Design Web Based Ticketing System, for Menara Alor Star

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

Universiti Utara Malaysia

October 2009

By

Mohammad Methkal Hassan Al-Nimrat

© Mohammad M.H. Nimrat. All rights reserved. 2009

PERMISSION TO USE
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, certify that)

MOHAMMAD METHKAL HASSAN AL-NIMRAT  
(801598)

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

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

DESIGN WEB BASED TICKETING SYSTEM FOR MENARA ALOR STAR

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): MR. ALI YUSNY DAUD

Tandatangan  
(Signature) :  

Tarikh (Date) : 17/11/2009

Nama Penyelia Kedua  
(Name of 2nd Supervisor): ASSOC. PROF. HATIM MOHAMAD TAHIR

Tandatangan  
(Signature) :  

Tarikh (Date) : 17/11/2009
In presenting this thesis in partial fulfillment of the requirements for a postgraduate degree 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 project in any manner, in whole or in part, for scholarly purposes may be granted by my supervisor(s) or, in their absence, by the Dean of the 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 University Utara Malaysia for any scholarly use which may be made of any material from my thesis.

Request 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 the Graduate School
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman
ABSTRACT

Web based is the most famous portable technology, the WEB solution services can be obtained easily at any time in anywhere. That provides the crowd with the ticket for visit the Menara without losing time and effort. Web based allows to the users to use the Information Technology without being bound to a single location; it provides the users with the flexibility. In this study focused only to the development of a prototype for the Menara Alor Star e-ticketing.

Reservation system comprises of a database that is built using MySQL database application software, Apache server as the web server and JSP as its application server. The methodology used is General Methodology using the Unified Modeling Language—UA Approach.
ACKNOWLEDGMENT

"In the Name of Allah the Most Gracious and Most Merciful"

First and foremost, I am forever indebted and thankful to Allah for his blessings without which the whole would not have been possible.

I will always be especially thankful to my supervisor Mr. Ali Yusny Daud, for his guidance, patience and faith in me. He was always positive, supportive and encouraging, he fostered my academic growth by challenging and inspiring me to each deeper, to learn more, to expand my viewpoint, and to think critically. Yet, he allowed me to express my views openly and to disagree even when I was wrong. I would to say thank for the persons who helped me in so many different ways, Mr. Mazlan Mhmud the general manager in Menara Alor Star, and all members of Menara Alor Star.

The final and the most important acknowledgment are owed to my father (Methkal) and to my Friends Amjad Al nimrat, Ahmmad Aledajjeh, sharhabel Alnimrat amd all my friends I not write his name to the source of my light and pleasure to the one who enlightens my life.

My special thanks for my best friend in UUM "Shaker bani Melhem my roommate, Bander; Said, Ms23deh, Aziz, Ali, Mosa, Erhaem."
TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

1.1 Introduction ......................................................... 1
1.2 Problem Statement .................................................. 4
1.3 Objective .......................................................... 4
1.4 Scope .................................................................. 5
1.5 Research Question .................................................. 5
1.6 Research Outcome ................................................... 5
1.7 Significant of Study ................................................ 5
1.8 Organization ......................................................... 6

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction .......................................................... 7
2.2 History of the Web and Its Application .......................... 8
2.2.1 History of the Dynamic Web .................................... 10
2.3 Web Application ....................................................... 10
   2.3.1 Modeling Process in Web Applications .................... 12
   2.3.1.1 Model-Driven Design of Web Applications .......... 13
   2.3.1.2 Data Model ............................................... 13
   2.3.1.3 Hypertext Model ....................................... 14
   2.3.1.4 Relationship Model in Standard Entity .............. 15
2.4 Web Application Security .......................................... 16
2.6 Tools Used To Build Web Application ........................... 17
   2.6.1 Hypertext Markup Language (HTML) .................... 17
   2.6.2 Hypertext Transfer Protocol (HTTP) .................... 18
   2.6.3 Database: MySQL ......................................... 18
2.7 Design Web Application ............................................ 19
2.8 Advantages of Web-Based Application .......................... 19
2.9 Disadvantages of Web-Based Application ...................... 20
2.10 E Commerce ....................................................... 20
   2.10.1 Concepts and Definition: Electronic Commerce ....... 22
2.11 Electronic Booking ............................................... 22
   2.11.1 Why the People Move to Electronic Ticketing? ....... 23
2.12 Summary .......................................................... 24
CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction ......................................................... 25
3.2 Awareness of Problem ............................................. 25
  3.2.1 Data collection ................................................ 26
  3.2.1.1 Interview ..................................................... 27
  3.2.1.1.1 The current process for the ticket booking ....... 27
  3.2.1.1.4 Result of the interview. ............................... 27
3.3 Suggestion ........................................................... 27
3.4 Development ......................................................... 28
3.5 Evaluation .......................................................... 29
  3.5.1 Questionnaire & Expect Review ......................... 29
3.6 Usability ........................................................... 29
3.7 Summary ........................................................... 30

