# Contents – Part I

## HCI Theory and Practice

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>An Activity Theory Approach to Intuitiveness: From Artefact to Process</td>
<td>3</td>
</tr>
<tr>
<td>Sturla Bakke</td>
<td></td>
</tr>
<tr>
<td>The Closer the Better: Effects of Developer-User Proximity for Mutual Learning</td>
<td>14</td>
</tr>
<tr>
<td>Sturla Bakke and Tone Bratteteig</td>
<td></td>
</tr>
<tr>
<td>How to Join Theoretical Concepts, Industry Needs and Innovative Technologies in HCI Courses? The Big Challenge of Teaching HCI</td>
<td>27</td>
</tr>
<tr>
<td>Clodis Boscarioli, Silvia Amélia Bim, Milene S. Silveira, and Simone D.J. Barbosa</td>
<td></td>
</tr>
<tr>
<td>Challenges for Human-Data Interaction – A Semiotic Perspective</td>
<td>37</td>
</tr>
<tr>
<td>Heiko Hornung, Roberto Pereira, M. Cecilia C. Baranauskas, and Kecheng Liu</td>
<td></td>
</tr>
<tr>
<td>Relationship Between Trust and Usability in Virtual Environments: An Ongoing Study</td>
<td>49</td>
</tr>
<tr>
<td>Davide Salanitri, Chrisminder Hare, Simone Borsci, Glyn Lawson, Sarah Sharples, and Brian Waterfield</td>
<td></td>
</tr>
<tr>
<td>Cultural Issues in HCI: Challenges and Opportunities</td>
<td>60</td>
</tr>
<tr>
<td>Luciana Salgado, Roberto Pereira, and Isabela Gasparini</td>
<td></td>
</tr>
<tr>
<td>Biologically Inspired Artificial Endocrine System for Human Computer Interaction</td>
<td>71</td>
</tr>
<tr>
<td>Hooman Samani, Elham Saadatian, and Brian Jalaeian</td>
<td></td>
</tr>
<tr>
<td>Improving IT Security Through Security Measures: Using Our Game-Theory-Based Model of IT Security Implementation</td>
<td>82</td>
</tr>
<tr>
<td>Masashi Sugiura, Hirohiko Suwa, and Toshizumi Ohta</td>
<td></td>
</tr>
<tr>
<td>Katsuya Uchida</td>
<td></td>
</tr>
<tr>
<td>Cross-Over Study of Time Perception and Interface Design</td>
<td>105</td>
</tr>
<tr>
<td>Huizhong Zhang, Guanzhong Liu, and Hai Fang</td>
<td></td>
</tr>
</tbody>
</table>
HCI Design and Evaluation Methods and Tools


Janaina Abib and Junia Anacleto

Practices, Technologies, and Challenges of Constructing and Programming Physical Interactive Prototypes

Andrea Alessandrini

ISO 9241-11 Revised: What Have We Learnt About Usability Since 1998?

Nigel Bevan, James Carter, and Susan Harker

Incorporating Marketing Strategies to Improve Usability Assurance in User-Centered Design Processes

Iunia C. Borza and José A. Macías

Communication of Design Decisions and Usability Issues: A Protocol Based on Personas and Nielsen’s Heuristics

Joelma Choma, Luciana A.M. Zaina, and Daniela Beraldo

Web-Systems Remote Usability Tests and Their Participant Recruitment

Piotr Chynał and Janusz Sobecki

User Experience Evaluation Towards Cooperative Brain-Robot Interaction

Chris S. Crawford, Marvin Andujar, France Jackson, Sekou Remy, and Juan E. Gilbert

Analysis of Factors Influencing the Satisfaction of the Usability Evaluations in Smartphone Applications

Ayako Hashizume and Shuwa Kido

The Definition and Use of Personas in the Design of Technologies for Informal Caregivers

Susanne Hensely-Schinkinger, Aparecido Fabiano Pinatti de Carvalho, Michael Glanznig, and Hilda Tellioğlu

An Interaction Design Method to Support the Expression of User Intentions in Collaborative Systems

Cristiane Josely Jensen, Julio Cesar Dos Reis, and Rodrigo Bonacin

Usability, Quality in Use and the Model of Quality Characteristics

Masaaki Kurosu

Creating Personas to Reuse on Diversified Projects

Andrey Araujo Masiero and Plinio Thomaz Aquino Jr.
Using Diary Studies to Evaluate Railway Dispatching Software .............. 248
  *Isabel Schütz, Anselmo Stelzer, and Andreas Oetting*

