Contents – Part II

Mobile Interaction and Smart Devices

Is Touch-Based Text Input Practical for a Smartwatch? 3
   Barbara S. Chaparro, Jibo He, Colton Turner, and Kirsten Turner

User Recognition and Preference of App Icon Stylization Design on the Smartphone 9
   Chun-Ching Chen

Towards Personalized Interfaces for Mobile Applications
Using a Natural Text-Based Interaction 16
   Yi Ji, Chek Tien Tan, and Ernest Edmonds

Can Color Tell? Smartphone LED Notification Color and Users’ Perception of the Situation 22
   Minsun Kim, Yongjae Kim, Jaeyoung Ji, Jiyoungh Hong, Jinhae Col, and Kwang-Hee Han

A Suggestion for a Smartphone Video Player Interface 27
   Gyu Hong Kyung

Implications of HCI in Energy Consumption Between Native and Rich-Client Applications for Navigations Widgets in Tablets 32
   Ana Belem Márquez Quintos, Amilcar Meneses Viveros, and Erika Hernández Rubio

Adaptive UI from Human Behavior Pattern on Small Screen Interface: Focused on Double-Swipe Interface 39
   Hee-Seung Moon and Da Young Ju

Hyper Panel System: Display System for Poster Layouts with Detailed Contents 45
   Hiroshi Suzuki, Akira Hattori, Hisashi Sato, and Haruo Hayami

Operation Sound Influence on Tablet Device Character Input Operation 51
   Won-Seok Yang, Haruumi Kondo, and Wang-Mi Seok

Social Media

Virtually Augmented Social Skills Training 59
   Kevin Ambrose
Acceptance and Quality Perception of Social Network Standard and Non-standard Services in Different Cultures

Katsiaryna S. Baran and Wolfgang G. Stock

Between the Profiles: Another Such Bias. Technology Acceptance Studies on Social Network Services

Katsiaryna S. Baran and Wolfgang G. Stock

The Proteus Effect: Influence of Avatar Appearance on Social Interaction in Virtual Environments

Yulong Bian, Chao Zhou, Yu Tian, Peng Wang, and Fengqiang Gao

Mette: Reframing Messaging as a Felt Anticipation

Amy Yo Sue Chen and Rung-Huei Liang

Social Media Use and Impact on Interpersonal Communication

Yerika Jimenez and Patricia Morreale

Emotional Selling on Social Media: The ‘Punctum’ of Personality and Photographs

S.M.S. Mustafah, H. Khalid, and A.S. Ismail

Towards the Easy Analysis of Mass Media Audience Reaction on Social Networks via Discursive Category Tools

Stefanie Niklander, Ricardo Soto, and Broderick Crawford

A Proposal of an SNS to Support Individual Practices in a Voluntary Community

Kohei Otake, Masashi Komuro, Yoshihisa Shinozawa, Tomofumi Uetake, and Akito Sakurai

Providing Tools to Enable Information Audit in Social Networks

Alexandre Pinheiro, Claudia Cappelli, and Cristiano Maciel

A Longitudinal Field Study on Kiss Mediation Interface for Long Distance Relationships

Elham Saadatian, Hooman Samani, and Ryohei Nakatsu

Trust Towards Social Media in Emergencies: A Perspective of Professional Emergency Personnel in Europe

