

Contents – Part I

Accessibility

Assisted Interaction Data Analysis of Web-Based User Studies	1
<i>Xabier Valencia, J. Eduardo Pérez, Unai Muñoz, Myriam Arrue, and Julio Abascal</i>	
Technology Acceptance Evaluation by Deaf Students Considering the Inclusive Education Context	20
<i>Soraia Silva Prietch and Lucia Vilela Leite Filgueiras</i>	
Understanding Touch and Motion Gestures for Blind People on Mobile Devices	38
<i>Marco Romano, Andrea Bellucci, and Ignacio Aedo</i>	
Virtual Buttons for Eyes-Free Interaction: A Study	47
<i>Jens Bauer and Achim Ebert</i>	

Accessible Interfaces for Blind People

Comparing Concurrent and Retrospective Verbal Protocols for Blind and Sighted Users	55
<i>Andreas Savva, Helen Petrie, and Christopher Power</i>	
Exploring Map Orientation with Interactive Audio-Tactile Maps	72
<i>Alistair D.N. Edwards, Nazatul Naquiah Abd Hamid, and Helen Petrie</i>	
Inclusive Production of Tactile Graphics	80
<i>Jens Bornschein, Denise Prescher, and Gerhard Weber</i>	
Navigation Problems in Blind-to-Blind Pedestrians Tele-assistance Navigation	89
<i>Jan Balata, Zdenek Mikovec, and Ivo Maly</i>	

Accessible Interfaces for Older Adults

Prototyping TV and Tablet Facebook Interfaces for Older Adults	110
<i>José Coelho, Fábio Rito, Nuno Luz, and Carlos Duarte</i>	
Socially Networked or Isolated? Differentiating Older Adults and the Role of Tablets and Television	129
<i>José Coelho and Carlos Duarte</i>	

Using Photo Diaries to Elicit User Requirements from Older Adults: A Case Study on Mobility Barriers	147
<i>David Swallow, Helen Petrie, Christopher Power, and Alistair D.N. Edwards</i>	

Affective HCI and Emotions and Motivational Aspects

Design Criteria for Stimulating Emotions in Web Applications	165
<i>Giulio Mori, Fabio Paternò, and Ferdinando Furci</i>	

Emotion Detection in Non-native English Speakers' Text-Only Messages by Native and Non-native Speakers	183
<i>Ari Hautasaari and Naomi Yamashita</i>	

Making Decisions About Digital Legacy with Google's Inactive Account Manager	201
<i>Raquel O. Prates, Mary Beth Rosson, and Clarisse S. de Souza</i>	

Shedding Lights on Human Values: An Approach to Engage Families with Energy Conservation	210
<i>Janine Huizenga, Lara S.G. Piccolo, Meia Wippoo, Christoph Meili, and Andrew Bullen</i>	

Gamification of Online Surveys: Design Process, Case Study, and Evaluation	219
<i>Johannes Harms, Stefan Biegler, Christoph Wimmer, Karin Kappel, and Thomas Grechenig</i>	

Mind the Gap! Comparing Retrospective and Concurrent Ratings of Emotion in User Experience Evaluation	237
<i>Anders Bruun and Simon Ahm</i>	

Recognizing Emotions in Human Computer Interaction: Studying Stress Using Skin Conductance	255
<i>Alexandros Liapis, Christos Katsanos, Dimitris Sotiropoulos, Michalis Xenos, and Nikos Karousos</i>	

LEGO Pictorial Scales for Assessing Affective Response	263
<i>Mohammad Obaid, Andreas Dünser, Elena Moltchanova, Danielle Cummings, Johannes Wagner, and Christoph Bartneck</i>	

The Influence of Motivation on Emotional Experience in E-commerce.	281
<i>Samaneh Soleimani and Effie Lai-Chong Law</i>	

The Presenter Experience of Canvas Presentations.	289
<i>Leonhard Lichtschlag, Philipp Wacker, Martina Ziefle, and Jan Borchers</i>	

Using Online Reviews as Narratives to Evoke Designer’s Empathy.	298
<i>Christiane Grünloh, Åke Walldius, Gerhard Hartmann, and Jan Gulliksen</i>	

Alternative Input

AirDisplay: Experimenting with Air Flow as a Communication Medium	316
<i>Omar Mowafi, Mohamed Khamis, and Wael Abouelsaadat</i>	
Experiencing the Elements – User Study with Natural Material Probes	324
<i>Jonna Häkklä, Yun He, and Ashley Colley</i>	
PrintPut: Resistive and Capacitive Input Widgets for Interactive 3D Prints . .	332
<i>Jesse Burstyn, Nicholas Fellion, Paul Strohmeier, and Roel Vertegaal</i>	
ReservoirBench: An Interactive Educational Reservoir Engineering Workbench.	340
<i>Sowmya Somanath, Allan Rocha, Hamidreza Hamdi, Ehud Sharlin, and Mario Costa Sousa</i>	
Shape-Change for Zoomable TUIs: Opportunities and Limits of a Resizable Slider	349
<i>Céline Coutrix and Cédric Masclet</i>	

Alternative Input Devices for People with Disabilities

Eyes and Keys: An Evaluation of Click Alternatives Combining Gaze and Keyboard.	367
<i>Ken Neth Yeoh, Christof Lutteroth, and Gerald Weber</i>	
Interactions Under the Desk: A Characterisation of Foot Movements for Input in a Seated Position	384
<i>Eduardo Velloso, Jason Alexander, Andreas Bulling, and Hans Gellersen</i>	
Life in the Fast Lane: Effect of Language and Calibration Accuracy on the Speed of Text Entry by Gaze	402
<i>Kari-Jouko Räihä</i>	