Chapter 4: Appointment System Model

4.0 Introduction .......................................................... 31
4.1 List of Requirement ................................................ 31
  4.1.1 Hardware Requirements ..................................... 31
  4.1.2 Software Requirements ...................................... 32
4.2 System Design ....................................................... 33
4.3 Class Diagram ....................................................... 34
4.4 Design Interfaces for (DWBT) Prototype ..................... 34
  4.4.1 Interface Page ................................................ 35
  4.4.2 Registration for Customer ................................. 35
  4.4.3 Customer Page ............................................... 36
  4.4.4 Booking Page ............................................... 36
  4.4.5 View ticket .................................................. 36
  4.4.6 Check Pin Code ............................................. 37
  4.4.7 Manager Login Page ....................................... 37
  4.4.8 Manager Page (View) ....................................... 38
  4.4.9 Manager Page (Delete) ................................... 38
  4.4.10 Manager Page (ADD) ..................................... 39
  4.4.11 Manager Page (Update) .................................. 39
4.5 Summary ........................................................... 39
Chapter 5: Result Discussion and Finding System Test

5.1 Introduction ........................................................................... 40
5.2 Purpose of Test Case ............................................................... 40
  5.2.1 System Test for Menara System ......................................... 41
  5.2.2 Test Case ID: DWBT-TC 01 .................................................. 41
  5.2.3 Test Case ID: DWBT-TC 02 .................................................. 42
  5.2.4 Test Case ID: DWBT-TC 03 .................................................. 43
  5.2.5 Test Case ID: DWBT-TC 04 .................................................. 44
  5.2.6 Test Case ID: DWBT-TC 05 .................................................. 45
  5.2.7 Test Case ID: DWBT-TC 06 .................................................. 46
  5.2.8 Test Case ID: DWBT-TC 07 .................................................. 47
  5.2.9 Test Case ID: DWBT-TC 08 .................................................. 48
5.3 Result of interview ................................................................. 49
5.4 Evaluation Techniques ........................................................... 50
5.5 Evaluation questionnaire ......................................................... 50
5.6 Data Analysis ......................................................................... 51
5.7 Summary .............................................................................. 59

Chapter 6: Conclusion

6.1 Conclusion of the study .......................................................... 60
6.2 Study contribution ................................................................. 60
6.3 Problems and Limitations ....................................................... 61
6.4 Future works ....................................................................... 61
6.5 Recommendation ................................................................. 61

References .............................................................................. 62

APPENDIX A ............................................................................. 67
APPENDIX B ............................................................................. 70
APPENDIX C ............................................................................. 79
APPENDIX D ............................................................................. 88
List of Figures

Fig 1.1: Tallest Five Towers in the World ........................................... 2
Fig 1.2: Location of Menara Alor Star .................................................. 2
Fig 2.1: The History of Dynamic Web .................................................... 11
Fig 2.2: The Data Model for the Loan Requests Application ................. 14
Fig 2.3: WebML Specification for Browsing Loan Information ............... 15
Fig 2.4: Phase in the Development Process of Data .............................. 15
Fig 2.5: High-level Applicant Site View .............................................. 16
Fig 3.1: Research Design Methodologies ............................................. 26
Fig 3.2: the Prototyping Process Adapted ........................................... 28
Fig 4.1: Use Case for Visitor ............................................................. 32
Fig 4.2: Use Case for Manager ......................................................... 33
Fig 4.3: Web Base Ticketing for Menara Alor Star Class Diagram .......... 33
Fig 4.4: Interface Page for Menara Alor Star .................................... 34
Fig 4.5: Registration Page ............................................................... 35
Fig 4.6: Customer Page ................................................................. 35
Fig 4.7: Booking Page ...................................................................... 36
Fig 4.8: View Ticket by Customer ..................................................... 36
Fig 4.9: Check Pin Code .................................................................. 37
Fig 4.10: Manager Login Page ......................................................... 37
Fig 4.11: Manager Page (View) ......................................................... 37
Fig 4.12: Manager Page (Delete) ........................................................ 38
Fig 4.13: Manager Page (ADD) .......................................................... 38
Fig 4.14: Manager Page (Update) ....................................................... 39
Fig 5.1: Gender ............................................................................. 52
Fig 5.2: Age ................................................................................. 53
Fig 5.3: Education ......................................................................... 54
Fig 5.4: Year of Study .................................................................... 55
Fig 5.5: Race ................................................................................ 56
Fig 5.6: Descriptive Statistics (System Aspect) ..................................... 57
Fig 5.7: Descriptive Statistics (Overall Satisfaction) ............................ 58
Fig B.1: Booking the Ticket .............................................................. 70
Fig B.2: Registration User ................................................................. 71
Fig B.3: View Ticket Information ...................................................... 72
Fig B.4: Check Pin Code and Activate ................................................ 73
Fig B.5: Login by Customer .............................................................. 74
Fig B.6: Login for Manager ............................................................... 75
Fig B.7: View Information for Customer Ticket from Manager .......... 76
Fig B.8: Manage Information by Manager .......................................... 77
Fig C.1: Registration Sequence Diagram by Customer ....................... 78
Fig C.2: Login for Customer ............................................................. 79
Fig C.3: View information for User .................................................... 80
Fig C.4: Check Pin Code by Customer .............................................. 81
Fig C.5: Booking Ticket ................................................................. 82
Fig C.6: Login By Manager ............................................................... 83
Fig C.7: View Information of Ticket by Manager ........................................ 84
Fig C.8: Delete Customer from Database .................................................. 85
Fig C.9: Update Customer and Ticket Information from Database .......... 86
Fig C.10: Add Customer by Manager ......................................................... 87
Fig D.1: Login for Customer ....................................................................... 88
Fig D.2: View Information for User ............................................................... 89
Fig D.3: Check Pin Code .............................................................................. 89
Fig D.4: Booking ......................................................................................... 90
Fig D.5: Login Information ......................................................................... 90
Fig D.6: View Information of Ticket by Manager ....................................... 91
Fig D.7: Delete by Manager ......................................................................... 91
Fig D.8: Update Information ....................................................................... 92
Fig D.9: Add Information .............................................................................. 92
List of Tables