Heuristic Evaluation in Information Visualization Using Three Sets of Heuristics: An Exploratory Study .................................................. 259
  *Beatriz Sousa Santos, Beatriz Quintino Ferreira, and Paulo Dias*

Extending MoLIC for Collaborative Systems Design .......................... 271
  *Luiz Gustavo de Souza and Simone Diniz Junqueira Barbosa*

Using Readers’ and Organizations’ Goals to Guide Assessment of Success in Information Websites .......................................................... 283
  *Robert B. Watson and Jan Spyridakis*

**Interaction Design**

Designing Simulation-Based Training for Prehospital Emergency Care:
Participation from a Participant Perspective ........................................ 297
  *Beatrice Alenljung and Hanna Maurin Söderholm*

What About Document Folding? User Impressions and a Design Approach . 307
  *Rodrigo Chamun, Angelina Ziesemer, Isabel H. Manssour, João B.S. de Oliveira, and Milene S. Silveira*

Designing of a Natural Voice Assistants for Mobile Through User Centered Design Approach ................................................................. 320
  *Sanjay Ghosh and Jatin Pherwani*

Comparative Analysis of Regular Grid Based Algorithms in the Design of Graphical Control Panels ...................................................... 332
  *Jerzy Grobelny and Rafał Michalski*

Towards Paperless Mobility Information in Public Transport .................. 340
  *Stephan Hörold, Cindy Mayas, and Heidi Krömker*

Study of Uninterruptible Duration Prediction Based on PC Operation ....... 350
  *Hokuto Iga, Takahiro Tanaka, Kazuaki Aoki, and Kinya Fujita*

Development of Tidy-up Promotion System by Anthropomorphication of Shared Space ................................................................. 360
  *Takayoshi Kitamura, Tiange Jin, Motoki Urayama, Hirotake Ishii, and Hiroshi Shimoda*

E-Mail Delivery Mediation System Based on User Interruptibility .......... 370
  *Yasumasa Kobayashi, Takahiro Tanaka, Kazuaki Aoki, and Kinya Fujita*

Workflow-Based Passenger Information for Public Transport ................. 381
  *Cindy Mayas, Stephan Hörold, and Heidi Krömker*
Concrete or Abstract User Interface? .......................................................... 390
  Abbas Moallem

Airway Cursor: A Pointing Technique Based on Direction of Mouse
Movement Towards a Targets ................................................................. 396
  Tomohiro Nakatsuji, Keiko Yamamoto, Itaru Kuramoto,
  and Yoshihiro Tsujino

Interactive Clinical Pedigree Visualization Using an Open Source Pedigree
Drawing Engine ....................................................................................... 405
  João Miguel Santos, Beatriz Sousa Santos, and Leonor Teixeira

User Requirements for Intermodal Mobility Applications and Acceptance
of Operating Concepts ........................................................................... 415
  Ulrike Stopka, René Pessier, and Katrin Fischer

Reduce Complexity by Increasing Abstraction in Interactive Visual
Components ............................................................................................ 426
  Pedro M. Teixeira-Faria and Javier Rodeiro Iglesias

Graphical User Interface for Search of Mathematical Expressions
with Regular Expressions .......................................................................... 438
  Takayuki Watabe and Yoshinori Miyazaki

Emotions in HCI

Understanding Visual Appeal and Quality Perceptions of Mobile Apps:
An Emotional Perspective ................................................................------- 451
  Upasna Bhandari, Tillman Neben, and Klarissa Chang

A Smartphone Application to Promote Affective Interaction
and Mental Health .................................................................................. 460
  Maurizio Caon, Leonardo Angelini, Stefano Carrino,
  Omar Abou Khaled, and Elena Mugellini

A Study on the Relationships Between Drivers’ Emotions
and Brain Signals ................................................................................... 468
  Songyi Chae

Interactions in Affective Computing: Sharing a Haptic Experience Increases
Calmness and Closeness .......................................................................... 477
  Norene Kelly

