

# **Investigating a Design Pattern to Support Personalized Human Computer Interaction**

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# **Certificate of Authorship / Originality**

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree. I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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# Contents

<b>ABSTRACT</b> .....	I
<b>TABLE OF CONTENTS</b> .....	II
<b>ACKNOWLEDGEMENTS</b> .....	V
<b>LIST OF FIGURES</b> .....	VI
<b>LIST OF TABLES</b> .....	VII
<b>1 CHAPTER ONE INTRODUCTION</b> .....	1
1.1 INTRODUCTION TO THE RESEARCH .....	1
1.2 MOTIVATION FOR THE RESEARCH .....	5
1.3 RESEARCH AIMS .....	6
1.4 OBJECTIVES .....	6
1.5 RESEARCH QUESTIONS .....	6
1.6 EXPECTED OUTCOMES .....	7
1.7 SIGNIFICANCE .....	7
1.8 CONTRIBUTIONS .....	8
1.9 THESIS STRUCTURE .....	8
<b>2 CHAPTER TWO LITERATURE REVIEW</b> .....	11
2.1 EFFECTIVE HUMAN INTERACTION .....	11
2.2 INTERPERSONAL COMMUNICATION AND ITS FOUNDATIONS OF CONSTRUCTION .....	13
2.2.1 LANGUAGE IN HUMAN CONVERSATION .....	15
2.2.2 COMMON GROUND OF INTERACTION .....	17
2.3 HUMAN COMPUTER INTERACTION .....	19
2.3.1 DESIGN METHOD FOR HUMAN COMPUTER INTERACTION .....	21
2.3.2 EXPERIENCE OF HUMAN COMPUTER INTERACTION .....	29
2.3.2.1 FLUENT INTERACTION AND EXPERIENCE .....	30
2.3.2.2 COGNITIVE INTERACTION AND EXPERIENCE .....	31
2.3.2.3 EXPRESSIVE INTERACTION AND EXPERIENCE .....	34
2.4 HUMAN COMPUTER INTERACTION AND LANGUAGE APPLICATION .....	36
2.4.1 PROGRAMMING LANGUAGE .....	38
2.4.1.1 UTTERANCE OF USING PROGRAMMING LANGUAGE .....	39
2.4.1.2 GENRE OF PROGRAMMING LANGUAGE .....	42
2.4.2 HCI PATTERN LANGUAGE .....	43
2.4.2.1 UTTERANCE OF USING PATTERN LANGUAGE .....	47
2.4.2.2 GENRE OF PATTERN LANGUAGE .....	50
2.5 PROBLEM OF HCI DESIGN .....	51
2.5.1 INTERACTION DESIGN PROBLEM .....	53
2.5.1.1 TYPE OF INTERACTION .....	55

2.5.1.2 EXPERIENCE OF INTERACTION.....	56
2.5.2 LANGUAGE PROBLEM .....	58
2.6 FINDINGS OF LITERATURE REVIEW .....	60
2.6 .1 PERSONALIZING HUMAN COMPUTER INTERACTION .....	60
2.6 .2 USER-ORIENTED INTERACTION LANGUAGE.....	61
2.7 CHAPTER SUMMARY .....	61
<b>3 CHAPTER THREE: METHODOLOGY .....</b>	<b>63</b>
3.1 METHODOLOGICAL APPROACH .....	63
3.2 RESEARCH METHOD .....	67
3.2.1 USABILITY TESTING.....	67
3.3 CRITERIA OF USABILITY TESTING.....	69
3.4 DATA GATHERING METHODS .....	69
3.4.1 DATA GATHERING: OBSERVATION.....	70
3.4.1.1 USER TESTING PERFORMANCE .....	71
3.4.2 DATA GATHERING: INTERVIEWS.....	71
3.4.3 QUESTIONNAIRE .....	73
3.5 DATA ANALYSIS METHODS.....	76
3.5.1 CODING.....	77
3.5.2 ANALYTICAL MEMOS .....	77
3.5.3 CONTEXTUAL AND NARRATIVE ANALYSIS .....	78
3.6 RESEARCH CONTEXT AND ENVIRONMENT .....	79
3.7 CHAPTER SUMMARY.....	81
<b>4 CHAPTER THREE: INTERACTION LANGAUGE DESIGN PATTERN .....</b>	<b>82</b>
4.1 INTRODUCTION.....	82
4.2 BACKGROUND AND MOTIVATION .....	86
4.3 INTERACTION LANGUAGE DESIGN PATTERN .....	91
4.3.1DEFINING DOMAIN SPECIFIC INTERACTION CONCEPT .....	91
4.3.2 BUILDING DOMAIN SPECIFIC INTERACTION LANGUAGE .....	96
4.3.2.1 DOMAIN SPECIFIC INTERACTION VOCABULARY .....	106
4.3.2.2 DOMAIN SPECIFIC INTERACTION SYNTAX.....	110
4.3.2.2.1 OBJECT-CENTRED INTERACTION SYNTAX.....	112
4.3.2.2.2 EXPERIENCE-ORIENTED INTERACTION SYNTAX .....	116
4.3.2.3 REALIZE USER’S INTERACTION MEANING .....	124
4.4 OUTCOME OF USING DOMAIN SPECIFIC INTERACTION LANGUAGE .....	131
4.4.1 SEMANTIC INTERFACE .....	131
4.4.2 PERSONALIZED INTERACTION .....	132
4.5 CHAPTER SUMMERY .....	134
<b>5 CHAPTER FIVE: PROTOTYPE STUDIES .....</b>	<b>137</b>
5.1 RATIONAL .....	137

