Contents – Part II

Mobile and Wearable Interaction for the Elderly

How Do Users Interact with Mobile Devices? An Analysis of Handheld Positions for Different Technology Generations ................................. 3
  Christina Bröhl, Alexander Mertens, and Martina Ziefe

Movement Analysis for Improving Older Adults’ Performances in HCI: Preliminary Analysis of Movements of the Users’ Wrists During Tactile Interaction ......................................................... 17
  Lilian Genaro Motti Ader, Nadine Vigouroux, and Philippe Gorce

Investigation into the Discrepancies Between Writing on Paper and Writing on a Touchscreen Device ......................................................... 27
  Yu-Chen Hsieh, Ke Jia Hung, and Hsuan Lin

A Conceptual Design for a Smart Photo Album Catered to the Elderly ...... 42
  Hui-Jiun Hu, Pei-Fen Wu, and Wang-Chin Tsai

Development of a User Experience Evaluation Framework for Wearable Devices ................................................................. 53
  Young Woo Kim, Sol Hee Yoon, Hwan Hwangbo, and Yong Gu Ji

A Field Experiment on Capabilities Involved in Mobile Navigation Task ... 68
  Qingchuan Li and Yan Luximon

Shape Design and Exploration of 2D and 3D Graphical Icons ............... 79
  Hsuan Lin, Yu-Chen Hsieh, and Wei Lin

The Effects of the Transparency of the Guiding Diagrams on the Phone Interface for the Elderly ................................................................. 92
  Shuo Fang Liu, Po Yen Lin, and Ming Hong Wang

Aging and Social Media

Exploring Storytelling for Digital Memorialization ................................ 103
  Grace Ataguba, Samantha Penrice, and John Shearer

My Interests, My Activities: Learning from an Intergenerational Comparison of Smartwatch Use .......................................................... 114
  Mireia Fernández-Ardèvol and Andrea Rosales
Understanding the Motivations of Online Community Users -
A Comparison Between Younger and Older People. ................. 130

Jiunn-Woei Lian

Visual Representations of Digital Connectivity in Everyday Life ........ 138

Wendy Martin and Katy Pilcher

Novel Functional Technologies for Age-Friendly E-commerce ........... 150

Xiaohai Tian, Lei Meng, Siyuan Liu, Zhiqi Shen, Eng-Siong Chng,
Cyril Leung, Frank Guan, and Chunyan Miao

Participatory Human-Centered Design of a Feedback Mechanism
Within the Historytelling System. ............................................. 159

Torben Volkmann, Michael Sengpiel, and Nicole Jochems

Research on New Media Usage Behaviors, Influencing Factors
and Social Contact Mode of the Elderly. .................................... 170

Minggang Yang, Mingliang Dou, and Yinan Han

Online Privacy Perceptions of Older Adults ................................. 181

Eva-Maria Zeissig, Chantal Lidynia, Luisa Vervier, Andera Gadeib,
and Martina Ziefl

Examining the Factors Influencing Elders’ Knowledge Sharing Behavior
in Virtual Communities ........................................................... 201

Xuanhui Zhang and Xiaokang Song

Silver and Intergenerational Gaming

Digital Gaming Perceptions Among Older Adult Non-gamers ............ 217

Julie A. Brown

My Grandpa and I “Gotta Catch ‘Em All.” A Research Design
on Intergenerational Gaming Focusing on Pokémon Go .................. 228

Francesca Comunello and Simone Mulargia

Socioemotional Benefits of Digital Games for Older Adults .............. 242

David Kaufman

Exergaming: Meaningful Play for Older Adults? ............................ 254

Eugène Loos

Pass the Control(ler): Shifting of Power in Families Through
Intergenerational Gaming ......................................................... 266

