

The copyright © of this thesis belongs to its rightful author and/or other copyright owner. Copies can be accessed and downloaded for non-commercial or learning purposes without any charge and permission. The thesis cannot be reproduced or quoted as a whole without the permission from its rightful owner. No alteration or changes in format is allowed without permission from its rightful owner.



UUM
Universiti Utara Malaysia

**PEDAGOGICAL MODEL FOR TEACHING ARABIC-MALAY
TRANSLITERATION: INTELLIGENT TUTORING SYSTEM
(ITS)**

**A Thesis submitted to the Graduate School in partial
fulfilment of the requirements for the degree
Master of Science (Intelligent Systems)
Universiti Utara Malaysia**



By
Yousef Kamel Oqla Qawqzeh
Universiti Utara Malaysia

© yousefrwn@yahoo.ca, 2007.

All Right Reserved



**PUSAT PENGAJIAN SISWAZAH
(Centre for Graduate Studies)
Universiti Utara Malaysia**

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

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

YOUSEF KAMEL OOLA QAWQZEH

calon untuk Ijazah
(candidate for the degree of) **MSc. (Intelligent System)**

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


**PEDAGOGICAL MODEL FOR TEACHING ARABIC-MALAY
TRANSLITERATION: INTELLIGENT TUTORING SYSTEM (ITS)**

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

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

Nama Penyelia Utama
(Name of Main Supervisor): **MRS. YUSRITA MOHD YUSOFF**

Tandatangan
(Signature)

: 

Tarikh (Date) :

04-12-07

Nama Penyelia Kedua
(Name of 2nd Supervisor): **MR. MOHAMAD TARMIDI MAHLI**

Tandatangan
(Signature)

: 

Tarikh (Date) :

4/12/07

PERMISSION TO USE

In presenting this thesis in partial fulfilment of the requirements for a postgraduate degree from University 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 in his absence, by the Dean of the Faculty of Information Technology. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain should not be allowed without my written permission. It is also understood that due recognition shall be given to me and to University Utara Malaysia for any scholarly use which may be made of any material from my thesis.

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

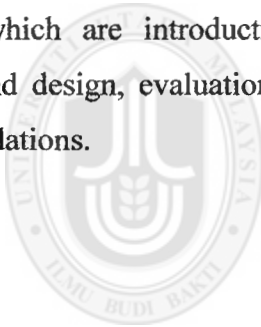
**Dean of Faculty of Information Technology
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman**



UUM
Universiti Utara Malaysia

ABSTRACT

Intelligent Tutoring System (ITS) considered as an important branch of Artificial Intelligent (AI) which can be used to assist in educational processes. Basically, some researchers divided ITS into four modules while others divided it into five modules. One of these modules is pedagogy module which concern in provide the educational processes especially teaching process by the needed knowledge (what to teach) and at the same time by providing some techniques or methods for teaching (how to teach). This project as its name implies concern in pedagogical module which care the process of teaching Arabic-Malay transliteration based on words level. It divided into two main quizzes which are words quiz and special quiz. Actually, both quizzes seen to be the same except that special quiz provides users with a complete transliteration at the end of each Ayah. This study was divided into seven chapters which are introduction, literature review, methodology, system analysis and design, evaluation, findings and results, conclusion and future recommendations.



Universiti Utara Malaysia

DEDICATION

A very special dedication of this piece of myself to the two people who meant the most to me (my great father & my lovely mom).

To my mom, who was so amazed at the way my life turned out.

To my dad, who were my biggest champion and cheerleader.

Who, over the years, modelled compassion and caring for others. Who was always there with the advice when I needed it and sometimes I even took it? Who worked hard, to make sure me had what I needed. But most of all, worked hard to ensure I knew he loved me and supported me, even when he may not have agreed with the directions I took.

I was richly blessed with the two of you in my life. Thanks so much for adopting me and supporting me during my life. Thanks seem so inadequate! "Thanks Mom!" And "Dad, You're Still My Hero!"

Special kudos and thanks to my brothers and my sisters, whom supporting and caring me all the time and never hide any efforts to encourage and consolidate my study.

Special kudos and thanks to my lecturers and friends, without whom this project would still be on the drawing boards.

I am full of gratitude for the investment of so many people in my life and my career.

ACKNOWLEDGEMENTS

“In The Name of Allah the Most Gracious and Most Merciful”

First and foremost, all praises to Allah (SWT), the Almighty, the most gracious and most merciful, without whose divine guidance and blessing, I would not have been able to even begin, let alone complete, such a complex and confounding undertaking.

I would like to express my deepest appreciation to a number of people by giving up their valuable time and energy, and their precious thoughts and comments. I owe my heartfelt thanks to my supervisor's, Mrs. Yusrita Mohd Yusoff and Mr. Mohammad Tarmidi B. Mahli for their invaluable guidance and support. Without them, I would have been certainly lost in completing this project. I feel much honored to extend my thanks to my evaluators during defense for critical ideas and suggestions.

A lot of thanks goes to my venerate lecturer Prof Dr. Norita Norwawi for every help that she always support and encourage me during the nice and great period that I were spent with her.

TABLE OF CONTENTS

ABSTRACT	i
DEDICATION	ii
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
CHAPTER 1: INTRODUCTION	
1.1 Introduction	1
1.2 Rote Learning	3
1.3 Problem Statement	5
1.4 Motivation	6
1.5 Objectives	6
1.6 Scope and Limitations	6
1.7 Significance of the Study	7
1.8 Summary	8
1.9 Other Chapters Overview	9
CHAPTER 2: LITERATURE REVIEW	
2.1 Introduction	10
2.2 Teaching Languages	10
2.3 Intelligent Tutoring System (ITS)	13
2.4 Others Works in ITS	17
2.5 Other Works in Pedagogical Model	19
2.6 Vocabulary Building	22
2.7 Teaching for Understanding Framework	26
2.8 Summary	28
CHAPTER 3: RESEARCH METHODOLOGY	
3.1 Introduction	29
3.2 Awareness of the Problem	30
3.3 Suggestion	30
3.4 Development	31
3.4.1 System Development	31
3.4.2 Interface Design	31
3.4.3 Database Structure	32
3.5 Evaluation	33
3.6 Conclusion	33
3.7 Summary	34

CHAPTER 4: SYSTEM ANALYSIS AND DESIGN

4.1	Introduction	35
4.2	System Analysis	35
4.2.1	Requirements Determination	36
4.2.2	System Requirements	37
4.3	System Design	38
4.3.1	Logical Design	38
4.3.2	Physical Design	42
4.4	Summary	43

CHAPTER 5: EVALUATION

5.1	Introduction	44
5.2	Questionnaire Evaluation	46
5.3	Analysis on the Questionnaire	46
5.3.1	Evaluation Based on the Frequencies Analysis	47
5.3.2	Evaluation Based on the Descriptive Methods	55
5.3.3	Analysis Based on Geographical Questions	56
5.7	Summary	58

CHAPTER 6: FINDINGS AND CONCLUSION

6.1	Findings and Results	59
6.2	System Manual	61
6.3	Summary	67

CHAPTER 7: CONCLUSION AND FUTURE RECOMMENDATIONS

7.1	Introduction	68
7.2	Conclusion	68
7.3	Recommendations and Future Works	69

REFERENCES	70
-------------------	----

APPENDIX

A. USE CASE DIAGRAM	75
B. SEQUENCE DIAGRAM	76
C. QUESTIONNAIRE	80
D. CODING	84

LIST OF TABLES

Table 3.4.3 : Database Attributes	33
Table 4.2.2 : Requirements Description	37
Table 4.3.2 : H/W & S/W Specifications	42
Table 5.3.1.1: Statistics Elements	48
Table 5.3.1.2: Age Frequency	48
Table 5.3.1.3: Question One Results	48
Table 5.3.1.4: Question Two Results	50
Table 5.3.1.5: Question Three Results	51
Table 5.3.1.6: Question Seven Results	52
Table 5.3.1.7: Question Eight Results	53
Table 5.3.1.8: Question Nine Results	54
Table 5.3.2 : Descriptive Statistics	55