Hermann Szymczak, Pinar Kuecuetbalaban, Daniela Knuth, and Silke Schmidt

HCI in Business and Innovation

Creativity in Agile Software Development Methods

Broderick Crawford, Kathleen Crawford, Ricardo Soto, and Claudio León de la Barra
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of Quality Management Principles in the Shaping of Work Environment</td>
<td>136</td>
</tr>
<tr>
<td><em>Adam Górny</em></td>
<td></td>
</tr>
<tr>
<td>NEC’s Approach to Social Value Design</td>
<td>143</td>
</tr>
<tr>
<td><em>Izumi Kohno, Masahiro Nishikawa, Takaya Fukumoto, and Takashi Matsuda</em></td>
<td></td>
</tr>
<tr>
<td>Assessment of Business Analytics Trust Through Examination of Personal IT Use</td>
<td>149</td>
</tr>
<tr>
<td><em>Benjamin Larson and Casey Cegielski</em></td>
<td></td>
</tr>
<tr>
<td>Leadership in Agile Software Development Methods</td>
<td>154</td>
</tr>
<tr>
<td><em>Claudio León de la Barra, Sergio Galdames, Broderick Crawford, Ricardo Soto, and Kathleen Crawford</em></td>
<td></td>
</tr>
<tr>
<td>Interactive Tool to Find Focal Spots in Human Computer Interfaces in eCommerce: eCommerce Consumer Analytics Tool (eCCAT)</td>
<td>159</td>
</tr>
<tr>
<td><em>VenkataSwamy Martha, Zhenrui Wang, Angela Jiang, and Sam Varghese</em></td>
<td></td>
</tr>
<tr>
<td>Usability Evaluation of an M-Commerce System Using Proxy Users</td>
<td>164</td>
</tr>
<tr>
<td><em>Gabriela Novak and Lars Lundberg</em></td>
<td></td>
</tr>
<tr>
<td>Current State of HCI Practice in the Estonian Software Development Industry</td>
<td>170</td>
</tr>
<tr>
<td><em>Abiodun Ogunyemi, David Lamas, Hege Sarapuu, and Isaias Barreto da Rosa</em></td>
<td></td>
</tr>
<tr>
<td><em>Hyun-Sun Ryu and Jung Lee</em></td>
<td></td>
</tr>
<tr>
<td>Innovation Lessons: Implications of Nikola Tesla’s Life for Today’s Engineers, Scientists, and Technology Designers</td>
<td>183</td>
</tr>
<tr>
<td><em>Maximus Schmorrow and Dylan Schmorrow</em></td>
<td></td>
</tr>
<tr>
<td>The Importance of Using Gestalt and Grid in Building Brands</td>
<td>187</td>
</tr>
<tr>
<td><em>João Carlos Riccó Plácido da Silva, Luis Carlos Paschoarelli, and José Carlos Plácido da Silva</em></td>
<td></td>
</tr>
<tr>
<td>Change of Government R&amp;D in HCI Categories in Korea</td>
<td>192</td>
</tr>
<tr>
<td><em>Seung-Kyu Yi</em></td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Learning Technologies</td>
<td></td>
</tr>
<tr>
<td>Usability of Mobile Applications in Saudi Higher Education:</td>
<td>201</td>
</tr>
<tr>
<td>An Exploratory Study</td>
<td></td>
</tr>
<tr>
<td>Nada Al-Wabil</td>
<td></td>
</tr>
<tr>
<td>On-the-fly Notes: Instructor to Student Transfer of In-Class</td>
<td>206</td>
</tr>
<tr>
<td>Produced Notes.</td>
<td></td>
</tr>
<tr>
<td>Nancy Alajarmeh</td>
<td></td>
</tr>
<tr>
<td>Facebook as a Learning Tool in Formal Learning Process</td>
<td>212</td>
</tr>
<tr>
<td>Alaeddin M.H. Alawawdeh and Stewart James Kowalski</td>
<td></td>
</tr>
<tr>
<td>The Use of Facebook as an Assisting Tool in Teaching Computer</td>
<td>218</td>
</tr>
<tr>
<td>Science Courses</td>
<td></td>
</tr>
<tr>
<td>Anwar Alhenshiri and Hoda Badesh</td>
<td></td>
</tr>
<tr>
<td>The Current Use of Cell Phone in Education</td>
<td>224</td>
</tr>
<tr>
<td>Elham Alsadoon and Hamadah Alsadoon</td>
<td></td>
</tr>
<tr>
<td>The Instructional Model Framework of Undergraduate Industrial Design</td>
<td>230</td>
</tr>
<tr>
<td>Core Course</td>
<td></td>
</tr>
<tr>
<td>Wenzhi Chen</td>
<td></td>
</tr>
<tr>
<td>Developing Simple Tools for Measuring and Evaluating Students’ Works</td>
<td>235</td>
</tr>
<tr>
<td>with a Smartphone</td>
<td></td>
</tr>
<tr>
<td>Ryota Fukutani, Akinobu Ando, Shota Itagaki, and Hiraku Abiko</td>
<td></td>
</tr>
<tr>
<td>A Content-Based Approach for Supporting Teachers in Discovering</td>
<td>241</td>
</tr>
<tr>
<td>Dependency Relationships Between Instructional Units in Distance</td>
<td></td>
</tr>
<tr>
<td>Learning Environments</td>
<td></td>
</tr>
<tr>
<td>Fabio Gasparetti, Carla Limongelli, and Filippo Sciarrone</td>
<td></td>
</tr>
<tr>
<td>Understanding of the Students’ Behavioral Intention to Use Online</td>
<td>247</td>
</tr>
<tr>
<td>Discussion Site (ODS) Using Rasch Analysis</td>
<td></td>
</tr>
<tr>
<td>Azizah Jaafar and Prasanna Ramakrishnan</td>
<td></td>
</tr>
<tr>
<td>Pump It up! – Conception of a Serious Game Applying in Computer</td>
<td>253</td>
</tr>
<tr>
<td>Science</td>
<td></td>
</tr>
<tr>
<td>Daniela Janßen, Christian Tummel, Anja Richert, Daniel Schilberg,</td>
<td></td>
</tr>
<tr>
<td>and Sabina Jeschke</td>
<td></td>
</tr>
<tr>
<td>Badminton’s Multimedia Courseware of Interactive Design Based on</td>
<td>259</td>
</tr>
<tr>
<td>the MOOCs Mode</td>
<td></td>
</tr>
<tr>
<td>Mao Jie</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Development of STEAM Educational Games Focused on Aesthetic and Bodily Expression in K-12 Science Class.</td>
<td>265</td>
</tr>
<tr>
<td><em>Hyung Sook Kim, Hale Kim, and Yong Hyun Park</em></td>
<td></td>
</tr>
<tr>
<td>Out-of-Class Online Language Learning Partnership Between Russian and American Students: Analysis of Tandem Project Results</td>
<td>271</td>
</tr>
<tr>
<td><em>Marina Kogan, Nina Popova, Konstantin Shestakov, and Lonny Harrison</em></td>
<td></td>
</tr>
<tr>
<td>Non-calibrated Peer Assessment: An Effective Assessment Method for Student Creative Works.</td>
<td>277</td>
</tr>
<tr>
<td><em>Jinshuang Li, Yu Zhang, and Kening Gao</em></td>
<td></td>
</tr>
<tr>
<td>Cooperative Writing Peer Feedback in Online Moodle System.</td>
<td>283</td>
</tr>
<tr>
<td><em>Hsin-Yi Lien</em></td>
<td></td>
</tr>
<tr>
<td>Using Digital Document Network System for Group Learning Activities.</td>
<td>290</td>
</tr>
<tr>
<td><em>Kenji Matsunaga and Kyoko Yoshida</em></td>
<td></td>
</tr>
<tr>
<td>See the Flex: Investigating Various Display Settings for Different Study Conditions.</td>
<td>295</td>
</tr>
<tr>
<td><em>Michael Saenz, Joshua Strunk, Kelly Maset, Erica Malone, and Jinsil Hwaryoung Seo</em></td>
<td></td>
</tr>
<tr>
<td>Development of Intuitive Force Presentation Method Using Stopper Mechanism for Skill Training.</td>
<td>301</td>
</tr>
<tr>
<td><em>Masamichi Sakaguchi and Mingoo Lee</em></td>
<td></td>
</tr>
<tr>
<td>Towards a Visual and Tangible Learning of Calculus.</td>
<td>307</td>
</tr>
<tr>
<td><em>Patricia Salinas, Eliud Quintero, Xavier Sánchez, and Eduardo González Mendivil</em></td>
<td></td>
</tr>
<tr>
<td>Effect of Interactive E-Learning on Pupils’ Learning Motivation and Achievement in Mathematics.</td>
<td>313</td>
</tr>
<tr>
<td><em>Yuan-Zheng Wang and Chii-Zen Yu</em></td>
<td></td>
</tr>
</tbody>
</table>

