

Contents – Part II

Smart and Assistive Environments

Design Research on Self-service Medical Apparatus and Instruments Aiming at Elderly Users.	3
<i>Jieqiong Huang</i>	
Gamification and Information Fusion for Rehabilitation: An Ambient Assisted Living Case Study	16
<i>Javier Jiménez Alemán, Nayat Sanchez-Pi, Luis Martí, José Manuel Molina, and Ana Cristina Bicharra García</i>	
Dynamic Characteristics of the Transformation of Interpersonal Distance in Cooperation	26
<i>Yosuke Kinoe and Nami Mizuno</i>	
Analysis of Elderly Users' Preferences and Expectations on Service Robot's Personality, Appearance and Interaction	35
<i>Styliani Kleanthous, Christophoros Christophorou, Christiana Tsiourti, Carina Dantas, Rachelle Wintjens, George Samaras, and Eleni Christodoulou</i>	
Socio-Technical Challenges in Implementation of Monitoring Technologies in Elderly Care	45
<i>Ella Kolkowska, Anneli Avatare Nöu, Marie Sjölander, and Isabella Scandurra</i>	
Developing BIM-Enabled Facility Management Information System in Interior Design	57
<i>Ju-Hung Lan</i>	
A Study on Re-usage of Historical Building - from the Aspect of Room Acoustic for Live House	70
<i>Wei Lin, Hsuan Lin, Kung-Huang Huang, and Tin-Hang Lin</i>	
Identification of an Individual's Frustration in the Work Environment Through a Multi-sensor Computer Mouse	79
<i>David Portugal, Marios Belk, João Quintas, Eleni Christodoulou, and George Samaras</i>	
Multi-sensory Cyber-Physical Therapy System for Elderly Monitoring.	89
<i>Md. Abdur Rahman</i>	

A Virtual Testbed for Studying Trust in Ambient Intelligence Environments . . .	101
<i>Azin Semsar, Morteza Malek Makan, Ali Asghar Nazari Shirehjini, and Zahra Malek Mohammadi</i>	
Smart Living for Elderly: Design and Human-Computer Interaction Considerations	112
<i>Ranjana Sharma, Fiona Fui-Hoon Nah, Kavya Sharma, Teja Satya Sai Santosh Katta, Natalie Pang, and Alvin Yong</i>	
Usability Assessment of a Virtual Fitness Platform on Smart TV for Elderly Health Promotion	123
<i>Chao-Hua Wang</i>	
Introduction of Telecare Mediated Home Care Services Pushes Forward a Re-Delegation of the Cooperative Care Work.	133
<i>Anita Woll</i>	
Interaction Design of Products for the Elderly in Smart Home Under the Mode of Medical Care and Pension.	145
<i>Minggang Yang, He Huang, Haozhou Yuan, and Qichao Sun</i>	
Aging and Social Media	
Ageism and IT: Social Representations, Exclusion and Citizenship in the Digital Age	159
<i>Ines Amaral and Fernanda Daniel</i>	
Elder Adults Utilizing Social Networking Sites on Mobile Platforms	167
<i>Jessica Arfaa and Yuanqiong (Kathy) Wang</i>	
The Elderly, IT and the Public Discourse. Representations of Exclusion and Inclusion	176
<i>Piermarco Aroldi and Fausto Colombo</i>	
Elderly and IT: Brand Discourses on the Go	186
<i>Karine Berthelot-Guier</i>	
Using Information and Communication Technologies to Promote Healthy Aging in Costa Rica: Challenges and Opportunities.	194
<i>Maria Dolores Castro Rojas, Ann Bygholm, and Tia G.B. Hansen</i>	
The Mediations of the Identity of Seniors on IT. The Case of Grand Parenthood	207
<i>Élodie Llobet-Vachias and Yves Jeanneret</i>	
Senior Citizens, Digital Information Seeking and Use of Social Media for Healthy Lifestyle	217
<i>Ágústa Pálsdóttir</i>	