UUM
Universiti Utara Malaysia

LIST OF FIGURES

Figure 1.1	: Interaction between ITS Modules	2
Figure 1.2	: ITS Components	5
Figure 2.6	: ITS Modules	25
Figure 2.7.1	: Knowledge Components	26
Figure 2.7.2	: Teaching for Understanding Framework	27
Figure 3.1	: General Methodology of Design Research	29
Figure 3.4.2	: Exam Form	32
Figure 4.3.1	: Use Case Diagram	39
Figure 4.3.2	: Words Quiz Sequence Diagram	40
Figure 4.3.3	: Search Word Sequence Diagram	41
Figure 5.3.1.1	: Pie Graph for Question One Results	49
Figure 5.3.1.2	: Pie Graph for Question Two Results	50
Figure 5.3.1.3	: Pie Graph for Question Three Results	51
Figure 5.3.1.4	: Pie Graph for Question Seven Results	52
Figure 5.3.1.5	: Pie Graph for Question Eight Results	53
Figure 5.3.1.6	: Pie Graph for Question Nine Results	54
Figure 5.3.3.1	: Pie Graph for Study Target (Participant's)	56
Figure 5.3.3.2	: Pie Graph for Participant's Race	57
Figure 6.1	: PMTAMT Architecture	60
Figure 6.2.1	: Login Window	61
Figure 6.2.2	: Maximum Number of Questions	62
Figure 6.2.3	: Words Quiz Window	62
Figure 6.2.4	: Words Quiz after Choosing the Correct Answer	63
Figure 6.2.5	: Results Report Form	63
Figure 6.2.6	: Special Quiz Window	64
Figure 6.2.7	: Whole Ayah Transliteration	64
Figure 6.2.8	: Search Window	65
Figure 6.2.9	: Add Word's Window	66
Figure 6.2.10	: Add Users Window	67

LIST OF ABBREVIATIONS

UUM	Universiti Utara Malaysia
HCI	Human Computer Interaction
ITS	Intelligent Tutoring System
AI	Artificial Intelligent
ELL	English Language Learning
QA	Question Answering
IR	Information Retrieval
NLP	Natural Language Processing
VB. NET	Visual Basic. NET
OOV	Out of Vocabulary
AIED	Artificial Intelligence in Education
CS	Computer System
CSE	Computer System Education
CAI	Computer Aided Instructor
CBT	Computer Based Teaching
TfU	Teaching for Understanding
SPSS	Statistical Package for Social Science
JAWI	An Arabic Alphabet Adapted for Writing the Malay Language
PMTAMT	Pedagogical Model for Teaching Arabic-Malay Transliteration



UUM
Universiti Utara Malaysia

CHAPTER 1

INTRODUCTION

1.1 Introduction

The aim of this chapter is to discuss on the project background that mainly involves in teaching processes and educational uses. Rote learning, motivation, problem statement, objectives, significance of the study, scope, summary, and others chapter's overview will be discussed in this chapter.

Stands on computers for teaching nowadays plays effective and significant roles in learning and teaching fields especially in applying teaching techniques. As computers can help in process massive information effectively, it still responds to its user's with some information more than user's need, because the Human Computer Interaction (HCI) still has some obstacles in exchanging information between user's and computers. One of the most reasons of this is that most of computer systems respond based on its preprogrammed information.

One of the most important systems that utilize the use of computer technologies in serving the educational fields is what it called an Intelligent Tutoring Systems (ITS's).

The contents of
the thesis is for
internal user
only

References

- Antonis. S, Ram. K, and Moutaz. K (1997). A Total Quality Management-Based Systems Development Process. ACM SIGMIS Database, Volume 28 Issue 3
- Ayob. M and Ismail. A (2006). Design of prototype expert system for transliterating Arabic-to-Roman words. 4th Student Conference on Research and Development (SCOReD 2006), Shah Alam, Selangor, MALAYSIA, 27-28
- Bahrami. A (1999). Object Oriented System Development, McGraw-Hill, United States of America.
- Bassam. H, Hani. S, and Steven. L (2002). QARAB: A Question Answering System to Support the Arabic Language. Proceedings of the ACL – 02 workshops on computational approaches to Semitic languages.
- Beglar. D, & Hunt. A (1995). Vocabulary and reading: Teaching and testing. In G. van Troyer, S. Cornwell, & H. Morikawa (Eds.), Proceedings of the JALT 1995 International Conference on Language Teaching / Learning (pp. 210-214). Tokyo: JALT.
- Bhola. S (1990). Evaluating “literacy for development” projects. Programs and campaigns: Evaluating planning, designing, design and implementation, and utilization of evaluation results. Hamburg, Germany: UNESCO Institute for Education; DSE (German Foundation for International Development).
- Bill. B and Daniel. M (2005). Translation Exercise Assistant: Automated Generation of Translation Exercises for Native-Arabic Speakers Learning English. Proceedings of HLT/EMNLP on Interactive Demonstrations.
- Blumenfeld, S (2000). The importance of rote learning. Retrieved July 13, 2007, from: <http://www.home-school.com/Articles/phs34-samblumenfeld.html>.
- Burstein, J., Chodorow, M., & Leacock, C (2004). Automated essay evaluation: The Criterion online writing service. *AI Magazine*, 25(3), 27-36.

- Butz, C, Hua, S, and Maguire, R (2004). A Web-based Intelligent Tutoring System for Computer Programming. Proceedings of the 2004 IEEE/WIC/ACM International conference on web intelligence WI '04. Publisher: IEEE Computer society
- Campbell, T & Stanley, C (1963). Experimental and quasi-experimental designs for research. In N. L. Gage (Ed.). *Handbook of research on teaching*. Chicago, IL: Rand McNally & Company.
- Edward, S (2003). An Intelligent Tutoring System Prototype for Learning to Program Java. Proceedings of the 3rd IEEE International Conference on Advanced Learning Technologies (ICALT'03).
- Evans, G, Mollaghasemi, M, Russell, E, and Biles, W (1993). Proceedings of the 25th conference on Winter simulation WSC '93. Publisher: ACM Press
- Fernando, S, Guido, C, Zulma, C, Fernando, L, and Ramón, G (2004). Redefinition of Basic Modules of an Intelligent Tutoring System: The Tutor Module. Retrieved on July 09, 2007 from: <http://dc.exa.unrc.edu.ar/wicc/papers/InteligenciaArtificial/98.pdf>
- Forte, Haenni, and Warkentyne (1999). Semantic and Pedagogic Interoperability Mechanisms in the ARIADNE Educational Repository. ACM SIGMOD Record, Volume 28 Issue 1
- Hevner, A., March, S., Park, J. and Ram, S (2004). Design Science in Information Systems Research. *MIS Quarterly* 28(1): 75-105. Retrieved May, 2007, from <http://www.isworld.org/Researchdesign/drisISworld.htm#designResearchMethodology>
- Hillmann (2004). NSDLvocabularyworkshop.<http://metamanagement.comm.nsd.org/cgi-bin/wiki.pl?VocabWorkshop>
- Huda, K and Keith, M (2006). Teaching Box Builder: Customizing Pedagogical Contexts for Use of Digital Library Resources in Classrooms. Proceedings of the 6th ACM/IEEE-CS joint conference on Digital libraries JCDL '06
- Jose, O., Eveline, F., Liliame, N., Daniel, M., Jeane, T., Clovis, F., and Douglas, G (2005). A Proposal for Modeling Learner Interaction in Educational Adaptive Hypermedia Systems Driven by a Pedagogical Model. Proceedings of the Fifth IEEE International Conference on Advanced Learning Technologies (ICALT'05).

- Joseph. P and Sharon. M (1988). *Intelligent Tutoring Systems: Lessons Learned*. Lawrence Erlbaum Associates. ISBN 0805801928.
- Kaplan. R and Rock. D (1995). *New Directions for Intelligent Tutoring*. *AI Expert*. IO (2): 3040.
- Koehler. J & Mishra. P (2006). *Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge*. Extracted from <http://tpck.pbwiki.com/>
- Ljubomir. J and Vladan. D (1999). *A Survey of Components for Intelligent Tutoring Pedagogical Aspects of GET-BITS Model*. *ACM SIGCUE Outlook*, Volume 27 Issue 1
- Ljubomir. J and Vladan. D (2000). *The Friendly Intelligent Tutoring Environment*. *ACM SIGCHI Bulletin*, Volume 32 Issue 1. Publisher: ACM Press
- Mayer. E (2001). *Changing conceptions of learning: A century of progress in the scientific study of learning*. In Corno. L (Ed.), *Education across the century: The centennial volume--One hundredth yearbook of the National Society for the Study of Education* (pp. 34-75). Chicago: National Society for the Study of Education.
- Mihal. B, Mirjana. I, and Zoran. B (1997). *Intelligent Tutoring System as Multi-agent System*. *IEEE International conference on Intelligent Processing Systems*
- Nasreen. A and Leeh. L (2003). *Statistical Transliteration for English-Arabic Cross Language Information Retrieval*. *Proceedings of the twelfth international conference on Information and knowledge management CIKM '03*
- Orna. M, Bruria. H, and Haim. A (2004). *(An Almost) Pedagogical Pattern for Pattern-Based Problem-Solving Instruction*. *ACM SIGCSE Bulletin*, *Proceedings of the 9th annual SIGCSE conference on Innovation and technology in computer science education ITiCSE '04*, Volume 36 Issue 3.
- Pauline. C and Rammohan. R (1995). *Using Simulation to Aid in the Design of an Intelligent Tutoring System*. *ACM SIGSIM Simulation Digest*, volume 24 Issue 3. Publisher: ACM Press
- Payne. A (1994). *Designing Educational Project and Program Evaluations*. Boston, MA: Kluwer Academic Publishers.

