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# Foreword

The 12th International Conference on Human-Computer Interaction, HCI International 2007, was held in Beijing, P.R. China, 22-27 July 2007, jointly with the Symposium on Human Interface (Japan) 2007, the 7th International Conference on Engineering Psychology and Cognitive Ergonomics, the 4th International Conference on Universal Access in Human-Computer Interaction, the 2nd International Conference on Virtual Reality, the 2nd International Conference on Usability and Internationalization, the 2nd International Conference on Online Communities and Social Computing, the 3rd International Conference on Augmented Cognition, and the 1st International Conference on Digital Human Modeling.

A total of 3403 individuals from academia, research institutes, industry and governmental agencies from 76 countries submitted contributions, and 1681 papers, judged to be of high scientific quality, were included in the program. These papers address the latest research and development efforts and highlight the human aspects of design and use of computing systems. The papers accepted for presentation 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.

This volume, edited by Don Harris, contains papers in the thematic area of Engineering Psychology and Cognitive Ergonomics, addressing the following major topics:

- Cognitive and Affective Issues in User Interface Design
- Cognitive Workload and Human Performance
- Cognitive Modeling and Measuring
- Safety Critical Applications and Systems

The remaining volumes of the HCI International 2007 proceedings are:

- Volume 1, LNCS 4550, Interaction Design and Usability, edited by Julie A. Jacko
- Volume 2, LNCS 4551, Interaction Platforms and Techniques, edited by Julie A. Jacko
- Volume 3, LNCS 4552, HCI Intelligent Multimodal Interaction Environments, edited by Julie A. Jacko
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- Volume 5, LNCS 4554, Coping with Diversity in Universal Access, edited by Constantine Stephanidis
- Volume 6, LNCS 4555, Universal Access to Ambient Interaction, edited by Constantine Stephanidis
- Volume 7, LNCS 4556, Universal Access to Applications and Services, edited by Constantine Stephanidis
- Volume 8, LNCS 4557, Methods, Techniques and Tools in Information Design, edited by Michael J. Smith and Gavriel Salvendy

- Volume 9, LNCS 4558, Interacting in Information Environments, edited by Michael J. Smith and Gavriel Salvendy
- Volume 10, LNCS 4559, HCI and Culture, edited by Nuray Aykin
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- Volume 14, LNCS 4563, Virtual Reality, edited by Randall Shumaker
- Volume 15, LNCS 4564, Online Communities and Social Computing, edited by Douglas Schuler
- Volume 16, LNAI 4565, Foundations of Augmented Cognition 3rd Edition, edited by Dylan D. Schmorrow and Leah M. Reeves
- Volume 17, LNCS 4566, Ergonomics and Health Aspects of Work with Computers, edited by Marvin J. Dainoff

I would like to thank the Program Chairs and the members of the Program Boards of all Thematic Areas, listed below, for their contribution to the highest scientific quality and the overall success of the HCI International 2007 Conference.

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Constantine Stephanidis  
General Chair, HCI International 2007

# Preface

This volume of the proceedings from HCII 2007 contains papers presented at the 7th International Conference on Engineering Psychology and Cognitive Ergonomics. The book contains contributions from approaching 250 authors from 18 countries. It is divided into four sections: Cognitive and Affective Issues in User Interface Design; Cognitive Workload and Human Performance; Cognitive Modeling and Measuring; and Safety Critical Applications and Systems. However, the contributions address a wider range of issues, and it has been a challenge to group them into Parts.

I would like to thank all the authors for their contributions to this book. It almost goes without saying that without their efforts, neither the conference nor this volume would have been possible. I would also like to extend my thanks to all the Program Board members who contributed their time and effort to the selection and reviewing of the papers. Finally, I must thank Constantine Stephanidis, Gavriel Salvendy and the HCII 2007 conference organization team as a whole. Their organization of the conference has been first rate and the effort that they have put in to produce these proceedings has been immeasurable. Without them, none of this would have been possible.

