

FORM DESIGN IN WEB APPLICATION USING THE THREE-LAYER MODEL (TLM): A CHECKLIST DEVELOPMENT

A dissertation submitted to the Faculty of Information Technology in partial of
fulfillment of the requirements for the degree
Master of Science (Information Technology)
Universiti Utara Malaysia

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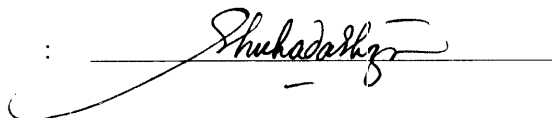
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ABSTRAK

Objektif pengguna melayari halaman web secara umumnya, adalah untuk mencapai maklumat manakala pengguna aplikasi web, mempunyai objektif tertentu iaitu untuk menyempurnakan tugas dengan jayanya. Walaupun begitu, sesetengah permohonan pekerjaan secara online tidak memenuhi reka bentuk berorientasikan tugas dan ini menyebabkan pengguna berasa kecewa. Justeru itu, untuk mengurangkan kekecewaan dan menyediakan garis panduan, senarai semak untuk mereka bentuk borang dibangunkan. Jadi, kajian ke atas borang web semasa, di antara pembangun-pembangun Malaysia dilaksanakan. Empat langkah di dalam metodologi dilaksanakan iaitu: memahami konsep Model Tiga-Lapisan (MTL), membangunkan senarai semak berdasarkan kepada garis panduan, kumpul dan kenalpasti borang web di Malaysia dan akhir sekali mengesahkan senarai semak dan membandingkan borang yang dikumpul dengan Model Tiga-Lapisan. Untuk mengesahkan senarai semak tersebut, 15 responden diminta menjalankan tiga set tugas: pra-ujian, ujian-selepas dan membandingkan dengan tiga borang yang telah dipilih. Keputusan mengandaikan, pelajar mereka bentuk borang web yang lebih baik selepas mempelajari MTL dan ini menyarankan bahawa senarai semak menyediakan garis panduan di dalam mereka bentuk halaman web yang lebih baik. Keputusan juga menunjukkan borang semasa yang direka bentuk oleh pereka Malaysia tidak memenuhi reka bentuk yang berasaskan tugas.

ABSTRACT

The objectives of end users visiting web site are generally for information retrieval whereas for web application, users have specific goals, which are to complete tasks successfully. Nevertheless, some online job applications do not meet task-based orientation design and this resulted in users' frustration. Therefore, for the purpose of reducing the frustration and providing guidelines, a form design checklist was developed. In addition, an investigation of the current state of web form design among Malaysian developers was also conducted. A four-step methodology was followed; understand Three-Layer Model (TLM) concept, develop checklist based on guidelines, collect and identify existing Malaysian web forms, and finally, validate checklist and compare the collected web forms with the Three-Layer Model. In validating the checklist, 15 respondents performed three sets of tasks: pre-test, post-test and comparing three pre-selected online forms. Findings indicated that students designed better web forms after learning about the TLM and this suggests that the checklist provided guidance in designing better web form. Results also pointed out that the current state of web forms designed by Malaysian does not meet task-based orientation design.

ACKNOWLEDGEMENTS

The ideas and insights in this report have been greatly enriched by a number of suggestions and it is a pleasure to acknowledge the following whom had contributed in completing this thesis.

I am deeply indebted to Assoc. Prof. Dr. Norshuhada Shiratuddin for her generous guidance and advice throughout this thesis. Her ideas, suggestions and constructive comments were very precious to me.

My deepest thanks go to Caroline Jarrett, who coined the model and was willing to share her knowledge and support in making this report possible.

I am immensely grateful to all the respondents who had willingly participated in this study. Their contribution and cooperation were very much appreciated.

My special thanks go to the evaluators for their helpful comments and suggestions.

To all my friends, I wish to express my warm thanks for their moral support and for being true friends.

The final acknowledgement is devoted to everyone in my family especially my husband for the inspiration, patient and love and also my mum for the endless support, and encouragement and lastly but not least, to my two lovely kids; Farah and Aqil, for the love.

TABLE OF CONTENTS

	Page
PERMISSION TO USE	i
ABSTRAK	ii
ABSTRACT	iii
ACKNOWLEDGEMENTS	iv
TABLE OF CONTENTS	v
LIST OF TABLES	vii
LIST OF FIGURES	viii
LIST OF APPENDICES	ix
LIST OF ABBREVIATIONS	x
CHAPTER 1: INTRODUCTION	
1.1 The context of the study	1
1.2 Problem Statement	2
1.3 Research Question	4
1.4 Research Objectives	4
1.5 Significance of study	4
1.6 Report Structure	4
CHAPTER 2: LITERATURE REVIEW	
2.1 Introduction	6
2.2 Human Computer Interaction (HCI)	6
2.3 Definition of form	7
2.4 Purpose of form	7
2.5 Form design evolution	8
2.6 Definition of guidelines	9
2.7 Existing guidelines to form design	9
2.7.1 Relationship Layer	10
2.7.2 Conversational Layer	11
2.7.3 Perceptual Layer	12
2.8 Designing form for non-Web vs. Web vs. Web application	16
2.9 Research tool	17
2.10 Good form design vs. Bad form design	18
2.11 Implications of all sub-sections on research	18
2.12 Conclusion	19
CHAPTER 3: METHODOLOGY	
3.1 Introduction	20
3.2 Three-Layer concept understanding	22
3.2.1 Articles	22

