Human-Computer Interaction

10th International Conference

jointly with:

Symposium on Human Interface (Japan) 2003
5th International Conference on Engineering Psychology and Cognitive Ergonomics
2nd International Conference on Universal Access in Human-Computer Interaction

Final Program

22-27 June 2003 • Crete, Greece
Conference Centre, Creta Maris Hotel

In cooperation with:

Chinese Academy of Sciences
Japan Management Association
Japan Ergonomics Society
Human Interface Society (Japan)
Swedish Interdisciplinary Interest Group for Human-Computer Interaction - STIMDI
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www.hcii2003.gr

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Contacts

HCI International 2003
Institute of Computer Science (ICS)
Foundation for Research and Technology - Hellas (FORTH)
Science and Technology Park of Crete
Heraklion, Crete, GR-71110
GREECE

Tel.: +30-2810-391752
Fax: +30-2810-391740
Email: info@hcii2003.gr

General Chair
Constantine Stephanidis
University of Crete and ICS-FORTH, Greece
cs@ics.forth.gr

Scientific Advisor
Gavriel Salvendy
Purdue University, USA
and Tsinghua University, P.R. China

Conference Administrator
Maria Papadopoulou
ICS-FORTH, Greece
administrator@hcii2003.gr

Registration Chair
Stella Vourou
University of Crete and ICS-FORTH, Greece
registration@hcii2003.gr

Program Administrator
Maria Pitsoulaki
ICS-FORTH, Greece
program@hcii2003.gr

Student Volunteer Chair
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HCI International 2003

Conference Registration - Secretariat

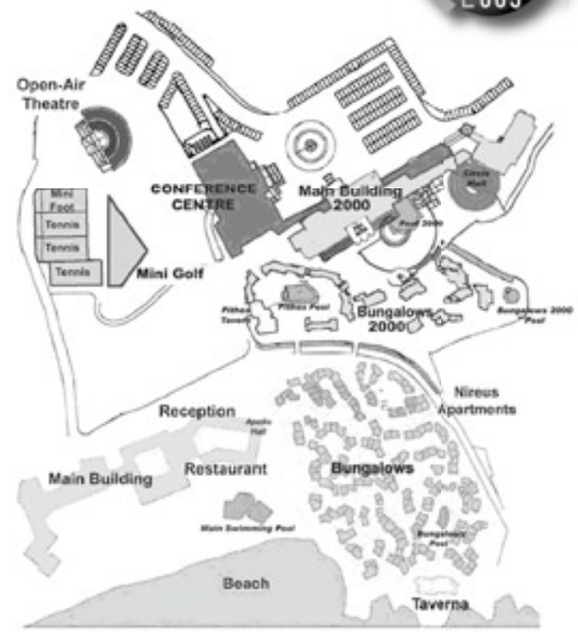
Conference Registration takes place at the Conference Secretariat, located at the Olympus Hall, Conference Centre Level 0, during the following hours:

Saturday, June 21	14:00 – 20:00
Sunday, June 22	08:00 – 19:00
Monday, June 23	08:00 – 19:00
Tuesday, June 24	08:00 – 18:30
Wednesday, June 25	08:00 – 19:00
Thursday, June 26	08:00 – 19:00
Friday, June 27	08:00 – 18:30

The Conference registration fee includes participation in all open technical sessions (SIGs & Parallel Paper Presentations), refreshment/coffee breaks, Conference proceedings, one ticket for the Welcome Reception and Gala Dinner, and shuttle service between the Conference Centre and the Conference hotels.

Cancellation Policy: Registration fee for any events is non-refundable

Creta Maris Hotel Conference Halls' location



Welcome Note

HCI International 2003

Constantine Stephanidis
General Chair

Dear Colleague,

It is with great honour and pleasure that I welcome you to HCI International 2003. This year we celebrate the 10th International Conference on Human-Computer Interaction, jointly held under one management and one registration with the Symposium on Human Interface (Japan) 2003, the 5th International Conference on Engineering Psychology and Cognitive Ergonomics, and the 2nd International Conference on Universal Access in Human-Computer Interaction.

The Conference provides an international forum for the dissemination and exchange of scientific information on theoretical, generic and applied areas of HCI, and this is accomplished through plenary presentations, parallel sessions, poster sessions, demonstrations, exhibitions, tutorials, workshops and other meetings of special interest groups.

The Program of the Conference addresses five major thematic areas: Human-Computer Interaction, Ergonomics and Health Aspects of Work with Computers, Human Interface and the Management of Information, Universal Access in Human-Computer Interaction, Engineering Psychology and Cognitive Ergonomics.

This year an unprecedented number of more than 1400 individuals from over 80 countries have registered for this truly international in scope event, where the work of the world's foremost leaders in the field is presented. We are privileged that Ben Shneiderman and Jenny Preece have joined us as keynote speakers at the opening and closing plenary sessions.

I would like to thank each and every one of you for your valuable contribution towards the success of this Conference, and to wish you a professionally rewarding and socially enjoyable stay in the beautiful and exciting island of Crete.

HCI International 2005

The 11th International Conference on Human-Computer Interaction, HCI International 2005, will take place jointly with:

- Symposium on Human Interface (Japan) 2005
- 6th International Conference on Engineering Psychology and CognitiveErgonomics
- 3rd International Conference on Universal Access in Human-Computer Interaction
- 1st International Conference on Virtual Reality
- 1st International Conference on Usability and Internationalization

The conference will be held in Las Vegas, Nevada, 22-27 July 2005. The conference will cover a broad spectrum of HCI-related themes, including theoretical issues, methods, tools and processes for HCI design, new interface techniques and applications. The conference will offer a pre-conference program with tutorials and workshops, parallel paper sessions, panels, posters and exhibitions. For more information please visit the URL address: http://hcii2005.engr.wisc.edu

General Chair: Gavriel Salvendy

Purdue University
School of Industrial EngineeringWest Lafayette, IN 47907-2023 USA

Telephone: +1 (765)494-5426

Fax: +1 (765) 494-0874

Email: salvendy@ecn.purdue.edu

http://gilbreth.ecn.purdue.edu/~salvendy

and
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Opening Plenary Session

Tuesday, 24 June 2003 • 18:30 • Zeus Hall

Session Chair: *Michael J. Smith,* USA

Leonardo's Laptop: Human Needs and the New Computing Technologies

Ben Shneiderman
Department of Computer Science
University of Maryland, USA

The old computing was about what computers could do; the new computing is about what users can do. Attention is shifting from making computers intelligent to making users creative. Leonardo da Vinci could help as an inspirational muse for the new computing to push for improved quality through scientific study and more elegant design through visual thinking. We can follow Leonardo's example by integrating text and graphics, functionality and aesthetics.

The new computing emphasizes empowerment and collaboration. We must reduce user frustration with annoying crashes, incomprehensible dialog boxes, and incompatible attachments. Then we can promote universal usability through interfaces that are more customizable for diverse users, more tailorable to a wide range of hardware, software, and networks, and designed to bridge the gap between what users know and what they need to know.

With these basics in place, the new computing principle is that human needs should shape technology. Four circles of human relationships and four human activities map out the human needs for mobility, ubiquity, creativity, and community. Million-person communities will be accessible through desktop, palmtop and fingertip devices that support e-learning, e-business, e-healthcare, and e-government.

This talk will present an agenda of what we all need to do to bring about The New Computing (www.cs.umd.edu/hcil/newcomputing).

Ben Shneiderman is a Professor in the Department of Computer Science Founding Director (1983-2000) of the Human-Computer Interaction Laboratory www.cs.umd.edu/hcil, and Member of the Institutes for Advanced Computer Studies & for Systems Research, all at the University of Maryland at College Park. He was elected as a Fellow of the Association for Computing (ACM) in 1997 and a Fellow of the American Association for the Advancement of Science (AAAS) in 2001.

Ben is the author of "Software Psychology: Human Factors in Computer and Information Systems" (1980) and "Designing the User Interface: Strategies for Effective Human-Computer Interaction" (3rd ed. 1998) www.awl.com/DTUI. He pioneered the highlighted textual link in 1983, and it became part of Hyperties, a precursor to the web. He helped spawn the successful information visualization company Spotfire www.spotfire.com, where he was a board member (1996-2001). He is an advisor for www.smartmoney.com where his treemap visualization is used for stock market data. With S. Card and J. Mackinlay, he co-authored "Readings in Information Visualization: Using Vision to Think" (1999). His new book "Leonardo's Laptop" (October 2002) is published by MIT Press.

Closing Plenary Session

Friday, 27 June 2003 • 18:30 • Circle Hall

Session Chair: *Constantine Stephanidis,* Greece

Designing Sociable, Universally Usable Online Communities

Jenny Preece
Prof. of Information Systems
University of Maryland Baltimore County, USA

"Like the twentieth-century architects and town planners, software designers and community developers can together profoundly shape the online community landscape."

People's behavior in online communities cannot be controlled but it can be influenced by software design, social policies and community norms. By understanding the social needs of online communities and mapping these to creatively designed software and policies, we can help communities to be successful. A further challenge is making universally usable software that it is available to all computer users and not just those with state-of-the-art equipment. In this talk I will suggest design and evaluation heuristics, visualizations, symbol palettes, phrase books and other design artifacts, and strategies that encourage community-centered governance.

Jenny Preece is Professor of Information Systems at the University of Maryland, Baltimore County, USA. Jenny is author of many books and papers on human-computer interaction and online communities. Her most recent books include: of Online Communities: Designing Usability, Supporting Sociability (2000) www.ifsm.umbc.edu/onlinecommunities and Interaction Design: Beyond Human-Computer Interaction (2002) www.id-book.com co-authored with Yvonne Rogers and Helen Sharp. Both books are published by John Wiley & Sons.

The goal of Jenny's research is to make online communities universally accessible and usable, which requires that we understand the social interaction needs of different communities and develop designs to support them. The question that guides her research is 'what makes some online communities successful?' Current topics of interest include designing to support social interaction in light-weight software environments; how to design and support empathy and trust in support communities; an investigation of the role of online communities in people's off-line lives; and a study of online participation and lurking.

Foundation for Research and Technology - Hellas, Institute of Computer Science

http://www.ics.forth.gr

The Foundation for Research and Technology - Hellas (FORTH) is one of the main national research centres in Greece comprising of seven Institutes, located in the cities of Heraklion, Rethymno, Ioannina, and Patras. FORTH belongs to the wider public sector, supervised and partly funded by the General Secretariat for Research and Technology of the Hellenic Ministry of Development.

Since its establishment in 1983, the Institute of Computer Science of the Foundation for Research and Technology – Hellas (ICS-FORTH) has a relatively long history and an established tradition of internationally acknowledged excellence in conducting basic and applied research, developing innovative applications and products, and providing services in the fields of information and telecommunications technologies.

Celebrating its 20th anniversary, the Institute aims to maintain its position as a centre of excellence at international level, as well as to establish a leading role in important new areas of scientific endeavour.

UNIVERSITY OF CRETE

http://www.uoc.gr

The University of Crete, this year celebrating it's 25th anniversary, admitted its first students during the academic year 1977-78. As a higher education institution, it is a legal entity of public law, i.e. it operates under the supervision of the State. The seat of the University is in Rethymnon. The University of Crete has 6618 students (5875 at the undergraduate level and 687 at the postgraduate level), more than 400 Faculty members and researchers as well as approximately 240 administrative staff, in Schools and their Departments in the cities of Rethymnon and Heraklion.

ERCIM

http://www.ercim.org/

ERCIM - the European Research Consortium for Informatics and Mathematics - aims to foster collaborative work within the European research community and to increase co-operation with European industry. Leading research institutes from sixteen European countries are members of ERCIM. All ERCIM members are national centres of excellence. They have a strong involvement in the research programmes of the European Union and joint projects with both small and medium size enterprises and large industrial organisations. ERCIM was founded in 1989 and is a European Economic Interest Grouping (EEIG).

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Piraeus Bank offers the first complete and most awarded Greek electronic multi-channel bank: Winbank. It offers services in the below fields:

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The strategic objective of Winbank is the offering of integrated and personalized service fast, easy, directly and with the ultimate security.

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- The Municipality of Heraklion

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Hellenic Telecommunications and Telematics Applications Company - FORTHnet S.A.

http://www.forthnet.gr

FORTHnet S.A. is a leading provider of data network services in Greece. The company was established in November 1995 to be the first commercial Internet Service Provider in the country. Since then, and starting from the Internet access services domain in 1995, FORTHnet has entered both the telecommunications (voice telephony, virtual private networks, internet access) and e-content/e-commerce business (online services, ASP, booking services), and has recently become a convergent services provider. FORTHnet is keeping a two-fold strategy, having as a key-to-success: bundling telecommunication services with applications services. Research and development path in both domains has been always leading the development of next generation services and now is building its strategy upon the evolution of broadband technologies and future emerging technologies towards the mobile and ambient intelligence.

HELLENIC POST – ELTA

http://www.elta-net.gr

Hellenic Post is the Provider of General Postal Services in Greece and operates as an S.A. Having 878 Post Offices across the country and 1274 Postal Agencies, it provides complete postal services, even at the most distant area of the country.

In 2002, ELTA's profit came up to 19.1 million Euros, being profitable for the 4th consecutive year, since 1999.This fact creates a positive perspective for ELTA's future, which aspires to play a vital role in the development of the Postal market in the Balkans and the Southern European countries.

Since October 2001, ELTA is a Great National Sponsor of the Athens 2004 Olympic Games.

ELTA provide a wide range of postal products and services across the country, including domestic and international mail and parcel delivery, money orders all over the world, sale of philatelic products and collectors' items, courier Services through ELTA's affiliate company "TACHYMETAFORES ELTA S.A", etc.

Greek Telecommunications Organisation - OTE

www.ote.gr

The Greek Telecommunications Organization (OTE) was established in 1949. It ranks amongst the top Groups of companies in Greece and the top ten telecommunications organizations in Europe. It extends its activities beyond the Greek frontiers into the South-eastern European markets and the Middle East. OTE is the largest Greek Telecommunications Group, with numerous subsidiaries such as COSMOTE and OTEnet which exhibit an impressive performance record. OTE is listed on the Athens Stock Exchange (ASE) and on the London and New York Stock Exchanges.

Exhibition

Wednesday 25 - Friday 27 June 2003

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Booth number 3

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Preece Jenny & Shneiderman Ben
Booth number 13

The Exhibition is hosted in the Zeus Hall of the Creta Maris Hotel Conference Centre and will be open from Wednesday 25 June, through Friday 27 June 2003.

Entrance to the Exhibition is free of charge for all Conference participants.

Exhibition Timetable		
Display set-up	Wednesday 25 June 2003	07:00 - 12:00
Opening Hours	Wednesday 25 June 2003	14:00 - 18:00
	Thursday 26 June 2003	09:00 - 18:00
	Friday 27 June 2003	09:00 - 18:00
Dismantle	Saturday 28 June 2003	08:00 - 17:00

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Booth number 4

VIEW of the Future Project
http://www.view.iao.fhg.de
Booth number 16,17

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http://www.wileyeurope.com
Booth number 7

Online Communities

Sunday, 22 June 2003 • 9:00-18:00 • Room **Artemis**

Tutorial 1 Full Day

Jennifer Preece
Chadia Abras
University of Maryland Baltimore County, USA

Objectives:

This Tutorial provides a broad introduction to the research and development practices involved in creating successful online communities. After completing this Tutorial you should:

- Be able to discuss research that impacts the design, management and success of online communities (part 1);
- Be aware of different software architectures for supporting online communities and know the pros and cons of using two well-known freeware bulletin board systems (part 2);
- Know what is involved in participatory community development, and be able to evaluate usability and sociability of the design (part 3);
- Be aware of management challenges for moderating and supporting an evolving online community (part 3);
- Be able to discuss the differences between health, education and business online communities and how these differences impact development and management of these communities (part 4).

Content and Benefits:

The content for the day will be split into 4 parts. Each part will contain activities that involve participants in small groups.

- Morning part 1: Review of key research findings about developing and managing online communities.
  Benefits: It would take months to find and synthesize this information unless you are working in this area.
- Morning part 2: What to look for in software to support online communities.
  Benefits: You will learn about currently available software and what it is like to develop online communities using these systems.
- Afternoon part 1: Developing and managing online communities.
  Benefits: You will learn about key issues in developing and managing online communities.
- Afternoon part 2: Special issues of concern for: health, education and business communities.
  Benefits: You will learn how communities differ and how to design and manage different types of communities.

Book: Online communities: Designing usability, supporting sociability (Preece, 2000). John Wiley & Sons, England: Chichester.

Target Audience:

We welcome practitioners and academics who seek a broad exposure to the practicalities of developing online communities.

Biographical Sketches

Jennifer Preece is a Professor of information systems at UMBC. She researches and teaches online communities and human-computer interaction. Her research focuses on understanding the usability and sociability issues that contribute to the success of different types of online communities. Topics on which she is currently working include: empathy and trust, participation and lurking (i.e., non-posting), heuristics and tools for evaluating success. Jenny Preece has published widely and is author or co-author of 8 books including two recent ones: Preece, J., Rogers, Y. & Sharp, H. (2002) Interaction design: Beyond human-computer interaction. New York, NY: John Wiley & Sons. www.id-book.com and Preece, J. (2000) Online communities: Designing usability, supporting sociability. Chichester, UK: John Wiley & Sons. www.ifsm.umbc.edu/onlinecommunities

Chadia Abras is a graduate student at UMBC. Her research focuses on developing usability and sociability heuristics to assess success in different types of online communities. A goal of this work is to develop metrics that determine success. Her work uses a community-centered development approach, assessing the usability and sociability of the site, selecting software to support online communities and evaluating the community through surveys, interviews and logging in order to determine success.

Tutorial 2
Full Day

Designing Accessible Interfaces

Sunday, 22 June 2003 • 9:00-18:00 • Room **Aphrodite**

Gregg C. Vanderheiden
University of Wisconsin-Madison, USA

Objectives:

- To introduce participants to the different disabilities and develop a basic understanding for the major problems faced by people with different disabilities in using information technologies and telecommunication systems.
- To show how the problems and solutions for disability access also apply to the constraints and solutions needed for the mass market customers (e.g., for data mining, mobile computing, etc).
- To demonstrate low-cost strategies for building access into standard products (and increasing mass marketability simultaneously).
- To help separate key accessibility issues from lower priority issues.
- To acquaint participants with resources available to draw on for additional information, training, or technical assistance.

Content and Benefits:

Hands-on experience of usability problems an aging population and people with disabilities encounter with IT products, and ways to address these problems that can result in commercially practical and profitable products.

Target Audience:

Product developers and managers responsible for product accessibility, human factors or usability specialists, consultants and researchers in the area of design of more accessible product interfaces.

Biographical Sketch

Gregg Vanderheiden is Director of the Trace R&D Center and a professor of Industrial Engineering (Human Factors) and Biomedical Engineering at the University of Wisconsin-Madison. He has been a pioneer in the field of disability and technology for 30 years. Achievements include development of access features (StickyKeys, MouseKeys etc.) used in Windows, MacOS, and other standard operating systems, and development of techniques for providing cross-disability access in electronic products of all types (now commercially available in many ATMs, kiosks, door entry systems).

Tutorial 3
Full Day

Cognitive Systems Engineering

Sunday, 22 June 2003 • 9:00-18:00 • Room **Leda**

Jens Rasmussen
HURECON, Denmark
Annelise Pejtersen
Risø National Laboratory, Denmark
John Flach
Wright State University, USA

Objectives:

The objective for this Tutorial is to provide an overview of the emerging Cognitive Systems Engineering perspective on work. This perspective focuses on humans as adaptive actors within complex work ecologies.

Content and Benefits:

The Tutorial will provide some of the historical background that has motivated this new perspective. It will review some of the theoretical implications for our image of work and our image of human performance. Finally, it will consider the practical implications for work/task analysis, ecological interface design, ecological information system design, and for managing system safety.

Target Audience:

Human factors professionals, system designers, applied cognitive psychologists, and technologists.

Biographical Sketches

Jens Rasmussen was a research professor of cognitive systems engineering at Risø National Laboratory and the Technical University of Copenhagen following 25 years as the head of the Electronics Department at Risø National Laboratory. Since 1962, he has conducted research in the areas of reliability and risk factors, human reliability, work domain taxonomy, human-machine interaction, and ecological information systems design. He is now retired, but serving as a free-lance consultant and recently he has been working with the Human Effectiveness Directorate, US Air Force, WPAFB, Ohio; European Office of Air Force Research and Development, London; Swedish Rescue Services Board, Karlstad; Sweden, and Japan Atomic Energy Research Institute, Tokay Mura. He is author of several books, including Information Processing and Human-Machine Interaction: An Approach to Cognitive Engineering, Cognitive Systems Engineering (with Pejtersen & Goodstein), and Proactive Risk Management in a Dynamic Society (with Inge Svendung).

Annelise Mark Pejtersen is affiliated professor at the University of Washington, Seattle, and director of the Center for Human-Machine Interaction at Risø National Laboratory. Her main areas of expertise include, cognitive systems engineering approaches to design and evaluation of ecological information systems, ecological interfaces, collaborative information retrieval and classification. She is a co-author of Cognitive Systems Engineering (with Rasmussen and Goodstein).

John Flach is a professor in the department of psychology at Wright State University where he teaches graduate and undergraduate courses on applied cognitive psychology. He is interested in basic theories of perceptual-motor coordination and the implications for the design of human-machine systems. He is co-author of Control Theory for Humans: Quantitative Approaches to Modeling Performance (with R. Jagacinski).

Tutorial 4
Half Day

What About Context? Models and Solutions for pro-Active UI Design

Sunday, 22 June 2003 • 9:00-13:00 • Room **Danae**

Chris Stary
University of Linz, Austria

Biographical Sketch

Prof. Chris Stary is educated in computer science, psychology and philosophy. His work in model-based user interface design, usability and knowledge engineering is characterized through cross-disciplinarity and orientation towards human needs and work. His tools and methods, such as TADEUS and EU-CON have been tested in a variety of national and international projects, such as IS4ALL, SCALEX, and AVANTI.

Objectives:

Developers' training to design and prototype context-sensitive User Interfaces for All.

Content:

1. Context - A concept without operational definition
2. Pro-Activity: Design Approaches in User Interfaces for All
3. Ontology Engineering
    1. Task Modeling
    2. User Modeling
    3. Data Modeling
    4. Interaction Modeling
    5. Integrated Specification
4. Tool Support

Benefits:

Developers learn to identify sources of context knowledge for user interfaces for all. They learn to represent and process these sources in the course of model-based design approaches. They develop critical understanding of accurate tool support.

Target Audience:

UI designers, system developers, work analysts, UI researchers, UI-tool developers, usability engineers, software engineers.

Tutorial 5
Half Day

Human Factors in Information Security

Sunday, 22 June 2003 • 9:00-13:00 • Room **Europa**

E. Eugene Schultz
Lawrence Berkeley National Laboratory, USA
Robert W. Proctor
Kim-Phuong L. Vu
Purdue University, USA

Biographical Sketches

Eugene Schultz, CISSP, is a Principal Engineer with Lawrence Berkeley National Laboratory and also teaches computer science courses at the University of California at Berkeley. He previously founded and managed the CIAC for the U.S. Department of Energy and was the Program Manager for the International Information Integrity Institute (I-4). He is co-founder of FIRST and an advisor to corporate executives around the world on computer security policy and practice. An expert in a variety of areas within information security, he is the author of four books and over 90 papers, as well as the Editor-in-Chief of Computers and Security. He is a frequent instructor for SANS, ISACA and CSI. Dr. Schultz is also is a member of the ArcSight Security Advisory Board. He has received numerous professional awards, including the NASA Technical Innovation Award, Best Paper Award for the National Information Systems Security Conference, and ISSA Professional Contribution Award. Dr. Schultz has also provided expert testimony for the U.S. Senate.

Robert Proctor is Professor of Psychology at Purdue University. He is the coordinator for the Cognitive Psychology graduate program and the interdisciplinary Human Factors program in conjunction with the School of Industrial Engineering. He teaches the course Human Factors in Engineering. Dr. Proctor's research focuses on basic and applied aspects of human performance. He has published over 100 articles on human performance and is author of numerous books and book chapters. His books include Human Factors in Simple and Complex Systems, Skill Acquisition and Human Performance, and Stimulus-Response Compatibility: An Integrated Perspective. Currently, he is editing the Handbook of Human Factors in Web Design. He is Fellow of the American Psychological Association and Honorary Fellow of the Human Factors and Ergonomics Society.

Kim Vu is a doctoral candidate in cognitive psychology at Purdue University. She has 23 publications in areas relating to human performance and human-computer interaction. She is co-author of the chapter, "Human Information Processing: An Overview for Human-Computer Interaction," in The Human-Computer Interaction Handbook, and is co-editing the Handbook of Human Factors in Web Design. She worked for the Center for Usability in Design and Assessment at California State University, Long Beach, for two years prior to coming to Purdue.

Abstract:

Information security is a topic of major concern, given the emphasis and reliance on electronic storage and transmission of information. Security and usability are much more interrelated than most people think, making it necessary to determine the proper balance between security and usability. The most secure systems are ineffective if they are not user friendly. Usability is, however, generally neglected when user and system administrator interaction sequences are designed. This Tutorial provides an introduction to information and computer security, outlining its major objectives and methods, and then covers security-related human-computer interaction tasks, employing a task taxonomy that depicts the major categories of tasks as well as task analysis of well-known user interaction tasks related to security.

Next the Tutorial covers the mental models of users engaged in security-related tasks, and the mental demands placed on them. In still another module of this Tutorial, relevant research methods and findings are presented. The final portion presents design solutions and promising future research directions.

Focusing equally on hardware and computer-based tasks, this Tutorial offers practical insights and experience as well as multiple perspectives to help professionals avoid the many usability design errors that have been made and will in all likelihood continue to be made in this area.

Target Audience:

This course is geared toward a wide range of attendees, including human factors professionals, computer scientists, industrial designers and engineers, commercial vendors, security specialists, system and network administrators, and users.

Tutorial 6
Half Day

The Evolving User Experience - Handheld Information Design

Sunday, 22 June 2003 • 9:00-13:00 • Room **Athena**

Jennifer Martin
IBM, USA

Objectives:

Designing a compelling user experience is becoming increasingly challenging as more people access the Internet through devices other than a traditional computer. Handheld devices such as personal digital assistants and mobile phones make the Internet a pervasive part of people's lives. To an information designer, this means identifying the unique needs of the handheld user and scaling the user experience to be useful and usable from a handheld device. In this Tutorial, participants will learn the issues impacting handheld design and usability; specifically, that there is more to this endeavor than merely squeezing a web site onto a smaller screen.

Content and Benefits:

Participants in this Tutorial will gain an overall understanding of the basic principles of handheld experience design. After presenting an overview of the design and usability issues impacting handheld devices, a case study of a handheld device designed for the Egyptian Museum will be presented to demonstrate the design process.

Through presentations and quick, small-group breakout sessions, participants will learn:

- the major design and usability issues impacting handheld devices
- to analyze web information design to identify potential handheld solutions
- to develop user scenarios to identify channel-specific user needs and content
- to create paper prototypes and conduct usability tests to validate or disprove design decisions

Agenda:

- Design and Usability Issues Impacting Handheld Devices
- Case Study – The Egyptian Museum Digital Guide
- Information Design Analysis
- User and Task Analysis
- Paper Prototyping
- Usability Testing

After attending this Tutorial, participants will be able to expand a web user experience to a successful handheld solution.

Target Audience:

Information architects, interface designers, usability professionals, and anyone interested in designing for wireless devices will benefit from this Tutorial: It is intended for participants with some experience in information design, but is also suitable for beginners because the discussions will be more theoretical than technical.

Biographical Sketch

Jennifer Martin works as an Information Architect and Content Strategist for IBM Global Services. Ms. Martin's varied information technology experience includes interaction and experience design, usability, globalization, and technical and creative writing. Ms. Martin's current focus is in the design and implementation of multi-channel solutions.

Tutorial 7
Half Day

Human Factors of Product Design

Sunday, 22 June 2003 • 14:00 -18:00 • Room **Europa**

Kee Yong Lim
Nanyang Technological University, Singapore

Objectives:

This Tutorial introduces participants to essential human factors concepts applicable to product design and evaluation. The knowledge gained would help product designers, managers and engineers, to meet comprehensively the scope and requirements of user centered design.

Content and Benefits:

To compete well in the market, products must not only meet functional requirements, but their user interfaces must also be attractive and user friendly. Thus, commercial organisations are increasingly exploiting Human Factors, to differentiate their products from their rivals and so achieve a competitive edge. This trend has also become more pronounced with wider market penetration of complex and sophisticated products, for which human factors considerations are even more pressing. Adding to these concerns is the emergence of a global economy. In this respect, it is a frequent exhortation that with intense global competition, one has to 'think global and act local'. Thus, to ensure wider product acceptance, designs developed in geographically distant and culturally distinct countries, must be customised pertinently to satisfy the contexts of local markets. Product user interfaces that are optimal in acceptability, usability and functionality, may thus be designed to meet both objective and affective user task requirements. Only then can positive product design features be amplified, and potentially negative implications associated with cross-cultural differences be avoided. This Tutorial aims to expose participants to the wide spectrum of human factors considerations that should be addressed in product development.

Topics covered include the following: consequences of ignoring Human Factors; positioning human factors design contributions; physical and cognitive factors of product design; affective, cross cultural and socio-technical factors of product design.

The Tutorial is presented interactively to engage participants. Real examples will be used as illustrations to support assimilation of human factors knowledge. A comprehensive set of Tutorial notes (including selected transparencies) will be provided to participants.

Target Audience:

User interface & product designers, managers and engineers.

Biographical Sketch

Dr. Kee Yong Lim BSc (First Class) MSc PhD (Lond.) FErgS PGDipTHE is an Associate Professor at the Nanyang Technological University, Singapore, where he is also Director of the Centre for Human Factors Engineering. Dr. Lim is primary author of the book: 'The MUSE Method for Usability Engineering' published by Cambridge University Press. He has presented papers and tutorials at all the leading international conferences in HCI, Human Factors & Ergonomics. Dr. Lim has also given many professional in-house courses for industry, and taught students in Engineering, Computer Science and Ergonomics. His consultancy experience is wide-ranging, covering the design and evaluation of industrial systems to consumer products (both hardware and software). Dr. Lim is the current Chairman of the Ergonomics Society of Singapore, the Immediate Past President of the South East Asian Ergonomics Society and Fellow of the British Ergonomics Society. He is an Honorary Research Fellow at the Ergonomics & HCI Unit (now renamed UCLIC), University College London, UK.

Tutorial 8
Half Day

Multimodal Interaction Design

Sunday, 22 June 2003 • 14:00-18:00 • Room **Danae**

Dylan Schmorrow
DARPA, Office of Naval Research, USA
Kay Stanney, Leah Reeves,
Kelly Kingdon Hale, Shatha Samman
University of Central Florida, USA
Joseph Cohn
Naval Research Laboratory, USA

Objectives:

Traditional HCI user-centered design principles focus on a single user interacting primarily visually with a single system. As ubiquitous computing permeates society, the ability to design for information-interaction spaces (IISs), which immerse users in one-to-many scenarios becomes ever more important. Emerging IISs involve dynamic, multimodal interactions and thus require knowledge of such issues as sensory integration, sensory parallelism, and sensory transformation. Current HCI principles need to be extended to effectively address such multimodal interaction design.

Content and Benefits:

This interactive Tutorial will introduce an innovative way to utilize existing cognitive engineering/design approaches to develop new user-centered multimodal design principles and will focus on a sub-set of tasks, which can be generalizable to other task domains. The first part of the tutorial will introduce cognitive methods as applied to multimodal IIS design. The second part will identify multimodal design guidelines that have been extracted from our approach to date. The efficacy of the methodology and related guidelines will be demonstrated using a decision support system currently being utilized by DARPA's Augmented Cognition program. The final part will be devoted to providing participants with "hands-on" experience via an iterative design process that will involve the following scenario: (1) utilize unimodal guidelines and apply them to a multimodal task; (2) utilize multimodal guidelines and apply them to the same multimodal task; (3) determine whether the unimodal guidelines were (in)sufficient as compared to the multimodal guidelines presented during the second part of the tutorial; and (4) quantify the benefits of designing to specifically support multimodal interaction. The hands-on activities will involve participants in learning how to optimize the design of each of the primary three modalities (i.e., visual, auditory, haptic) and account for subsequent cross-modal interaction issues that occur when multiple modalities are introduced into an IIS environment. Participants will end the course with knowledge and practice in multimodal interaction design. The methods learned will provide a basis for designing multimodal products and decision support systems.

Target Audience: Beginner to Intermediate.

Anyone interested in innovative methods for designing multimodal products and systems, including researchers in cognition and neuroscience, system designers and developers, and human factors educators.

Biographical Sketches

LCDR Schmorrow is serving in the Information Processing Technology Office at DARPA and the Human Systems Department at the ONR as a Program Manager. He manages high-risk research and development programs focused on the advancement of human and technology integration science and technology.

Dr. Kay M. Stanney is an associate professor with the University of Central Florida's Industrial Engineering & Management Systems Department. She is Editor-in-Chief of the International Journal of Human-Computer Interaction and Editor of the Handbook of Virtual Environments (LEA).

Leah Reeves is an ONR fellow at the University of Central Florida's Industrial Engineering and Management Systems Department. Her experiences include a post-graduate level co-op with IBM's human factors speech interface group, teaching a continuing education class on developing information visualization design guidelines, etc.

