

# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	From Usability to Experience	2
1.2	Two Distinct Approaches in User Experience Research	3
1.2.1	Reductionist Approaches	4
1.2.2	Holistic Approaches	6
1.3	Diversity in User Experience	8
1.3.1	A Framework of Diversity in Subjective Judgments	8
1.3.2	Four Sources of Diversity in User Experience	10
1.4	Methodological Issues in Accounting for Diversity	11
1.4.1	Understanding Interpersonal Diversity through Personal Attribute Judgments	13
1.4.2	Understanding the Dynamics of Experience through Experience Narratives	14
1.5	Manuscript Outline	15
<b>2</b>	<b>Personal Attribute Judgments</b>	<b>17</b>
2.1	Introduction	17
2.2	The Repertory Grid Technique	20
2.3	The Quantitative Side of Repertory Grid - Some Concerns	21
2.3.1	Are We Really Interested in Idiosyncratic Views?	21
2.3.2	On Bipolarity	22
2.3.3	On the Measurement of Meaning	25
2.4	Analyzing Personal Attribute Judgments - An Initial Exploration	25
2.5	The Study	27
2.5.1	Method	27
2.6	Analysis Procedure	29
2.6.1	Identifying Homogeneous User Groups in the User Segmentation Map	29
2.6.2	Classifying Attributes for Interpersonal Analysis	29

2.6.3	Charting Perceptual Maps for Homogeneous Groups of Users .....	31
2.7	Discussion .....	35
2.8	Conclusion .....	38
<b>3</b>	<b>Analyzing Personal Attribute Judgments .....</b>	<b>41</b>
3.1	Introduction .....	41
3.2	The Study .....	42
3.3	A Multi-dimensional Scaling Approach to Account for Diversity .....	42
3.3.1	Identifying the Different Views .....	44
3.3.2	Defining Goodness-of-Fit Criteria .....	44
3.3.3	Two Diverse Views for One Participant .....	45
3.3.4	Assessing the Similarity between Different Views .....	48
3.3.5	Grouping the Homogeneous Views .....	49
3.3.6	How Do the Diverse Views Compare to the Average View? .....	50
3.4	Discussion .....	53
3.5	Conclusion .....	56
<b>4</b>	<b>User Experience Over Time .....</b>	<b>57</b>
4.1	Introduction .....	57
4.2	Background on Experience and Temporality .....	58
4.2.1	Temporal Aspects in Frameworks of Experience .....	59
4.2.2	Beauty, Goodness and Time .....	59
4.3	Study 1 .....	60
4.3.1	Method .....	60
4.3.2	Results .....	61
4.3.3	Discussion .....	64
4.3.4	Limitations of the Study .....	65
4.4	Study 2 .....	66
4.4.1	The Study .....	67
4.4.2	Data Analysis .....	69
4.4.3	Findings .....	70
4.4.4	Discussion .....	78
4.4.5	Implications for Design .....	79
4.5	Discussion .....	81
4.6	Conclusion .....	82
<b>5</b>	<b>iScale: Studying Long-Term Experiences through Memory .....</b>	<b>85</b>
5.1	Introduction .....	85
5.2	Reconstructing Experiences from Memory .....	89
5.2.1	The Constructive Approach .....	89
5.2.2	The Value-Account Approach .....	90

5.2.3	Graphing Affect as a Way to Support the Reconstruction of Experiences .....	91
5.2.4	iScale .....	91
5.3	Study 1: Understanding Graphing as a Tool for the Reconstruction of Experiences .....	94
5.3.1	Method .....	94
5.3.2	Analysis and Results .....	96
5.3.3	Discussion .....	101
5.4	Study 2: Benefits and Drawbacks of the Constructive and the Value-Account Version of iScale .....	102
5.4.1	Method .....	102
5.4.2	Analysis and Results .....	105
5.4.3	Discussion .....	108
5.5	Conclusion and Future Work .....	110
5.6	Appendix - Temporal Transformation .....	113
<b>6</b>	<b>A Semi-Automated Approach to the Content Analysis of Experience Narratives .....</b>	<b>115</b>
6.1	Introduction .....	115
6.2	Automated Approaches to Semantic Classification .....	117
6.2.1	The Latent-Semantic Analysis Procedure .....	117
6.2.2	Limitations of Latent-Semantic Analysis in the Context of Qualitative Content Analysis .....	119
6.3	A Semi-automated Approach to Content Analysis .....	120
6.3.1	Incorporating Existing Domain-Specific Knowledge .....	120
6.3.2	Iterative Open Coding .....	121
6.3.3	Computing Narrative Similarity .....	126
6.3.4	Hierarchical Clustering .....	127
6.3.5	Visualizing Insights .....	127
6.4	Validation of the Proposed Approach .....	129
6.4.1	Preparing the Dataset .....	129
6.4.2	Concept Analysis .....	130
6.4.3	Latent-Semantic Analysis on Restricted Terms .....	131
6.4.4	Traditional Latent-Semantic Analysis .....	132
6.4.5	Cluster Analysis on Dissimilarity Matrices .....	132
6.5	Discussion .....	134
6.6	Conclusion .....	136
<b>7</b>	<b>Conclusions .....</b>	<b>137</b>
7.1	Contributions of This Work .....	137
7.1.1	Conceptualizing Diversity in User Experience .....	138
7.1.2	Establishing Empirical Evidence for the Prevalence of Diversity in User Experience .....	138
7.1.3	Proposing Methodological Tools for the Study of Diversity .....	139

7.2	Implications for the Product Creation Process .....	142
7.2.1	Integrating Subjective and Behavioral Data.....	142
7.2.2	The End of Specifications? .....	144
7.3	Avenues for Future Research .....	144
7.3.1	Leveraging Insights across Different Exploratory Studies .....	144
7.3.2	Computational Tools for Making Survey Research Scalable .....	145
7.3.3	Empirical Knowledge Bases for Forming Design Goals ..	146
7.3.4	A New Basis for User Insights? .....	146
<b>References</b> .....		151