The Effect of Gamification on Emotions - The Potential of Facial
Recognition in Work Environments ......................................................... 489
  Oliver Korn, Sandra Boffo, and Albrecht Schmidt
Towards the Evaluation of Emotional Interfaces ............................... 500
  Damien Lockner and Nathalie Bonnardel

Analytical Steps for the Calibration of an Emotional Framework:
  Pre-test and Evaluation Procedures ................................. 512
  Nicholas H. Müller and Martina Truschzinski

Automatic Interpretation of Negotiators’ Affect and Involvement Based
  on Their Non-verbal Behavior ........................................ 520
  Zhaleh Semnani-Azad and Elnaz Nouri

HCI and Natural Progression of Context-Related Questions ............... 530
  Aggeliki Vlachostergiou, George Caridakis, Amaryllis Raouzaïou,
  and Stefanos Kollias

Emotional Engagement for Human-Computer Interaction in Exhibition
  Design ............................................................... 542
  Mengting Zhang, Cees de Bont, and Wenhua Li

Author Index ............................................................ 551
## Contents – Part II

### Gesture and Eye-Gaze Based Interaction

Using Gesture-Based Interfaces to Control Robots. ........................................... 3  
*Gabriel M. Bandeira, Michaela Carmo, Bianca Ximenes, and Judith Kelner*

Improvement of Accuracy in Remote Gaze Detection for User Wearing Eyeglasses Using Relative Position Between Centers of Pupil and Corneal Sphere .......................................................... 13  
*Kiyotaka Fukumoto, Takumi Tsuzuki, and Yoshinobu Ebisawa*

Designing Touchless Gestural Interactions for Public Displays In-the-Wild. . . 24  
*Vito Gentile, Alessio Malizia, Salvatore Sorce, and Antonio Gentile*

To Write not Select, a New Text Entry Method Using Joystick ................. 35  
*Zhenyu Gu, Xinya Xu, Chen Chu, and Yuchen Zhang*

AirFlip: A Double Crossing In-Air Gesture Using Boundary Surfaces of Hover Zone for Mobile Devices ................................................................. 44  
*Hiroyuki Hakoda, Takuro Kuribara, Keigo Shima, Buntarou Shizuki, and Jiro Tanaka*

Design and Evaluation of Freehand Gesture Interaction for Light Field Display .......................................................... 54  
*Vamsi Kiran Adhikarla, Grega Jakus, and Jaka Sodnik*

Beyond Direct Gaze Typing: A Predictive Graphic User Interface for Writing and Communicating by Gaze ......................................................... 66  
*Maria Laura Mele, Damon Millar, and Christiaan Erik Rijnders*

Nonlinear Dynamical Analysis of Eye Movement Characteristics Using Attractor Plot and First Lyapunov Exponent ................................. 78  
*Atsuo Murata and Tomoya Matsuura*

Optimal Scroll Method for Eye-Gaze Input System: Comparison of R-E and R-S Compatibility ................................................................. 86  
*Atsuo Murata, Makoto Moriwaka, and Yusuke Takagishi*

Effects of Target Shape and Display Location on Pointing Performance by Eye-Gaze Input System: Modeling of Pointing Time by Extended Fitts’ Law ................................................................. 94  
*Atsuo Murata, Makoto Moriwaka, and Daichi Fukunaga*
Analysis of Eye Hand Interaction in Drawing Figure and Letter:  
For the Development of Handwrite-Training Device .......................... 107  
Yumiko Muto and Takeshi Muto

Swift Gestures: Seamless Bend Gestures Using Graphics Framework  
Capabilities .................................................................................. 118  
Samudrala Nagaraju

Phases of Technical Gesture Recognition ................................. 130  
Tobias Nowack, Nuha Suzaly, Stefan Lutherdt, Kirsten Schürger,  
Stefan Jehring, Hartmut Witte, and Peter Kurtz

Automatic Classification Between Involuntary and Two Types of Voluntary  
Blinks Based on an Image Analysis. ........................................... 140  
Hironobu Sato, Kiyohiko Abe, Shoichi Ohi, and Minoru Ohyama

**Touch-Based and Haptic Interaction**

GUIs with Haptic Interfaces ......................................................... 153  
M. Arda Aydin, Nergiz Ercil Cagiltay, Erol Ozcelik, Emre Tuner,  
Hilal Sahin, and Gul Tokdemir

Effect of Button Size and Location When Pointing with Index Finger  
on Smartwatch ............................................................................. 165  
Kiyotaka Hara, Takeshi Umezawa, and Noritaka Osawa