**HCI in Health**

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning-Training System for Medical Equipment Operation.</td>
<td>321</td>
</tr>
<tr>
<td><em>Ren Kanehira, Kazinori Kawaguchi, and Hideo Fujimoto</em></td>
<td></td>
</tr>
<tr>
<td>A New Assessment Model of Mental Health.</td>
<td>328</td>
</tr>
<tr>
<td><em>Jingqiang Li, Ning Zhao, and Bingxia Hao</em></td>
<td></td>
</tr>
<tr>
<td>“Fit” Determining Nurses’ Satisfaction of Nursing Information System Usage.</td>
<td>334</td>
</tr>
<tr>
<td><em>Hsien-Cheng Lin and Chen-Chia Chen</em></td>
<td></td>
</tr>
</tbody>
</table>
Research on Health Management System Based on Clouding Computing .......................... 340
Qi Luo and Tianbiao Zhang

Designing A Mobile Application for Complementary and Alternative Medicine: A Usability Approach ................................................................. 345
Miloslava Plachkinova, Guillaume Faddoul, and Samir Chatterjee

Innovations in OSH Trainings - Social Skills of Safety Instructor Versus On-line Training ................................................................. 350
Joanna Sadlowska-Wrzesińska and Izabela Gabryelewicz

On the Sharing of Nursing Care Information with Employees in Japanese Companies ................................. 356
Yumiko Taguchi and Yoko Ogushi

Preliminary Guidelines to Build a Wearable Health Monitoring System for Patients: Focusing on a Wearable Device with a Wig ................................. 361
Junwoo Yoo, Nockhwan Kim, Jeongho Keum, Ji Hwan Ryu, Minjae Park, Jihoon Lee, Byung-Chull Bae, and Jundong Cho

Assistive Technologies and Environments

An Evaluation of AccessBraille: A Tablet-Based Braille Keyboard for Individuals with Visual Impairments ................................................................. 369
Hanan Alhussaini, Stephanie Ludi, and Jim Leone

An Assisted Living Home for Alzheimer’s Patient in Saudi Arabia, A Prototype ................................................................. 375
Sulaf Almagooshi, Mona Hakami, Maha Alsayyari, Wafa Alrajhi, and Sarah Alkoblan

Requirements Engineering of Ambient Assisted Living Technologies for People with Alzheimer’s ................................................................. 381
Afnan AlRomi, Ghadah AlOfisan, Norah AlRomi, Sulaf AlMagooshi, and Areej Al-Wabil

“See Medication”: An Arabic Assistive Mobile Application for Asthmatic Visually Impaired Patients ................................................................. 388
Afnan F. Alsadhan, Sarah M. Bin Mahfodh, Nada M. Alshehebany, Hind A. Bin Ajlan, Hana A. Al-Alashaykh, Asma A. Alzahrani, and Rafeef M. Aqel

Development of Serious Game for the Upper Arms Rehabilitation: “Balance Ball Rhythm Game” Case Study ................................................................. 392
Sung-Taek Chung, Sung-Wook Shin, and C.J. Lim
Towards a Google Glass Based Head Control Communication System for People with Disabilities

James Gips, Muhan Zhang, and Deirdre Anderson

A Comparative Study: Use of a Brain-Computer Interface (BCI) Device by People with Cerebral Palsy in Interaction with Computers

Regina Heidrich, Francisco Rebelo, Marsal Branco, João Batista Mossmann, Anderson Schuh, Emely Jensen, and Tiago Oliveira

Indoor Wheelchair Navigation for the Visually Impaired

Manar Hosny, Rawan Alsarrani, and Abir Najjar

Assessment of Electronic Write-in Voting Interfaces for Persons with Visual Impairments

Ashley Ongsarte, Youxuan Jiang, and Kyla McMullen

Tool for Alternative and Augmented Communication: A Study Implemented in Hospitals Environment to Support Pedagogical Therapies

Ednilson G. Rossi, Janaina C. Abib, and Luciana A. Rodrigues

Access All Areas: Designing a Hands-on Robotics Course for Visually Impaired High School Students

Valerie Stehling, Katharina Schuster, Anja Richert, and Sabina Jeschke

Visual Approach of a Mobile Application for Autistic Children: Little Routine

Wan Fatimah Wan Ahmad and Iman Nur Nabila Azahari

Development of a Game that Visually-Impaired People Can Actively Enjoy

Sadahide Yoshida and Kyoko Yoshida

Fitness and Well-Being Applications

Investigating the Role of Haptic Stimulation in Mobile Meditation Tools

Antoinette Leanna Bumatay and Jinsil Hwaryoung Seo

A Usability Evaluation of Fitness-Tracking Apps for Initial Users

Ana Carolina Tomé Klock and Isabela Gasparini

Research on Intelligent Exercise Prescription System for Civil Servant

Qi Luo and Wei Deng

Prototype of a Shoulder and Elbow Occupational Health Care Exergame

Wilson Nava, Cesar Andres Ramos Mejia, and Alvaro Uribe-Quevedo
An Investigation of the Usability and Desirability of Health and Fitness-Tracking Devices .................................................. 473
   Ashton Pfannenstiel and Barbara S. Chaparro

Development of an Open Electronics User Interface for Lower Member Occupational Health Care Exergaming .......................................................... 478
   Estefania Ramos-Montilla and Alvaro Uribe-Quevedo

Impact of Intermittent Stretching Exercise Animation on Prolonged-Sitting Computer Users’ Attention and Work Performance ......................... 484
   Sy-Chyi Wang and Jin-Yuan Chern

Location and Context Awareness

Dynamic Adaptation of Personalised Recommendations Based on Tourists’ Affective State .......................................................... 491
   Petr Aksenov, Andres Navarro, David Oyarzun, Theo Arentze, and Astrid Kemperman

Dynamic Operations Wayfinding System (DOWS) for Nuclear Power Plants .......................................................... 497
   Ronald L. Boring, Thomas A. Ulrich, and Roger T. Lew

Context-Aware Systems for Complex Data Analysis ..................... 503
   Adam Fouse, Stacy Pfautz, and Gabriel Ganberg

User Situation-Aware Mobile Communication Method .................. 508
   Jungkih Hong, Scott Song, Dongseok Kim, and Minseok Kim

Design Guideline on Location Based User Emotion Sharing Map Service .......................................................... 514
   GeeYoung Noh, DongNyeok Jeong, Sangsun Park, and Jundong Cho

