Contents – Part I

Design Thinking and Design Philosophy

Embed Design Thinking in Co-Design for Rapid Innovation of Design Solutions ................................................. 3
Sisira Adikari, Heath Keighran, and Hamed Sarbazhosseini

The X Factor: Defining the Concept of Experience .................. 15
Stefano Bussolon

Lean but not Mean UX: Towards a Spiral UX Design Model ........ 25
Hang Guo

An Integrated Framework for Design Thinking and Agile Methods for Digital Transformation ............................. 34
Kavitha Gurusamy, Narayanan Srinivasaraghavan, and Sisira Adikari

An Interactive Model of Creative Design Behavior with 3D Optical Technology ................................................. 43
Hao Jiang, Xiao-li Liu, Xiang Peng, and Ming-xi Tang

Developing High-Performing Teams: A Design Thinking Led Approach ... 53
Heath Keighran and Sisira Adikari

Empathy at Work: Using the Power of Empathy to Deliver Delightful Enterprise Experiences ................................. 65
Janaki Kumar, Eliad Goldwasser, and Prerna Seth

High Fives to the Avant-Garde ............................................. 73
Kurtis Lesick

Applying Matterology in Internet Product Design .................... 85
Hongrong Luo

User Experience Design of User Generated Content Products ........ 94
Hongyuan Ma

Cliché vs. Ingenuity for a Success Design ................................ 105
Oksana Orlenko

Enhancing User Experience Design with an Integrated Storytelling Method ... 114
Qiong Peng and Jean-Bernard Matterns
Accessible Icons for Deaf: An UX Approach ................................. 124
   Armando Cardoso Ribas, Luciane Maria Fadel, Tarcisio Vanzin, and Vania Ribas Ulbricht

Design Thinking Framework for Project Portfolio Management .......... 133
   Hamed Sarbazhosseini, Sisira Adikari, and Heath Keighran

Forward Thinking: An Integrated Framework for Formulating Vision, Strategy and Implementation ............................................. 141
   Narayanan Srinivasaraghavan, Kavitha Gurusamy, and Heath Keighran

The Epidemiology of Innovation .................................................. 150
   Tim Stock

User Interface and Interaction Design in Future Auto-Mobility ............ 161
   Hendrik Wahl and Rainer Groh

User Experience Design in “Internet Plus” Era .................................. 172
   Wentao Wang, Shiqi Liu, and Yang Zhang

User Experience Design Methods and Tools

Prototyping Complex Systems: A Diary Study Approach to Understand the Design Process ......................................................... 187
   Jumana Almahmoud, Almaha Almalki, Tarfah Alrashed, and Areej Alwabil

Usability Engineering of Agile Software Project Management Tools .......... 197
   Noura Alomar, Nouf Almobarak, Sarah Alkoblan, Sarah Alhozaimy, and Shahad Alharbi

Exploring the Role of Adults in Participatory Design for Children on the Autism Spectrum ...................................................... 209
   Bryan Boyle and Inmaculada Arnedillo-Sánchez

Usability Pattern Identification Through Heuristic Walkthroughs .......... 219
   Manuel Burghardt

User Methods and Approaches to Design Cognitive Systems ................ 231
   Heloisa Candello

Preliminary Studies on Exploring Autistic Sensory Perception with Sensory Ethnography and Biosensors .................................... 243
   Doğan Çolun and Asim Evren Yantaç

Evaluating the Expressiveness of MoLICC to Model the HCI of Collaborative Systems ......................................................... 255
   Luiz Gustavo de Souza, Simone Diniz Junqueira Barbosa, and Hugo Fuks
The Triad of Strengths: A Strengths-Based Approach for Designing with Autistic Adults with Additional Learning Disabilities ................................. 266
Katie Gaudion and Liz Pellicano

Scaffolding a Methodology for Situating Cognitive Technology Within Everyday Contexts ............................................................. 281
Michael Heidt, Madlen Wuttke, Peter Ohler, and Paul Rosenthal

The Research on Elderly-Adaptive Interface Design Based on Choice-Oriented Attention Theory ...................................................... 293
Bin Jiang and Dan Deng

Extracting Insights from Experience Designers to Enhance User Experience Design ................................................................. 304
Simon Kremer and Udo Lindemann

