

END-USER PREFERENCES FOR SPREADER LAYOUT

SHAHADAN BIN SAAD

UNIVERSITI UTARA MALAYSIA 2011

END-USER PREFERENCES FOR SPREADER LAYOUT

A project submitted to Dean of Postgraduate Studies and Research
in partial
Fulfillment of the Requirement for the Degree
Master of Science of Information Technology
Universiti Utara Malaysia

By
Shahadan Bin Saad



KOLEJ SASTERA DAN SAINS

(College of Arts and Sciences)

PERAKUAN KERJA KERTAS PROJEK

(Certificate of Project Paper)

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

SHAHADAN BIN SAAD
(803367)

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)

END-USER PREFERENCES FOR SPREADER LAYOUT

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) : **DR. SOBIHATUN NUR ABDUL SALAM**

Tandatangan
(Signature) : _____ Tarikh (Date) : _____

Nama Penilai
(Name of Evaluator) : **MR. ROSMADI BAKAR**

Tandatangan
(Signature) : _____ Tarikh (Date) : _____

DEAN OF POSTGRADUATE STUDIES AND RESEARCH
UNIVERSITI UTARA MALAYSIA

PERMISSION TO USE

In presenting this project in partial fulfillment of the requirements for a postgraduate degree from the 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 Postgraduate Studies and Research. It is understood that any copying or publication or use of this project 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 project.

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

Dean of Postgraduate Studies and Research
College of Arts and Sciences
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman
Malaysia

ABSTRACT

Acquiring information about user preferences for forum chat layout can be the key for continuously access of the portal. Forum chat is a chatting technique that commonly uses in social networking website. Using forum chat all users can post their stories in front of body layout of website then other users can comment it. Computer Science Department of UiTM Kedah needs to develop a portal that can give interactive session between Computer Science's Lecturers and their students. From the set of possible behaviour, two different layouts will propose for developing prototype of Computer Science Department Portal which includes online forum chat spot name as Spreader. This research proposed an importance measure that considers which layout most prefer by end-users base on Nielsen's criteria; learnability and user satisfaction. With this information, a new analysis to place Spreader in portal layout successfully performed. This analysis can acts as guideline for applying in any other portal in order to make portal become more interactive than before. The respective results give very important insight regarding end-user preferences and prompt the interactivity of the portal layout.

ACKNOWLEDGEMENTS

In the name of ALLAH, who is the Most Gracious, Most Merciful and HIM alone is worthy of all praise. To HIM all praise go and to HIM all the thankfulness of giving me the opportunity to live day in and day out. For my parent and my family especially my mother and my wife whose support me to finish up what I have started, thank you very much.

It is with great honor to have the opportunity to express my highest gratitude towards to my supervisor, Dr. Sobihatun Nur Abdul Salam for giving me the encouragement and mostly support throughout the duration of this study. All the hours spent in lessons were highly remembered as experiences to guide more for my future. Without the expertise from him, this study would not be successful as I hoped it will be.

With no exception, thanks goes to Mr. Shamsul Jamel Bin Elias who giving me a time and space to finish the project according to the time constraint. He as chief coordinator of Computer Science Department UiTM Kedah also give me advice and confident to do the project and give me a chance to develop Computer Science Department Portal prototype.

A lot of thanks also to my fellow friends who are involved directly or indirectly in this project who shared and discuss expertise and experience with me. Most of their opinions and suggestions are valuable to me in order to enhance my project quality. They are including my MSc study fellow Mr. Mohd Latifi Abdul Ghani, Mr. Luthfi Mohd Radzi and Noor Azuan Nazir.

Finally, for anyone who has helped me in finishing this study, thank you very much and may Allah bless you.

TABLE OF CONTENTS

Permission to Use	i
Abstract.....	ii
Acknowledgements	iii
Table of Contents	iv
List of Figures.....	vii
List of Tables.....	ix
List of Abbreviations	x
CHAPTER 1 INTRODUCTION.....	Error! Bookmark not defined.
1.1 Problem Statement.....	6
1.2 Research Question	8
1.3 Objective.....	8
1.4 Scope.....	9
1.5 Research Outcomes.....	9
1.6 Significance	10
1.6.1 Students	10
1.6.2 Lecturers	10
1.6.3 Portal Developer	11
1.7 Organization of the Thesis.....	11
CHAPTER 2 LITERATURE REVIEW	13
2.1 End-User	13