AR-Technology-Based Locationing System for Interactive Content .......................................................... 519
   Satoshi Saga, Ryota Oki, Shusuke Kawagoe, Wanjia Zheng, and Jiacheng Sun

A Computational Location Model Based on Relative Information .......................................................... 525
   Ruowei Xiao, Kazunori Sugiura, and Zhanwei Wu

Urban Interaction

Acceptance of Integrated Active Safety Systems in China ............. 533
   Junliang Chen, Zhengjie Liu, Paul A. Mendoza, and Fang Chen

Interactive Navigation System for the Visually Impaired with Auditory and Haptic Cues in Crosswalks, Indoors and Urban Areas ...................... 539
   Tianqi “Tenchi” Gao Smith, Christopher Rose, Jeffrey “Wayne” Nolen, Daniel Pierce, and Alexander Sherman
Domestic Electricity Consumption Visualized as Flowing Tap Water to Raise the Feeling of Waste .................................................. 546
Yukio Ishihara, Makio Ishihara, Fumi Hirayama, and Keiji Yasukawa

Novel Route Depiction Method Based on Light Information for Map Applications .......................................................... 551
Namgyu Kang and Kana Takahashi

Exploration of Building-Occupant Communication Methods for Reducing Energy Consumption in Buildings .................. 558
Saba Khashe, Arsalan Heydarian, Joao Carneiro, and Burcin Becerik-Gerber

Survey Report of Wayfinding Experience Within Cities in China .......................................................... 564
Fung Ha Sandy Lai

Algorithm to Estimate a Living Area Based on Connectivity of Places with Home .......................................................... 570
Yuji Matsuo, Sunao Hara, and Masanobu Abe

Design of Interactive Instruction Systems for Travelers and Short-Term Visitors .................................................. 577
Nuttaporn Noithong and Makio Ishihara

Lessons Learned from the Development of a Rural Real Time Passenger Information System .................................................. 582
Konstantinos Papangelis, Somayajulu Sripada, John D. Nelson, and Mark Beecroft

A Market Analysis of Urban Interaction Design .......................................................... 587
Gianluca Zaffiro, Melissa Bracuto, Martin Brynskov, and Michael Smyth

Innovation Research on Service Design Collaboration Paths Oriented to Smart Cities - A Case Study in Living Lab .......................................................... 592
Yangshuo Zheng, Zhiyong Fu, and Taiping Zhu

Automotive and Aviation

Multiple Scales Pilot Action Pattern Recognition During Flight Task Using Video Surveillance .................................................. 601
Lu Ding, Jia Bo, Qi Wu, HaiYan Liu, and Shan Fu

Attentional Switch Characteristics are Correlated with the Performance of Simulated Aviation Task .......................................................... 605
Feng Du, Jie Zhang, and Mengnuo Dai
Measuring Trust of Autonomous Vehicles: A Development and Validation Study ................................. 610
  David Garcia, Christine Kreutzer, Karla Badillo-Urquiola, and Mustapha Mouloua

The Effects of Automation Reliability and Multi-tasking on Trust and Reliance in a Simulated Unmanned System Control Task ...................... 616
  Svyatoslav Guznov, Alexander Nelson, Joseph Lyons, and David Dycus

Enhancement of Performance by Automotive Display Design that Applied Proximity Compatibility Principle (PCP) ................................. 622
  Atsuo Murata and Takaaki Akazawa

A Cognitive Systems Engineering Perspective on Fighter Cockpit Design Evaluation .................................................. 628
  Susanna Nilsson, Britta Levin, Staffan Nählinde, Jens Alfredson, Ulrika Ohlander, and Johan Holmberg

Design and User Studies

Information Assurance Practices in Saudi Arabian Organizations ................ 637
  Abdulaziz Alarifi

User Exploration of Search Space Using Tradeoffs ........................................ 643
  Zachi Baharav and David S. Gladstein

Usability Evaluation of the Smart TV ..................................................... 648
  Wen-Te Chang, Kuo-Chen Huang, and Ching-Chang Chuang

Usability of the Submission Process in a Journal System .......................... 653
  Ronnie Fagundes de Brito and Milton Shintaku

Survey on Copyright Infringement of Digital Contents: A Case Study of Japanese University Students ................................. 657
  Rieko Inaba and Remi Yamazaki

A Branch-Type Slider and its Application ............................................. 661
  Makio Ishihara, Erika Koriyama, and Yukio Ishihara

Airbrush Metaphor and its Application ............................................... 665
  Makio Ishihara, Yuta Nakazaki, and Yukio Ishihara

Manipulating Animation Speed of Progress Bars to Shorten Time Perception ............................................. 670
  Yuma Kuroki and Makio Ishihara
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Differences of User Perceived Interactivity Between Two Features of Web Site Design</td>
<td>674</td>
</tr>
<tr>
<td>Juihsiang Lee</td>
<td></td>
</tr>
<tr>
<td>Comparing and Exploring New Text Entry and Edit Methods for Smart TV</td>
<td>680</td>
</tr>
<tr>
<td>Jingtian Li and Young Mi Choi</td>
<td></td>
</tr>
<tr>
<td>Ergonomic Visualization of Logistical Control Parameters for Flexible Production Planning and Control in Future Manufacturing Systems</td>
<td>684</td>
</tr>
<tr>
<td>Jochen Nelles, Sinem Kuz, and Christopher M. Schlick</td>
<td></td>
</tr>
<tr>
<td>Can You Judge a Video Game by Its Cover? An Exploration of Subjective Impressions and Viewing Patterns</td>
<td>690</td>
</tr>
<tr>
<td>Mikki H. Phan, Jibo He, and Barbara S. Chaparro</td>
<td></td>
</tr>
<tr>
<td>Questionnaire for User Habits of Compute Clusters (QUHCC)</td>
<td>697</td>
</tr>
<tr>
<td>Johanna Renker, Stephan Schlagkamp, and Gerhard Rinkenauer</td>
<td></td>
</tr>
<tr>
<td>Usability Assessment of a Suicide Intervention-Prevention Mini-Game</td>
<td>703</td>
</tr>
<tr>
<td>Joan M. Savage</td>
<td></td>
</tr>
<tr>
<td>Acceptance of Waiting Times in High Performance Computing</td>
<td>709</td>
</tr>
<tr>
<td>Stephan Schlagkamp and Johanna Renker</td>
<td></td>
</tr>
<tr>
<td>Analysis on the Influencing Factors of the Comprehensibility of Graphical Symbols</td>
<td>715</td>
</tr>
<tr>
<td>Chuan-Yu Zou, Fan Zhang, and Huimin Hu</td>
<td></td>
</tr>
<tr>
<td>Author Index</td>
<td>723</td>
</tr>
</tbody>
</table>
Contents – Part I

