

# Contents

Abduction and Web Interface Design / <i>Lorenzo Magnani and Emanuele Bardone</i> .....	1
Adaptable and Adaptive Web-Based Educational Systems / <i>Elena Gaudioso and Miguel Montero</i> .....	8
Agent-Based System for Discovering and Building Collaborative Communities / <i>Olga Nabuco, Mauro F. Koyama, Edeneziano D. Pereira, and Khalil Drira</i> .....	12
Agent-Supported Interface for Online Tutoring / <i>Leen-Kiat Soh</i> .....	18
Analyzing and Visualizing the Dynamics of Scientific Frontiers and Knowledge Diffusion / <i>Chaomei Chen and Natasha Lobo</i> .....	24
Art as Methodology / <i>Sarah Kettley</i> .....	31
Attention Aware Systems / <i>Claudia Roda and Julie Thomas</i> .....	38
Automated Deduction and Usability Reasoning / <i>José Creissac Campos and Michael D. Harrison</i> .....	45
Automatic Evaluation of Interfaces on the Internet / <i>Thomas Mandl</i> .....	53
Automatic Facial Expression Analysis / <i>Huachun Tan and Yujin Zhang</i> .....	60
Case Study on the Development of Broadband Technology in Canada, A / <i>Rocci J. Luppicini</i> .....	68
Cognitive Graphical Walkthrough Interface Evaluation / <i>Athanasis Karoulis, Stavros Demetriadis, and Andreas Pombortsis</i> .....	73
Cognitively Informed Multimedia Interface Design / <i>Eshaa M. Alkhalifa</i> .....	79
Communication + Dynamic Interface = Better User Experience / <i>Simon Polovina and Will Pearson</i> ....	85
Computer Access for Motor-Impaired Users / <i>Shari Trewin and Simeon Keates</i> .....	92
Computer-Based Concept Mapping / <i>Sherman R. Alpert</i> .....	100

Computer-Supported Collaborative Learning / <i>Vladan Devedžić</i> .....	105
Conceptual Models and Usability / <i>Ritchie Macefield</i> .....	112
Cooperative Framework for Information Browsing in Mobile Environment, A / <i>Zhigang Hua, Xing Xie, Hanqing Lu, and Wei-Ying Ma</i> .....	120
CSCW Experience for Distributed System Engineering / <i>Thierry Villemur and Khalil Drira</i> .....	128
Cultural Diversity and Aspects of Human Machine Systems in Mainland China / <i>Kerstin Röse</i> .....	136
Culture(s) of Cyberspace, The / <i>Leah P. Macfadyen</i> .....	143
Design Frameworks / <i>John Knight and Marie Jefsioutine</i> .....	150
Design Rationale for Increasing Profitability of Interactive Systems Development / <i>Xavier Lacaze, Philippe Palanque, Eric Barboni, and David Navarre</i> .....	154
Development of the Personal Digital Assistant (PDA) Interface, The / <i>Bernard Mark Garrett</i> .....	160
Development Methodologies and Users / <i>Shawren Singh and Paula Kotzé</i> .....	165
Dynamic Personal Portfolio Using Web Technologies, A / <i>Michael Verhaart and Kinshuk</i> .....	170
Education, the Internet, and the World Wide Web / <i>John F. Clayton</i> .....	175
Effect of Usability Guidelines on Web Site User Emotions, The / <i>Patricia A. Chalmers</i> .....	179
Elastic Interfaces for Visual Data Browsing / <i>Wolfgang Hürist</i> .....	187
Engagability / <i>John Knight</i> .....	196
Ethics and HCI / <i>John Knight</i> .....	199
Expectations and Their Forgotten Role in HCI / <i>Jan Noyes</i> .....	205
Eye Tracking in HCI and Usability Research / <i>Alex Poole and Linden J. Ball</i> .....	211
From User Inquiries to Specification / <i>Ebba Thóra Hvannberg, Sigrún Gunnarsdóttir, and Atladóttir Gyda</i> .....	220
Fuzzy Logic Usage in Emotion Communication of Human Machine Interaction / <i>Zhe Xu, David John, and Anthony C. Boucouvalas</i> .....	227
GIS Applications to City Planning Engineering / <i>Balqies Sadoun</i> .....	234
GIS-Based Interactive Database System for Planning Purposes, A / <i>Nedal Al-Hanbali and Balqies Sadoun</i> .....	242