Interfaces for Cognitive Support

Cognitive Accessibility for Mentally Disabled Persons.	418
<i>Stefan Johansson, Jan Gulliksen, and Ann Lantz</i>	
Design and Evaluation of Mobile Learning Applications for Autistic Children in Pakistan	436
<i>Muneeb Imtiaz Ahmad and Suleman Shahid</i>	

Exercises for German-Speaking Children with Dyslexia	445
<i>Maria Rauschenberger, Silke Fücksel, Luz Rello, Clara Bayarri, and Jörg Thomaschewski</i>	
Serious Games for Cognitive Training in Ambient Assisted Living Environments – A Technology Acceptance Perspective	453
<i>Jan Wittland, Philipp Brauner, and Martina Ziefle</i>	
Brain-Computer Interaction	
Continuous Mental Effort Evaluation During 3D Object Manipulation Tasks Based on Brain and Physiological Signals.	472
<i>Dennis Wobrock, Jérémy Frey, Delphine Graeff, Jean-Baptiste de la Rivière, Julien Castet, and Fabien Lotte</i>	
Continuous Tactile Feedback for Motor-Imagery Based Brain-Computer Interaction in a Multitasking Context.	488
<i>Camille Jeunet, Chi Vi, Daniel Spelmezan, Bernard N’Kaoua, Fabien Lotte, and Sriram Subramanian</i>	
Towards Brain Computer Interfaces for Recreational Activities: Piloting a Drone	506
<i>Nataliya Kosmyna, Franck Tarpin-Bernard, and Bertrand Rivet</i>	
Cognitive Factors	
A Human Cognitive Processing Perspective in Designing E-Commerce Checkout Processes	523
<i>Marios Belk, Panagiotis Germanakos, Argyris Constantinides, and George Samaras</i>	
Bilingual Reading Experiences: What They Could Be and How to Design for Them	531
<i>Clément Pillias and Pierre Cubaud</i>	
Dynamic Workload Adjustments in Human-Machine Systems Based on GSR Features.	550
<i>Jianlong Zhou, Ju Young Jung, and Fang Chen</i>	
Text Touching Effects in Active Reading: The Impact of the Use of a Touch-Based Tablet Device	559
<i>Hirohito Shibata, Kentaro Takano, and Shun’ichi Tano</i>	
Author Index	577

Contents – Part II

Computer-Supported Cooperative Work and Social Computing

EmbodiNet: Enriching Distributed Musical Collaboration Through Embodied Interactions	1
<i>Dalia El-Shimy and Jeremy R. Cooperstock</i>	
Preference Elicitation and Negotiation in a Group Recommender System	20
<i>Jesús Omar Álvarez Márquez and Jürgen Ziegler</i>	
The #selfiestation: Design and Use of a Kiosk for Taking Selfies in the Enterprise	38
<i>Casey Dugan, Sven Laumer, Thomas Erickson, Wendy Kellogg, and Werner Geyer</i>	
The LuminUs: Providing Musicians with Visual Feedback on the Gaze and Body Motion of Their Co-performers	47
<i>Evan Morgan, Hatice Gunes, and Nick Bryan-Kinns</i>	
An Artifact Ecology in a Nutshell: A Distributed Cognition Perspective for Collaboration and Coordination	55
<i>Christina Vasiliou, Andri Ioannou, and Panayiotis Zaphiris</i>	
Assessing a Collaborative Application for Comic Strips Composition	73
<i>Eleonora Mencarini, Gianluca Schiavo, Alessandro Cappelletti, Oliviero Stock, and Massimo Zancanaro</i>	
Augmenting Collaborative MOOC Video Viewing with Synchronized Textbook	81
<i>Nan Li, Łukasz Kidziński, and Pierre Dillenbourg</i>	
EXCITE: EXploring Collaborative Interaction in Tracked Environments	89
<i>Nicolai Marquardt, Frederico Schardong, and Anthony Tang</i>	
The Usefulness of Method-Resources for Evaluating a Collaborative Training Simulator	98
<i>Ebba Thora Hvannberg, Gyda Halldorsdottir, and Jan Rudinsky</i>	

End-User Development

Flat Design vs Traditional Design: Comparative Experimental Study	106
<i>Ivan Burmistrov, Tatiana Zlokazova, Anna Izmailkova, and Anna Leonova</i>	

How to Organize the Annotation Systems in Human-Computer Environment: Study, Classification and Observations	115
<i>Anis Kalboussi, Nizar Omheni, Omar Mazhoud, and Ahmed Hadj Kacem</i>	
Mini-Orb: A Personal Indoor Climate Preference Feedback Interface	134
<i>Markus Rittenbruch, Jared Donovan, and Yasuhiro Santo</i>	
Prototyping the Self-Authored Video Interview: Challenges and Opportunities	150
<i>Stephen Snow, Markus Rittenbruch, and Margot Brereton</i>	
Evaluation Methods/Usability Evaluation	
An Empirical Study of the Effects of Three Think-Aloud Protocols on Identification of Usability Problems	159
<i>Anders Bruun and Jan Stage</i>	
An Observational Study of How Experienced Programmers Annotate Program Code	177
<i>Craig J. Sutherland, Andrew Luxton-Reilly, and Beryl Plimmer</i>	
Around-Device Interactions: A Usability Study of Frame Markers in Acquisition Tasks	195
<i>Fernando Garcia-Sanjuan, Alejandro Catala, Geraldine Fitzpatrick, and Javier Jaen</i>	
On Applying Experience Sampling Method to A/B Testing of Mobile Applications: A Case Study	203
<i>Myunghee Lee and Gerard J. Kim</i>	
Usability Aspects of the Inside-in Approach for Ancillary Search Tasks on the Web	211
<i>Marco Winckler, Ricardo Cava, Eric Barboni, Philippe Palanque, and Carla Freitas</i>	
Using Affinity Diagrams to Evaluate Interactive Prototypes	231
<i>Andrés Lucero</i>	
What Users Prefer and Why: A User Study on Effective Presentation Styles of Opinion Summarization	249
<i>Xiaojun Yuan, Ning Sa, Grace Begany, and Huahai Yang</i>	
A Comparison of Five HSV Color Selection Interfaces for Mobile Painting Search	265
<i>Min Zhang, Guoping Qiu, Natasha Alechina, and Sarah Atkinson</i>	