Design and Evaluation Methods, Techniques and Tools

Coding Schemes for Observational Studies of Usability in Collaborative Tangible User Interfaces ......................................................... 3
  Tarfah Alrashed, Almaha Almalki, Salma Aldawood, Anas Alfaris,
  and Areej Al-Wabil

Design of Web-Based Tools to Study Blind People’s Touch-Based Interaction with Smartphones ............................................................ 7
  Maria Claudia Buzzi, Marina Buzzi, Barbara Leporini,
  and Amaury Trujillo

Toward a New Design Philosophy: Politics and the Aesthetic of “We” Human-and-Technology in Interaction Design .......................... 13
  Hyunkyoung Cho

Method to Design Adaptable and Adaptive User Interfaces .................. 19
  Francesca Gullà, Lorenzo Cavalieri, Silvia Ceccacci, Michele Germani,
  and Roberta Bevilacqua

Designing for Affectibility: Principles and Guidelines .......................... 25
  Elaine C.S. Hayashi and M. Cecília C. Baranauskas

A Comparative Analysis of Usability Evaluation Methods on Their Versatility in the Face of Diversified User Input Methods ................. 32
  Daiju Ishikawa, Takashi Kato, and Chigusa Kita

Understanding IoT Through the Human Activity: Analogical Interpretation of IoT by Activity Theory ...................................................... 38
  Narae Kim, Sangwon Lee, and Taehyun Ha

A Pedagogical Approach to Usability in Serious Games ....................... 43
  Christine Kreutzer, Madeline Marks, and Clint Bowers

Design Support Tool Using Pen Device for Simplification of Animation Design ................................................................. 49
  Taiki Maruya, Shun’ichi Tano, Tomonori Hashiyama, Mitsuru Iwata,
  Junko Ichino, and Yoichi Hyono

User Experience and Other People: On User Experience Evaluation Framework for Human-Centered Design .......................... 55
  Hiroyuki Miki
Universal Usability in Mass Media via Discourse Analysis: A Case Study  
*Stefanie Niklander, Ricardo Soto, and Broderick Crawford*

International and Regional Standards for Usability and User Experience  
*Linghua Ran, Yanfang Liu, Wen Li, and Xin Zhang*

A Framework Proposal of UX Evaluation of the Contents Consistency on Multi Screens  
*Wangmi Seok*

Assessing Usability of a Post-Mission Reporting Technology:  
A Novel Usability Questionnaire in Practice  
*Mitchell J. Tindall and Beth F. Wheeler Atkinson*

Validated Usability Heuristics: Defining Categories and Design Guidance  
*Beth F. Wheeler Atkinson, Mitchell J. Tindall, and Gregory S. Igel*

**Cognitive and Psychological Issues in HCI**

Eye Tracking Analysis of Readers’ Psychological Interaction with Marketing Copy Referencing Life Values  
*Miao-Hsien Chuang, Chin-Lung Chen, and Jui-Ping Ma*

Questionnaire Survey on Attention of Young Adults  
*Junmin Du, Weiyu Sun, and Xiaofan Wang*

Spatial Effect of Target Display on Visual Search  
*Xiaoli Fan, Zhongqi Liu, Qianxiang Zhou, and Fang Xie*

Influence of Color Combination Pattern Considered Usability to Mental Workload  
*Shin’ichi Fukuzumi, Keiko Kasamatsu, Yusuke Ohta, Hideo Jingu, Nobuyuki Watanabe, and Yukiko Tanikawa*

Emotion Elicitation Using Film Clips: Effect of Age Groups on Movie Choice and Emotion Rating  
*Dilana Hazer, Xueyao Ma, Stefanie Rukavina, Sascha Gruss, Steffen Walter, and Harald C. Traue*

Examining the Gender Gap in Information Assurance:  
A Study of Psychological Factors  
*Hsiao-Ying Huang and Masooda Bashir*

Development of a Research Framework to Elicit the Optimal Level of Users’ Functional Intervention  
*Song Jung and Sangwon Lee*
The Effects of Life-Likeness on Persuasion and Attention-Drawing in a Mobile Digital Signage .................................................. 128
Yu Kobayashi, Mao Shinoda, Dai Hasegawa, and Hiroshi Sakuta

The Influence of Different Lighting Source Positions on the Visual Comfort of Refrigerator Illumination .................................. 133
Linghua Ran, Xin Zhang, Hua Qin, Huimin Hu, Taijie Liu, and Chaoyi Zhao

The Effect of a High-Resolution 4K Tablet on Physiological and Psychological State While Viewing Various Types of Content ........... 138
Kiyomi Sakamoto, Seiji Sakashita, Kuniko Yamashita, and Akira Okada

Brain Mechanism Research on Visual Information Cognition of Digital Human Computer Interface ........................................ 144
Chengqi Xue, Xiaoli Wu, Yafeng Niu, Lei Zhou, Jiang Shao, and Zhangfan Shen

Is Dynamic Visual Search Performance Sensitivity to the Visual Fatigue and Comfort of LED TV? A Comparative Experiment of Eight LED TVs . . . 150
Yunhong Zhang, Na Liu, Xin Wu, Jing Chang, and Ruifeng Yu

Virtual, Augmented and Mixed Reality

AR and Maintenance - Visualization of Process Data and Engineering Information ................................................................. 159
Sven Buyer and Carsten Wittenberg

Building Virtual Roads from Computer Made Projects ................................................................. 163
Carlos Campos, João Miguel Leitão, and António Fernando Coelho

Camouflage Assessment of Color Pattern Strategies in Different Environmental Contexts .................................................... 170
Woon Jung Cho, Minsun Kim, Eunji Lee, Suyoung Kim, Junghwan Han, and Kwang-Hee Han

Augmented Reality Central Venous Access Training Simulator ............. 174
Erika Gutierrez-Puerto, Lizeth Vega-Medina, Gerardo Tibamoso, Alvaro Uribe-Quevedo, and Byron Perez-Gutierrez