2.2	User Preferences Study	14
2.2.1	Usability	14
2.3	Spreader	15
2.3.1	Forum Chat	16
2.3.1.1	Wall in Facebook	17
2.4	Portal Layout.....	18
2.4.1	Physical Structure	18
2.4.1.1	Multiple Windows	19
2.4.1.2	Tiled Panes.....	19
2.4.1.3	One-Window Paging.....	20
2.5	Similarities of the Studies	21
2.5.1	Acquiring Knowledge about User’s Preferences in a Website	21
2.5.2	Understanding the Web Page Layout	21
2.6	Chapter Summary	22
CHAPTER 3 METHODOLOGY		23
3.1	Software Prototyping	23
3.1.1	Software Prototype	24
3.1.2	Prototype Paradigm	24
3.1.3	Prototyping Process	25
3.1.3.1	Phase 1: Identify Basic Requirement.....	26
3.1.3.2	Phase 2: Develop Initial Prototype	27
3.1.3.3	Phase 3: Review.....	28
3.1.3.4	Phase 4: Revise and Enhance Prototype	28

3.2	Data Collection and Analysis	28
3.2.1	Questionnaire.....	29
3.3	Chapter Summary	30
CHAPTER 4 RESULT AND ANALYSIS.....		31
4.1	Computer Science Department Portal Prototype	31
4.2	Spreader Prototype.....	32
4.2.1	Spreader on Tiled Panes Layout as Design 1	34
4.2.2	Spreader on One Window Paging Layout as Design 2	35
4.3	Data analysis	36
4.3.1	Descriptive Statistical Analysis	37
4.3.2	Graph Analysis	40
4.3.2.1	Learnability	41
4.3.2.2	Ease of Use	45
4.4	Chapter Summary	49
CHAPTER 5 CONCLUSION		50
5.1	Conclusion of the Study.....	50
5.2	Limitation.....	51
5.3	Recommendation and Future Work.....	51
References		52
Appendices		55

LIST OF FIGURES

Figure 1: Screenshot Wall Application on Facebook Website.....	2
Figure 2: Screenshot Tweets on Twitter Website.....	2
Figure 3: Screenshot Status & Mood on MySpace Website.	2
Figure 4: One-window Paging.....	3
Figure 5: Tiled Panes.....	4
Figure 6: Physical Structure Designs.	18
Figure 7: Process of Prototype Paradigm as referred from Pressman (2001).	25
Figure 8: Software Prototyping Process as referred from Pressman (2001).	26
Figure 9: Portal Prototype with Basic User Login.	31
Figure 10: Portal Prototype with Logout Feature.....	32
Figure 11: Story on Spreader.....	32
Figure 12: Announcement on Spreader.....	33
Figure 13: Displaying Spreader.....	33
Figure 14: Comment Activities in Spreader.....	34
Figure 15: Spreader on Tiled Panes Layout as Design 1.....	35
Figure 16: Spreader on One-window Paging Layout as Design 2.	36
Figure 17: It is Easy to Use the Spreader.	41
Figure 18: Exploring New Features by Trial and Error is Difficult to Me.....	41
Figure 19: Remembering Names and Use of Command is Easy.	42
Figure 20: Performing Task is Never Straightforward.....	43
Figure 21: Help Messages on the Screen is Helpful.....	43
Figure 22: Supplemental Reference Materials are Confusing.....	44
Figure 23: Learning to Operate the Spreader is Easy for Me.....	45

Figure 24: I Find it Easy to Get the Spreader to Do What I Want to Tell in the Portal.	46
Figure 25: My Interaction with the Spreader is Clear and Understandable.	46
Figure 26: I Find the Spreader to be Flexible to Interact.	47
Figure 27: It is Easy for Me to Become Skillful at Using the Spreader.	48
Figure 28: I Find the Spreader is User-Friendly and Easy to Me.....	48

LIST OF TABLES

Table 1: Online Social Networking Layout Comparison.....	4
Table 2: Percentage of Learnability on Using Spreader.....	37
Table 3: Percentage of Ease of Use Spreader.....	38

LIST OF ABBREVIATIONS

UiTM	Universiti Teknologi MARA
PUEU	Perceive Usefulness and Ease of Use

[This Page Intentionally Left Blank]

CHAPTER 1

INTRODUCTION

In June 2006, Universiti Teknologi MARA (UiTM) Kedah campus received the first batch of students of Diploma in Computer Science. During that time, Computer Science students and lecturers were under the Department of Information Technology and Quantitative Science. Two years later on July 2008, Department of Computer Science was split from previous department and effectively started its operation during July – November 2008 semester.

Chief coordinator is responsible for all lecturers and students in Computer Science Department. His role is to provide information to all lecturers and students. Chief coordinator also announces news and department agenda from time to time. The Department wanted to have some effective web based system in distributing information and announcement from chief coordinator. Computer Science Department until now only has a static website that design by programmer of UiTM Information Technology (IT) Unit.