Developing a Lifestyle Design Approach in Brand Design Process Through UCD Methodology ................................................. 314
Honghai Li and Jun Cai

Transdisciplinarity, Community-Based Participatory Research, and User-Based Information Design Research: The D•VERSE Group and Two Projects ........................................................ 323
Judith A. Moldenhauer and Donnie Johnson Sackey

Gadgile Probing: Supporting Design of Active Mobile Interactions ............. 333
Susanne Koch Stigberg

Building Design Scenarios the Way Life Is Lived: The Contextual-Scenario Toolkit ................................................................................ 344
Eric H. Swanson

Conversion Method for User Experience Design Information and Software Requirement Specification .............................................. 356
Ayumi Takeda and Yosuke Hatakeyama

Enhancing Personas for Well-Being e-Services and Product Service Systems ......................................................................................... 365
Sauro Vicini, Adriano Gariglio, Francesco Alberti, Elettra Oleari, and Alberto Sanna

The 100,000 Participant Laboratory - A Crowd-Centered Approach to Design and Evaluate the Usability of Mobile Apps .......................... 377
Ming-Hui Wen
Usability and User Experience Evaluation Methods and Tools

Heuristic Evaluation for Novice Evaluators ........................................ 387
André de Lima Salgado and Renata Pontin de Mattos Fortes

Eye Tracking Usability Testing Enhanced with EEG Analysis ............... 399
Julia Falkowska, Janusz Sobecki, and Martyna Pietrzak

Usability Heuristics for Web Banking .................................................. 412
Natali Fierro and Claudia Zapata

A Comprehensive Stylus Evaluation Methodology and Design Guidelines . 424
Kanchan Jahagirdar, Edward Raleigh, Hanan Alnizami, Keith Kao,
and Philip J. Corriveau

A Simple Method to Record Keystrokes on Mobile Phones
and Other Devices for Usability Evaluations ....................................... 434
Brian T. Lin and Paul A. Green

A Systematic Review About User Experience Evaluation .................... 445
Camila Loiola Brito Maia and Elizabeth Sucupira Furtado

A Process-Based Approach to Test Usability of Multi-platform Mobile
Applications .......................................................................................... 456
Ingrid do Nascimento Mendes and Arilo Claudio Dias-Neto

Extending Empirical Analysis of Usability and Playability to Multimodal
Computer Games .................................................................................. 469
David Novick and Laura M. Rodriguez

Application of the Communicability Evaluation Method to Evaluate
the User Interface Design: A Case Study in Web Domain .................... 479
Freddy Paz, Freddy A. Paz, and José Antonio Pow-Sang

Validating Mobile Designs with Agile Testing in China: Based
on Baidu Map for Mobile .................................................................... 491
Jia Qu and Jing Zhang

Assessing the Customer eXperience Based on Quantitative Data:
Virtual Travel Agencies .......................................................................... 499
Virginica Rusu, Cristian Rusu, Daniel Guzmán, Diego Espinoza,
Daniel Rojas, Silvana Roncagliolo, and Daniela Quiñones

An Analysis of Data Collection Methods for User Participatory Design
for and with People with Autism Spectrum Disorders .......................... 509
Debra Satterfield, Sunghyun Kang, Christopher Lepage,
and Nora Ladjahasan
### Contents – Part II