Preliminary Study to Determine a “User-Friendly” Bending Method:  
Comparison Between Bending and Touch Interaction ................. 175  
BoKyung Huh, HaeYoun Joung, Seunghyeon Im, Hee Sun Kim,  
GyuHyun Kwon, and JiHyung Park

Musician Fantasies of Dialectical Interaction: Mixed-Initiative Interaction  
and the Open Work. ................................................................. 184  
Leonardo Impett, Isak Herman, Patrick K.A. Wollner,  
and Alan F. Blackwell

RICHIE: A Step-by-step Navigation Widget to Enhance Broad Hierarchy  
Exploration on Handheld Tactile Devices ................................. 196  
Alexandre Kabil and Sébastien Kubicki

Information Select and Transfer Between Touch Panel and Wearable  
Devices Using Human Body Communication .............................. 208  
Yuto Kondo, Shin Takahashi, and JIRO Tanaka

Mouse Augmentation Using a Malleable Mouse Pad .................. 217  
Takuro Kuribara, Buntarou Shizuki, and JIRO Tanaka
### Natural User Interfaces

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giving Voices to Multimodal Applications</td>
<td>273</td>
</tr>
<tr>
<td>Nuno Almeida, António Teixeira, Ana Filipa Rosa, Daniela Braga,</td>
<td></td>
</tr>
<tr>
<td>João Freitas, Miguel Sales Dias, Samuel Silva, Jairo Avelar,</td>
<td></td>
</tr>
<tr>
<td>Cristiano Chesi, and Nuno Saldanha</td>
<td></td>
</tr>
<tr>
<td>It’s not What It Speaks, but It’s How It Speaks: A Study into Smartphone Voice-User Interfaces (VUI)</td>
<td>284</td>
</tr>
<tr>
<td>Jaeyeol Jeong and Dong-Hee Shin</td>
<td></td>
</tr>
<tr>
<td>StringWeaver: Research on a Framework with an Alterable Physical Interface for Generative Art</td>
<td>292</td>
</tr>
<tr>
<td>Yunshui Jin and Zhejun Liu</td>
<td></td>
</tr>
<tr>
<td>Synchronization Between Utterance Rhythm and Body Movement in a Two-Person Greeting</td>
<td>305</td>
</tr>
<tr>
<td>Kenta Kinemuchi, Hiroyuki Kobayashi, and Tomohito Yamamoto</td>
<td></td>
</tr>
<tr>
<td>Heuristics for NUI Revisited and Put into Practice</td>
<td>317</td>
</tr>
<tr>
<td>Vanessa Regina Margareth Lima Maike, Laurindo de Sousa Britto Neto,</td>
<td></td>
</tr>
<tr>
<td>Siome Klein Goldenstein, and Maria Cecilia Calani Baranauskas</td>
<td></td>
</tr>
<tr>
<td>Using Neural Networks for Data-Driven Backchannel Prediction:</td>
<td>329</td>
</tr>
<tr>
<td>A Survey on Input Features and Training Techniques</td>
<td></td>
</tr>
<tr>
<td>Markus Mueller, David Leuschner, Lars Briem, Maria Schmidt,</td>
<td></td>
</tr>
<tr>
<td>Kevin Kilgour, Sebastian Stueker, and Alex Waibel</td>
<td></td>
</tr>
<tr>
<td>Towards Creation of Implicit HCI Model for Prediction and Prevention of Operators’ Error</td>
<td>341</td>
</tr>
<tr>
<td>Pavle Mijović, Miloš Milovanović, Miroslav Minović, Ivan Mačužić,</td>
<td></td>
</tr>
<tr>
<td>Vanja Ković, and Ivan Gligorijević</td>
<td></td>
</tr>
</tbody>
</table>
Development of Chat System Added with Visualized Unconscious Non-verbal Information

Masashi Okubo and Haruna Tsujii

353

Implications for Design of Personal Mobility Devices with Balance-Based Natural User Interfaces

Aleksander Rem and Subas Govind Joshi

363

Stage of Subconscious Interaction for Forming Communication Relationship

Takafumi Sakamoto and Yugo Takeuchi

376

Interactive Sonification Markup Language (ISML) for Efficient Motion-Sound Mappings

