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Masaaki Kurosu (Ed.)

Human-Computer Interaction

Interaction in Context

20th International Conference, HCI International 2018
Las Vegas, NV, USA, July 15–20, 2018
Proceedings, Part II

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Foreword

The 20th International Conference on Human-Computer Interaction, HCI International 2018, was held in Las Vegas, NV, USA, during July 15–20, 2018. The event incorporated the 14 conferences/thematic areas listed on the following page.

A total of 4,373 individuals from academia, research institutes, industry, and governmental agencies from 76 countries submitted contributions, and 1,170 papers and 195 posters have been included in the proceedings. These contributions address the latest research and development efforts and highlight the human aspects of design and use of computing systems. The contributions thoroughly cover the entire field of human-computer interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas. The volumes constituting the full set of the conference proceedings are listed in the following pages.

I would like to thank the program board chairs and the members of the program boards of all thematic areas and affiliated conferences for their contribution to the highest scientific quality and the overall success of the HCI International 2018 conference.

This conference would not have been possible without the continuous and unwavering support and advice of the founder, Conference General Chair Emeritus and Conference Scientific Advisor Prof. Gavriel Salvendy. For his outstanding efforts, I would like to express my appreciation to the communications chair and editor of *HCI International News*, Dr. Abbas Moallem.

July 2018

Constantine Stephanidis

HCI International 2018 Thematic Areas and Affiliated Conferences

Thematic areas:

- Human-Computer Interaction (HCI 2018)
- Human Interface and the Management of Information (HIMI 2018)

Affiliated conferences:

- 15th International Conference on Engineering Psychology and Cognitive Ergonomics (EPCE 2018)
- 12th International Conference on Universal Access in Human-Computer Interaction (UAHCI 2018)
- 10th International Conference on Virtual, Augmented, and Mixed Reality (VAMR 2018)
- 10th International Conference on Cross-Cultural Design (CCD 2018)
- 10th International Conference on Social Computing and Social Media (SCSM 2018)
- 12th International Conference on Augmented Cognition (AC 2018)
- 9th International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics, and Risk Management (DHM 2018)
- 7th International Conference on Design, User Experience, and Usability (DUXU 2018)
- 6th International Conference on Distributed, Ambient, and Pervasive Interactions (DAPI 2018)
- 5th International Conference on HCI in Business, Government, and Organizations (HCIBGO)
- 5th International Conference on Learning and Collaboration Technologies (LCT 2018)
- 4th International Conference on Human Aspects of IT for the Aged Population (ITAP 2018)

Conference Proceedings Volumes Full List

1. LNCS 10901, Human-Computer Interaction: Theories, Methods, and Human Issues (Part I), edited by Masaaki Kurosu
2. LNCS 10902, Human-Computer Interaction: Interaction in Context (Part II), edited by Masaaki Kurosu
3. LNCS 10903, Human-Computer Interaction: Interaction Technologies (Part III), edited by Masaaki Kurosu
4. LNCS 10904, Human Interface and the Management of Information: Interaction, Visualization, and Analytics (Part I), edited by Sakae Yamamoto and Hirohiko Mori
5. LNCS 10905, Human Interface and the Management of Information: Information in Applications and Services (Part II), edited by Sakae Yamamoto and Hirohiko Mori
6. LNAI 10906, Engineering Psychology and Cognitive Ergonomics, edited by Don Harris
7. LNCS 10907, Universal Access in Human-Computer Interaction: Methods, Technologies, and Users (Part I), edited by Margherita Antona and Constantine Stephanidis
8. LNCS 10908, Universal Access in Human-Computer Interaction: Virtual, Augmented, and Intelligent Environments (Part II), edited by Margherita Antona and Constantine Stephanidis
9. LNCS 10909, Virtual, Augmented and Mixed Reality: Interaction, Navigation, Visualization, Embodiment, and Simulation (Part I), edited by Jessie Y. C. Chen and Gino Fragomeni
10. LNCS 10910, Virtual, Augmented and Mixed Reality: Applications in Health, Cultural Heritage, and Industry (Part II), edited by Jessie Y. C. Chen and Gino Fragomeni
11. LNCS 10911, Cross-Cultural Design: Methods, Tools, and Users (Part I), edited by Pei-Luen Patrick Rau
12. LNCS 10912, Cross-Cultural Design: Applications in Cultural Heritage, Creativity, and Social Development (Part II), edited by Pei-Luen Patrick Rau
13. LNCS 10913, Social Computing and Social Media: User Experience and Behavior (Part I), edited by Gabriele Meiselwitz
14. LNCS 10914, Social Computing and Social Media: Technologies and Analytics (Part II), edited by Gabriele Meiselwitz
15. LNAI 10915, Augmented Cognition: Intelligent Technologies (Part I), edited by Dylan D. Schmorow and Cali M. Fidopiastis
16. LNAI 10916, Augmented Cognition: Users and Contexts (Part II), edited by Dylan D. Schmorow and Cali M. Fidopiastis
17. LNCS 10917, Digital Human Modeling and Applications in Health, Safety, Ergonomics, and Risk Management, edited by Vincent G. Duffy
18. LNCS 10918, Design, User Experience, and Usability: Theory and Practice (Part I), edited by Aaron Marcus and Wentao Wang