Concepts, Terms, and Mental Models: Everyday Challenges to Older Adult Social Media Adoption	227
<i>Kelly Quinn, Renae Smith-Ray, and Kristin Boulter</i>	
Older People’s Use and Learning of New Media: A Case Study on Remote Rural Villages in Finnish Lapland	239
<i>Päivi Rasi and Arja Kilpeläinen</i>	
Improving User Experience and Engagement for Older Adults: A Case Study	248
<i>Krysta Hedia Salera, Pejman Salehi, Neel Desai, Lia E. Tsotsos, and Kathryn Warren-Norton</i>	
Understanding Mobile SNS Usage for Aging People in China: A Perspective from Motivations, Trust and Attitude	256
<i>Zhongping Zeng, Liu Liu, Ye Han, and Zhaoyin Liu</i>	
Aging, Learning, Training and Games	
Operational Assistance for Elderly People Using a Rhythm System.	269
<i>Hiroko Akatsu and Akinori Komatsubara</i>	
You Can(’t) Teach an Old Dog New Tricks: Analyzing the Learnability of Manufacturing Software Systems in Older Users	277
<i>Katrin Arning, Simon Himmel, and Martina Ziefle</i>	
Designing a Web-Based Application to Train Aging Adults to Successfully Use Technologies Important to Independent Living	289
<i>Ronald W. Berkowsky, Sara J. Czaja, and Philip D. Harvey</i>	
Exploring the Relationship Between Computer Proficiency and Computer Use Over Time in the PRISM Trial.	300
<i>Walter R. Boot, Joseph Sharit, Sara J. Czaja, Neil Charness, and Wendy A. Rogers</i>	
Exploring the Next Generation of Older Gamers: Middle-Aged Gamers.	308
<i>Julie A. Brown</i>	
Mobile Learning Concepts for Older Adults: Results of a Pilot Study with Tablet Computers in France and Germany.	319
<i>Eline Leen-Thomele, Sonia Hetzner, and Paul Held</i>	
Silver Gaming: Serious Fun for Seniors?	330
<i>Eugène Loos and Annemiek Zonneveld</i>	
Teaching Older Adults with Multiple Chronic Conditions to Use a Tablet and Patient Application for Health Management	342
<i>Rony Oosterom-Calo and Benjamín López</i>	

Family Matters: The Role of Intergenerational Gameplay
in Successful Aging. 352
Sanela Osmanovic and Loretta Pecchioni

Coping with Ageing Issues: Adoption and Appropriation of Technology
by Older Adults in Singapore. 364
Natalie Pang, Xue Zhang, Pei Wen Law, and Schubert Foo

Aging, Mobility and Driving

Immersive Virtual Reality Simulation as a Tool for Aging and Driving
Research 377
*Christopher R. Bennett, Richard R. Corey, Uro Giudice,
and Nicholas A. Giudice*

Ensuring the Safety and Accessibility of Transportation for an Aging
Population 386
*Walter R. Boot, Kimberly Barajas, Ainsley Mitchum, Cary Stothart,
and Neil Charness*

Rethinking Public Transport Services for the Elderly Through a
Transgenerational Design Approach. 395
*Roberta Grimaldi, Antonio Opromolla, Giovanni Andrea Parente,
Eliseo Sciarretta, and Valentina Volpi*

Transportation Accessibility Assessment of Critical Emergency Facilities:
Aging Population-Focused Case Studies in Florida 407
*Ayberk Kocatepe, Eren Erman Ozguven, Hidayet Ozel, Mark W. Horner,
and Ren Moses*

The Flashing Right Turn Signal with Pedestrian Indication: A Human
Factors Study to Assess Driver Comprehension. 417
*Nelson A. Roque, Walter R. Boot, Neil Charness, Kimberly Barajas,
Jared Dirghalli, and Ainsley Mitchum*

Challenges of Older Drivers’ Adoption of Advanced Driver Assistance
Systems and Autonomous Vehicles 428
Dustin Souders and Neil Charness

Age Effects on Inattention Blindness: Implications for Driving 441
*Cary Stothart, Walter Boot, Daniel Simons, Neil Charness,
and Timothy Wright*