Use of Immersive Virtual Environments to Understand Human-Building Interactions and Improve Building Design .................... 180
Arsalan Heydarian, Evangelos Pantazis, David Gerber, and Burcin Becerik-Gerber

A Virtual Cloth Manipulation System for Clothing Design .................. 185
Shgeru Inui, Yuko Mesuda, and Yosuke Horiba
Haptic Device Using a Soldering Test System ........................................... 190

Manabu Ishihara

Learning to Juggle in an Interactive Virtual Reality Environment ............. 196

Tobias Kahlert, Florian van de Camp, and Rainer Stiefelhagen

Integration of Artificial Intelligence Techniques in a Virtual Environment . . 202

Sandra Mateus and John Branch

Properties of a Peripheral Head-Mounted Display (PHMD) .................... 208

Denys J.C. Matthies, Marian Haescher, Rebekka Alm, and Bodo Urban

Design and Implementation of High-Resolution Sea-Lane Image Texture for Marine Virtual Environment .......................................................... 214

Hiroyo Ohishi, Tetsuya Haneta, Tadasuke Furuya, and Takahiro Takemoto

Interactive Virtual Planning Tools for Sustainable Forest Production in Mountain Areas .......................................................... 220

Giulio Panizzoni, Daniele Magliocchetti, Federico Prandi, and Raffaele De Amicis

Initial Evaluation of a Modern Augmented Reality Display for Deployable Embedded Training System ............................. 226

Lee Sciarini, Jason Elfe, Tim Shilling, and Eric Martin

A Virtual Reality Keyboard with Realistic Key Click Haptic Feedback .... 232

Chien-Min Wu, Chih-Wen Hsu, and Shana Smith

Control Yourself: A Mixed-Reality Natural User Interface ...................... 238

Elena Zhizhimontova and John Magee

Cross-Cultural Design

Methodology for the Development of Interface Design Guidelines
Based on Local Cultural Dimensions .................................................. 245

Zurida Ishak, Azizah Jaafar, and Norshita Mat Nayan

“Re:Radio”, The Place Oriented Internet Radio to Enhance the Cross-Cultural Understanding in Japan ......................... 249

Ayaka Ito and Katsuhiko Ogawa

Poke, Swipe, and Pinch: Reinventing Adaptability Across Cultures Using Mixed Technology ................................................. 256

Linda Lim

The Research of Chinese Pilots Operating Safety ...................... 262

Mei Rong, Min Luo, Yanqiu Chen, and Changhua Sun
The Effects of Regional Culture on User Interface Experience:
A Case Study of Xin’an Hangu Guan in China. ...................... 270
Le Xi, Jianxin Cheng, Junnan Ye, and Wangqun Xiao

The Study of the Cultural Values of Lighting Products Based on Intention
Recognition and 3D Printing Technology. ...................... 276
Chaoxiang Yang, Zhang Zhang, Xu Yang, and Xiaohan Le

Design for Aging

Strengthening Connections: Intuitive Interfaces for Life Story Work
in Elder Care ......................................................... 287
Mahdi Chaker, Michael Cimerola, and Marietta Scanlon

The Effect of Age on Perception and Preference of App Icon Styles .... 293
Chiwu Huang and Po-Ti Chen

An iPad Application Prototype to Enhance Memory of Older Adults. .... 299
Wonsil Jang

Applying Usability Test to Find the Interface Design Principle of HRV
Device for Senior Users ........................................... 305
Hsin-Chang Lo, I-Jen Sung, and Yu-Ting Lin

Experiences of Older Patients with Multiple Chronic Conditions
in the Intensive Ambulatory Care Home Telehealth Program ........... 311
Rony Oosterom-Caló, Kyle Vice, and Michael Breslow

The Speech Recognition Ability for Different Age Groups on the Chinese
Language System .................................................... 317
Linghua Ran, Ling Luo, Xin Zhang, Taijie Liu, and Chaoyi Zhao

Family Channel: Accessible Social Media for Older Adults .......... 321
Christopher Romanyk, Pejman Salehi, Joseph Sant, Lia Tsotsos,
and Ricardo Chavez

Social Engagement in Elderly Care Homes: Towards Designing an
Application to Reduce Social Loneliness .......................... 327
Jip ter Voort, Joey Radstaat, Marisse Douma, Laura Clarijs,
Roxanne Arnts, and Suleman Shahid

The Gods Play Dice Together: The Influence of Social Elements
of Gamification on Seniors’ User Experience ...................... 334
Ingmar Wagner and Michael Minge
Designing a Map-Based Application and a Conversational Agent for Addressing Memory Problems ............................................... 340
   Akihito Yoshii, Helena Malmivirta, Mika Luimula, Paula Pitkäkangas, and Tatsuo Nakajima

Children in HCI

Examining the User Experience (UX) of Children’s Interaction with Arabic Interfaces in Educational Learning Contexts ........................................... 349
   Wea’am A. Alrashed and Asma A. Alhussayen

A Study of User Behavior in the Parent-Child Reading Area: A Case Study in Taipei Public Library ................................................................. 355
   Jo-Han Chang and Pao-Ching Tsai

The Influence of Parenting Time on Children’s Growth and Development . . . 361
   Jo-Han Chang and Tien-Ling Yeh

A Novel 3D Wheelchair Simulation System for Training Young Children with Severe Motor Impairments ......................................................... 366
   Jicheng Fu, Cole Garien, Sean Smith, Wenxi Zeng, and Maria Jones

Development and Evaluation of Emotional Robots for Children with Autism Spectrum Disorders ................................................................. 372
   Myounghoon Jeon, Ruimin Zhang, William Lehman, Seyedeh Fakhrhosseini, Jaclyn Barnes, and Chung Hyuk Park

Serious Game for the Evaluation of Cognitive Function of Kids ............ 377
   Donghan Kim and C.J. Lim

Smart Playground: A Tangible Interactive Platform with Regular Toys for Young Kids ................................................................. 383
   Duc-Minh Pham, Thinh Nguyen-Vo, and Minh-Triet Tran