Computer-Related Attribution Styles: Typology and Data Collection Methods.	274
<i>Adelka Niels and Monique Janneck</i>	
Reciprocity in Rapid Ethnography: Giving Back by Making the Small Things Count	292
<i>Pieter Duysburgh and Karin Slegers</i>	
Testing the Unknown – Value of Usability Testing for Complex Professional Systems Development	300
<i>Kimmo Tarkkanen, Ville Harkke, and Pekka Reijonen</i>	
Eye Tracking	
An Empirical Investigation of Gaze Selection in Mid-Air Gestural 3D Manipulation	315
<i>Eduardo Velloso, Jayson Turner, Jason Alexander, Andreas Bulling, and Hans Gellersen</i>	
Four Eyes See More Than Two: Shared Gaze in the Car	331
<i>Sandra Trösterer, Magdalena Gärtner, Martin Wuchse, Bernhard Maurer, Axel Baumgartner, Alexander Meschtscherjakov, and Manfred Tscheligi</i>	
Gaze+touch vs. Touch: What's the Trade-off When Using Gaze to Extend Touch to Remote Displays?	349
<i>Ken Pfeuffer, Jason Alexander, and Hans Gellersen</i>	
Gesture Interaction	
Gestu-Wan - An Intelligible Mid-Air Gesture Guidance System for Walk-up-and-Use Displays	368
<i>Gustavo Rovelto, Donald Degraen, Davy Vanacken, Kris Luyten, and Karin Coninx</i>	
Natural Interaction with Video Environments Using Gestures and a Mirror Image Avatar	387
<i>Christian Kray, Dennis Wilhelm, Thore Fechner, and Morin Ostknap</i>	
Sci-Fi Gestures Catalog: Understanding the Future of Gestural Interaction . . .	395
<i>Lucas S. Figueiredo, Mariana Pinheiro, Edvar Vilar Neto, Thiago Chaves, and Veronica Teichrieb</i>	
TV Interaction Beyond the Button Press: Exploring the Implications of Gesture, Pressure and Breath as Interaction Mechanisms for a TV User Interface.	412
<i>Regina Bernhaupt, Antoine Desnos, Michael Pirker, and Daniel Schwaiger</i>	

HCI and Security

“I Agree”: The Effects of Embedding Terms of Service Key Points in Online User Registration Form	420
<i>Matjaž Kljun, Jernej Vičič, Klen Čopič Pucihar, and Branko Kavšek</i>	
Automatic Privacy Classification of Personal Photos	428
<i>Daniel Buschek, Moritz Bader, Emanuel von Zezschwitz, and Alexander De Luca</i>	
CipherCard: A Token-Based Approach Against Camera-Based Shoulder Surfing Attacks on Common Touchscreen Devices	436
<i>Teddy Seyed, Xing-Dong Yang, Anthony Tang, Saul Greenberg, Jiawei Gu, Bin Zhu, and Xiang Cao</i>	
Digital Signage Effectiveness in Retail Stores	455
<i>Mari Ervasti, Juha Häikiö, Minna Isomursu, Pekka Isomursu, and Tiina Liuska</i>	
Toward a Deeper Understanding of Data Analysis, Sensemaking, and Signature Discovery	463
<i>Sheriff Jolaoso, Russ Burtner, and Alex Endert</i>	

HCI for Developing Regions and Social Development

HCI Practices in the Nigerian Software Industry	479
<i>Abiodun Ogunyemi, David Lamas, Emmanuel Rotimi Adagunodo, and Isaias Barreto da Rosa</i>	
Penan’s Oroo’ Short Message Signs (PO-SMS): Co-design of a Digital Jungle Sign Language Application	489
<i>Tariq Zaman and Heike Winschiers-Theophilus</i>	
The Whodunit Challenge: Mobilizing the Crowd in India.	505
<i>Aditya Vashistha, Rajan Vaish, Edward Cutrell, and William Thies</i>	
Wayfinding Behavior in India.	522
<i>Naveed Ahmed</i>	

HCI for Education

Evaluating Digital Tabletop Collaborative Writing in the Classroom	531
<i>Philip Heslop, Anne Preston, Ahmed Kharrufa, Madeline Balaam, David Leat, and Patrick Olivier</i>	

Evaluating the Accuracy of Pre-kindergarten Children Multi-touch Interaction	549
<i>Vicente Nacher and Javier Jaen</i>	
The 5-Step Plan: Empowered Children’s Robotic Product Ideas	557
<i>Lara Lammer, Astrid Weiss, and Markus Vincze</i>	
Using IMUs to Identify Supervisors on Touch Devices	565
<i>Ahmed Kharrufa, James Nicholson, Paul Dunphy, Steve Hodges, Pam Briggs, and Patrick Olivier</i>	
Design and Usability Evaluation of Adaptive e-learning Systems Based on Learner Knowledge and Learning Style.	584
<i>Mohammad Alshammari, Rachid Anane, and Robert J. Hendley</i>	
How Does HCI Research Affect Education Programs? A Study in the Brazilian Context	592
<i>Isabela Gasparini, Simone Diniz Junqueira Barbosa, Milene Selbach Silveira, Sílvia Amélia Bim, and Clodis Boscarioli</i>	
MindMiner: A Mixed-Initiative Interface for Interactive Distance Metric Learning	611
<i>Xiangmin Fan, Youming Liu, Nan Cao, Jason Hong, and Jingtao Wang</i>	
Author Index	629