Don Harris, Editor

# **HCI International 2009**

The 13th International Conference on Human-Computer Interaction, HCI International 2009, will be held jointly with the affiliated Conferences in San Diego, California, USA, in the Town and Country Resort & Convention Center, 19-24 July 2009. 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. For more information, please visit the Conference website: <http://www.hcii2009.org/>

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# Table of Contents

## Part I: Cognitive and Affective Issues in User Interface Design

Designing Human Computer Interfaces for Command and Control Environments .....	3
<i>Amardeep Auja, Neville A. Stanton, Daniel P. Jenkins, Paul M. Salmon, Guy H. Walker, and Mark S. Young</i>	
Perceived Complexity and Cognitive Stability in Human-Centered Design .....	10
<i>Guy A. Boy</i>	
Computer-Supported Creativity: Evaluation of a Tabletop Mind-Map Application .....	22
<i>Stéphanie Buisine, Guillaume Besacier, Marianne Najm, Améziae Aoussat, and Frédéric Vernier</i>	
Symbiosis: Creativity with Affective Response .....	32
<i>Ming-Luen Chang and Ji-Hyun Lee</i>	
Embodied Virtual Agents: An Affective and Attitudinal Approach of the Effects on Man-Machine Stickiness in a Product/Service Discovery .....	42
<i>Pablo Lambert de Diesbach and David F. Midgley</i>	
Integrative Physiological Design: A Theoretical and Experimental Approach of Human Systems Integration .....	52
<i>Didier Fass</i>	
Chinese Color Preference in Software Design .....	62
<i>Yan Ge, Ronggang Zhou, Xi Liu, and Kan Zhang</i>	
The Effect of Animation Location and Timing on Visual Search Performance and Memory .....	69
<i>Songmei Han</i>	
Using Root Cause Data Analysis for Requirements and Knowledge Elicitation .....	79
<i>Zhao Xia Jin, John Hajdukiewicz, Geoffrey Ho, Donny Chan, and Yong-Ming Kow</i>	
What Stories Inform Us About the Users? .....	89
<i>Yong Ming Kow, Angela Tan, and Martin Helander</i>	

How Developers Anticipate User Behavior in the Design of Assistance Systems .....	98
<i>Cordula Krinner</i>	
Design Perspectives: Sampling User Research for Concept Development .....	108
<i>Petri Mannonen and Mika P. Nieminen</i>	
Method to Select the Most Suitable Software Tool for the Development of an Hmi Virtual Prototype .....	118
<i>Luca Minin, Roberto Montanari, Stefano Marzani, Francesco Tesauri, and Luca Canovi</i>	
Intuitive Use of User Interfaces: Defining a Vague Concept .....	128
<i>Anja Naumann, Jörn Hurtienne, Johann Habakuk Israel, Carsten Mohs, Martin Christof Kindsmüller, Herbert A. Meyer, Steffi Hußlein, and The IUUI Research Group</i>	
Creation of an Ergonomic Guideline for Supervisory Control Interface Design .....	137
<i>Pere Ponsa and Marta Díaz</i>	
Ergonomists and Usability Engineers Encounter Test Method Dilemmas with Virtual Work Environments .....	147
<i>Ari Putkonen and Ursula Hyrkkänen</i>	
Interactive Style of 3D Display of Buildings on Touch Screen .....	157
<i>Weina Qu and Xianghong Sun</i>	
The Role of Human Factors in Design and Implementation of Electronic Public Information Systems .....	164
<i>Karl W. Sandberg and Yan Pan</i>	
Defining a Work Support and Training Tool for Automation Design Engineers .....	174
<i>Paula Savioja, Leena Salo, Outi Laitinen, David Hästbacka, Topi Judén, and Ville Valve</i>	
A Comparative Study of Multimodal Displays for Multirobot Supervisory Control .....	184
<i>Boris Trouvain and Christopher M. Schlick</i>	
Analysis of Multilocal and Mobile Knowledge Workers' Work Spaces .....	194
<i>Matti Vartiainen</i>	
Are Computers Capable of Understanding Our Emotional States? .....	204
<i>Min Cheol Whang, Joa Sang Lim, Kang Ryoung Park, Youngjoo Cho, and Wolfram Boucsein</i>	

A Review of Current Human Reliability Assessment Methods Utilized in High Hazard Human-System Interface Design .....	212
<i>Chih-Wei Yang, Chiuhsiang Joe Lin, Yung-Tsan Jou, and Tzu-Chung Yenn</i>	
Who Is Taking over Control? A Psychological Perspective in Examining Effects of Agent-Based Negotiation Support Technologies .....	222
<i>Yinping Yang, John Lim, Yingqin Zhong, Xiaojia Guo, and Xue Li</i>	
Adaptive User Interactive Sketching for Teaching Based on Pen Gesture .....	232
<i>Haiyan Yang, Cuixia Ma, Dongxing Teng, Guozhong Dai, and Hongan Wang</i>	