#### Emotion, Motivation, and Persuasion Design

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visceral Design: Sites of Intra-action at the Interstices of Waves and Particles</td>
<td>3</td>
</tr>
<tr>
<td><em>Patricia Flanagan</em></td>
<td></td>
</tr>
<tr>
<td>A Study of Attributes of Affective Quality Affecting Judgment of Beauty for Simple Graphic User Interfaces</td>
<td>16</td>
</tr>
<tr>
<td><em>Shih-Miao Huang, Wu-Jeng Li, and Shu-Chu Tung</em></td>
<td></td>
</tr>
<tr>
<td>A Scheme for Representing Beneficial Inconvenience</td>
<td>25</td>
</tr>
<tr>
<td><em>Hiroshi Kawakami, Toshihiro Hiraoka, and Yuichi Hasebe</em></td>
<td></td>
</tr>
<tr>
<td>The Emotion and Personality User Perception in Multi-screen Interaction</td>
<td>34</td>
</tr>
<tr>
<td><em>In-Chu Liao, Yi-Shin Deng, and Hsiao-Chen You</em></td>
<td></td>
</tr>
<tr>
<td>Cuteness Design in the UX: An Initial Analysis</td>
<td>46</td>
</tr>
<tr>
<td><em>Aaron Marcus and Xiaojuan Ma</em></td>
<td></td>
</tr>
<tr>
<td>The Visceral Voice: Breath and the Politics of Vocalization</td>
<td>57</td>
</tr>
<tr>
<td><em>Frank Millward and Heather Keens</em></td>
<td></td>
</tr>
<tr>
<td>User-Interface Supporting Learners’ Motivation and Emotion:</td>
<td>67</td>
</tr>
<tr>
<td>A Case for Innovation in Learning Management Systems</td>
<td></td>
</tr>
<tr>
<td><em>Hana Ovesleová</em></td>
<td></td>
</tr>
<tr>
<td>Affective Design with Kansei Mining: An Empirical Study from</td>
<td>76</td>
</tr>
<tr>
<td>Automotive Industry in Indonesia</td>
<td></td>
</tr>
<tr>
<td><em>Amalia Suzianti, Septy Apriliandary, and Nabila Priscandy Poetri</em></td>
<td></td>
</tr>
<tr>
<td>Conflict Interfaces: Mediated Meditations on Desire, Fear and Anxiety</td>
<td>86</td>
</tr>
<tr>
<td><em>Matthew Wizinsky</em></td>
<td></td>
</tr>
<tr>
<td>Research on Appearance Design of Outdoor Cabinets Focusing on User’s Emotional Experience</td>
<td>98</td>
</tr>
<tr>
<td><em>Le Xi, Jianxin Cheng, Junnan Ye, and Wangqun Xiao</em></td>
<td></td>
</tr>
<tr>
<td>Emotion-Aware Music Recommendation</td>
<td>110</td>
</tr>
<tr>
<td><em>Jinhyeok Yang, WooJoung Chae, SunYeob Kim, and Hyebong Choi</em></td>
<td></td>
</tr>
<tr>
<td>Toward Long-Term Persuasion Using a Personified Agent</td>
<td>122</td>
</tr>
<tr>
<td><em>Akihito Yoshii and Tatsuo Nakajima</em></td>
<td></td>
</tr>
</tbody>
</table>
Mechanism of Persuasive Experience—A New Design and Evaluation
Framework of Persuasive Systems ......................................................... 132

Kaixiang Yu and Huiyang Li

**DUXU in Learning and Education**

The Use of OUP E-learning System in Teaching English Language in the Preparatory Year at the University of Dammam, Issues and Challenges ........ 147

Saad S. Alamri

Human-Centered Design with Autistic University Students: Interface, Interaction and Information Preferences ............................................. 157

Marc Fabri and Penny C.S. Andrews

Information and Universal Design in Online Courses .......................... 167

Luciane Maria Fadel, Viviane H. Kuntz, Vania R. Ulbricht, and Claudia R. Batista

The Design of Guidelines for Teachers and Parents in the Use of iPads to Support Children with Autism in the Development of Joint Attention Skills .......................................................... 178

Chrysoula Mangafa, Louise Moody, Andrée Woodcock, and Alex Woolner

Mobile Devices as Assistive Technologies for ASD: Experiences in the Classroom ................................................................. 187

David Roldán-Álvarez, Javier Gomez, Ana Márquez-Fernández, Estefanía Martín, and Germán Montoro

Evaluating Play-Personas of an Educational 3D Digital Game for University Students to Learn Portuguese as a Foreign Language .... 198

Roberta C.S. Salomão, Francisco Rebelo, and Fernando Gamboa Rodríguez

Prototyping and Interface Design of an Automated Screening Test to Evaluate the Linguistic Processing Abilities of School Children ........ 208

José Guilherme Santa Rosa, Tito Henrique Borges, João Bosco Santos, Márcio Sergio Filgueira, Thiago Oliveira, Leonor Sciar-Cabral, Mauricio Martins, Antonio Pereira Junior, and Beatriz Stransky

