



# *Bringing Up The Past*

*Interaction Design for Serendipitous Reminiscing*

*Doménique van Gennip*





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*Interaction Design for Serendipitous Reminiscing*

Doctoral Dissertation by Dominicus Antonius Petrus van Gennip

2018

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A catalogue record is available from the Eindhoven University of Technology Library

ISBN: 978-90-386-4500-1

PhD thesis Eindhoven University of Technology, Eindhoven, the Netherlands &  
University of Technology Sydney, Australia

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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  
donderdag 3 mei 2018 om 11:00 uur

door

Dominicus Antonius Petrus van Gennip

geboren te Breda

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

## *Certificate of original authorship*

This thesis is the result of a research candidature conducted jointly with the Eindhoven University of Technology and the University of Technology Sydney as part of a collaborative Doctoral degree. Supervision has been shared between two universities. Supervision at the University of Technology Sydney (where most time was spent) involved prof.dr. E.A.W.H. van den Hoven MTD as the principal supervisor, with prof.dr. P. Markopoulos acting as co-supervisor. Supervision and examination at the Eindhoven University of Technology was outlined on the previous page.

I, Dominicus Antonius Petrus van Gennip, 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.

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 except as fully acknowledged within the text.

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.

Signature of Candidate:

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Date: 12/04/2018

# *Acknowledgements*

As I write this, a late afternoon thunderstorm rolls over Sydney and washes away the heat, leaving a clear sky as dusk sets in. In the distance, I can see a red beacon flash atop the city's famed Harbour Bridge. In some ways, this book is that red beacon: a clear mark that conceals the distance and time since I started this work over four years ago. I'm forever grateful to everyone who joined me on this adventure.

First, I would like to thank my supervisors. Elise, I feel lucky to have had you as a supervisor. I am happy you gave me the chance to get deeper into (design) research. You helped me expand my abilities and grow. This will go down in memory. I admire your continued optimism at whatever comes your way. Panos, I would like to thank you for your keen insights, advice, and encouragements. It has been a blessing to have you come on-board. I enjoyed our discussions, always a source of inspiration. At the same time, you never lost sight of the goal: producing a quality piece of work. Together, both you were great team, bundling your perspectives and a desire make the work the best it could be.

This thesis has truly been a joint effort. Not just between me, Elise, Panos, and the Materialising Memories team members. Both UTS and TU/e have supplied expertise and funding. While this relationship had a few hurdles, I am thankful to have had the opportunity to collaborate, work, and teach with a diverse group of people.

Thank you also to team members, colleagues, and friends at both universities. A special shout out goes to my fellow MM4 members. The discussions and work we took on together have been an inspiration and invaluable influence on this project. It would not have been the same nor as enjoyable without you!

PhD committee members and panel members during interim assessments, thank you for your suggestions and valuable feedback on my thesis. It has benefitted from your insights.

On a personal note, I would like to thank my parents for everything that you have done for me and continue to do. I am grateful to you for supporting me when I decided to move and live so far away. I know you wished I was closer. To my sister, family, and friends, the distance makes it harder, but I enjoy our continued bond. To Megha, this PhD brought us together. While we now draw a line under that chapter, I look forward to our next one! Thank you for everything.

My final acknowledgement goes to my late grandfather, who once expressed the belief that by the time I would be done studying, it would be best if I retired straight after: going to work at that point would have little use anymore. I have yet to prove him wrong.



# *Abstract*

People reminisce to entertain themselves, to connect with others, and to increase self-awareness. Photographs have proven a great resource to support reminiscing. However, with a move towards digital capture and storage, people have more photos that end up undervalued and underused. This thesis explores how interaction design can support reminiscing in everyday life, in particular through the use of digital photos. We focus on serendipitous reminiscing: the casual recollection and reliving of past experiences, brought about by chance encounters with things that remind of one's past. These encounters are easily afforded to physical things but not to digital photos.