Kelly Kingdon Hale is an ONR fellow at the University of Central Florida's Industrial Engineering and Management Systems Department. She has been involved with DARPA's AugCog program, and has presented papers at HFES 2001, HFES 2002 and HCI International 2001.

Shatha Samman is pursuing her Ph.D. in Human Factors Psychology at the University of Central Florida. Her research focus includes HCI, internationalization, and human performance.

LT Joseph Cohn is a designated Aerospace Psychologist, holding a PhD in Neuroscience from Brandeis University. He is the Lead, Requirements and Training Evaluation for VE at the Naval Research Laboratory and is in charge of assessing the efficacy of VE-based training systems.

Tutorial 9
Half Day

Wireless Mobile Devices

Sunday, 22 June 2003 • 14:00 -18:00 • Room **Athena**

Maribeth Gandy
Ed Price
Georgia Tech, USA

Objectives, Content and Benefits:

The nature of computing is changing and devices are leaving the desktop. Computers have become small mobile devices that people carry with them as they move around in their environment. The result of these advancements has opened up a host of new possibilities. However, there are many challenges associated with this new area of computing.

The goal of this Tutorial is to make researchers aware of the current state of this technology and to provide information that will allow them to realize the full possibilities of this new field in their future work.

The first section of the Tutorial will provide a survey of the current mobile device landscape and protocols such as Bluetooth, WAP, and V2. The Tutorial will show how these devices are being used, their problems, and 4th generation devices.

The next section of the Tutorial will focus on the user interface issues and challenges for mobile devices, current approaches, and research in new interface modalities.

We will look at the future of mobile devices and current research in areas such as wearable computing and contextual awareness. We will also examine the possible directions for future research.

Lastly, we will walk through a case study of a research project carried out at Georgia Tech to provide the audience with an illustration of the design process for new mobile systems.

Target Audience:

The target audience will be researchers or industry professionals interested in developing systems that include wireless mobile devices and want to do research that will advance the field. The audience will not need a prior knowledge of technical details of this field.

Biographical Sketches

Maribeth Gandy is a Research Scientist at the Interactive Media Technology Center at Georgia Tech. She has been with the Center since 1998. Maribeth's interests include wearable and ubiquitous computing, computer vision, HCI, graphics, virtual environments, DSP, and computer audio. She has worked on projects ranging from gesture recognition, to interactive music, to user evaluation studies. Currently, she is involved in developing projects for the Broadband Residential Laboratory or Aware Home. She is also directing the education and training efforts for the Rehabilitation Engineering Research Center on Mobile Wireless Technology for Persons with Disabilities, and is co-directing the studies on user needs analysis and cognitive prosthetics in the Center.

Ed Price is the Research Director of the Interactive Media Technology Center at Georgia Tech. Ed is one of the founders of the Center, starting there as a student at its inception in 1989. Ed has led many research efforts, including the award-winning Odyssey Online educational program, which teaches cultural history through archeological artifacts. Ed's holds two worldwide patents in telemedicine, and has filed additional patents on audio searching and eCommerce networks. He is past chair of the international Video Development Initiative (ViDe), which is the lead organization behind the proposed ITU H.350 standard for videoconferencing directories. Ed is also a project director in the Rehabilitation Engineering Research Center on Mobile Wireless Technology for Persons with Disabilities, leading the development efforts in universal control and multi-modal interfaces as well as research into emerging wireless technologies. He is also a primary representative to the INCITS V2 standards committee developing the Alternative Interface Access Protocol, an emerging standard that will ensure that mobile devices will be able to interact with their surrounding environments.

Tutorial 10
Full Day

Cross Cultural User Interface Design for Work, Home, Play, and On the Way

Monday, 23 June 2003 • 9:00-18:00 • Room **Artemis**

Aaron Marcus
Aaron Marcus and Associates, Inc., USA

Objectives:

- Introduce terminology, theory, case studies, and design process
- Provide practical guidance for research, development, and marketing
- Provide hands-on experience through simple pen-and-paper group exercises

Content and benefits:

To achieve work-, home-, and mobile-product success, developers of user interfaces (UIs) for the Web, mobile devices, information appliances, and desktop client-server networks must carefully plan, analyze, design, implement, evaluate, and document user-interfaces carefully that may reach across culturally diverse user communities.

Current user interface design is based on psychological and social models drawn from the European and American research traditions. However, recently, cultural psychologists, cultural anthropologists, cultural sociologists, cross-cultural communicators, and designers have begun reconsidering the applicability of these models by identifying cultural preferences and value orientations more prevalent in Asia, Latin America, the Islamic world, and Africa.

The works of Edward Hall, Florence R. Kluckhohn, Fred L. Strodtbeck, and Geert Hofstede, among others, are a rich source of ideas that can and should be applied to user-interface design for global audiences. Their theories complement, and sometimes revise, current principles of human-computer communication, including the design of metaphors, mental models, navigation, interaction, and appearance. Although derived from the differences between cultures, they also describe differences within cultures.

In this Tutorial, researchers, developers, graphic designers, human factors specialists, and cognitive scientists, among others, will learn about cultural differences and how to apply them to user-interface design to influence performance and productivity as well as acceptance and preference. Illustrated lectures will introduce terminology, principles, and guidelines. Simple pen-and-paper group design projects, role playing, and group critiques will give participants experience in applying new experiences and concepts to user-interface design tasks.

Target Audience:

Intended audience: researchers and developers of, for example, Web-based documents and applications, telecommunications-oriented consumer products, and office/mobile productivity tools. Level: introductory: emerging developments from research efforts that will enrich user-interface design in new directions. Note: participants may be advanced user-interface designers, but the topic may be new to them. Beginning user-interface designers will definitely benefit.

Biographical Sketch

Mr. Marcus received a BA in Physics from Princeton University (1965) and a BFA and MFA in Graphic Design from Yale University Art School (1968). He is an internationally recognized authority on the design of user interfaces, interactive multimedia, and printing/publishing documents. Mr. Marcus has given tutorials at SIGGRAPH and SIGCHI conferences, and at seminars for businesses and academic institutions around the world. He co-authored Human Factors and Typography for More Readable Programs (1990), The Cross-GUI Handbook (1994), and authored Graphic Design for Electronic Documents and User Interfaces (1992), all published by Addison-Wesley.

Mr. Marcus was the world's first professional graphic designer to be involved full-time in computer graphics (1967), to program a desktop publishing system (for the AT&T Picturephone, 1969-71), to design virtual realities (1971-73), and to establish an independent computer-based graphic design firm (1982). In 1992, he received the National Computer Graphics Association Industry Achievement Award for contributions to computer graphics.

Tutorial 11
Full Day

Multimedia Design for the Web

Monday, 23 June 2003 • 09:00 -18:00 • Room **Leda**

Alistair Sutcliffe
UMIST, UK

Objectives:

1. To provide a workable understanding of cognitive psychology that is appropriate for multimedia and Web UI design.
2. To provide knowledge of a design method for specifying information requirements, content architecture and designing web based multimedia.
3. To explain guidelines and principles for designing usable and effective web-based multimedia.

Content and Benefits:

This Tutorial will give participants knowledge of and practice in a multimedia design method for Web and traditional UIs which is based on extensive research. You will learn psychological underpinnings necessary for multimedia design, as well as practical method for specifying content and design multimedia web sites based on sound research.

- Learn the basic psychology required to understand web based multimedia interaction and design of motivating user interfaces.
- Understand how to make design decisions based on psychological models.
- Learn a design method covering user requirements and information architecture, media selection and integration, together with guidelines for attractive and motivating web sites, navigation control and interaction design.
- Gain knowledge of ISO 14915 standard and multimedia design practice

Target Audience:

Designers of multimedia Web sites, also relevant to CDROM authors, visual UI designers, HCI researchers and educators. It is more suitable for beginners and presents a research-based approach to understanding multimedia interaction as well as practical design. History- well received CHI2002, 2000 Tutorial also given at INTERACT, HCI International, based on a course given to industry and university students.

Biographical Sketch

Alistair Sutcliffe is Professor of Systems Engineering at the Department of Computation, UMIST (University of Manchester Institute of Science and Technology) and Director of the Centre for Human Computer Interface Design. His research interests in Human Computer Interaction cover usability engineering methods and tool for multimedia and virtual reality, design of information searching and safety critical user interfaces, evaluation methods, theories of interaction and knowledge representation. Software Engineering research includes component engineering, requirements engineering and design of complex socio technical systems. He has over 15 years research experience in HCI, 150+ publications including five books.

Tutorial 14 Half Day

Information Visualization

Monday, 23 June 2003 • 9:00-13:00 • Room **Minos South**

Ben Shneiderman

University of Maryland, USA

Objectives:

Enable attendees to:

- recognize the seven typesof information visualizations and which combination is best for a given problem domain
- distinguish between scientific and information visualization
- learn guidelines for successful designs
- see demos of novel visualizations
- understand opportunities for successful visualizations

Content and Benefits:

Information visualization has rapidly emerged as a potent technology to support human decision making. The latest generation of visual data mining tools and animated GUIs take advantage of human perceptual skills to produce striking results. This Tutorial will show examples of commercially successful uses of information visualization technology, plus recent research breakthroughs and hints of what's to come. Information visualization techniques empower users to perceive important patterns in a large amount of data, identify areas that need further scrutiny, and make sophisticated decisions. But looking at information is only a start. Users also need to manipulate and explore the data, using real-time tools to zoom, filter, and relate the information - and undo if they make a mistake. Information visualization tools can aid in any situation that's characterized by large amounts of multi-dimensional or rapidly changing data - manufacturing process control, financial data analysis, medical histories. Information visualization techniques are already being used in a wide variety of applications such as oil production monitoring, stock market pattern-finding, and drug discovery. The lectures are enhanced by a large number of live demonstrations, and with time for question asking and discussion. Topics include:

Session 1: The case for Information Visualization

- Seven types by information visualizations (1-, 2-, 3-, multi-dimensional, temporal, tree, and network data)
- Seven user tasks in processing complex data (overview, zoom, filter, details-on-demand, relate, history, and extract)
- Direct manipulation (visual representation of the objects and actions of interest and rapid, incremental, and reversible operations)
- Dynamic queries, Spotfire & Dynamaps (Dynamic queries are user controlled query widgets, such as sliders and buttons, that update the result set within 100msec)
- Visual Information Seeking mantra: Overview first, Zoom and filter, then Details on demand

Session 2: Structured data

- Multidimensional and multivariate data
- Temporal data visualization
- Hierarchical and tree structured data
- Network information visualization
- Zooming interfaces
- Focus+Context vs Overview+Detail
- Coordination of visualizations

Target Audience:

Information professionals who must manage, present, interpret, and explore vital databases. Designers of advanced tools for decision support and business intelligence.

Biographical Sketch

Ben Shneiderman was elected as a Fellow of the Association for Computing (ACM) in 1997 and a Fellow of the American Association for the Advancement of Science (AAAS) in 2001. He received the ACM SIGCHI Lifetime Achievement Award in 2001. Ben is the author of "Designing the User Interface: Strategies for Effective Human-Computer Interaction" (3rd ed. 1998) http://www.awl.com/DTUI/ . His move into information visualization helped spawn the successful company Spotfire http://www.spotfire.com/ . He is currently an advisor for ILOG and the HiveGroup. With S. Card and J. Mackinlay, he co-authored "Readings in Information Visualization: Using Vision to Think" (1999). "Leonardo's Laptop" appeared in October 2002, and his new book with B. Bederson, "The Craft of Information Visualization" was published in April 2003.

Tutorial 15 Half Day

Predicting Human Error

Monday, 23 June 2003 • 09:00 -13:00 • Room **Danae**

Neville A. Stanton

Brunel University, UK

Objectives:

The objectives of this Tutorial are to:

- Introduce the concept of human error in system design and evaluation
- Introduce a variety of approaches that can be used to predict human error, including Human HAZOP, HEIST, THERP, SHERPA and TAFEI.
- Demonstrate the SHERPA and TAFEI methodologies in detail through worked examples.
- Help participants get to grips with SHERPA and TAFEI by applying them to simple tasks (participants are encouraged to bring a task analysis to the Tutorial)
- Present some new evidence on validation of human error identification.

Content and Benefits:

The content of the Tutorial is as follows:

- An introduction to human error
- The relationship between human error and design
- Predictive versus retrospective methods
- Methods for human error prediction
- Human HAZOP
- HEIST
- THERP
- SHERPA
- TAFEI
- Case studies of SHERPA
- Participants exercise using SHERPA
- Case studies of TAFEI
- Participants exercise using TAFEI
- New evidence on validation of SHERPA and TAFEI

At the end of the Tutorial, the participants should have a working knowledge of human error prediction and the necessary skills to begin to apply SHERPA and TAFEI to problems of their choosing.

Target Audience:

This Tutorial is aimed at people who are new to human error prediction and want to learn about a range of approaches. Participants should be prepared to have a go at applying the methods to problems supplied by the instructor. They may bring along their own task analysis if they wish.

Biographical Sketch

Professor Neville Stanton has been conducting research into human error prediction for the past 10 years and in co-developer of TAFEI. He has authored and co-authored many research papers on the topic of validation in human error identification, most recently a chapter on 'human error identification in human computer interaction; in Jacko and Sear's Human-Computer Interaction Handbook published by Lawrence Erlbaum & Associates in 2002. Professor Stanton was awarded the IEE Informatics Divisional Premium Award in 1998, and The Ergonomics Society's Otto Edholm Award in 2001 for his outstanding contribution to basic and applied Ergonomics.

Tutorial 16
Half Day

Psychophysics for User Interface

Monday, 23 June 2003 • 9:00-13:00 • Room **Europa**

Hong Z. Tan
Zygmunt Pizlo
Purdue University, USA

Objectives:

How should you design and evaluate a human-computer interface with regard to human perceptual capabilities? This Tutorial discusses the theory and practice of assessing human performance in terms of detection, discrimination, reconstruction and identification of physical events, in the context of multimedia HCI. It provides you with a comprehensive overview of the psychophysical methods used in industry and academia for study of HCI. Emphasis is placed on methodology with well-developed theory and easy-to-follow practice.

Content:

This Tutorial will include several examples, and in-depth discussion of the associated theory, experimental setup, and data analysis procedures. The topics to be covered are:

- Fechnerian psychophysics
- Signal detection theory and experiment
- Adaptive methods
- Speed-accuracy tradeoff
- Information theory and absolute identification experiment

Target Audience:

This Tutorial is intended for engineers and psychologists who develop HCIs and have a need for a quantitative evaluation of their systems. The audience is expected to have some knowledge of probability theory. The Tutorial concentrates on design and evaluation methods that can be applied to a wide variety of user interfaces.

Biographical Sketches

Hong Z. Tan is an assistant professor of Electrical and Computer Engineering, and the director of Purdue Haptic Interface Research Laboratory. She has conducted extensive psychophysical experiments on haptic perception. Her current research interests include distributed contact sensing, haptic rendering and psychophysics.

Zygmunt Pizlo is an associate professor of Psychological Sciences at Purdue University. His research interests include binocular vision, figure-ground segregation, perception of shape, motion, color, as well as thinking and problem solving. Profs. Tan and Pizlo have co-developed a new course on Psychophysics for students majoring in psychology and engineering at Purdue University. This course has been successfully offered three times. It is now permanently cross-listed in the School of Electrical and Computer Engineering and the Department of Psychological Sciences.

Tutorial 17
Half Day

An Overview of Human Information Processing for HCI

Monday, 23 June 2003 • 14:00 -18:00 • Room **Athena**

Robert W. Proctor
Kim-Phuong L. Vu
Purdue University, USA

Abstract:

Human-computer interaction (HCI) is fundamentally an information-processing task. The human information processing approach is based on the idea that human performance, from displayed information to a response, is a function of several processing stages. The nature of these stages, how they are arranged, and the factors that influence how quickly and accurately a particular stage operates, can be discovered through appropriate research methods.

Human information processing analyses are used in HCI in several ways. First, basic facts and theories about information-processing capabilities are taken into consideration when designing interfaces and tasks. The first part of this Tutorial will review recent findings on such topics as attention, memory, decision-making, and action selection, and discuss their relevance for HCI.

Second, information-processing methods are used in HCI to conduct empirical studies evaluating the cognitive requirements of various tasks in which a human uses a computer. The second part of the Tutorial will describe recent developments in empirical methods for studying human information processing, and provide examples of how they can be applied to HCI.

Third, computational models developed in HCI are intended to characterize the information processing of a user interacting with a computer, and to predict human performance with alternative interfaces. The final part of the Tutorial will provide an introduction to modeling techniques that can be used to characterize and predict human information processing in HCI.

Target Audience:

This Tutorial is geared toward human factors and HCI professionals interested in increasing their knowledge about contemporary research on human information processing and what it has to offer HCI. It also should be of interest to computer scientists, industrial designers, and engineers who want to improve their designs by incorporating information-processing analyses.

Biographical Sketches

Robert Proctor is Professor of Psychology at Purdue University. Dr. Proctor is the coordinator of the graduate program in Cognitive Psychology and coordinator of the interdisciplinary Human Factors program in conjunction with the School of Industrial Engineering. He teaches courses in Human Factors in Engineering, Human Information Processing, Attention, and Perception and Action. Dr. Proctor's research focuses on basic and applied aspects of human performance. He has published over 100 articles on human performance and is author of numerous books and book chapters. One of the recent book chapters is "Human Information Processing: An Overview for Human-Computer Interaction" in The Human-Computer Interaction Handbook. His books include Human Factors in Simple and Complex Systems, Skill Acquisition and Human Performance, and Stimulus-Response Compatibility: An Integrated Perspective. Currently, he is editing the Handbook of Human Factors in Web Design. He is Fellow of the American Psychological Association and Honorary Fellow of the Human Factors and Ergonomics Society.

Kim Vu is a doctoral candidate in cognitive psychology at Purdue University. She received her Master's degree in December 2000, and has 23 publications in areas relating to human performance and human-computer interaction. She is co-author of the chapter, "Human Information Processing: An Overview for Human-Computer Interaction," in The Human-Computer Interaction Handbook, and is co-editing the Handbook of Human Factors in Web Design. She worked for the Center for Usability in Design and Assessment at California State University, Long Beach, for two years prior to coming to Purdue. She is a recipient of the U.S. Department of Education Jacob K. Javits fellowship, and was awarded the designation of Student Member with Honors by the Human Factors and Ergonomics Society.

Tutorial 18
Half Day

High Technology Innovation and Entrepreneurship: Principles and Pitfalls, with Case Studies of HCI Firms

Monday, 23 June 2003 • 14:00-18:00 • Room **Danae**

Ronald M. Baecker
University of Toronto, Canada

Objectives:

After taking this Tutorial, attendees will:

- Have learned principles for defining a profitable growing high-tech business or line of business.
- Be better able to understand the problems and avoid the pitfalls.
- Have gained practice in thinking about strategic high-technology business issues.

Content and Benefits:

This Tutorial will introduce basic principles of high-technology innovation, entrepreneurship, and intrapreneurship. Topics will include:

- Techniques for systematic innovation and entrepreneurship.
- Choosing an appropriate focus; defining realistic objectives.
- Recognizing and characterizing opportunity; getting timing right.
- Developing proprietary technology; turning it into products.
- Formalizing strategy as a business plan.
- Finishing the plan: marketing, sales, finance, financing, management, leadership, partnership issues.

The Tutorial will employ lectures with discussion, examples from real firms, and class exercises.

Versions of this material have been taught since 1986 as a semester course within Computer Science and within Management at the University of Toronto, and as a short course in Toronto, Ottawa, Vancouver, Calgary, Los Angeles, Buenos Aires, and Santiago. A one-day version is being given at CHI2003.

Target Audience:

This Tutorial will be of interest to HCI entrepreneurs and managers of start-up or high-growth technology companies; individuals planning intrapreneurial ventures from within existing firms; and individuals thinking of creating or joining a start-up.

Biographical Sketch

Ronald Baecker holds the Bell University Laboratories Chair in Human-Computer Interaction at the University of Toronto. He is Professor of Computer Science, founder and Chief Scientist of the Knowledge Media Design Institute, and is also cross-appointed to the Department of Electrical and Computer Engineering and the Faculty of Management. His B.Sc., M.Sc., and Ph.D. are from M.I.T.

Baecker is an active researcher, lecturer, and consultant on human-computer interaction, user interface design, user support, software visualization, multimedia, computer-supported cooperative work and learning, the Internet, entrepreneurship and strategic planning in the software industry, and the role of information technology in business. He has published over 100 papers and articles on topics in these areas. He is also the author or co-author of four books:

- Readings in Human-Computer Interaction: A Multidisciplinary Approach.
- Human Factors and Typography for More Read able Programs.
- Readings in Groupware and Computer-Sup ported Cooperative Work: Facilitating Human-Human Collaboration, and
- Readings in Human-Computer Interaction: To ward the Year 2000.

He is the co-holder of 2 patents and 1 patent pending.

Baecker was the founder and from 1998 to 2002 the CEO of Expresto Software Corp, a multimedia software products firm, sold recently to a shareholder. He was also the founder and from 1976 to 1984 the CEO of HCR Corporation, a successful UNIX contract research and development firm, sold in 1990 to a U.S. competitor.

Tutorial 19
Half Day

Constructing an Accessible Web Experience: Usability, Equity and Enhancement Through Design

Monday, 23 June 2003 • 14:00 -18:00 • Room **Europa**

Robert Todd
Jennifer Bilotta
Georgia Tech, USA

Abstract:

In the recent push toward conformance to technical standards of web content accessibility, web developers often create unsuccessful sites by ignoring critical issues of usability and aesthetics. "Usability" planning includes fast-loading pages, simple, modular site architecture, intuitive navigation structures and other similar principles. "Aesthetics" refers to graphical, artistic enrichment to create visual themes and metaphors that enhance the overall web experience.

Accessible web design is nothing more than the logical extension of principles of usability. At the heart of both usability design and accessibility development is a sincere concern for the accommodation of more people in more situations. Developers who consider the effectiveness of human interaction along with the technical requirements of accessibility can succeed in both areas.

This program provides the fundamentals of web site design and development in order to create effective, accessible, usable and visually stimulating web sites with emphasis on World Wide Web Consortium WCAG compliance. Heavy emphasis will be placed upon resolving tension issues between rich visual design and "accessibility" design by demonstrating seamless integration techniques. The instruction includes the application of widely accepted design and usability techniques for generating usable, useful and accessible web content.

The course is designed to meet a critical need for accurate, timely and usable instruction in accessible web design. Addressing issues widely overlooked in the realm of web accessibility instruction, this course places special emphasis on seamless integration of visually sophisticated design, established principles of usability design and accepted web accessibility techniques. It will furnish attendees with the knowledge to make informed evaluations and strategic design plans regarding web development and supply some of the necessary tools to achieve success. Targeting tensions between simplicity and enrichment, the course focuses on clarification of techniques for web designers and proves that good design and accessible content can exist contiguously.

Target Audience:

Web developers, usability engineers, educators, distance education professionals, hci students, graphic designers, multimedia artists.

Biographical Sketch

Robert L. Todd is an Information Architect and Research Scientist at the Georgia Institute of Technology's Center for Assistive Technology and Environmental Access. He holds a M.S. degree in Information, Design and Technology from the Georgia Institute of Technology, as well as a M.S. degree in Rehabilitation Counseling from Georgia State University. He is the project director of assistivetech.net, a national assistive technology web resource, and the information architect of many accessible web projects. His current focus of research is in methodologies to synthesize usability, accessibility and aesthetic practices in Web design to create the most effective designs for all people.

Jennifer Bilotta is a graphic designer for Georgia Tech's Interactive Media Technology Center (IMTC). Jennifer is currently lead developer of a major web accessibility initiative at IMTC (IMTC recently received funding from the National Instituteon Disability and Rehabilitation Research. The 5-year, 5 milliondollar grant was given in order to create a new Rehabilitation Research Engineering Center for Mobile Wireless Technologies for Persons with Disabilities.) In addition to web accessibility training and dissemination outreach for web accessibility, her research includes efforts in the field of cognitive prosthetics & human-computer interaction (HCI) in collaboration with the Shepherd Center. Jennifer received a BFA in digital multimedia design from the Atlanta College of Art and Design and is currently enrolled in the Information Design and Technology Master of Science program at the Georgia Institute of Technology.

Tutorial 20 Full Day

Visual Design for User Interfaces at Work, Home, and On the Way

Tuesday, 24 June 2003 • 09:00-18:00 • Room **Europa**

Aaron Marcus
Aaron Marcus and Associates, Inc., USA

Objectives:

- Introduce terminology, theory, case studies, and design process
- Provide practical guidance for research, development
- Provide hands-on experience through simple pen-and-paper exercises

Content and Benefits:

To achieve successful visual design of user-interfaces, developers of electronic commerce sites for the Web, mobile device applications, and performance-support tools for networked, stand-alone, and CD-ROM-based applications, must carefully plan, research, analyze, design, implement, evaluate, and document user-interface components. Based on user and task analysis, these components include metaphors, mental models, navigation, interaction, and appearance. These applications are information-intensive, demand good usability and usefulness, but also require user acceptance, preference, and delight. Good user interfaces enable users to comprehend, use, remember, and enjoy information more quickly, with greater ease, and with deeper satisfaction. As Websites become more than brochures, mobile devices attempt to take on desktop functionality, as performance tools provide increasingly rich access to functions and data, and as computers become absorbed into consumer products intended for diverse, international user communities, the basics of information-oriented visual design must be mastered by every developer.

Presented by a pioneer of graphic design for computer graphics and a leader in the field of user-interface design, multimedia, Web, electronic document design, and knowledge visualization, this tutorial will provide valuable insight into essential information-oriented visual design issues and show how to achieve powerful, effective visual communication that improves usability, usefulness, and appeal. The tutorial will introduce terminology, principles, and guidelines for using information-oriented, systematic graphic design in user interfaces, especially for the design of metaphors, mental models, navigation schema, icons, and dialogue boxes.

The participants will learn practical principles that are immediately useful, become familiar with many existing techniques, and discover potential new research topics. They will observe and analyze techniques for making products and displays more intelligible, functional, aesthetic, and marketable.

Extensively illustrated lectures and video examples will cover perceptual, conceptual, and communication issues in typography, symbol systems, color, spatial composition, animation, and sequencing. The principles, guidelines, and case studies will be relevant for all user interfaces of client-server applications, the Web, and information appliances, on all platforms, with all input/output devices. The course will emphasize analyzing and designing metaphors, mental models, navigation, appearance characteristics, and interaction techniques as well as the process for achieving innovative designs, and will address topics related to making products easier to produce, sell, learn, use, and maintain.

Target Audience:

Researchers and developers of Web-based E-commerce, m-commerce with mobile devices, and performance tools, e.g., for office productivity, telecommunications-oriented consumer products, vertical market services (e.g., medical, finance, travel, education, automotive), and computer-based training.

Biographical Sketch

Mr. Marcus received a BA in Physics from Princeton University (1965) and a BFA and MFA in Graphic Design from Yale University Art School (1968). He is an internationally recognized authority on the design of user interfaces, interactive multimedia, and printing/publishing documents. Mr. Marcus has given tutorials at SIGGRAPH and SIGCHI conferences, and at seminars for businesses and academic institutions around the world. He co-authored Human Factors and Typography for More Readable Programs (1990), The Cross-GUI Handbook (1994), and authored Graphic Design for Electronic Documents and User Interfaces (1992), all published by Addison-Wesley.

Mr. Marcus was the world's first professional graphic designer to be involved full-time in computer graphics (1967), to program a desktop publishing system (for the AT&T Picturephone, 1969-71), to design virtual realities (1971-73), and to establish an independent computer-based graphic design firm (1982). In 1992, he received the National Computer Graphics Association Industry Achievement Award for contributions to computer graphics.

Tutorial 21 Full Day

Internationalization and Localization of Web Sites

Tuesday, 24 June 2003 • 09:00 -18:00 • Room **Artemis**

Nuray Aykin
Siemens Corporate Research, USA

Objectives:

This Tutorial provides an overview of web site internationalization and localization from the perspective of user experience. Participants will learn the issues related to internationalization and localization when designing web sites, cross-cultural design practices, global and local guidelines and methodologies for design, development and maintenance of global web sites. Finally, future trends in internationalization and localization will be discussed.

Content and Benefits:

This Tutorial will cover (i) strategies for designing global web sites, (ii) internationalization and localization design considerations, and (iii) management processes for global web sites. Examples from best practices are provided for creating and maintaining multi-lingual, multi-locale web sites. Specific topics include: cultural considerations in design, colors, graphics, and layout; presentation formatting practices (date, time, address, etc.); languages and multilingual applications; global usability testing; internationalization/localization processes and management practices; international standards and cyberspace laws in design. Each topic will be explored with detailed case studies. Any designer who is involved with designing web sites for the global market will benefit from this tutorial's absorbing blend of specific design examples and broad principles applied directly to participants' own needs.

Target Audience:

Globalization managers, user interface designers, web designers for global markets.

Biographical Sketch

Nuray Aykin is the Department Head of the User Interface Design Center, Siemens Corporate Research, Inc., located in Princeton, NJ. Her department provides user interface design services to Siemens business units worldwide. Prior to her work at Siemens, she was the Director of Internationalization at Human Factors International, Inc. She provides user experience and internationalization/localization expertise to clients around the world. Prior to joining Human Factors International, she was a district manager of the Internationalization District at AT&T Labs working on AT&T's global products and services. She spent ten years in AT&T, designing products and services for AT&T business units. She has a BS degree in Industrial Engineering, MS in Operations Research, and Ph.D. in Human Factors Engineering. Her work includes user interface design for the global market and consulting on software internationalization, global customer needs assessment and locale-specific guidelines. Her internationalization seminars and tutorials have been well accepted at national and international conferences. She has numerous publications in the field and is currently editing a book on Cross Cultural Design.

Tutorial 22
Full Day

Prediction and Prevention of Failures in HCI

Tuesday, 24 June 2003 • 9:00-18:00 • Room **Leda**

Erik Hollnagel
University of Linköping, Sweden

Objectives:

This Tutorial will provide participants with the basic techniques needed to analyse, predict and prevent failures in HCI for industrial applications.

Content and Benefits:

The growing dependence of working environments on complex technology has created many challenges and led to a large number of accidents. While this initially was a problem mainly for safety critical process and transportation applications, human-computer interaction can now be found everywhere and the possibility of failures must therefore be considered on all levels. Since the 1990s, there has been a trend towards more integrated approaches to accident analysis and risk assessment, which combine considerations of the quality of organisation and management, the technological work environment, and individual human actions at "the sharp end" into a single conceptual framework. Despite an obvious need, HCI has been slow to take up these methods.

The Tutorial will present the background for recent developments and introduce an approach to failure analysis and performance prediction, which integrates individual, technological and organisational factors based on the principles of cognitive systems engineering. This approach, named the Cognitive Reliability and Error Analysis Method (CREAM), can be used as a stand-alone method for accident and failure analysis and as part of a larger design method for human-technology systems. The Tutorial will present the principles of CREAM and demonstrate how the approach can be used in practice to predict and prevent failures in HCI.

Target Audience:

System developers and interaction designers, especially focusing on industrial or safety critical applications such as process control, industrial production, transportation systems, health care and public service.

Biographical Sketch

Erik Hollnagel has been Full Professor of Human-Machine Interaction at Linköping University since 1999, after having worked in academia and industry for several decades. He is an internationally recognised specialist in the fields of system safety, human reliability analysis, cognitive systems engineering, and intelligent man-machine systems as well as the author of more than 300 publications including seven books, articles from recognised journals, conference papers, and reports. He is joint Editor-in-Chief of the International Journal of Cognition, Technology & Work, and past Chairperson of the European Association of Cognitive Ergonomics (1994-2000).

Tutorial 23
Full Day

Beyond Interviews and questionnaires: better ways of finding out what Users and Clients really want

Tuesday, 24 June 2003 • 09:00-18:00 • Room **Aphrodite**

Gordon Rugg
Keele University, UK

Objectives:

- Explaining why it is difficult to elicit information from people
- Showing how to select the right elicitation technique for different types of problem
- Demonstrating how to use several particularly useful techniques

Content and Benefits:

This Tutorial provides a systematic, theoretically grounded guide to selecting the right elicitation technique for different types of problems. It then provides practical experience of using several complementary techniques within this framework, including how to analyse the results.

Target Audience:

People who need to elicit reasonably complete and correct information from users, clients, subjects and others (for instance, system developers trying to elicit requirements or user feedback). This session is particularly aimed at people who have tried to do this and who have encountered problems.

Biographical Sketch

Gordon Rugg's PhD was in experimental psychology, at Reading University; this was followed by several years of postdoctoral research at Nottingham University and at City University. He has been working in requirements engineering for some years and is the author of various articles both on choice of elicitation technique and on the techniques themselves. He is editor of "Expert Systems: the International Journal of Knowledge Engineering and Neural Nets".