User Experience in the Era of O2O - Service Design Revolution of the Online Education ......................................................... 216

Ruixiang Shen
Games and Gamification

Analyzing Playability in Multi-platform Games: A Case Study of the Fruit Ninja Game ........................................... 229
Çakir Aker, Kerem Rizvanoğlu, Yavuz İnal, and Alan Sarp Yılmaz

Gamification Design Based Research on Fitness Mobile Application for University Students ..................................... 240
Fengjiao Cai, Guanyu Dai, and Ting Han

A Relational Model for Playful and Smart Game Design ................................................................. 252
Anna Priscilla de Albuquerque, Felipe Borba Breyer, and Judith Kelner

Questing Ruins: A Game for a Digital Inclusion ........................................................................ 264
Regina Heidrich, Francisco Rebelo, Marsal Branco, João Batista Mossmann, Anderson Schuh, Emely Jensen, and Tiago Oliveira

GEOpod: Using a Game-Style Interface to Explore a Serious Meteorological Database ........................................ 273
Blaise Liffick, Gary Zoppetti, Sepideh Yalda, and Richard Clark

Cathie Marache-Francisco and Eric Brangier

Information Design Elements in Videogames: A Proposed Classification ......................................................... 294
Rafael Pereira de Araujo and Virginia Tiradentes Souto

Digital Game for Teaching and Learning: An Analysis of Usability and Experience of Educational Games ................ 303
Rennan Raffaele, Breno Carvalho, Anthony Lins, Luiz Marques, and Marcelo Márcio Soares

Gamification in Education Through Design Thinking .................................................................................. 311
Graziela de Souza Sombrio, Leonardo Enrico Schimmelpfeng, Vânia Ribas Ulbricht, and Vilma Villarouco Santos

Design of a Gamified Interface to Improve Fuel Efficiency and Safe Driving .................................................. 322
Atiyeh Vaezipour, Andry Rakotonirainy, and Narelle Haworth

Usability and Motivational Effects of a Gamified Exercise and Fitness System Based on Wearable Devices ................ 333
Zhao Zhao, S. Ali Etemad, Ali Arya, and Anthony Whitehead
XXII  Contents – Part II

Culture, Language and DUXU

User Experience Changing Patterns of Chinese Users .......................... 347
Yanan Chen, Jing Liu, Guozhen Zhao, and Xianghong Sun

Health Education in Brazil: Assessment of the Understandability of Icons
for the e-Books Store SAITE App ...................................................... 358
Eurides Florindo de Castro Jr., Edilson Thialison da Silva Reis,
Camila Santos de Castro e Lima, Carla Galvão Spinillo,
and Ana Emilia Figueiredo de Oliveira

How to Improve the Overall Pre-purchase Experience Through a New
Category Structure Based on a Compatible Database: Gittigidiyor
(Ebay Turkey) Case ................................................................. 366
İrfan Gürvardar, Kerem Rizvanoğlu, Özgür Öztürk, and Özgür Yavuz

Achieving a User Friendly Error Message Design: Understanding the
Mindset and Preferences of Turkish Software Developers .............. 377
Yavuz Inal and Nesibe Ozen-Cinar

TIIARA: A Language Tool for Bridging the Language Gap ............ 386
Nouf Khashman, Elaine Ménard, and Jonathan Dorey

Localized Website Design Advisor: A Web-Based Tool Providing
Guidelines for Cross-Cultural Websites ...................................... 396
Abdalghani Mushtaha and Olga De Troyer

Understanding Chinese Internet Users .......................................... 407
Nan Wang

The Utilization of Chinese Traditional Elements in Social Media Marketing
of Indigenous Mobile Terminals .................................................. 416
Li Zhang and Xin Chang

DUXU for Social Innovation and Sustainability

A Review of Intervention Studies Aimed at Domestic Water Conservation... 427
Nicholas Benzoni and Cassandra Telenko

Financial Literacy in China as an Innovation Opportunity ............ 439
Jan Brejcha, Cong Wang, Xiaotong Wang, Ziwei Wang, Li Wang,
Qing Xu, Cheng Yang, Liangyu Chen, Yuxuan Luo, Yijian Cheng,
Shaopeng Zhang, Shuwen Liang, Xinru Liu, Huitian Miao,
Bingbing Wang, Nilin Chen, and Zhengjie Liu