Author Index 449

Contents – Part I

Designing for and with the Elderly

Technologically Mature but with Limited Capabilities	3
<i>Yvonne Eriksson</i>	
Designing Poker Time: Older People as Fixpartners in a Co-design Process . . .	13
<i>Linna Hu and Hua Dong</i>	
A Preliminary Exploration of Technology Necessities Among Elderly Living Alone	23
<i>Lin-Ya Huang and Chang-Franw Lee</i>	
Understanding the Critical Needs of Older People: An Aging Perspective . . .	32
<i>Ying Jiang, Timothy Joseph Jachna, and Hua Dong</i>	
Designing Tablet Computers for the Elderly A User-Centered Design Approach	42
<i>Nicole Jochems</i>	
Lowering the Threshold: Reconnecting Elderly Users with Assistive Technology Through Tangible Interfaces	52
<i>Suhas Govind Joshi and Heidi Bråthen</i>	
Development of the Accessibility Evaluation Platform Beyond Digital Divide.	64
<i>Junji Ohyama</i>	
Scaffolding Digital Game Design Activities Grouping Older Adults, Younger Adults and Teens	74
<i>Margarida Romero and Hubert Ouellet</i>	
RERC TechSAge: Making a Difference to the Lives of Older Adults with Disability Through Design and Technology.	82
<i>Jon A. Sanford and Elena T. Gonzalez</i>	
To Meet the Needs of Aging Users and the Prerequisites of Innovators in the Design Process: Lessons Learned from Three Pilot Projects.	92
<i>Marie Sjölander, Isabella Scandurra, Anneli Avatare Nöu, and Ella Kolkowska</i>	
HCI Challenges for Consumer-Based Aging in Place Technologies	105
<i>Marjorie Skubic, Anup Mishra, Bradford Harris, Carmen Abbott, Andrew Craver, Katy Musterman, and Marilyn Rantz</i>	

Towards Characteristics of Accessibility and Usability Issues for Older People - A Brazilian Case Study	117
<i>Sandra Souza Rodrigues, Renata Pontin de Mattos Fortes, and André Pimenta Freire</i>	
Board Games and Regulars' Tables — Extending User Centred Design in the Mobia Project	129
<i>Johannes Tröger, Jan Alexandersson, Jochen Britz, Maurice Rekrut, Daniel Bieber, and Kathleen Schwarz</i>	
User Involvement in Design: The Four Models.	141
<i>Bin Zhang and Hua Dong</i>	
Technology Use and Acceptance by Older Users	
Risk and Benefit Perceptions: Resistance, Adoption and Uses of ICT Among the Italian Elderly	155
<i>Simone Carlo and Matteo Vergani</i>	
A Tale of Two Divides: Technology Experiences Among Racially and Socioeconomically Diverse Older Adults	167
<i>Shelia R. Cotten, Jessica Francis, Travis Kadylak, R.V. Rikard, Tim Huang, Christopher Ball, and Julia DeCook</i>	
The Role of Technology in Supporting Family Caregivers	178
<i>Sara J. Czaja, Dolores Perdomo, and Chin Chin Lee</i>	
Acceptance of Cloud-Based Healthcare Services by Elderly Taiwanese People	186
<i>Wen-Tsung Ku and Pi-Jung Hsieh</i>	
Over 60 and ICT: Exploring Factors that Affect Older Adults' ICTs Usage. . .	196
<i>Qi Ma, Alan Hoi Shou Chan, Pei-Lee Teh, and Shun-Nam Poon</i>	
The Role of Technology Self-efficiency on Technology Product Acceptance and Usage: A Study on Chinese Older People	209
<i>Jing Pan, Hua Dong, and Weining Ning</i>	
The Transformation of Reading Among the Ageing Population in the Digital Age	216
<i>Dobrinka Peicheva and Lilia Raycheva</i>	
Changing Patterns of ICT Use in Finland – The Senior Citizens' Perspective	226
<i>Pekka Räsänen and Ilkka Koiranen</i>	
Elders' Perceptions on the Role of ICTs on Their Lives.	238
<i>Charo Sádaba</i>	