In order to make interactivity becomes successful in website, one chatting or forum feature successfully designed in this project. The brand new forum layout is called a Spreader. This idea adapted from other forum chat such as Wall for Facebook (Figure 1), Tweets for Twitter (Figure 2) and Status & Mood for MySpace (Figure 3).

The contents of
the thesis is for
internal user
only

REFERENCES

- Barnum, C. (2002). *Usability Testing and Research*. New York: Longman.
- Davis, F. (1989). *Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology*. Retrieved August 2010, from MIS Quarterly: <http://www.cba.hawaii.edu/chismar/ITM704/Davis-TAM1989.pdf>
- Facebook Members Board. (2011). *Press Room*. Retrieved February 1, 2011, from Facebook: <http://www.facebook.com/press/info.php?factsheet>
- Faulkner, C. (1998). *The Essence of Human-Computer Interaction*. United State of America: Prentice Hall.
- Fernando Lyardet, G. R. (2001). Web Usability Patterns. In J. E. Schwanninger, *Proceedings of EuroPLoP 2001* (pp. 322-326). Irsee, Germany: UVK Universitätsverlag Konstanz.
- Goldman, J. (2009). *Facebook Cookbook*. Sebastopol: O'Reilly Media Inc.
- Gunter, S. K. (2009). *Sams Teach Yourself Facebook in 10 Minutes*. United States of America: Pearson Education Inc.
- He, J. Y. (2008). An Adaptive User Interface Generation Framework for Web Services. *Congress on Services Part II* (pp. 175-182). Beijing: IEEE Xplore Digital Library.
- Krishnamurthy, N., & Saran, A. (2008). *Building Software: A Practitioner's Guide*. New York: Auerbach Publications.

- Kuroneko. (2010). *Super Junior Twitter Layout 2*. Retrieved June 30, 2011, from Devianart: <http://crazy-kuroneko.deviantart.com/art/Super-Junior-Twitter-Layout-2-162135920>
- Kuter, U., & Yilmaz, C. (2001, November 2). *Survey Methods: Questionnaires and Interviews*. Retrieved 11 11, 2010, from Choosing Human-Computer Interaction (HCI) Appropriate Research Method: <http://otal.umd.edu/hci-rm/survey.html>
- Langer, A. M. (2008). *Analysis and Design of Information System*. New York: Springer.
- Maver, J., & Popp, C. (2010). *Essential Facebook Development*. Boston: Pearson Education Inc.
- Olivarez-Giles, N. (2011, 11 28). *Facebook's IPO: Could it come in the first half of 2012?* Retrieved 12 01, 2011, from Lost Angeles Times Blog: <http://latimesblogs.latimes.com/.m/technology/2011/11/facebooks-ipo-could-it-come-early-2012.html>
- Pressman, R. S. (2001). *Software Engineering A Praticioner's Approach*. New York: McGraw-Hill.
- Sachoff, M. (2011, July 24). *MySpace Rolling Out New Profile Pages*. Retrieved August 1, 2011, from Bisnis Pulsa : <http://dutaabadi.com/news/myspace-rolling-out-new-profile-pages.html/>
- Shelly, G. B., & Vermat, M. E. (2011). *Discovering Computers Fundamentals*. Boston: Course Technology.

- Shelly, G. B., Cashman, T. J., & Rosenblatt, H. J. (2008). *Systems Analysis And Design*. Boston: Thomson Course Technology.
- Steel, E. (2011, September 19). *Myspace Scales Back Coming-Out Party*. Retrieved November 30, 2011, from The Wall Street Journal: <http://online.wsj.com/article/SB10001424053111904106704576579263962636624.html>
- Tidwell, J. (2005). *Designing Interfaces*. Sebastopol: O'Reilly.
- Velasquez, J. D. (2003). Acquiring Knowledge About User's Preferences in a Website. *Information Technology: Research and Education* , 375-379.
- Wagner, R. (2008). *Building Facebook Application for Dummies*. Hoboken: Wiley Publishing Inc.
- Watson, J. (2001). *How to Determine a Sample Size: Tipsheet #60*. Retrieved November 11, 10, from University Park, PA: Penn State Cooperative Extension: <http://extension.psu.edu/evaluation/pdf/TS60.pdf>
- Your world, more connected*. (2011, August 01). Retrieved November 2011, 2011, from Twitter Blog: <http://blog.twitter.com/2011/08/your-world-more-connected.html>
- Zhou, M. L. (2006). Understanding the Web Page Layout. *Data Mining Workshop 2006* (pp. 438-442). Hong Kong: IEEE Xplore Digital Library.