5.2 RESEARCH AIMS AND QUESTIONS.....	138
5.3 METHOD .....	138
5.3.1 BUILDING PAPER PROTOTYPE OF DOMAIN SPECIFIC INTERACTION LANGUAGE .....	139
5.3.1.1 ESTABLISHING INTERACTION CONCEPT .....	139
5.3.1.2 BUILDING DOMAIN SPECIFIC INTERACTION LANGUAGE .....	139
5.3.1.2.1 DOMAIN SPECIFIC INTERACTION LANGUAGE PRODUCTION.....	140
5.3.1.2.2 DOMAIN SPECIFIC INTERACTION LANGUAGE PERCEPTION .....	144
5.3.1.2.3 DOMAIN SPECIFIC INTERACTION LANGUAGE PRAGMATIC.....	144
5.3.2 ADAPTING THE DRAWING SYSTEM TO MATCH A USER'S INTERACTION.....	145
5.3.2.1 SEMANTIC INTERFACE.....	146
5.3.2.2 PERSONALIZED INTERACTION.....	148
5.4 PAPER PROTOTYPE STUDY DESIGN.....	149
5.4.1 PARTICIPANT .....	149
5.4.2 MATERIALS.....	149
5.4.2.1 QUESTIONNAIRE.....	149
5.4.2.2 PAPER PROTOTYPE .....	150
5.4.2.3 TASKS .....	153
5.5 USABILITY STUDY .....	153
5.5.1 PROCEDURE.....	153
5.5.2 DATA PREPARATION AND CODING .....	154
5.5.3 RESPONSES .....	162
5.5.4 USER PROBLEMS .....	163
5.6 RESULTS.....	163
5.7 CHAPTER SUMMARY.....	164
<b>6 CHPATER SIX: USER EXPERIENCE STUDIES .....</b>	<b>165</b>
6.1 RATIONAL.....	165
6.2 RESEARCH AIMS AND QUESTIONS .....	165
6.3 METHOD.....	166
6.3.1 HI-FI PROTOTYPE STUDY DESIGN.....	166
6.3.2 PARTICIPANT .....	167
6.3.3 MATERIAL .....	167
6.3.3.1 PHOTOSHOP CS5.....	167
6.3.3.2 HI-FI PROTOTYPE OF DOMAIN SPECIFIC INTERACTION LANGUAGE FOR DRAWING SYSTEM .....	168
6.3.3.2.1 DOMAIN SPECIFIC INTERACTION LANGUAGE PRODUCTION .....	168
6.3.3.2.2 INTERACTION LANGUAGE PRAGMATIC PATTERN .....	169
6.3.3.2.3 USER SATISFACTION QUESTIONNAIRE .....	173

