

**THE EFFECTIVENESS STUDY ON APPLYING MULTIMEDIA ELEMENT
INTO A WEB-BASED ACADEMIC GRADING SYSTEM**

NURUL BIHAK BINTI MAHAMAD PARAK

UNIVERSITI UTARA MALAYSIA 2011

**THE EFFECTIVENESS STUDY ON APPLYING MULTIMEDIA ELEMENT
INTO A WEB-BASED ACADEMIC GRADING SYSTEM**

A thesis submitted to the College of Arts and Sciences in Partial Fulfilment of the
requirement for the degree Master of Science (Information Technology)

Universiti Utara Malaysia

January 2011

By

Nurul Bihak Binti Mahamad Parak

12
10
10
10
10



**KOLEJ SASTERA DAN SAINS
(College of Arts and Sciences)
Universiti Utara Malaysia**

**PERAKUAN KERJA KERTAS PROJEK
(Certificate of Project Paper)**

Saya, yang bertandatangan, memperakukan bahawa
(I, the undersigned, certifies that)

NURUL BIHAK MAHAMAD PARAK
(804831)

calon untuk Ijazah
(candidate for the degree of) **MSc. (Information Technology)**


telah mengemukakan kertas projek yang bertajuk
(has presented his/her project of the following title)

**THE EFFECTIVENESS STUDY ON APPLYING MULTIMEDIA ELEMENT
INTO A WEB-BASED ACADEMIC GRADING SYSTEM**

seperti yang tercatat di muka surat tajuk dan kulit kertas projek
(as it appears on the title page and front cover of project)

bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan
dan meliputi bidang ilmu dengan memuaskan.
(that this project is in acceptable form and content, and that a satisfactory
knowledge of the field is covered by the project).

Nama Penyelia
(Name of Supervisor) : **MR. MOHD NIZAM SAAD**

Tandatangan
(Signature) :  Tarikh (Date) : 8/3/2011

Nama Penilai
(Name of Evaluator) : **MADAM KHAIRUL BARIAH AHMAD**

Tandatangan
(Signature) :  Tarikh (Date) : 8/3/2011

PERMISSION TO USE

In presenting this thesis of in partial in fulfilment of the requirements for a Master of Science in Information Technology (MSc. IT) from Universiti Utara Malaysia, I agree that the University Library may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purposes may be granted by my supervisor or in their absence, by the Dean of Graduate School. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from my thesis.

Request for permission to copy or make other use of materials in this thesis, in whole or in part, should be addressed to:

Dean of Research and Postgraduate Studies

College of Art and Sciences

Universiti Utara Malaysia

06010 UUM Sintok

Kedah Darul Aman

Malaysia

ABSTRAK

Setiap institusi pendidikan tinggi pasti akan mempunyai sistem pemarkahan sendiri. Hal ini kerana fakta bahawa setiap pensyarah harus menilai prestasi pelajar mereka dengan mengumpulkan tanda-tanda yang diterima oleh mahasiswa sesuai dengan peruntukan yang diberikan. Di antara kriteria penilaian yang tentu saja kerja seperti kuiz, ujian, tugas, projek dan ujian akhir secara berasingan. Sebuah sistem penilaian berasaskan web akademik telah dibangunkan untuk Unit Pemeriksaan Kolej Antarabangsa Teknologi dan Profesional, Perlis. Hal ini dapat dilihat sampai operasi seharian dan mengurangkan masa dan kos operasi juga. Sebelum pembangunan sistem, kajian telah dilakukan untuk mengetahui bagaimana sistem memberikan manfaat bagi kolej. Soalan kajian telah disiapkan untuk menentukan kajian keberkesanan pelaksanaan elemen multimedia dari sistem membandingkan cara manual yang akan diedarkan kepada pengguna sistem. Pengguna akan dilaksanakan untuk memuat maklum balas daripada sistem dan memahami kemampuan sistem untuk menguruskan banyak data dari masa ke masa. Bahasa pengaturcaraan yang digunakan dalam pembangunan *Web-Based Academic Grading System* ialah PHP dan pengurusan database MySQL.