Beyond Innovation Within the City Limits .................................. 451
Pavel Farkas
Why Energy Consumption Feedback Is not (Only) a Display Issue . . . . . . . . 461
   Myriam Fréjus and Dominique Martini

Chances for Urban Electromobility: Field Test of Intermodal Travel System
and Effect on Usage Intention . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 472
   Simon Himmel, Barbara S. Zaunbrecher, Martina Ziefle, and Markus C. Beutel

Disruptive UX for Sustainability: Radically Resolving User Needs Is Good
for Business and Environment . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 485
   Tao Huang

Pitfalls and Potentials of Home Energy Monitoring Feedback:
An Information Experience Critique . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 494
   Marlen Promann, Zhenyu Cheryl Qian, and Yingjie Victor Chen

User Experience Design for Green IT Products Through Wearable
Computing and Quantified Self . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 507
   Jingyan Qin, Sha Cao, and Xiaohui Wang

Proposal on Service Design for Social Innovation: Self-expression of
Adolescent to Parents . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 516
   Jae Sun Yi

The Third-Type Settlement: Research of Unified Urban and Rural Living
Organisms and Its Interaction Design . . . . . . . . . . . . . . . . . . . . . . . . . . . . 527
   Wei Yu and Xinyu Jiang

Usability and User Experience Studies

Analysis of Product Use by Means of Eye Tracking and EEG:
A Study of Neuroergonomics . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 539

A Survey for Monitoring the Users’ Profile and Information Technology
Needs in Biodiversity Information Systems . . . . . . . . . . . . . . . . . . . . . . . . . 549
   Thiago Adriano Coleti, Marcelo Morandini, and Pedro Luiz Pizzigatti Correa

Learnability Testing of a Complex Software Application . . . . . . . . . . . . . . . 560
   Cheryl L. Coyle and Mary Peterson

Usability Testing Results for a Mobile Medical Transition Application . . . . 569
   Jeremy Dixon, Josh Dehlinger, Shannan DeLany Dixon, and Joyram Chakraborty
How Serif and Sans Serif Typefaces Influence Reading on Screen: An Eye Tracking Study .................................................. 578
   Berrin Dogusoy, Filiz Cicek, and Kursat Cagiltay

Usability Evaluation of a Gestural Interface Application for Children .......... 587
   Valéria Farinazzo Martins, Paulo N.M. Sampaio, Andrea Niedermeyer, and Marcelo de Paiva Guimarães

Improvement Design of the Clinical Upper Extremity Rehabilitation Product for Stroke Patients ........................................... 597
   Lan-Ling Huang, Hsi-Hsun Yang, Chang-Franw Lee, and Mei-Hsiang Chen

Assessing the Cooperation Portal’s Usability Based on the Proposition of Users’ Needs ..................................................... 606
   Clarissa Lins, André Pinho, and José Guilherme Santa Rosa

What Do Users Prefer: Concrete or Abstract User Interface? ..................... 618
   Abbas Moallem

Printed Matter as an Interactive System ........................................ 625
   Marco Neves

How Do the User Experiences of Everyday Content Differ from Those of Academic Content? ............................................. 638
   Emine Sendurur

Animation on How to Take Medicines: A Study of Electronic Patient Leaflets in Brazil ........................................................ 647
   Carla Galvão Spinillo

Usability Evaluation of the Cockpit Display System .............................. 655
   Hong-jun Xue, Xiu-bo Yu, and Xiao-yan Zhang

Based on High Order Aberration Analysis of Influence Index of Vision Fatigue by Watching 3D TV ........................................... 663
   Fan Yang, Jianqi Cai, Ya Guo, Qianxian Zhou, and Zhongqi Liu

User Experience Studies Based on Expectation Dis-confirmation Theory .... 670
   Zhigang Zhang, Wangshu Cheng, and Zhenyu Gu