A Usability Research for Developing and Deploying Chronic Pain Relief Treatment Applications for Older Adults	245
<i>Wang-Chin Tsai, Chia-Ling Chang, and Cheng-Min Tsai</i>	
Understanding Age-Related Differences in Privacy-Safety Decisions: Acceptance of Crime Surveillance Technologies in Urban Environments	253
<i>Julia van Heek, Katrin Arning, and Martina Ziefle</i>	
Intentions to Use Smart Textiles in AAL Home Environments: Comparing Younger and Older Adults	266
<i>Martina Ziefle, Philipp Brauner, and Julia van Heek</i>	
Psychological and Cognitive Aspects of Interaction and Aging	
Interactive, Multi-device Visualization Supported by a Multimodal Interaction Framework: Proof of Concept	279
<i>Nuno Almeida, Samuel Silva, Beatriz Sousa Santos, and António Teixeira</i>	
The Gamification of Cognitive Training: Older Adults’ Perceptions of and Attitudes Toward Digital Game-Based Interventions	290
<i>Walter R. Boot, Dustin Souders, Neil Charness, Kenneth Blocker, Nelson Roque, and Thomas Vitale</i>	
Age-Differentiated Analysis of the Hand Proximity Effect by Means of Eye-Tracking	301
<i>Christina Bröhl, Sabine Theis, Matthias Wille, Peter Rasche, Alexander Mertens, and Christopher M. Schlick</i>	
Combinations of Modalities for the Words Learning Memory Test Implemented on Tablets for Seniors	309
<i>Erika Hernández-Rubio, Amílcar Meneses-Viveros, Erick Mancera-Serralde, and Javier Flores-Ortiz</i>	
Exploring the Antecedents of Technostress and Compulsive Mobile Application Usage: Personality Perspectives	320
<i>Kuo-Lun Hsiao, Chun-Hsiung Lee, Hsiu-Sen Chiang, and Ju-Yun Wang</i>	
Impact of Website Complexity and Task Complexity on Older Adult’s Cognitive Workload on Mobile Devices.	329
<i>Jincheng Huang and Jia Zhou</i>	
Experiencing Computer Anxiety Later in Life: The Role of Stereotype Threat	339
<i>Loredana Ivan and Ioana Schiau</i>	
Control with Hand Gestures by Older Users: A Review	350
<i>Sheau-Farn Max Liang and Yun-Ju Becker Lee</i>	

A Preliminary Study on How the Icon Composition and Background of Graphical Icons Affect Users' Preference Levels	360
<i>Hsuan Lin, Yu-Chen Hsieh, and Wei Lin</i>	
Tests of Cognitive Training as Archetypes in Elderly People: Identifying Design Categories for Cognitive and Communicative Interaction.	371
<i>Claudia Isabel Rojas R. and Juan Alberto Castillo M.</i>	
Eye Movements on Assessing Perceptual Image Quality	378
<i>Cheng-Min Tsai, Shing-Sheng Guan, and Wang-Chin Tsai</i>	
A Study of Human Behavior and Mental Workload Based on Neural Network.	389
<i>Lan Xiao, Jing Qiu, and Jun Lu</i>	
Mobile and Wearable Technologies for the Elderly	
Designing a Smart Watch Interface for a Notification and Communication System for Nursing Homes	401
<i>Haneen Ali and Huiyang Li</i>	
Tactile Interaction for Novice User: Uncolocated Gestures	412
<i>Denis Chêne, Vincent Pillot, and Marc-Éric Bobillier Chaumon</i>	
Mobile Technology for Older Adults: Protector, Motivator or Threat?	424
<i>Lynne Coventry and Pam Briggs</i>	
The Effect of Screen Size of Mobile Devices on Reading Efficiency	435
<i>Yu-Chen Hsieh, Chien-Ting Kuo, and Hsuan Lin</i>	
Design of Smart Watch for Old People Based on the Benchmark of Consumers' Kansei Intention	446
<i>He Huang, Yixiang Wu, Jianxin Cheng, and Minggang Yang</i>	
A Study of the Factors Affecting the Usability of Smart Phone Screen Protectors for the Elderly	457
<i>Shuo-Fang Liu, Ching-Fen Chang, Ming-Hong Wang, and Hsin-Hsi Lai</i>	
Effect of Icon Amount and Visual Density on Usability of Smartwatches.	466
<i>Fan Mo, Shuping Yi, and Jia Zhou</i>	
Generational Comparison of Simultaneous Internet Activities Using Smartphones and Computers.	478
<i>Andrea Rosales and Mireia Fernández-Ardèvol</i>	

Using the Smartphone to Support Successful Aging: Technology
Acceptance with Selective Optimization and Compensation
Among Older Adults 490
Yao Sun, Margaret L. McLaughlin, and Michael J. Cody

Author Index 501



<http://www.springer.com/978-3-319-39948-5>

Human Aspects of IT for the Aged Population. Healthy
and Active Aging
Second International Conference, ITAP 2016, Held as
Part of HCI International 2016 Toronto, ON, Canada, July
17-22, 2016, Proceedings, Part II
Zhou, J.; Salvendy, G. (Eds.)
2016, XXI, 451 p. 117 illus., Softcover
ISBN: 978-3-319-39948-5