## Part II: Cognitive Workload and Human Performance

Asymmetric Synchronous Collaboration Within Distributed Teams .....	245
<i>M. Ashdown and M.L. Cummings</i>	
Situation Awareness and Secondary Task Performance While Driving ...	256
<i>Martin R.K. Baumann, Diana Rösler, and Josef F. Krems</i>	
Theoretical and Methodological Considerations in the Comparison of Performance and Physiological Measures of Mental Workload .....	264
<i>Julien Cegarra and Aline Chevalier</i>	
Results of a Tailored Communication Framework Through E-Health .....	269
<i>Eva del Hoyo-Barbolla, Emanuele Carisio, Marta Ortega-Portillo, and María Teresa Arredondo</i>	
Effects of Cognitive Training on Individual Differences in Attention ...	279
<i>Jing Feng and Ian Spence</i>	
The Effect of Traffic on Situation Awareness and Mental Workload: Simulator-Based Study .....	288
<i>Xueqin Hao, Zhiguo Wang, Fan Yang, Ying Wang, Yanru Guo, and Kan Zhang</i>	
Multi-window System and the Working Memory .....	297
<i>Ayako Hashizume, Masaaki Kurosu, and Takao Kaneko</i>	
Human Performance Model for Combined Steering-Targeting Tasks .....	306
<i>Seung-Kweon Hong and Seungwan Ryu</i>	
A Mental Workload Predicator Model for the Design of Pre Alarm Systems .....	316
<i>Sheue-Ling Hwang, Yi-Jan Yau, Yu-Ting Lin, Jun Hao Chen, Tsun-Hung Huang, Tzu-Chung Yenn, and Chong-Cheng Hsu</i>	

Effects of Driver Fatigue Monitoring – An Expert Survey .....	324
<i>Katja Karrer and Matthias Roetting</i>	
Study on the Instruction Method for Plant Operator .....	331
<i>Daiji Kobayashi, Hiroaki Murata, and Sakae Yamamoto</i>	
Examining the Moderating Effect of Workload on Controller Task Distribution .....	339
<i>Paul U. Lee, Joey Mercer, and Todd Callantine</i>	
Cognitive, Perceptual, Sensory and Verbal Abilities as Predictors of PDA Text Entry Error and Instructions Across the Lifespan.....	349
<i>Hiroe Li and Peter Graf</i>	
Time Estimation as a Measure of Mental Workload .....	359
<i>Mats Lind and Henning Sundvall</i>	
How Does Distraction Task Influence the Interaction of Working Memory and Long-Term Memory? .....	366
<i>Ye Liu and Xiaolan Fu</i>	
Sequential Analyses of Error Rate: A Theoretical View .....	375
<i>Ronald Mellado Miller and Richard J. Sauque</i>	
Multidimensional Evaluation of Human Responses to the Workload ....	379
<i>Shinji Miyake, Simpei Yamada, Takuro Shoji, Yasuhiko Takae, Nobuyuki Kuge, and Tomohiro Yamamura</i>	
The Influence of Visual Angle on the Performance of Static Images Scanning .....	388
<i>Xiang Qiu, Yong Niu, and Xiaolan Fu</i>	
Occurrence of Secondary Tasks and Quality of Lane Changes .....	397
<i>Laurence Rognin, Sophie Alidra, Clément Val, and Antoine Lescout</i>	
What Really Is Going on? Review, Critique and Extension of Situation Awareness Theory .....	407
<i>Paul M. Salmon, Neville A. Stanton, Daniel P. Jenkins, Guy H. Walker, Mark S. Young, and Amardeep Aujla</i>	
Stress and Managers Performance: Age-Related Changes in Psychophysiological Reactions to Cognitive Load.....	417
<i>Sergei A. Schapkin, Gabriele Freude, Udo Erdmann, and Heinz Ruediger</i>	
Monitoring Performance and Mental Workload in an Automated System .....	426
<i>Indramani L. Singh, Anju L. Singh, and Proshanto K. Saha</i>	

Context-Aware Notification for Mobile Police Officers . . . . .	436
<i>Jan Willem Streefkerk, Myra van Esch-Bussemakers, and Mark Neerincx</i>	
A Study on the Vertical Navigation of High Rise Buildings . . . . .	446
<i>Xianghong Sun, Tom Plocher, and Weina Qu</i>	
Mental Workload in Command and Control Teams: Musings on the Outputs of EAST and WESTT . . . . .	455
<i>Mark S. Young, Neville A. Stanton, Guy H. Walker, Daniel P. Jenkins, and Paul M. Salmon</i>	
Lightweight Collaborative Activity Patterns in Project Management . . . .	465
<i>Shaoke Zhang, Chen Zhao, Paul Moody, Qinying Liao, and Qiang Zhang</i>	