Contents – Part III

HCI for Global Software Development

An Interactive Approach for Inspecting Software System Measurements	1
<i>Taimur Khan, Henning Barthel, Karsten Amrhein, Achim Ebert, and Peter Liggesmeyer</i>	
Non-response, Social Exclusion, and False Acceptance: Gatekeeping Tactics and Usability Work in Free-Libre Open Source Software Development	9
<i>Mikko Rajanen, Netta Iivari, and Arto Lanamäki</i>	
Task Allocation Between UX Specialists and Developers in Agile Software Development Projects	27
<i>Kati Kuusinen</i>	

HCI in Healthcare

Breathe with Touch: A Tactile Interface for Breathing Assistance System . . .	45
<i>Bin Yu, Loe Feijs, Mathias Funk, and Jun Hu</i>	
Low-Income Parents' Values Involving the Use of Technology for Accessing Health Information	53
<i>David Muñoz and Rosa I. Arriaga</i>	
Probing the Potential of Multimedia Artefacts to Support Communication of People with Dementia	71
<i>Alina Hultgren, Fabian Mertl, Anja Vormann, and Chris Geiger</i>	
Smartphone-Based Gait Measurement Application for Exercise and Its Effects on the Lifestyle of Senior Citizens	80
<i>Takahiro Miura, Ken-ichiro Yabu, Atsushi Hiyama, Noriko Inamura, Michitaka Hirose, and Tohru Ifukube</i>	

HCI Studies

Swimming the Channels: An Analysis of Online Archival Reference Enquiries	99
<i>Joseph Pugh and Christopher Power</i>	
“Not Some Trumped Up Beef”: Assessing Credibility of Online Restaurant Reviews.	116
<i>Marina Kobayashi, Victoria Schwanda Sosik, and David Huffaker</i>	

An Empirical Investigation of the Practices and Challenges Specific to International User Studies	132
<i>Sabine Madsen, Lene Nielsen, Heidi Hautopp, and Iben Jensen</i>	
Entity-Centric Visualization of Open Data	149
<i>Sajan Raj Ojha, Mladjan Jovanovic, and Fausto Giunchiglia</i>	
Mindful Gaming: How Digital Games Can Improve Mindfulness	167
<i>Jacek Sliwinski, Mary Katsikitis, and Christian Martyn Jones</i>	
The Affordances of Broken Affordances	185
<i>Martin Gielsgaard Grünbaum and Jakob Grue Simonsen</i>	

Human-Robot Interaction

Deploying Robots in a Production Environment: A Study on Temporal Transitions of Workers’ Experiences	203
<i>Daniela Wurhofer, Thomas Meneweger, Verena Fuchsberger, and Manfred Tscheligi</i>	
Finding Objects Faster in Dense Environments Using a Projection Augmented Robotic Arm	221
<i>Hind Gacem, Gilles Bailly, James Eagan, and Eric Lecolinet</i>	
It’s Not the Way You Look, It’s How You Move: Validating a General Scheme for Robot Affective Behaviour	239
<i>Jekaterina Novikova, Gang Ren, and Leon Watts</i>	

Interactive Tabletops

HoverSpace: Analyses of the Perceived Spatial Affordances of Hover Interaction Above Tabletop Surfaces	259
<i>Paul Lubos, Oscar Ariza, Gerd Bruder, Florian Daiber, Frank Steinicke, and Antonio Krüger</i>	
In-Situ Occlusion Resolution for Hybrid Tabletop Environments	278
<i>Jan Riemann, Mohammadreza Khalilbeigi, and Max Mühlhäuser</i>	
MovemenTable: The Design of Moving Interactive Tabletops.	296
<i>Kazuki Takashima, Yusuke Asari, Hitomi Yokoyama, Ehud Sharlin, and Yoshifumi Kitamura</i>	

Mobile and Ubiquitous Interaction

If You Are Happy and You Know It, Say “I’m Here”: Investigating Parents’ Location-Sharing Preferences	315
<i>Paolo Massa, Chiara Leonardi, Bruno Lepri, Fabio Pianesi, and Massimo Zancanaro</i>	

Navigation in Long Forms on Smartphones: Scrolling Worse than Tabs, Menus, and Collapsible Fieldsets	333
<i>Johannes Harms, Martina Kratky, Christoph Wimmer, Karin Kappel, and Thomas Grechenig</i>	
Synchronising Live Second Screen Applications with TV Broadcasts Through User Feedback	341
<i>Pedro Centieiro, Teresa Romão, A. Eduardo Dias, and Rui Neves Madeira</i>	
UbiBeam: Exploring the Interaction Space for Home Deployed Projector-Camera Systems	350
<i>Jan Gugenheimer, Pascal Knierim, Christian Winkler, Julian Seifert, and Enrico Rukzio</i>	
Cue Now, Reflect Later: A Study of Delayed Reflection of Diary Events. . . .	367
<i>Ming Ki Chong, Jon Whittle, Umar Rashid, and Chee Siang Ang</i>	
Tick that Box: Interactive Paper Documents	376
<i>Yomna Abdelrahman, Thomas Kubitz, Katrin Wolf, Norman Pohl, and Albrecht Schmidt</i>	
Towards Deeper Understanding of User Experience with Ubiquitous Computing Systems: Systematic Literature Review and Design Framework. . .	384
<i>Kaisa Väänänen-Vainio-Mattila, Thomas Olsson, and Jonna Häkkinä</i>	
<i>uCanvas</i> : A Web Framework for Spontaneous Smartphone Interaction with Ubiquitous Displays	402
<i>Tilman Dingler, Tobias Bagg, Yves Grau, Niels Henze, and Albrecht Schmidt</i>	
Wireless Smartphone Mirroring in Video Calls	410
<i>Henrik Sørensen, Kenton O'Hara, Phil Gosset, and Jesper Kjeldskov</i>	