- Rayan. B (2007). Modeling and Understanding Students' Off-Task Behavior in Intelligent Tutoring Systems. Proceedings of the SIGCHI conference on Human factors in computing systems CHI '07. Publisher: ACM Press
- Robles. B (1993). Smart advisers to support the process of teaching programming languages. Thesis. ITSM.
- Roger. N and Froduald. K (2001). Designing Intelligent Tutoring Systems: A multi-agent Planning Approach. ACM SIGCUE Outlook, Volume 27 Issue 2. Publisher: ACM Press
- Simon. J and Julika. S (1996). Enhancing Simulation Education with Intelligent Tutoring Systems. Proceedings of the 1996 Winter Simulation conference.
- Siriwan and Peter (2004). A Collaborative Intelligent Tutoring System for Medical Problem-Based Learning. Proceedings of the 9th international conference on intelligent user interface IUI '04. Publisher: ACM Press
- Stacy, Lewis, and Catherine (2000). Interactive Pedagogical Drama. Proceedings of the fourth international conference on Autonomous agents. AGENTS '00. Publisher: ACM Press
- Stevens. F, Lawrenz. F and Sharp. L (1993). User-friendly handbook for project evaluation: Science, mathematics, engineering and technology education. NSF 93-152, Revised 2/96. Washington, DC: National Science Foundation. [Available online]
<http://www.ehr.nsf.gov/EHR/RED/EVAL/handbook/handbook.htm>.
- Tom. M (1996). Special Purpose Ontologies and the Representation of Pedagogical Knowledge. Proceedings of the 1996 international conference on Learning science ICLS. Publisher: international Society of the Learning Sciences
- Tom. W (2005). Constructivist Approaches for Teaching Computer Programming. Proceedings of the 6th conference on Information Technology Education SIGITE '05. Publisher: ACM Press
- Vaishnavi and Kuechler (2004). Design Research in information system. Retrieved June15, 2006, from <http://www.isworld.org/Researchdesign/drisISworld.htm>

Valentin. R and Richard. A (2006). Pedagogical Techniques Supported by the Use of Student Devices in Teaching Software Engineering. ACM SIGCSE Bulletin, Proceedings of the 37th SIGCSE technical symposium on Computer science education SIGCSE '06, Volume 38 Issue 1

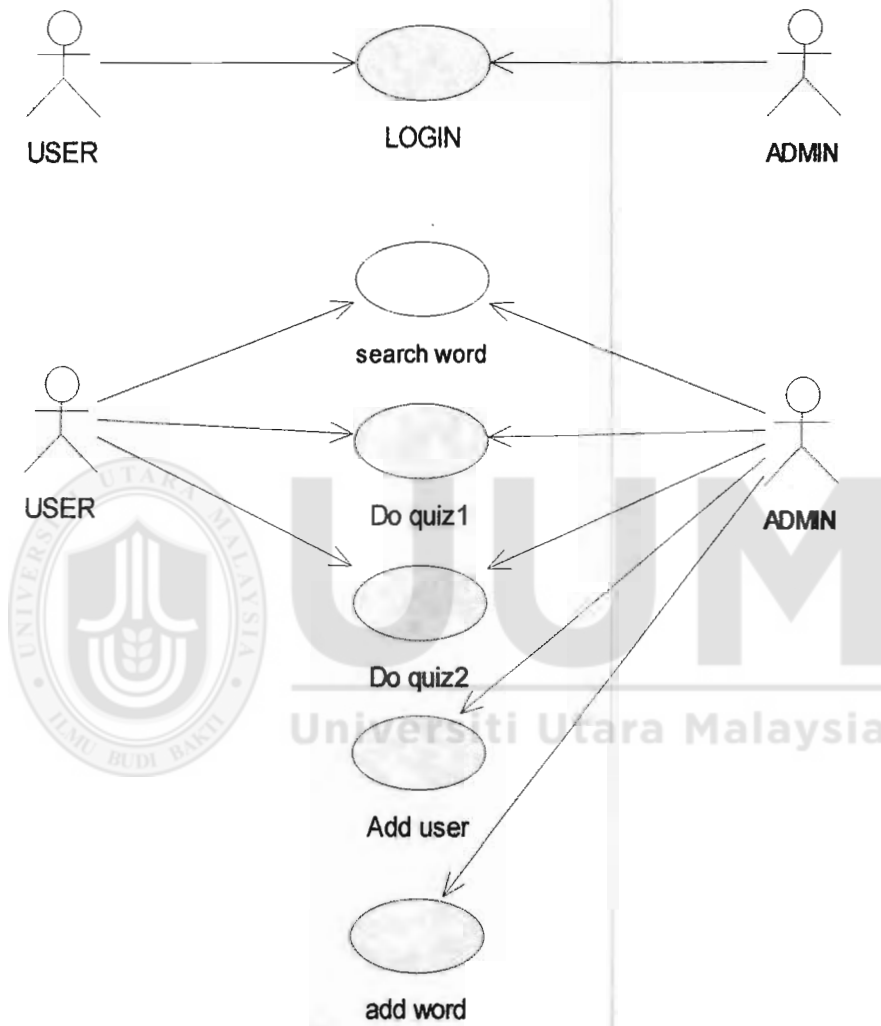
Wood. P (1990). "Intelligent Tutoring Systems an Annotated Bibliography", pp 21 – 24. *SIGART Bulletin*, no 1. Jan