Tutorial 24
Half Day

Designing, Developing and Delivering e-learning

Tuesday, 24 June 2003 • 09:00-13:00 • Room **Athena**

Lisa Neal
EDS Learning Solutions
and eLearn Magazine, USA

Objectives:

This Tutorial will:

- Introduce when, where, and how e-learning is used
- Describe what leads to high quality learner experiences
- Provide examples of online courses, seminars, and learning communities
- Provide the basics for planning, designing, delivering, and evaluating e-learning

Content and Benefits:

This Tutorial provides an overview of e-learning and online learning communities. The Tutorial starts with definitions and terminology, history, and examples of how and where e-learning is used. The Tutorial next covers how to plan an e-learning program or community, including strategic planning, market research, scenario building, evaluation, and selection and use of technologies. The Tutorial then covers how to design and develop a course and course materials, how to deliver a course, and how to support a course. In all of these areas, a learner-centered perspective is taken, and there will be a focus on how to plan, develop and deliver high quality online courses, where the learner populations, topics, and organizational settings define quality. The instructor will draw upon her own experiences developing and delivering classes, her consulting work with organizations implementing e-learning, and a variety of case studies to help participants understand what is easy and hard about e-learning, what works and doesn't work in what contexts, and how e-learning is different from traditional forms of education. Many examples will be shown through screen shots and demos, and questions and discussion will be promoted through exercises.

Target Audience:

The Tutorial is designed for someone who is planning an e-learning program, will be developing or delivering a course, or is interested in how to effectively use collaborative technologies for education. It will also be of interest to someone who is an online student or researcher and wants to better understand the range of approaches to e-learning.

Biographical Sketch

Lisa Neal is Editor-in-Chief of ACM eLearn Magazine, www.eLearnmag.org, a Managing Consultant with Electronic Data Systems, and an Adjunct Professor at Tufts Medical School. She received a Ph.D. in Computer Science from Harvard University. Lisa consults on e-learning projects with corporate, academic, and government clients and has developed and delivered e-learning courses. At Tufts Medical School, she teaches a course on Designing and Delivering Distance Education with a focus on e-learning in medicine. In 2001-2 Lisa delivered four keynote addresses at e-learning conferences in Italy, Poland, Mexico, and the U.S. and is a frequent presenter and Tutorial instructor at conferences.

Tutorial 25
Half Day

HCI Themes for the Future: Social Creativity, Meta-Design, Context Awareness, Distributed Cognition

Tuesday, 24 June 2003 • 09:00-13:00 • Room **Minos South**

Gerhard Fischer
University of Colorado, Boulder, USA

Objectives:

The participants will be acquainted with innovative HCI themes for the future. These themes will be instantiated with new conceptual frameworks and illustrated with innovative systems. The presentation will be linked as much as possible to the concerns and experiences of the participants. The objective of the Tutorial is to provide the participants with opportunities to think differently about the future challenges facing HCI research and practice and to illustrate with concrete examples how these challenges can be addressed.

Content and Benefits:

The Tutorial will be centered on several specific, but integrated themes representing a coherent vision for the future of HCI based on extensive research by the presenter and his colleagues at the University of Colorado, Boulder as well as in collaborations with other researchers and research centers around the world. The specific themes are:

1. Social Creativity: Transcending the Individual Human Mind
2. Meta-Design: Empowering Users to Act as Informed Participants
3. Exploiting Context Awareness in Pervasive Computing: Beyond "any time, any person, any place, any form" to "the right thing for the right person at the right time in the right way"
4. Distributed Cognition: A Theoretical Framework for HCI

The themes will be illustrated with specific theoretical frameworks and innovative systems developed by the presenter and his colleagues. The relevance of these themes has been demonstrated by their impact on research, education, and design practices in companies, educational institutions, and research organizations with which we have collaborated.

Target Audience:

This Tutorial is intended for HCI researchers and practitioners who are interested in innovative HCI themes for the future. No specific technical prerequisites are required. Some familiarity with current HCI topics will be advantageous as background knowledge.

Biographical Sketch

Gerhard Fischer (http://www.cs.colorado.edu/~gerhard/) is a professor of computer science, a fellow of the Institute of Cognitive Science, and the director of the Center for Lifelong Learning and Design (L3D) at the University of Colorado at Boulder (more information about the center can be found: http://www.cs.colorado.edu/~l3d/). His research interests of particular relevance to the Tutorial include: human centered design, social creativity, meta-design, distributed cognition, high-functionality applications, dynamic media, convivial systems, user modeling, collaborative design, evolutionary design, design for all, evolutionary design, context awareness, and pervasive computing.

Tutorial 26 Half Day

Quantitative Methods for Usability Analysis

Tuesday, 24 June 2003 • 09:00-13:00 • Room **Danae**

George J. Boggs
Ixian Technologies, Inc., USA

Objective:

To provide attendees with a suite of immediately useful and powerful quantitative statistical tools for human factors and usability analysis.

Much of design and usability work done today is qualitative in nature (e.g., the ubiquitous usability test). This may be sufficient in many environments, but product managers and development teams often ask for more from the human factors professional or team, and are delighted when they can get more. This Workshop will provide the attendee with three useful skills.

First and foremost, the attendee will learn about and use Wald's Test, a straightforward statistical test that enables the human factors or usability professional to provide quantitative estimates of usability success within a traditional usability testing context, while simultaneously minimizing (optimizing) the number of test participants required.

Second, the attendee will learn about and use a technique called conjoint analysis. Conjoint analysis enables the designer to numerically estimate users' subjective utility for various products and/or product features. Quantitative subjective utility estimation provides human factors and usability designers with empirical, quantifiable arguments against "feature creep" and gives the development team clear guidance about the optimal deployment of development resources.

Finally, the attendee will learn about and use a technique called cluster analysis. Cluster analysis enables the human factors or usability design professional to statistically detect the existence of user segments, or subgroups, within user populations and to tailor products and services to meet the specific needs of these user segments.

Target Audience:

Human factors and usability professionals with a background in basic behavioral statistics and experimental design (e.g., t-test, ANOVA, correlation).

Biographical Sketch

Dr. Boggs received his Ph.D. in 1981 from Purdue University, West Lafayette, IN, USA and holds a professional practice Certificate from the Board of Certification in Professional Ergonomics. He has held a number of human factors research positions in private sector laboratories, most recently leaving the Quest Advanced Technologies R&D unit in 2000, where he was a Distinguished Member of the Technical Staff. In addition, he was an adjunct faculty member with the Industrial Engineering Department of Northeastern University, Boston, MA (USA) and served an academic year as Senior Fulbright Research Fellow with the at the University of Nottingham (UK) performing research in quantitative ergonomics. Dr. Boggs founded Ixian Technologies, Inc., a usability design and quantitative analysis consultancy, in 2000 and currently serves as President and Managing Partner of that organization. He has published a number of technical papers in quantitative and statistical topics related to human factors, and has been awarded four US Patents for innovative product designs and usability analysis tools.

Tutorial 27 Half Day

Usability Design - Integrating User-Centred Systems Design in the software development process

Tuesday, 24 June 2003 • 14:00-18:00 • Room **Minos South**

Jan Gulliksen
Bengt Göransson
Uppsala University, Sweden

Objectives:

The main goals for the Tutorial is to:

- supply the attendants with the means for producing a truly user centred software development project.
- discuss the definition and power of a quantitatively measurable view on usability.
- introduce easy-to-apply, low-tech user centred methods.
- discuss their application in a lifecycle perspective.
- define a role as usability designer in the development process.
- relate the knowledge to a commercially available software development process.

Content and Benefits:

In the beginning HCI grew out of computer science because of the need to address issues relating to the use of the systems but with an influence of a large number of other disciplines. In practice today, usability professionals have problems, given the limited space when it comes to times and resources, applying their knowledge in systems development projects. These are numerous reports describing these problems. Over the years a large number of methods have been developed to address the problems of usability. The problem with these methods is that they are not thoroughly integrated into the systems development process. The purpose of this Tutorial is to show the audience that there is such a thing as a development process that can be focused on usability and user centred systems design throughout the system lifecycle.

The Tutorial will provide an overview of the definitions of usability and user centred systems design. It will introduce 12 key principles for user centred systems design usable for implementation and assessment of a user centred development process. The Tutorial will then walk through and discuss a fully user centred development process in relation to a commercial development process, such as the Rational Unified Process (RUP). No previous experience in RUP is required.

Target Audience:

This Tutorial is intended for practitioners, software developers, HCI specialists, User representatives or Project managers who want to develop and deploy an user centred systems design process in their development organisation.

Biographical Sketches

Jan Gulliksen, associate professor of Human Computer Interaction at Uppsala University, Sweden. Jan is a Swedish expert in ISO-standardisation within software ergonomics and human-computer dialogues and also the chairman of the IFIP working group on Methodologies for User Centred Systems Design.

Bengt Göransson is a usability designer at Enea Redina AB in Uppsala, Sweden and a PhD student in Human Computer Interaction at Uppsala University. Bengt has more than 20 years of experience in doing user-centred systems design as a consultant.

Tutorial 28
Half Day

From Direct Manipulation to Agent Management

Tuesday, 24 June 2003 • 14:00-18:00 • Room **Athena**

Guy Boy
EURISCO, France
Jeff Bradshaw
University of West Florida, USA

Objective:

The objective is to introduce designers and researchers to emerging changes in the way people interact with machines, and in particular to the shift from direct manipulation to agent management. By the end of the Tutorial, participants will be able to better understand and use more effectively current concepts in the design of human-agent interaction.

Content:

This Tutorial will present an introduction to similarities and differences between human-centered and technology-centered approaches to human-agent interaction. The concept of cognitive function will be developed as a common entity that is useful for the representation of both human and software agents. Cognitive science knowledge will be presented within the scope of the currently emerging agent technology. We will present the tradeoffs between direct manipulation and agent management. Agents can be used to facilitate the communication, cooperation and coordination between various activities that include training and operations. We will show how simple cognitive function analyses may improve human-agent interaction.

We will introduce participants to (1) the concepts of cognitive functions, artifacts and prostheses that can be used in the development of multi-agent systems; (2) teach related principles and methods that support the design and development of agent-based systems; and (3) discuss research perspectives and case studies on aircraft cockpits, human-robotic collaboration and unmanned autonomous vehicle control.

Target Audience:

Participants should have a basic knowledge of either automation or agent design principles, or psychological assessment of human-machine systems.

Biographical Sketches

Guy Boy is President of EURISCO. He was a Principal Investigator and Group Leader at NASA Ames Research from 1989 to 1991. His research is in human-centered design of safety-critical dynamic systems. He is currently working on the development of methods and techniques that improve traceability of design decisions and participatory design. He is an expert consultant at the European Commission for the IST Programme. He is the author of the books: Intelligent Assistant Systems (Academic Press, 1991), and Cognitive Function Analysis (Ablex, 1998), and the coordinator of the French Handbook of Cognitive Engineering (Hermes-Lavoisier, 2003). He was nominated expert by the European Space Agency to contribute to the elaboration of the European Space Human-Machine Interaction program in 1991. From 1994 to 1996, he was the Scientific Coordinator of the European Network RoHMI. Since 1995, he is the Director of a series of biennial industrial summer schools on Human-Centered Automation, Organizational Memory Systems and Design for Safety organized by EURISCO. From 1995 to 1999, he served as Executive Vice-Chair of the ACM-SIGCHI Executive Committee.

Jeffrey M. Bradshaw is a research scientist at the Institute for Human and Machine Cognition. Previously, he led the intelligent agent technology group at The Boeing Company. He currently is Co-PI for a DARPA-funded international experiment on agents for Coalition Operations, and leads a team for agent survivability and policy-based security under the DARPA Ultra*Log program. He also leads research teams investigating principles of human-robotic teamwork. Jeff has served as chair of the RIACS Science Council for NASA Ames Research Center and as chair of ACM SIGART. In 1993-94, he was a Fulbright Senior Scholar at EURISCO. He edited the books Knowledge Acquisition as a Modeling Activity (with Ken Ford, Wiley, 1993), Software Agents (AAAI Press/The MIT Press, 1997), Software Agents for the Warfighter (in press), and the Handbook of Agent Technology (AAAI Press/The MIT Press, forthcoming).

Tutorial 29
Half Day

Supporting human creativity

Tuesday, 24 June 2003 • 14:00 -18:00 • Room **Aphrodite**

Ernest Edmonds
University of Technology
Sydney, Australia
Linda Candy
Loughborough University, UK

Objectives:

- Introduce the creative process and describe studies of creative practice
- Provide an understanding of the significance of creativity for HCI design
- Provide guidance and criteria for the design and evaluation of creativity support tools

Content and Benefits:

Creativity is an important issue for the future of new technology systems. There are opportunities for the designers of new technologies to expand the repertoire of tools that amplify the human creative process. In order that IT tools are designed in such a way as to empower the creative user, they need HCI that is based upon an understanding of the nature of creative cognition and an assessment of the value of the tools that are used in the creative process.

HCI for creativity support asks different questions from those relevant to the familiar engineering, business management and financial applications. Proposing such questions and finding answers to them has been the remit of the community that has emerged around the ACM SIGCHI Creativity and Cognition conference series that is Co-Chaired by the instructors.

The Tutorial encourages creativity in its participants. It describes models of creative processes, refined it into design principles. It presents examples from studies and research that help us to design systems to enhance human creativity. The creative tasks discussed range from making art to searching the web and using visualization to help generate new ideas in finance.

Examples of the specific topics discussed are:

- searching and browsing digital libraries
- visualizing data and processes,
- keeping design options open,
- creating interactive art,
- providing what-if tools,
- heightening engagement,
- reviewing and replaying session histories, and
- disseminating results.

These examples can be integrated into existing software applications, built into web services, or serve as the framework for novel tools. The Tutorial stimulates creativity in the participants and helps them to support the creativity of others.

Target Audience:

The Tutorial is intended to benefit interactive software implementers, interface designers, human-computer interaction researchers, creative artists and all creativity enthusiasts.

Biographical Sketches

Professor Ernest Edmonds is Professor of Computation and Creative Media in the University of Technology, Sydney. His research in Human-Computer Interaction and creativity has led to more than 160 publications. He was Chairman of the Access and Creativity Task Group for the UK's Technology Foresight programme. He was leader of the UK DTI's mission to Japan - The Interaction of Art and Technology and a member of the UK Arts and Humanity Research Board's Visual Arts and Media research panel. He is also Co-Chair of the ACM SIGCHI Creativity & Cognition conference series. Ernest Edmonds has used computers in his own art practice since 1968.

Dr Linda Candy is an experienced senior researcher in creativity, interaction design, creative knowledge work and methods for qualitative evaluation. She has published widely on these topics. She has been a member of various international conference programme committees, including the ACM Intelligent User Interfaces 1997, EUROPIA'97 and '98, and CAPS'98, France. She is Co-Chair of the Creativity and Cognition Conference Series. She has been invited to present her work in Europe, Japan, Australia and the USA. Jointly Ernest Edmonds, she recently published the research study, "Explorations in Art and Technology" (Springer Verlag).

Web and Aging

Wednesday, 25 June 2003

W1
Half Day
09:00 - 13:00
Room DEKATESERA

Panayotis Zaphiris
City University, UK
Sri H. Kurniawan
UMIST, UK
R. Darin Ellis
Wayne State University, MI, USA

Overview:

A significant increase of the older population has led to various studies investigating the effect of age in utilizing the Web as an information resource. A report by the U.S. Census Bureau in 2001 stated that the estimated change in the total size of the world's elderly population between July 1999 and July 2000 was more than 9.5 million people, growing at an average of 795,000 people each month. This trend is expected to continue for the foreseeable future.

Recent research shows that more older adults are beginning to incorporate Web use in their daily activities, mainly because the Web presents an opportunity for them to maintain a high quality of life. However, as a robust body of research shows, various issues arise when older adults use the Web.

Focus and Aims:

The main objective of this Workshop is to bring together researchers, academics and practitioners from various disciplines who are interested in web usability and ageing. Methodologies, theories, products and design guidelines as well as case studies that investigate these issues will be presented. Furthermore, through the presentations and discussions out of this Workshop a taxonomy of issues and methods related to web usability for the ageing population will be proposed and formulated.

Suggested Topics:

1. Information architecture and the older user.
2. Empirical studies on web usability and older users.
3. Analytic studies & computational modelling of the older web user.
4. Social aspects of web and aging

Selecting best practice research methods for HCI: beyond fashion statements

Wednesday, 25 June 2003

W2
Half Day
14:00 - 18:00
Room DEKAPENTE

Ray Adams
Middlesex University, UK
Pat Langdon
Cambridge University, UK

Objective:

To develop insights and consensus on the selection of the most appropriate research methods for the field of HCI and Usability for special groups.

Significance:

The selection and implementation of the most suitable research methods in the rapidly growing trans-disciplinary subject of HCI is particularly problematic since participants come from a wide diversity of background and must convince others in the field whose own background and expectations may be radically different. The risk is that non-optimal methods can be chosen and implemented in non-optimal ways. This risk is increased significantly when working with special groups of people who have specific strengths and weaknesses. How should research methods be adapted, if they can, to be more suitable in such work? Without individuals becoming experts in all possibly relevant disciplines, there is an urgent need for constructive guidelines to be provided for active researchers with different skills.

Key Issues: (i) in fashion: e.g ethnography, focus groups, interviews, questionnaires; (ii) Out of fashion: experiments – automatic data collection – introspection-data reanalysis

We will look at a number of likely reasons for the current state of methodology such as deadlines, information overload and the effects of software tools. We look at ways of changing the mind set – Methodology is fun!! (and essential), such as survival strategies; useful tools and techniques and some essential philosophy of science. Finally we visit some possible solutions including available methodological frameworks and proactive and adaptive community approaches.

Planned outcome: The aim is to generate a research discussion based on the state-of-the-art as indicated by the contributions of the individual speakers. We aim to create the starting point for considering contemporary problems of selection and implementation of research methods in HCI. Any approach should, however, be based on a systematic framework which reflects current knowledge, rather than be merely an unstructured list of heuristics. Two possible such frameworks will be presented at the workshop.

Considering health and work environment aspects in the system development process

Thursday, 26 June 2003

W3
Full Day
09:00 - 18:00
Room DEKATESERA

Bengt Sandblad
Carl Aborg
Uppsala University, Sweden

Objectives:

To identify the need for new solutions regarding how to treat health and work environment aspects in system development projects. To discuss how to complement existing models and methods to prevent such problems before implementation of new computer systems.

Content:

A few position papers will be presented covering the main aspects of the Workshop theme. Both theoretical and practical aspects will be discussed. Expertise in systems engineering as well as in human-computer interaction and occupational health will participate.

Chance Discovery and It's Management

Friday, 27 June 2003

W5
Full Day
09:00 - 18:00
Room DEKATESERA

Hiroko Shoji
Women's University, Japan
Yutaka Matsuo
National Institute of Advanced Industrial Science & Technology, Japan

Objectives:

Chance discovery is the discovery OF chance, rather than discovery BY chance. A "chance" here means a new event/situation that can be conceived either as an opportunity or as a risk. The "discovery" of a chance is to become aware of and to explain the significance of a chance, especially if the chance is rare and its significance has been unnoticed. Chance discovery aims to provide means for inventing or surviving the future, rather than predicting the future.

This Workshop is intended to bring together researchers from various research fields to discuss "Chance Discovery" from various viewpoints. Human computer interaction is also an indispensable aspect of chance discovery.

Content and benefits:

This Workshop is intended to discuss various topics about chance discovery. Each presenter will bring a new view on chance discovery, and enhance the shared understanding about chance discovery. The Workshop consists of people from artificial intelligence, human-computer interaction, social and cognitive sciences, risk management, linguistics, and other related domains.

The followings are scheduled topics to be discussed.

- Chance discovery tools
- Data analysis for chance discovery
- Theory for chance discovery
- Language for chance discovery
- Cognition for chance discovery

Information Society Technologies in Special Needs Education

Wednesday 25 June 2003 | 09:00 - 13:00 | Room **Dekaefta**

Harald Weber
Amanda Watkins
European Agency for the Development in Special Needs Education, Denmark

Aim:

This SIG addresses the problem that certain groups of learners are at risk of not being fully involved in new ways of learning, either because of social disadvantages or disability or both. In order to build a socially inclusive Information Society, new pedagogical approaches and appropriate technologies must be developed and applied to suit the learning requirements of all, including those who have special educational needs.

HCI plays a crucial role in appropriating technology to the needs of its users by providing accessible and intuitive interfaces for education. The emphasis of the SIG will be on identifying current problems and solutions with the use of IST from the users' perspective, and with the design of systems that meet the end users' needs. The audience of this SIG will be inter-disciplinary to facilitate discussion and exchange between IST / HCI experts and experts from the field of special educational needs.

Background:

Contributors might benefit from the infrastructure provided by the EU-funded "European Network of Excellence in Information Society Technologies for Special Educational Needs" (see www.senist.net).

Cross-Lingual Information Management from Web Pages: The CROSSMARC approach

Wednesday 25 June 2003 | 09:00 - 18:00 | Room **Ikosi**

Constantine Spyropoulos
Vangelis Karkaletsis
NCSR "Demokritos", Greece

Objective

The aim of this SIG is to present to HCI participants the technologies required for the cross-lingual management of information found in web pages and describe the approach proposed by the EC-funded project CROSSMARC (IST-2000-25366). The focus is on methods and tools for the retrieval of interesting web sites, the navigation in web sites in order to identify domain-specific web pages, the extraction of important domain-specific information from web pages, and the presentation of the extracted information according to the user's language and interests.

Description

CROSSMARC develops and integrates state-of-the-art methods, tools and techniques from language engineering to achieve commercial strength technology for information extraction from web pages. CROSSMARC technology is demonstrated and evaluated through a prototype system, based on multi-agent technology, for two different product types (laptops in e-retailers sites, job adverts on companies' sites). We expect this kind of service to become particularly popular world wide in the next few years as e-commerce will penetrate new markets like real estate, insurances, tourism, etc.

SIG's webpage

http://www.iit.demokritos.gr/skel/crossmarc/external/hci-crossmarc.htm

Universal Access in Practice The 5th IS4ALL Seminar

Thursday 26 June 2003 | 09:00 - 13:00 | **Knossos Royal Village Hotel**

Georges De Moor
MS - HUGe, Belgium
Demosthenes Akoumianakis
Constantine Stephanidis
ICS - FORTH

This Special Interest Group is organized by the IST-funded Thematic Network IS4ALL (http://is4all.ics.forth.gr) and seeks to bring together conference participants to review recent progress in the filed of universal access, and discuss practical insights . The focus is on methods relevant to universal access and their application on selected reference scenarios drawn from the domain of Health Telematics, and in particular access to Electronic Health Records (EHRs). Following a brief introduction to the IS4ALL project, SIG participants will be exposed to the following topics: (i) state of the art in universal access; (ii) review methods and techniques currently in use to facilitate universal access insight to systems development; (iii) foundations of a conceptual frame of reference for universal access to Health Telematics applications and services, and (iv) reference scenarios illustrating access to EHRs for anyone, anytime and anywhere using specific methods and techniques. The focus will be spread evenly on process-requirements for universal design and exemplar artefact specifications. Reference to recent case studies and concept demonstrators will help the audience become acquainted with the underlying principles. The above are expected to stimulate discussions between participants and suggestions for refining the IS4ALL method, as well as for further work in this area.

eLearning

Thursday 26 June 2003 | 14:00 - 16:00 | Room **Dekaefta**

Lisa Neal
EDS Digital Learning, USA
Panagiotis Zaharias
Athens University of Economics and Business, Greece

Abstract & Introduction:

Many HCI International attendees are involved in eLearning as a student, teacher, or developer of online courses or technologies. Yet there has been insufficient focus on bringing an user- or learner-centered perspective to eLearning. This SIG examines the issues and needs of the eLearning and HCI communities and aims to foster better communication and collaboration.

eLearning is experiencing phenomenal growth in all countries and all sectors of society. Many colleges and universities have or are starting eLearning programs, businesses are moving from classroom to online training, and government and military agencies are offering eLearning opportunities. Those seeking to develop eLearning courses and programs must confront a variety of complex issues regarding planning, design, and implementation. New synchronous and asynchronous eLearning technologies are introduced on an almost daily basis, further complicating these tasks. The growing availability of eLearning also leads to a wealth of cultural, language, and universal access issues. In addition, this truly international market is changing rapidly due to new entries, acquisitions, and mergers.

Content:

In this SIG, we propose to examine the following issues:

- What makes an eLearning technology effective under what circumstances? Which processes can better aid in the selection and use of these technologies?
- Can the design of current tools be improved from the perspective of teachers and students?
- What are the factors influencing the design and delivery of a rich and compelling eLearning experience? Why are so many existing courses "page-turners" and how can the learner experience be better incorporated into all phases of course design and development?
- How has eLearning been used to date to teach HCI and what are the particular issues around teaching HCI effectively at a distance?

All these questions tie-in closely with usability issues at the core of HCI research and theory. We believe that both the eLearning and HCI communities would benefit substantially from a strengthening of ties between practitioners in the two related fields.

Evaluating User Interfaces with Simulation Modeling

Thursday, 26 June 2003 | 16:30 - 18:00 | Room **Dekaefta**

Brett Walters
Micro Analysis
and Design, Inc., USA

Objectives:

The objective of this Special Interested Group is to discuss the types of problems that might be solved using computer modeling and simulation techniques. Specifically, the group will exchange ideas on how to evaluate interfaces using simulation modeling.

Content and benefits

The success of a user interface ultimately depends on adhering to a few basic principles including: 1) designing the system around the needs of the target users, 2) evaluating the system from the user's point of view, and 3) leaving the time and resources to change the system based on user feedback. Working within these principles will increase the likelihood that the user interface will be effective, efficient, and appreciated.

Human computer interaction researchers have also emphasized the importance of understanding how the design space for interfaces is influenced by characteristics of input and output devices and how these characteristics interact with task characteristics. One methodology used by human factors and ergonomics practitioners to evaluate interface design is computer simulation modeling.

This Special Interest Group will begin with an introduction of computer simulation by defining the terms modeling and simulation, the basic principles of simulation, and the basic "ingredients" of any discrete event simulation as represented in a task network model. Next, attendees will discuss techniques for modeling human cognitive workload and examples of how simulation modeling has been used to solve real-world problems. These examples will including using a task network model to study menu navigation and using a task network model to predict the risk of using a cell phone while driving a car.

Attendees will gain an understanding of the wide variety of human factors problems modeling can solve and the technical skills that are needed to do so.

From the Real World to the Virtual World: Speech Recognition for Advanced User Interfaces

Friday, 27 June 2003 | 09:00 - 11:00 | Room **Dekaefta**

Alex W. Stedmon
Sarah C. Nichols
John Wilson
University of Nottingham, UK

Overview:

With the advent of the computing age and Artificial Intelligence (AI) Automatic Speech Recognition (ASR) systems have been developed, refined and applied to many different areas of life from telephone systems to fighter cockpits. Rapid developments in technology have allowed more flexible systems for users to interact with.

A number of applications of ASR technology serve to illustrate the diversity of such an input modality where users can speak into an interface whilst keeping their eyes and hands free for other visual/manual tasks. One of the subtle benefits of ASR technologies is that they can be used in situations where other input devices do not perform so well. What speech offers, therefore, is the potential to liberate the user and allow a greater degree of freedom to interact with advanced user interfaces. However, it must be stated that this argument (amongst others) has been offered for the use of ASR for many years. Indeed, it is only when the underlying human factors issues begin to be understood that the usability of ASR can be enhanced. As such, a number of potential issues exist in many advanced systems, such as:

- which applications suit the use of speech
- which commands/tasks can be triggered by speech;
- comparisons of voice control and conventional user interaction;
- which combination of voice control and other input devices is suitable;
- issues integrating speech into existing toolkits;
- how useful/comfortable is voice control within different systems;
- voice control within multi-user sessions;
- adopting speech recognition for different users.

As part of the VIEW project a Special Interest Group has been established to facilitate discussion and research surrounding the potential use of Automatic Speech Recognition (ASR) in Virtual Environments (VEs). In many ways, both ASR and VR are still being pioneered and the use of ASR within VEs is an exciting integration of the two that is not without its challenges!

HCI Implications in mobile services: applications for busitainment in travelling contexts

Friday, 27 June 2003 | 14:00 - 16:00 | Room **Dekaokto**

Anxo Cereijo Roibas
University of Brighton, UK
Sanna Simola
University of Lapland, Finland
Anna Hill
Space Synapse Ltd., Ireland

The SIG proposal aims to a discussion about feasible and relevant scenarios (mainly regarding 3 and 4G) for the use of mobile applications and services for tourism purposes (often combined with business duties), by promoting the debate and dissemination of principles, topics, and ideas for the design of usable, useful, enjoyable and profitable wireless applications and interfaces. The specific case of 'travelling' has been chosen in order to give a context to the general problem of HCI for applications across mobile devices. Travelling is a very appropriate scenario for interaction with mobile devices and, at the same time, it is easily generalisable.

The main objectives of this SIG are to sensitise participants to the specific interaction-design issues in the particular kind of leisure (or busitainment) contexts through mobile devices, to share the experience gained in several case studies, to explore the most appropriate techniques of interface design and evaluation in this type of device range and to identify possible areas of exploration in order to extend the HCI research community in the proposed topic. A further goal is to present the strategic potential of usable wireless applications as means of logistics management and business opportunities.

Attendees of the SIG will learn from presentations by recognised practitioners and researchers, and will be able to share their experiences to benefit others. It is a unique opportunity to expand attendees' sources of information and knowing at the same time, the latest developments in this discipline. It is also an exceptional chance to enhance the personal circle of contacts and to reduce the feeling of working in isolation. Moreover, active participation contributes to enhance the individual's presentation skills.

This SIG is intended for managers of HCI projects working in the wireless industry (telecom companies, device manufacturers, service providers, etc.) or in tourism or leisure industry, industrial designers, events organisers, teachers and researchers in HCI, HF practitioners, interface evaluators and testers, and for HF academics and students with interests in HCI and mobile interaction. No particular previous knowledge of HCI design for mobile devices is required.