6.3.4 TASKS.....	173
6.3.5 USER EXPERIENCE STUDY .....	174
6.3.5.1 PROCEDURE.....	174
6.3.5.2 DATA ANALYSIS .....	175
6.3.5.2.1 OBSERVING.....	175
6.3.5.2.2 USER TESTING .....	175
6.3.5.2.3 USER SATISFACTION QUESTIONNAIRE STUDY .....	179
6.3.6 DISCUSSION .....	185
6.4 RESULTS.....	186
6.5 CHAPTER SUMMARY.....	187
<b>7 CHPATER SEVEN: CONCLUSION .....</b>	<b>189</b>
7.1 OVERVIEW.....	189
7.2 CONTRIBUTIONS .....	191
7.3 APPLICATION .....	192
7.4 FUTURE WORK .....	193
7.5 CHAPTER SUMMARY .....	194
<b>REFERENCE .....</b>	<b>195</b>
<b>GLOSSARY .....</b>	<b>204</b>
<b>APPENDIX A CONSENT FORMS .....</b>	<b>205</b>
<b>APPENDIX B QUESTION FOR INTERVIEW .....</b>	<b>207</b>
<b>APPENDIX C QUESTIONNAIRE .....</b>	<b>208</b>
<b>APPENDIX D INTERACTION LANGUAGE DESIGN PATTERN APPLICATION GUIDLINE .....</b>	<b>216</b>
<b>APPENDIX E SELECTED USER STUDY .....</b>	<b>233</b>
<b>APPENDIX F PUBLISHING .....</b>	<b>254</b>

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# List of Figures

Figure 2. 1 Flowchart of interactive semantic images (Zhuge, 2010) .....	18
Figure 2. 2 An example of interaction perspective model (Monk and Dix) .....	27
Figure 2. 3 Screenshot of programming language usage-Java .....	39
Figure 2. 4 An example of Graphic User Interface (GUI) .....	40
Figure 2. 5 An interaction structure of a user operate a system through GUI .....	41
Figure 2. 6 Gaps of Human Computer Interaction.....	52
Figure 2. 7 CUM model (Thuring and Mahlke, 2007) 262.....	53
Figure 4. 1 Design architecture for building personalized interaction based on Interaction Language Design Pattern .....	92
Figure 4. 2 The structure of linguistic translation from the designer's concept to concrete interactive artefact .....	101
Figure 4. 3 The process of linguistic translation from the user's concept to the interactive artefact.....	103
Figure 4. 4 Vocabulary of interaction.....	106
Figure 4. 5 Translating interaction concept to interactive artefact in different levels.....	109
Figure 4. 6 Layers of Instrumental interface of iPhone .....	115
Figure 4. 7 A set of instrumental interactions designed for operating iPhone <a href="http://www.lukew.com/ff/entry.asp?1071">http://www.lukew.com/ff/entry.asp?1071</a> .....	116
Figure 4. 8 Architecture of building user interface focusing on user experience ( <a href="http://uxdesign.com/ux-defined">http://uxdesign.com/ux-defined</a> ).....	118
Figure 4. 9 Interface of Photoshop ( <a href="http://tanhands.blogspot.com.au/2010/02/real-life-photoshop.html">http://tanhands.blogspot.com.au/2010/02/real-life-photoshop.html</a> ) .....	122
Figure 4. 10 Structure of specific interaction for operating Photoshop ( <a href="http://www.lonerobot.com/images/Photoshop/psclasses.jpg">http://www.lonerobot.com/images/Photoshop/psclasses.jpg</a> ) .....	123
Figure 4. 11 Procedure of building personalized human computer interaction .....	125
Figure 4. 12 Workflow of mutual interaction between human and computer .....	126



Figure 4. 13 Procedure of constructing semantic interface.....	132
Figure 5. 1 Interface layout of the paper prototype of drawing system .....	142
Figure 5. 2 Interaction architecture of completing a drawing task .....	142
Figure 5. 3 Terminology of components for tool panel of Photoshop .....	143
Figure 5. 4 Using interaction vocabulary to express interactive meaning.....	145
Figure 5. 5 Text-based interaction .....	146
Figure 5. 6 Semantic interface generated from the text-based interaction.....	147
Figure 5. 7 Paper prototype 1 .....	150
Figure 5. 8 Paper prototype 2 .....	151
Figure 5. 9 Paper prototype 3 .....	151
Figure 5. 10 Paper prototype 4 .....	152
Figure 5. 11 Paper prototype 5 .....	152
Figure 5. 12 Paper prototype 6 .....	153
Figure 6. 1 Interface of Photoshop CS5 .....	168
Figure 6. 2 Screenshot of the new drawing system Hi-Fi prototype .....	169
Figure 6. 3 User specified drawing interface through text-based interaction.....	170
Figure 6. 4 Semantic interface generated based on user's need.....	171
Figure 6. 5 A user personal interaction pattern.....	172
Figure 6. 6 Generating user interaction pattern language through language pragmatic.....	173