James Walker, Michael T. Smith, and Myounghoon Jeon

385

Adaptive and Personalized Interfaces

Defining and Optimizing User Interfaces Information Complexity for AI Methods Application in HCI

Maxim Bakaev and Tatiana Avdeenko

397

A Systematic Review of Dementia Focused Assistive Technology

Joanna Evans, Michael Brown, Tim Coughlan, Glyn Lawson, and Michael P. Craven

406

Trust-Based Individualization for Persuasive Presentation Builder

Amirsam Khataei and Ali Arya

418

Context Elicitation for User-Centered Context-Aware Systems in Public Transport

Heidi Krömker and Tobias Wienken

429

Personalization Through Personification: Factors that Influence Personification of Handheld Devices

Jung Min Lee and Da Young Ju

440

Enterprise Systems for Florida Schools

Mandy Lichtenstein and Kathleen Clark

448

Toward Usable Intelligent User Interface

Nesrine Mezhoudi, Iyad Khaddam, and Jean Vanderdonckt

459

Suturing Space: Tabletop Portals for Collaboration

Evan Montpellier, Garrett Laroy Johnson, Omar Al Faleh, Joshua Gigantino, Assegid Kidane, Nikolaos Chandolias, Connor Rawls, Todd Ingalls, and Xin Wei Sha

472
Violin Fingering Estimation According to the Performer’s Skill Level
Based on Conditional Random Field ........................................... 485
Shinji Sako, Wakana Nagata, and Tadashi Kitamura

Interactive Motor Learning with the Autonomous Training Assistant:
A Case Study ................................................................. 495
Ramin Tadayon, Troy McDaniel, Morris Goldberg,
Pamela M. Robles-Franco, Jonathan Zia, Miles Laff, Mengjiao Geng,
and Sethuraman Panchanathan

Distributed, Migratory and Multi-screen User Interfaces

Living Among Screens in the City ........................................... 509
Bertrand David and René Chalon

Delegation Theory in the Design of Cross-Platform User Interfaces .... 519
Dagmawi L. Gobena, Gonçalo N.P. Amador, Abel J.P. Gomes,
and Dejene Ejigu

Current Challenges in Compositing Heterogeneous User Interfaces
for Automotive Purposes ..................................................... 531
Tobias Holstein, Markus Wallmyr, Joachim Wietzke, and Rikard Land

A Framework for Distributing and Migrating the User Interface in Web
Apps .................................................................................. 543
Antonio Peñalver, David Nieves, and Federico Botella

UniWatch - Some Approaches Derived from UniGlyph to Allow Text Input
on Tiny Devices Such as Connected Watches .............................. 554
Franck Poirier and Mohammed Belatar

A Model-Based Framework for Multi-Adaptive Migratory User Interfaces ... 563
Enes Yigitbas, Stefan Sauer, and Gregor Engels

Games and Gamification

A Dome-Shaped Interface Embedded with Low-Cost Infrared Sensors
for Car-Game Control by Gesture Recognition .......................... 575
Jasmine Bhanushali, Sai Parthasarathy Miduthuri, and Kavita Vemuri

Evaluating a Public Display Installation with Game and Video to Raise
Awareness of Attention Deficit Hyperactivity Disorder .............. 584
Michael P. Craven, Lucy Simons, Alinda Gillott, Steve North,
Holger Schnädelbach, and Zoe Young

An Investigation of Reward Systems in Human Computation Games ...... 596
Dion Hoe-Lian Goh, Ei Pa Pa Pe-Than, and Chei Sian Lee
Is Gamification Effective in Motivating Exercise? .......................... 608
   Dion Hoe-Lian Goh and Khasfariyati Razikin

‘Blind Faith’. An Experiment with Narrative Agency in Game Design. ...... 618
   Deb Polson and Vidhi Shah

Play to Remember: The Rhetoric of Time in Memorial Video Games ...... 628
   Răzvan Rughiniș and Ștefania Matei

‘Sketchy Wives’ and ‘Funny Heroines’: Doing and Undoing Gender in Art
Games ......................................................................................... 640
   Cosima Rughiniș and Elisabeta Toma

Gamification Effect of Collection System for Digital Photographs
with Geographic Information which Utilizes Land Acquisition Game. ...... 649
   Rie Yamamoto, Takashi Yoshino, and Noboru Sonehara