Accessibility and Usability of Websites Intended for People with Disabilities: A Preliminary Study ....................................... 678
   Emilene Zitkus, Aline C. Brigatto, Ana Lya M. Ferrari, Gabriel H.C. Bonfim, Idinei F.P. Carvalho Filho, Thais D. Reis, Fausto O. Medola, and Luis C. Paschoarelli
Passenger Friendly Bus Stop Signs Design by Integrating Kano’s Model into Riding Needs Analysis .......................... 689

Chuan-yu Zou, Guangxin Wang, Yijun Chen, and Yongquan Chen

Author Index ................................................................. 699
Contents – Part III

Mobile DUXU

Comparison of Mobile Input Methods ................................................. 3  
  Gencay Deniz and Pinar Onay Durdu
Where-How-What Am I Feeling: User Context Logging in Automated  
Usability Tests for Mobile Software .............................................. 14  
  Jackson Feijó Filho, Wilson Prata, and Juan Oliveira
QAZ Keyboard: QWERTY Based Portrait Soft Keyboard ..................... 24  
  Hiroyuki Hakoda, Buntarou Shizuki, and Jiro Tanaka
Service Modeling for Situation-Aware Communication Method Decision ... 36  
  Jungkiih Hong, Scott Song, Minseok Kim, and Wonseok Lee
Aspect-Oriented Approach for User Interaction Logging of iOS  
Applications .................................................................................. 45  
  Ilka Kokemor and Hans-Peter Hutter
Comparing Android App Permissions ................................................. 57  
  Jason K. MacDuffie and Patricia A. Morreale
Touch Zone Sizing for Mobile Devices in Military Applications .......... 65  
  Jerry Ray, Stuart Michelson, Chandler Price, and Cara Fausset
Applying Flow Theory to Predict User-Perceived Performance of Tablets ... 77  
  James Scovell and Rina Doherty
“One Doesn’t Fit All”: A Comparative Study of Various Finger Gesture  
Interaction Methods ..................................................................... 88  
  Tiffany Y. Tang, Maldini Yifan He, and Vince Lineng Cao
Study of Smart Watch Interface Usability Evaluation Based  
on Eye-Tracking .......................................................................... 98  
  Yixiang Wu, Jianxin Cheng, and Xinhui Kang

DUXU in Information Design and Visualization

Balancing Tradeoffs in the Design of an Interactive Art Installation on  
Surveillance and Big Data .............................................................. 113  
  Simone Ashby, Julian Hanna, Katie Ramp, and Jennifer Baranoff
Learning from the Users for Spatio-Temporal Data Visualization
Explorations on Social Events ........................................... 124
  
  Damla Çay and Asım Evren Yantaç

Data-Intensive Analytics for Cat Bonds by Considering Supply Chain Risks . . . 136
  Linda Eggert, Yingjie Fan, and Stefan Voß

A Framework to Evaluate User Empowerment in Decision-Making
Experiences with Participatory GIS ........................................ 148
  Elizabeth Sucupira Furtado, Lara Furtado, and Vasco Furtado

Robust Design: An Image Analysis Tool for Analyzing Information Loss
Caused by Viewers and Environments ........................................ 159
  Sung Soo Hwang

Systematic Application of Circle-Similar Shapes to Visualize Database-
Homogeneity in a Big Data Environment ........................................ 167
  Verena Lechner, Karl-Heinz Weidmann, and Isabella Hämmerle

The Exploration of User Knowledge Architecture Based on Mining User
Generated Contents – An Application Case of Photo-Sharing Website ........ 180
  Nan Liang, Jiaming Zhong, Di Wang, and Liqun Zhang

Open Data Evolution in Information Systems Research: Considering Cases
of Data-Intensive Transportation and Grid Systems ........................................ 193
  Frederik Schulte, Hashim Iqbal Chunpir, and Stefan Voß

Multisensory Physical Environments for Data Representation ......................... 202
  Patricia Search

Creative Interaction for Plasma Physics ........................................ 214
  Han Sol Shin, Jee Ho Song, Tae Jun Yu, and Kun Lee

Mining and Construction of User Experience Content: An Approach of
Feature Analysis Based on Image ........................................ 223
  Di Wang, Nan Liang, Jiaming Zhong, and Liqun Zhang