### Part III: Cognitive Modeling and Measuring

Cognitive Model Data Analysis for the Evaluation of Human Computer Interaction . . . . .	477
<i>Jeronimo Dzaack and Leon Urbas</i>	
Automatic Detection of Interaction Vulnerabilities in an Executable Specification . . . . .	487
<i>Michael Feary</i>	
ATC CTA: Cognitive Task Analysis of Future Air Traffic Control Concepts . . . . .	497
<i>Brian Hilburn</i>	
The Development of a Cognitive Work Analysis Tool . . . . .	504
<i>Daniel P. Jenkins, Neville A. Stanton, Paul M. Salmon, Guy H. Walker, Mark S. Young, Ian Whitworth, Andy Farmilo, and Geoffrey Hone</i>	
Human Activity Modeling for Systems Design: A Trans-Disciplinary and Empirical Approach . . . . .	512
<i>Saadi Lahlou</i>	
Empirical Evidence for a Model of Operator Reaction to Alerting Systems . . . . .	522
<i>Steven J. Landry and Anil Divvela</i>	
“Investigating the Way National Grid Controllers Visualize the Electricity Transmission Grid Using a Neuro-Linguistic Programming (NLP) Approach” . . . . .	531
<i>P. Lazanas</i>	



Diagnosticity of Cardiac Modes of Autonomic Control Elicited by Simulated Driving and Verbal Working Memory Dual-Tasks . . . . .	541
<i>John K. Lenneman and Richard W. Backs</i>	
EEG Activities of Dynamic Stimulation in VR Driving Motion Simulator . . . . .	551
<i>Chin-Teng Lin, Li-Wei Ko, Yin-Hung Lin, Tzyy-Ping Jung, Sheng-Fu Liang, and Li-Sor Hsiao</i>	
Development of a Wireless Embedded Brain - Computer Interface and Its Application on Drowsiness Detection and Warning . . . . .	561
<i>Chin-Teng Lin, Hung-Yi Hsieh, Sheng-Fu Liang, Yu-Chieh Chen, and Li-Wei Ko</i>	
Modelling Cognitive and Affective Load for the Design of Human-Machine Collaboration . . . . .	568
<i>Mark A. Neerincx</i>	
Event-Related Brain Potentials Corroborate Subjectively Optimal Delay in Computer Response to a User's Action . . . . .	575
<i>Hiroshi Nittono</i>	
Effects of Pattern Complexity on Information Integration: Evidence from Eye Movements . . . . .	582
<i>Yanju Ren, Yuming Xuan, and Xiaolan Fu</i>	
Event-Related Potential as a Measure of Effects of Report Order and Compatibility on Identification on Multidimensional Stimulus . . . . .	591
<i>I-Hsuan Shen, Kong-King Shieh, and Shin-Yuan Tsai</i>	
Models of Command and Control . . . . .	600
<i>Neville A. Stanton, Guy Walker, Dan Jenkins, Paul Salmon, Mark Young, and Amerdeep Auja</i>	
Cognitive and Emotional Human Models Within a Multi-agent Framework . . . . .	609
<i>Lucas Stephane</i>	
Sociotechnical Theory and NEC System Design . . . . .	619
<i>Guy H. Walker, Neville A. Stanton, Dan Jenkins, Paul Salmon, Mark Young, and Amerdeep Auja</i>	

## Part IV: Safety Critical Applications and Systems

The Impact of Automation and FMS in Flight Safety: Results of a Survey and an Experimental Study . . . . .	631
<i>Diyar Akay, Ergün Eraslan, and Cengiz Yoldaş</i>	