A Conceptual Model of Online Game Continuance Playing .................... 660
   Fan Zhao and Qingju Huang

A Lexical Analysis of Nouns and Adjectives from Online Game Reviews . . 670
   Miaoqi Zhu and Xiaowen Fang

HCI in Smart and Intelligent Environments

A Mashup-Based Application for the Smart City Problematic .................. 683
   Abdelghani Atrouche, Djilali Idoughi, and Bertrand David

Design of a Bullying Detection/Alert System for School-Wide Intervention . 695
   Sheryl Brahnam, Jenifer J. Roberts, Loris Nanni, Cathy L. Starr,
   and Sandra L. Bailey

Improving User Performance in a Smart Surveillance Scenario through
Different Levels of Automation. ...................................................... 706
   Massimiliano Dibitonto and Carlo Maria Medaglia

Controlling the Home: A User Participatory Approach to Designing
a Simple Interface for a Complex Home Automation System .................. 717
   Martin Eskerud, Anders Skaalsveen, Caroline Sofie Olsen,
   and Harald Holone

Enhancing Human Robot Interaction Through Social Network Interfaces:
A Case Study .................................................................................. 729
   Laura Fiorini, Raffaele Limosani, Raffaele Esposito, Alessandro Manzi,
   Alessandra Moschetti, Manuele Bonaccorsi, Filippo Cavallo,
   and Paolo Dario
aHead: Considering the Head Position in a Multi-sensory Setup of Wearables to Recognize Everyday Activities with Intelligent Sensor Fusions ................................................................. 741
   Marian Haescher, John Trimpop, Denys J.C. Matthies, Gerald Bieber,
   Bodo Urban, and Thomas Kirste

Synchronization of Peripheral Vision and Wearable Sensors
   for Animal-to-Animal Interaction ................................. 753
   Ko Makiyama, Keijiro Nakagawa, Maki Katayama, Miho Nagasawa,
   Kaoru Sezaki, and Hiroki Kobayashi

On the Usability of Smartphone Apps in Emergencies: An HCI Analysis
   of GDACSmobile and SmartRescue Apps ......................... 765
   Parvaneh Sarshar, Vimala Nunavath, and Jaziar Radianti

An Exploration of Shape in Crowd Computer Interactions ............. 775
   Anthony Scavarelli and Ali Arya

COLUMN: Discovering the User Invented Behaviors Through
the Interpersonal Coordination ........................................ 787
   Yasutaka Takeda, Shotaro Baba, P. Ravindra S. De Silva,
   and Michio Okada

Multimodal Interaction Flow Representation for Ubiquitous Environments -
MIF: A Case Study in Surgical Navigation Interface Design .......... 797
   Gul Tokdemir, Gamze Altun, Nergiz E. Cagiltay, H. Hakan Maras,
   and Alp Ozgun Borcek

Author Index ............................................................... 807
Contents – Part III

Interaction and Quality for the Web and Social Media

Heuristic to Support the Sociability Evaluation in Virtual Communities of Practices ........................................ 3

Larissa Albano Lopes, Daniela Freitas Guilhermino, Thiago Adriano Coleti, Ederson Marcos Sgarbi, and Thiago Fernandes de Oliveira

Using a Lexical Approach to Investigate User Experience of Social Media Applications ........................................ 15

Abdullah Azhari and Xiaowen Fang

BETTER-Project: Web Accessibility for Persons with Mental Disorders. . . . . 25

Renaldo Bernard, Carla Sabariego, David Baldwin, Shadi Abou-Zahra, and Alarcos Cieza

Short Scales of Satisfaction Assessment: A Proxy to Involve Disabled Users in the Usability Testing of Websites ........................................ 35

Simone Borsci, Stefano Federici, Maria Laura Mele, and Matilde Conti

Automatic Deformations Detection in Internet Interfaces: ADDII ............ 43

Leandro Sanchez and Plinio Thomaz Aquino Jr.