ABSTRACT

Every institution of higher learning would certainly have the own marking system. This is so because every lecturer will have to assess their students' performance by accumulating the marks earned by the students according to the allocations given. Among the criteria of assessment are coursing work such as quizzes, tests, assignments, and projects, whereas final exams are assessed separately. A web-based academic grading system has been developed for Examination Unit in Kolej Antarabangsa Teknologi dan Profesional, Perlis. These standalone system runs on the unit's to smooth up the daily operation and reduce the time and operation cost as well. Prior to the system development, a study has been done to understand how the system gives the benefit for the college. Questionnaire has been prepared to determine the effectiveness study on applying a multimedia element of the system compared the manual way that will be distributed to system's users. The user will be implemented to take the feedback of the system and understand the system's capability to manage a lot of data from time to time. The programming language used in the development of Web-Based Academic Grading System is used in PHP and MySQL database management.

ACKNOWLEDGEMENT

Alhamdulillah, the Praise and gratitude to Allah, the Almighty, awarding me the with great strength, patience, and courage in completing this project. On the occasion in I wish my appreciation to my supervisor, Mr. Mohd Nizam Saad. He has a strong interest in helping me prepare this project. He is remembered for service to the guidance and sacrificed much time in helping me.

Finally, thanks goes to many friends who helped contribute ideas, experiences, and assistance and moral support throughout the implementation of this project. Not forgetting the many families who give encouragement and to anyone involved directly or indirectly in the production of this project.

TABLE OF CONTENTS

	Page
PERMISSION TO USE	i
ABSTRACT (BAHASA MALAYSIA)	ii
ABSTRACT (ENGLISH)	iii
ACKNOWLEDGMENTS	iv
LIST OF TABLE	xii
LIST OF FIGURES	xiv
CHAPTER ONE : INTRODUCTION	
1.0 Introduction	1
1.1 Problem Statements	4
1.2 Research Question	4
1.3 Research Objective	5
1.4 Scope	5
1.5 Research Significance	5
1.6 Research Outcome	6
1.7 Organization of the Thesis	7

1.6 Summary	7
-------------	---

CHAPTER TWO : LITERATURE REVIEW

2.0 Introduction	8
2.1 Existing System	9
2.1.1 Grading Academic System KATPM	9
2.1.2 Sistem Pengurusan Maklumat Peperiksaan (SPMP V4.01)	10
2.1.3 Examination Marks System	11
2.2 The Grading System	13
2.3 Multimedia Element	14
2.4 Web –Based Application	15
2.5 Advantage of Web based Application	15
2.6 A Study on Techniques, Tools and Technology	16
2.7 Summary	19

CHAPTER THREE: METHODOLOGY

3.1 IDENTIFY Requirements	20
3.2 Analysis	21

3.3 Prototyping	22
3.4 Evaluation	26
3.5 Summary	26

CHAPTER FOUR : ANALYSIS AND DISCUSSION

4.1 Unified Markup Language	27
4.2 Use Case Diagram	28
4.2.1 Use Case Specification	30
4.2.2 Class Diagram	30
4.2.2.1 Element of a class	31
4.2.3 Sequence Diagram	34
4.2.3.1 Login	34
4.2.3.2 Insert Mark	36
4.2.3.3 View Student	37
4.2.3.4 Search Student	38
4.2.3.5 Delete Student	39
4.2.3.6 Print Transcript	40
4.3 PROTOTYPE_Evaluation Based On Survey Results	41
4.4 SIGNIFICANCE / CONTRIBUTION	54
4.5 SUMMARY	54

CHAPTER FIVE : CONCLUSION

5.1 Conclusion 55

5.2 Recommendation and Suggestion 56

REFERENCES 58

APPENDIX A: QUESTIONNAIRE

APPENDIX B: USE CASE SPECIFICATION

APPENDIX C: TIME SCHEDULE

LIST OF TABLE

Table 2.1 Different Between Existing Systems.	12
Table 2.2 Two Marking Schemes	13
Table 2.3 Grade Points for each letter grade, percentage and literal descriptors	13