Designing Interactive Soft Toys for Children with Autism to Improve Communications Through Sensory Relaxation ........................................ 389
   Jinsil Hwaryoung Seo and Pavithra Aravindan

iCare: An Interface Design Model for Remote Communicating and Monitoring of Children Care ........................................................... 394
   Tao Xu and Yun Zhou

Product Design

Adaptive Depth Cue Adjustments of Interactive and Stereoscopic 3D Product Models for Design Education ......................................................... 403
   Li-Chieh Chen, Po-Ying Chu, and Yun-Maw Cheng
Human-Centered Product Owner: How Human-Centered Design Can Sharpen Scrum Methodology .................................................. 409  
Camila Kamarad Zocal Garcia

Intuitive Placement of Objects in Web-Based CAD Environments ................................................................. 414  
Andres Felipe Kordek and Arjan Kuijper

Fashion Projection Mapping Using Basic Modeling Form .................................................................................... 421  
EunJu Lee, Yang Kyu Lim, Hyun Chun Jung, and Jin Wan Park

Creating Consistency Between Products Using Research-Driven UI Guidelines .................................................. 427  
Muzayun Mukhtar, Radhika Wakankar, and Christopher Bertrand

The Teaching Method of Graphic Design in Brazil, Methodology of Brand Development and Their Market Outcomes ............................................................................. 433  
João Carlos Riccó Plácido da Silva, Luis Carlos Paschoarelli, and José Carlos Plácido da Silva

Analysis on Universality Evaluation Standard System of Product Design on Basis of Kansei Engineering and Virtual Reality ................................................................. 439  
Wangqun Xiao, Jianxin Cheng, Xuejie Wang, Junnan Ye, and Le Xi

The New Product Development Research of Chinese Ming and Qing Dynasty’s Furniture Based on 3-D Printing .................................................................................. 444  
Xuejie Wang, Wangqun Xiao, and Yimin Song

Using Eye Tracking Technology to Evaluate New Chinese Furniture Material Design ........................................... 450  
Junnan Ye, Jianxin Cheng, Le Xi, and Wangqun Xiao

Research on Influence Factors of Design Education Orientation-Taking Italian Design Education as an Example .......................................................................................... 456  
Zhang Zhang, Jianxin Cheng, and Chaoxiang Yang

Gesture, Gaze and Motion Detection, Modelling and Recognition

Input Interface Using Eye-Gaze and Blink Information .......................................................... 463  
Kiyohiko Abe, Hironobu Sato, Shogo Matsuno, Shoichi Ohi, and Minoru Ohyama

Improvement of Robustness of Nostrils Detection by Specifying the Existable 3D Domain of Nostrils Based on Stereo Measurements of Nostrils and Pupils ............................................................................. 468  
Yoshinobu Ebisawa, Kiyotaka Fukumoto, and Hiroaki Tanaka
Detection of Pupil and Corneal Reflection Using High-speed Camera for Gaze Detection Under Face Intense Illumination and a Solution of Glass Reflection Problem by Improving Light Source. 475
   Kiyotaka Fukumoto, Yoshinobu Ebisawa, and Kohei Mochizuki

Study of Tile Menu Selection Technique Using the Relative Position of Joints for Gesture Operation 481
   Yamato Gomi and Katsuhiko Onishi

A Real-Time Sensing of Gait and Viewing Direction for Human Interaction in Virtual Training Applications 485
   Gyutae Ha, Sangho Lee, Jaekwang Cha, Hojun Lee, Taewoo Kim, and Shiho Kim

Developing STEAM Using KINECT: A Case Study on Motion-Capture Functions 491
   Hyung-Sook Kim and Seong-Hee Chung

Depth Camera Calibration and Knife Tip Position Estimation for Liver Surgery Support System 496
   Masanao Koeda, Akio Tsukushi, Hiroshi Noborio, Katsuhiko Onishi, Kiminori Mizushino, Takahiro Kunii, Kaoru Watanabe, Masaki Kaibori, Kosuke Matsu, and Masanori Kwon

CyberTouch - Touch and Cursor Interface for VR HMD 503
   Sangho Lee, Gyutae Ha, Jaekwang Cha, Jinhyeok Kim, Hojun Lee, and Shiho Kim

Human Avatar Robotic Puppeteering (HARP) 508
   Christopher Martinez and Cameron MacDonald

An “Origami” Support System by Using Finger Gesture Recognition 513
   Koji Nishio, Kazuto Yamamoto, and Ken-ichi Kobori

A New Approach of Automatic Detection and Analysis of Body Language 519
   Inass Salloum, Youssef Bou Issa, and Taline Boyajian

Using Eye Tracking as Human Computer Interaction Interface 523
   Holger Schmidt and Gottfried Zimmermann

A Shoe Mounted System for Parkinsonian Gait Detection and Real-Time Feedback 528
   Arash Tadayon, Jonathan Zia, Lekha Anantuni, Troy McDaniel, Narayanan Krishnamurthi, and Sethuraman Panchanathan

Handwritten Character Recognition in the Air by Using Leap Motion Controller 534
   Kazuki Tsuchida, Hidetoshi Miyao, and Minoru Maruyama
Comfort Analysis in EVA Reachable Envelope Based on Human-Spacesuit Integrated Biomechanical Modeling

Xiaodong Wang, Chunhui Wang, Zheng Wang, and Hao Li

Interaction Design for Navigating Virtual Spaces—An Example by Using Kinect

Yen-Liang Wu

Natural User Interface for Board Games Using Lenticular Display and Leap Motion

Kazuhisa Yanaka and Daichi Ishiguro

A Mouse-Like Hands-Free Gesture Technique for Two-Dimensional Pointing

Yusaku Yokouchi and Hiroshi Hosobe

Reasoning, Optimisation and Machine Learning for HCI

Recent Harmony Search Algorithms for 0–1 Optimization Problems

Broderick Crawford, Ricardo Soto, Néstor Guzmán, Franklin Johnson, and Fernando Paredes

Experiential Solving: Towards a Unified Autonomous Search Constraint Solving Approach

Broderick Crawford, Ricardo Soto, Kathleen Crawford, Franklin Johnson, Claudio León de la Barra, and Sergio Galdames

Towards a Framework for Adaptive Constraint Propagation

Broderick Crawford, Ricardo Soto, Franklin Johnson, Eric Monfroy, Enrique Norero, and Eduardo Olguín