Usability and Aesthetics: The Case of Architectural Websites .................. 54

Evanthia Faliagka, Eleni Lalou, Maria Rigou, and Spiros Sirmakessis

The Effect of Banner Location on Banner Recognition in a Turkish Government Website: An Eye Tracking Study ..................................... 65

Hacer Gümüşer and Yavuz İnal

Compatibility of Information and Interface of Universities’ Multilingual Websites ........................................ 73

Krzysztof Hankiewicz

GT Journey: The Importance of Accessible Rich Data Sources to Enable Innovation ........................................ 82

Matt Sanders, Russ Clark, Brian Davidson, and Siva Jayaraman

The Role of Quality in Websites: A Discussion Focusing on Public Versus Private Sector Organizations ........................................ 92

Hanne Sørum
How to Evaluate Investments in Website Quality Within eGovernment?
Exploring the Webmaster’s Perception of Benefits ............................. 102
   Hanne Sørum and Asle Fagerstrøm

The Evolution of the Argon Web Framework Through Its Use Creating
Cultural Heritage and Community–Based Augmented Reality Applications. . 112
   Gheric Speiginer, Blair MacIntyre, Jay Bolter, Hafez Rouzati, Amy Lambeth, Laura Levy, Laurie Baird, Maribeth Gandy, Matt Sanders, Brian Davidson, Maria Engberg, Russ Clark, and Elizabeth Mynatt

Historical Registry of Our Families Through Textiles .......................... 125
   Cathy L. Starr, Sandra L. Bailey, Sheryl Brahnam, and Jenifer J. Roberts

HCI in Business, Industry and Innovation

Early Prototype Assessment of a New Virtual System for Training
Procedural Skills of Automotive Service Operators: LARTE Tool ............ 135
   Simone Borsci, Glyn Lawson, Mark Burgess, and Bhavna Jha

The Convergence Innovation Competition: Helping Students Create
Innovative Products and Experiences via Technical and Business
Mentorship .......................................................................................... 144
   Russ Clark, Matt Sanders, Brian Davidson, Siva Jayaraman, and Carl DiSalvo

Graphic Visualization of Probabilistic Traffic/Trajectory Predictions in
Mobile Applications. A First Prototype and Evaluations for General
Aviation Purposes ............................................................................. 154
   Giuseppe Frau, Francesca De Crescenzo, and Damiano Taurino

Building Mobile Software Ecosystems - A Practical Approach ............ 165
   Steffen Hess, Susanne Braun, Johannes Feldhaus, Marco Hack, Felix Kiefer, Dominik Magin, Matthias Naab, Dominik Richter, Torsten Lenhart, and Marcus Trapp

Cloud Computing: A Multi-tenant Case Study ................................. 178
   Anindya Hossain and Farid Shirazi

On Time: Efficient and Personalized Hospital Service ....................... 190
   So Yon Jeong and Da Young Ju

NAMIDA: Multiparty Conversation Based Driving Agents in Futuristic
Vehicle ............................................................................................... 198
   Nihan Karatas, Soshi Yoshikawa, P. Ravindra S. De Silva, and Michio Okada
VR Processes in the Automotive Industry ............................................. 208
       Glyn Lawson, Davide Salanitri, and Brian Waterfield

Entrepreneurial IS Development: Why Techniques Matter and Methods
Don’t ................................................................. 218
       Nikolaus Obwegeser

Simulation of an Affordance-Based Human-Machine Cooperative Control
Model Using an Agent-Based Simulation Approach .......................... 226
       YeongGwang Oh, IkChan Ju, and Namhun Kim

Cause the Trend Industry 4.0 in the Automated Industry to New
Requirements on User Interfaces? .............................................. 238
       Carsten Wittenberg

Post-Implementation ERP Success Assessment: A Conceptual Model .... 246
       Fan Zhao and Eugene Hoyt

Societal and Cultural Impact of Technology

Interactive Evaluation of Pragmatic Features in Spoken Journalistic Texts ... 259
       Christina Alexandris, Mario Nottas, and George Cambourakis

Socio-Cultural Aspects in the Design of Multilingual Banking Interfaces
in the Arab Region .......................... 269
       Sarah Alhumoud, Lamia Alabdulkarim, Nouf Almobarak,
       and Areej Al-Wabil

Prospecting HCI Challenges for Extreme Poverty Communities: Redefining
and Optimizing User Experiences with Technology .......................... 281
       Daniel Almeida Chagas, Camila Loiola Brito Maia, Elizabeth Furtado,
       and Carlos R. Maia de Carvalho

Moral Biases and Decision: Impact of Information System
on Moral Biases ....................................................... 291
       Karim Elia Fraoua