Mullti-screen Visualization and Large Screens

Disperse: Enabling Web-Based Visualization in Multi-screen and Multi-user Environments	418
<i>Megan Monroe and Casey Dugan</i>	
Evaluation of Distance-Aware Bimanual Manipulation Techniques for Large High-Resolution Displays.	436
<i>Anke Lehmann and Oliver Staadt</i>	
Should I Stay or Should I Go? Selecting Between Touch and Mid-Air Gestures for Large-Display Interaction	455
<i>Mikkel R. Jakobsen, Yvonne Jansen, Sebastian Boring, and Kasper Hornbæk</i>	

Participatory Design

<i>Funky-Design-Spaces: Interactive Environments for Creativity Inspired by Observing Designers Making Mood Boards</i>	474
<i>Andrés Lucero</i>	
<i>Kwento: Using a Participatory Approach to Design a Family Storytelling Application for Domestic Helpers</i>	493
<i>Kakit Cheong and Alex Mitchell</i>	
<i>Paper or Pixel? Comparing Paper- and Tool-Based Participatory Design Approaches</i>	501
<i>Matthias Heintz, Effie Lai-Chong Law, and Samaneh Soleimani</i>	
<i>Participatory Design in Practice: The Case of an Embroidered Technology. . .</i>	518
<i>Laura Cortés-Rico and Giovanni Piedrahita-Solórzano</i>	

Pointing and Gesture Interaction

<i>Better Than You Think: Head Gestures for Mid Air Input</i>	526
<i>Katrin Plaumann, Jan Ehlers, Florian Geiselhart, Gabriel Yuras, Anke Huckauf, and Enrico Rukzio</i>	
<i>Enhancing Pinch-Drag-Flick Paradigm with Two New Gestures: Two-Finger-Tap for Tablets and Tap&Tap for Smartphones</i>	534
<i>Alessio Bellino</i>	
<i>Estimating Production Time of Touchless Hand Drawing Gestures</i>	552
<i>Orlando Erazo, José A. Pino, and Pedro Antunes</i>	
<i>The Costs and Benefits of Combining Gaze and Hand Gestures for Remote Interaction</i>	570
<i>Yanxia Zhang, Sophie Stellmach, Abigail Sellen, and Andrew Blake</i>	

Social Interaction

<i>Sharing Wishes on Public Displays: Using Technology to Create Social Places</i>	578
<i>Vinicius Ferreira, Junia Anacleto, and Andre Bueno</i>	
<i>Social Interaction Design Patterns for Urban Media Architecture.</i>	596
<i>Luke Hespanhol and Peter Dalsgaard</i>	
<i>Thinking Like Disney: Supporting the Disney Method Using Ambient Feedback Based on Group Performance.</i>	614
<i>Sarah Tausch, Fabius Steinberger, and Heinrich Hußmann</i>	

Eery Space: Facilitating Virtual Meetings Through Remote Proxemics.	622
<i>Maurício Sousa, Daniel Mendes, Alfredo Ferreira,</i>	
<i>João Madeiras Pereira, and Joaquim Jorge</i>	

Author Index	631
-------------------------------	-----

Contents – Part IV

Tangible and Tactile Interaction

Child or Adult? Inferring Smartphone Users' Age Group from Touch Measurements Alone	1
<i>Radu-Daniel Vatavu, Lisa Anthony, and Quincy Brown</i>	
Designing of 2D Illusory Tactile Feedback for Hand-Held Tablets	10
<i>Youngsun Kim, Jaedong Lee, and Gerard J. Kim</i>	
Need for Touch in Human Space Exploration: Towards the Design of a Morphing Haptic Glove – ExoSkin.	18
<i>Sue Ann Seah, Marianna Obrist, Anne Roudaut, and Sriram Subramanian</i>	
Tactile Communication in Extreme Contexts: Exploring the Design Space Through Kiteboarding	37
<i>André Schmidt, Mads Kleemann, Timothy Merritt, and Ted Selker</i>	
Glass+Skin: An Empirical Evaluation of the Added Value of Finger Identification to Basic Single-Touch Interaction on Touch Screens	55
<i>Quentin Roy, Yves Guiard, Gilles Bailly, Éric Lecolinet, and Olivier Rioul</i>	
Physical Playlist: Bringing Back the Mix-Tape	72
<i>Daniel Burnett, Adrian Gradinar, Joel Porter, Mike Stead, Paul Coulton, and Ian Forrester</i>	
Tangible Voting: A Technique for Interacting with Group Choices on a Tangible Tabletop	79
<i>Valérie Maquil, Eric Tobias, and Thibaud Latour</i>	

Tools for Design

Dico: A Conceptual Model to Support the Design and Evaluation of Advanced Search Features for Exploratory Search.	87
<i>Emanuel Felipe Duarte, Edson Oliveira Jr., Filipe Roseiro Cogo, and Roberto Pereira</i>	
Revealing Differences in Designers' and Users' Perspectives: A Tool-Supported Process for Visual Attention Prediction for Designing HMIs for Maritime Monitoring Tasks	105
<i>Sebastian Feuerstack and Bertram Wortelen</i>	

Worth-Centered Design in Practice: Lessons from Experience and Research Agenda	123
<i>Fatoumata Camara and Gaëlle Calvary</i>	