Combining Skin Conductance and Heart Rate Variability for Adaptive Automation During Simulated IFR Flight . . . . .	639
<i>Wolfram Boucsein, Andrea Haarmann, and Florian Schaefer</i>	
HILAS Flight Operations Research: Development of Risk/Safety Management, Process Improvement and Task Support Tools . . . . .	648
<i>Joan Cahill, Nick Mc Donald, Pernilla Ulfvengren, Franklyn Young, Yeray Ramos, and Gabriel Losa</i>	
Analyzing Constraints to Support Computational Modeling of Air Traffic Controllers . . . . .	658
<i>Todd J. Callantine</i>	
Risk-Based Information Integration for Ship Navigation . . . . .	668
<i>Boris Gauss and Matthias Rötting</i>	
Experimental Thermal/Moisture Mapping of Industrial Safety Helmets . . . . .	678
<i>Z.W. Guan, A.R. Dullah, and H.L. Zhou</i>	
Common Work Space or How to Support Cooperative Activities Between Human Operators and Machine: Application to Air Traffic Control . . . . .	687
<i>Benoît Guiost and Serge Debernard</i>	
Human Performance Enhancements: From Certification to HCI Innovation . . . . .	697
<i>Peter G.A.M. Jorna</i>	
Operator Assistance and Semi-autonomous Functions as Key Elements of Future Systems for Multiple Uav Guidance . . . . .	705
<i>Michael Kriegel, Claudia Meitinger, and Axel Schulte</i>	
Confucius in Western Cockpits: The Investigation of Long-Term Versus Short-Term Orientation Culture and Aviation Accidents . . . . .	716
<i>Wen-Chin Li and Don Harris</i>	
Voice Alarm System in Emergency Evacuation . . . . .	723
<i>Huiyang Li, Xianghong Sun, and Kan Zhang</i>	
Operating Multiple Semi-autonomous UGVs: Navigation, Strategies, and Instantaneous Performance . . . . .	731
<i>Patrik Lif, Johan Hedström, and Peter Svenmarck</i>	
Evaluation of the Effects of Visual Field on Road Sign Recognition . . . . .	741
<i>Bor-Shong Liu, Chih-Hung Hsu, Hsien-Yu Tseng, and Tung-Chung Chia</i>	

Searching for Possible Threat Items to Safe Air Travel: Human Error and Training .....	750
<i>Xi Liu and Alastair Gale</i>	
Human Integration in the Lifecycle of Aviation Systems .....	760
<i>Nick McDonald</i>	
A Characteristic of a Navigator's Response to Artificial Ship's Movement by Picture and Motion Platform .....	770
<i>Koji Murai, Tadatsugi Okazaki, and Yuji Hayashi</i>	
Classification of Blink Waveforms Towards the Assessment of Driver's Arousal Level - An Approach for HMM Based Classification from Blinking Video Sequence .....	779
<i>Yoshihiro Noguchi, Roongroj Nopsuwanchai, Mieko Ohsuga, and Yoshiyuki Kamakura</i>	
Classification of Blink Waveforms Toward the Assessment of Driver's Arousal Levels - An EOG Approach and the Correlation with Physiological Measures .....	787
<i>Mieko Ohsuga, Yoshiyuki Kamakura, Yumiko Inoue, Yoshihiro Noguchi, and Roongroj Nopsuwanchai</i>	
Common Work Space or How to Support Cooperative Activities Between Human Operators: Application to Fighter Aircraft .....	796
<i>Marie-Pierre Pacaux-Lemoine and Serge Debernard</i>	
Culture and Communication in the Philippine Aviation Industry .....	806
<i>Rosemary Seva, Alma Maria Jennifer Gutierrez, and Henry Been Lirn Duh</i>	
Future Trends in Flight Deck Equipment .....	814
<i>Alison Starr and Piet Hoogeboom</i>	
Evaluation of Process Tracing Technique to Assess Pilot Situation Awareness in Air Combat Missions .....	824
<i>Ketut Sulistyawati, Yoon Ping Chui, Yeow Min Tham, and Yeow Koon Wee</i>	
Analysis of Human Factors Integration Aspects for Aviation Accidents and Incidents .....	834
<i>Sun Ruishan, Wang Lei, and Zhang Ling</i>	
Development and Evaluation of a Multimodal Touchpad for Advanced In-Vehicle Systems .....	842
<i>Roman Vilimek and Alf Zimmer</i>	
An European Approach to the Integrated Management of Human Factors in Aircraft Maintenance: Introducing the IMMS .....	852
<i>Marie Ward and Nick McDonald</i>	

A Research of Speech Signal of Fire Information Display Interface . . . . . 860  
*Liang Zhang, Xianghong Sun, and Thomas Plocher*

HCI Testing in Flight Simulator: Set Up and Crew Briefing Procedures.  
Design and Test Cycles for the Future . . . . . 867  
*Rolf Zon and Mariska Roerdink*

**Author Index** . . . . . 877