An Artificial Bee Colony Algorithm for the Resource Constrained Project Scheduling Problem

Broderick Crawford, Ricardo Soto, Franklin Johnson, Enrique Norero, and Eduardo Olguín

A Semi-Automatic Word-Level Annotation and Transcription Tool for Spelling Error Categories

L. Linhuber, S. Stüker, R. Lavalley, and K. Berkling

The Complexity of Designing and Implementing Metaheuristics

Ricardo Soto, Broderick Crawford, Rodrigo Olivares, Cristian Galleguillos, Kathleen Crawford, Franklin Johnson, and Fernando Paredes

A Filtering Technique for Helping to Solve Sudoku Problems

Ricardo Soto, Broderick Crawford, Cristian Galleguillos, Kathleen Crawford, and Fernando Paredes
Local Learning Multiple Probabilistic Linear Discriminant Analysis  
Yi Yang and Jiasong Sun  

Information Processing and Extraction for HCI

Predicting and Visualizing Wine Characteristics Through Analysis of Tasting Notes from Viewpoints.  
Brendan Flanagan, Nao Wariishi, Takahiko Suzuki, and Sachio Hirokawa  

Extraction of Key Segments from Day-Long Sound Data  
Akinori Kasai, Sunao Hara, and Masanobu Abe  

A Model of Decision Support Based on Estimation of Group Status by Using Conversation Analysis  
Susumu Kono and Kenro Aihara  

Computer System for Musicians and Composers to Analyze Music Composition Process  
Tetsuya Maeshiro and Midori Maeshiro  

Using Structural Topic Modeling to Detect Events and Cluster Twitter Users in the Ukrainian Crisis  
Alan Mishler, Erin Smith Crabb, Susannah Paletz, Brook Hefright, and Ewa Golonka  

Improvement of Chance Index in Consideration of Cluster Information  
Ryosuke Saga and Yukihiro Takayama  

Knowledge Extraction from Web Reviews Using Feature Selection Based on Onomatopoeia  
Fumiaki Saitoh, Hikaru Aoki, and Shohei Ishizu  

Reading Between the Lines: A Prototype Model for Detecting Twitter Sockpuppet Accounts Using Language-Agnostic Processes  
Erin Smith Crabb, Alan Mishler, Susannah Paletz, Brook Hefright, and Ewa Golonka  

Processing Specialized Terminology in Multilingual Applications: An Interactive Approach  
Christina Valavani, Christina Alexandris, Stefanos Tassis, and Antonios Iliakis  

Image and Video Processing for HCI

Texture Image Segmentation Using Spectral Clustering  
Hui Du, Yuping Wang, Xiaopan Dong, and Yiu-ming Cheung
An Adaptive Particle Filtering for Solving Occlusion Problems of Video Tracking. ................................................................. 677
  Lan-Rong Dung, Yu-Chi Huang, Ren-Yu Huang, and Yin-Yi Wu

Construction of 3-Dimensional Virtual Environment Based on Photographed Image (the Acquisition and Processing of the Photographed Image) ......................................................... 683
  Tetsuya Haneta, Hiroyo Ohishi, Tadasuke Furuya, and Takahiro Takamoto

A Method of Automatic Cage Generation for Shape Deformation by Using Elastic Models ............................................................. 690
  Takayuki Kanaya, Yuta Muraki, Koji Nishio, and Kenichi Kobori

Employing Mobile Applications in Human-Machine Interaction in Visual Pattern Recognition Research .................................................. 696
  Amir Schur and Charles C. Tappert

How to Tune a Random Forest for Real-Time Segmentation in Safe Human-Robot Collaboration? .................................................. 700
  Vivek Sharma, Frank Dittrich, Şule Yıldırım-Yayilgan, Ali Shariq Imran, and Heinz Wörn

Brain and Physiological Parameters Monitoring

The Estimation of Taste Preference Based on Prefrontal Cortex Activity . . . 707
  Hirotoshi Asano

Is the Mood Really in the Eye of the Beholder? ................................. 712
  Mojgan Hashemian, Hadi Moradi, Maryam S. Mirian, Mehdi Tehrani-Doost, and Rabab K. Ward

Towards EMG Based Gesture Recognition for Indian Sign Language Interpretation Using Artificial Neural Networks .................................................. 718
  Abhiroop Kaginalkar and Anita Agrawal

A Crystal Ball for Meditators? Can Meditation Be Measured by Wireless Devices, and in Particular by the Neurosky Mindwave Mobile? 724
  Andrew Levine

Development of a Glasses-Like Wearable Device to Measure Nasal Skin Temperature ................................................................. 727
  Tota Mizuno and Yuichiro Kume

Decoding of Upper Limb Movement Using EEG and Sparse Coding. . . . 733
  Masashi Yamashita
Dialogue Systems

Towards Classification of Engagement in Human Interaction with Talking Robots .................................................. 741
  Yuyun Huang, Christy Elias, João P. Cabral, Atul Nautiyal, Christian Saam, and Nick Campbell

On Appropriateness and Estimation of the Emotion of Synthesized Response Speech in a Spoken Dialogue System ........ 747
  Taketo Kase, Takashi Nose, and Akinori Ito

Dialogue Efficiency Evaluation of Turn-Taking Phenomena in a Multi-layer Incremental Simulated Environment ........ 753
  Hatim Khouzaimi, Romain Laroche, and Fabrice Lefèvre

Comparing the Trade-off of Believability and Performance of Abstract Intelligent Agents and Humans Playing Super Mario Bros .... 759
  Edward Morgan and Konstantinos Papangelis

Neut: “Hey, Let Her Speak”: Design of a Speech Eliciting Robot that Intervenes in Brainstorming Sessions to Ensure Collaborative Group Work ................................................................. 764
  Naoki Ohshima, Tatsuya Watanabe, Natsuki Saito, Riyo Fujimori, Hiroko Tokunaga, and Naoki Mukawa

Author Index .................................................................................................................................................. 771
HCI International 2015 - Posters' Extended Abstracts
International Conference, HCI International 2015, Los
Angeles, CA, USA, August 2-7, 2015. Proceedings, Part II
Stephanidis, C. (Ed.)
2015, XXXVI, 730 p. 278 illus., Softcover
ISBN: 978-3-319-21382-8