Touch and Haptic

Actuated Shear: Enabling Haptic Feedback on Rich Touch Interfaces	140
<i>Bernhard Maurer, Roland Buchner, Martin Murer, and Manfred Tscheligi</i>	
Characterizing the Influence of Motion Parameters on Performance When Acquiring Moving Targets	148
<i>Alexandre Kouyoumdjian, Nicolas Férey, Patrick Bourdot, and Stéphane Huot</i>	
Comparing Fatigue When Using Large Horizontal and Vertical Multi-touch Interaction Displays	156
<i>Shiroq Al-Megren, Ahmed Kharrufa, Jonathan Hook, Amey Holden, Selina Sutton, and Patrick Olivier</i>	
Touch, Movement and Vibration: User Perception of Vibrotactile Feedback for Touch and Mid-Air Gestures	165
<i>Christian Schönauer, Annette Mossel, Ionuț-Alexandru Zaiți, and Radu-Daniel Vatavu</i>	
Where to Start? Exploring the Efficiency of Translation Movements on Multitouch Devices	173
<i>Quan Nguyen and Michael Kipp</i>	

User and Task Modelling

Enhanced Task Modelling for Systematic Identification and Explicit Representation of Human Errors	192
<i>Racim Fahssi, Célia Martinie, and Philippe Palanque</i>	
EvolutionWorks: Towards Improved Visualization of Citation Networks	213
<i>Jason Wilkins, Jaakko Järvi, Ajit Jain, Gaurav Kejriwal, Andruid Kerne, and Vijay Gumudavelly</i>	
Quantifying Object- and Command-Oriented Interaction.	231
<i>Alix Goguey, Julie Wagner, and Géry Casiez</i>	
Users, Bystanders and Agents: Participation Roles in Human-Agent Interaction	240
<i>Antonia L. Krummheuer</i>	

Visualization

Augmented Happiness: Simple Color Changes Influence Users’ Conceptual Choices.	248
<i>Diana Löffler, Wolfgang Paier, Takashi Toriizuka, Mio Ikeda, and Jörn Hurtienne</i>	
Investigating Representation Alternatives for Communicating Uncertainty to Non-experts.	256
<i>Miriam Greis, Thorsten Ohler, Niels Henze, and Albrecht Schmidt</i>	
Proxemic Flow: Dynamic Peripheral Floor Visualizations for Revealing and Mediating Large Surface Interactions.	264
<i>Jo Vermeulen, Kris Luyten, Karin Coninx, Nicolai Marquardt, and Jon Bird</i>	
Self-Actuated Displays for Vertical Surfaces.	282
<i>Patrick Bader, Valentin Schwind, Norman Pohl, Niels Henze, Katrin Wolf, Stefan Schneegass, and Albrecht Schmidt</i>	

Visualization 3D

3D-HUDD – Developing a Prototyping Tool for 3D Head-Up Displays.	300
<i>Nora Broy, Matthias Nefzger, Florian Alt, Mariam Hassib, and Albrecht Schmidt</i>	
Design and Evaluation of Mirror Interface MIOSS to Overlay Remote 3D Spaces	319
<i>Ryo Ishii, Shiro Ozawa, Akira Kojima, Kazuhiro Otsuka, Yuki Hayashi, and Yukiko I. Nakano</i>	
Improving Spatial Awareness for Human Trajectory Visualization in Space-Time Cubes.	327
<i>Tiago Gonçalves, Ana Paula Afonso, and Bruno Martins</i>	
MStoryG: Exploring Serendipitous Storytelling Within High Anxiety Public Spaces	335
<i>Clinton Jorge, Valentina Nisi, Julian Hanna, Nuno Nunes, Miguel Caldeira, and Amanda Marinho</i>	

Visualization in Virtual Spaces

Estimating Visual Comfort in Stereoscopic Displays Using Electroencephalography: A Proof-of-Concept.	354
<i>Jérémy Frey, Aurélien Appriou, Fabien Lotte, and Martin Hachet</i>	

Exploring the Use of Virtual Environments in an Industrial Site Design Process	363
<i>Ashley Colley, Jani Väyrynen, and Jonna Häkkinä</i>	
Pointing in Spatial Augmented Reality from 2D Pointing Devices.	381
<i>Renaud Gervais, Jérémy Frey, and Martin Hachet</i>	
The Comparison of Performance, Efficiency, and Task Solution Strategies in Real, Virtual and Dual Reality Environments	390
<i>Frederic Raber, Antonio Krüger, and Gerrit Kahl</i>	
Wearable Computing	
Hard-to-Get-at Data from Difficult-to-Access Users	409
<i>Bob Fields, Andy Bardill, Lisa Marzano, and Kate Herd</i>	
Oh, What a Night! Effortless Sleep Monitoring at Home	417
<i>Bert Vandenbergh and David Geerts</i>	
SkInteract: An On-body Interaction System Based on Skin-Texture Recognition	425
<i>Manuel Prätorius, Aaron Scherzinger, and Klaus Hinrichs</i>	
Towards a Model of Virtual Proxemics for Wearables	433
<i>Junia Anacleto and Sidney Fels</i>	
ZENse - Supporting Everyday Emotional Reflection	448
<i>Christian Löw, Chalid Gad-El-Hak, Roman Ganhör, and Hilda Tellioglu</i>	
Demonstrations	
BlurtLine: A Design Exploration to Support Children with ADHD in Classrooms.	456
<i>Dorothe Smit and Saskia Bakker</i>	
Cooperation in Real-Time Using a Virtual Environment.	461
<i>Máté Köles, Károly Hercegfı, Balázs Péter Hámornik, Emma Lógó, Bálint Szabó, and Anita Komlódi</i>	
Diving into the Data Ocean	465
<i>Dieter Meiller</i>	
ETA Wizard App: Make Design and Evaluation of Accessible Electronic Travel Aids Easy	469
<i>Limin Zeng, Gerhard Weber, and Alexander Fickel</i>	