UUM
Universiti Utara Malaysia

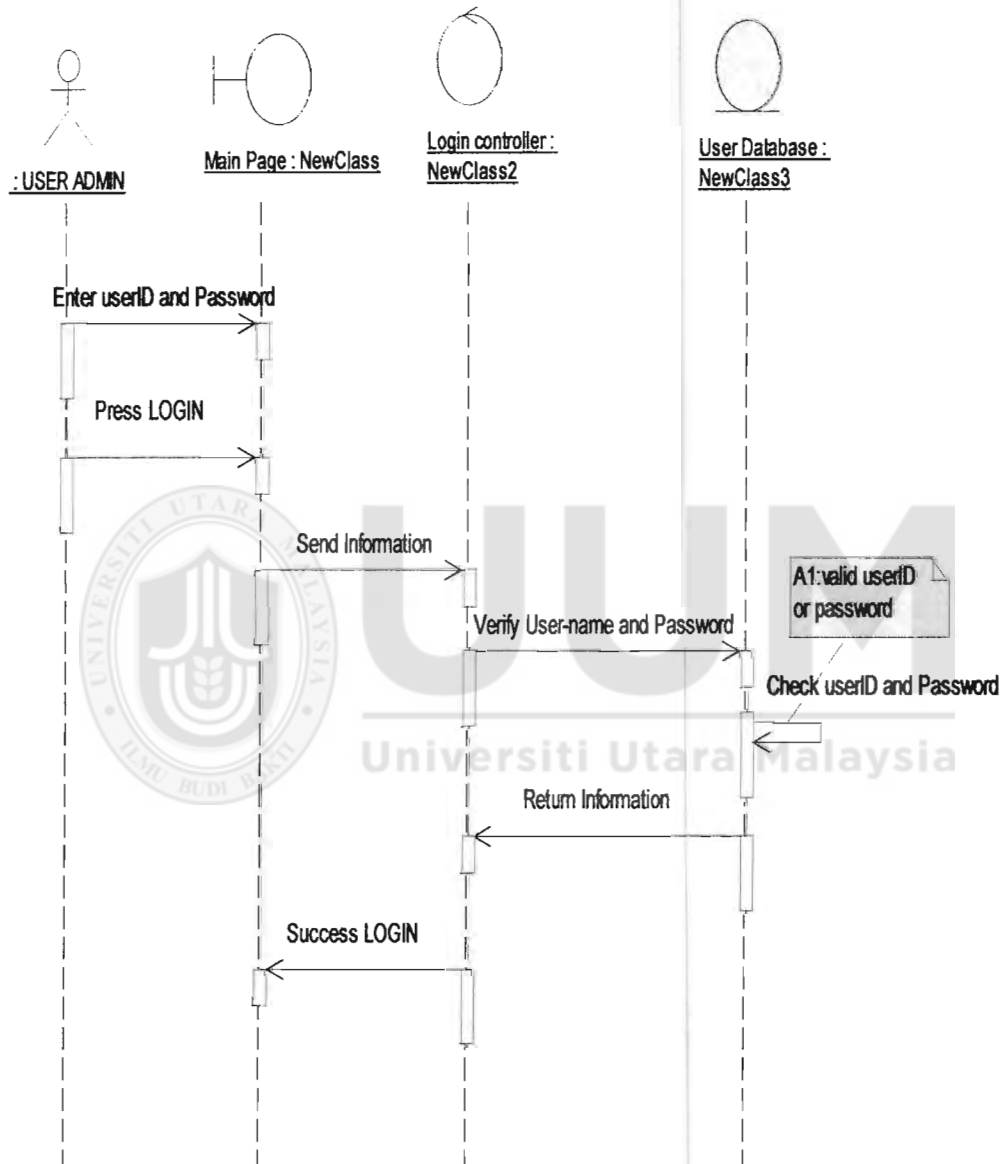
APPENDIX A: USE CASE DIAGRAM

Use Case Diagram

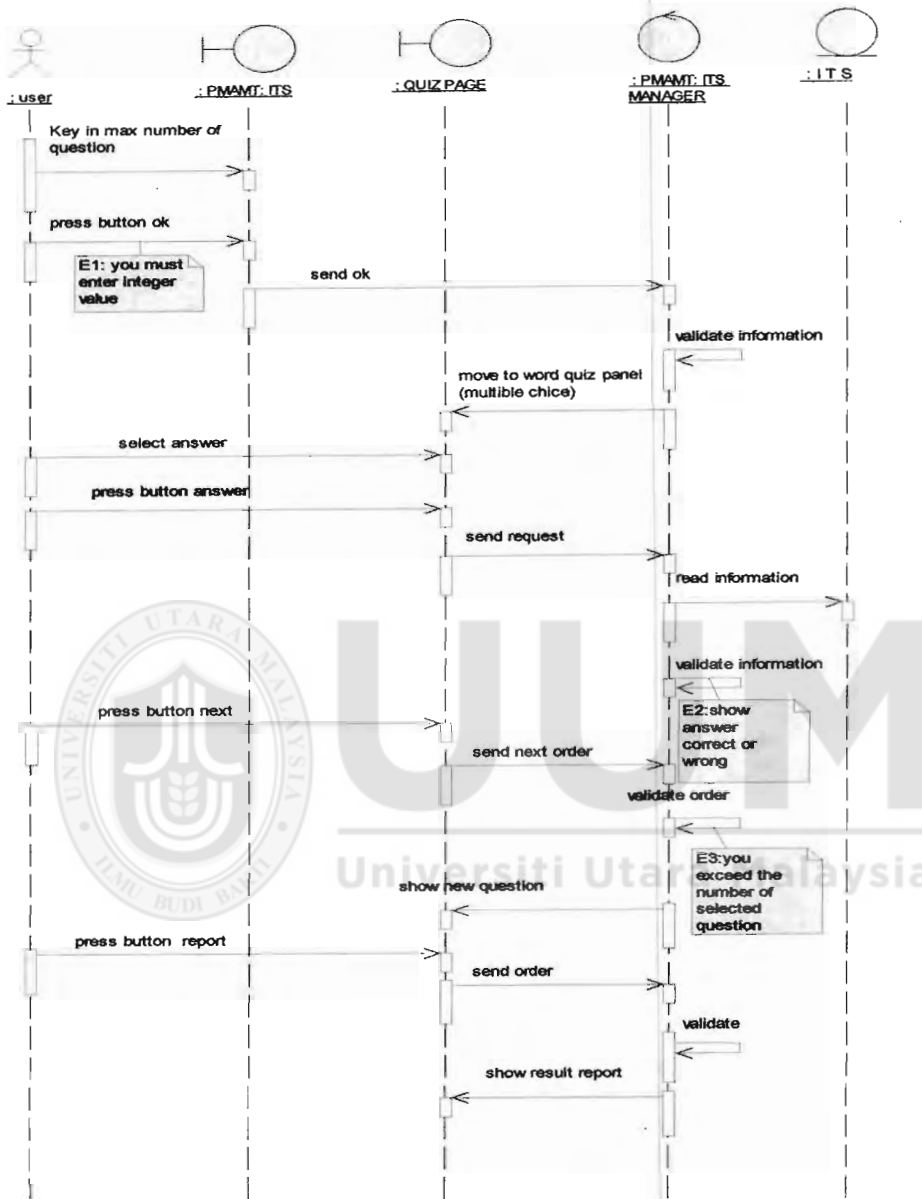


APPENDIX B: SEQUENCE DIAGRAM

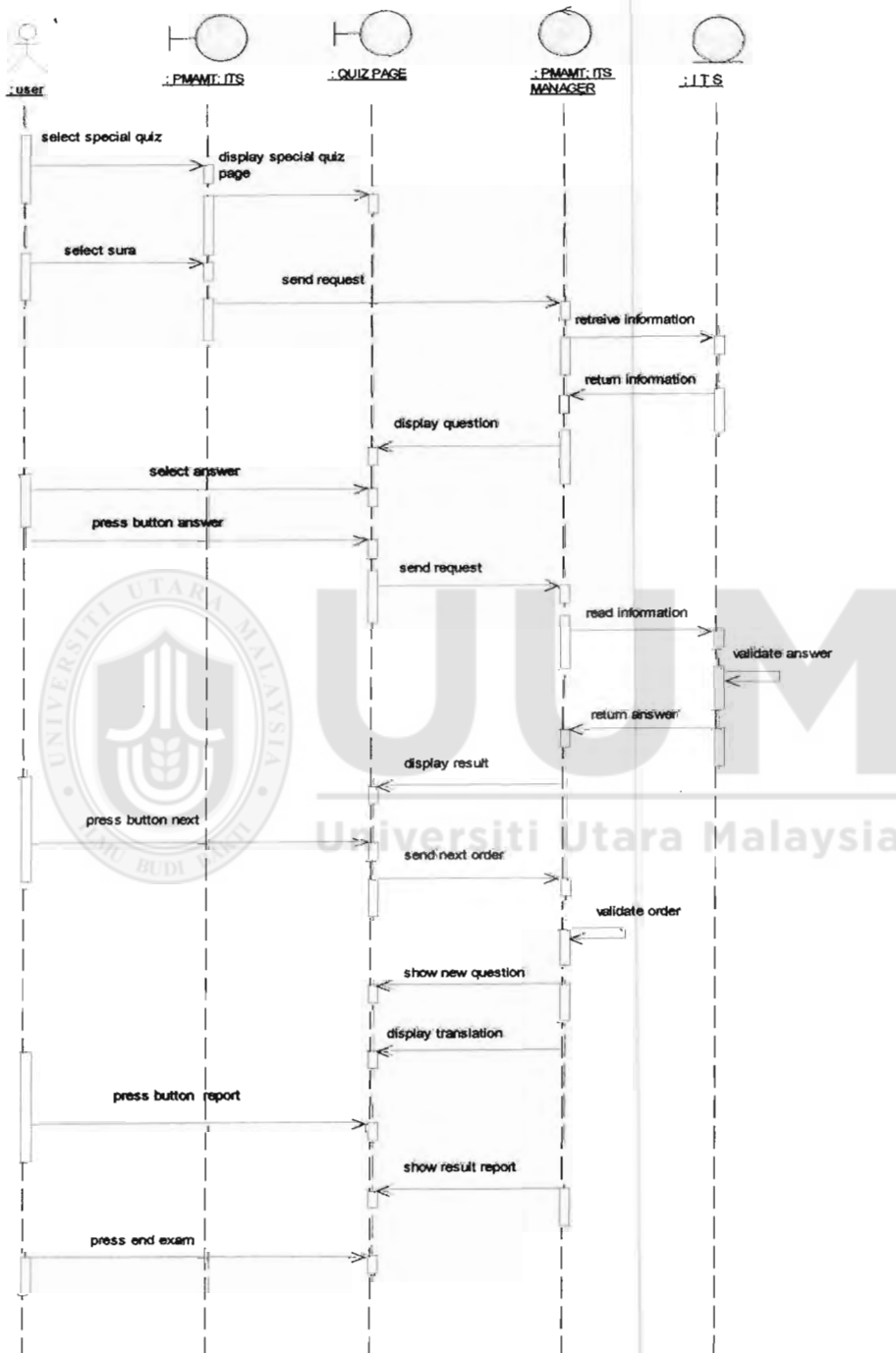
1. Login Sequence Diagram



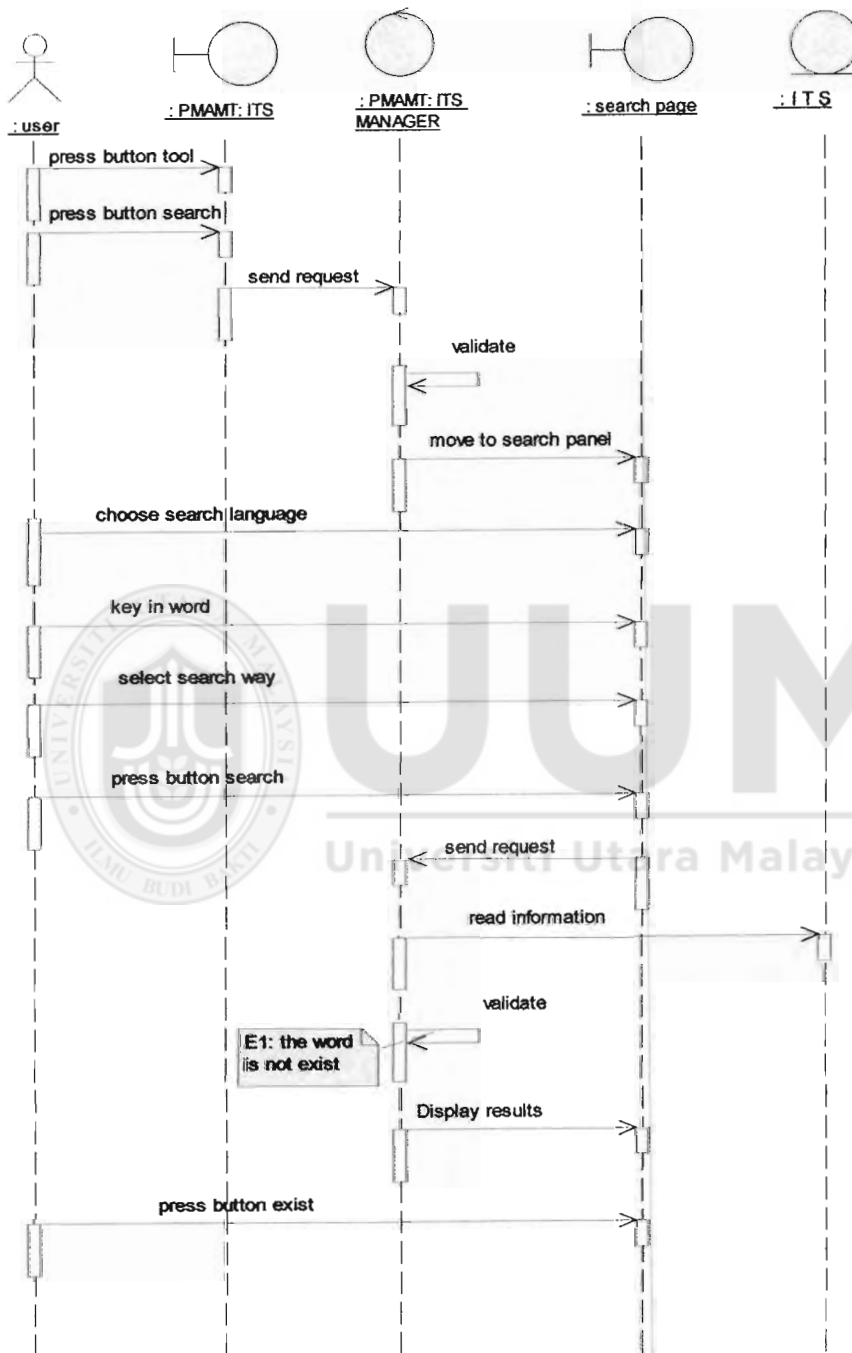
2. Words Quiz Sequence Diagram



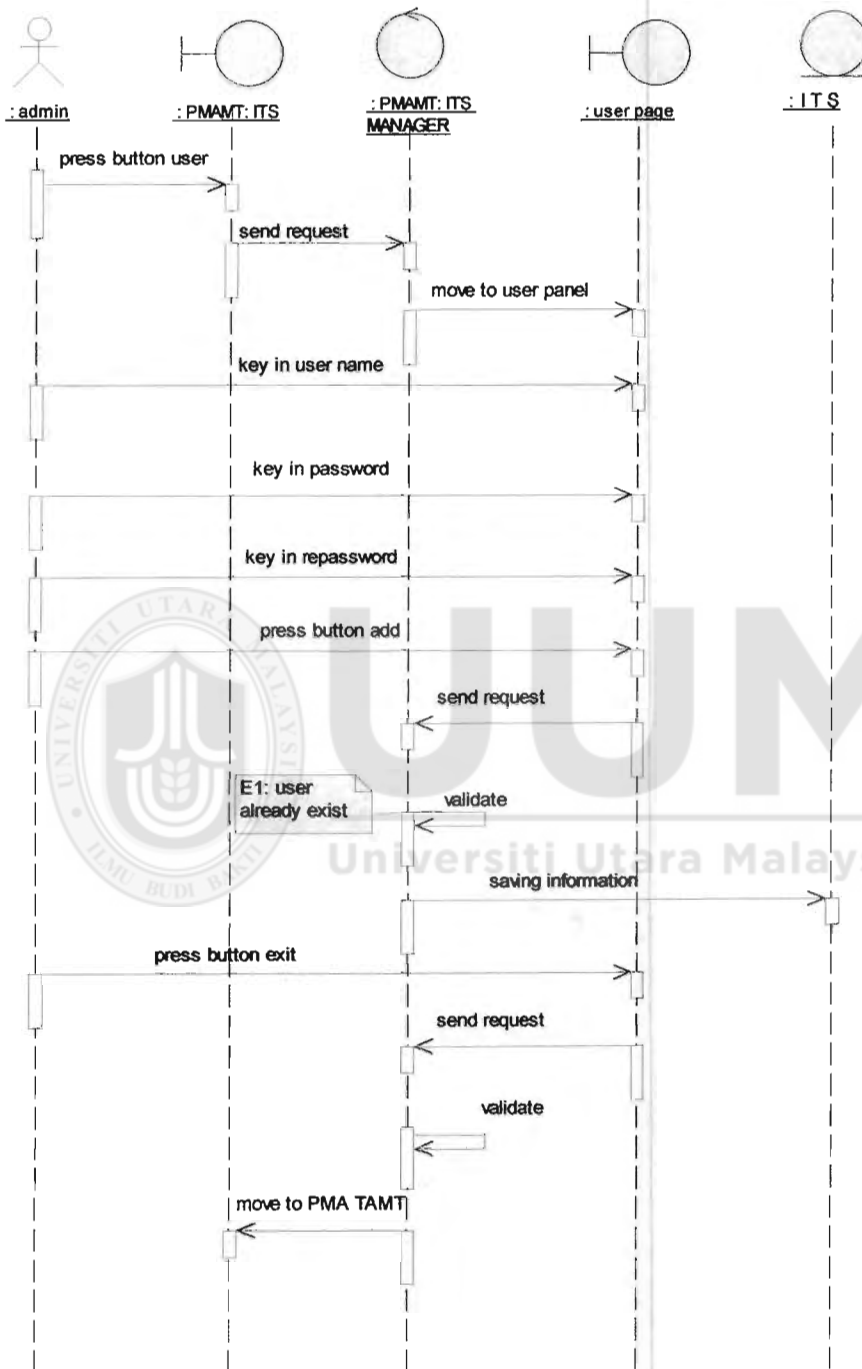
3. Special Quiz Sequence Diagram



4. Search Sequence Diagram



5. Add Users Sequence Diagram



APPENDIX C: QUESTIONNAIRE SCRIPT

Please give ten minutes of your valuable time to answer this simple questionnaire. All Answers are treated as strictly confidential. Thank you in advance.

SECTION A

1. Can you read holy Quran?

No I don't know Yes

2. Do you understand what you read or heard?

Very-Poor Poor Good Very-good Excellent

3. Do you think that you can utilize the use of such system to assist you understanding holy Quran meanings?

1. Strongly not-agree 2. Not-agree 3. Neutral 4. Agree 5. Strongly-agree

4. In your opinion do you think using such system is better than the traditional methods in teaching holy Quran meanings?