Globalization, Culture, and Usability / <i>Kerstin Röse</i> .....	253
Grounding CSCW in Social Psychology / <i>Umer Farooq, Peter G. Fairweather, and Mark K. Singley</i> .....	257
HCI in South Africa / <i>Shawren Singh</i> .....	261
Hedonic, Emotional, and Experiential Perspectives on Product Quality / <i>Marc Hassenzahl</i> .....	266
Human Factors in the Development of Trend Detection and Tracking Techniques / <i>Chaomei Chen, Kaushal Toprani, and Natasha Lobo</i> .....	273
Human-Centered Conceptualization and Natural Language / <i>Javier Andrade, Juan Ares, Rafael García, Santiago Rodríguez, and Andrés Silva</i> .....	280
Human-Computer Interaction and Security / <i>Kai Richter and Volker Roth</i> .....	287
Iconic Interfaces for Assistive Communication / <i>Abhishek and Anupam Basu</i> .....	295
Importance of Similarity in Empathic Interaction, The / <i>Lynne Hall and Sarah Woods</i> .....	303
Improving Dynamic Decision Making through HCI Principles / <i>Hassan Qudrat-Ullah</i> .....	311
Including Users with Motor Impairments in Design / <i>Simeon Keates, Shari Trewin, and Jessica Paradise Elliott</i> .....	317
Influence of Expressive Images for Computer Interaction, The / <i>Zhe Xu, David John, and Anthony C. Boucouvalas</i> .....	324
Information Interaction Beyond HCI / <i>Philip Duchastel</i> .....	332
Information Rich Systems and User's Goals and Information Needs / <i>Michael J. Albers</i> .....	338
Information Space / <i>David Benyon</i> .....	344
Intelligent Multi-Agent Cooperative Learning System / <i>Leen-Kiat Soh and Hong Jiang</i> .....	348
Interactive Speech Skimming via Time-Stretched Audio Replay / <i>Wolfgang Hürst and Tobias Lauer</i> .....	355
International Standards for HCI / <i>Nigel Bevan</i> .....	362
Internet-Mediated Communication at the Cultural Interface / <i>Leah P. Macfadyen</i> .....	373
Knowledge Management as an E-Learning Tool / <i>Javier Andrade, Juan Ares, Rafael García, Santiago Rodríguez, María Seoane, and Sonia Suárez</i> .....	381
Knowledgeable Navigation in Virtual Environments / <i>Pedram Sadeghian, Mehmed Kantardzic, and Sherif Rashad</i> .....	389

Language of Cyberspace, The / <i>Leah P. Macfadyen and Sabine Doff</i> .....	396
Mobile Clinical Learning Tools Using Networked Personal Digital Assistants (PDAs) / <i>Bernard Mark Garrett</i> .....	404
Moral Mediators in HCI / <i>Lorenzo Magnani, Emanuele Bardone, and Michele Bocchiola</i> .....	408
Motivation in Component-Based Software Development / <i>G. Chroust</i> .....	414
Obstacles for the Integration of HCI Practices into Software Engineering Development Processes / <i>Xavier Ferre, Natalia Juristo, and Ana M. Moreno</i> .....	422
On Not Designing Tools / <i>Sarah Kettley</i> .....	429
Online Learning / <i>John F. Clayton</i> .....	435
Overview of an Evaluation Framework for E-Learning, An / <i>Maria Alexandra Rentoia-Bonito, Joaquim A. Jorge, and Claude Ghaoui</i> .....	441
Overview of Multimodal Interaction Techniques and Applications, An / <i>Marie-Luce Bourguet</i> .....	451
PDA Usability for Telemedicine Support / <i>Shirley Ann Becker</i> .....	457
Pen-Based Digital Screen Interaction / <i>Khaireel A. Mohamed and Thomas Ottmann</i> .....	463
Prospects for Identity and Community in Cyberspace, The / <i>Leah P. Macfadyen</i> .....	471
Question Answering from Procedural Semantics to Model Discovery / <i>John Kontos and Ioanna Malagardi</i> .....	479
Recommender Systems in E-Commerce / <i>A. B. Gil and F. J. García</i> .....	486
Replicating Human Interaction to Support E-Learning / <i>William A. Janvier and Claude Ghaoui</i> .....	494
Semantic Learning Objects Authoring Tool, A / <i>F. J. García, A. J. Berlanga, and J. García</i> .....	504
Sense of Presence / <i>Corina Sas</i> .....	511
Site Maps for Hypertext / <i>Amy M. Shapiro</i> .....	518
Social Factors and Interface Design Guidelines / <i>Zhe Xu, David John, and Anthony C. Boucouvalas</i> .....	523
Social-Technical Systems / <i>Brian Whitworth</i> .....	533
Socio-Cognitive Engineering / <i>Mike Sharples</i> .....	542
Software Engineering and HCI / <i>Shawren Singh and Alan Dix</i> .....	548

