



Design for  
Everyday Life Reflection

Ine Mols

# **Design for Everyday Life Reflection**

doctoral dissertation by Ine Mols

Department of Industrial Design  
Eindhoven University of Technology

&

School of Software  
Faculty of Engineering and Information Technology  
University of Technology Sydney

A catalogue record is available from the Eindhoven University of Technology Library  
ISBN: 978-90-386-4909-2

*All rights reserved. No part of this book may be reproduced, distributed, stored in a retrieval system, or transmitted in any form or by any means, without prior written permission of the author.*

# **Design for Everyday Life Reflection**

PROEFSCHRIFT

ter verkrijging van de graad van doctor aan de Technische Universiteit Eindhoven, op gezag van de rector magnificus prof.dr.ir. F.P.T. Baaijens, voor een commissie aangewezen door het College voor Promoties, in het openbaar te verdedigen op dinsdag 26 november 2019 om 16:00 uur

door

Ine Mols

geboren te Helmond.

Dit proefschrift is goedgekeurd door de promotoren en de samenstelling van de promotiecommissie is als volgt:

voorzitter: prof.dr.ir. L.M.G. Feijs  
1e promotor: prof.dr. E.A.W.H. van den Hoven MTD (University of Technology Sydney)  
2e promotor: prof.dr.ir. J.H. Eggen  
leden: prof.dr. P. Markopoulos  
prof.dr. D. Petrelli (Sheffield Hallam University)  
prof.dr. A.J. Sellen (Microsoft Research)  
prof.dr. G.j. Westerhof (Universiteit Twente)

*Het onderzoek of ontwerp dat in dit proefschrift wordt beschreven is uitgevoerd in overeenstemming met de TU/e gedragscode Wetenschapsbeoefening.*

# Certificate of original authorship

I, Ine Mols, declare that this thesis, is submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the School of Software at the University of Technology Sydney and the Department of Industrial Design at the Eindhoven University of Technology.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of the requirements for a degree at any other academic institution except as fully acknowledged within the text. This thesis is the result of a Collaborative Doctoral Research Degree program with Eindhoven University of Technology.

This research is supported by the Australian Government Research Training Program and the Netherlands Organization for Scientific Research (NWO), awarded to Elise van den Hoven (STW VIDI grant number 016.128.303).

Signature of Candidate:

Production Note:

Signature removed prior to publication.

Date: March 25th 2019

# Abstract

In everyday life, most people reflect frequently. It is a way of thinking to process experiences, to come up with potential solutions to problems and to gain a better understanding. But reflection can be challenging, as it requires time, effort and attention. We identify an opportunity for interaction design to support everyday life reflection by creating new reflective habits.

In this thesis, we explore this opportunity by adopting a research-through-design approach. We discuss the notion of everyday life reflection through a review of related literature, a probes study and a questionnaire. Following, we present three design driven studies, exploring how such reflection might be supported through interactive media systems. We conclude that such systems can adopt different strategies and can take different roles. By evaluating interactive systems in the homes of people, we found that integrating new reflective habits in everyday life relies on triggers and opportunity. Reflection occurs not just through the review of media, but in the moment of creation as well. Our findings contribute to the understanding of everyday life reflection as an open process and flexible habit. Secondly, we contribute to the area of design for reflection, through a number of considerations and design examples.