1. Strongly not-agree 2. Not-agree 3. Neutral 4. Agree 5. Strongly-agree

5. If you were given a choice to choose between the following methods of obtaining knowledge, which would you prefer?

A. Traditional Method B. I don't know C. pedagogical model

6. Would you advising your friends or you family to have such pedagogy model?

1. Strongly not-agree 2. Not-agree 3. Neutral 4. Agree 5. Strongly-agree

7. In your opinion, what are the benefits of having such system in your computer? Kindly rank them accordingly:

Criterion	Strongly not-agree	Not-agree	Neutral	Agree	Strongly agree
Study at anytime					
Study anywhere					
Saving of costs					
Study based on your own					
Increase understanding					

8. In your opinion, please evaluate this pedagogy model based on the following criteria's? Kindly rank them accordingly:

Criterion	Strongly not-agree	Not-agree	Neutral	Agree	Strongly agree
User Friendly					
Usable					
Useful					
Ease in use					

9. In your opinion, do you support (in %) having and using this system?

- A: (less than 20%)
- B: (20% – 39%)
- C: (40% - 59%)
- D: (60% - 79%)
- E: (more than 80%)

APPENDIX D: CODING

```
Public Class frmLogin
    Private myParent As New frmMain

    Private Sub OK_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles OK.Click
        ALLOW_USER()
    End Sub

    Private Sub ALLOW_USER()
        Dim EC As New LOGIN(TXT_USER_NAME.Text, TXT_PASSWORD.Text)
        Dim LOGIN_STATUS As Nullable(Of Boolean) = Nothing
        LOGIN_STATUS = EC.CHECK_VALIDATE()
        If LOGIN_STATUS.HasValue Then
            If LOGIN_STATUS.Value = True Then
                If Trim(Me.TXT_USER_NAME.Text).ToLower =
"administrator" Then
                    CLEAR_CONTROLS()
                    myParent.MenuStrip.Enabled = True
                    myParent.Enable()
                    Me.Close()
                Else
                    CLEAR_CONTROLS()
                    myParent.MenuStrip.Enabled = True
                    Me.Close()
                    frmExam.Show()
                    'frmQuestionNumber.Show()
                End If
            Else
                MessageBox.Show("UserName Or Passowrd incorrect",
"Alert", MessageBoxButtons.OK, MessageBoxIcon.Error)
                CLEAR_CONTROLS()
            End If
        Else
            MessageBox.Show("UserName Or Passowrd incorrect", "Alert",
MessageBoxButtons.OK, MessageBoxIcon.Error)
            CLEAR_CONTROLS()
        End If
    End Sub

    Private Sub CLEAR_CONTROLS()
        TXT_USER_NAME.Text = ""
        TXT_PASSWORD.Text = ""
    End Sub

    Public Sub SetMyParent(ByVal main As frmMain)
        myParent = main
    End Sub

    Private Sub Cancel_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Cancel.Click
        Application.Exit()
    End Sub

    Private Sub TXT_PASSWORD_TextChanged(ByVal sender As System.Object,
ByVal e As System.EventArgs) Handles TXT_PASSWORD.TextChanged
```

```
End Sub
End Class
```

```
Imports System.Windows.Forms
```

```
Public Class frmMain
```

```
Public Sub Enable()
```

```
Me.UsersToolStripMenuItem.Enabled = True
```

```
Me.WordsToolStripMenuItem.Enabled = True
```

```
End Sub
```

```
Private Sub frmMain_FormClosed(ByVal sender As Object, ByVal e As System.Windows.Forms.FormClosedEventArgs) Handles Me.FormClosed
```

```
End
```

```
End Sub
```

```
Private Sub frmMain_Load(ByVal sender As Object, ByVal e As System.EventArgs) Handles Me.Load
```

```
Dim frmLogin As New frmLogin
```

```
frmLogin.SetMyParent(Me)
```

```
frmLogin.MdiParent = Me
```

```
frmLogin.Show()
```

```
End Sub
```

```
Private Sub ExitToolsStripMenuItem_Click(ByVal sender As Object, ByVal e As EventArgs) Handles ExitToolStripMenuItem.Click
```

```
Global.System.Windows.Forms.Application.Exit()
```

```
End Sub
```

```
Private Sub ToolBarToolStripMenuItem_Click(ByVal sender As Object, ByVal e As EventArgs) Handles ToolBarToolStripMenuItem.Click
```

```
Me.ToolStrip.Visible = Me.ToolBarToolStripMenuItem.Checked
```

```
End Sub
```

```
Private Sub StatusBarToolStripMenuItem_Click(ByVal sender As Object, ByVal e As EventArgs) Handles StatusBarToolStripMenuItem.Click
```

```
Me.StatusStrip.Visible = Me.StatusBarToolStripMenuItem.Checked
```

```
End Sub
```

```
Private Sub CascadeToolStripMenuItem_Click(ByVal sender As Object, ByVal e As EventArgs) Handles CascadeToolStripMenuItem.Click
```

```
Me.LayoutMdi(MdiLayout.Cascade)
```

```
End Sub
```

```
Private Sub TileVerticleToolStripMenuItem_Click(ByVal sender As Object, ByVal e As EventArgs) Handles TileVerticalToolStripMenuItem.Click
```

```
Me.LayoutMdi(MdiLayout.TileVertical)
```

```
End Sub
```

```
Private Sub TileHorizontalToolStripMenuItem_Click(ByVal sender As Object, ByVal e As EventArgs) Handles TileHorizontalToolStripMenuItem.Click
```

```
Me.LayoutMdi(MdiLayout.TileHorizontal)
```

```
End Sub
```

```

Private Sub ArrangeIconsToolStripMenuItem_Click(ByVal sender As
Object, ByVal e As EventArgs) Handles
ArrangeIconsToolStripMenuItem.Click
    Me.LayoutMdi (MdiLayout.ArrangeIcons)
End Sub

```

```

Private Sub CloseAllToolStripMenuItem_Click(ByVal sender As Object,
ByVal e As EventArgs) Handles CloseAllToolStripMenuItem.Click
    ' Close all child forms of the parent.
    For Each ChildForm As Form In Me.MdiChildren
        ChildForm.Close()
    Next
End Sub

```

```

Private m_ChildFormNumber As Integer = 0

```

```

Private Sub OptionsToolStripMenuItem_Click(ByVal sender As
System.Object, ByVal e As System.EventArgs) Handles
OptionsToolStripMenuItem.Click
    Dim frmSearch As New frmSearch
    frmSearch.MdiParent = Me
    frmSearch.Show()
End Sub

```

```

Private Sub ExamToolStripMenuItem_Click(ByVal sender As
System.Object, ByVal e As System.EventArgs) Handles
ExamToolStripMenuItem.Click
    Dim frmExam As New frmExam
    frmExam.MdiParent = Me
    frmExam.Show()
End Sub

```

```

Private Sub UsersToolStripMenuItem_Click(ByVal sender As
System.Object, ByVal e As System.EventArgs) Handles
UsersToolStripMenuItem.Click
    Dim frmUsers As New frmUsers
    frmUsers.MdiParent = Me
    frmUsers.Show()
End Sub

```

```

Private Sub WordsToolStripMenuItem_Click(ByVal sender As
System.Object, ByVal e As System.EventArgs) Handles
WordsToolStripMenuItem.Click
    Dim frmWords As New frmWords
    frmWords.MdiParent = Me
    frmWords.Show()
End Sub

```

```

Private Sub AboutToolStripMenuItem_Click(ByVal sender As
System.Object, ByVal e As System.EventArgs) Handles
AboutToolStripMenuItem.Click
    Dim frmAbout As New frmAbout
    frmAbout.MdiParent = Me
    frmAbout.Show()
End Sub

```

```

Private Sub SpecialExamAlfathaToolStripMenuItem_Click(ByVal sender
As System.Object, ByVal e As System.EventArgs) Handles
SpecialExamAlfathaToolStripMenuItem.Click
    Dim frmalfathaExam As New frmAlfathaExam
    frmalfathaExam.MdiParent = Me
    frmalfathaExam.Show()
End Sub
End Class

```

```

<Global.Microsoft.VisualBasic.CompilerServices.DesignerGenerated()> _
Partial Class frmMain
    Inherits System.Windows.Forms.Form

```

```

'Form overrides dispose to clean up the component list.
<System.Diagnostics.DebuggerNonUserCode()> _
Protected Overrides Sub Dispose(ByVal disposing As Boolean)
    If disposing AndAlso components IsNot Nothing Then
        components.Dispose()
    End If
    MyBase.Dispose(disposing)
End Sub

```

```

'Required by the Windows Form Designer
Private components As System.ComponentModel.IContainer

```

```

'NOTE: The following procedure is required by the Windows Form
Designer

```

```

'It can be modified using the Windows Form Designer.