19. LNCS 10919, Design, User Experience, and Usability: Designing Interactions (Part II), edited by Aaron Marcus and Wentao Wang
20. LNCS 10920, Design, User Experience, and Usability: Users, Contexts, and Case Studies (Part III), edited by Aaron Marcus and Wentao Wang
21. LNCS 10921, Distributed, Ambient, and Pervasive Interactions: Understanding Humans (Part I), edited by Norbert Streitz and Shin'ichi Konomi
22. LNCS 10922, Distributed, Ambient, and Pervasive Interactions: Technologies and Contexts (Part II), edited by Norbert Streitz and Shin'ichi Konomi
23. LNCS 10923, HCI in Business, Government, and Organizations, edited by Fiona Fui-Hoon Nah and Bo Sophia Xiao
24. LNCS 10924, Learning and Collaboration Technologies: Design, Development and Technological Innovation (Part I), edited by Panayiotis Zaphiris and Andri Ioannou
25. LNCS 10925, Learning and Collaboration Technologies: Learning and Teaching (Part II), edited by Panayiotis Zaphiris and Andri Ioannou
26. LNCS 10926, Human Aspects of IT for the Aged Population: Acceptance, Communication, and Participation (Part I), edited by Jia Zhou and Gavriel Salvendy
27. LNCS 10927, Human Aspects of IT for the Aged Population: Applications in Health, Assistance, and Entertainment (Part II), edited by Jia Zhou and Gavriel Salvendy
28. CCIS 850, HCI International 2018 Posters Extended Abstracts (Part I), edited by Constantine Stephanidis
29. CCIS 851, HCI International 2018 Posters Extended Abstracts (Part II), edited by Constantine Stephanidis
30. CCIS 852, HCI International 2018 Posters Extended Abstracts (Part III), edited by Constantine Stephanidis

<http://2018.hci.international/proceedings>



Human-Computer Interaction

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The full list with the Program Board Chairs and the members of the Program Boards of all thematic areas and affiliated conferences is available online at:

<http://www.hci.international/board-members-2018.php>



HCI International 2019

The 21st International Conference on Human-Computer Interaction, HCI International 2019, will be held jointly with the affiliated conferences in Orlando, FL, USA, at Walt Disney World Swan and Dolphin Resort, July 26–31, 2019. It will cover a broad spectrum of themes related to Human-Computer Interaction, including theoretical issues, methods, tools, processes, and case studies in HCI design, as well as novel interaction techniques, interfaces, and applications. The proceedings will be published by Springer. More information will be available on the conference website: <http://2019.hci.international/>.