Sanela Osmanovic and Loretta Pecchioni
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Mature Kind of Fun? Exploring Silver Gamers’ Motivation to Play</td>
<td>280</td>
</tr>
<tr>
<td>Casual Games – Results from a Large-Scale Online Survey</td>
<td></td>
</tr>
<tr>
<td>Daniel Possler, Christoph Klimmt, Daniela Schlütz, and Jonas Walkenbach</td>
<td></td>
</tr>
<tr>
<td>Employing a User-Centered Design Process to Create a Multiplayer</td>
<td>296</td>
</tr>
<tr>
<td>Online Escape Game for Older Adults</td>
<td></td>
</tr>
<tr>
<td>Fan Zhang, Amir Doroudian, David Kaufman, Simone Hausknecht,</td>
<td></td>
</tr>
<tr>
<td>Julija Jeremic, and Hollis Owens</td>
<td></td>
</tr>
<tr>
<td>Social Interaction Between Older Adults (80+) and Younger People</td>
<td>308</td>
</tr>
<tr>
<td>During Intergenerational Digital Gameplay</td>
<td></td>
</tr>
<tr>
<td>Fan Zhang, Robyn Schell, David Kaufman, Glaucia Salgado,</td>
<td></td>
</tr>
<tr>
<td>and Julija Jeremic</td>
<td></td>
</tr>
<tr>
<td>Health Care and Assistive Technologies and Services for the Elderly</td>
<td></td>
</tr>
<tr>
<td>Distributed User Interfaces for Poppelreuters and Raven Visual Tests</td>
<td>325</td>
</tr>
<tr>
<td>Pedro Cruz Caballero, Amilcar Meneses-Viveros, Erika Hernández-Rubio,</td>
<td></td>
</tr>
<tr>
<td>Oscar Zamora Arévalo</td>
<td></td>
</tr>
<tr>
<td>Adaptation of the Model for Assessment of Telemedicine (MAST)</td>
<td>339</td>
</tr>
<tr>
<td>for IoT Telemedicine Services</td>
<td></td>
</tr>
<tr>
<td>George E. Dafoulas, Georgios Pierris, Santiago Martinez,</td>
<td></td>
</tr>
<tr>
<td>Lise Kvistgaard Jensen, and Kristian Kidholm</td>
<td></td>
</tr>
<tr>
<td>Harvesting Assistive Technology Vocabularies: Methods and Results</td>
<td>350</td>
</tr>
<tr>
<td>from a Pilot Study</td>
<td></td>
</tr>
<tr>
<td>Yao Ding, J. Bern Jordan, and Gregg C. Vanderheiden</td>
<td></td>
</tr>
<tr>
<td>Understanding Acceptance Factors for Using e-care Systems and Devices:</td>
<td>362</td>
</tr>
<tr>
<td>Insights from a Mixed-Method Intervention Study in Slovenia</td>
<td></td>
</tr>
<tr>
<td>Vesna Dolničar, Andraž Petrovčič, Mojca Šetinc, Igor Košir,</td>
<td></td>
</tr>
<tr>
<td>Matic Kavčič</td>
<td></td>
</tr>
<tr>
<td>Sensor-Driven Detection of Social Isolation</td>
<td>378</td>
</tr>
<tr>
<td>in Community-Dwelling Elderly</td>
<td></td>
</tr>
<tr>
<td>Nadee Goonawardene, XiaoPing Toh, and Hwee-Pink Tan</td>
<td></td>
</tr>
<tr>
<td>Understanding Middle-Aged and Elderly Taiwanese People’s Acceptance</td>
<td>393</td>
</tr>
<tr>
<td>of the Personal Health Information System for Self-health Management</td>
<td></td>
</tr>
<tr>
<td>Pi-Jung Hsieh, Hui-Min Lai, Hsuan-Chi Ku, and Wen-Tsung Ku</td>
<td></td>
</tr>
<tr>
<td>To Capture the Diverse Needs of Welfare Technology</td>
<td>404</td>
</tr>
<tr>
<td>Stakeholders – Evaluation of a Value Matrix</td>
<td></td>
</tr>
<tr>
<td>Ella Kolkowska, Anneli Avatare Nöü, Marie Sjölinder, and Isabella Scandurra</td>
<td></td>
</tr>
</tbody>
</table>
Technology and Service Usage Among Family Caregivers .......................... 420
Chaiwoo Lee, Carley Ward, Dana Ellis, Samantha Brady, Lisa D’Ambrosio, and Joseph F. Coughlin

Change in the Relationship Between the Elderly and Information Support Robot System Living Together .................................................. 433
Misato Nihei, Yuko Nishiura, Ikuko Mamiya, Hiroaki Kojima, Ken Sadohara, Shinichi Ohnaka, Minoru Kamata, and Takenobu Inoue

Digital Storytelling and Dementia ...................................................... 443
Elly Park, Hollis Owens, David Kaufman, and Lili Liu

From Noticing to Suspecting: The Initial Stages in the Information Behaviour of Informal Caregivers of People with Dementia ......................... 452
Agústa Pálsdóttir

Usability Evaluation on User Interface of Electronic Wheelchair ................. 467
Cheng-Min Tsai, Chih-Kuan Lin, Sing Li, and Wang-Chin Tsai

Fall Detection Based on Skeleton Data ............................................. 475
Tao Xu and Yun Zhou