Generating Narratives from Personal Digital Data: Using Sentiment, Themes, and Named Entities to Construct Stories	473
<i>Elaine Farrow, Thomas Dickinson, and Matthew P. Aylett</i>	
Interactive Light Feedback: Illuminating Above-Device Gesture Interfaces . . .	478
<i>Euan Freeman, Stephen Brewster, and Vuokko Lantz</i>	
StoreAnt: A System to Support Finding Collaborative Systems Evaluation Methods.	482
<i>Marcella Leandro Costa de Souza, Lidia Silva Ferreira, Raquel Oliveira Prates, and Marília Lyra Bergamo</i>	
TUIOFX—Toolkit Support for the Development of JavaFX Applications for Interactive Tabletops	486
<i>Mirko Fetter and David Bimamisa</i>	

Interactive Posters

“I Was Here”: Enabling Tourists to Leave Digital Graffiti or Marks on Historic Landmarks.	490
<i>Matjaž Kljun and Klen Čopič Pucihar</i>	
A Hybrid Approach for Visualizing Spatial and Non-spatial Data Types of Embedded Systems	495
<i>Ragaad AlTarawneh, Shah Rukh Humayoun, and Achim Ebert</i>	
A Multi-modal System for Public Speaking: Pilot Study on Evaluation of Real-Time Feedback	499
<i>Fiona Dermody, Alistair Sutherland, and Margaret Farren</i>	
A Study on How to Express Non-manual Markers in the Electronic Dictionary of Japanese Sign Language.	502
<i>Mina Terauchi and Yuji Nagashima</i>	
Applying “Out of Body” Vibrotactile Illusion to Two-Finger Interaction for Perception of Object Dynamics	506
<i>Jaedong Lee, Youngsun Kim, and Gerard J. Kim</i>	
Designing IDA - An Intelligent Driver Assistant for Smart City Parking in Singapore.	510
<i>Andreea I. Niculescu, Mei Quin Lim, Seno A. Wibowo, Kheng Hui Yeo, Boon Pang Lim, Michael Popow, Dan Chia, and Rafael E. Banchs</i>	
Development of Usability-Criteria for the Selection Process of Document Management Systems	514
<i>Antje Heinicke, Christina Bröhl, Ioannis Dokas, Katrin Walbaum, Jennifer Bützler, and Christopher Schlick</i>	

Digital Co-design Applied to Healthcare Environments: A Comparative Study	518
<i>Lei Shi, James MacKrill, Elisavet Dimitrokalı, Carolyn Dawson, and Rebecca Cain</i>	
Dual Camera Magic Lens for Handheld AR Sketching	523
<i>Klen Čopić Pucihar, Jens Grubert, and Matjaž Kljun</i>	
Enabling Naturalness and Humanness in Mobile Voice Assistants	528
<i>Sanjay Ghosh and Jatin Pherwani</i>	
Estimation of Radius of Curvature of Lumbar Spine Using Bending Sensor for Low Back Pain Prevention	533
<i>Takakuni Iituka, Kyoko Shibata, and Yoshio Inoue</i>	
Evaluation of Dispatcher Requirements on Automated Customer Feedback in Public Transport	537
<i>Cindy Mayas, Stephan Hörold, Anselmo Stelzer, Frank Englert, and Heidi Krömker</i>	
Experiences of Teaching HCI to a Multidisciplinary Cohort of Computing and Design Students	542
<i>Omar Mubin, Abdullah Al Mahmud, and Suleman Shahid</i>	
Experiencing a Home Energy Management System: Finding Opportunities for Design	546
<i>Bingxin Ni, Abdullah Al Mahmud, and David V. Keyson</i>	
Eye Strain from Switching Focus in Optical See-Through Displays	550
<i>Jaeun Yu and Gerard J. Kim</i>	
First Impression Matters: Exploring the Mediating Effect of Previous Experience on the Perception of Beauty and Usability	555
<i>Suleman Shahid and Omar Mubin</i>	
Informing Costumers via Interactive Shelves	559
<i>Peter Rogelj</i>	
Intelligent Ankle-Foot Orthosis by Energy Regeneration for Controllable Damping During Gait in Real Time.	563
<i>Kyoko Shibata, Yoshio Inoue, and Hironobu Satoh</i>	
Interactive Check System for Facilitating Self-awareness of Dorm Students in Upper Secondary Education	569
<i>Shigenori Akamatsu, Masanobu Yoshida, Hironobu Satoh, and Takumi Yamaguchi</i>	

Interactive Toys in the Home: A Parents Perspective	573
<i>Omar Mubin, Duncan Rutishauser, Mauricio Novoa, Derek Wainohu, and Suleman Shahid</i>	
Learning Lessons from Controlled Studies to Investigate Users’ Resilience Strategies	578
<i>Jonathan Day, George Buchanan, and Stephann Makri</i>	
LightWatch: A Wearable Light Display for Personal Exertion.	582
<i>Jutta Fortmann, Janko Timmermann, Bengt Lüers, Marius Wybrands, Wilko Heuten, and Susanne Boll</i>	
Perceptive Media – Adaptive Storytelling for Digital Broadcast	586
<i>Adrian Gradinar, Daniel Burnett, Paul Coulton, Ian Forrester, Matt Watkins, Tom Scutt, and Emma Murphy</i>	
Redesigning Interaction in CODES	590
<i>Elisa Leo de Oliveira, Evandro Manara Miletto, and Luciano Vargas Flores</i>	
Small Community Size of Private SNS for Bonding Relationship: Development of a Research Framework	594
<i>Hyeonjung Ahn and Sangwon Lee</i>	
Sushi Train Interface: Passive and Interactive Information Sharing	599
<i>Tomomi Takashina and Yuji Kokumai</i>	
Tangible Microscope with Intuitive Stage Control Interface	603
<i>Tomomi Takashina, Hitoshi Kawai, and Yuji Kokumai</i>	
Touch Skin: Proprioceptive Input for Small Screen Devices	607
<i>Changhyeon Lee, Jaedong Lee, and Gerard J. Kim</i>	
Towards In-Air Gesture Control of Household Appliances with Limited Displays	611
<i>Euan Freeman, Stephen Brewster, and Vuokko Lantz</i>	
Video-Conferencing in E-commerce Website: Effect on Perceived Service Quality and Trust.	616
<i>Suleman Shahid, Abdullah Al Mahmud, and Omar Mubin</i>	