Spam / <i>Sara de Freitas and Mark Levene</i> .....	553
Spam as a Symptom of Electronic Communication Technologies that Ignore Social Requirements / <i>Brian Whitworth</i> .....	559
Supporting Culture in Computer-Supported Cooperative Work / <i>Lu Xiao, Gregorio Convertino, Eileen Trauth, John M. Carroll, and Mary Beth Rosson</i> .....	567
Supporting Navigation and Learning in Educational Hypermedia / <i>Patricia M. Boechler</i> .....	574
Task Analysis at the Heart of Human-Computer Interaction / <i>Dan Diaper</i> .....	579
Task Ontology-Based Human-Computer Interaction / <i>Kazuhisa Seta</i> .....	588
Think Aloud Method and User Interface Design, The / <i>M.W.M. Jaspers</i> .....	597
Tool Support for Interactive Prototyping of Safety-Critical Interactive Applications / <i>Rémi Bastide, David Navarre, and Philippe Palanque</i> .....	603
Toward an HCI Theory of Cultural Cognition / <i>Anthony Faiola</i> .....	609
Tracking Attention through Browser Mouse Tracking / <i>Robert S. Owen</i> .....	615
Traditional vs. Pull-Down Menus / <i>Mary Henley and Jan Noyes</i> .....	622
Turning the Usability Fraternity into a Thriving Industry / <i>Pradeep Henry</i> .....	626
Ubiquitous Computing and the Concept of Context / <i>Antti Oulasvirta and Antti Salovaara</i> .....	630
Ubiquitous Internet Environments / <i>Anxo Cereijo Roibás</i> .....	634
Understanding and Improving Usability Inspection Methods / <i>Alan Woolrych and Mark Hindmarch</i> .....	641
Understanding Cognitive Processes in Educational Hypermedia / <i>Patricia M. Boechler</i> .....	648
Usability Barriers / <i>David R. Danielson</i> .....	652
Usability Data Quality / <i>David R. Danielson</i> .....	661
Use and Evolution of Affordance in HCI, The / <i>Georgios Christou</i> .....	668
Use of the Secondary Task Technique for Tracking User Attention / <i>Robert S. Owen</i> .....	673
Using Mobile Communication Technology in Student Mentoring / <i>Jonna Häkkilä and Jenine Beekhuyzen</i> .....	680
Various Views on Digital Interactivity / <i>Julie Thomas and Claudia Roda</i> .....	686
Visual and Physical Interfaces for Computer and Video Games / <i>Barry Ip and Gabriel Jacobs</i> .....	692

WAP Applications in Ubiquitous Scenarios of Work / <i>Anxo Cereijo Roibás</i> .....	699
Wearable and Mobile Devices / <i>Sara de Freitas and Mark Levene</i> .....	706
Web Credibility / <i>David R. Danielson</i> .....	713
Web-Based Human Machine Interaction in Manufacturing / <i>Thorsten Blecker and Günter Graf</i> .....	722
Web-Based Instructional Systems / <i>George D. Magoulas</i> .....	729