Aging and Learning, Working and Leisure

The STAGE Project: Tailored Cultural Entertainment for Older Adults via Streaming Technology ......................................................... 487
Luigi Biocca, Nicolò Paraciani, Francesca Picenni, Giovanni Caruso, Marco Padula, Riccardo Chiariiglione, Agnieszka Kowalska, Monica Florea, and Ilias Kapouranis

Facilitating Remote Communication Between Senior Communities with Telepresence Robots ....................................................... 501
Atsushi Hiyama, Akihiro Kosugi, Kentarou Fukuda, Masatomo Kobayashi, and Michitaka Hirose

Reopening the Black Box of Career Age and Research Performance ........ 516
Chien Hsiang Liao

Intergenerational Techno-Creative Activities in a Library FabLab .............. 526
Margarida Romero and Benjamin Lille

‘Industrie 4.0’ and an Aging Workforce – A Discussion from a Psychological and a Managerial Perspective .................................................. 537
Matthias Schinner, André Calero Valdez, Elisabeth Noll, Anne Kathrin Schaar, Peter Letmathe, and Martina Zieifle
Towards Extracting Recruiters’ Tacit Knowledge Based on Interactions with a Job Matching System .......................... 557
   Kaoru Shinkawa, Kenichi Saito, Masatomo Kobayashi, and Atsuhi Hiyama

The Influence of Mental Model Similarity on User Performance: Comparing Older and Younger Adults ............... 569
   Bingjun Xie and Jia Zhou

Author Index ................................................................. 581
Contents – Part I

Aging and Technology Acceptance

Age Differences in Acceptance of Self-driving Cars:
A Survey of Perceptions and Attitudes.................................................. 3
   Chaiwoo Lee, Carley Ward, Martina Raue, Lisa D’Ambrosio,
   and Joseph F. Coughlin

Mobile Technology Adoption Among Older People - An Exploratory Study
in the UK ............................................... 14
   Jing Pan, Nick Bryan-Kinns, and Hua Dong

Everyday Life Interactions of Women 60+ with ICTs:
Creations of Meaning and Negotiations of Identity .............................. 25
   Barbara Ratzenböck

Privacy, Data Security, and the Acceptance of AAL-Systems –
A User-Specific Perspective .............................................................. 38
   Julia van Heek, Simon Himmel, and Martina Ziefl

Domestic Robots for Homecare: A Technology Acceptance Perspective...... 57
   Martina Ziefl and André Calero Valdez

User-Centred Design for the Elderly

Co-creation Methods: Informing Technology Solutions for Older Adults.... 77
   Lupin Battersby, Mei Lan Fang, Sarah L. Canham, Judith Sixsmith,
   Sylvain Moreno, and Andrew Sixsmith

Addressing Issues of Need, Adaptability, User Acceptability and Ethics
in the Participatory Design of New Technology Enabling Wellness,
Independence and Dignity for Seniors Living in Residential Homes........ 90
   Joan Cahill, Sean McLoughlin, Michael O’Connor, Melissa Stolberg,
   and Sean Wetherall

Towards Accessible Automatically Generated Interfaces Part 2:
Study with Model-Based Self-voicing Interfaces................................. 110
   J. Bern Jordan and Gregg C. Vanderheiden

Towards Accessible Automatically Generated Interfaces Part 1: An Input
Model that Bridges the Needs of Users and Product Functionality........ 129
   J. Bern Jordan and Gregg C. Vanderheiden
XXII Contents – Part I

Representing Meaning in User Experience by Visualizing Empirical Data ................................................................. 147
Eui Chul Jung and Eun Jeong Kim

A Study on Interactive Explanation Boards Design and Evaluation for Active Aging Ecotourism ........................................... 160
Li-Shu Lu

A Pyramid Model of Inclusive Design to Get Outdoors for China’s Ageing People ......................................................... 173
Guoying Lu and Ting Zhang

Using Care Professionals as Proxies in the Design Process of Welfare Technology – Perspectives from Municipality Care .................................................. 184
Marie Sjölander, Isabella Scandurra, Anneli Avatare Nou, and Ella Kolkowska

Technology Experience Café—Enabling Technology–Driven Social Innovation for an Ageing Society ........................................ 199
Johannes Tröger, João Mariano, Sibila Marques, Joana Mendonça, Andrey Girenko, Jan Alexandersson, Bernard Stree, Michele Lamanna, Maurizio Lorenzatto, Louise Pierrl Mikkelsen, and Uffe Bundgaard-Jørgensen

