for Ease Of Use Testing For Alpha Tester (Multimedia Expert)	70

6.9	Test Data for Ease Of Use Testing For Alpha Tester (Multimedia Expert)	71
6.10	Test Data for Learnability Testing For Alpha Tester (Content Expert)	71
6.11	Test Data for Effectiveness Testing For Alpha Tester (Content Expert)	71
6.12	Test Data for Ease Of Use Testing For Alpha Tester (Content Expert)	72
6.13	Test Data for Ease Of Use Testing For Alpha Tester (Content Expert)	72
6.14	Test Data for Learnability Testing For Alpha Tester (Students)	73
6.15	Test Data for Multitimedia Element Testing For Alpha Tester (Students)	74
6.16	Test Data for Flexibility Testing For Alpha Tester (Students)	75
6.17	Test Data for Opinion On Computer Engineering II Workshop Subject Alpha Tester (Students)	76
6.18	Test Data for Opinion On Computer Engineering II Workshop Subject Slide Alpha Tester (Students)	76
6.19	Test Data for Suitable Multimedia Elements Gives A) huge Impact in Interactive Book Alpha Tester (Students)	76
6.20	Test Data for The Pre-Test Quiz	77
6.21	Test Data for The Post-Test Quiz	78
6.22	Test Result for Learnability Testing For Alpha Tester (Multimedia Expert)	79

6.23	Test Result for Effectiveness Testing For Alpha Tester (Multimedia Expert)	80
6.24	Test Result for Ease Of Use Testing For Alpha Tester (Multimedia Expert)	80
6.25	Test Results for Flexibility Of Use Testing For Alpha Tester (Multimedia Expert)	81
6.26	Test Result for Learnibility Testing For Alpha Tester (Content Expert)	81
6.27	Test Result for Effectiveness Testing For Alpha Tester (Content Expert)	82
6.28	Test Result for Ease Of Use Testing For Alpha Tester (Content Expert)	82
6.29	Test Result for Flexibility Testing For Alpha Tester (Content Expert)	83
6.30	Test Result for Learnibility Testing For Alpha Tester (Students)	83
6.31	Test Result for Multitimedia Element Testing For Alpha Tester (Students)	84
6.32	Test Result for Flexibility Testing For Alpha Tester (Students)	84
6.33	Test Data for The Pre-Test Quiz	85
6.34	Test Result for The Post-Test Quiz	86

CHAPTER I

INTRODUCTION

1.0 Project Background

Nowadays learning has become more and more essential towards human beings. The ways of learning changes across the years as the technology grows. Back in 80's and 90's student are taught in ways where teachers use a blackboard as a medium to convey their information. As in 20's the ways of teaching changes again where teachers started using computers as one of the mediums in learning. Even though the style of teaching evolved there are not able to attract the student attention as well as their understanding. This happens a lot to students where they come to lectures, but they cannot even get it what the lecturer teaches. This is due to ineffective learning materials and teaching method that they use. For example, they usually use textbooks and slide that do not interact with it.

As we know that, students in this area are the Y generation students generation is a generation that grew up with technologies. For them technologies are the most important

things in their live and essential for them. They use it for doing assignment, searching information and socialize. It is not like a olden day student where they have to do things manually. One of the characteristic of the Y generations as they do not like to read especially if the reading materials contains a lot of static text and images. For them it is very boring and they tend to like things that they can interact with. The use of conventional textbooks in learning does not help them because they face hard time to understand. Other than that, the conventional ways of learning which is one way of learning do not suit the Y generation students. They want to be a part of the learning process, but the one way learning causes them to have little involvement during the learning process. This causes them to feel bored and lose focus in class.

The aim of this project is develop an interactive book that will apply interactivity in textbooks. The iBook that will be developed using iBook Author 2 that can only be used in the MacBook or iMac. The iBook Author 2 contains a lot of widgets that can gives the interactivity for the textbooks. Besides that, the iBook Author 2 can also build simple games such as puzzle and word searching that will gives the fun feels to the textbooks. The projects will be using an ADDIE model process throughout the project development and the projects is aim to develop an iBook for BTCS students that take Computer Engineering II workshop subject Multisim and Protues. Both of these subjects are chosen because the amount of student that understands it is low.

As for conclusion, by developing this interactive book, it will help BTCS student in understanding these subjects. Besides that, this new ways of learning can be adapted to other learning institutions in order to change our ways of teaching student in order to produce quality student that can be used by our country.

1.1 Problem Statement

As we can see now, there are many students at the Universities of Technical Malaysia, Malacca (UTeM) is struggling in their studies. Some of them are barely making it through a semester. This happened because their ways of learning and the materials use in teaching them. Usually the learning process that happened in class is very passive. It's a somewhat one-way learning method. There is no interaction between students and lecturers. Lecturer usually conveys the lesson orally and sometimes it is too fast. This causes some of the students cannot catch up with the lesson. Besides that, the slide that the lecturer use in teaching contains a lot of text that hardly to be understands by the students. To make things worse, not many students are fast learners, some of them are slow learners. For the slow learners extra information is needed for them to understand the subjects.

Besides that, student that studies in universities are the Y generation students. One of the characteristics of the y generation, as they do not like to read, they can easily feel bored and sleepy when they read a book. This is because, the normal books usually contain a lot of words and static images. Sometimes they also do not understand what they are reading. For this kind of situation, visual explanation like videos helps a lot. As for the lecturers, they have difficulties to attract the students during the lessons. Most of the students only focus for the first half hours. More than that, they tend to lose focus and they tend to do other things during the lesson. By using, an iBook in learning it will help the students to understand more because it contains many interactions with it and students can take part in it. As for the lecturer, using an iBook in their teaching, can help to attract students in their learning by doing the activities in iBook in class together. Thus, make the students to participate in learning and makes them focus in class more.

1.2 Objectives

- a) To identify the suitable multimedia elements that can give a huge impact in interactive book.
- b) To develop an interactive book for FTK students that takes Computer Engineering II Workshops (Multisim and Proteus) subjects.
- c) To identify the effectiveness of the use of interactive book in conveying Computer Engineering II Workshop (Multisim and Proteus) subject.

1.3 Project Scope

- a) The iBook is developed from FTK students age 19 years old to 24 years old that take Computer Engineering II Workshops (Multisim and Proteus) subjects.
- b) The iBook are also developing for lecturer of FTK that thought this subject.

1.4 Project Significance

The significance of these projects is to develop an iBook for subject Computer Engineering II Workshops (Multisim and Proteus) for FTK students that will help them to understand the subject better. Besides that, this iBook will help the slow learner student to understand more about the topic by viewing the explanation and the examples given repeatedly until they understand about the topics. iBook is an interactive book that contains a lot of interaction with it compared to conventional books. Therefore, the iBook is the solution for students to read the textbook and learn in fun ways.