Table of Contents

Preface .................................................................................................................................................. xiii

Acknowledgment ................................................................................................................................ xxi

Section 1
Technology and Aging: Cognitive Perspectives

Chapter 1
Implicit Memory and Aging: Adapting Technology to Utilize Preserved Memory Functions .......... 1
Christopher A. Was, Kent State University, USA
Dan J. Woltz, University of Utah, USA

Chapter 2
On Attentional Control and the Aging Driver .................................................................................. 20
Jason M. Watson, University of Utah, USA
Ann E. Lambert, University of Utah, USA
Joel M. Cooper, University of Utah, USA
Istenya V. Boyle, University of Utah, USA
David L. Strayer, University of Utah, USA

Chapter 3
The Use of Gesturing to Facilitate Older Adults’ Learning from Computer-Based Dynamic Visualizations .............................................................................................................. 33
Kim Ouwehand, Erasmus University Rotterdam, The Netherlands
Tamara van Gog, Erasmus University Rotterdam, The Netherlands
Fred Paas, Erasmus University Rotterdam, The Netherlands & University of Wollongong, Australia

Chapter 4
Technology as a Bridge between Health Care Systems and Older Adults ........................................ 59
Daniel Morrow, University of Illinois at Urbana-Champaign, USA
Jessie Chin, University of Illinois at Urbana-Champaign, USA
Section 2
Design and Develop Effective Technology for Older Adults

Chapter 5
Instructional Design in Digital Environments and Availability of Mental Resources for the Aged Subpopulation

Renae Low, The University of New South Wales, Australia
Putai Jin, The University of New South Wales, Australia
John Sweller, The University of New South Wales, Australia

Chapter 6
Design for Aging: Enhancing Everyday Technology Use

Marita A. O’Brien, University of Alabama in Huntsville, USA
Wendy A. Rogers, Georgia Institute of Technology, USA

Chapter 7
Internet Use among Older Adults: Constraints and Opportunities

Yiwei Chen, Bowling Green State University, USA
Bob D. Lee, Bowling Green State University, USA
Robert M. Kirk, Bowling Green State University, USA

Chapter 8
Effective Online Learning for Older People: A Heuristic Design Approach

Robert Z. Zheng, University of Utah, USA

Section 3
Practical Application of Technology for Older Adults

Chapter 9
Actual use of Computers and the Internet by Older Adults: Potential Benefits and Risks

Karin Slegers, University of Leuven, Belgium & IBBT, Belgium
Martin P. van Boxtel, Maastricht University, The Netherlands

Chapter 10
Training Older Adults to Improve their Episodic Memory: Three Different Approaches to Enhancing Numeric Memory

Michael K. Gardner, University of Utah, USA
Robert D. Hill, University of Utah, USA

Chapter 11
The Internet and Older Adults: Initial Adoption and Experience of Use

Eulàlia Hernández Encuentra, Universitat Oberta de Catalunya, Spain
Modesta Pousada Fernández, Universitat Oberta de Catalunya, Spain
Beni Gómez-Zúñiga, Universitat Oberta de Catalunya, Spain