Midtown Buzz: Bridging the Gap Between Concepts and Impact
in a Civic Computing Initiative .............................................. 303
       Maribeth Gandy, Laurie Dean Baird, Laura M. Levy, Amy J. Lambeth,
       Elizabeth Mynatt, Russ Clark, and Matt Sanders

Some Investigations of Fukushima Dai-ichi Accidents from the Viewpoints
of Human Factors ...................................................... 314
       Akio Gofuku, Hiroshi Furukawa, and Hiroshi Ujita
Cycle Atlanta and OneBusAway: Driving Innovation Through the Data Ecosystems of Civic Computing ........................................ 327
Christopher A. Le Dantec, Kari E. Watkins, Russ Clark, and Elizabeth Mynatt

Post-Mortem Digital Legacy: Possibilities in HCI ...................... 339
Cristiano Maciel and Vinicius Carvalho Pereira

Fukushima No. 1 Nuclear Power Plant: The Moment of “Safety Myth” Collapses ................................................................. 350
Aki Nakanishi, Toshio Takagi, Hajime Ushimaru, Masato Yotsumoto, and Daisuke Sugihara

Accident Analysis by Using Methodology of Resilience Engineering, High Reliability Organization, and Risk Literacy .................. 358
Hiroshi Ujita

User Studies

What Learnability Issues Do Primary Care Physicians Experience When Using CPOE? ...................................................... 373
Martina A. Clarke, Jeffery L. Belden, and Min S. Kim

Designed to Thrill: Exploring the Effects of Multimodal Feedback on Virtual World Immersion ........................................ 384
Dimitrios Darzentas, Michael Brown, and Noirin Curran

Survey on Risk Management Based on Information Security Psychology ................................................................. 396
Yasuko Fukuzawa, Masaki Samejima, and Hiroshi Ujita

Digital Wellbeing Assessments for People Affected by Dementia .......... 409
Kyle Harrington, Paul Fulton, Michael Brown, James Pinchin, and Sarah Sharples

Factors Influencing Online Shop Layout Preferences .................... 419
Katarzyna Jach and Marcin Kuliński

Playing Dice with a Digital Library: Analysis of an Artist Using a New Information Resource for Her Art Production .................. 430
Heli Kautonen

The Effects of the Anthropological Race, Gender and Location of Verbal-Pictorial Stimuli on the Usability of Visual Information Conveyance .............................................................. 441
Joanna Koszela-Kulińska and Rafal Michalski
Do We Differ in Our Dispositional Tendency to Perceive Virtual Agents as Animate Beings?: The Influence of User Factors in the Evaluation of Virtual Agents ................................................................. 452
Benny Liebold, Daniel Pietschmann, and Peter Ohler

Psychological Impact of Direct Communication and Indirect Communication Through a Robot ................................................................. 463
Mitsuharu Matsumoto and Hiroyuki Yasuda

Subjective Perception of the Background Color and Layout in the Design of Typical Graphical Control Panels ................................................. 471
Rafał Michalski and Jerzy Grobelny

A User Interface Usability Evaluation of the Electronic Ballot Box Used in the 2014 Brazilian Election ................................................................. 480
Mauro C. Pichiliani and Talita C.P. Britto

Instantaneous Human-Computer Interactions: Button Causes and Screen Effects ................................................................. 492
Kjetil Raaen and Ragnhild Eg

How Do Japanese People Return a Greeting with a Bow? ....................... 503
Mamiko Sakata, Noriko Suzuki, Kana Shirai, Haruka Shoda, Michiya Yamamoto, and Takeshi Sugio

An Experimental Study on the Effect of Repeated Exposure of Facial Caricature on Memory Representation of a Model’s Face ................................................. 514
Yoshimasa Tawatsuji, Yuki Iizuka, and Tatsunori Matsui

An Experimental Study on Visual Search Factors of Information Features in a Task Monitoring Interface ................................................................. 525
Xiaoli Wu, Chengqi Xue, and Feng Zhou

Health Information Tailoring and Data Privacy in a Smart Watch as a Preventive Health Tool: Qualitative Study of Users’ Perceptions and Attitudes ................................................................. 537
HongSuk Yoon, Dong-Hee Shin, and Hyup Kim

A Study of the Interactive Application in Aquarium Exhibit .......................... 549
Linye Zhang and Young Mi Choi

Author Index .................................................................................................. 561