

**Web-based Accommodation Reservation System  
for  
Kolej Maybank**

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**Universiti Utara Malaysia**

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**Web-based Accommodation Reservation System  
for  
Kolej Maybank**

**A Thesis submitted to Faculty of Information Technology in partial  
fulfillment of the requirements for the degree Master  
(Information and Communication Technology),  
Universiti Utara Malaysia**

***By***

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**Prof. Dr. Wan Rozaini Sheik Osman**



KOLEJ SASTERA DAN SAINS  
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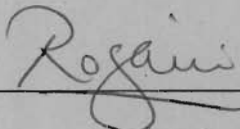
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## ABSTRACT

Accommodation plays a large part in a student life, who has got an offer to study at university; they are concern about their accommodation availability. This paper focuses design of a Web-based accommodation reservation system for Kolej Maybank. The system has been implemented in many educational other institutes especially at university level. This develop system was developed using ASP, object-oriented analysis and UML design. The study shows that the system able to record and deliver precise information at the time to right person from anywhere at any time. It is able to provide more support and information for the staff of Kolej Maybank.

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## LIST OF ABBREVIATIONS

ARPA	Advance Research Projects Agency
WWW	World Wide Web
API	Application Programming Interface
JDBC	Java Database Connectivity
HTTP	HyperText Terminal Protocol
HTML	HyperTextMarkup Language
SQL	Structure Query Language
TAM	Technology Acceptance Model
SDLC	Software Development Life Cycle
OOSAD	Object-oriented System Analysis and Design
CSS	Cascading Style Sheets
UML	Unified modeling Language
OMG	Object Management Group

## CHAPTER ONE

### INTRODUCTION

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

#### 1.1 Background

Web-based or online system is popular as the convenience and cost savings of the web are becoming apparent. Evolving web technology increasingly allows the workforce to make productive use of otherwise idle time.

Accommodation plays a large part in a student life, who may obtain information from the website to assist in making an informed choice about what sort of accommodation that best suit them. A web-based accommodation reservation system is set-up and maintained in real-time by the user from wherever they are on the globe. User can log on to a web page and look in on things that interest them anytime. It is like logging onto to Hotmail or Yahoo and checking e-mail (reservationsbytcs.com).

The contents of  
the thesis is for  
internal user  
only

## REFERENCES

- uum.edu.my (2005). *The University objectives*, retrieved on 20<sup>th</sup> November, 2007 from  
<http://www.uum.edu.my/bi/v2/myuum/index.html>
- Bennett, S., McRobb, S., & Farmer, R. (2006). *Object-oriented systems analysis and design using UML*. London: McGraw-Hill.
- Bahrami, (1999). *Software Usability Model and Product Evaluation*. United Kingdom: Addison Wesley Longman.
- Brathwaite, K.S. (2002). *Object-oriented database design concepts and application San Diego: Academic Press*.
- Colbert, (1993). *The object-oriented approach: concepts, modeling, and system development*. UK: Addison Wesley Longman.
- Colafigi, (2001). *Evaluating Usability of Human Computer Interfaces: A Practical Methods*. UK: Ellies Horwood Ltd Chichester.
- Conallen, J. (2000). *Building web applications with UML*. The Addison-Wesley Object Technology Series.
- Chin, J.P., Norman, K.L., & Shneiderman, B. (1997). *Subjective user evaluation of CF PASCAL programming tools. Technical Report (CAR-TR-304)*. College Park, MD: Human-Computer Interaction, Center for Automation Research, University of Maryland.
- Demong, R. (2003). *UUM web-based computer laboratory reservation system: A prototype*.
- Dickerson, (1999). McConnell, (2000). *Online reservation for the guest and for the lodging company*.
- Gleichauff, C. et. al., (1999). *Copeland reservation- final documentation*. Retrieved from  
<http://misnt2.cob.ohiou.edu/~mis420a02/Team3/Project/view.asp>.

- Hawor, A. (2004). *Case study: User's satisfaction of using mobile reservation technology*, University Utara Malaysia (UUM).
- Hoffer, J.A., George, J.F., & Valacich, J.S. (1999). *Modern Systems Analysis and Design* (2nd Edition). United Kingdom: Addison Wesley Longman.
- Kling, A. (1994). *The economic consequences of the World Wide Web*. Paper presented at the second World Wide Web conference: Mosaic and the web, Geneva, Switzerland.
- Knuth, (2002). *Web is literate programming*. United Kingdom: Addison Wesley Longman.
- Kothari, C.R. (1995). *Research Methodology, Methods and Techniques*. Delhi: Wiley Eastern Limited.
- Konicek, K., Hyzny, L., & Allegra, R. (2003). *Electronic reserves: the promise and challenge to increase accessibility*. *Library Hi Tech*, 21 (1), 102-108.
- Lee, (1990). *Introduction to HTML Language*. Prentice Hall, USA.
- Lee, (2002). *HTML and HTTP*. Prentice Hall, USA.
- McConnell & Rutherford (2006). *Concepts and Definition: Accommodation Reservation System*. Chicago. IL.
- Marshall & Morris (2004). *Online: Land based counterparts*. Chicago. IL.
- Nijaz, B. (2003). *Web-based information access for agile management*. *International Journal of Agile Management System*, 2(2), 121-129.
- Nielsen, J. (1994). *Scenarios in discount usability engineering*. *Envisioning work and Technology*. Book under preparation.
- Nielsen, J., & Landauer, T. (2003). *A mathematical model of the finding of usability problems*. In ACM INTERCHI. Amsterdam, The Netherlands, April. 206-213.
- Norman, D.A. (2000). *The Rise of Weblications: Keynote address presented at the User Experience World Tour*. November 17, 2000, Chicago. IL