Wednesday 25 June 2003 • 09:00 - 11:00

HCI

S1 - Awareness Systems and Social Presence
Room: **Europa**

Chair: **Panos Markopoulos**, *Technical University of Eindhoven, Netherlands*

- **Shared displays to increase social presence**
  Monica Divitini, *Norwegian University of Science and Technology*, *Norway*; Babak A. Farshchian, *Telenor R&D*, *Norway*
- **Approaches to the Design and Measurement of Social and Information Awareness in Augmented Reality Systems**
  Frank Biocca, *Michigan State University*, *United States*; Jannick Rolland, *University of Central Florida*, *United States*; Geraud Plantegenest, *Michigan State University*, *United States*; Chandan Reddy, *Michigan State University*, *United States*; Chad Harms, *Michigan State University*, *United States*; Charles Owen, *Michigan State University*, *United States*; Weimin Mou, *Michigan State University* , *United States*; Arthur Tang, *Michigan State University*, *United States*
- **Creating social presence through peripheral awareness**
  Boris De Ruyter, *Philips Research*, *Netherlands*; Claire Huijnen, *Eindhoven University of Technology*, *Netherlands*; Panos Markopoulos, *Technical University of Eindhoven*, *Netherlands*; Wijnand Ijsselstein, *Eindhoven University of Technology*, *Netherlands*
- **FLIRT: Social services for the urban context**
  David Bell, *Philips Research Laboratories*, *United Kingdom*; Ben Hooker, *Royal College of Art*, *United Kingdom*; Fiona Raby, *Royal College of Art*, *United Kingdom*
- **Evaluating technologies in domestic contexts: extending diary techniques with field testing of prototypes**
  Henriette van Vugt, *Technical University of Eindhoven* , *Netherlands*; Panos Markopoulos, *Technical University of Eindhoven*, *Netherlands*
- **Staying in Touch Social Presence and Connectedness through Synchronous and Asynchronous Communication Media**
  Wijnand Ijsselstein, *Eindhoven University of Technology*, *Netherlands*; Joy Van Baren, *Eindhoven University of Technology*, *Netherlands*; Froukje van Lanen, *Eindhoven University of Technology*, *Netherlands*

S2 - Bridging the Gap Between Usability and Software Engineering
Room: **Poseidon**

Chair: **Len Bass**, *Carnegie Mellon University, United States*

- **Why Can't Software Engineers and HCI Practitioners Work Together?**
  Rick Kazman, *CMU/SEI and Univ. of Hawaii*, *United States*; Junius Gunaratne, *Carnegie Mellon University*, *United States*; Bill Jerome, *Carnegie Mellon University*, *United States*
- **Communication across the HCI/SE divide: ISO 13407 and the Rational Unified Process®**
  Bonnie John, *Carnegie Mellon University*, *United States*; Len Bass, *Carnegie Mellon University*, *United States*; Robin J. Adams, *Carnegie Mellon University*, *United States*
- **User-Centered Software Design and Development: Ensuring Customer Satisfaction**
  Nuray Aykin, *Siemens Corporate Research*, *United States*
- **Scenarios, Models and the Design Process in Software Engineering and Interactive Systems Design**
  Alistair Sutcliffe, *UMIST*, *United Kingdom*
- **Usage-Centered Design: Scalability and Integration with Software Engineering**
  Larry Constantine, *Constantine & Lockwood, Ltd.*, *United States*; Helmut Windl, *Siemens AG*, *Germany*
- **The Common Industry Format: A Way for Vendors and Customers to Talk about Software Usability**
  Jean Scholtz, *National Institute of Standards and Technology*, *United States*; Emile Morse, *National Institute of Standards and Technology*, *United States*; Sharon Laskowski, *National Institute of Standards and Technology*, *United States*; Anna Wichansky, *Oracle Corporation*, *United States*; Keith Butler, *Boeing Phantom Works*, *United States*; Kent Sullivan, *Microsoft Corporation*, *United States*

S3 - Human & Group Communication
Room: **Enteka**

Chair: **Yuko Murayama**, *Iwate Prefectural University, Japan*

- **Investigating Intra-Family Communication Using Photo Diaries**
  Hans Nassla, *Institutionen for Datavetenskap*, *Sweden*; David Carr, *Lulea University of Technology*, *Sweden*
- **Collaboration and Core Competence in the Virtual Enterprise**
  Rainer Breite, *Tampere University of Technology*, *Finland*; Hannu Vanharanta, *Tampere University of Technology*, *Finland*
- **Providing Access to Humour Manipulation for Individuals with Complex Communication Needs**
  David O'Mara, *University of Dundee*, *United Kingdom*; Annalu Waller, *University of Dundee*, *United Kingdom*; John Todman, *University of Dundee*, *United Kingdom*
- **A Proposal for Under-the-Door Communications on the Network**
  Tetsuya Tomita, *Iwate Prefrctural University*, *Japan*; Yuko Murayama, *Iwate Prefectural University*, *Japan*
- **Collaborative searching and browsing with a large interactive display**
  Chris Knowles, *University of Waikato*, *New Zealand*; Sally Jo Cunningham, *University of Waikato*, *New Zealand*
- **The Design of a Recollection Supporting Device A Study into Triggering Personal Recollections**
  Elise van den Hoven, *Technische Universiteit Eindhoven*, *Netherlands*; Berry Eggen, *Technische Universiteit Eindhoven* , *Netherlands*

Parallel Paper Presentations

Wednesday 25 June 2003 • 09:00 - 11:00

HCI

S4 - Mixed Realities for Everyday
Room: **Apollo West**

Chair: **Anke Ahrend**, *International SOS Germany GmbH, Germany* ; **Jean Vanderdonckt**, *Université catholique de Louvain, Belgium*

- **Being Confident – Development of a TV-based Tele-Assistance System**
  Joachim Machate, *User Interface Design GmbH*, *Germany*; Ioannis Karaseitanidis, *National Technical University of Athens*, *Greece*; Maria Fernanda Gabrera, *Polytechnic University of Madrid*, *Spain*
- **Model-Based Approach and Augmented Reality Systems**
  Daniela Trevisan, *Université catholique de Louvain*, *Belgium*; Jean Vanderdonckt, *Université catholique de Louvain*, *Belgium*; Benoit Macq, *Université catholique de Louvain*, *Belgium*
- **When a house controls its master – Universal design for smart living environments**
  Brigitte Ringbauer, *Fraunhofer - IAO*, *Germany*; Frank Heidmann, *Fraunhofer - IAO*, *Germany*; Jakob Biesterfeldt, *Fraunhofer - IAO*, *Germany*
- **Mixed Systems: Combining Physical and Digital Worlds**
  Laurence Nigay, *University of Grenoble*, *France*; Emmanuel Dubois, *Université de Toulouse*, *France*; Philippe Renevier, *Universiti de Grenoble 1*, *France*; Laurence Pasqualetti, *FT R&D DIH/UCE*, *France*; Jocelyne Troccaz, *Université de Grenoble*, *France*
- **Contribution to task representation in Model-Based user interface Design: application to new people-organization interactions**
  Dimitri Tabary, *LAMIH – UMR CNRS 8530*, *France*; Mourad Abed, *LAMIH – UMR CNRS 8530*, *France*; Christophe Kolski, *University of Valenciennes*, *France*
- **Continuity as a Usability Property**
  Daniela Trevisan, *Université catholique de Louvain*, *Belgium*; Jean Vanderdonckt, *Université catholique de Louvain*, *Belgium*; Benoît Macq, *Université catholique de Louvain*, *Belgium*

S5 - Speech-Based and Auditory Interfaces
Room: **Athena**

Chair: **Alois Ferscha**, *Johannes Kepler University Linz, Austria*

- **Speech-based Text Entry for Mobile Devices**
  Kathleen Price, *UMBC*, *United States*; Andrew Sears, *UMBC*, *United States*
- **Using Confidence Scores to Improve Hands-Free Speech-Based Navigation**
  Jinjuan Feng, *UMBC*, *United States*; Andrew Sears, *UMBC*, *United States*
- **Designing Auditory Spaces: The Role of Expectation**
  Priscilla Chueng, *University of Huddersfield*, *United Kingdom*; Philip Marsden, *University of Huddersfield*, *United Kingdom*
- **Visually Supported Design of Auditory User Interfaces**
  Palle Klante, *Kuratorium OFFIS e.V.*, *Germany*
- **VRIO: A Speech Processing Unit for Virtual Reality and Real-World Scenarios - An Experience Report**
  Dieter Kranzlmueller, *Joh. Kepler University Linz*, *Austria*; Alois Ferscha, *Johannes Kepler University Linz*, *Austria*; Paul Heinzlreiter, *Johannes Kepler University Linz*, *Austria*; Michael Pitra, *Johannes Kepler University Linz*, *Austria*; Jens Volkert, *Johannes Kepler University Linz*, *Austria*
- **Sounds@Work - Auditory Displays for Interaction in Cooperative and Hybrid Environments**
  Christian Mueller-Tomfelde, *Fraunhofer - IPSI*, *Germany*; Norbert Streitz, *Fraunhofer - IPSI*, *Germany*; Ralf Steinmetz, *Darmstadt University of Technology*, *Germany*

S6 - UsabilityNet: Supporting Usability in Europe
Room: **Apollo East**

Chair: **Nigel Bevan**, *Serco Usability Services, United Kingdom*

- **Designing the UsabilityNet Web Site: A Case Study**
  Jurek Kirakowski, *University College Cork*, *Ireland*
- **UsabilityNet Methods for User Centred Design**
  Nigel Bevan, *Serco Usability Services*, *United Kingdom*
- **Usability Support for Managers**
  Nigel Claridge, *Scandinavian Usability Associates*, *Sweden*
- **Usability Support for EU Projects Experiences and Actions**
  Jurek Kirakowski, *University College Cork*, *Ireland*; Manfred Tscheligi, *Center for Usability Research and Engineering*, *Austria*; Verena Giller, *Center for Usability Research and Engineering*, *Austria*; Peter Froehlich, *Center for Usability Research & Engineering*, *Austria*
- **Accreditation of Usability Professionals**
  Nigel Bevan, *Serco Usability Services*, *United Kingdom*
- **A European Usability Forum Collaborating on Strategic Initiatives**
  Manfred Tscheligi, *Center for Usability Research and Engineering*, *Austria*; Verena Giller, *Center for Usability Research and Engineering*, *Austria*; Peter Froehlich, *Center for Usability Research & Engineering*, *Austria*

PARALLEL PAPER PRESENTATIONS

S7 - Web Usability I
Room: Danae

Chair: **Martin Maguire**, *Loughborough University, United Kingdom*

- **ANTS: An Automatic Navigability Testing System for Web Sites**
  Marcos González Gallego, *University of Oviedo*, *Spain*; María del Puerto Paule Ruíz, *University of Oviedo*, *Spain*; Juan Ramon Pérez Pérez, *University of Oviedo*, *Spain*; Martín González Rodríguez, *University of Oviedo*, *Spain*

- **The Effectiveness of the Common Industry Format for Reporting Usability Testing: A Case Study on an Online Shopping Website**
  Chui Yin Wong, *Loughborough University*, *United Kingdom*; Martin Maguire, *Loughborough University*, *United Kingdom*

- **Supporting Novices in Detecting Web Site Usability Problems: A Comparison of the Think-Aloud and Questionnaire Methods**
  Mikael Skov, *Aalborg University*, *Denmark*; Jan Stage, *Aalborg University*, *Denmark*

- **WebTracer: Evaluating Web Usability with Browsing History and Eye Movement**
  Noboru Nakamichi, *Nara Institute of Science and Technology*, *Japan*; Makoto Sakai, *SRA Key Technology Laboratory, Inc.*, *Japan*; Jian Hu, *Nara Institute of Science and Technology*, *Japan*; Kazuyuki Shima, *Nara Institute of Science and Technology*, *Japan*; Masahide Nakamura, *Nara Institute of Science and Technology*, *Japan*; Ken'ichi Matsumoto, *Nara Institute of Science and Technology*, *Japan*

- **Usability Evaluation of a Web-based Authoring Tool for Building Intelligent Tutoring Systems**
  Maria Moundridou, *University of Piraeus* , *Greece*; Maria Virvou, *University of Piraeus* , *Greece*

- **From Web Usability to Web Comfortability: A Paradigm Shift**
  Roberto Okada, *Miyagi University*, *Japan*; Yuri Watanabe, *Miyagi University*, *Japan*

S8 - Advanced Interfaces for Safety and Security
Room: Pente

Chair: **Shogo Nishida**, *Osaka University, Japan*

- **Designing a Data Management System for Monitoring Camera in Emergency**
  Yoshinori Hijikata, *Osaka University*, *Japan*; Yiqun Wang, *Osaka University*, *Japan*; Shogo Nishida, *Osaka University*, *Japan*

- **Intelligent Human Interface for Road Tunnel Fire Ventilation Control System**
  Kazuo Maeda, *Sohatsu Systems Laboratory Inc.*, *Japan*; Ichiro Nakahori, *Sohatsu Systems Laboratory Inc.*, *Japan*

- **Implementation Studies with GUIs utilizing Fisheye Lens - Application for CCTV based Surveillance and Interactive TV -**
  Nobuyuki Ozaki, *Toshiba Corporation*, *Japan*

- **Future Trends of Human Interfaces for Public Facilities in Japan**
  Yasuhiro Nishikawa, *Mitsubishi Electric*, *Japan*; Shogo Nishida, *Osaka University*, *Japan*

- **Asymmetric Communication Mode to Realize Collaboration between Remotely Located Participants for Dealing with Failures**
  Tadashi Tanaka, *Hitachi Ltd.*, *Japan*; Hiroshi Yajima, *Hitachi Ltd.*, *Japan*

- **Coordinated Interfaces for Real-time Decision Making in Hierarchical Structures**
  Mie Nakatani, *Osaka University*, *Japan*; Shinobu Yamazaki , *Osaka University*, *Japan*; Shogo Nishida, *Osaka University*, *Japan*

S9 - Collaboration & Cooperation Support I
Room: Deka Tria

Chair: **Vincent Duffy**, *Mississippi State University, United States*

- **A Group Development System for Improving Motivation, Performance and Team Climate in Virtual Teams**
  Susanne Geister, *University of Kiel*, *Germany*; Udo Konradt, *University of Kiel*, *Germany*; Guido Hertel, *University of Kiel*, *Germany*

- **Self-Administered Cooperative Knowledge Areas - Evaluation of the WWW Interface in Terms of Software Ergonomics -**
  Thorsten Hampel, *Universität Paderborn*, *Germany*; Bernd Eßmann, *Universität Paderborn*, *Germany*

- **Modeling Business Information in Virtual Environment**
  Dimitris Folinas, *University of Macedonia*, *Greece*; Vicky Manthou, *University of Macedonia*, *Greece*; Maro Vlachopoulou, *University of Macedonia*, *Greece*

- **Explication and Legitimisation of Arguments and Outcomes in Sense-making and Innovation by Groups: Some Implications for Group Support Systems**
  Petrie Coetzee, *Technikon Pretoria*, *South Africa*; Jackie Phahlamohlaka, *University of Pretoria*, *South Africa*

- **Intercultural virtual cooperation: Psychological challenges for coordination**
  Elizabeth Grant, *DaimlerChrysler Research and Technology*, *Germany*; Hartmut Schulze, *DaimlerChrysler Research and Technology*, *Germany*; Siegmar Haasis, *DaimlerChrysler Research and Technology*, *Germany*

- **Towards an understanding of Common Information Spaces in Distributed and Mobile Work**
  Gabriella Spinelli, *Brunel University*, *United Kingdom*; Jacqueline Brodie, *Brunel University*, *United Kingdom*

Parallel Paper Presentations

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HCI

S10 - Establishing and Maintaining Information Quality in the Organisation
Room: Aphrodite

Chair: **Mark Lehto**, *Purdue University, United States*

- **Web LogVisualizer: a Tool for Communication and Information Management**
  José Nunes, *University of Aveiro*, *Portugal*; Florin Zamfir, *University of Craiova*, *Romania*; Óscar Mealha, *University of Aveiro*, *Portugal*; Beatriz Santos, *University of Aveiro*, *Portugal*

- **Methods for Estimating the Person's Busyness as Awareness Information in the Medium-sized Laboratory Environment**
  Itaru Kuramoto, *Kyoto Institute of Technology*, *Japan*; Yu Shibuya, *Kyoto Institute of Technology*, *Japan*; Tomonori Takeuchi, *Kyoto Institute of Technology*, *Japan*; Yoshihiro Tsujino, *Kyoto Institute of Technology*, *Japan*

- **Observations from the Introduction of an awareness Tool into a Workplace, and from the Use of its 'Status'-field**
  Samuli Pekkola, *University of Jyvaskyla*, *Finland*; Niina Kaarilahti, *University of Jyvaskyla*, *Finland*; Pasi Pohjola, *University of Jyväskylä*, *Finland*

- **Quality Assurance in the National Institute for Occupational Safety and Health (NIOSH) Publications Office**
  James McGlothlin, *Purdue University*, *United States*; Vern Putz Anderson, *NIOSH*, *United States*

- **Automated Identification and Correction of Coding Errors in an Accident Narrative Database**
  Helen Wellman, *Liberty Mutual Research Center Institute for Safety*, *United States*; Mark Lehto, *Purdue University*, *United States*; Gary Sorock, *Liberty Mutual Research Center Institute for Safety*, *United States*

- **Assuring Information Quality in Industrial Enterprises: Experiments in an ERP Environment**
  Thomas Bellocci, *Saint-Gobain Glass*, *France*; Mark Lehto, *Purdue University*, *United States*; Shimon Nof, *Purdue University*, *United States*

S11 - HCI in Action: A Review of Contributions to Industry from the Orient
Room: Exi

Chair: **Kee Yong Lim**, *Nanyang Technological University, Singapore*

- **Maintenance Support of Corporate Directories with Social-filtering**
  Kazuo Misue, *Fujitsu Laboratories Ltd.*, *Japan*; Takanori Ugai, *Fujitsu Laboratories Ltd.*, *Japan*

- **The WWW of Information Structures Design for Chinese Users**
  Chen Zhao, *IBM China Research Lab*, *China*; Kan Zhang, *Chinese Academy of Sciences*, *China*

- **Enhancing Remote Control Performance: Enabling Tele-Presence Via a 3D Stereoscopic Display**
  Kee Yong Lim, *Nanyang Technological University*, *Singapore*; Roy Quek, *Nanyang Technological University*, *Singapore*

- **Usability Testing in Chinese Industries**
  Xiaowei Yuan, *ISAR User Interface Design*, *China*; Xiaolan Fu, *Chinese Academy of Sciences*, *China*

- **New Heuristics for Improving Heuristic Evaluation**
  Peter Patsula, *Nanyang Technological University*, *Singapore*

- **Interrogating Search Engine Design using Claims Analysis and General Design Heuristics**
  Yin-Leng Theng, *Nanyang Technological University*, *Singapore*

S12 - The Home as a Communication Sphere - State of the Art in Home Informatics
Room: Minos North

Chair: **Gunilla Bradley**, *IT University, Royal Institute of Technology, Sweden*

- **A learning companion - design of personal assistance in an adaptive information and learning ambience**
  Kurt Englmeier, *German Institute for Economic Research (DIW)*, *Germany*; Javier Pereira, *Universidad de Talca*, *Chile*; Narciso Cerpa, *Universidad de Talca*, *Chile*

- **Theories on the impact of Information and Communication Technology and Psychosocial Life Environment**
  Gunilla Bradley, *IT University, Royal Institute of Technology*, *Sweden*

- **Young urban knowledge workers – Relationship between ICT and psychosocial life environment**
  Ulrika Danielsson, *Mid Sweden University*, *Sweden*

- **The Internet in the home: Changing the domestic landscape**
  Andy Sloane, *University of Wolverhampton*, *United Kingdom*

- **Communicating in the Home: A Research Agenda for the Emerging Area of Home Informatics**
  Vivian Vimarlund, *Linköping University* , *Sweden*; Sture Hägglund, *Linköping University*, *Sweden*

- **A Study of a Southern California Wired Community: Where Technology Meets Social Utopianism**
  Alladi Venkatesh, *University of California*, *United States*; Steven Chen, *University of California*, *United States*; Victor M. Gonzales, *University of California*, *United States*

S13 - Human Information Processing and Web Navigation

Room: **Enia**

Chair: **Herre Van Oostendorp**, *Utrecht University, Netherlands*

- **Human Factors in Web-assisted Personal Finance**
  Ion Juvina, *Utrecht University*, *Netherlands*; Herre Van Oostendorp, *Utrecht University*, *Netherlands*
- **Locating Relevant Categories in Web Menus: Effects of Menu Structure, Aging and Task Complexity**
  Jean-Francois Rouet, *CNRS and University of Poitiers*, *France*; Christine Ros, *CNRS and University of Poitiers*, *France*; Guillaume Jégou, *CNRS and University of Poitiers*, *France*; Sabine Metta, *CNRS and University of Poitiers*, *France*
- **Remote Web Usability Testing: a Proxy Approach**
  Andres Baravalle, *University of Turin*, *Italy*; Vitaveska Lanfranchi, *University of Turin*, *Italy*
- **From Browsing Behavior to Usability Matters**
  Eelco Herder, *University of Twente*, *Nethelands*; Betsy (Elisabeth) Van Dijk, *University of Twente*, *Netherlands*
- **Generation of Cognitive Ergonomic Dynamic Hypertext for E-Learning**
  Stefan Trausan-Matu, *Polytechnic University of Bucharest*, *Romania*; Alina Marhan, *Romanian Academy*, *Romania*; Gheorghe Iosif, *Romanian Academy*, *Romania*; Ion Juvina, *Utrecht University*, *Netherlands*
- **Personal Assistant for onLine Services: Addressing human factors**
  Jasper Lindenberg, *TNO Human Factors*, *Netherlands*; Stacey Nagata, *Utrecht University*, *Netherlands*; Mark Neerincx, *TNO Human Factors*, *Netherlands*

S14 - Accessing and Managing the Electronic Health Record in the 21st Century

Room: **Minos East**

Chair: **Stelios Orphanoudakis**, *ICS-FORTH, Greece*

- **Mayo Clinic/IBM Computational Biology Collaboration: A Simple User Interface for Complex Queries**
  Piet C. de Groen, *Mayo Clinic & Foundation*, *United States*; Richard Dettinger, *IBM*, *United States*; Pete Johnson, *IBM*, *United States*
- **The Integrated Electronic Health Record: Accessibility, Usability and Security Issues**
  Stelios Orphanoudakis, *ICS-FORTH*, *Greece*; Manolis Tsiknakis, *ICS-FORTH*, *Greece*; Dimitris Anthoulakis, *ICS-FORTH*, *Greece*; Constantine Stephanidis, *ICS-FORTH*, *Greece*
- **Model-Based Role-Adapted Interaction – A Health-Care Case**
  Chris Stary, *University of Linz*, *Austria*
- **Participatory Approaches towards Universal Access - Results of a Case Study in the Healthcare Domain -**
  Karl Stroetmann, *Empirica*, *Germany*; Michael Pieper, *Fraunhofer - FIT*, *Germany*
- **W3C-WAI Content Guidelines: application in a health scenario**
  Laura Burzagli, *CNR-IFAC*, *Italy*; Pier Luigi Emiliani, *CNR-IFAC*, *Italy*
- **TeleTendo: a New Multimedia and Web Based Interface for e-Learning and e-Testing in Medical Imaging**
  Georges De Moor, *University Hospital Gent*, *Belgium*; Brecht Claerhout, *CUSTODIX nv*, *Belgium*; Bram Van Grimbergen, *RAMIT vzw*, *Belgium*; Geert Thienpont, *RAMIT vzw*, *Belgium*; Koen Verstraete, *University Hospital Ghent*, *Belgium*; H. Buysse, *RAMIT vzw*, *Belgium*

S15 - Interaction Devices & Techniques for Universal Access I

Room: **Leda**

Chair: **Jianwei Zhang**, *University of Hamburg, Germany*

- **Information theoretic bit-rate optimization for average trial protocol Brain-Computer Interfaces**
  Julien Kronegg, *University of Geneva*, *Switzerland*; Teodor Alecu, *University of Geneva*, *Switzerland*; Thierry Pun, *University of Geneva*, *Switzerland*
- **Investigations into a Dual Modality P300 Based Brain-Computer Interface**
  Ciaran Finucane, *National University of Ireland*, *Ireland*; David Burke, *National University of Ireland*, *Ireland*; Annraoi de Paor, *National University of Ireland*, *Ireland*
- **Artificial Intelligence to Enhance a Brain Computer Interface**
  Paul Gnanayutham, *De Montfort University*, *United Kingdom*; Chris Bloor, *University of Sunderland*, *United Kingdom*; Gilbert Cockton, *University of Sunderland*, *United Kingdom*
- **Brain Computer Interface Cursor Measures for Motion-impaired and Able-bodied Users**
  Alexandros Pino, *National and Kapodistrian University of Athens*, *Greece*; Eleftherios Kalogeros, *National and Kapodistrian University of Athens*, *Greece*; Elias Salemis, *National and Kapodistrian University of Athens*, *Greece*; George Kouroupetroglou, *National and Kapodistrian University of Athens*, *Greece*
- **Instructing an Assembly Robot in Situated Natural Language and Gestures**
  Jianwei Zhang, *University of Hamburg*, *Germany*; Tim Baier, *University of Hamburg*, *Germany*; Markus Hüser, *University of Hamburg*, *Germany*
- **Multimodal Control Interface of a Nanohandling Robot in a Scanning Electron Microscope**
  Sergej Fatikow, *University of Oldenburg*, *Germany*; Aleksandr Shirinov, *University of Oldenburg*, *Germany*

Parallel Paper Presentations

S16 - Ontologies and Multilinguality in User Interfaces

Room: **Artemis**

Chair: **Alain Leger**, *France Telecom R&D, France* ; **Aarno Lehtola**, *VTT Information Technology, Finland*

- **Technology Survey on Knowledge Based Multilinguality**
  Alain Leger, *France Telecom R&D*, *France*; Malek Boualem, *France Telecom R&D*, *France*
- **Intelligent Human Language Query Processing in Mkbeem**
  Aarno Lehtola, *VTT Information Technology*, *Finland*; Johannes Heinecke , *France Telecom R&D*, *France*; Catherine Bounsaythip, *VTT Information Technology*, *Finland*
- **Natural Interaction in Spoken Dialogue Systems**
  Kristiina Jokinen, *University of Art and Design Helsinki*, *Finland*
- **Language Independent Querying for Information Discovery (LIQUID)**
  Jose Esteban, *SchlumbergerSema*, *Spain*; Antonio S. Valderrábanos, *SchlumbergerSema*, *Spain*
- **Ontology integration in a multilingual e-retail system**
  Maria Teresa Pazienza, *University of Roma*, *Italy*; Armando Stellato, *University of Roma*, *Italy*; Michele Vindigni, *University of Roma*, *Italy*; Alexandros Valarakos, *NCSR* , *Greece*; Vangelis Karkaletsis, *Demokritos*, *Greece*
- **NLP-based knowledge markup**
  Thierry Declerck, *University of Saarland*, *Germany*; Paul Buitelaar, *DFKI-Language Technology*, *Germany*

S17 - Universal Design

Room: **Minos South**

Chair: **Demosthenes Akoumianakis**, *ICS-FORTH, Greece*

- **A Framework to Ensure Continuous Accessibility, Acceptability and, Usability of Systems**
  Elizabeth Furtado, *Universidade de Fortaleza*, *Brazil*; Otoni Cardoso Júnior, *Universidade de Fortaleza*, *Brasil*
- **Distributed Cognition: A Conceptual Framework for Design-for-All**
  Gerhard Fischer, *University of Colorado*, *United States*
- **SIMPLEX: a simple user check-model for Inclusive Design**
  Ray Adams, *Middlesex University*, *United Kingdom*; Patrick Langdon, *University of Cambridge* , *United Kingdom*
- **Towards a framework for creating design support environments for adaptive systems**
  Thomas Spyrou, *University of the Aegean*, *Greece*; Evangelos Vlachogiannis, *University of the Aegean*, *Greece*; Argyris Arnellos, *University of the Aegean*, *Greece*; John Darzentas, *University of the Aegean*, *Greece*
- **The Synergies between Universal Design and User-Centred Design**
  Gunela Astbrink, *Griffith University*, *Australia*; Jenine Beekhuyzen, *Griffith University*, *Australia*
- **A Validated Code of Practice for Universal Access in Health Telematics**
  Demosthenes Akoumianakis, *ICS-FORTH*, *Greece*; Constantine Stephanidis, *ICS-FORTH*, *Greece*

S18 - Advanced Information Technologies for Plant Maintenance

Room: **Enia**

Chair: **Yukiharu Ohga**, *Hitachi, Ltd, Japan* ; **Hidekazu Yoshikawa**, *Kyoto University, Japan*

- **Inspection and Condition Monitoring Service on the Web for Nuclear Power Plants**
  Yukio Sonoda, *Toshiba Corporation*, *Japan*; Yukinori Hirose, *Toshiba Corporation*, *Japan*
- **Optimization of Instrument Calibration Intervals by On-line Sensor Monitoring Techniques**
  Nobuhiro Hayashi, *Mitsubishi Heavy Industries, Ltd.*, *Japan*; Masumi Nomura, *Mitsubishi Heavy Industries, Ltd.*, *Japan*
- **Development of Maintenance Knowledge Management System for Power Plant**
  Kenji Hirai, *Mitsubishi Electric Corporation*, *Japan*; Tadashi Ohi, *Mitsubishi Electric Corporation*, *Japan*
- **Information Provision for Maintenance Work with Distributed DB Framework**
  Makoto Takahashi, *Tohoku University*, *Japan*; Yo Ito, *Tohoku University*, *Japan*; Hisashi Sato, *Tohoku University*, *Japan*; Masaharu Kitamura, *Tohoku University*, *Japan*; Wu Wei, *Mitsubishi Electric Corporation*, *Japan*; Tadashi Ohi, *Mitsubishi Electric Corporation*, *Japan*
- **Information Support for Annual Maintenance with Wearable Device**
  Takashi Nagamatsu, *Kobe University of Mercantile Marine*, *Japan*; Tomoo Ohtuji , *Kobe University of Mercantile Marine*, *Japan*; Hirotake Ishii, *Kyoto University*, *Japan*; Hiroshi Shimoda, *Kyoto University*, *Japan*; Hidekazu Yoshikawa, *Kyoto University*, *Japan*; Wu Wei, *Mitsubishi Electric Corporation*, *Japan*

S19 - e-Learning I
Room: Europa

Chair: **Sigrun Goll**, *Protestant University of Applied Sciences Hannover, Germany*

- **Instructional Use of Engineering Visualization: Interaction-Design in e-Learning for Civil Engineering**
  Martin Ebner, *Graz University of Technology*, *Austria*; Andreas Holzinger, *Graz University*, *Austria*

- **A case-study application of tour & time travel metaphors to structure an e-learning software**
  Wei Lieh NG, *Nanyang Technological University*, *Singapore*; Kee Yong Lim, *Nanyang Technological University*, *Singapore*

- **DSTool: A Reflection-based debugger for data structures comprehension in Computing Science Learning**
  Sergio Sama Villanueva, *University of Oviedo*, *Spain*; Juan Ramon Pérez Pérez, *University of Oviedo*, *Spain*; Sergio Ocio Barriales, *University of Oviedo*, *Spain*; Martín González Rodríguez, *University of Oviedo*, *Spain*

- **Integrating Shared and Personal Spaces to Support Collaborative Learning**
  Kazuhiro Hosoi, *University of Tokyo*, *Japan*; Masanori Sugimoto, *University of Tokyo*, *Japan*

- **Saccadic Processes in Listening-Comprehension Processing as Cognitive Interactions between Listeners and Texts in a Computer-Based Learning Environment**
  Setsuko Wakabayashi, *Himeji-Dokkyo University*, *Japan*; Koichiro Kurahasi, *Himeji Dokkyou University*, *Japan*

S20 - Ergonomic Approaches
Room: Leda

Chair: **Naomi Swanson**, *NIOSH, United States*

- **Technostress, Quality of Work Life, and Locus of Control**
  Khairunnisa Khan, *University of Witwatersrand*, *South Africa*; James Fisher, *University of the Witwatersrand*, *South Africa*

- **The Framework for Indirect Management Features of Process Control User Interfaces**
  Toni Koskinen, *Helsinki University of Technology*, *Finland*; Marko Nieminen, *Helsinki University of Technology*, *Finland*; Hannu Paunonen, *Metso Automation Inc.*, *Finland*; Jaakko Oksanen, *Metso Automation Inc.*, *Finland*

- **Have Operators to Forget the Old System in Order to Acquire the New One? A Case Study in the Health Care Context**
  Francesca Rizzo, *University of Siena*, *Italy*; Oronzo Parlangeli, *University of Siena*, *Italy*; Sebastiano Bagnara, *Politecnico di Milano*, *Italy*

- **Definition and prototyping of ErgoMonitor - an online monitoring system for ergonomic evaluation of human-computer interaction in a Web environment**
  Marcelo Morandini, *State University of Maringa*, *Brazil*; Walter de Abreu Cybis, *Universidade Federal de Santa Catarina*, *Brasil*

- **Ergonomic Analysis of a Distributed System**
  Ahmet Cakir, *ERGONOMIC Institute for Work Sciences*, *Germany*

S21 - Integrating User Centered Systems Design in the Software Engineering Process
Room: Poseidon

Chair: **Jan Gulliksen**, *Uppsala University, Sweden*

- **Engineering the HCI profession or softening development processes**
  Jan Gulliksen, *Uppsala University*, *Sweden*; Stefan Blomkvist, *Uppsala Universitet*, *Sweden*; Bengt Goransson, *Uppsala Universitet*, *Sweden*

- **It's all in a days work of a software engineer**
  Inger Boivie, *Uppsala Universitet*, *Sweden*; Jan Gulliksen, *Uppsala University*, *Sweden*; Bengt Goransson, *Uppsala Universitet*, *Sweden*

- **Loosing Reality in the Modeling Process**
  Jenny Persson, *Uppsala Universitet*, *Sweden*

- **A Pattern Framework for Eliciting and Delivering UCD Knowledge and Practices**
  Ashraf Gaffar, *Concordia University*, *Canada*; Homa Javahery, *Concordia University*, *Canada*; Ahmed Seffah, *Concordia University , Canada*; Daniel Sinnig, *Concordia University*, *Canada*

- **Towards a Systematic Empirical Validation of HCI Knowledge Captured as Patterns**
  Eduard Metzker, *DaimlerChrysler Research Center Ulm*, *Germany*; Ahmed Seffah, *Concordia University , Canada*; Ashraf Gaffar, *Concordia University*, *Canada*

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HCI

S22 - Mixed Reality Interaction
Room: Danae

Chair: **Holger Regenbrecht**, *DaimlerChrysler AG, Germany*

- **Crossing from Physical Workplace to Virtual Workspace: be AWARE!**
  Nina Christiansen, *Copenhagen Business School*, *Denmark*; Kelly Maglaughlin, *University of North Carolina*, *United States*

- **ThumbsUp: Integrated Command and Pointer Interactions for Mobile Outdoor Augmented Reality Systems**
  Wayne Piekarski, *University of South Australia*, *Australia*; Bruce H. Thomas, *University of South Australia*, *Australia*

- **Collaborative City-Planning System based on Augmented Reality**
  Hirokazu Kato, *Hiroshima City University*, *Japan*; Keihachiro Tachibana, *Hiroshima City University*, *Japan*; Takeaki Nakajima, *Hiroshima City University*, *Japan*; Yumiko Fukuda, *Hiroshima Institute of Technology*, *Japan*; Masaaki Tanabe, *Knack Images Production Center*, *Japan*; Adrian Cheok, *National University of Singapore*, *Singapore*

- **Improving Interaction in an Augmented Reality System using Multiple Cameras**
  Ingmar D. Baetge, *DaimlerChrysler AG*, *Germany*; Gregory Baratoff, *DaimlerChrysler AG*, *Germany*; Holger Regenbrecht, *DaimlerChrysler AG*, *Germany*

- **SR:DistoPointer using a tracked laser-range-meter as an augmented-reality ray-pick interaction device**
  Michael Wagner, *Shared-reality.com*, *Germany*

S23 - The Next Revolution: Vehicle User-Interfaces and the Global Rider / Driver Experience
Room: Minos East

Chair: **Aaron Marcus**, *Aaron Marcus and Associates, Inc., United States*

- **Cross Cultural Usability: An International Study on Driver Information Systems**
  Peter Roessger, *Harman/Becker Automotive Systems (Becker Division) GmbH*, *Germany*; Jörg Hofmeister, *Harman/Becker Automotive Systems (Becker Division) GmbH*, *Germany*

- **Function analysis and control panel design of in-car computer systems (E-Car)**
  Jun-Kai Chiu, *National Tsing Hua University*, *Taiwan*; Sheue-Ling Hwang, *National Tsing-Hua University*, *Taiwan*

- **Vehicle navigation systems: case studies from VDO Dayton**
  Irene Mavrommati, *Research Academic Computer Technology Institute*, *Greece*

- **Vehicle UI and Information-Visualization Design**
  Aaron Marcus, *Aaron Marcus and Associates, Inc.*, *United States*