```

```

'Do not modify it using the code editor.

```

```

<System.Diagnostics.DebuggerStepThrough()> _

```

```

Private Sub InitializeComponent()

```

```

    Me.components = New System.ComponentModel.Container

```

```

    Dim resources As System.ComponentModel.ComponentResourceManager
= New System.ComponentModel.ComponentResourceManager(GetType(frmMain))

```

```

    Me.MenuStrip = New System.Windows.Forms.MenuStrip

```

```

    Me.FileMenu = New System.Windows.Forms.ToolStripMenuItem
    Me.ExitToolStripMenuItem = New
System.Windows.Forms.ToolStripMenuItem

```

```

    Me.ViewMenu = New System.Windows.Forms.ToolStripMenuItem
    Me.ToolBarToolStripMenuItem = New
System.Windows.Forms.ToolStripMenuItem

```

```

    Me.StatusBarToolStripMenuItem = New
System.Windows.Forms.ToolStripMenuItem

```

```

    Me.ToolsMenu = New System.Windows.Forms.ToolStripMenuItem
    Me.OptionsToolStripMenuItem = New
System.Windows.Forms.ToolStripMenuItem

```

```

    Me.ExamToolStripMenuItem = New
System.Windows.Forms.ToolStripMenuItem

```

```

    Me.SpecialExamAlfathaToolStripMenuItem = New
System.Windows.Forms.ToolStripMenuItem

```

```

    Me.AdministrationToolStripMenuItem = New
System.Windows.Forms.ToolStripMenuItem

```

```

    Me.UsersToolStripMenuItem = New
System.Windows.Forms.ToolStripMenuItem

```

```

    Me.UsersToolStripMenuItem = New
System.Windows.Forms.ToolStripMenuItem

```



```

        Me.WordsToolStripMenuItem = New
System.Windows.Forms.ToolStripItem
        Me.WindowsMenu = New System.Windows.Forms.ToolStripItem
        Me.CascadeToolStripMenuItem = New
System.Windows.Forms.ToolStripItem
        Me.FileVerticalToolStripMenuItem = New
System.Windows.Forms.ToolStripItem
        Me.FileHorizontalToolStripMenuItem = New
System.Windows.Forms.ToolStripItem
        Me.CloseAllToolStripMenuItem = New
System.Windows.Forms.ToolStripItem
        Me.ArrangeIconsToolStripMenuItem = New
System.Windows.Forms.ToolStripItem
        Me.HelpMenu = New System.Windows.Forms.ToolStripItem
        Me.AboutToolStripMenuItem = New
System.Windows.Forms.ToolStripItem
        Me.ToolStrip = New System.Windows.Forms.ToolStrip
        Me.ToolStripSeparator2 = New
System.Windows.Forms.ToolStripSeparator
        Me.StatusStrip = New System.Windows.Forms.StatusStrip
        Me.ToolStripStatusLabel = New
System.Windows.Forms.ToolStripStatusLabel
        Me.ToolTip = New System.Windows.Forms.ToolTip(Me.components)
        Me.MenuStrip.SuspendLayout()
        Me.ToolStrip.SuspendLayout()
        Me.StatusStrip.SuspendLayout()
        Me.SuspendLayout()
        '
        'MenuStrip
        '
        Me.MenuStrip.Enabled = False
        Me.MenuStrip.Items.AddRange(New
System.Windows.Forms.ToolStripItem() {Me.FileMenu, Me.ViewMenu,
Me.ToolsMenu, Me.AdministrationToolStripMenuItem, Me.WindowsMenu,
Me.HelpMenu})
        Me.MenuStrip.Location = New System.Drawing.Point(0, 0)
        Me.MenuStrip.MdiWindowListItem = Me.WindowsMenu
        Me.MenuStrip.Name = "MenuStrip"
        Me.MenuStrip.Size = New System.Drawing.Size(926, 24)
        Me.MenuStrip.TabIndex = 5
        Me.MenuStrip.Text = "MenuStrip"
        '
        'FileMenu
        '
        Me.FileMenu.DropDownItems.AddRange(New
System.Windows.Forms.ToolStripItem() {Me.ExitToolStripMenuItem})
        Me.FileMenu.ImageTransparentColor =
System.Drawing.SystemColors.ActiveBorder
        Me.FileMenu.Name = "FileMenu"
        Me.FileMenu.Size = New System.Drawing.Size(37, 20)
        Me.FileMenu.Text = "&File"
        '
        'ExitToolStripMenuItem
        '
        Me.ExitToolStripMenuItem.Name = "ExitToolStripMenuItem"
        Me.ExitToolStripMenuItem.Size = New System.Drawing.Size(92, 22)
        Me.ExitToolStripMenuItem.Text = "E&xit"

```

```

    ,
    'ViewMenu
    ,
    Me.ViewMenu.DropDownItems.AddRange(New
System.Windows.Forms.ToolStripItem()      {Me.ToolBarToolStripMenuItem,
Me.StatusBarToolStripMenuItem})
    Me.ViewMenu.Name = "ViewMenu"
    Me.ViewMenu.Size = New System.Drawing.Size(44, 20)
    Me.ViewMenu.Text = "&View"
    ,
    'ToolBarToolStripMenuItem
    ,
    Me.ToolBarToolStripMenuItem.Checked = True
    Me.ToolBarToolStripMenuItem.CheckOnClick = True
    Me.ToolBarToolStripMenuItem.CheckState =
System.Windows.Forms.CheckState.Checked =
    Me.ToolBarToolStripMenuItem.Name = "ToolBarToolStripMenuItem"
    Me.ToolBarToolStripMenuItem.Size = New System.Drawing.Size(126,
22)
    Me.ToolBarToolStripMenuItem.Text = "&Toolbar"
    ,
    'StatusBarToolStripMenuItem
    ,
    Me.StatusBarToolStripMenuItem.Checked = True
    Me.StatusBarToolStripMenuItem.CheckOnClick = True
    Me.StatusBarToolStripMenuItem.CheckState =
System.Windows.Forms.CheckState.Checked =
    Me.StatusBarToolStripMenuItem.Name =
"StatusBarToolStripMenuItem" =
    Me.StatusBarToolStripMenuItem.Size =
System.Drawing.Size(126, 22) =
    Me.StatusBarToolStripMenuItem.Text = "&Status Bar"
    ,
    'ToolsMenu
    ,
    Me.ToolsMenu.DropDownItems.AddRange(New
System.Windows.Forms.ToolStripItem()      {Me.OptionsToolStripMenuItem,
Me.ExamToolStripMenuItem, Me.SpecialExamAlfathaToolStripMenuItem})
    Me.ToolsMenu.Name = "ToolsMenu"
    Me.ToolsMenu.Size = New System.Drawing.Size(48, 20)
    Me.ToolsMenu.Text = "&Tools"
    ,
    'OptionsToolStripMenuItem
    ,
    Me.OptionsToolStripMenuItem.Name = "OptionsToolStripMenuItem"
    Me.OptionsToolStripMenuItem.Size = New System.Drawing.Size(142,
22)
    Me.OptionsToolStripMenuItem.Text = "&Search"
    ,
    'ExamToolStripMenuItem
    ,
    Me.ExamToolStripMenuItem.Name = "ExamToolStripMenuItem"
    Me.ExamToolStripMenuItem.Size = New System.Drawing.Size(142,
22)
    Me.ExamToolStripMenuItem.Text = "&Exam"
    ,
    'SpecialExamAlfathaToolStripMenuItem