Based on a diary study on involuntary reminiscing, a repertory grid study on remembering as experience, and two research-through-design studies on interactive photo displays, this thesis explores how people relate to memory cues in everyday life. We confirm that encounters with personal media and other things that remind one of one's past are welcome, and that the value of photo displays stems from making photos present in everyday life (rather than their interactive features). The findings contribute to design research by furthering the understanding of remembering as experience and the development of several novel concepts that facilitate serendipitous reminiscing.

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

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# Publications by Doménique van Gennip

## Publications from this thesis

- van Gennip, D., Hoven, E. van den., Markopoulos, P. (2015). Things that Make Us Reminisce: Everyday Memory Cues as Opportunities for Interaction Design (pp. 3443–3452). *In Proceedings of the 33th Annual ACM Conference on Human Factors in Computing Systems 2015 (CHI'15)*, 18-23 April 2015, Seoul, Korea, ACM Press.
- van Gennip, D., Hoven, E. van den., Markopoulos, P. (2015). Intermediate Knowledge: A Bridge for Interaction Design to Other Disciplines (pp. 1–3). *Presentation and paper in online proceedings of the CHI'15 Workshop on Knowledge Production in Interaction Design*, 19 April 2015, Seoul, Korea, ACM Press.
- van Gennip, D., Hoven, E. van den., Markopoulos, P. (2016). The Phenomenology of Remembered Experience: A Repertoire for Design (pp. 1–8). *In Proceedings of the 34th European Conference on Cognitive Ergonomics (ECCE'16)*, 6-8 September, Nottingham, UK, ACM Press.

## Other publications

- Koppel, ten, M. A. J., Walmlink, W., Amiralis, Z., Ruiter, H. J., & van Gennip, D. (2005). Semotion: Mediating urgency through mechanical movement. In L. Feijs, S. Kyffin, & B. Young (Eds.), (pp. 103–109). *Presented at the Design and Semantics of Form and Movement Conference (DesForm 2005)*.
- de Kort, Y. A. W., Haans, A., Geerdinck, L., van Gennip, D., Horst, M., & Servaes, J. (2010). Psychological building blocks for dynamic road lighting: Understanding light's role in feelings of safety at night. In M. Haverlag, G. M. W. Kroesen, & T. Taguchi (Eds.), (pp. 529–530). *Poster at the LS-WLED conference, Eindhoven, the Netherlands*.
- Haans, A., van Gennip, D., Ham, J., de Kort, Y. A. W., & Midden, C. J. H. (Eds.). *Proceedings of Environment 2.0: The 9th Biennial Conference on Environmental Psychology*, 26-28 September 2011, Eindhoven University of Technology, Eindhoven, The Netherlands.
- van Gennip, D. (2013). Externalising memories: designing for digital mnemonic cue embodiment (pp. 1-4). *Presented at Doctoral Consortium of OzCHI 2013*, 25-29 November, Adelaide, Australia.
- van Gennip, D., Orth, D., Imtiaz, M.A., Hoven, E. van den., and Plimmer, B. (2016). Workshop on Tangible Cognition: Bringing Together Tangible Interaction and Cognition in HCI (pp. 1-4). *In Proceedings of the 28th Australian Conference on Human-Computer Interaction (OzCHI'16)*, 29 November – 2 December 2016, Launceston, Tasmania, ACM Press.

## *Curriculum Vitae*

Doménique van Gennip was born on the 6th of October 1984 in Breda, the Netherlands. In 2003, he obtained his VWO (secondary school) diploma at the Mencia de Mendoza lyceum in Breda. In the same year, Doménique started the Bachelor of Industrial Design at Eindhoven University of Technology. Upon completion in 2010, he studied the Master of Human-Technology Interaction at the same university. His degree, including a thesis titled “Social Pulse: The effects of mediated heartbeat communication on social connectedness, liking and pro-social behaviour,” was awarded cum laude in 2012. The year after, he started his joint degree PhD research at the University of Technology Sydney and Eindhoven University of Technology. This thesis represents the outcome of four years studying the interaction design for everyday remembering.