**DUXU in Virtual and Augmented Reality**

Authoring Tools for Augmented Reality: An Analysis and Classification of
Content Design Tools ......................................................... 237
  Rafael Alves Roberto, João Paulo Lima, Roberta Cabral Mota,
  and Veronica Teichrieb

Remote HRI and Mixed Reality, an Ontology ........................................ 249
  Carolina Cani D.L., Felipe B. Breyer, and Judith Kelner
Virtual Display of 3D Computational Human Brain Using Oculus Rift . . . . . 258
  Seung-Wook Kim and Joon-Kyung Seong

Designing Affordances for Virtual Reality-Based Services with Natural
User Interaction ......................................................... 266
  Takayuki Miura, Akihito Yoshii, and Tatsuo Nakajima

Metaphors and Embodiment in Virtual Reality Systems ...................... 278
  Ana Carol Pontes de França

We Are All Cyborgs: Body-Machine and Body-Information in Virtual
Reality Systems .......................................................... 287
  Ana Carol Pontes de França, Joaquim de Vasconcelos Pereira Neto,
  and Marcelo Mário Soares

Use of Virtual Reality and Human-Computer Interface for Diagnostic
and Treatment Purposes in Human Sexuality Research ...................... 294
  Daniel Říha, Klára Bártová, and Jakub Binter

**DUXU for Smart Objects and Environments**

The Interaction Design of Household Intelligent Breathing Training System . . 309
  Zhanxun Dong, Lu Liu, and Weiwei Li

Speech Matters – Psychological Aspects of Artificial versus
Anthropomorphic System Voices in User-Companion Interaction .......... 319
  Swantje Ferchow, Matthias Haase, Julia Krüger, Matthias Vogel,
  Mathias Wahl, and Jörg Frommer

Expression of Emotions by a Service Robot: A Pilot Study .................. 328
  Angela Giambattista, Luís Teixeira, Hande Ayanoglu, Magda Saraiva,
  and Emília Duarte

An Exploratory Study on Consumer’s Needs on Smart Home in Korea ....... 337
  Sunwoo Kim and Jeonghyuk Yoon

MUVA: A Multimodal Visceral Design Ambient Device ....................... 346
  Robert Kivac, Sune Øllgaard Klem, Sophus Bénéé Olsen,
  Amalie Bækgaard Solander, Simon Dyrberg von Spreckelsen,
  Evangelia Triantafyllou, and Georgios A. Triantafyllidis

IoT Connectivity Interface in Tizen: Smart TV Scenarios .................... 357
  Gaeun Lee and Minjin Rho
A Framework for Designing UX of Sharing ‘Internet of Things (IoT)’ System and Service: Case Study of UX Development of Community Laundry Machines ................................................................. 365
   Minjoo Lee, Dasom Jeong, Hayoung Jeong, Enoch Lee, and Moonkyu Song

Evaluation of an Inverse-Kinematics Depth-Sensing Controller for Operation of a Simulated Robotic Arm ................................................................. 373
   Akhilesh Kumar Mishra, Lourdes Peña-Castillo, and Oscar Meruvia-Pastor

The Simpler the Better: How the User-Inspired Innovation Process (UIIP) Improved the Development of RelaxedCare – the Entirely New Way of Communicating and Caring ................................................................. 382
   Martin Morandell, Sandra Dittenberger, Andrea Koscher, Emanuel Sandner, and Mirsolav Sili

Design Factors for the Location and Arrangement of Control Actuators .......... 392
   Weiyu Sun, Junmin Du, Huimin Hu, and Xuehuan Hu

Building a Soft Machine: New Modes of Expressive Surfaces ..................... 401
   Amy Winters

Study of Usability Evaluation on Display Interface for Intelligent Electric Cooker ............................................................................................................ 414
   Yanlong Yao, Yinxia Li, Hui-min Hu, Yunhong Zhang, and Siyuan Liu

Research on User Experience Driven Product Architecture of Smart Device ... 425
   Jiaming Zhong, Di Wang, Nan Liang, and Liqun Zhang

Author Index ............................................................................................... 435
Design, User Experience, and Usability: Design Thinking and Methods
Marcus, A. (Ed.)
2016, XXX, 533 p. 213 illus., Softcover
ISBN: 978-3-319-40408-0