General Chair

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Contents – Part II

HCI in Medicine

Usability Evaluation of Origin of Replication Finding Tools.	3
<i>Isra Al-Turaiki, Maryam Aloumi, Nour Aloumi, Noorah Almanyi, Khulood Alghamdi, and Sarah Almuqhim</i>	
Development of Wireless Surgical Knife Attachment with Proximity Indicators Using ArUco Marker	14
<i>Masanao Koeda, Daiki Yano, Naoki Shintaku, Katsuhiko Onishi, and Hiroshi Noborio</i>	
Accurate Evaluation of Rotational Angle and Translation Movement of Our Organ-Following Algorithm Based on Depth-Depth Matching	27
<i>Hiroshi Noborio, Saiki Kiri, Masatoshi Kayaki, Masanao Koeda, and Katsuhiko Onishi</i>	
A Useful Robotic-Mechanical System for Measuring a Surgical Area Without Obstructing Surgical Operations by Some Surgeon	43
<i>Masahiro Nonaka, Yuya Chikayama, Masatoshi Kayaki, Masanao Koeda, Katsunori Tachibana, and Hiroshi Noborio</i>	
A Novel Liver Surgical Navigation System Using Polyhedrons with STL-Format	53
<i>Satoshi Numata, Daiki Yano, Masanao Koeda, Katsuhiko Onishi, Kaoru Watanabe, Hiroshi Noborio, and Hirotaka Uoi</i>	
Calibration Experiences of Multiple RGB/Depth Visions for Capturing a Surgical Area.	64
<i>Katsuhiko Onishi, Yuichiro Tanaka, Kiminori Mizushino, Katsunori Tachibana, Kaoru Watanabe, and Hiroshi Noborio</i>	
Research of a m-Health App Design for Information Management of MDTMs	72
<i>Qiong Peng</i>	
Laparoscopic Forceps with Force Feedback	83
<i>Atsuro Sawada, Jin Kono, Atsushi Sengiku, Naoto Kume, Junichi Fukuda, Toshinari Yamasaki, and Osamu Ogawa</i>	

HCI for Health and Wellbeing

Bringing Nature into Our Lives: Using Biophilic Design and Calm Computing Principles to Improve Well-Being and Performance 99
Carla Barreiros, Eduardo Veas, and Viktoria Pammer

Social Robotics and Human Computer Interaction for Promoting Wellbeing in the Contemporary City 110
Nimish Bilorla and Dimitra Dritsa

Interactive Stress-Free Toy Design for Students Studying Overseas 125
Robert Chen and Tse-Ming Chuang

Assessing Patient Needs for the Enhancement of Stroke Rehabilitation Services: A Customer Value Perspective 145
Yu-Hsiu Hung, Yu-Ching Lin, Wan-Zi Lin, and Pin-Ju Chen

Towards Encouraging a Healthier Lifestyle and Increased Physical Activity – An App Incorporating Persuasive Design Principles 158
Sunny Ladwa, Tor-Morten Grønli, and Gheorghita Ghinea

User Acceptance Factors for mHealth 173
Adam Pan and Fan Zhao

Healthy Hankerings: Motivating Adolescents to Combat Obesity with a Mobile Application 185
Farzana Rahman, Paul Henninger, David Kegley, Keegan Sullivan, and James Yoo

Research on Office Chair Based on Modern Office Posture 195
Xinxin Sun, Xiaoyan Lan, Di Zhou, and Bin Jiang

Eudaimonic Gamification to Engage Cancer Patients in Positive Coping Strategies 206
João Ventura, Sandy Ingram, Maurizio Caon, Maya Zumstein-Shaha, Omar Abou Khaled, and Elena Mugellini

Sports IT and Digital Wellness: Three Waves of Digital Transformation in Sports and Training 219
Charlotte Wiberg

An Innovative Mattress Design to Improve Sleep Quality and Thermal Comfort 228
Fong-Gong Wu, Tsu-Yu Shen, and Su-Huey Tan

HCI in Cultural Heritage

Interaction and Interactivity: In the Context of Digital Interactive Art Installation	241
<i>Salah Uddin Ahmed</i>	
Towards Cross-Generational System Design	258
<i>Maurizio Caon</i>	
Exploring Technology Use in Dance Performances	268
<i>Klaudia Çarçani, Veronica Wachek Hansen, and Harald Maartmann-Moe</i>	
From Interpretation to Deduction: A Study on the Experience Design Method of Digitized Communication of Cultural Heritage	281
<i>Zhigang Chen and Jing Ma</i>	
Bias in Perception of Art Produced by Artificial Intelligence	290
<i>Joo-Wha Hong</i>	
Research on Personalized Learning Pattern in Traditional Handicraft Using Augmented Reality: A Case Study of Cantonese Porcelain	304
<i>Yi Ji, Peng Tan, and Henry Been-Lirn Duh</i>	
An Essay About the Impact of the Digital Revolution on Higher Education in Art and Design	317
<i>Hendrik Wahl</i>	
The Application of Augmented Reality Technology in Digital Display for Intangible Cultural Heritage: The Case of Cantonese Furniture	334
<i>Xing Xie and Xiaoying Tang</i>	