- **Off Board Networking of Car Navigation Systems & Services**
  Frazer McKimm, *CEO -DHS*, *Italy*

S24 - User Experience on Tablet Computers
Room: Artemis

Chair: **Wenli Zhu**, *Microsoft Corporation, United States*

- **The Optimal Sizes for Pen-Input Character Boxes on PDAs**
  Taishi Kato, *Kochi University of Technology*, *Japan*; Xiangshi Ren, *Kochi University of Technology*, *Japan*; Youichi Sakai, *Tokyo Denki University , Japan*; Yoshio Machi, *Tokyo Denki University*, *Japan*

- **Mobile and Stationary User Interfaces – Differences and Similarities Based on Two Examples**
  Erik Gøsta Nilsson, *SINTEF Telecom and Informatics*, *Norway*; Odd-Wiking Rahlff, *SINTEF Telecom and Informatics*, *Norway*

- **Combining Usability with Field Research: Designing an Application for the Tablet PC**
  Wenli Zhu, *Microsoft Corporation*, *United States*; Lori Birtley, *Microsoft Corporation*, *United States*; Nancy Burgess-Whitman, *Harris Interactive Inc.*, *United States*

- **Tablet PC - Using Field Trials to Define Product Design**
  Evan Feldman, *Microsoft Corporation*, *United States*; Erik Pennington, *Microsoft Corporation*, *United States*; Jo Ireland, *Microsoft Corporation*, *United States*

- **Malleable Paper: A User Interface for Reading and Browsing**
  Jian Wang, *Microsoft Research Asia*, *China*; Chengao Jiang, *Institute of Software, CAS*, *China*

S25 - Security, Privacy & Trust

Room: **Apollo West**

Chair: **Vincent Duffy**, *Mississippi State University, United States*

- **Are Users Ready for Electronic Prescription Processing?**
  Dennise Bell, *University of Huddersfield, United Kingdom*; Philip Marsden, *University of Huddersfield, United Kingdom*; Mark Kirby, *University of Huddersfield, United Kingdom*

- **A Methodology for the Administration of a Web-Based Questionnaire**
  Maria Antunes, *University of Aveiro, Portugal*; Eduardo Castro, *University of Aveiro, Portugal*; Óscar Mealha, *University of Aveiro, Portugal*

- **Making Privacy Protocols Usable for Mobile Internet Environments**
  John Sören Pettersson, *Karlstad University, Sweden*; Claes Thoren, *Karlstad University, Sweden*; Simone Fischer-Hübner, *Karlstad University, Sweden*

- **Cyber Crime Advisory Tool - C*CAT: a holistic approach to electronic evidence processing**
  Sandra Frings, *Fraunhofer - IAO, Germany*; Mirjana Stanisic-Petrovic, *Fraunhofer - IAO, Germany*; Juergen Falkner, *Fraunhofer - IAO, Germany*; Robin Urry, *Institute for the Protection and Security of the Citizen, Italy*; Neil Mitchison, *Institute for the Protection and Security of the Citizen, Italy*

- **A Design that Meets User's Goals Creates Usable Security**
  Antti Latva-Koivisto, *Helsinki Institute for Information Technology, Finland*; Yki Kortesniemi, *Helsinki Institute for Information Technology, Finland*

S26 - VIEW / IRMA – EU Projects on Industrial Applications of Virtual Environments I

Room: **Minos North**

Chair: **John Wilson**, *University of Nottingham, United Kingdom*

- **Co-located interaction in virtual environments via de-coupled interfaces**
  Victor Bayon, *University of Nottingham, United Kingdom*; Gareth Griffiths, *University of Nottingham, United Kingdom*

- **Towards i-dove, an interactive support tool for building and using virtual environments with guidelines**
  Panos Karampelas, *ICS-FORTH, Greece*; Dimitris Grammenos, *ICS-FORTH, Greece*; Alexandros Mourouzis, *ICS-FORTH, Greece*; Constantine Stephanidis, *ICS-FORTH, Greece*

- **Another small step for real use of virtual environments?: the VIEW of the Future project**
  John Wilson, *University of Nottingham, United Kingdom*

- **Design of Interaction Devices for Optical Tracking in Immersive Environments**
  Oliver Stefani, *University of Stuttgart, IAT, Germany*; Hilko Hoffmann, *Fraunhofer - IAO, Germany*; Jörg Rauschenbach, *Fraunhofer - IAO, Germany*

- **Evaluation Consolidation of Virtual Reality Tools and Applications within VIEW project**
  Angelos Amditis, *National Technical University of Athens, Greece*; Ioannis Karaseitanidis, *National Technical University of Athens, Greece*; Niki Boutsikaki, *National Technical University of Athens, Greece*; Evangelos Bekiaris, *Hellenic Institute of Transport (CERTH/HIT), Greece*; John Wilson, *University of Nottingham, United Kingdom*

S27 - Cognitive Decision-support System Approaches in Airborne Operator Assistance Applications

Room: **Exi**

Chair: **Axel Schulte**, *Munich University of the German Armed Forces, Germany*

- **Identifying and Refining the Tasks in a Cockpit Data Link Model**
  Lynne Martin, *San Jose State University Foundation at NASA ARC, United States*; Savita Verma, *San Jose State University Foundation at NASA ARC, United States*; Amit Jadhav, *San Jose State University Foundation at NASA ARC, United States*; Venkat Raghavan, *San Jose State University Foundation at NASA ARC, United States*; Sandy Lozito, *NASA Ames Research Center, United States*

- **An Aircraft Preference Study on the Application of Vector Maps in U.S. Navy Tactical Aircraft**
  Michael Trenchard, *Naval Research Laboratory, United States*; Maura Lohrenz, *Naval Research Laboratory, United States*; Stephanie Edwards, *Naval Research Laboratory, United States*

- **Intelligent Agents as Cognitive Team Members**
  Pierre Urlings, *Air Operations Division - DSTO, Australia*; J. Tweedale , *Defence Science and Technology Organisation, Australia*; Christos Sioutis , *University of South Australia, Australia*; Nikhil Ichalkaranje, *University of South Australia, Australia*; Lakhmi Jain , *University of South Australia, Australia*

- **Enhancing Human-Computer-Cooperation by Grounding the Engineering Process on a Uniform, Cognitive Model**
  Henrik Putzer, *Universität der Bundeswehr München, Germany*; Reiner Onken, *Universität der Bundeswehr München, Germany*

- **Cognition and Autonomy in Distributed Intelligent Systems**
  Robert Taylor, *Dstl Human Sciences, United Kingdom*

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EP&CE

S28 - DRIVING Simulation and Training

Room: **Pente**

Chair: **Lisa Dorn**, *Cranfield University, United Kingdom*

- **Measuring Driver Fatigue and Establishing KOLINTANG Music Treatment for Decreasing Fatigue in Driver: A Preliminary Study to Develop Smart Sensor of Fatigue for Car Driver**
  Ismail Rozmi, *Universiti Kebangsaan Malaysia, Malaysia*; Yohan Kurniawan, *National University of Malaysia, Malaysia*; Ismail Maakip, *National University of Malaysia, Malaysia*; Mohd. Salleh Abd . Ghani, *National University of Malaysia, Malaysia*; Mohd. Jailani Mohd. Nor, *Universiti Kebangsaan Malaysia, Malaysia*; Daud Sulaiman, *National University of Malaysia, Malaysia*

- **Hazard Perception training in the BSM Driver-Training Simulator**
  Susan McCormack, *British School of Motoring, United Kingdom*

- **Assessment and Training Using a Low Cost Driving Simulator**
  R. Wade Allen, *Systems Technology, Inc., United States*; Theodore Rosenthal, *Systems Technology, Inc., USA*; George Park, *Systems Technology, Inc., United States*; Dary Fiorentino, *Southern California Research Institute, United States*; Erik Viirre, *University of California at San Diego, United States*

- **The Development of a Bus Simulator for Bus Driver Training**
  Helen Muncie, *Cranfield University, United Kingdom*; Lisa Dorn, *Cranfield University, United Kingdom*

- **Different Ways of Data-Reduction for Driver Simulator Validation**
  Thera Mulder-Helliesen, *Revolution E Company Ltd, United Kingdom*; Lisa Dorn, *Cranfield University, United Kingdom*

S29 - Mental Models

Room: **Athena**

Chair: **Nicolas Marmaras**, *National Technical Universtiy to Athens, Greece*

- **Use of a Train Signal Control Simulator to Develop a Valid Measure of Shared Mental Models**
  Nikki Bristol, *University of Nottingham, United Kingdom*; Sarah Nichols, *University of Nottingham, United Kingdom*

- **Modeling of Knowledge Structure Transformation with First-Order Clauses in Dynamic Systems**
  Kuo-Hao Tang, *Feng Chia University, Taiwan*

- **Effects of perceptual and semantic grouping on the acquisition of hypertext conceptual models**
  Ladislao Salmeron, *University of Granada, Spain*; Jose Cañas, *University of Granada, Spain*; Inmaculada Fajardo, *University of the Basque Country, Spain*; Miguel Gea, *University of Granada, Spain*

- **Perceptual Distributed Multimedia Quality: A Cognitive Style Perspective**
  Gheorghita Ghinea, *Brunel University, United Kingdom*; Sherry Chen, *Brunel University, United Kingdom*

- **Mental models of search engines: How does a WWW search engine work?**
  Andrew Thatcher, *University of the Witwatersrand, South Africa*; Michael Greyling, *University of the Witwatersrand, South Africa*

S30 - Model-based Cognitive Engineering I

Room: **Aphrodite**

Chair: **Sundaram Narayanan**, *Wright State University, United States*

- **Cognitive Aspects of Computer Aided Planning Tasks**
  Maria Giannacourou, *University of Piraeus, Greece*; Lambros Laios, *University of Piraeus, Greece*

- **Analysis and Verification of Human-Automation Interfaces**
  Asaf Degani, *NASA Ames Research Center, United States*; Michael Heymann, *Israel Institute of Technology , Israel*

- **Technology as an Equalizer: Can it be Used to Improve Novice Inspection Performance?**
  Anand Gramopadhye, *Clemson University, United States*; Andrew Duchowski, *Clemson University, United States*; Joel Greenstein, *Clemson University, United States*; Sittichai Kaewkuekool, *Clemson University, United States*; Mohammad Khasawneh, *Clemson University, United States*; Shannon Bowling, *Clemson University, United States*; Nathan Cournia, *Clemson University, United States*

- **Explorations in Modeling Human Decision Making in Dynamic Contexts**
  Ling Rothrock, *Penn State University, United States*; Alex Kirlik, *University of Illinois, United States*

- **Use of a Computer Simulation Model to Predict Survival from Metastatic Cancer**
  Lewis Mehl-Madrona, *University of Arizona, United States*

S31 - User Support Systems in Safety Critical Domains

Room: **Minos South**

Chair: **Brian Hilburn**, *National Aerospace Laboratory NLR, The Netherlands* ; **Dirk Schaefer**, *Centre Expérimental Eurocontrol, France*

- **Situation Awareness and Situation Dependent Behaviour Adjustment in the Maritime Work Domain**
  Thomas Koester, *Danish Maritime Institute*, *Denmark*

- **Developing a Testbed for Studying Human-Robot Interaction in Urban Search and Rescue**
  Michael Lewis, *University of Pittsburgh*, *United States*; Katia Sycara, *Carnegie Mellon University*, *United States*; Illah Nourbakhsh, *Carnegie Mellon University*, *United States*

- **The Presentation of Conflict Resolution Advisories to Air Traffic Controllers - A Human Factors Perspective**
  Dirk Schaefer, *Centre Expérimental Eurocontrol*, *France*; Mary Flynn, *EUROCONTROL Experimental Centre*, *France*; Gyrd Skraaning, *OECD Halden Reactor Project*, *Norway*

- **The Man without a Face, and other Stories about Human-Centred Automation in Nuclear Process Control**
  Gyrd Skraaning, *OECD Halden Reactor Project*, *Norway*; Ann Britt Miberg Skjerve, *OECD Halden Reactor Project*, *Norway*

- **Evaluating Crew Interaction via Task Performance and Eye Tracking Measures: Evidence from a Simulated Flightdeck Task**
  Brian Hilburn, *National Aerospace Laboratory NLR*, *The Netherlands*; Piet Hoogeboom, *National Aerospace Laboratory NLR*, *Netherlands*

S32 - Machine Learning Methods for Universal Access

Room: **Apollo East**

Chair: **Elisabeth Andre**, *Augsburg University, Germany* ; **Martin Mueller**, *University of Augsburg, Germany*

- **Improving Web Interaction through Personalization**
  Paolo Buono, *Università di Bari*, *Italy*; Maria Francesca Costabile, *Università di Bari*, *Italy*; Stefano Paolo Guida, *Università di Bari*, *Italy*; Rosa Lanzilotti, *Università di Bari*, *Italy*; Antonio Piccinno, *Università di Bari*, *Italy*

- **Exploiting supervised learning techniques to model user preferences: personalized e-salespersons for personalized e-stores**
  Giovanni Semeraro, *University of Bari*, *Italy*; Marco Degemmis, *Università di Bari*, *Italy*; Pasquale Lops, *Università di Bari*, *Italy*

- **User Modeling with Sequential Data**
  Nico Jacobs, *K.U.Leuven*, *Belgium*; Hendrik Blockeel, *K.U. Leuven*, *Belgium*

- **Towards a Next Generation of Embodied Conversational Characters – Making them Learn**
  Thomas Rist, *DFKI GmbH*, *Germany*

- **Learning Affective Behavior**
  Elisabeth Andre, *Augsburg University*, *Germany*; Martin Mueller, *University of Augsburg*, *Germany*

S33 - Methods of Including the Visually Impaired and Blind in Science Education and Practice

Room: **Deka Tria**

Chair: **Arthur I. Karshmer**, *University of South Florida, United States*

- **Access to Mathematical Expressions in MathML for the Blind**
  Martin Rotard, *University of Stuttgart*, *Germany*; Klaus Bosse, *University of Stuttgart*, *Germany*; Waltraud Schweikhardt , *University of Stuttgart*, *Germany*; Thomas Ertl, *University of Stuttgart*, *Germany*

- **How Well Can We Read Equations to Blind Mathematics Students: Some Answers from Psychology**
  Arthur I. Karshmer, *University of South Florida*, *United States*; Doug Gillan, *New Mexico State University*, *United States*

- **Parser for the Marburg Mathematical Braille Notation NIDRR Project: Universal Math Converter**
  Mario Batusic, *Johannes Kepler University of Linz*, *Austria*; Klaus Miesenberger, *University of Linz*, *Austria*; Bernhard Stöger, *Johannes Kepler Universität Linz*, *Austria*

- **Experiments in Translating and Navigating Digital Formats for Mathematics (A Progress Report)**
  Brian Palmer, *New Mexico State University*, *United States*; Enrico Pontelli, *New Mexico State University*, *United States*

- **INSIGHT: A Comprehensive System for Converting Braille based Mathematical Documents to Latex**
  Narayanan Annamalai, *Logical Software Solutions*, *United States*; Deepa Gopal, *Logical Software Solutions*, *United States*; Gopal Gupta, *University of Texas at Dallas*, *United States*; Haifeng Guo, *University of Nebraska*, *United States*; Arthur I. Karshmer, *University of South Florida*, *United States*

S34 - Users' Cognitive Diversity

Room: **Dodeka**

Chair: **Steve Abbott**, *Essex Disabled People's Association, United Kingdom*

- **The Development of Control Devices for Virtual Environments for Use by People with Intellectual Disabilities**
  Penny Standen, *Nottingham University Medical School*, *United Kingdom*; David Brown, *School of Computing & Mathematics*, *United Kingdom*; Nicola Anderton, *Nottingham University*, *United Kingdom*; Stephen Battersby, *Trent University*, *United Kingdom*

- **Usability for those with cognitive Impairments: A Case Study and Preliminary Experimental Findings with dysphasic Subjects**
  Steve Abbott, *Essex Disabled People's Association*, *United Kingdom*; Christina Davies, *Anglia Polytechnic University*, *United Kingdom*; Moses Mourtzoukos, *Anglia Polytechnic University*, *United Kingdom*

- **A memory aid with remote communication for elderly and memory-impaired users**
  Andrea Szymkowiak, *University of Dundee*, *United Kingdom*; Kenny Morrison, *University of Dundee*, *United Kingdom*; Elizabeth Inglis, *University of Dundee*, *United Kingdom*; Peter Gregor, *University of Dundee*, *United Kingdom*; Prveen Shah, *The Oliver Zangwill Centre*, *United Kingdom*; Jonathan Evans, *The Oliver Zangwill Centre*, *United Kingdom*; Barbara Wilson, *The Oliver Zangwill Centre*, *United Kingdom*

- **Identifying the Needs and Expectations of Users with Learning Disabilities**
  Lynne Hall, *University of Sunderland*, *United Kingdom*; Gill Mallalieu, *University of Northumbria*, *United Kingdom*

- **Primary school pupils with Attention Deficit Hyperactivity Disorder (ADHD) symptoms working with ICT: the role of educational software, learning activities, and collaborative work**
  Fotini Garagouni - Areou, *University of Thessaly*, *Greece*; Christina Solomonidou, *Uviversity of Thessaly*, *Greece*

S35 - Design Studies I

Room: **Europa**

Chair: **Barrett Caldwell**, *Purdue University, United States*

- **Event Cycle and Knowledge Development in NASA Mission Control Center**
  Barrett Caldwell, *Purdue University*, *United States*; Enlie Wang, *Purdue University*, *United States*

- **Design Process for Product Families – a case study of a software application package for hearing acousticians**
  Nina Sandweg, *Siemens AG*, *Germany*; Heinz Bergmeier, *Siemens AG*, *Germany*; Sonja Pedell, *The University of Melbourne*, *Australia*; Benno Knapp, *Siemens Audiologische Technik*, *Germany*; Eduard Kaiser, *Siemens Audiologische Technik*, *Germany*

- **A proposal of guideline for colour arrangement on screen design used in VDT works**
  Masanori Takemoto, *KEIO University*, *Japan*; Yusaku Okada, *Keio University*, *Japan*

- **A Remote Camera Control Interface to Decrease the Influence of the Delay Time**
  Kazuyoshi Murata, *Kyoto Institute of Technology*, *Japan*; Yu Shibuya, *Kyoto Institute of Technology*, *Japan*; Itaru Kuramoto, *Kyoto Institute of Technology*, *Japan*; Yoshihiro Tsujino, *Kyoto Institute of Technology*, *Japan*

- **PICK – A Scenario-based Approach to Sensor Selection for Interactive Applications**
  Jennifer Sheridan, *Lancaster University*, *United Kingdom*; Jen Allanson, *Lancaster University*, *United Kingdom*

- **Establishing user requirements in HCI – a case-study in medical informatics**
  Hans Andersen, *Riso National Laboratory*, *Denmark*; Verner Andersen, *Risø National Laboratory* , *Denmark*

S36 - Embodied Interaction and Communication

Room: **Aphrodite**

Chair: **Tomio Watanabe**, *Okayama Prefectural University, Japan*

- **Co-creation in Human-Computer Interaction**
  Yoshihiro Miyake, *Tokyo Institute of Technology*, *Japan*

- **Design of Co-existing space by Shoji interface showing Shadow**
  Yoshiyuki Miwa, *Waseda University*, *Japan*; Chikara Ishibiki, *Waseda University*, *Japan*; Takashi Watanabe, *Waseda University*, *Japan*; Shiroh Itai, *Waseda University*, *Japan*

- **Intimate virtual communication place supported with networked "lazy Susan"**
  Shigeru Wesugi, *Waseda University*, *Japan*; Kazuaki Ishikawa, *Waseda University*, *Japan*; Yoshiyuki Miwa, *Waseda University*, *Japan*

- **The Implementation of RobotPHONE**
  Dairoku Sekiguchi, *The University of Tokyo*, *Japan*; Masahiko Inami, *The University of Electro-Communications*, *Japan*; Susumu Tachi, *University of Tokyo*, *Japan*

- **Anthropomorphic Dialog Agent Development Tool Using Facial Image Synthesis and Lip Synchronization**
  Shigeo Morishima, *Seikei University*, *Japan*

- **SAKURA: Voice-Driven Embodied Group-Entrained Communication System**
  Tomio Watanabe, *Okayama Prefectural University*, *Japan*; Masashi Okubo, *Okayama Prefectural University*, *Japan*

S37 - Geo Intelligence - Interactive Spatial Data Analysis and Decision Making

Room: Enia

Chair: **Natalia Andrienko**, *Fraunhofer AIS - SPADE, Germany* ; **Gennady Andrienko**, *Fraunhofer AIS - SPADE, Germany*

- **Dynamic Query Choropleth Maps for Information Seeking and Decision Making**
  Kent L. Norman, *University of Maryland*, *United States*; Haixia Zhao, *University of Maryland*, *United States*; Ben Shneiderman, *University of Maryland*, *United States*; Evan Golub, *University of Maryland*, *United States*

- **Usability Tests with Interactive Maps**
  Natalia Andrienko, *Fraunhofer AIS - SPADE*, *Germany*; Gennady Andrienko, *Fraunhofer AIS - SPADE*, *Germany*

- **Usability of Spatial Decision Support Tools for Collaborative Water Resource Planning**
  Piotr Jankowski, *San Diego State University*, *United States*

- **An Interface for Mapping Spatio-Temporal Elements of Urban Air Pollution**
  Alexandra Koussoulakou, *Aristotle University of Thessaloniki*, *Greece*; Dimitrios Sarafidis, *Aristotle University of Thessaloniki*, *Greece*

- **Navigating Data – Selections, Scales, Multiples**
  Martin Theus, *Augsburg University*, *Germany*

- **The automated construction of relevance maps using spatial data mining**
  Michael May, *Fraunhofer AIS - SPADE*, *Germany*

S38 - Graphical User Interfaces

Room: Dodeka

Chair: **Sheue-Ling Hwang**, *National Tsing-Hua University, Taiwan*

- **Implication of Cognitive Style Questionnaire-MBTI in User Interface Design**
  Kuo-Wei Su, *Takming College*, *Taiwan*; Sheue-Ling Hwang, *National Tsing-Hua University*, *Taiwan*; Szu-Hsien Lee, *Taipei*, *Taipei*

- **The Interface Design of Alarm Signals for Improving the Performance of the Second Vigilance**
  Cheng-Li Liu, *Van Nung Institute of Technology*, *Taiwan*

- **A Prototype of a Graphical Guiding System**
  Yi-Ting Chen, *National Tsing Hua University*, *Taiwan*; Yi-nan Lai, *National Tsing Hua University*, *Taiwan*; Zhong-You Xua, *National Tsing Hua University*, *Taiwan*; Wei-Lun Jian, *National Tsing Hua University*, *Taiwan*

- **Incorporating graphical interface technique into development of a training system for emergency response center**
  Hunszu Liu, *Ming Hsin University of Science and Technology*, *Taiwan*; Yuang-Ming Gu, *National Tsing Hua University*, *Taiwan*; Sheue-Ling Hwang, *National Tsing-Hua University*, *Taiwan*

- **The Evaluation of the Graphical User Interfaces of Four B2C E-commerce Websites in Taiwan**
  Shiaw-Tsyr Uang, *Ming Hsin University of Science and Technology*, *Taiwan*

- **A Computerized Graphic Interface on Emergency Operating Procedure (EOP)**
  Fei-Hui Hwang, *National Tsing Hua University* , *Taiwan*; Sheue-Ling Hwang, *National Tsing-Hua University*, *Taiwan*

S39 - HCI Education: New Challenges, Shifts, and Issues

Room: Artemis

Chair: **Anthony Faiola**, *Indiana University-Purdue University, United States*

- **Problem-Based Learning in New Media Education: The Case for Human-Computer Interaction**
  Howard Rosenbaum, *Indiana University*, *United States*; Margaret Swan, *Indiana University*, *United States*

- **The Challenges of Teaching HCI Online: It's Mostly About Creating Community**
  Jennifer J. Preece, *UMBC*, *United States*; Chadia Abras, *UMBC*, *United States*

- **Interaction and Distance Education**
  Stefano Levialdi, *Universita' di Roma La Sapienza*, *Italy*; Maria De Marsico, *University of Rome (La Sapienza)*, *Italy*

- **The New Demographic: Transforming the HCI Curriculum**
  William Gribbons, *Bentley College*, *United States*

- **The Copernican Shift: HCI Education & the Design Enterprise**
  Anthony Faiola, *Indiana University-Purdue University*, *United States*

- **Interaction Literacy: Form, Function and Fitness at the Interface**
  Elisabeth Davenport, *Napier University*, *United Kingdom*

Parallel Paper Presentations

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HCI

S40 - Human, Computer and Environment

Room: Minos North

Chair: **Jerzy Charytonowicz**, *Wroclaw University of Technology , Poland*

- **Symptoms of depression in the VDT – operators**
  Anna Janocha, *Medical University of Wroclaw*, *Poland*; Ewa Salomon, *Medical University of Wroclaw*, *Poland*; Ludmila Borodulin-Nadzieja, *Medical University of Wroclaw*, *Poland*; Robert Skalik, *Medical University of Wroclaw*, *Poland*; Malgorzata Sobieszczanska, *Medical University of Wroclaw*, *Poland*

- **A Phenomenon of Computer in Human Life**
  Przemyslaw Nowakowski, *Wroclaw University of Technology , Poland*; Jerzy Charytonowicz, *Wroclaw University of Technology , Poland*

- **The Assessment of the Working Computer Systems in the Enterprise Made by Computer Operators**
  Katarzyna Lis, *University of Economics*, *Poland*; Jerzy Olszewski, *University of Economics , Poland*; Mariusz Szczubełek, *University of Economics*, *Poland*

- **Human Factors as a Determinant of Quality of Work**
  Aleksandra Kawecka-Endler, *Poznan University of Technology*, *Poland*

- **Evaluation of Workplace for People with Alternative Abilities**
  Ewa Gorska, *The Warsaw University of Technology*, *Poland*; Jerzy Lewandowski, *The Warsaw University of Technology*, *Poland*

- **The State of Ergonomic Consciousness of Employees as An Index of Safety Quality of the Organisation**
  Teresa Musiol, *Silesian Technical University*, *Poland*

S41 - Methods for Clarifying Context of Use

Room: Leda

Chair: **Masaaki Kurosu**, *National Institute of Multimedia Education, Japan*

- **User Centred Design Utilizing Sensory Analysis**
  Naotsune Hosono, *Oki Consulting Solutions Co., Ltd.*, *Japan*; Hiromitsu Inoue, *Chiba College of Health Science*, *Japan*; Yutaka Tomita, *Keio University*, *Japan*; Yoshikazu Yamamoto, *Keio University*, *Japan*

- **Field Methods Applied to the Development of e-Learning System**
  Masaaki Kurosu, *National Institute of Multimedia Education*, *Japan*

- **Envisioning Systems Using a Photo-Essay Technique and a Scenario-Based Inquiry**
  Kentaro Go, *University of Yamanashi*, *Japan*; Yasuaki Takamoto, *Fujitsu Limited*, *Japan*; John M. Carrol, *Virginia Tech*, *United States*; Atsumi Imamiya, *University of Yamanashi*, *Japan*; Hisanori Masuda, *University of Yamanashi*, *Japan*

- **Scenario-Based Acceptability Research**
  Hirotsugu Tahira, *U'eyes novas Inc.*, *Japan*; Haruhiko Urokohara, *U'eyes novas Inc.*, *Japan*

- **Acting User Scenario for User Centered Design Team**
  Kazuhiko Yamazaki, *IBM Japan*, *Japan*

- **Practice of Gathering Requirements with Focus Group in China**
  Baihong Chen, *Legend Corporate Research & Development*, *China*; Wanli Yang, *Legend Corporate Research & Development*, *China*

S42 - Speech and Natural Language Interfaces

Room: Minos South

Chair: **George Kouroupetroglou**, *National and Kapodistrian University of Athens, Greece*

- **An XML Based Interactive Multimedia News System**
  Igor Pandzic, *Zagreb University*, *Croatia*

- **Interface Issues for Accessing and Skimming Speech Documents in Context with Recorded Lectures and Presentations**
  Wolfgang Huerst, *University of Freiburg*, *Germany*; Lakshmi Siva Kumar Alapati Venkata, *University of Freiburg*, *Germany*

- **Parallel Versus Sequential Grammar Systems for Modelling Dialogues**
  Suna Aydin, *Universität Potsdam*, *Germany*; Helmut Jurgensen, *University of Western Ontario*, *Canada*

- **Influential Words: Natural Language in Interactive Storytelling**
  Steven Mead, *University of Teesside*, *United Kingdom*; Marc Cavazza, *University of Teesside*, *United Kingdom*; Fred Charles, *University of Teesside*, *United Kingdom*

- **Speech-based cursor control: Understanding the effects of variable cursor speed on target selection**
  Azfar Karimullah, *UMBC*, *United States*; Andrew Sears, *UMBC*, *United States*; Min Lin, *UMBC , United States*; Rich Goldman, *UMBC*, *United states*

- **Modelling Emphatic Events from Non-Speech Aware Documents in Speech Based User Interfaces**
  Gerasimos Xydas, *National and Kapodistrian University of Athens*, *Greece*; Dimitris Spiliotopoulos, *National and Kapodistrian University of Athens*, *Greece*; George Kouroupetroglou, *National and Kapodistrian University of Athens*, *Greece*

S43 - Struggle between Guidelines and Funkiness
Room: Athena

Chair: **Anke Ahrend**, *International SOS Germany GmbH, Germany* ; **Jean Vanderdonckt**, *Université catholique de Louvain, Belgium*

- **Levels of Guidance**
  Andrew Basden, *University of Salford*, *United Kingdom*

- **Guidelines and Freedom in Proximal User Interfaces**
  Andrew Basden, *University of Salford*, *United Kingdom*

- **MetroWeb: a Tool to Support Guideline-Based Web Evaluation**
  Céline Mariage, *Université catholique de Louvain*, *Belgium*; Jean Vanderdonckt, *Université catholique de Louvain*, *Belgium*

- **MenuSelector: Automated Generation of Dynamic Menus with Guidelines Support**
  Jeremy Spoidenne, *Université catholique de Louvain*, *Belgium*; Jean Vanderdonckt, *Université catholique de Louvain*, *Belgium*

- **Creative Design of Interactive Products and Use of Usability Guidelines – a Contradiction?**
  Michael Burmester, *University of Applied Research of Stuttgart*, *Germany*; Joachim Machate, *User Interface Design GmbH*, *Germany*

- **A Layered Approach for Designing Multiple User Interfaces from Task and Domain Models**
  Elizabeth Furtado, *Universidade de Fortaleza*, *Brazil*; João José Vasco Furtado, *Universidade de Fortaleza*, *Brasil*; Quentin Limbourg, *Université catholique de Louvain*, *Belgium*; Jean Vanderdonckt, *Université catholique de Louvain*, *Belgium*; Wilker Bezerra Silva, *Universidade de Fortaleza*, *Brasil*; Daniel William Tavares Rodrigues, *Universidade de Fortaleza*, *Brasil*; Leandro da Silva Taddeo, *Universidade de Fortaleza*, *Brasil*

S44 - Virtual Environments I
Room: Minos East

Chair: **Julie Jacko**, *Georgia Institute of Technology, United States*

- **The improvement of the perception of space and depth by the help of virtual reality (programmed by VRML and HTML)**
  Cecilia Sik Lanyi, *University of Veszprem*, *Hungary*; Ádám Tilinger, *University of Veszprém*, *Hungary*; Zsolt Kosztyán, *University of Veszprém*, *Hungary*; Zsuzsanna Lanyi, *Ferenc Csolnoky Hospital*, *Hungary*

- **A Bayesian Framework for Real-Time 3D Hand Tracking in High Clutter Background**
  Hanning Zhou, *University of Illinois at Urbana-Champaign*, *United States*; Thomas Huang, *University of Illinois at Urbana-Champaign*, *United States*

- **A Direct Manipulation Interface with Vision-based Human Figure Control**
  Satoshi Yonemoto, *Kyushu Sangyo University*, *Japan*; Rin-ichiro Taniguchi, *Kyushu University*, *Japan*

- **Automatic Behavioral Responses as a Measure of Immersion in Virtual Environments**
  Joseph Cohn, *Naval Research Laboratory*, *United States*; Carey Balaban, *University of Pittsburgh*, *United States*; Eric Muth, *Clemson University*, *United States*; Keith Brendley, *Artis, LLC.*, *United States*; Roy Stripling, *Strategic Analysis, Inc.*, *United States*

- **Flexible Force Grid Field for Three Dimensional Modeling**
  Daisuke Tsubouchi, *Keio University*, *Japan*; Tetsuro Ogi, *University of Tokyo*, *Japan*; Toshio Yamada, *Gifu MVL Research Center, TAO*, *Japan*; Hirohisa Noguchi, *Keio University*, *Japan*

- **Non-Zero-Sum Gaze in Immersive Virtual Environments**
  Andrew Beall, *University of California , United States*; Jeremy Bailenson, *University of California*, *United States*; Jack Loomis, *University of California , United States*; Jim Blascovich, *University of California , United States*; Christopher S. Rex, *University of California , United States*

S45 - Design Issues
Room: Danae

Chair: **Theresa A. O'Connell**, *Humans and Computers, Inc., United States*

- **Designing a box of inspirations: a story about intecreation from an information portal for puppetry**
  Kurt Englmeier, *German Institute for Economic Research (DIW)*, *Germany*