*Please note a longer summary is available at the end of this thesis.*

*We do not think of our future as experiences,  
we think of our future as anticipated memories.*

- Daniel Kahneman



# T

## able of Contents

<b>1. Introduction</b>	<b>1</b>
1.1 Introduction	2
1.2 Everyday life	4
1.3 Reflection	5
1.4 Media Interaction	8
1.5 Research Opportunity & Aim	10
1.6 Approach	16
1.7 Outline of this Thesis	21
1.8 Conclusion	26
<b>2. Literature on Remembering and Reflecting</b>	<b>29</b>
2.1 Introduction	30
2.2 Related Research Areas	32
2.3 Characteristics of Everyday Life Reflection	39
2.4 Everyday Life Reflection & Media	47
2.5 Related Design Concepts	51
2.6 Conclusion	56
<b>3. Everyday Life (Re)Appreciated</b>	<b>59</b>
3.1 Introduction	60
3.2 Method: Probes Study	63
3.3 Findings	67
3.4 Discussion	77
3.5 Conclusion	84
<b>4. Design Exploration 1: Ritual Camera</b>	<b>87</b>
5.1 Introduction	88
5.2 Designing Ritual Camera	93
5.3 Method: Field Exploration	99
5.4 Findings	101
5.5 Discussion	107
5.6 Conclusion	111

<b>5. Everyday Reflective Practices</b>	<b>113</b>
4.1 Introduction	114
4.2 Practices of reflection	115
4.3 Method: Questionnaire	118
4.4 Findings: Characteristics of Reflection	121
4.5 Findings: Scenarios of Reflection	127
4.6 Process: Creating Photo Scenarios	132
4.7 Discussion	138
4.8 Conclusion	143
<b>6. Design Exploration 2: Design Space</b>	<b>147</b>
6.1 Introduction	148
6.2 Strategies from Literature	150
6.3 Process: Developing the Design Process	152
6.4 Findings: Design Space	153
6.5 Findings: Dimensions of a Design Space	158
6.6 Discussion	161
6.7 Conclusion	164
<b>7. Design Exploration 3: Balance, Cogito &amp; Dott</b>	<b>167</b>
7.1 Introduction	168
7.2 Designing Balance, Cogito & Dott	169
7.3 Final Design Descriptions	174
7.4 Method: Explorative Comparative Study	181
7.5 Findings: Integrating Reflection in Everyday Life	184
7.6 Findings: Mediating Reflection	192
7.7 Discussion	204
7.8 Conclusion	211
<b>8. Design Considerations for Everyday Life Reflection</b>	<b>213</b>
8.1. Introduction	214
8.2 Consideration 1:	215
Everyday life reflection is a personal and flexible type of reflection.	
8.3 Consideration 2:	218
Reflection can support both appreciating and directing everyday life	
8.4 Consideration 3:	221
Everyday life reflection includes past, present and future.	
8.5 Consideration 4:	223
Flexible reflective habits are based on triggers and opportunity.	

8.6 Consideration 5:	226
Everyday life reflection can be stimulated both through media creation and in media exploration.	
8.7 Consideration 6:	230
Human effort and system effort can provide complementary value to support reflection.	
8.8 Consideration 7:	233
Deeper levels of reflection require more elaborate support.	
8.9 Conclusion	236
<b>9. Discussion &amp; Generalisation</b>	<b>239</b>
9.1 Introduction	240
9.2 Discussion of the Scope of Everyday Life Reflection	242
9.3 Research Conclusions	246
9.4 Generalization	256
9.5 Research-through-Design Process	260
9.6 Future Research	263
9.7 Concluding Remarks	269
<b>References</b>	<b>270</b>
<b>Appendices</b>	<b>291</b>
Appendix 1: Chapter 3	Probes exercises 292
Appendix 2: Chapter 4	Interview Questions 303
Appendix 3: Chapter 5	Questionnaire 307
Appendix 4: Chapter 5	Scenario Analysis 312
Appendix 5: Chapter 5	Statistical Analysis SRIS 313
Appendix 6: Chapter 7	Exploratory Sketches 316
Appendix 7: Chapter 7	Instructions 318
Appendix 8: Chapter 7	Interview Questions 324
<b>Summary</b>	<b>336</b>
<b>Curriculum Vitae</b>	<b>339</b>
<b>Publications</b>	<b>340</b>
<b>Acknowledgements</b>	<b>342</b>





PhD 2019  
TU/e & UTS