HCI in Complex Environments

Navigation for Visually Impaired Using Haptic Feedback.	347
<i>Siri Fagernes and Tor-Morten Grønli</i>	
Supporting Collaboration in Human-Machine Crisis Management Networks . . .	357
<i>Ida Maria Haugstveit and Marita Skjuve</i>	
Evaluating Effects of Hand Pointing by an Image-Based Avatar of a Navigation System	370
<i>Michiko Inoue, Aya Shiraiwa, Hiroki Yoshimura, Masashi Nishiyama, and Yoshio Iwai</i>	
Using Convolutional Neural Networks for Assembly Activity Recognition in Robot Assisted Manual Production	381
<i>Henning Petruck and Alexander Mertens</i>	

CoRgI: Cognitive Reasoning Interface	398
<i>Vinicius Segura, Juliana Jansen Ferreira, Ana Fucs, Marcio Ferreira Moreno, Rogério de Paula, and Renato Cerqueira</i>	
Difficulties Implementing Big Data: A Big Data Implementation Study	410
<i>Kyle Spraker</i>	
Mobility as a Service (MaaS) Based on Intermodal Electronic Platforms in Public Transport	419
<i>Ulrike Stopka, René Pessier, and Christian Günther</i>	
From HMI to HRI: Human-Vehicle Interaction Design for Smart Cockpit . . .	440
<i>Xiaohua Sun, Honggao Chen, Jintian Shi, Weiwei Guo, and Jingcheng Li</i>	
Implementing Node-Link Interface into a Block-Based Visual Programming Language	455
<i>Ryo Suzuki, Takuto Takahashi, Kenta Masuda, and Ikuro Choh</i>	
Development of Holographic Environment for Multi-user Virtual Robot Training System	466
<i>Chaowwalit Thammatinno and Siam Charoenseang</i>	
Mobile and Wearable HCI	
Investigating Users' Experiences and Attitudes Towards Mobile Apps' Reviews	481
<i>Omar Asiri and Carl K. Chang</i>	
Are People Polite to Smartphones? How Evaluations of Smartphones Depend on Who Is Asking	500
<i>Astrid Carolus, Catharina Schmidt, Florian Schneider, Jule Mayr, and Ricardo Muench</i>	
Pink Stinks - at Least for Men: How Minimal Gender Cues Affect the Evaluation of Smartphones	512
<i>Astrid Carolus, Catharina Schmidt, Ricardo Muench, Lena Mayer, and Florian Schneider</i>	
Investigating the Behavior of Sequence Typing on the Mobile Devices	526
<i>Hsi-Jen Chen, Chia-Ming Kuo, and Yung-Chueh Cheng</i>	
Interactive Public Displays for Paperless Mobility Stations	542
<i>Cindy Mayas, Tobias Steinert, and Heidi Krömker</i>	
Sencogi Spatio-Temporal Saliency: A New Metric for Predicting Subjective Video Quality on Mobile Devices	552
<i>Maria Laura Mele, Damon Millar, and Christiaan Erik Rijnders</i>	

Improving Mobile User Experience of New Features Through Remote Tests and Evaluation 565
Lúcia Satiko Nomiso, Eduardo Hideki Tanaka, and Raquel Pignatelli Silva

What Drives the Perceived Credibility of Mobile Websites: Classical or Expressive Aesthetics?. 576
Kiemute Oyibo, Ifeoma Adaji, Rita Orji, and Julita Vassileva

A Study of Applying Slow Technology on Wearable Devices. 595
Meng-Dar Shieh, Shu-hui Meng, Tzu Yu Chuang, Fang-Chen Hsu, and Chih-Chieh Yang

Experience Maps for Mobility 615
Tobias Wienken and Heidi Krömker

Analyzing Impact Factors for Smartphone Sharing Decisions Using Decision Tree 628
Tao Xu, Yun Zhou, Alexander Raake, and Xuyun Zhang

A Lifelog Viewer System Supporting Multiple Memory Cues. 638
Jiaming Zhang, Jie Liang, and Jiro Tanaka

Defining a Model for Development of Tactile Interfaces on Smartphones. 650
Fan Zhang, Shaowei Chu, Naye Ji, and Ruifang Pan

Author Index 659