LIST OF FIGURE

Figure 2.1 shows the interface of the Grading Academic System KATPM	9
Figure 2.2 shows the interface of the Carrymark KATPM.	10
Figure 3.1: Flow of WBAGS Research Methodology	20
Figure 3.2: The phases in the RAD methodology	25
Figure 4.1: Use Case Diagram	29
Figure 4.2: The structure of a class	32
Figure 4.3: Class Diagram for Academic Grading System	33
Figure 4.4: Login for Academic Grading System	34
Figure 4.5: Insert Mark for Academic Grading System	36
Figure 4.6: View Student for Academic Grading System	37
Figure 4.7: Search Student for Academic Grading System	38
Figure 4.8: Delete Student for Academic Grading System	39
Figure 4.9: Print Transcript for Academic Grading System	40
Figure 4.10: Percentage Of The Gender	42
Figure 4.11: Percentage Of The Year Working	42
Figure 4.12: Percentage Of The Education Background	43

Figure 4.13: Question 1 Statistical Diagram	44
Figure 4.14: Question 2 Statistical Diagram	45
Figure 4.15: Question 3 Statistical Diagram	46
Figure 4.16: Question 4 Statistical Diagram	47
Figure 4.17: Question 5 Statistical Diagram	48
Figure 4.18: Question 6 Statistical Diagram	49
Figure 4.19: Question 7 Statistical Diagram	50
Figure 4.20: Question 8 Statistical Diagram	51
Figure 4.21: Question 9 Statistical Diagram	52
Figure 4.22: Question 10 Statistical Diagram	53

CHAPTER 1

INTRODUCTION

1.0 Background Study

Currently, there are many higher education institutions in the government sector and private sector offering a range of courses at diploma level graduate students in the country. Academic system implemented by educational institutions are basically involving the subjects of management by the academic administration, delivery of lectures to the students' knowledge and assessment process, students in the class. The assessment process undertaken to obtain information about the level of understanding and appreciation of students in certain disciplines.

Typically, the assessment of students in a class of students involved in achievement of the tasks given by the lecturer. Each task is assigned to students will be graded by the lecturers and the total score for all the work done to determine students' grade student in the class. The calculation of student scores and grades are usually based on a marking scheme that has been determined in advance by the administration of academic and lecturer.

The contents of
the thesis is for
internal user
only

References

- Perdana College (2010). *Academic Grading System*. Retrieved 27 November 2010, from http://www.perdanacollege.com/academic/poli_grade.html
- Netsity.(2010). Web based Application. Retrieved, Jan 11, 2011 from <http://www.netsity.com/webbasedapplication.htm>
- CASEMaker Inc. (2000). *What is Rapid Application Development?* Retrieved 26 January 2010, from http://www.casemaker.com/download/products/totem/rad_wp.pdf
- Mochal, T. (2001). *Examining the life cycle of a RAD project*. Retrieved 10 February 2010, from http://articles.techrepublic.com.com/5100-10878_11-5035295.html
- Officeware (1998), *Rapid application Development, A Structured Approach to Programming Modern Business Applications*, Retrieved 28 January 2010, from <http://www.oware.com/Subpages/radmethodology.htm>
- JS (2009), JS Consulting Group Inc *Rapid Application Development*. Retrieved 25 January 2010, from <http://www.jsigroup.com/rapid-application-development.html>
- Wikipedia Encyclopedia (2009). Rapid Application Development, Retrieved, Jan 10, 2011 from http://en.wikipedia.org/wiki/Rapid_application_development
- Ambler, Scott William (2004). *The Object Primer: Agile Model Driven Development with UML 2*. Cambridge University Press. ISBN 0-521-54018-6.

Chonoles, Michael Jesse; James A. Schardt (2003). *UML 2 for Dummies*. Wiley Publishing. ISBN 0-7645-2614-6.

Alan Dennis et.al. (2002), *System Analysis and Design An Object Oriented Approach With UML*, McGraw Hill.

David Flanagan (2011), *JavaScript: The Definitive Guide, Sixth Edition*, O'Reilly Media. ISBN 10: 0-596-80552-7

Vikram Vaswani. (2003), *MySQL (TM): The Complete Reference*, McGraw-Hill

Lerdorf, R., Tatroe, K., & MacIntyre, P. (2006), *Programming PHP*, O'Reilly

Ruvalcaba, Z., Pizzi, M., (2004), *Book Review: Macromedia Dreamweaver MX 2004*, SAMS, ISBN: 0-672-32361-0

APPENDIX A
QUESTIONNAIRE