

**Universiti Teknologi MARA**

**Development of Indices Tutorial  
Package for Lower Secondary School  
Students**

**Mazatulaniza Binti Zainal**

Thesis submitted in fulfillment of the requirements for  
**Bachelor of Science (Hons) Information technology**  
**Faculty of Information Technology And**  
**Quantitative Science**

APRIL 2006

## **DECLARATION**

I certify that this thesis and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline

MAY 31, 2006

MAZATULANIZA BINTI ZAINAL

2003470060

## ACKNOWLEDGEMENT

In the name of Allah, The Most Gracious, Most Merciful and Him alone is worthy of all praise. Alhamdulillah, all praise and thankfulness to Allah, for giving me strength to complete this project. With His willing, this project paper is finally completed. I would like to wish my appreciation to those who have been helping and giving me inspiration in the completion of this project.

First and foremost, I would like to take this opportunity to thanks my project supervisor, Puan Suzana Ahmad for her invaluable guidance, assistance and support throughout the project. Under her supervision, many aspects regarding on this project has been explored and with the knowledge, idea and support received from her, this project can be presented in the time given.

I also would like to thank my coordinator, Puan Shuzlina Binti Abdul Rahman for her insightful comments and suggestions for this project and to all lecturers involved in teaching my course, thanks for the lesson that been delivered. Not forget to all my friends, course mate, and anyone that has provided, whether an idea or support, directly or indirectly, that played a role towards in completing this work. Unfortunately, it is not possible to list all of them in this limited space. Special thanks to Mara University of Technology Shah Alam for giving me an opportunity to pursue my course of study. Special thanks also for Faculty of Information Technology and Quantitative Science that has given not only knowledge but also experience during my study.

Last but not least, to my beloved family especially to my parents for always encouraging me and give support in successfully completing this course. Thank you to my brother for encouragement, motivation, valuable advise and guidance that been given to me in completing this project. Thank you.

## ABSTRACT

Nowadays, multimedia is used in various areas such as advertisement, entertainment and education. The advancement of multimedia technology has reform current education system for its capability to enhance learning rate in the learning activity. Mathematics is a scientific discipline students experience as both a source of knowledge and a challenge for acquiring mathematical skills. Unfortunately, mathematics classes are often concerned purely with memorizing information and learning skills. Thus, this paper will discuss about the implementation of multimedia in developing a tutorial package. The tutorial package will introduced Indices to low secondary school students within age of 13 to 15 years old. The objective of this project is to develop multimedia learning package for teaching and learning Indices that could be used as Computer-Based Training (CBT) tools. In the package, the concept of Indices is applied and elaborated. The package will include learning modules with quizzes. This project had been developed using authoring tools which is Macromedia Director MX. Product of combination multimedia elements such as graphics, sound, text, animation and video in one digital environment could create an interesting and interactive learning environment.

## **TABLE OF CONTENTS**

<b>TITLE PAGE</b>	i
<b>DECLARATION</b>	ii
<b>ACKNOWLEDGEMENT</b>	ii
<b>ABSTRACT</b>	iv
<b>TABLE OF CONTENT</b>	v
<b>LIST OF FIGURE</b>	viii
<b>LIST OF ABBREVIATIONS</b>	ix

### **CHAPTER 1          INTRODUCTION**

1.0	Background	1
1.1	Problem Statement	2
1.2	Project Objective	3
1.3	Project Scope	3
1.4	Project Significance	4
1.5	Summary	4

### **CHAPTER 2          LITERATURE REVIEW**

2.0	Definition of Terminology	5
	2.0.1 Indices	5
	2.0.2 Tutorial Package	6
	2.0.3 Lower Secondary School	6
2.1	Computers as a Learning Tool	6
2.2	Computer-Based Training (CBT)	8
2.3	Multimedia	9
2.4	Development of Multimedia Technology	10