- **Conceptual Modeling for Interaction Design**
  Qingyi Hua, *Fraunhofer - IPSI*, *Germany*; Hui Wang, *Fraunhofer - IPSI*, *Germany*; Matthias Hemmje, *Fraunhofer - IPSI*, *Germany*

- **Towards a methodology for DSS user-centered design**
  Sophie Lepreux, *LAMIH - UMR CNRS 8530*, *France*; Christophe Kolski, *University of Valenciennes*, *France*; Guénhaël Queric, *RFF (Réseau Ferré de France)*, *France*

- **The Application of User-Centered Interaction Concepts to the Design of a Wireless Signal Strength Test Analyzer – A Case Study**
  Hong-Tien Wang, *Tatung Company*, *Taiwan*; Chien-Hsiung Chen, *National Taiwan University of Science and Technology*, *Taiwan*; Hung Liang Hsu, *Tatung Company*, *Taiwan*

- **Holistic Communication Modelling: Enhancing Human-Centred Design through Empowerment**
  Eleni Berki, *Jyväskylä University*, *Finland*; Hannakaisa Isomaki, *University of Jyvaskyla*, *Finland*; Mikko Jakala, *University of Jyvaskyla*, *Finland*

- **The Mars Exploration Rover / Collaborative Information Portal**
  Joan Walton, *NASA, Ames Research Center , United States*; Robert Filman, *RIACS, Ames Research Center*, *United States*; John Schreiner, *NASA, Ames Research Center , United States*

Parallel Paper Presentations

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HCI

EP&CE

S46 - Management of Information and Knowledge in HCI
Room: Pente

Chair: **Yasufumi Kume**, *Kinki University, Japan*

- **Use of the Kansei Engineering Approach in a Decision Support System for the Improvement of Medium-sized Supermarket Chains**
  Yumiko Taguchi, *Shohoku College*, *Japan*; Tsutomu Tabe, *Aoyama Gakuin University*, *Japan*

- **Human oriented Intelligence Image Processing System for Integrated Visual Inspection**
  Masao Nakagawa, *Shiga University*, *Japan*; Hidetoshi Nakayasu, *Konan University*, *Japan*

- **Retrieval System for CAD Data on the Internet**
  Hyun-Seok Jung, *Dongseo University*, *Korea*; Byung-Gun Lee, *Dongseo University*, *Korea*; Cheol-Min Joo, *Dongseo University*, *Korea*

- **Management of Information and Knowledge in Human Computer Interaction using System for Cusp Surface Analysis**
  Yasufumi Kume, *Kinki University*, *Japan*; Chung-Yong Liu, *Industrial Technology Research Institute , Japan*; Loren Cobb, *Aetheling Consultants*, *United States*

- **Properties of Controlling Models for Expressions Linked to Visual Knowledge**
  Eiichi Bamba, *Kinki University*, *Japan*

- **Practices of KM for high-tech industry: Empirical study in Taiwan's industries**
  Chung-Yong Liu, *Industrial Technology Research Institute , Japan*; Ta-Hsien Lo, *National Chiao Tung University*, *Taiwan*; Yasufumi Kume, *Kinki University*, *Japan*; Benjamin J. C. Yuan, *National Chiao Tung University*, *Taiwan*

S47 - Health and Productivity Aspects of Computer Input Device Use
Room: Exi

Chair: **Naomi Swanson**, *NIOSH, United States*

- **Information Technology and Moral Stress - How to Avoid Moral Stress and How to Promote Health**
  Iordanis Kavathatzopoulos, *Uppsala University*, *Sweden*; Jenny Persson, *Uppsala Universitet*, *Sweden*; Carl Aborg, *Uppsala Universitet*, *Sweden*

- **Effects of data system changes on job characteristics and well-being of hospital personnel - A longitudinal study**
  Kari Lindström, *Finnish Institute of Occupational Health*, *Finland*; Merja Turpeinen, *Finnish Institute of Occupational Health*, *Finland*; Juha Kinnunen, *Kuopio University*, *Finland*

- **Reduced productivity due to musculoskeletal symptoms: Associations with workplace and individual factors among white collar computer users**
  Mats Hagberg, *Goteborg University , Sweden*; Ewa Wigaeus Tornqvist, *National Institute for Working Life*, *Sweden*; Allan Toomingas, *National Institute for Working Life*, *Sweden*

- **Computer Input with Gesture Recognition: Comfort and Pain Ratings of Hand Postures**
  David Rempel, *University of California*, *United States*; Emily Hertzer, *University of California*, *United States*; Richard Brewer, *University of California , United States*

- **Musculoskeletal Symptoms Associated with Keyboard and Mouse Use**
  Naomi Swanson, *NIOSH*, *United States*; Carolyn Sommerich, *Ohio State University*, *United States*; Robin Dunkin, *National Institute for Occupational Safety and Health*, *United States*

- **The effect of alternative keyboards on musculoskeletal symptoms and disorders**
  Steven Moore, *Texas A&M University*, *United States*; Naomi Swanson, *NIOSH*, *United States*

S48 - Information Extraction
Room: Deka Tria

Chair: **Reiner Onken**, *Universität der Bundeswehr München, Germany*

- **The Influence of Colour Coding on Information Extraction from Computer-Presented Tables**
  Darren Van Laar, *University of Portsmouth*, *United Kingdom*; Kim Chapman, *University of Portsmouth*, *United Kingdom*; Mark Turner, *University of Portsmouth*, *United Kingdom*

- **The automated measurement of icon complexity; a feasibility study**
  Alexandra Forsythe, *Queens University , United Kingdom*; Noel Sheehy, *Queens University*, *United Kingdom*; Martin Sawey, *Queens University*, *United Kingdom*

- **Location of the Titles Matters in Performance with Tables and Graphs**
  Li Zhang, *Chinese Academy of Sciences*, *China*; Xiaolan Fu, *Chinese Academy of Sciences*, *China*; Yuming Xuan, *Chinese Academy of Sciences*, *China*; Xiaowei Yuan, *ISAR User Interface Design*, *China*

- **Symbols, Signs, Messages in Ergonomics of Social Space**
  Adam Foltarz, *Technical University of Lodz*, *Poland*

- **Using symbol size and colour to effect performance confidence**
  Frederick Lichacz, *Canadian Forces Experimentation Centre (Shirleys Bay)*, *Canada*; Gregory Craig, *National Research Council-Flight Research Lab*, *Canada*; Lindsay Bridgman, *University of Waterloo*, *Canada*

- **A road-based evaluation of a Head-Up Display for presenting navigation information**
  Gary Burnett, *Nottingham University*, *United Kingdom*

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S49 - E-Inclusion vs. Digital Divide
Room: **Apollo West**

Chair: **Michael Pieper**, *Fraunhofer - FIT, Germany*

- **Technology, Society and Mind**
  Tommi Ilmonen, *Helsinki University of Technology*, *Finland*; Janne Kontkanen, *Helsinki University of Technology*, *Finland*
- **Multimedia Courses for Social Work Students – More than Reading a Book Online**
  Sigrun Goll, *Protestant University of Applied Sciences Hannover*, *Germany*; Jörn Krückeberg, *Protestant University of Applied Sciences Hannover*, *Germany*
- **An Assessment of Braided Learning: An Including Educational Philosophy for IT-related Education**
  Alexis Donnelly, *Trinity College Dublin*, *Ireland*; Ronan McGuirk, *Trinity College Dublin*, *Ireland*; Bryn Holmes, *Trinity College Dublin*, *Ireland*
- **I2BN: Exemplified Best Practice for Access to Internet Resources for Handicapped User Groups**
  Juergen Baum, *Fraunhofer - SIT*, *Germany*
- **BIKA – Competence Center Barrier-Free Information and Communication Technologies for All**
  Yehya Mohamad, *Fraunhofer - FIT*, *Germany*; Henrike Gappa, *Fraunhofer - FIT*, *Germany*; Gabriele Nordbrock, *Fraunhofer - FIT*, *Germany*; Dirk Stegemann, *Fraunhofer - FIT*, *Germany*; Carlos Velasco, *Fraunhofer - FIT*, *Germany*
- **Stiftung Digitale Chancen – Digital Opportunities Foundation and Aktionsbündnis für barrierefreie Informationstechnik - Alliance for barrier free Information Technology**
  Jutta Croll, *Stiftung Digitale Chancen*, *Germany*; Christian Bühler, *FTB (Forschungsinstitut Technologie - Behindertenhilfe)*, *Germany*

S50 - End-user Development
Room: **Apollo East**

Chair: **Fabio Paterno**, *ISTI-CNR, Italy*

- **Contributions, Costs and Prospects for End-User Development**
  Alistair Sutcliffe, *UMIST*, *United Kingdom*; Darren Lee, *UMIST*, *United Kingdom*; Nik Mehandjiev, *UMIST*, *United Kingdom*
- **Shared initiative:Cross-fertilisation between system adaptivity and adaptability**
  Marcus Klann, *Fraunhofer - FIT*, *Germany*; Markus Eisenhauer, *Fraunhofer - FIT* , *Germany*; Reinhard Oppermann, *Fraunhofer - FIT*, *Germany*; Volker Wulf, *Fraunhofer - FIT*, *Germany*
- **Challenges for End-User Development in CE devices**
  Boris De Ruyter, *Philips Research*, *Netherlands*
- **Domain-Expert Users and their Needs of Software Development**
  Maria Francesca Costabile, *Università di Bari*, *Italy*; Daniela Fogli, *Università di Brescia*, *Italy*; Catherine Letondal, *Pasteur Institute*, *France*; Piero Mussio, *Unversità di Brescia*, *Italy*; Antonio Piccinno, *Università di Bari*, *Italy*
- **From Model-based to Natural Development**
  Fabio Paterno, *ISTI-CNR*, *Italy*
- **User-Centered Point of View to End-User Development**
  Philippe Palanque, *Université Paul Sabatier*, *France*; Rémi Bastide, *Université Toulouse* , *France*

S51 - Older Adults and Computer Use
Room: **Poseidon**

Chair: **Mary Zajicek**, *Oxford Brookes University, United Kingdom*

- **Older Adults' Comprehension of Speech as Interactive Domestic Alarm System Output: A Field Study**
  Lorna Lines, *Brunel University*, *United Kingdom*; Kate Hone, *Brunel University*, *United Kingdom*
- **Domesticating technology - In-home requirements gathering with frail older people**
  Anna Dickinson, *University of Dundee*, *United Kingdom*; Joy Goodman, *University of Glasgow*, *United Kingdom*; Audrey Syme, *University of Dundee*, *United Kingdom*; Rosine Eisma, *University of Dundee*, *United Kingdom*; Lachimi Tiwari, *University of Abertay*, *United Kingdom*; Oli Mival, *Napier University*, *United Kingdom*; Alan Newell, *University of Dundee*, *United Kingdom*
- **Adapting the Web for Older Users**
  John Richards, *IBM T.J. Watson Research Center*, *United States*; Vicki Hanson, *IBM T. J. Watson Reserach Center*, *United States*; Shari Trewin, *IBM T.J.Watson Research Center*, *United States*
- **Speech Based Subtitles for Live Performance**
  Jill Hewitt, *University of Hertfordshire*, *United Kingdom*; Caroline Lyon, *The University of Hertfordshire*, *United kingdom*; Rizwan Ahmed, *The University of Hertfordshire*, *United Kingdom*; Andrew Lambourne, *Sysmedia plc.* , *United Kingdom*
- **The Design of Kiosks for Providing Access to E-Information for Older Adults**
  Simeon Keates, *University of Cambridge*, *United Kingdom*; John Clarkeson, *University of Cambridge*, *United Kingdom*; Peter Robinson, *University of Cambridge*, *United Kingdom*
- **Voice XML: a New Opportunity for Older Adults**
  Mary Zajicek, *Oxford Brookes University*, *United Kingdom*; Andrew Lee, *Oxford Brookes University*, *United Kingdom*; Richard Wales, *Age Concern Oxfordshire*, *United Kingdom*

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S52 - Design Practices
Room: **Danae**

Chair: **Andrew Marshall**, *Marshall Ergonomics Limited, United Kingdom*

- **Can novice designers apply usability criteria and recommendations to make web sites easier to use?**
  Aline Chevalier, *University of Provence*, *France*; Melody Ivory, *University of Washington*, *United States*
- **Learning from Museum Visits: Shaping Design Sensitivities**
  Luigina Ciolfi, *University of Limerick*, *Ireland*; Liam Bannon, *University of Limerick*, *Ireland*
- **Designing for Proficient Users: Drawing from the Realities of Practice**
  Dimitris Nathanael, *National Technical University of Athens*, *Greece*; Nicolas Marmaras, *National Technical Universtiy to Athens*, *Greece*; Bill Papantoniou, *National Technical University of Athens* , *Greece*
- **Usability Patterns in Software Architecture**
  Eelke Folmer, *University of Groningen*, *Netherlands*; Jan Bosch, *University of Groningen*, *Netherlands*
- **Ecological Interface Design in Practice: A Design for Petrochemical Processing Operations**
  Greg Jamieson, *University of Toronto*, *Canada*; Wayne Ho, *IBM Canada Ltd.*, *Canada*; Dal Vernon Reising, *Honeywell Labs*, *United States*

S53 - Human Factors in Operation and Maintenance
Room: **Leda**

Chair: **Kazuo Furuta**, *The University of Tokyo, Japan* ; **Hidekazu Yoshikawa**, *Kyoto University, Japan*

- **A Training System for Maintenance Personnel in Nuclear Power Plants**
  Mitsuko Fukuda, *Hitachi, Ltd.*, *Japan*; Yukiharu Ohga, *Hitachi, Ltd*, *Japan*
- **The Adaptation to Main Control Room of a New Human Machine Interface Design**
  Yuji Niwa, *Institute of Nuclear Safety System, Inc.*, *Japan*; Hidekazu Yoshikawa, *Kyoto University*, *Japan*
- **An Operator Training System based on Man Machine Simulator**
  Kunihide Sasou, *Central Research Institute of Electric Power Industry*, *Japan*; Kenichi Takano, *Central Research Institute of Electric Power Industry*, *Japan*; Mitsuhiro Ebisu, *Central Research Institute of Electric Power Industry*, *Japan*
- **Experimental Studies of Computerized Support System from Human-Centered Aspect**
  Hidekazu Yoshikawa, *Kyoto University*, *Japan*; Takahisa Ozawa, *Matsushita Electric Works, Ltd*, *Japan*
- **Operator's Contribution to the Success of Control Board Renewal Project of Genkai 1&2 of Japanese PWR Nuclear Power Plant**
  Shuuji Miyanari, *Kyusyu Electric Power Co., Inc.*, *Japan*; kazuhide Tomita, *Mitsubishi Heavy Industries, LTD*, *Japan*; Kenji Hattori, *Mitsubishi Electric Corporation*, *Japan*

S54 - Metaphors
Room: **Exi**

Chair: **Demosthenes Akoumianakis**, *ICS-FORTH, Greece*

- **The Constrained Ink Metaphor**
  Björn Eiderbäck, *CID/NADA KTH*, *Sweden*; Sinna Lindquist, *CID/NADA KTH*, *Sweden*; Bosse Westerlund, *CID/NADA KTH*, *Sweden*
- **Metaphors in Design – out of date?**
  Antti Pirhonen, *University of Jyväskylä*, *Finland*
- **Interface Metaphors for Automated Mobile Phone Services**
  Mark Howell, *Brunel University*, *United Kingdom*; Steve Love, *Brunel University*, *United Kingdom*; Mark Turner, *University of Portsmouth*, *United Kingdom*; Darren Van Laar, *University of Portsmouth*, *United Kingdom*
- **Optical Stain: Amplifying vestiges of a real environment by light projection**
  Yoshinari Shirai, *NTT Communication Science Laboratories*, *Japan*; Tatsuo Owada, *NTT Publishing Corporation*, *Japan*; Koji Kamei, *NTT Communication Science Laboratories*, *Japan*; Kazuhiro Kuwabara, *NTT Communication Science Laboratories*, *Japan*
- **The use of Metaphors for Interaction between Children and Children's sites**
  Alessandra Carusi, *PUC- Catholic University of Rio de Janeiro*, *Brazil*; Vera Nojima, *PUC-Rio Catholic University of Rio de Janeiro*, *Brazil*

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S55 - Mixed Reality Environments
Room: **Athena**

Chair: **Holger Regenbrecht**, *DaimlerChrysler AG, Germany*

- **Embedding Public Displays in Non-technical Artifacts: Critical Issues and Lessons Learned From Augmenting a Traditional Office Door Whiteboard With Ubiquitous Computing Technology**
  Mikael Wiberg, *Umeå University*, *Sweden*

- **Developing a mixed reality co-visiting experience for local and remote museum companions**
  Areti Galani, *University of Glasgow , United Kingdom*; Matthew Chalmers, *University of Glasgow*, *United Kingdom*; Barry Brown, *University of Glasgow , United Kingdom*; Ian MacColl, *University of Glasgow*, *United Kingdom*; Cliff Randell, *University of Bristol*, *United Kingdom*; Anthony Steed, *University College London*, *United Kingdom*

- **Enhancing Tangible User Interfaces with Physically Based Modeling**
  Jens Weidenhausen, *Fraunhofer - IGD*, *Germany*

- **User-Centred Evaluation Criteria for a Mixed Reality Authoring Application**
  Marjaana Träskbäck, *Helsinki University of Technology*, *Finland*; Toni Koskinen, *Helsinki University of Technology*, *Finland*; Marko Nieminen, *Helsinki University of Technology*, *Finland*

- **Augmenting environments by automated sign location and text translation**
  Tim Ritchings, *University of Salford*, *United Kingdom*; George Papoulakis, *University of Salford*, *United Kingdom*; David Garvey, *University of Salford*, *United Kingdom*; Pietro Murano, *University of Salford*, *United Kingdom*; Walaa Sheta, *Informatics Research Institute*, *Egypt*

S56 - Multimodality I
Room: **Minos South**

Chair: **Noëlle Carbonell**, *LORIA, CNRS & INRIA, France*

- **Blending Speech and Touch Together to facilitate Modelling Interactions**
  Joan De Boeck, *Limburgs Universitair Centrum*, *Belgium*; Chris Raymaekers, *Limburgs Universitair Centrum*, *Belgium*; Karin Coninx, *Limburgs Universitair Centrum*, *Belgium*

- **FreeDraw: a Drawing System with Multimodal User Interface**
  Yue Wang, *Peking Univresity*, *China*; Weining Yue, *Peking University*, *China*; Jizhi Tan, *Peking University*, *China*; Heng Wang, *Peking University*, *China*; Shihai Dong, *Peking University*, *China*

- **Human Cognitive Characteristics in Speech Control for Virtual 3D Simulation on 2D Screen**
  Miwa Nakanishi, *KEIO University*, *Japan*; Yusaku Okada, *Keio University*, *Japan*

- **Clues for the Identification of Implicit Information in Multimodal Referring Actions**
  Frédéric Landragin, *LORIA*, *France*

- **When Marketing meets HCI : multi-channel customer relationships and multi-modality in the personalization perspective**
  Alain Derycke, *Université des Sciences et Technologies de Lille*, *France*; José Rouillard, *Université des Sciences et Technologies de Lille , France*; Vincent Chevrin, *Université des Sciences et Technologies de Lille , France*; Yves Bayart, *3 suisses International Group*, *France*

S57 - New Technologies for E-learning & Edutainment I
Room: **Artemis**

Chair: **Sepideh Chakaveh**, *Fraunhofer - IMK, Germany*

- **A system for e-learning via annotated audio/video clips and asynchronous collaboration**
  Nikos Tsoutsias, *University of Cyprus*, *Cyprus*; Symeon Retalis, *Univesrity of Cyprus*, *Cyprus*

- **Satisfaction and Learnability in Edutainment: A usability study of the knowledge game 'Laser Challenge' at the Nobel e-museum**
  Charlotte Wiberg, *Umeå University*, *Sweden*; Kalle Jegers, *Umeå University*, *Sweden*

- **Reinventing the Lecture: Webcasting Made Interactive**
  Ronald Baecker, *University of Toronto*, *Canada*; Gale Moore, *University of Toronto*, *Canada*; Anita Zijdemans, *University of Toronto*, *Canada*

- **Artificial Ant Colonies and E-Learning: An Optimisation of Pedagogical Paths**
  Yann Semet, *INRIA*, *France*; Yannick Jamont, *Paraschool*, *France*; Raphaël Biojout, *Paraschool*, *France*; Evelyne Lutton, *INRIA*, *France*; Pierre Collet, *INRIA , France*

- **Mindshifts - An adventure journey into the land of learning**
  Christine Merkel, *German Commission for UNESCO*, *Germany*

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S58 - Supporting Human Creativity
Room: **Minos North**

Chair: **Ernest Edmonds**, *University of Technology, Sydney, Australia*

- **Supporting the Evocation Process in Creative Design**
  Nathalie Bonnardel, *University of Provence*, *France*; Evelyne Marmèche, *University of Provence*, *France*

- **Developing a Framework for HCI Influences on Creativity**
  Winslow Burleson, *MIT Media Lab*, *United States*

- **Developing Interactive Art Using Visual Programming**
  Ernest Edmonds, *University of Technology, Sydney*, *Australia*; Linda Candy, *Loughborough University*, *United Kingdom*; Mark Fell, *Loughborough University*, *United Kingdom*; Roger Knott, *Loughborough University*, *United Kingdom*; Sandra Pauletto, *Loughborough University*, *United Kingdom*; Alastair Weakley, *Loughborough University*, *United Kingdom*

- **Toward A Taxonomy of Interaction Design Techniques for Externalizing in Creative Work**
  Kumiyo Nakakoji, *University of Tokyo*, *Japan*; Yasuhiro Yamamoto, *University of Tokyo , Japan*

- **Fostering Motivation and Creativity for Computer Users**
  Ted Selker, *MIT Media Laboratory*, *United States*

S59 - Usability Methods
Room: **"Circle" Indoor**

Chair: **Ben Shneiderman**, *University of Maryland, United States*

- **Diary as a Usability Testing Method**
  Eeva Kangas, *Digia*, *Finland*; Janne Sinisammal, *University of Oulu*, *Finland*; Sami Paihonen, *NOKIA*, *Finland*

- **Systematic Determination of Quantitative Usability Requirements**
  Timo Jokela, *University of Oulu*, *Finland*; Netta Iivari, *University of Oulu*, *Finland*

- **Usability of Ergonomics Softwares in the Design Process**
  Sultan Kaygin, *Middle East Technical University*, *Turkey*; Cigdem Erbug, *Middle East Technical University*, *Turkey*; Murat Alibaba, *Middle East Technical University*, *Turkey*

- **A Usability Study of an Object-Based Undo Facility**
  Iomar Vargas, *University of Puerto Rico at Mayaguez*, *Puerto Rico*; Jose Borges, *University of Puerto Rico at Mayaguez*, *Puerto Rico*; Manuel Pérez-Quiñones, *Virginia Tech*, *United States*

- **Usability Metrics in Adaptive Agent-based Tutoring Systems**
  Victor Lopez-Jaquero, *University of Castilla-La Mancha , Spain*; Francisco Montero, *University of Castilla-La Mancha*, *Spain*; Antonio Fernández-Caballero, *University of Castilla-La Mancha*, *Spain*; María Lozano Pérez, *University of Castilla-La Mancha*, *Spain*

S60 - Virtual Environments II
Room: **Aphrodite**

Chair: **Panos Karampelas**, *ICS-FORTH, Greece*

- **Interactivity, Control of Movement and Realism: Establishing the Factors Influencing Virtual Reality Training**
  Eleanor Marshall, *University of Nottingham, VIRART*, *United Kingdom*; Sarah Nichols, *University of Nottingham*, *United Kingdom*; John Wilson, *University of Nottingham*, *United Kingdom*

- **Virtual Assembly Based on Stereo Vision and Haptic Force Feedback Virtual Reality**
  Georgios Nikolakis, *Centre for Research and Technology Hellas*, *Greece*; Georgios Fergadis, *Centre for Research and Technology Hellas*, *Greece*; Dimitrios Tzovaras, *Centre for Research and Technology Hellas , Greece*

- **Comparison of Hand- and Wand Related Navigation in Virtual Environments**
  Mikko Laakso, *Helsinki University Of Technology*, *Finland*

- **No Silver Bullet but Basic Rules User Interface Design for Virtual Environments**
  Christian Knöpfle, *Fraunhofer - IGD*, *Germany*

- **Virtual Environment Design for Gene Selection Using Gene Expression Data**
  Kunihiro Nishimura, *The University of Tokyo*, *Japan*; Shumpei Ishikawa, *The University of Tokyo*, *Japan*; Koji Abe, *The University of Tokyo*, *Japan*; Shuichi Tsutsumi, *The University of Tokyo*, *Japan*; Hiroyuki Aburatani, *The University of Tokyo*, *Japan*; Koichi Hirota, *University of Tokyo*, *Japan*; Michitaka Hirose, *University of Tokyo*, *Japan*

S61 - On-Line Communities

Room: **Minos East**

Chair: **Jennifer J. Preece**, *UMBC, United States*

- **A Simple Representation of Socio-emotional Interactions to Promote On-line Community Involvement for Knowledge Sharing**
  Shinji Takao, *NTT Advanced Technology Corporation*, *Japan*; Morio Nagata, *Keio University*, *Japan*

- **Approaching Online Self-Representation in a Community of Practice**
  Cecilia Kremer, *Pontifícia Universidade Católica*, *Brazil*; Judith Ramey, *University of Washington*, *United States*; Clarisse Sieckenius de Souza, *Pontifícia Universidade Católica do Rio de Janeiro*, *Brasil*

- **Design of ICT support for Communities of Practice: Case study of a Trade union information system**
  Leni Ericson, *Linköping University*, *Sweden*; Niklas Hallberg, *Linköping University*, *Sweden*; Toomas Timpka, *Linköping University*, *Sweden*

- **Col•lecció: Collective Bookmark Discussion Applying Social Navigation**
  Henrry Rodriguez, *IPLab/NADA/KTH*, *Sweden*; Noel Sylvie, *Communications Research Centre Canada*, *Canada*

- **Integrating and Evolving a Mob: The Growth of a Smart Mob into a Wireless Community of Practice**
  John Lester, *Massachusetts General Hospital / Harvard Medical School*, *United States*

S62 - Eye Movements in HCI

Room: **Pente**

Chair: **Sascha Stowasser**, *University Karlsruhe, Germany*

- **Reading News from a Pocket Computer: an Eye-movement Study**
  Jari Laarni, *Helsinki School of Economics , Finland*; Ilpo Kojo, *Helsinki School of Economics*, *Finland*; Lari Kärkkäinen, *Helsinki School of Economics*, *Finland*; Pekka Isotalus, *University of Helsinki*, *Finland*

- **E-TRACKING: eye tracking analysis in the evaluation of e-learning systems**
  Daniela Zambarbieri, *University of Pavia*, *Italy*

- **Pupil Dilation as an Indicator of Cognitive Workload in Human-Computer Interaction**
  Marc Pomplun, *University of Massachusetts at Boston*, *United States*; Sindhura Sunkara, *University of Massachusetts at Boston*, *United States*

- **A Human Interface for In-Vehicle Information Space Using Drivers' Eye Movements**
  Hirohiko Mori, *Musashi Institute of Technology*, *Japan*

- **Application of Advanced Eye Tracking Technology in User Interface Design**
  Christian Felsheim, *SensoMotoric Instruments GmbH*, *Germany*; Wolfgang Lehmann, *SensoMotoric Instruments GmbH*, *Germany*; Martin Pötter, *SensoMotoric Instruments GmbH*, *Germany*

S63 - Human Factors Evaluation of New-in Vehicle Technology

Room: **Europa**

Chair: **Pietro Carlo Cacciabue**, *EC, Joint Research Centre, Italy* ; **Don Harris**, *Cranfield University, United Kingdom*

- **The Use of Haptic Cues Within a Control Interface**
  Sally Lomas, *University of Nottingham*, *United Kingdom*; Gary Burnett, *Nottingham University*, *United Kingdom*; Mark Porter, *Loughborough University*, *United Kingdom*; Steve Summerskill, *Loughborough University*, *United Kingdom*

- **Situational Awareness Displays in Driving**
  Neville Stanton, *Brunel University*, *United Kingdom*

- **Scenario Development for Testing Safety Devices in Automotive Environments**
  Pietro Carlo Cacciabue, *EC, Joint Research Centre*, *Italy*; Manuella Martinetto, *EC, Joint Research Centre*, *Italy*; Sabrina Montagna, *University of Turin*, *Italy*; Alessandra Re, *University of Turin*, *Italy*

- **A Multidimensional Scale for Road Vehicle Handling Qualities**
  Don Harris, *Cranfield University*, *United Kingdom*; Jamie Chan-Pensley, *Cranfield University*, *United Kingdom*; Shona McGarry, *Cranfield University*, *United Kingdom*

- **Assessing the Effect of New Technology on Driver Behavior – a Theoretical Model**
  Rebecca Stewart, *Cranfield University*, *United Kingdom*; Don Harris, *Cranfield University*, *United Kingdom*

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S64 - Assistive & Rehabilitation Technologies

Room: **Enia**

Chair: **James Gips**, *Boston College, United States*

- **Evaluating the Usability of Joystick Control of a Screen Magnifier with Visually Impaired Users**
  Gareth Evans, *UMIST*, *United Kingdom*; Sri Hastuti Kurniawan, *UMIST*, *United Kingdom*; Alasdair King, *UMIST*, *United Kingdom*; Paul Blenkhorn, *UMIST*, *United Kingdom*

- **A Web Browser for People with Quadriplegia**
  Hunter Larson, *Boston College*, *United States*; James Gips, *Boston College*, *United States*

- **Intelligent Wheelchair Looking at Pedestrians and the Caregiver**
  Yoshinori Kuno, *Saitama University*, *Japan*

- **Enabling Access to the Graphical User Interface for People with Vision Impairments**
  Robert Sinclair, *Microsoft Corporation*, *United States*

- **An Investigation into the performance of a Virtual Mirror Box for the treatment of Phantom Limb Pain in Amputees using Augmented Reality Technology**
  Kieran O'Neill, *National University of Ireland*, *Ireland*; Annraoi de Paor, *National University of Ireland*, *Ireland*; Malcolm MacLachlan, *Trinity College* , *Ireland*; Gary McDarby, *Media Lab Europe*, *Ireland*

S65 - Do what I mean: Mapping Intent to Functionality

Room: **Poseidon**

Chair: **Ing-Marie Jonsson**, *Royal Institute of Technology / Dejima Inc , United States*

- **Acceptable Download Times in the Mobile Internet**
  Virpi Roto, *Nokia Research Center*, *Finland*; Anne Kaikkonen, *Nokia Research Center*, *Finland*

- **A Framework for Speech and Multimodal Interaction on Mobile Devices**
  Tasos Anastasakos, *Motorola Human Interface Lab*, *United States*; Anurag Gupta, *Motorola Human Interface Lab*, *United States*; Harry Bliss, *Motorola Human Interface Lab*, *United States*; Will Thompson, *Motorola Human Interface Lab*, *United States*

- **Evaluation of User Responses to Partial Success of Multimodal Natural Language Interaction for Mobile Enterprise Applications**
  Delia Grenville, *Oracle Corporation*, *United States*; Chunmei Lu, *Oracle Corporation*, *United States*; Anna Wichansky, *Oracle Corporation*, *United States*

- **Iterative Statistical Language Model Generation for Use with an Agent-Oriented Natural Language Interface**
  Babak Hodjat, *Dejima Inc.*, *United States*; Horacio Franco, *SRI International*, *United States*; Harry Bratt, *SRI International*, *United States*; Kristin Precoda, *SRI International*, *United States*; Andreas Stolcke, *SRI International*, *United States*; Anand Venkataraman, *SRI International*, *United States*; Dimitra Vergyri, *SRI International*, *United States*; Jing Zheng, *SRI International*, *United States*

- **Experiences with and lessons learned from working with a modular natural language dialogue architecture**
  Nils Dahlbäck, *Linköping University*, *Sweden*; Arne Jönsson, *Linköping University*, *Sweden*

S66 - Model-based Development of Applications-for-All

Room: **Deka Tria**

Chair: **Chris Stary**, *University of Linz, Austria*

- **CoU: Context of Use Model for User Interface Designing**
  Rony Abi-Aad, *Concordia University*, *Canada*; Daniel Sinnig, *Concordia University*, *Canada*; Thiruvengadam Radhakrishnan , *Concordia University*, *Canada*; Ahmed Seffah, *Concordia University* , *Canada*

- **Task Modeling for Customization of Web Applications**
  Birgit Bomsdorf, *University of Hagen*, *Germany*

- **Interfacing Business Object and User Models with Action Models**
  Peter Forbrig, *University of Rostock*, *Germany*; Anke Dittmar, *University of Rostock*, *Germany*

- **A structured approach to the interaction in 3D**
  Zdenek Mikovec, *Czech Technical University in Prague*, *Czech Republic*; Pavel Slavik, *Czech Technical University in Prague*, *Czech Republic*

- **Goal-Oriented vs. Open-Ended Applications**
  Tommi Ilmonen, *Helsinki University of Technology*, *Finland*; Janne Kontkanen, *Helsinki University of Technology*, *Finland*

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S67 - Technological Advancements for Universally Accessible Domotics
Room: Apollo West