- O'Hara, K., Perry, M., & Lewis, S. (2003). *Social coordination around a situated display appliance*. Proceedings of the SIGCHI conference on Human factors in computing systems. Ft. Lauderdale, Florida, USA, ACM Press.
- Rumbaugh, J. et. al., (2002). *Object-oriented modeling and design*. Englewood Cliffs, new Jersey: Prentice Hall.
- Ravden, S., & Johnson, G. (1989). *Evaluating Usability of Human Computer Interfaces: a Practical Methods*. UK: Ellies Horwood Ltd Chichester.
- Ramsay, M., & Nielsen, J. (2000). *WEB Usability*. Retrived 3/9/2007 from <http://www.useit.com/alertbox/20001210.html>.
- Satzinger, J.W. (2004). *The object-oriented approach: Concepts, modeling and system development*. Denvers: boyd & fraser.
- Sodhi, (1991). *Software system development: a gentle introduction*. London: McGraw-Hill.
- Sigala, M., Lockwood, A., & Jones, P. (2001). Strategic implementation and IT: gaining competitive advantage from the hotel reservation process. *International journal of contemporary hospitality management*, 13 (7), 364-371.
- Summerville, (1992). *Software system development: a gentle introduction*. USA: McGraw-Hill.
- [www.uum.edu.my](http://www.uum.edu.my). *The University objectives (2007)*, retrieved on 20<sup>th</sup> November, 2007 from <http://www.uum.edu.my/bi/v2/myuum/index.html>
- Utpal M., Dholakia, L., & Rego, L. (2000). What makes commercial web pages popular?: An empirical investigation of web page effectiveness. *European journal of marketing*, 13 (7), 724-736
- Valacich, J.S., George, J.M., & Hoffer, J.A. (2004). *Essential of system analysis and design*, Prentice Hall, Upper Saddle River, NJ.
- Wood, L. (Ed.). (1998). *User Interface Design*. Boca Raton, FL: CRC Press.



Wilson, (2000); Barth, (2006). Internet hotel reservations: the "terms and conditions" trap.

Whitten, J., Bentley, L., & Dittman, K. (2001). *Systems Analysis and Design Methods*. USA: McGraw- Hill.

Xiao, L., & Dasgupta, S. (2002). *Measurement of User Satisfaction with Web-based Information System: An Empirical Study*. Eighth Americas Conference on Information Systems.

### **Internet References**

www.reservationsbytcs.com. *Web-based (Hosted) and Installed Reservation Systems*, retrieved on 9<sup>th</sup> December, 2007 from

<http://www.reservationsbytcs.com/content/silverpaper.htm>

www.webwizguide.com. Web development knowledge: *What Are Active Server Pages (ASP)?*. Retrieved on 4<sup>th</sup> March, 2008 from

[http://www.webwizguide.com/kb/asp\\_tutorials/what\\_is\\_asp.asp](http://www.webwizguide.com/kb/asp_tutorials/what_is_asp.asp).

www.jessett.com. *Design principles*. Retrieved on 5<sup>th</sup> March 2008, from

[http://www.jessett.com/web\\_sites/design/index.shtml](http://www.jessett.com/web_sites/design/index.shtml)

www.pssuk.com. *Advantages of Web Applications*. Retrieved on 4<sup>th</sup> March 2008, from

<http://www.pssuk.com/advantageswebapplications.htm>

sethgodin.typepad.com. *Web4.0*. Retrieved on 6<sup>th</sup> March 2008, from

[http://sethgodin.typepad.com/seths\\_blog/2007/01/web4.html](http://sethgodin.typepad.com/seths_blog/2007/01/web4.html)

www.walthowe.com. *A brief history of internet*. Retrieved on 6<sup>th</sup> March 2008, from

<http://www.walthowe.com/navnet/history.html>

beavertonoregon.gov. *Room reservation system*. Retrieved on 5<sup>th</sup> January, 2008 from

[https://www.beavertonoregon.gov/secure/booking\\_system/](https://www.beavertonoregon.gov/secure/booking_system/)

www.rnzfb.org.nz. *Students Assessment Systems: Accommodation Study Introduction*.

Retrieve on 28<sup>th</sup> December, 2007

[http://www.rnzfb.org.nz/newsandevents/publications/index\\_html](http://www.rnzfb.org.nz/newsandevents/publications/index_html)

infohost.nmt.edu. *TCC analysis web: Room reservation system analysis*. Retrieved on 6<sup>th</sup>

January, 2008 from

<http://infohost.nmt.edu/tcc/sa/rcal/homepage.html>

reservationsbytcs.com. *Web-based (Hosted) and Installed Reservation Systems*. Retrieved on

9<sup>th</sup> December, 2007 from

<http://www.reservationsbytcs.com/content/silverpaper.htm>

rnzfb.org.nz. *Literature review*. Retrieved on 15<sup>th</sup> December, 2007 from

[http://www.rnzfb.org.nz/newsandevents/publications/index\\_html](http://www.rnzfb.org.nz/newsandevents/publications/index_html)

reserv.net.gr. *Online reservation system*. Retrieved on 5<sup>th</sup> January, 2008 from

[https://www.reserv.net.gr/bookings/resev\\_info.php?](https://www.reserv.net.gr/bookings/resev_info.php?)

Ibm.com. (2007). *Paper Prototype*. Retrieved 25<sup>th</sup> November, 2007 from

[http://www.ibm.com/paper\\_prototype.html](http://www.ibm.com/paper_prototype.html)

sethgodin.typepad.com. *Future technology: WEB4.0*. Retrieved on 18<sup>th</sup> February, 2008 from

<http://www.sethgodin.typepad.com>

## **Interview**

Dr. Shahrudin Bin Hassim, Principle of Kolej Maybank. on 10<sup>th</sup> December, 2007.