```

```

    ,
    Me.SpecialExamAlfathaToolStripMenuItem.Name =
"SpecialExamAlfathaToolStripMenuItem"
    Me.SpecialExamAlfathaToolStripMenuItem.Size = New
System.Drawing.Size(142, 22)
    Me.SpecialExamAlfathaToolStripMenuItem.Text = "Special Exam"
    ,
    'AdministrationToolStripMenuItem
    ,
    Me.AdministrationToolStripMenuItem.DropDownItems.AddRange(New
System.Windows.Forms.ToolStripItem() {Me.UsersToolStripMenuItem,
Me.WordsToolStripMenuItem})
    Me.AdministrationToolStripMenuItem.Name =
"AdministrationToolStripMenuItem"
    Me.AdministrationToolStripMenuItem.Size = New
System.Drawing.Size(98, 20)
    Me.AdministrationToolStripMenuItem.Text = "A&dministration"
    ,
    'UsersToolStripMenuItem
    ,
    Me.UsersToolStripMenuItem.Enabled = False
    Me.UsersToolStripMenuItem.Name = "UsersToolStripMenuItem"
    Me.UsersToolStripMenuItem.Size = New System.Drawing.Size(108,
22)
    Me.UsersToolStripMenuItem.Text = "&Users"
    ,
    'WordsToolStripMenuItem
    ,
    Me.WordsToolStripMenuItem.Enabled = False
    Me.WordsToolStripMenuItem.Name = "WordsToolStripMenuItem"
    Me.WordsToolStripMenuItem.Size = New System.Drawing.Size(108,
22)
    Me.WordsToolStripMenuItem.Text = "&Words"
    ,
    'WindowsMenu
    ,
    Me.WindowsMenu.DropDownItems.AddRange(New
System.Windows.Forms.ToolStripItem() {Me.CascadeToolStripMenuItem,
Me.TileVerticalToolStripMenuItem, Me.TileHorizontalToolStripMenuItem,
Me.CloseAllToolStripMenuItem, Me.ArrangeIconsToolStripMenuItem})
    Me.WindowsMenu.Name = "WindowsMenu"
    Me.WindowsMenu.Size = New System.Drawing.Size(68, 20)
    Me.WindowsMenu.Text = "&Windows"
    ,
    'CascadeToolStripMenuItem
    ,
    Me.CascadeToolStripMenuItem.Name = "CascadeToolStripMenuItem"
    Me.CascadeToolStripMenuItem.Size = New System.Drawing.Size(151,
22)
    Me.CascadeToolStripMenuItem.Text = "&Cascade"
    ,
    'TileVerticalToolStripMenuItem
    ,
    Me.TileVerticalToolStripMenuItem.Name =
"TileVerticalToolStripMenuItem"
    Me.TileVerticalToolStripMenuItem.Size = New
System.Drawing.Size(151, 22)

```

```

Me.TileVerticalToolStripMenuItem.Text = "Tile &Vertical"
'
'TileHorizontalToolStripMenuItem
'
Me.TileHorizontalToolStripMenuItem.Name =
"TileHorizontalToolStripMenuItem"
Me.TileHorizontalToolStripMenuItem.Size = New
System.Drawing.Size(151, 22)
Me.TileHorizontalToolStripMenuItem.Text = "Tile &Horizontal"
'
'CloseAllToolStripMenuItem
'
Me.CloseAllToolStripMenuItem.Name = "CloseAllToolStripMenuItem"
Me.CloseAllToolStripMenuItem.Size = New
System.Drawing.Size(151, 22)
Me.CloseAllToolStripMenuItem.Text = "C&lclose All"
'
'ArrangeIconsToolStripMenuItem
'
Me.ArrangeIconsToolStripMenuItem.Name =
"ArrangeIconsToolStripMenuItem"
Me.ArrangeIconsToolStripMenuItem.Size = New
System.Drawing.Size(151, 22)
Me.ArrangeIconsToolStripMenuItem.Text = "&Arrange Icons"
'
'HelpMenu
'
Me.HelpMenu.DropDownItems.AddRange(New
System.Windows.Forms.ToolStripItem() {Me.AboutToolStripMenuItem})
Me.HelpMenu.Name = "HelpMenu"
Me.HelpMenu.Size = New System.Drawing.Size(44, 20)
Me.HelpMenu.Text = "&Help"
'AboutToolStripMenuItem
'
Me.AboutToolStripMenuItem.Name = "AboutToolStripMenuItem"
Me.AboutToolStripMenuItem.Size = New System.Drawing.Size(119,
22)
Me.AboutToolStripMenuItem.Text = "&About ..."
'
'ToolStrip
'
Me.ToolStrip.Items.AddRange(New
System.Windows.Forms.ToolStripItem() {Me.ToolStripSeparator2})
Me.ToolStrip.Location = New System.Drawing.Point(0, 24)
Me.ToolStrip.Name = "ToolStrip"
Me.ToolStrip.Size = New System.Drawing.Size(926, 25)
Me.ToolStrip.TabIndex = 6
Me.ToolStrip.Text = "ToolStrip"
'
'ToolStripSeparator2
'
Me.ToolStripSeparator2.Name = "ToolStripSeparator2"
Me.ToolStripSeparator2.Size = New System.Drawing.Size(6, 25)
'
'StatusStrip
'

```

```

    Me.StatusStrip.Items.AddRange(New
System.Windows.Forms.ToolStripItem() {Me.ToolStripStatusLabel})
    Me.StatusStrip.Location = New System.Drawing.Point(0, 542)
    Me.StatusStrip.Name = "StatusStrip"
    Me.StatusStrip.Size = New System.Drawing.Size(926, 22)
    Me.StatusStrip.TabIndex = 7
    Me.StatusStrip.Text = "StatusStrip"
    '
    'ToolStripStatusLabel
    '
    Me.ToolStripStatusLabel.Name = "ToolStripStatusLabel"
    Me.ToolStripStatusLabel.Size = New System.Drawing.Size(39, 17)
    Me.ToolStripStatusLabel.Text = "Status"
    '
    'frmMain
    '
    Me.AutoScaleDimensions = New System.Drawing.SizeF(6.0!, 13.0!)
    Me.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font
    Me.BackColor = System.Drawing.Color.BurlyWood
    Me.BackgroundImage =
CType(resources.GetObject("$this.BackgroundImage"),
System.Drawing.Image)
    Me.BackgroundImageLayout =
System.Windows.Forms.ImageLayout.Stretch
    Me.ClientSize = New System.Drawing.Size(926, 564)
    Me.Controls.Add(Me.ToolStrip)
    Me.Controls.Add(Me.MenuStrip)
    Me.Controls.Add(Me.StatusStrip)
    Me.Icon =
CType(resources.GetObject("$this.Icon"),
System.Drawing.Icon)
    Me.IsMdiContainer = True
    Me.MainMenuStrip = Me.MenuStrip
    Me.Name = "frmMain"
    Me.StartPosition =
System.Windows.Forms.FormStartPosition.CenterParent
    Me.Text = "PMTAMT"
    Me.WindowState = System.Windows.Forms.FormWindowState.Maximized
    Me.MenuStrip.ResumeLayout(False)
    Me.MenuStrip.PerformLayout()
    Me.ToolStrip.ResumeLayout(False)
    Me.ToolStrip.PerformLayout()
    Me.StatusStrip.ResumeLayout(False)
    Me.StatusStrip.PerformLayout()
    Me.ResumeLayout(False)
    Me.PerformLayout()

    End Sub
    Friend WithEvents HelpMenu As
System.Windows.Forms.ToolStripMenuItem
    Friend WithEvents AboutToolStripMenuItem As
System.Windows.Forms.ToolStripMenuItem
    Friend WithEvents ArrangeIconsToolStripMenuItem As
System.Windows.Forms.ToolStripMenuItem
    Friend WithEvents CloseAllToolStripMenuItem As
System.Windows.Forms.ToolStripMenuItem
    Friend WithEvents WindowsMenu As
System.Windows.Forms.ToolStripMenuItem

```

```

Friend          WithEvents          CascadeToolStripMenuItem          As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          TileVerticalToolStripMenuItem      As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          TileHorizontalToolStripMenuItem    As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          OptionsToolStripMenuItem          As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          ToolStripSeparator2                As
System.Windows.Forms.ToolStripSeparator
Friend WithEvents ToolTip As System.Windows.Forms.ToolTip
Friend          WithEvents          ToolStripStatusLabel                As
System.Windows.Forms.ToolStripStatusLabel
Friend WithEvents StatusStrip As System.Windows.Forms.StatusStrip
Friend WithEvents ToolStrip As System.Windows.Forms.ToolStrip
Friend          WithEvents          ExitToolStripMenuItem                As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          FileMenu                            As
System.Windows.Forms.ToolStripMenuItem
Friend WithEvents MenuStrip As System.Windows.Forms.MenuStrip
Friend          WithEvents          ViewMenu                            As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          ToolBarToolStripMenuItem            As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          StatusBarToolStripMenuItem          As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          ToolsMenu                            As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          ExamToolStripMenuItem                As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          AdministrationToolStripMenuItem    As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          UsersToolStripMenuItem            As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          WordsToolStripMenuItem            As
System.Windows.Forms.ToolStripMenuItem
Friend          WithEvents          SpecialExamAlfathaToolStripMenuItem  As
System.Windows.Forms.ToolStripMenuItem

End Class

```

000323312

Perustakaan Sultanah Bahyah
Universiti Utara Malaysia