Chair: **Julio Abascal**, *The University of the Basque Country, Spain*

- **Cultural Probes: Eliciting Requirements for Dependable Ubiquitous Computing in the Home**
  Karen Clarke, *Lancaster University*, *United Kingdom*; Keith Cheverst, *Lancaster University*, *United Kingdom*; Guy Dewsbury, *Lancaster University*, *United Kingdom*; Dan Fitton, *Lancaster University*, *United Kingdom*; John Hughes, *Lancaster University*, *United Kingdom*; Mark Rouncefield, *University of Lancaster*, *United Kingdom*; Ian Sommerville, *Lancaster University*, *United Kingdom*; Terry Hemmings, *University of Nottingham, CSiT*, *United Kingdom*; Tom Rodden, *University of Nottingham*, *United Kingdom*

- **Technology for people localization in smart homes**
  Roberto Casas, *University of Zaragoza*, *Spain*; Jorge Falcó, *Universidad de Zaragoza*, *Spain*; José I. Artigas, *Universidad de Zaragoza*, *Spain*; José Falcó, *Universidad de Zaragoza*, *Spain*; Alfonso Gallego, *Universidad de Zaragoza*, *Spain*

- **Standard Buses for Domotics: Technology & Convergence**
  Anton Civit, *Universidad de Sevilla*, *Spain*; Gabriel Jimenez, *Universidad de Sevilla*, *Spain*; José Luis Sevillano, *Universidad de Sevilla*, *Spain*; S. Vicente, *Universidad de Sevilla*, *Spain*; Fernando Díaz, *Universidad de Sevilla*, *Spain*

- **Accessible User Interfaces for Smart Homes**
  Daniel Eguzkiza, *University of the Basque Country*, *Spain*; Nestor Garay, *University of the Basque Country*, *Spain*; Luis Gardeazabal, *University of the Basque Country*, *Spain*

- **Components for a ubiquitous learning environment**
  David Cuartielles, *K3 - Malmö University*, *Sweden*; Lone Malmborg, *K3 - Malmö University*, *Sweden*; Pierre Schlaucher, *K3 - Malmö University*, *Sweden*

S68 - Universal Multimedia and Multimodal Interfaces for Inhomogeneous User Groups
Room: Apollo East

Chair: **Gerhard Weber**, *University of Kiel, Germany*

- **Talking Tactile Diagrams**
  Mark Eramian, *University of Saskatchewan*, *Canada*; Helmut Jurgensen, *University of Western Ontario*, *Canada*; Haibo Li, *University of Western Ontario*, *Canada*; Christopher Power, *University of Western Ontario*, *Canada*

- **Navigation in multimedia documents for print disabled readers**
  Helen Petrie, *City University*, *United Kingdom*; Wendy Fisher, *City University*, *United Kingdom*; Anne-Marie O'Neill, *City University* , *United Kingdom*; Yaara di Segni, *City University* , *United Kingdom*; Keith Gladstone, *Royal National Institute of the Blind*, *United Kingdom*; Cathy Rundle, *Royal National Institute of the Blind*, *United Kingdom*; Liesbeth Pyfers, *Pragma*, *Netherlands*; Olaf van den Eijnde, *Fed'n of Dutch Libraries for the Blind*, *Netherlands*; Gerhard Weber, *University of Kiel*, *Germany*

- **Design Issues of Relief Maps for Haptic Displays**
  Christian Springsguth, *Multimedia Campus Kiel GmbH*, *Germany*; Gerhard Weber, *University of Kiel*, *Germany*

- **Adaptation of Multimedia eBooks**
  Ine Langer, *Harz University of Applied Studies*, *Germany*

- **Modeling Users with Special Reading Needs**
  Kurt Weimann, *Multimedia Campus Kiel GmbH*, *Germany*

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HCI

S69 - Advanced HMI for VR/VE Applications
Room: Europa

Chair: **Angelos Amditis**, *National Technical University of Athens, Greece*

- **Visual Tracking for a Virtual Environment**
  Norman Murray, *University of Salford*, *United Kingdom*; John Yannis Goulermas, *University of Salford*, *United Kingdom*; Terrence Fernando, *University of Salford*, *United Kingdom*

- **A User Interface for Virtual Maintainability in Immersive Environments**
  Luis Marcelino, *University of Salford*, *United Kingdom*; Norman Murray, *University of Salford*, *United Kingdom*; Terrence Fernando, *University of Salford*, *United Kingdom*

- **Multimodal Interaction Techniques for Astronaut Training in Virtual Environments**
  Jukka Rönkkö, *VTT - Technical Research Centre of Finland*, *Finland*; Raimo Launonen, *VTT - Technical Research Centre of Finland*, *Finland*; Seppo Laukkanen, *SenseTrix Oy*, *Finland*; Enrico Gaia, *Alenia Spazio S.p.A.*, *Italy*

- **Interaction with Human Models in Virtual Environments**
  Manfred Dangelmaier, *Fraunhofer - IAO*, *Germany*; Oliver Stefani, *University of Stuttgart, IAT*, *Germany*; Angelos Amditis, *National Technical University of Athens*, *Greece*

- **Methodologies and Evidence in Support of a Human-Centred Approach to Virtual Environment Systems Design**
  Robert Stone, *University of Birmingham*, *United Kingdom*

- **Developing Virtual Environments Using Speech as an Input Device**
  Alex Stedmon, *University of Nottingham*, *United Kingdom*

Parallel Paper Presentations

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HCI

S70 - Collaborative Virtual Spaces
Room: Minos East

Chair: **Dieter Spath**, *Fraunhofer - IAO, Germany*

- **Suspenseful User Experiences in Collaborative Virtual Spaces, Enabled by Interactive Narration**
  Norbert Braun, *GRIS, FB Informatik*, *Germany*; Oliver Schneider, *Digital Storytelling*, *Germany*

- **Virtual manufacturing approach to collaborative design and production for hard-tissue implants**
  Teruaki Ito, *University of Tokushima*, *Japan*; Teisuke Sato, *University of Tokushima*, *Japan*

- **Socio-Technical Evaluation of Computer Supported Work and Learning Systems**
  Evren Akar, *Delft University of Technology*, *Netherlands*; J.H. Erik Andriessen, *Delft University of Technology*, *Netherlands*; Jelle Attema, *Delft University of Technology*, *Netherlands*; Bige Tuncer, *Delft University of Technology*, *Netherlands*

- **Teaching Teamwork Online**
  Lisa Neal, *EDS and eLearn Magazine*, *United States*; Eileen Entin, *Aptima, Inc.*, *USA*; Fuji Lai, *Aptima, Inc.*, *USA*

- **Developing of an Interactive Virtual Space Station**
  Tariq Mujber, *Dublin City University*, *Ireland*; Tamas Szecsi, *Dublin City University*, *Ireland*; M.S.J. Hashmi, *Dublin City University*, *Ireland*

- **MetaChart – Using Creativity Methods in a CSCW Environment**
  Doris Janssen, *Fraunhofer - IAO*, *Germany*; Thomas Schlegel, *Fraunhofer - IAO*, *Germany*; Michael Wissen, *Fraunhofer - IAO*, *Germany*; Jürgen Ziegler, *Fraunhofer - IAO*, *Germany*

S71 - Graphical User Interfaces in Mobile Environment
Room: Exi

Chair: **Pavel Slavik**, *Czech Technical University in Prague, Czech Republic*

- **User Interface Techniques for Mobile Agents**
  Matthias Grimm, *Computer Graphics Center (ZGDV e.V.)*, *Germany*; Mohammad-Reza Tazari, *Computer Graphics Center (ZGDV e.V.)*, *Germany*; Matthias Finke, *Computer Graphics Center (ZGDV e.V.)*, *Germany*

- **Modelling User Context**
  Mohammad-Reza Tazari, *Computer Graphics Center (ZGDV e.V.)*, *Germany*; Matthias Grimm, *Computer Graphics Center (ZGDV e.V.)*, *Germany*; Matthias Finke, *Computer Graphics Center (ZGDV e.V.)*, *Germany*

- **Design Principles For A Collaborative Hypervideo User Interface Concept In Mobile Environments**
  Matthias Finke, *Computer Graphics Center (ZGDV e.V.)*, *Germany*; Matthias Grimm, *Computer Graphics Center (ZGDV e.V.)*, *Germany*; Mohammad-Reza Tazari, *Computer Graphics Center (ZGDV e.V.)*, *Germany*

- **Visual Interfaces for Mobile Handhelds**
  Bernd Karstens, *University of Rostock*, *Germany*; Rene Rosenbaum, *University of Rostock*, *Germany*; Heidrun Schumann, *University of Rostock*, *Germany*

- **GUI for graphical data retrieval by means of semantic filtering**
  Zdenek Mikovec, *Czech Technical University in Prague*, *Czech Republic*; Martin Klima, *Czech Technical University in Prague*, *Czech Republic*; Radim Foldyna, *Czech Technical University in Prague*, *Czech Republic*

- **An Event-Based Communication Mechanism to Realize a Mobile Collaborative AR Environment**
  Reiner Wichert, *Computer Graphics Center*, *Gemany*; Matthias Finke, *Computer Graphics Center (ZGDV e.V.)*, *Germany*; Mehdi Hamadou, *Siemens AG*, *Germany*

S72 - HCI Methodology Issues I
Room: Apollo East

Chair: **Alistair Sutcliffe**, *UMIST, United Kingdom*

- **Use Cases and User Interface Artefacts**
  Tricia Balfe, *Motorola*, *Ireland*; Frank O'Connor, *Motorola*, *Ireland*

- **Need for Action Oriented Design and Evaluation of Information Systems**
  Stefan Cronholm, *Linköping University*, *Sweden*

- **Measuring the Immeasurable: System Usability, User Satisfaction and Quality Management**
  Marcin Sikorski, *Gdansk University of Technology*, *Poland*

- **Δ: Modelling Cognitive Performance**
  Laurent Bayssié, *Onera Cert*, *France*; Laurent Chaudron, *Onera-Cert*, *France*

- **The Role of Voluntary Attention in HCI**
  Gabriella Pravettoni, *University of the Studies of Milan*, *Italy*; Sebastiano Bagnara, *Politecnico di Milano*, *Italy*

- **The HCI landscape: a historical perspective**
  Anker Jørgensen, *IT University of Copenhagen*, *Denmark*

S73 - Scenario-based Development of Interactive Systems

Room: **Athena**

Chair: **Peter Forbrig**, *University of Rostock, Germany*

- **Multi-Session Group Scenarios for Speech Interface Design**
  Kari Kanto, *University of Art and Design Helsinki*, *Finland*; Maria Cheadle, *Swedish Institute of Computer Science - SICS AB*, *Sweden*; Björn Gambäck, *Swedish Institute of Computer Science (SICS)*, *Sweden*; Preben Hansen, *Swedish Institute of Computer Science (SICS)*, *Sweden*; Kristiina Jokinen, *University of Art and Design Helsinki*, *Finland*; Heikki Keränen, *University of Art and Design Helsinki (UIAH)*, *Finland*; Jyrki Rissanen, *University of Art and Design Helsinki (UIAH)*, *Finland*
- **From Scenarios to Interactive Workflow Specifications**
  Chris Stary, *University of Linz*, *Austria*
- **Task-Object Models for the Development of Interactive Web Sites**
  Gerd Szwillus, *Universität Paderborn*, *Germany*; Birgit Bomsdorf, *University of Hagen*, *Germany*
- **Bridging the Gap between Scenarios and Formal Models**
  Peter Forbrig, *University of Rostock*, *Germany*; Anke Dittmar, *University of Rostock*, *Germany*
- **Use Case Maps: A Visual Notation for Scenario-Based User Requirements**
  Asmaa Alsumait, *Concordia University , Canada*; Ahmed Seffah, *Concordia University , Canada*; Thiruvengadam Radhakrishnan , *Concordia University*, *Canada*
- **Scenarios in the model-based process for design and evolution of cooperative applications**
  Bertrand David, *Ecole Centrale de Lyon*, *France*; René Chalon, *Ecole Centrale de Lyon*, *France*; Olivier Delotte, *Ecole Centrale de Lyon*, *France*; Gérald Vaisman, *Ecole Centrale de Lyon*, *France*

S74 - The Future of Mobile and E-Commerce: Applications, Cooperation, and Cultural Issues

Room: **Minos South**

Chair: **Asim Ant Ozok**, *UMBC, United States* ; **Andrew Sears**, *UMBC, United States*

- **When Computers Fade ... Pervasive Computing and Situationally-Induced Impairments and Disabilities**
  Andrew Sears, *UMBC*, *United States*; Min Lin, *UMBC , United States*; Julie Jacko, *Georgia Institute of Technology*, *United States*; Yan Xiao, *University of Maryland Baltimore*, *United States*
- **Web Usability: Its Impact on Human Factors and Consumer Search Behaviour**
  Bernie Lydon, *Dublin Institute of Technology*, *Ireland*; Tom Fennell, *Dublin Institute of Technology*, *Ireland*
- **Cell Phone vs. Computer: A Comparison of Electronic Commerce and Mobile Commerce from the User's Perspective**
  Asim Ant Ozok, *UMBC*, *United States*
- **Perception of E-commerce: A View from an Industrial Engineer's Perspective**
  Mehmet Mutlu Yenisey, *Istanbul Technical University*, *Turkey*
- **A Study of Culture Differences for Browsing Hypertext on Handheld Devices**
  Pei-Luen Patrick Rau, *Tsinghua University*, *China*; Yun-Ju Chen, *Nation Chiao Tung University*, *Taiwan*
- **Customer Relationship Management in E-business**
  Diana Horn, *Purdue University*, *United States*; Richard Feinberg, *Purdue University*, *United States*; Gavriel Salvendy, *Purdue University*, *United States*

S75 - New Human Interface for the Forthcoming Daily Life

Room: **Pente**

Chair: **Hirohiko Mori**, *Musashi Institute of Technology, Japan* ; **Sakae Yamamoto**, *Tokyo University of Science, Japan*

- **Towards a Unified Model of Simple Physical and Virtual Environments**
  Thomas Pederson, *Umeå university*, *Sweden*
- **Interaction in a Relaxed Attitude**
  Yosuke Kinoe, *Hosei University & IBM*, *Japan*; Toshiyuki Hama, *Tokyo Research Lab., IBM , Japan*
- **SeL-Mixer: A Music Authoring Environment Fusing Virtual and Physical Activities**
  Hirohiko Mori, *Musashi Institute of Technology*, *Japan*; Kazunobu Azuma, *Musashi Institute of Technology*, *Japan*
- **Comprehension-Based Approach to HCI for Designing Interaction in Information Space**
  Muneo Kitajima, *National Institute of Advanced Industrial Science and Technology*, *Japan*
- **New Interaction Concept toward Reestablishing the Human Bonds in Daily Life**
  Naotake Hirasawa, *Otaru University of Commerce*, *Japan*
- **The Concept of New Interface Design for Elder Persons**
  Daiji Kobayashi, *Tokyo University of Science*, *Japan*; Sakae Yamamoto, *Tokyo University of Science*, *Japan*

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HCI

EP&CE

S76 - Service Engineering and Management

Room: **Minos North**

Chair: **Klaus-Peter Fähnrich**, *Fraunhofer - IAO, Germany*

- **Successful Business Models of Telemedical Services**
  Hans Georg Gemuenden, *Technical University Berlin*, *Germany*; Carsten Schultz, *Technical University Berlin*, *Germany*; Katrin Salomo, *Technical University Berlin*, *Germany*; Soeren Salomon, *Technical University Berlin*, *Germany*
- **Web-based Toolkits for the Management of Customer Integrated Innovation**
  Ralf Reichwald, *Technische Universität München*, *Germany*; Sascha Seifert, *Technical University, Munich*, *Germany*; Dominik Walcher, *Technische Universität München*, *Germany*
- **Managing industrial service portfolios using a platform approach**
  Johannes R. Kuster, *FIR, Aachen University of Technology*, *Germany*; Volker Liestmann, *FIR, Aachen University of Technology*, *Germany*; Volker Stich, *FIR, Aachen University of Technology*, *Germany*
- **A Strategy for Formal Service Product Model Specification**
  Klaus-Peter Fähnrich, *Fraunhofer - IAO*, *Germany*; Sören Auer, *Universität Leipzig*, *Germany*
- **Holistic development of new services**
  Mike Freitag, *Fraunhofer - IAO*, *Germany*; Thomas Meiren, *Fraunhofer - IAO*, *Germany*; Hans Wurps, *Oce´ Pronting Systems GmbH*, *Germany*
- **State of the Art in Service Engineering and Management**
  Klaus-Peter Fähnrich, *Fraunhofer - IAO*, *Germany*; Walter Ganz, *Fraunhofer - IAO*, *Germany*; Thomas Meiren, *Fraunhofer - IAO*, *Germany*

S77 - New Work - Design and Ergonomics of Integrated Work Environments

Room: **Apollo West**

Chair: **Peter Kern**, *Fraunhofer - IAO, Germany*

- **Impact of Information Technology on Work Processes and Job Characteristics in the Printing Industry**
  Pentti Seppala, *Finnish Institute of Occupational Health*, *Finland*
- **Situated Interaction with Ambient Information: Facilitating Awareness and Communication in Ubiquitous Work Environments**
  Norbert Streitz, *Fraunhofer - IPSI*, *Germany*; Carsten Röcker, *Fraunhofer - IPSI*, *Germany*; Thorsten Prante, *Fraunhofer - IPSI*, *Germany*; Richard Stenzel, *Fraunhofer - IPSI*, *Germany*; Daniel van Alphen, *Productdesign*, *Germany*
- **Changing Requirements of Laboratory Design**
  Ina Maria Müller, *dr. heinekamp Labor- und Institutsplanung*, *Germany*; Christoph Heinekamp, *dr. heinekamp Labor- und Institutsplanung*, *Germany*
- **Engineering Workplaces: Advanced Workplace Concept**
  Werner Baumeister, *DaimlerChrysler AG*, *Germany*
- **Physical Environments for Human Computer Interaction in Scandinavia**
  Steen Enrico Andersen, *PLH arkitekter*, *Denmark*
- **Support of Creative Knowledge Workers in Flexible Office Environments Through a Positioning System**
  Udo-Ernst Haner, *IAT University of Stuttgart*, *Germany*; Alexander Greisle, *IAT, University of Stuttgart*, *Germany*

S78 - Applied Ergonomics

Room: **Dodeka**

Chair: **Kenneth R. Boff**, *AFRL/HE, United States*

- **Human Performance in Cognitive Tasks Involving Multimodal Speech Interfaces**
  Azra Ali, *University of Huddersfield*, *United Kingdom*; Philip Marsden, *University of Huddersfield*, *United Kingdom*
- **Bring Out Creativity!**
  Adi Tedjasaputra, *translate-easy.com*, *Denmark*; Eunice Ratna Sari, *translate-easy.com*, *Denmark*
- **GHOST: experimenting countermeasures to cure pilots from the perseveration syndrome**
  Frederic Dehais, *Onera-Cert / Supaero*, *France*
- **A Methodology for Reengineering Courses for the Web**
  Jean-Marc Robert, *École Polytechnique de Montréal*, *Canada*; Luciano Gamez, *École Polytechnique de Montreal*, *Canada*; Walter de Abreu Cybis, *Universidade Federal de Santa Catarina*, *Brasil*
- **Improving System Usability Through the Automation of User's Routine Intentions: an Image Edition Tool Case Study**
  Alejandro Frery, *CIn - UFPE (Federal University of Pernambuco)*, *Brazil* ; Andre Leitao, *CIn - UFPE (Federal University of Pernambuco)*, *Brazil* ; Andre Furtado, *CIn - UFPE (Federal University of Pernambuco)*, *Brazil*; Fernando da C. A. Neto, *CIn - UFPE (Federal University of Pernambuco)*, *Brazil* ; Fernando De Souza, *CIn/UFPE (Federal University of Pernambuco)*, *Brazil*; Gustavo Andrade, *CIn - UFPE (Federal University of Pernambuco)*, *Brazil* ; Jose E. de A. Filho, *CIn - UFPE (Federal University of Pernambuco)*, *Brazil*
- **Design and Implementation of Steganography based on 2-Tier File Encryption Algorithm**
  Young Shil Kim, *The Technical College of Daelim*, *Korea*; Young-Mi Kim, *Dept of R&D CEST CO.LTD*, *Korea*; Sung Gi Min, *Korea University*, *Korea*; Doo-Kwon Baik, *Korea University*, *Korea*

S79 - Cognitive Performance

Room: **Danae**

Chair: **Neville Stanton**, *Brunel University, United Kingdom*

- **Performance on Mobile Phones: Does it Depend on Proper Cognitive Mapping?**
  Susanne Bay, *Aachen University*, *Germany*; Martina Ziefle, *Aachen University*, *Germany*
- **Optimizing Text Layout for Small-screens: the Effect of Hyphenation and Centering**
  Jari Laarni, *Helsinki School of Economics* , *Finland*
- **Task Decomposition: Why do Some Novice Users Have Difficulties in Manipulating the User-interfaces of Daily Electronic Appliances?**
  Kazuhiro Ueda, *University of Tokyo*, *Japan*; Masaki Endo, *University of Tokyo*, *Japan*; Hiroaki Suzuki, *Aoyama-Gakuin University*, *Japan*
- **Learning and Forgetting Aspects in Student Models of Educational Software**
  Maria Virvou, *University of Piraeus* , *Greece*; Konstantinos Manos, *University of Piraeus*, *Greece*
- **Clinical System User Interface derived from cognitive task analysis of the physicians' diagnostic process**
  Nawal Alshebel, *King Saud University*, *Saudi Arabia*; Peter Dew, *University of Leeds*, *United Kingdom*
- **A Case Study of two experiences of group-based student projects: Cognitive model vs. Situated learning**
  Kuo-Hung Huang, *National Chiayi University*, *Taiwan*; Kuohua Wang, *National Chenghua University of Education*, *Taiwan*; S. Y. Chiu, *National Chenghua University of Education*, *Taiwan*

S80 - Engineering Psychology and Cognitive Ergonomics Methodology Issues

Room: **Enia**

Chair: **Don Harris**, *Cranfield University, United Kingdom*

- **Usability Laboratories - Quantitative and Qualitative Approaches**
  Regine Freitag, *Fraunhofer - AiS*, *Germany*; Wolfgang Dzida, *Fraunhofer - AIS*, *Germany*; Barbara Majonica, *University of Paderborn* , *Germany*; Karsten Nebe, *University of Paderborn*, *Germany*; Natalie Woletz, *Univercity of Paderborn*, *Germany*
- **A Formal Method for Analysing Field Data and Setting the Design Requirements for Scheduling Tools**
  Peter Higgins, *Swinburne University of Technology*, *Australia*
- **An Evaluation Framework of Human Factors in ODL Programs**
  Athanasis Karoulis, *Aristotle University of Thessaloniki*, *Greece*; Ioannis Tarnanas, *Aristotle University of Thessaloniki*, *Greece*; Andreas Pombortsis, *Aristotle University of Thessaloniki*, *Greece*
- **Definition of a Common Work Space**
  Benoît Guiost, *Université de Valenciennes et du Hainaut-Cambrésis*, *France*; Serge Debernard, *Université de Valenciennes et du Hainaut-Cambrésis*, *France*; Patrick Millot, *Université de Valenciennes et du Hainaut-Cambrésis*, *France*
- **Scenario-based drama as a tool for investigating user requirements with application to home monitoring for elderly people**
  Stephen McKenna, *University of Dundee*, *United Kingdom*; Fran Marquis-Faulkes, *University of Dundee*, *United Kingdom*; Peter Gregor, *University of Dundee*, *United Kingdom*; Alan Newell, *University of Dundee*, *United Kingdom*
- **A systematic barrier removal methodology: application for transportation system**
  Zhicheng Zhang, *Universite de Valenciennes*, *France*; Frederic Van der haegen, *Universite de Valenciennes*, *France*; Philippe Polet, *Universite de Valenciennes*, *France*

S81 - Collaborative Interfaces: the way to Human-centered Systems

Room: **Deka Tria**

Chair: **George Vouros**, *University of The Aegean, Greece*

- **Towards the design of an advanced cooperative system: Adaptive Cruise Control**
  Bako Rajaonah, *LAMIH*, *France*; Nicolas Tricot, *LAMIH*, *France*; Marie-Pierre Pacaux, *LAMIH*, *France*; Françoise Anceaux, *LAMIH*, *France*; Jean-Christophe Popieul, *LAMIH*, *France*
- **Collaborative Virtual Environments Based on Real Work Spaces**
  Luis Guerrero, *Universidad de Chile*, *Chile*; César Collazos, *University of Chile*, *Chile*; Jose Pino, *University of Chile*, *Chile*; Sergio Ochoa, *University of Chile*, *Chile*; Felipe Aguilera, *Universidad de Chile*, *Chile*
- **Network Shared Knowledge, Veridiction and Support to Trusted Network Relationships in an Interpretative-Semiotics Framework**
  Paolo Bussotti, *University of Florence*, *Italy*; Maria Chiara Pettenati, *University of Florence*, *Italy*
- **MIAU - Supporting Group Decisions in E-Commerce Applications**
  Stephan Baldes, *DFKI*, *Germany*; Mathias Bauer, *DFKI*, *Germany*; Dietmar Dengler, *DFKI*, *Germany*; Daniel Kudenko, *The University of York*, *United Kingdom*; Gabriele Paul, *DFKI*, *Germany*; Thomas Rist, *DFKI GmbH*, *Germany*; Christian Schmitt, *DFKI*, *Germany*
- **Realizing Human Centered Systems via Socially Deliberating Agents**
  George Vouros, *University of The Aegean*, *Greece*; Ioannis Partsakoulakis, *©InCoSysResearch Group*, *Greece*; Vangelis Kourakos - Mavromichalis, *Aegean University*, *Greece*
- **AmbieSense – interactive information channels in the surroundings of the mobile user**
  Hans Myrhaug, *SINTEF Telecom and Informatics*, *Norway*; Aye Goker, *The Robert Gordon University*, *United Kingdom*

Parallel Paper Presentations

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S82 - Migratory, Distributed and Wearable Interfaces: When "the Environment is the Message"

Room: **Artemis**

Chair: **Anthony Savidis**, *ICS-FORTH, Greece*

- **Discovery in a Dynamically Composable Personal System**
  Spyros Lalis, *ICS-FORTH*, *Greece*
- **A new approach to Interoperability of Distributed Devices**
  Jürg Gutknecht, *ETH Zürich*, *Switzerland*
- **Real World Object Annotation for See-Through Displays**
  Alois Ferscha, *Johannes Kepler University Linz*, *Austria*; Markus Keller, *Johannes Kepler University of Linz*, *Austria*
- **Mobile 3D Visualization and Interaction in an Industrial Environment**
  Stuart Goose, *Siemens Corporate Research, Inc.*, *United States*; Sinem Guven, *Siemens Corporate Research, Inc.*, *United States*; Xiang Zhang, *Siemens Corporate Research, Inc.*, *United States*; Sandra Sudarsky, *Siemens Corporate Research, Inc.*, *United States*; Nassir Navab, *Siemens Corporate Research, Inc.*, *United States*
- **Ubiquitous-computing enabled wireless devices**
  Dennis Majoe, *MA Systems and Control Limited*, *United Kingdom*
- **Dynamic environment-adapted mobile interfaces: the Voyager Toolkit**
  Anthony Savidis, *ICS-FORTH*, *Greece*; Constantine Stephanidis, *ICS-FORTH*, *Greece*

S83 - Mobile Information Systems for All

Room: **Poseidon**

Chair: **Reinhard Oppermann**, *Fraunhofer - FIT, Germany*

- **Universal Design for Mobile Electronic Health Records**
  Elizabeth Hofvenschiold, *Fraunhofer - IAO*, *Germany*; Frank Heidmann, *Fraunhofer - IAO*, *Germany*; Sylvia Eiblmaier, *Fraunhofer - IAO*, *Germany*
- **Supporting Access to Museum Information for Mobile Visitors**
  Carmine Ciavarella, *CNR - ISTI*, *Italy*; Fabio Paterno, *ISTI-CNR*, *Italy*
- **A user evaluation study of a multi-modal mobile navigation aid**
  Johan de Heer, *Telematica Instituut*, *Netherlands*; Markus Eisenhauer, *Fraunhofer - FIT* , *Germany*; Vasilios Siochos, *Fraunhofer - FIT*, *Germany*
- **A conceptual model to support device-independent and accessible authoring and publishing by a next generation Web Publishing Framework**
  Yehya Mohamad, *Fraunhofer - FIT*, *Germany*; Carlos Velasco, *Fraunhofer - FIT*, *Germany*
- **Mobile information systems for all**
  Markus Eisenhauer, *Fraunhofer - FIT* , *Germany*; Reinhard Oppermann, *Fraunhofer - FIT*, *Germany*; Barbara Schmidt-Belz, *Fraunhofer - FIT*, *Germany*
- **Mobile interfaces for people with severe motor restrictions**
  Julio Abascal, *The University of the Basque Country*, *Spain*; Daniel Cagigas, *University of Seville*, *Spain*; Nestor Garay, *University of the Basque Country*, *Spain*; Luis Gardeazabal, *University of the Basque Country*, *Spain*

S84 - TAsk MOdels and DIAgrams for User interface Design

Room: **Leda**

Chair: **Costin Pribeanu**, *ICI, National Institute for Research and Development in Informatics, Romania* ; **Jean Vanderdonckt**, *Université catholique de Louvain, Belgium*

- **Euterpe revised**
  Cristina Chisalita, *Vrije Universiteit*, *Netherlands*; Gerrit van der Veer, *Vrije Universiteit*, *Netherlands*; Andre Malchanau, *Technische Universiteit Eindhoven*, *Netherlands*; Vico Braeckman, *Technische Universiteit Eindhoven*, *Netherlands*
- **A software engineering workbench for modeling groupware activities**
  Emmanuel Adam, *University of Valenciennes* , *France*; Christophe Kolski, *University of Valenciennes*, *France*; René Mandiau, *Université de Valenciennes* , *France*; Emmanuel Vergison, *SOLVAY Research and Technology*, *Belgium*
- **Moments of Significance – the meanings of event: enablement, initiation, completion**
  Alan Dix, *Lancaster University*, *United Kingdom*; Cristina Chisalita, *Vrije Universiteit*, *Netherlands*; Gerrit van der Veer, *Vrije Universiteit*, *Netherlands*
- **Who does what with whom in Web Development?**
  Marco Winckler, *Université Paul Sabatier*, *France*; Philippe Palanque, *Université Paul Sabatier*, *France*; Christelle Farenc, *Université Paul Sabatier*, *France*; Marcelo Soares Pimenta, *Federal University of Rio Grande do Sul*, *Brasil*
- **Integration of Human-Computer Interaction in a Software Development Process**
  Kenia Sousa, *UNIFOR*, *Brazil*; Elizabeth Furtado, *Universidade de Fortaleza*, *Brazil*
- **A Pattern-based Approach to User Interface Development**
  Costin Pribeanu, *ICI, National Institute for Research and Development in Informatics*, *Romania*; Jean Vanderdonckt, *Université catholique de Louvain*, *Belgium*

S85 - Universal Design and its Application
Room: Aphrodite

Chair: **Toshiki Yamaoka**, *Wakayama University, Japan*

- **A concept and method of proposed Universal Design Practical Guideline**
  Toshiki Yamaoka, *Wakayama University*, *Japan*; Kazuhiko Yamazaki, *IBM Japan*, *Japan*; Akira Okada, *Osaka City University*, *Japan*; Sohsuke Saitoh, *Human Factor Co., Ltd*, *Japan*; Masatoshi Nomura, *NEC Corporation*, *Japan*; Koji Yanagida, *SANYO Electric Co.,Ltd.*, *Japan*

- **Proposal for design process and user segments table for universal practical guidelines**
  Kazuhiko Yamazaki, *IBM Japan*, *Japan*; Akira Okada , *Osaka City University*, *Japan*; Sohsuke Saitoh, *Human Factor Co., Ltd*, *Japan*; Koji Yanagida, *SANYO Electric Co.,Ltd.*, *Japan*; Toshiki Yamaoka, *Wakayama University*, *Japan*; Masatoshi Nomura, *NEC Corporation*, *Japan*

- **A comparison between Universal design practical guidelines and participatory design**
  Takuo Matsunobe, *Wakayama University*, *Japan*; Toshiki Yamaoka, *Wakayama University*, *Japan*; Kei Adachi, *Wakayama University*, *Japan*; Chitose Tanaka, *Wakayama University*, *Japan*

- **Observation Threshold of Cellular Phone Represented Angles and Its Related Factors**
  Fong-Gong Wu, *National Cheng Kung University*, *Taiwan*; Eva Chang, *National Cheng Kung University*, *Taiwan*; Chien-Hsu Chen, *National Cheng Kung University*, *Taiwan*; Rain Chen, *National Cheng Kung University*, *Taiwan*

- **Disability Participation to Design an Assistive Product for Cerebral Palsy Patient**
  Chien-Hsu Chen, *National Cheng Kung University*, *Taiwan*; Han-Ting Ke, *National Cheng Kung University*, *Taiwan*; Fong-Gong Wu, *National Cheng Kung University*, *Taiwan*

- **Using the UD matrix to extract problems of an application form**
  Hidetoshi Yoshioka, *Wakayama University*, *Japan*; Takuo Matsunobe, *Wakayama University*, *Japan*; Toshiki Yamaoka, *Wakayama University*, *Japan*