Table 5.1: Test CaseManager Login Functionality ..................... 41
Table 5.2: Test CaseCustomer Login Functionality .................... 42
Table 5.3: Test CaseChecks Customer to Create account ............. 43
Table 5.4: Test CaseChecks Customer to Create Booking ............. 44
Table 5.5: Test CaseChecks the Manager to Add a New Customer ...... 45
Table 5.6: Test Case Checks the Manager to Delete Customer ........ 46
Table 5.7: Test Case Checks the Manager to Update Customer ........ 47
Table 5.8: Test CaseCustomer Check the Pin Code .................... 48
CHAPTER 1
INTRODUCTION

This chapter gives a background of organization and further discussion about the problem statement, requirements, objectives, significant, scope and research outcome.

1.1 Introduction

Tower is a normal building built by human that are almost taller than normal building. Towers are normally can be stand-alone or as part of a larger structure or built to take advantage of their height. Since prehistoric times the tower have been used by human, in walls of Neolithic before (800 BC), from the best example on the oldest tower one the brooch structure in north Scotland. This tower has conical shape and roman, Phoenician, in the last cultures uses the tower to sentinel role and fortification (Hogan, 2007).

One of modern type to use less ground space, Strategic advantages, the tower throughout history has provided it is obtaining a better view of the surrounding areas, the users with an advantage in surveying defensive positions and including battlefields. Strategic-use towers can be found at military camps or prisons. Communication enhancement, the simple towers like bell towers, lighthouse and clock towers, used to communicate information over greater than distances for example the Menara Alor Star. Now some towers are in cell phone and radio towers and can use the tower to support bridges (Thomas, 2003).
The contents of the thesis is for internal user only
REFERENCE

Adoption of the Standard. Retrieved from
http://home.earthlink.net/~saahir/themultiyearsafteradoptionofthestandard

Alor Setar Tower. Retrieved August 15, 2009 from


BC/DR Planning and Recovery Efforts. Retrieved from

Benefits Of Web-Based Applications And Microsoft Announcement Of
The "Live" Era. (2005). Retrieved from
http://www.masternewmedia.org/web-based_applications/web-
based_applications_issues/benefits_of_web-

Bennett, S., McRobb, S., & Farmer, R. (2006). Object-oriented systems analysis and

Modeling in Web Applications. ACM Transactions on Software Engineering
and Methodology, Vol. 15, No. 4

Department of Computer Sciences.


of Electronic Commerce. Indianapolis.
http://scholar.google.com/scholar?q=Meanwhile,+ecommerce+car,+define+
d+d+as+a+subset+of+e-business&hl=en&am=1&ie=UTF-8&oi=scholart

Retrieved from http://www.novatech2006-proinvest.org/download/4-
Dan_MALANGA_AFRAA.pps#284,1, E-Ticketing implementation in Africa.


Philips online, white paper Near Field Communication

Release, P. Domain Name Wire. Retrieved


%20From%20B2C%20to%20C2C%20e-commerce.pdf