Organizational Overview

Contextual Interaction Design Research: <i>Enabling HCI</i>	621
<i>Martin Murer, Alexander Meschtscherjakov, Verena Fuchsberger, Manuel Giuliani, Katja Neureiter, Christiane Moser, Ilhan Aslan, and Manfred Tscheligi</i>	

Organisational Overview: Institute for Design and Assessment of Technology, Vienna University of Technology (TU Wien)	624
<i>Geraldine Fitzpatrick, H. Tellioglu, W. Zagler, M. Pohl, F. Güldenpfennig, O. Hödl, R. Ganhör, P. Mayer, and C. Frauenberger</i>	
Technology Experience Research: A Framework for Experience Oriented Technology Development.	626
<i>Manfred Tscheligi, Sebastian Egger, Peter Fröhlich, Cristina Olaverri-Monreal, and Georg Regal</i>	
Usability Testing Practice at MIMOS Usability Lab	628
<i>Norfarhana Abdollah, Ashok Sivaji, and Masitah Ghazali</i>	
Panels	
Design, Innovation and Respect in the Global South	630
<i>Jose Abdelnour-Nocera, Chris Csikszentmihályi, Torkil Clemmensen, and Christian Sturm</i>	
Interaction and Humans in Internet of Things	633
<i>Markku Turunen, Daniel Sonntag, Klaus-Peter Engelbrecht, Thomas Olsson, Dirk Schnelle-Walka, and Andrés Lucero</i>	
Role of Conferences in Shaping the Field of HCI	637
<i>Jan Gulliksen, Simone Diniz Junqueira Barbosa, Anirudha Joshi, Shaun Lawson, and Philippe Palanque</i>	
Tutorials	
Design and Rapid Evaluation of Interactive Systems in Theory and Practice	640
<i>Jochen Denzinger and Tom Gross</i>	
How to Design and Build New Musical Interfaces	642
<i>Sidney Fels and Michael Lyons</i>	
Sketching User Experiences Tutorial	644
<i>Nicolai Marquardt</i>	
Tutorial on Human Computer Interaction for Third Places - THCI-3P	647
<i>Junia Anacleto, Sidney Fels, and Roberto Calderon</i>	
Tutorial: Modern Regression Techniques for HCI Researchers	651
<i>Martin Schmettow</i>	
Working with Child Participants in Interaction Design.	655
<i>Janet C. Read</i>	

Workshops

Fostering Smart Energy Applications.	657
<i>Masood Masoodian, Elisabeth André, and Thomas Rist</i>	
Human Work Interaction Design (HWID): Design for Challenging Work Environments.	659
<i>Verena Fuchsberger, Martin Murer, Manfred Tscheligi, José Abdelnour-Nocera, Pedro Campos, Frederica Gonçalves, and Barbara Rita Barricelli</i>	
IFIP WG 13.2 Workshop on User Experience and User-Centered Development Processes	661
<i>Marco Winckler, Regina Bernhaupt, Peter Forbrig, and Stefan Sauer</i>	
IFIP WG 13.5 Workshop on Resilience, Reliability, Safety and Human Error in System Development.	663
<i>Chris Johnson, Mike Feary, Célia Martinie, Phil Palanque, and Regina Peldszus</i>	
Learning Beyond the Classroom: For and About Older and Disabled People	665
<i>Gerhard Weber, Christopher Power, Helen Petrie, and Jenny Darzentas</i>	
Mediation and Meaning in HCI	667
<i>Susanne Bødker, Olav W. Bertelsen, Liam Bannon, Clarisse de Souza, Simone Barbosa, and Raquel Prates</i>	
Methods for Undertaking Research on Technology with Older and Disabled People	669
<i>Helen Petrie, Blathin Gallagher, and Jenny Darzentas</i>	
Social Image Research in the Age of Selfies.	671
<i>Casey Dugan and Sven Laumer</i>	
The Landscape of UX Requirements Practices	673
<i>Gregorio Convertino, Nancy Frishberg, Jettie Hoonhout, Rosa Lanzilotti, Marta Kristín Lárusdóttir, and Effie Lai-Chong Law</i>	
Workshop on Designing Interaction and Visualization for Mobile Applications (DIViM 2015)	675
<i>Shah Rukh Humayoun, Achim Ebert, Steffen Hess, and Gerrit van der Veer</i>	
Workshop on Interactivity in Healthcare Systems (IHS).	677
<i>Vicki Hanson, Gemma Webster, and Matt Dennis</i>	
Author Index	679

Human-Computer Interaction – INTERACT 2015
15th IFIP TC 13 International Conference, Bamberg,
Germany, September 14–18, 2015, Proceedings, Part I
Abascal, J.; Diniz Junqueira Barbosa, S.; Fetter, M.;
Gross, T.; Palanque, P.; Winckler, M. (Eds.)
2015, XLV, 584 p. 168 illus., Softcover
ISBN: 978-3-319-22700-9