3.2.2	Internet	22
3.2.3	Emails	22
3.2.4	Journal	22
3.2.5	Conference Proceedings	23
3.3	Develop checklist based on guidelines	23
3.3.1	Understand the TLM guidelines	23
3.3.2	Identify Criteria	24
3.3.3	The Form Design Checklist Components	24
3.4	Collect and identify existing web forms	25
3.5	Validate checklist	26
3.5.1	Pre-test	26
3.5.2	Post-test	27
3.5.3	Compare with the Three-Layer Model	28
3.6	Conclusion	30
CHAPTER 4: CHECKLIST DEVELOPMENT		
4.1	Introduction	31
4.2	TLM Guidelines	31
4.2.1	Relationship	33
4.2.2	Conversational	34
4.2.3	Perceptual	35
4.3	Identify criteria	36
4.4	The Form Design Checklist Components	39
4.5	Conclusion	46
CHAPTER 5: CURRENT MALAYSIAN WEB FORM DESIGN		
5.1	Introduction	47
5.2	Pre-test	47
5.3	Post-test	49
5.4	Comparison of the Pre-test and Post-test Results	50
5.5	Comparison on OUM, JobStreet and SPA forms	52
5.6	Conclusion	54
CHAPTER 6: CONCLUSION AND RECOMMENDATION		
6.1	Introduction	56
6.2	Problems	56
6.3	Discussion and Recommendations	56
6.4	Conclusion	57
REFERENCES		59
APPENDICES		63

LIST OF TABLES

Table 4.1 :	TLM guidelines	31
Table 4.2 :	Identify criteria	37
Table 4.3 :	TLM form design checklist	40
Table 5.1 :	Points accumulated during Pre-test	48
Table 5.2 :	Points accumulated during Post-test	49
Table 5.3 :	Comparison of the Pre-test and Post-test	51
Table 5.4 :	Comparison results between OUM, JobStreet and SPA forms	53

LIST OF FIGURES

Figure 2.1 :	The Three-Layer Concept	10
Figure 2.2 :	Form that provides specific space for answers	12
Figure 2.3 :	Form that does not provide specific space for answer	12
Figure 2.4 :	Example of a form	13
Figure 2.5 :	Section from a typical government job application form	14
Figure 2.6 :	Boxes moved to align to a grid	14
Figure 2.7 :	The form designed to a grid, without gridlines	14
Figure 2.8 :	LoanBright form	15
Figure 3.1 :	Research methodology	21
Figure 3.2 :	OUM online job application form	28
Figure 3.3 :	JobStreet online job application form	29
Figure 3.4 :	SPA online job application form	29
Figure 5.1 :	Graph showing the Pre-test result	48
Figure 5.2 :	Graph showing the Post-test result	50
Figure 5.3 :	Graph shows the comparison between Pre-test and Post-test results	51
Figure 5.4 :	Graph showing result comparison between OUM, JobStreet and SPA forms	54

LIST OF APPENDICES

APPENDIX A : Example of a good form design : State of Tennessee Employment Application	63
APPENDIX B : Example of a bad form design : Undergraduate Admission For Aurora Campus	65
APPENDIX C : Task List	67
APPENDIX D : Questionnaire : Participant background	68
APPENDIX E : Form design checklist components : Pre-test checklist	70
APPENDIX F : TLM form design checklist : Comparison of OUM, JobStreet and SPA forms	75

LIST OF ABBREVIATIONS

CHI	Computer-Human Interaction
EPU	Economic Planning Unit
GUI	Graphical User Interface
HCI	Human Computer Interaction
HTML	HyperText Markup Language
OUM	Open University Malaysia
SPA	Suruhanjaya Perkhidmatan Awam malaysia
TLM	Three-Layer Model
WED	Work Enforcement Department
XML	Extensible Markup Language

CHAPTER 1

INTRODUCTION

1.1 The context of the study

Today, the evolution of information access through the Internet is changing the way people live. In actual fact, the introduction of World Wide Web enables people of all ages to use the computer as the service agent to fulfill their information needs. In addition, the emergence of the wireless technology and easier global networking access is a credit to web application.

Web-based applications are becoming the essential information sources to many people from all walks of life. According to Baxley (2003), web applications are different from traditional content-centric web sites because they focus on the application part and the primary purpose of all web applications is to facilitate the completion of one or more tasks. Unlike traditional and content-centric web sites, users of web applications have set their specific goals, tasks and expectations.

Web applications with task-based orientation must ensure that they are capable of calling attention to themselves and completing the tasks. They have also provided users with diversity of objectives and goals and acknowledge users of the task completion. Baxley (2003) dictates that “Web application contains a one-to-one relationship that allows users to establish unique session and relationship with the application”. It requires users to exclusively identify themselves, normally through the identification such as username, password or personalized content. In contrast, content-based web sites or desktop

The contents of
the thesis is for
internal user
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