

**ENHANCEMENT OF  
QUIZ/EXAM MODULE FOR  
I-LEARN SYSTEM UITM**

**By**

**AHMAD HANIS ABDUL HALIM**

**2004617506**

**A project paper submitted to  
FACULTY OF INFORMATION TECHNOLOGY AND QUANTITATIVE SCIENCES  
MARA UNIVERSITY OF TECHNOLOGY**

**In partial fulfillment of requirement for the  
BACHELOR OF SCIENCE (Hons) INFORMATION SYSTEMS ENGINEERING**

**UNIVERSITI TEKNOLOGI MARA  
SHAH ALAM, SELANGOR**

**OCTOBER 2007**

## ACKNOWLEDGEMENT

In the name of ALLAH, the Most Gracious, Most Merciful  
May HIS peace and blessings be upon HIS messenger Prophet Muhammad S.A.W,  
upon his family, companions and whoever that follows him.

All praises and glory be to ALLAH, the ONE and ONLY GOD, for Bestowing me the energy, knowledge and guidance that, with HIS Consent and Will, I managed to complete my research project in due time and without much obstacles.

It is with great honor and pleasure for me to express my thankfulness and appreciation towards my supervisor, Encik Mohd Ali Bin Mohd Isa for his willingness to supervise me at the first place and gave me the help and guidance from the initial part until the end of this research project. I am much indebted to him for the trust he gave me and the understanding character shown by him most of the time. Without the expertise of him, this study would not be completed.

My thankfulness also to my thesis coordinators, Puan Wan Adilah and Cik Rashidah Rawi, for the advices and opinions they gave me with clear intention of letting me have what they think is best for me. I am proud to be one of their students and be able to receive great teachings and guidance.

I would also like to extend my thanks to my parents, family, friends, interview respondents and those who are directly or indirectly involved with this research project. I have sincerely treasure all of their contributions and support and fully acknowledge them as being one of the success factor for this research. Thank you again.

AHMAD HANIS ABDUL HALIM

2004617506

## ABSTRACT

Technological advances and the search for efficiency have catalyzed recently a significant increase in the use of Online Examination, OA (else also known as online assessment or electronic assessment or web-based assessment) in education and training at all levels. OA offers significant potential advantages to the student. Online exam can offer immediate feedback on progress and advice on future learning and if it is well designed, it can be engaging. This paper discuss the need of the enhancement of i-Learn Quiz/Exam Module, a web-based assessment module developed for MARA Technology University (UiTM), as a complementary to the classroom assessment. In addition, this paper discusses the enhancement requirements which were determined and identified from interviews conducted with lecturers, students and one of the Quiz/Exam Module maintainer itself Mr.Mohd Ali Mohd Isa. The enhancement of the module is intended to improve the module functionality and expand its capability as well as elevate the quality and performance aspect of the module. In dealing with the project, the researcher has conducted analysis, design and development in reference to the SDLC model to ensure the success of enhancement. Ultimately, this paper also discusses the recommendation and limitations of the research project. It is hope that this paper will provide significant reasons for the conduction of research project in a manner that are presentable and led to the appreciation of the users of Quiz/Exam Module users.

# TABLE OF CONTENTS

<b>APPROVAL</b> .....	<b>i</b>
<b>DECLARATION</b> .....	<b>ii</b>
<b>ACKNOWLEDGEMENT</b> .....	<b>iii</b>
<b>ABSTRACT</b> .....	<b>iv</b>
<b>TABLE OF CONTENTS</b> .....	<b>v</b>
<b>LIST OF FIGURES</b> .....	<b>vii</b>
<b>LIST OF TABLES</b> .....	<b>viii</b>
<b>ABBREVIATIONS</b> .....	<b>ix</b>
<b>CHAPTER 1</b> .....	<b>1</b>
<b>INTRODUCTION</b> .....	<b>1</b>
1.1 Research Background .....	1
1.2 Problem Statement.....	3
1.3 Research Scope .....	3
1.4 Research Objective .....	4
1.5 Significance of Research .....	4
1.6 Summary.....	4
<b>CHAPTER 2</b> .....	<b>6</b>
<b>LITERATURE REVIEW</b> .....	<b>6</b>
2.1 Introduction.....	6
2.2 Assessment .....	6
2.2.1 Purposes of Assessment.....	9
2.2.2 Principles of Assessment .....	12
2.2.3 Assessment Design .....	15
2.2.3.1 Electronic Assessment Design.....	17
2.2.4 Electronic Assessment/ Web-based Assessment/ Computer-based Assessment/ Online Assessment.....	18
2.3 Regulatory Principles for E-Assessment .....	24
2.4 Summary.....	26
<b>CHAPTER 3</b> .....	<b>27</b>
<b>RESEARCH APPROACH AND METHODOLOGY</b> .....	<b>27</b>
3.1 Introduction.....	27
3.2 Research Approach and Methodology.....	28
3.2.1 Preliminary Study .....	29
3.2.2 Data/Information Gathering.....	29
3.2.3 Data Analysis.....	30
3.2.4 Design .....	31
3.2.5 Development.....	32
3.2.6 Findings .....	32
3.3 Summary.....	33
<b>CHAPTER 4</b> .....	<b>34</b>
<b>FINDING AND ANALYSIS</b> .....	<b>34</b>
4.1 Introduction.....	34
4.2 Quiz/Exam Module for I-Learn Portal .....	34
4.3 Regulatory Principles of E-assessment.....	35
4.4 Analysis on Quiz/Exam Module for i-Learn Portal.....	38

4.5	Interview Analysis .....	53
4.6	Web Observation on Available Online Quiz/Exam System .....	54
4.6.1	Observation on CourseWebs Online Exam & Quiz .....	55
4.6.2	Observation on Umfundi Assessment System .....	57
4.7	Summary .....	60
<b>CHAPTER 5.....</b>		<b>61</b>
<b>CONSTRUCTION.....</b>		<b>61</b>
5.1	Purpose of Quiz/Exam Module Enhancement.....	61
5.2	Features of Quiz/Exam Module i-Learn Portal .....	61
5.3	Construction of the Enhancement of Quiz/Exam Module.....	62
5.3.1	Programming Language.....	62
5.3.2	Server.....	63
5.3.3	Database.....	63
5.3.4	CASE Tools .....	63
5.4	Summary .....	64
<b>CHAPTER 6.....</b>		<b>65</b>
<b>CONCLUSION, LIMITATION AND RECOMMENDATION.....</b>		<b>65</b>
6.1	Conclusion .....	65
6.2	Limitation .....	66
6.3	Recommendation .....	67
<b>REFERENCES .....</b>		<b>68</b>
<b>APPENDICES.....</b>		<b>72</b>
APPENDIX A.....		73
Interview Questions.....		73
APPENDIX B.....		74
Software Requirements Specification.....		74
APPENDIX C.....		75
Software Design Description .....		75