# List of Tables

Table 2.1 Summary of a framework of user experience as it relates to the human computer interaction (Forlizzi and Ford, 2000) .....	30
Table 2.2 Instrumental interactions, and users' corresponding experience .....	31
Table 2.3 Cognitive interactions, and users' corresponding experience .....	33
Table 2.4 Expressive interactions, and user's corresponding experience .....	35
Table 2.5 Levels of HCI .....	56
Table 3. 1 User satisfaction questionnaire for human computer interaction .....	75
Table 4. 1 Tow ways to specific interaction concept .....	94
Table 4. 2 Forms of expressing interaction language concept .....	95
Table 4. 3 Structure of the interaction domain specific language .....	108
Table 4. 4 Interface design pattern language of fat menu created by Tidwell, Jenifer ( <a href="http://designinginterfaces.com/patterns/fat-menus/">http://designinginterfaces.com/patterns/fat-menus/</a> ) .....	120
Table 4. 5 Domain specific interaction language pragmatics .....	127
Table 5. 1 Questionnaire used in the paper prototype study .....	150
Figure 5. 7 Paper prototype 1 .....	150
Figure 5. 8 Paper prototype 2 .....	151
Figure 5. 9 Paper prototype 3 .....	151
Figure 5. 10 Paper prototype 4 .....	152
Figure 5. 11 Paper prototype 5 .....	152
Figure 5. 12 Paper prototype 6 .....	153
Table 5. 2 Comments of question one for paper prototype study .....	155
Table 5. 3 Comments of question two for paper prototype study .....	155
Table 5. 4 Comments of question three for paper prototype study .....	156
Table 5. 5 Comments of question four for paper prototype study .....	157
Table 5. 6 Comments of question five for paper prototype study .....	158

Table 5. 7 Comments of question six for paper prototype study .....	159
Table 5. 8 Comments of question seven for paper prototype study .....	159
Table 5. 9 Comments of question eight for paper prototype study .....	160
Table 5. 10 Comments of question nine for paper prototype study .....	161
Table 5. 11 Comments of question ten for paper prototype study .....	162
Table 6. 1 Results of user test using Photoshop CS5 .....	177
Table 6. 2 Results of user testing using Hi-Fi prototype .....	179
Table 6. 3 The result of usability experience of using Photoshop CS5 and Hi-Fi prototype .	181
Table 6. 4 Results of cognitive experience of using Photoshop CS5 and Hi-Fi prototype ....	183
Table 6. 5 Results of emotional exprience of using Photoshop CS5 and Hi-Fi prototype ....	185

# Abstract

For many interaction designers, human-computer interaction is a kind of human communication, in which the computer acts as an agent of the designer. When successful, users can communicate with the computer in an effective way. To this end, interaction design is really about how to support the way people communicate and interact in their everyday and working lives. A key challenge for human computer interaction design is to support a natural and intuitive interaction between the user and computer.

In this thesis, we propose an interaction design method: Interaction Language Design Pattern (ILDLP) which focuses on allowing users to personalize their interaction. Different to existing interaction design methods, which aim to provide a designed interaction model, the ILDP centers on forming an effective way of customizing interactions - producing an interaction language to do so.

In order to create this interaction language to support effective interactions between human and computer, the key components and basic structure of language are discussed. The application of the interaction language is described by giving a comprehensive design guide. The quality of the human computer interactions is evaluated using two prototype studies. The first, paper prototype, study focuses on usability testing. The second, Hi-Fi prototype is created for a user experience study. According to the result of evaluation, personalizing interactions can help users improve their experiences. The findings show that this method is effective at supporting the personalization of interaction.