Research on Age-Adaptive Design of Information Interaction Based on Physiological Characteristics of the Aged ................................................................. 211
Ming Zhou and Yajun Li

Product Design for the Elderly

Study on PSD Model with FAHP Method in the Product Design for Older Adults ............................................................... 223
Yongyan Guo and Minggang Yang

User Experience Design Research of New Types of Home Appliances Based on the Analysis of the Learning Curve of the Elderly .................. 233
Bin Jiang, Lili Tian, and Di Zhou

Analysis and Study on the Furniture Used by the Aging Population Based on the Quality of Sleep ......................................................... 244
Bin Jiang, Hui Niu, and Di Zhou

A Sensory Emotion Data System for Designing Information Appliances ............................................................................. 255
Yan Jin, Long Xu, and Sangwon Lee

Users’ Affective Response to Furniture Design Based on Public Openness .............................................................. 264
Yein Jo, Jeebin Yim, Hyeonsu Park, and Younah Kang
Contents – Part I

Emotions in Material Surfaces for Product Design

Donghwan Kim, Yun Jae Lee, Jiwon Kim, Hyerin Park, Min Hee Shin, Ji Hyun Lim, Choeun Kim, Taezoon Park, and Wonil Hwang

Study on the Product Packaging Color Identification of Elder Men and Elder Women

Jiajie Lyu and Delai Men

Research on the Design of Smart Pension Product Modeling Based on Brand Image

Xinxin Zhang, Minggang Yang, and Yan Zhou

Aging and User Experience

Acoustical Evaluation of Soundscape in Urban Spaces Along Traffic Corridor

Wei Lin, Wei-Hwa Chiang, Hsuan Lin, and Yi-Run Chen

Elderly Using Innovative Gesture Design of Satisfaction Performance

Shuo Fang Liu and Ming Hong Wang

A Study of Usability on Internet Map Website

Kuang-Chih Lo and Wang-Chin Tsai

How to Enhance Intergenerational Communication? The Influence of Family Orientation and Generation When Using Social Robots as an Intermediary

Fan Mo, Jia Zhou, and Shuping Yi

Factors in Fraudulent Emails that Deceive Elderly People

Jean-Robert Nino, Gustav Enström, and Alan R. Davidson

Silent Speech Interaction for Ambient Assisted Living Scenarios

António Teixeira, Nuno Vitor, João Freitas, and Samuel Silva

A Pilot Interface Evaluation Combined with Three-Dimensional Holography Concept for the Older Adults

Wang-Chin Tsai, Cheng-Min Tsai, Hui-Jiun Hu, and Kuang-Chih Lo

Personalized Computer Access for People with Severe Motor Disabilities: AsTeRICS, FlipMouse and the Two-Level Personalization Software Engineering Method

Chris Veigl, Martin Deinholfer, Benjamin Aigner, and Klaus Miesenberger
Digital Literacy and Training

The Positive and Negative Impact of an Intergenerational Digital Technology Education Programme on Younger People’s Perceptions of Older Adults. ................................................................. 419
  Lisbeth Drury, Ania Bobrowicz, Lindsey Cameron, and Dominic Abrams

Playful Method for Seniors to Embrace Information Technology. .......... 429
  Jeanette Eriksson

  Kelly S. Steelman, Kay L. Tislar, Leo C. Ureel II, and Charles Wallace

Gamification on Senior Citizen’s Information Technology Learning: The Mediator Role of Intrinsic Motivation ........................................ 461
  Kai Sun, Lingyun Qiu, and Meiyun Zuo

The Study of Teaching the Smartphone Using in Taiwan’s Elderly Population—A Case Study in Learners of the Senior Citizens Academy in a City of Taiwan ................................................................. 477
  Ming-Wei Wang

How to Guide the Use of Technology for Ageing-in-Place?
An Evidence-Based Educational Module ........................................ 486
  Eveline J.M. Wouters, Marianne E. Nieboer, Kirsten A. Nieboer, Marijke J.G.A. Moonen, Sebastiaan T.M. Peek,
  Anne-Mie A.G. Sponselee, Joost van Hoof, Claire S. van der Voort,
  and Katrien G. Luijkx

Exploring the Elders’ Information Needs on Home-Based Care:
A Community Service Perspective ........................................ 498
  Zhizheng Zhang and Yajun Li

Author Index ................................................................. 511
Human Aspects of IT for the Aged Population.
Applications, Services and Contexts
Zhou, J.; Salvendy, G. (Eds.)
2017, XXIV, 583 p. 178 illus., Softcover
ISBN: 978-3-319-58535-2