S86 - Design Studies II
Room: Athena

Chair: **Kerstin Röse**, *University of Kaiserslautern, Germany*

- **Analysis of interaction for shape modification during conceptual design**
  Tjamme Wiegers, *Delft University of Technology*, *Netherlands*; Raluca Dumitrescu, *Delft University of Technology*, *Netherlands*; Joris Vergeest, *Delft University of Technology*, *Netherlands*; Chensheng Wang, *Delft University of Technology*, *Netherlands*

- **Too Many Hierarchies? The Daily Struggle for Control of the Workspace**
  Richard Boardman, *Imperial College London*, *United Kingdom*; Robert Spence, *Imperial College London*, *United Kingdom*; Martina Angela Sasse, *University College London*, *United Kingdom*

- **Impact of Cognitive Style upon Sense of Presence**
  Corina Sas, *University College Dublin*, *Ireland*; Gregory O'Hare, *University College Dublin*, *Ireland*

- **Live the Vision character- and plot-driven scenarios in case-based material**
  Rikke Orngreen, *Copenhagen Business School*, *Denmark*

- **Use-centered interface design for an adaptable administration system for chemical process design**
  Christian Foltz, *RWTH Aachen University*, *Germany*; Bernhard Westfechtel, *RWTH Aachen University*, *Germany*; Ludger Schmidt, *RWTH Aachen University*, *Germany*; Holger Luczak, *RWTH Aachen University*, *Germany*

S87 - Evaluation Studies I
Room: Europa

Chair: **Panayiotis Zaphiris**, *City University, United Kingdom*

- **User Interface Evaluation Methods for Internet Banking Web Sites: A Review, Evaluation and Case Study**
  David Wenham , *City University*, *United Kingdom*; Panayiotis Zaphiris, *City University*, *United Kingdom*

- **Usability Evaluation for the Commercial Aircraft Cockpit**
  David Kaber, *North Carolina State University*, *United States*; Michael Clamann, *BOOZ Allen & Hamilton Inc.*, *United States*

- **Do Interrupted Users Work Faster or Slower? The Micro-analysis of Computerized Text Editing Task**
  Ivan Burmistrov, *Moscow State University*, *Russia*; Anna Leonova, *Moscow State University*, *Russia*

- **Understanding the tradeoffs of Interface Evaluation Methods**
  Jose Luiz Nogueira, *Universidade Federal Fluminense*, *Brasil*; Ana Cristina Bicharra Garcia, *Universidade Federal Fluminense*, *Brasil*

- **Assessment and Improvement of the Integrated Hazard Avoidance System for General Aviation Interface**
  Sheue-Ling Hwang, *National Tsing-Hua University*, *Taiwan*; Wen-Ying Chen, *National Tsing Hua University*, *Taiwan*

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S88 - Future Human-Machine System for Energy System Management
Room: Danae

Chair: **Yoshihiko Ozaki**, *Mitsubishi Electric Corporation, Japan* ; **Hidekazu Yoshikawa**, *Kyoto University, Japan*

- **The Advanced Main Control Board for Next Japanese PWR Plants**
  Akiyoshi Tsuchiya, *Hokkaido Electric Power CO., Inc.*, *Japan*; Takashi Yano, *Hokkaido Electric Power Co,. Inc.*, *Japan*; Koji Ito, *Mitsubishi Heavy Industries, Ltd.*, *Japan*; Masashi Kitamura, *Mitsubishi Electric Corporation*, *Japan*

- **Adaptive Plant Human-Machine Interface Based on State Recognition and Machine Learning**
  Kazuo Furuta, *The University of Tokyo*, *Japan*; Ichiro Kataoka, *Hitachi, Ltd.*, *Japan*; Keiichi Nakata, *The University of Tokyo*, *Japan*

- **Development of an Advanced Human-machine Interface System to Enhance Operating Availability of Nuclear Power Plants**
  Tadashi Ohi, *Mitsubishi Electric Corporation*, *Japan*; Wu Wei, *Mitsubishi Electric Corporation*, *Japan*; Yoshihiko Ozaki, *Mitsubishi Electric Corporation*, *Japan*; Hidekazu Yoshikawa, *Kyoto University*, *Japan*; Tetsuo Sawaragi, *Kyoto University*, *Japan*; Masaharu Kitamura, *Tohoku University*, *Japan*; Kazuo Furuta, *The University of Tokyo*, *Japan*; Akio Gofuku, *Okayama University*, *Japan*; Koji Ito, *Mitsubishi Heavy Industries, Ltd.*, *Japan*

- **Development of a Dynamic Operation Permission System for CRT-based operation interfaces**
  Akio Gofuku, *Okayama University*, *Japan*; Yoshihiko Ozaki, *Mitsubishi Electric Corporation*, *Japan*; Tadashi Ohi, *Mitsubishi Electric Corporation*, *Japan*; Koji Ito, *Mitsubishi Heavy Industries, Ltd.*, *Japan*

- **Design and Prototype Development of Building Energy Management Agent System**
  Fumiaki Obayashi, *Matsushita Electric Works, Ltd*, *Japan*; Yoshihiko Tokunaga, *Matsushita Electric Works, Ltd.*, *Japan*; Junji Nomura, *Matsushita Electric Works, Ltd.*, *Japan*

S89 - Usability Engineering in Industry - Overcome Obstacles and Start Up New Territories: Promoting Usability Engineering in New Territories - I
Room: Enia

Chair: **Zhengjie Liu**, *Dalian Maritime University, China*

- **Usability and HCI in India: cultural and technological determinants**
  Andrew Smith, *University of Luton*, *United Kingdom*; Kaushik Ghosh, *IESUP*, *India*; Anirudha Joshi, *IIT Bombay*, *India*

- **An Account of Factors that Determine HCI Design Uptake in a Techno-Centered Country Like Singapore**
  Kee Yong Lim, *Nanyang Technological University*, *Singapore*

- **User Interface Design in Korea: Research Directions for a Digital Society**
  Wan C. Yoon, *Korea Advanced Institute of Science and Technology (KAIST)*, *Korea*; Seung-Hun Yoo, *Korea Advanced Institute of Science and Technology*, *Korea*; Dong-Seok Lee, *Korea Advanced Institute of Science and Technology*, *Korea*

- **Promoting Usability Engineering in China**
  Zhengjie Liu, *Dalian Maritime University*, *China*; Haixin Zhang, *Dalian Maritime University*, *China*; Junliang Chen, *Dalian Maritime University*, *China*; Liping Zhang, *Dalian Maritime University*, *China*

- **Usability Engineering in South Africa Today: Challenges and Opportunities**
  Janet Wesson, *University of Port Elizabeth*, *South Africa*; Darelle Van Greunen, *University of Port Elizabeth*, *South Africa*

S90 - VIEW / IRMA – EU Projects on Industrial Applications of Virtual Environments II
Room: Minos North

Chair: **John Wilson**, *University of Nottingham, United Kingdom*

- **VIEW-IT: A VR/CAD Inspection Tool for use in Industry**
  Jolanda Tromp, *University of Nottingham*, *United Kingdom*; Sarah Nichols, *University of Nottingham*, *United Kingdom*

- **Building Virtual Environments using the Virtual Environment Development Structure: A Case Study**
  Mirabelle D'Cruz, *University of Nottingham*, *United Kingdom*; Alex Stedmon, *University of Nottingham*, *United Kingdom*; John Wilson, *University of Nottingham*, *United Kingdom*; Peter Modern, *British Nuclear Fuels Plc.*, *United Kingdom*; Graham Sharples, *British Nuclear Fuels Plc.*, *United Kingdom*

- **The Factory of the Future? The Integration of Virtual Reality for Advanced Industrial Applications**
  Peter Modern, *British Nuclear Fuels Plc.*, *United Kingdom*; Alex Stedmon, *University of Nottingham*, *United Kingdom*; Mirabelle D'Cruz, *University of Nottingham*, *United Kingdom*; John Wilson, *University of Nottingham*, *United Kingdom*; Graham Sharples, *British Nuclear Fuels Plc.*, *United Kingdom*

- **Two Methods and a Case Study: Human Factors Evaluations for Virtual Environments**
  Alex Stedmon, *University of Nottingham*, *United Kingdom*; Mirabelle D'Cruz, *University of Nottingham*, *United Kingdom*; Jolanda Tromp, *University of Nottingham*, *United Kingdom*; John Wilson, *University of Nottingham*, *United Kingdom*

- **Virtual Prints: An Empowering Tool for Virtual Environments**
  Alexandros Mourouzis, *ICS-FORTH*, *Greece*; Dimitris Grammenos, *ICS-FORTH*, *Greece*; Maria Filou, *ICS-FORTH*, *Greece*; Panagiotis Papadakos, *ICS-FORTH*, *Greece*; Constantine Stephanidis, *ICS-FORTH*, *Greece*

S91 - Rest Breaks, Health and Performance in HCI and Other Work Domains

Room: **Leda**

Chair: **Steven L. Sauter**, *NIOSH, United States*

- **Two Field Trials of Brief Rest Breaks to Reduce Musculoskeletal Symptoms**
  Julia Faucett, *University of California*, *United States*; James Meyers, *University of California, Berkeley*, *United States*; John Miles, *University of California, Davis*, *United States*; Ira Janowitz, *University of California, San Francisco/Berkeley*, *United States*; Fadi Fathallah, *University of California, Davis*, *United States*

- **Flexible Working Hours, Stress Factors and Well-being among IT Professionals**
  Pekka Huuhtanen, *Finnish Institute of Occupational Health*, *Finland*; Marketta Kivistö, *Finnish Institute of Occupational Health*, *Finland*

- **Use of Electronic Performance Monitoring to Promote Individual and Team-managed Rest Breaks: a Summary of Laboratory Research**
  Robert Henning, *University of Connecticut*, *United States*

- **A workplace study of frequent rest breaks and musculoskeletal outcomes in a data transcription task**
  Steven L. Sauter, *NIOSH*, *United States*

- **The relationship between job stressors and rest break behaviors in customer service representative work**
  Naomi Swanson, *NIOSH*, *United States*

S92 - Model-based Cognitive Engineering II

Room: **Aphrodite**

Chair: **Sundaram Narayanan**, *Wright State University, United States*

- **A SPN-Agents based model for Functional Modeling of Brain Regions Interaction**
  Sukarno Mertoguno, *AIIS Inc. , United States*; Despina Kavraki, *AIIS Inc. , United States*; Nik Bourbakis, *Wright State University*, *United States*

- **Biologically Inspired Analysis of Complex Systems:Back to Nature**
  Michele Wheatly, *Wright State University , United States*; Sundaram Narayanan, *Wright State University*, *United States*; Richard Koubek, *Penn State University*, *United States*; Craig Harvey, *Louisiana State University*, *United States*; Ling Rothrock, *Penn State University*, *United States*; Phil Smith, *Ohio State University*, *United States*; Michael Haas, *US Air Force Research Lab*, *United States*; William Nanry, *Air Force Institute of Technology*, *United States*

- **Multimodal Interface for Remote Vehicles Command and Control**
  Shruti Narakesari, *Wright State University*, *United States*; Sundaram Narayanan, *Wright State University*, *United States*; Jennie Gallimore, *Wright State University*, *United States*; Mark Draper, *US Air Force Research Lab*, *United States*

- **Source Recommendation System for Information Search and Retrieval**
  Narasimha Edala, *Wright State University*, *United States*; Lavanya Koppaka, *Wright State University*, *United States*; Sundaram Narayanan, *Wright State University*, *United States*; Donald Loritz, *Lexis-Nexis Alliances and New Technologies*, *United States*; Raymond Daley, *Lexis-Nexis Alliances and New Technologies*, *United States*

- **Generating Insights from Agent-Model Emergent Behavior**
  Raymond Hill, *Wright State University*, *United States*

S93 - Accessibility off the Beaten Path: Universal Access for Ubiquitous Computing

Room: **Deka Tria**

Chair: **Theresa A. O'Connell**, *Humans and Computers, Inc., United States*

- **Evaluating the Accessibility of Course Design Software and Online Learning Portals**
  Gabriele Meiselwitz, *Towson University*, *United States*; Jonathan Lazar, *Towson University*, *United States*; James Clements, *Towson University*, *United States*; Adam Jones, *The Center For Applied Information Technology*, *United States*

- **Evaluating User Interfaces for Accommodation of Individual Differences in Spatial Abilities and Way-Finding Strategies**
  Elizabeth D. Murphy, *U. S. Census Bureau*, *United States*; Sarah M. Nusser, *Iowa State University*, *United States*

- **Universal Interface Sockets and Virtual AT as Access Approaches for People with Severe, Extreme, and Multiple Disabilities**
  Gregg C. Vanderheiden, *University of Wisconsin*, *United States*

- **Prospectives of the Benefits of Agent and Semantic Web-Based Wireless Applications for the Elderly User**
  Theresa A. O'Connell, *Humans and Computers, Inc.*, *United States*; Jeff L. Burgett, *Seldon Systems*, *United States*; Catholijn M. Jonker, *Vrije Universiteit , Netherlands*; Karsten Silz, *Seldon Systems*, *Germany*

- **Detour Ahead: Current Roadblocks to Web Accessibility**
  Jonathan Lazar, *Towson University*, *United States*; Cheryl Schroeder-Thomas, *Towson University*, *United States*; Adam Jones, *The Center For Applied Information Technology*, *United States*; Kisha Greenidge, *Towson University*, *United States*; Patty Beere, *Towson University*, *United States*; James Clements, *Towson University*, *United States*

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S94 - Adaptation & Personalisation I

Room: **Pente**

Chair: **Yehya Mohamad**, *Fraunhofer - FIT, Germany*

- **Ontology Switching as Interaction Technique for the Semantic Web**
  Thomas Mandl, *University of Hildesheim*, *Germany*; Christa Womser-Hacker, *University of Hildesheim , Germany*

- **Plastic ML and its toolkit**
  José Rouillard, *Université des Sciences et Technologies de Lille , France*

- **Facilitating VR Museums Web Presence**
  George Lepouras, *University of Athens*, *Greece*; Akrivi Katifori, *University of Athens*, *Greece*; Costas Vassilakis, *University of Athens*, *Greece*; Anna Harissi, *University of Athens*, *Greece*

- **Applying Logic Inference Techniques for Gaining Flexibility and Adaptivity in Tutoring Systems**
  Matteo Baldoni, *Universita` di Torino*, *Italy*; Cristina Baroglio, *Universita` di Torino*, *Italy*; Viviana Patti, *Universita` di Torino*, *Italy*

- **An Approach for Personalisation and Content Adaptation for Accessible Internet Services Based on User and Device Profiles**
  Nikolaos Viorres, *University of the Aegean*, *Greece*; Panayiotis Koutsabasis, *University of the Aegean*, *Greece*; Argyris Arnellos, *University of the Aegean*, *Greece*; Jenny Darzentas, *University of the Aegean*, *Greece*; Carlos Velasco, *Fraunhofer - FIT*, *Germany*; Yehya Mohamad, *Fraunhofer - FIT*, *Germany*; Thomas Spyrou, *University of the Aegean*, *Greece*; John Darzentas, *University of the Aegean*, *Greece*

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S95 - Analogous Communication in Human Computer Interaction

Room: **Exi**

Chair: **Guido Kempter**, *University of Applied Sciences Vorarlberg, Austria*

- **Designing Systems that Make Use of Analogous Communication:a Distributed Cognition Perspective**
  Daniela Giordano, *Università degli Studi di Catania, , Italy*

- **What are the benefits of analogous communication in human computer interaction?**
  Guido Kempter, *University of Applied Sciences Vorarlberg*, *Austria*; Karl-Heinz Weidmann, *University of Applied Sciences Vorarlberg*, *Austria*; Pascale Roux, *University of Applied Sciences Vorarlberg*, *Austria*

- **Embodied Conversational Agents Research Questions and Applications.**
  Gary Bente, *University of Cologne*, *Germany*; Nicole Krämer, *University of Cologne*, *Germany*; Heike Blens, *University of Cologne*, *Germany*

- **Towards a Probabilistic Framework for Analogous Multi-Modal Human-Computer Interaction**
  Ole-Christoffer Granmo, *Agder University College*, *Norway*; Vladimir Oleshchuk, *Agder University College*, *Norway*; Mikael Snaprud, *Agder University College*, *Norway*

- **Facial expression analysis and synthesis: A survey**
  Stelios Krinidis, *Aristotle University of Thessaloniki*, *Greece*; Ioan Buciu, *Aristotle University of Thessaloniki*, *Greece*; Ioannis Pitas, *Aristotle University of Thessaloniki*, *Greece*

S96 - Automatic Web Evaluation Tools

Room: **Minos East**

Chair: **Anke Ahrend**, *International SOS Germany GmbH, Germany* ; **Jean Vanderdonckt**, *Université catholique de Louvain, Belgium*

- **Localization Issues in Automated Usability Engineering**
  Piotr Rejmer, *Université catholique de Louvain*, *Belgium*; Jean Vanderdonckt, *Université catholique de Louvain*, *Belgium*

- **The impact of internationalisation on guidelines contents and usage**
  Jean Vanderdonckt, *Université catholique de Louvain*, *Belgium*; Abdo Beirekdar, *Facultés Universitaires Notre-Dame de la Paix , Belgium*

- **A-Prompt: Promoting the Habituation of Accessible Web Authoring**
  Chris Ridpath, *University Of Toronto*, *Canada*; Jutta Treviranus, *University of Toronto, Canada*, *Canada*

- **KWARESMI – Knowledge-based Web Automated Evaluation Tool with Reconfigurable Guidelines Optimization**
  Abdo Beirekdar, *Facultés Universitaires Notre-Dame de la Paix , Belgium*; Jean Vanderdonckt, *Université catholique de Louvain*, *Belgium*; Monique Noirhomme-Fraiture, *Facultés Universitaires Notre-Dame de la Paix*, *Belgium*

- **User Interface Reverse Engineering**
  Laurent Bouillon, *Université catholique de Louvain*, *Belgium*; Jean Vanderdonckt, *Université catholique de Louvain*, *Belgium*

S97 - Design of Wireless and Mobile Services for Nomadic Users

Room: Apollo West

Chair: **Alessandro Andreadis**, *University of Siena, Italy* ; **Giuliano Benelli**, *University of Siena, Italy*

- **Conceptual Architecture for Mobility Context**
  Elisa Rubegni, *Siena University , Italy*; Maurizio Caporali, *University of Siena*, *Italy*
- **Traveling Narrative and Mediated Instruments**
  Anne Bationo, *Université Paris 8 France Telecom R&D*, *France*; Françoise Decortis, *FNRS University of Liege*, *Belgium*; Julien Kahn, *FRANCE TELECOM R&D / DIH / UCE / RCE*, *France*
- **Moving Target: Designing for Evolving Practice**
  Bill Papantoniou, *National Technical University of Athens , Greece*; Dimitris Nathanael, *National Technical University of Athens*, *Greece*; Nicolas Marmaras, *National Technical Universtiy to Athens*, *Greece*
- **"In the pocket" : an Empirical Study of Multimodal Devices for Mobile Activities**
  Guillaume Calvet, *GRIC-IRIT, Université Paul Sabatier*, *France*; Julien Kahn, *FRANCE TELECOM R&D / DIH / UCE / RCE*, *France*; Pascal Salembier, *GRIC-IRIT, Université Paul Sabatier*, *France*; Moustapha Zouinar, *GRIC-IRIT, Université Paul Sabatier*, *France*
- **Service Adaptation and Personalisation in the PALIO Project**
  Alessandro Andreadis, *University of Siena*, *Italy*; Pasquale Fedele, *University of Siena*, *Italy*; Giovanni Giambene, *University of Siena*, *Italy*; Jennifer Santoro, *University of Siena*, *Italy*

S98 - Recent Universal Access Activity in Japan

Room: Ikosi

Chair: **Makoto Sato**, *Tokyo Institute of Technology, Japan*

- **Immersive VR System "D-vision" for Universal Design**
  Makoto Sato, *Tokyo Institute of Technology*, *Japan*; Jaeho Ryu, *Tokyo Institute of Technology*, *Japan*; Hidenori Maruta, *Tokyo Institute of Technology*, *Japan*; Katsuhito Akahane, *Tokyo Institute of Technology*, *Japan*; Masaru Iwashita, *Tokyo Institute of Technology*, *Japan*; Naoki Hashimoto, *Tokyo Institute of Technology*, *Japan* ; Shoichi Hasegawa, *Tokyo Institute of Technology*, *Japan*
- **Wearable Finger-Braille Interface for Navigation of Deaf-Blind in Ubiquitous Barrier-Free Space**
  Michitaka Hirose, *University of Tokyo*, *Japan*; Tomohiro Amemiya, *The University of Tokyo*, *Japan*
- **Gaze-Based Interaction for Anyone, Anytime**
  Takehiko Ohno, *NTT Corporation*, *Japan*; Naoki Mukawa, *NTT Corporation*, *Japan*
- **Current Status of Universal Design for Information Technology in Japan**
  Chika Sekine, *UDIT Inc.*, *Japan*; Naoki Sakakibara, *UDIT Inc.*, *Japan*
- **Universal Design for Information Technology : Application to Research and Development**
  Yukie Motomiya, *Hitachi Ltd.*, *Japan*

S99 - Universal Access in the Mobile World

Room: Apollo East

Chair: **Eija Kaasinen**, *VTT Information Technology, Finland*

- **Designing for older and inexperienced mobile phone users**
  Martin Maguire, *Loughborough University*, *United Kingdom*; Zaheer Osman, *Loughborough University*, *United Kingdom*
- **Needs of the Active Elderly for Mobile Phones**
  Kimmo Tuomainen, *Nokia Mobile Phones*, *Finland*; Sanna Haapanen, *Nokia Mobile Phones*, *Finland*
- **3D audio news presentations modeling for mobile environment**
  Safia Djennane, *Siemens Corporate Research, Inc.*, *United States*; Stuart Goose, *Siemens Corporate Research, Inc.*, *United States*
- **The Ubiquitous Interactor – Universal Access to Mobile Services**
  Stina Nylander, *Swedish Institute of Computer Science*, *Sweden*; Markus Bylund, *Swedish Institute of Computer Science*, *Sweden*
- **Ubiquitous Computing and the Elderly**
  Jukka Riekki, *University of Oulu*, *Finland*; Juha Röning, *University of Oulu*, *Finland*

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S100 - Usability & Ergonomics

Room: Minos South

Chair: **Harald Weber**, *University of Technology Kaiserslautern, Germany*

- **The computerized method for heuristic aiding of ergonomic design process**
  Edwin Tytyk, *Poznan University of Technology*, *Poland*; Andrzej Lasota, *University of Zielona Gora*, *Poland*
- **Computer Aiding Method of Decision Making for Ergonomic Design of Man–Machine Systems**
  Edwin Tytyk, *Poznan University of Technology*, *Poland*; Katarzyna Ragin-Skorecka, *Poznan University of Technology*, *Poland*; Katarzyna Siemieniak, *Poznan University of Technology*, *Poland*
- **Usability Engineering Process Model. Integration with Software Engineering**
  Toni Granollers, *GRIHO/ University of Lleida*, *Spain*; Jesus Lores, *GRIHO / University of Lleida*, *Spain*; Ferran Perdrix, *GRIHO/University of Lleida*, *Spain*
- **Enhancing Usability Testing Skills of Novice Testers:A Longitudinal Study**
  Mikael Skov, *Aalborg University*, *Denmark*; Jan Stage, *Aalborg University*, *Denmark*
- **Table of Heuristic Evaluation for Communication of the Multimedia Systems**
  Francisco Cipolla Ficarra, *Universita di Bergamo*, *Italy*

S101 - User Interfaces for the Age of the Disappearing Computer

Room: Artemis

Chair: **Matina Halkia**, *Joint Research Center of the European Commission, Italy*

- **Levels of design: from usability to experience**
  Patrizia Marti, *University of Siena*, *Italy*; Antonio Rizzo, *University of Siena*, *Italy*
- **Adaptive Brain Interfaces for Communication and Control**
  José del R. Millán, *IDIAP*, *Switzerland*
- **Evaluating the Double-Deck Desk**
  William Gaver, *Royal College of Art*, *United Kingdom*; Andrew Boucher, *Royal College of Art*, *United Kingdom*; Heather Martin, *IDEO London*, *United Kingdom*
- **Re-appearing interfaces of objects**
  Achilles Kameas, *Research Academic Computer Technology Institute*, *Greece*; Irene Mavrommati, *Research Academic Computer Technology Institute*, *Greece*
- **Building the Brief: Action and Audience in Augmented Reality**
  Matina Halkia, *Joint Research Center of the European Commission*, *Italy*; Gary Local, *WebEd Design*, *Italy*

S102 - User, Context and Location Aware Interactive Services

Room: Poseidon

Chair: **Pier Luigi Emiliani**, *CNR-IFAC, Italy*

- **Supporting ubiquitous information on very small devices is harder than you think**
  David Hilbert, *FX Palo Alto Laboratory, Inc.*, *United States*; Jonathan Trevor, *FX Palo Alto Laboratory*, *United States*; Bill Schilit, *Intel Research , United States*
- **PALIO as an enabling platform for disabled and elderly people**
  Pier Luigi Emiliani, *CNR-IFAC*, *Italy*; Alexandros Paramythis, *ICS-FORTH*, *Greece*; Laura Burzagli, *CNR-IFAC*, *Italy*; Constantine Stephanidis, *ICS-FORTH*, *Greece*
- **The PALIO Framework for Hypermedia Adaptations**
  Alexandros Paramythis, *ICS-FORTH*, *Greece*; Chrisoula Alexandraki, *ICS-FORTH*, *Greece*; Ioannis Segkos, *ICS-FORTH*, *Greece*; Napoleon Maou, *ICS-FORTH*, *Greece*; Constantine Stephanidis, *ICS-FORTH*, *Greece*
- **Personalisable, Context-aware Services: The PALIO approach**
  Alexandros Paramythis, *ICS-FORTH*, *Greece*; Chrisoula Alexandraki, *ICS-FORTH*, *Greece*; Ioannis Segkos, *ICS-FORTH*, *Greece*; Napoleon Maou, *ICS-FORTH*, *Greece*; Constantine Stephanidis, *ICS-FORTH*, *Greece*
- **An Influence Diagrams-Based Approach to Location Aware Mobile Computing**
  Vasilios Zarikas, *ICS-FORTH*, *Greece*; Constantine Stephanidis, *ICS-FORTH*, *Greece*

S103 - Adaptive Techniques I

Room: **Ikosi**

Chair: **Elisabeth Davenport**, *Napier University, United Kingdom*

- **Adaptive Smart Home System**
  Vidas Lauruska, *Siauliai University*, *Lithuania*; Paulius Serafinavicius, *Siauliai University*, *Lithuania*
- **Incorporating Adaptivity in User Interface for Computerized Educational Systems**
  Andrina Granic, *University of Split*, *Croatia*; Vlado Glavinic, *University of Zagreb*, *Croatia*
- **Adaptive Fuzzy Inference Neural Network**
  Hitoshi Iyatomi, *Keio University*, *Japan* ; Masafumi Hagiwara, *Keio University*, *Japan*
- **Using context information to generate dynamic user interfaces**
  Xavier Alaman, *Universidad Autonoma de Madrid*, *Spain*; Ruben Cabello, *Universidad Autónoma de Madrid*, *Spain*; Francisco Gómez-Arriba, *Universidad Autónoma de Madrid*, *Spain*; Pablo Haya, *Universidad Autonoma de Madrid*, *Spain*; Antonio Martínez, *Universidad Autónoma de Madrid*, *Spain*; Javier Martínez, *Universidad Autónoma de Madrid*, *Spain*; Germán Montoro, *Universidad Autónoma de Madrid*, *Spain*
- **UISB – The User Interface Specification Browser**
  Marko Nieminen, *Helsinki University of Technology*, *Finland*; Toni Koskinen, *Helsinki University of Technology*, *Finland*; Mikael Johnson, *Helsinki University of Technology*, *Finland*

S104 - Advanced HMI for Automotive Applications

Room: **Aphrodite**

Chair: **Angelos Amditis**, *National Technical University of Athens, Greece*

- **Development of Ergonomic Mock-Ups for Usability Testing of In-Vehicle Communicating Systems**
  Annie Pauzie, *INRETS / LESCOT*, *France*
- **User Requirements and Customer Benefit Analysis in the Design of a Novel Driver Support System for Night Vision**
  Michele Mariani, *University of Siena*, *Italy*; Serena Palmieri, *University of Siena*, *Italy*; Luisa Andreone, *Fiat Research Centre*, *Italy*; Fabio Tango, *Fiat Research Centre*, *Italy*
- **Destination entry while driving: The benefit of constrained options to act in multitask situations exemplified by two route guidance systems**
  Georg Jahn, *Chemnitz University of Technology*, *Germany*; Andreas Keinath, *Chemnitz University of Technology*, *Germany*; Josef Krems, *Chemnitz University of Technology*, *Germany*; Christhard Gelau, *Federal Highway Research Institute (BASt)*, *Germany*
- **COMUNICAR: Subjective Mental Effort when driving with an Information Management System**
  Marika Hoedemaeker, *TNO Human Factors*, *Netherlands*; Roland Schindhelm , *TNO Human Factors*, *Netherlands*; Christhard Gelau, *Federal Highway Research Institute (BASt)*, *Germany*; Francesco Bellotti, *University of Genoa*, *Italy*; Angelos Amditis, *National Technical University of Athens*, *Greece*; Roberto Montanari, *CRF - Centro Ricerche Fiat*, *Italy*; Stefan Mattes, *Daimler Chrysler AG*, *Germany*
- **Novice Drivers Training in ADAS HMI The TRAINER Results**
  Maria Panou, *Hellenic Institute of Transport (CERTH/HIT)*, *Greece*; Evangelos Bekiaris, *Hellenic Institute of Transport (CERTH/HIT)*, *Greece*; Juan Francisco Dolls, *Polytechnic University of Valencia*, *Spain*; Christian Knoll, *Fraunhofer - IAO*, *Germany*; Torbjörn Falkmer, *Swedish National Road & Transport Research Institute*, *Sweden*
- **DEVELOPING IN-CAR PDA-BASED TOUR GUIDES**
  Francesco Bellotti, *University of Genoa*, *Italy*; Ricc`ardo Berta, *DIBE – Univ. of Genoa* , *Italy*; Massimiliano Margarone, *DIBE – Univ. of Genoa* , *Italy*; Alessandro De Gloria, *DIBE – Univ. of Genoa* , *Italy*

S105 - User Interaction in the Web

Room: **Danae**

Chair: **Fabio Vitali**, *University of Bologna, Italy*

- **Feijoo.net: An Approach to Adapted Learning Using Learning Styles**
  María del Puerto Paule Ruíz, *University of Oviedo*, *Spain*; Juan Ramon Pérez Pérez, *University of Oviedo*, *Spain*; Martín González Rodríguez, *University of Oviedo*, *Spain*; Sergio Ocio Barriales, *University of Oviedo*, *Spain*
- **IOWA Intuitive-use Oriented Webtool for the creation of Adapted contents**
  Sergio Ocio Barriales, *University of Oviedo*, *Spain*; María del Puerto Paule Ruíz, *University of Oviedo*, *Spain*; Martín González Rodríguez, *University of Oviedo*, *Spain*; Juan Ramon Pérez Pérez, *University of Oviedo*, *Spain*
- **Presenting Results of a Search Engine for Recorded Lectures in order to Support Relevance Decisions by the User**
  Wolfgang Huerst, *University of Freiburg*, *Germany*
- **Web Browsing Activity Visualization System For Administrator Assistance using Browsing Information**
  Satoshi Togawa, *Tokushima University*, *Japan*; Kazuhide Kanenishi, *Tokushima University*, *Japan*; Yoneo Yano, *Tokushima University*, *Japan*
- **The Effects of Expertise in Web Searching**
  Christine Jenkins, *Creighton University*, *United States*; Cynthia Corritore, *Creighton University*, *United States*; Susan Wiedenbeck, *Drexel University*, *United States*
- **At the Right Time: when to sort web history and bookmarks**
  Alan Dix, *Lancaster University*, *United Kingdom*; Jason Marshall, *Loughborough University*, *United Kingdom*

Parallel Paper Presentations

Thursday 26 June 2003 • 14:00 - 16:00

HCI

S106 - Web Usability

Room: **Minos South**

Chair: **Nikolaos Avouris**, *University of Patras, Greece*

- **Tools for Remote Web Usability Evaluation**
  Fabio Paterno, *ISTI-CNR*, *Italy*
- **Usability evaluation of e-commerce sites based on design patterns and heuristic criteria**
  Maria Sartzetaki, *Technological Education Inst. of Piraeus*, *Greece*; Y. Psaromiligkos, *Technological Education Inst. of Piraeus*, *Greece*; Symeon Retalis, *Univesrity of Cyprus*, *Cyprus*; P. Avgeriou, *University of Cyprus*, *Cyprus*
- **Improving web site usability through a clustering approach**
  Martha Koutri, *University of Patras*, *Greece*; Sophia Daskalaki, *University of Patras*, *Greece*
- **Web-site quality evaluation,a case study on European cultural web-sites**
  Sofia Z. Karagiorgoudi, *University of Patras*, *Greece*; Emmanouil G. Karatzas, *University of Patras*, *Greece*; Theodore S. Papatheodorou, *University of Patras*, *Greece*
- **Automatic Web Resource Discovery for Subject Gateways**
  Konstantinos Zygogiannis, *University of Lancaster*, *United Kingdom*; Christos Papatheodorou, *Ionian University*, *Greece*; Konstantinos Chandrinos, *NCSR Demokritos*, *Greece*; Konstantinos Makropoulos, *NCSR Demokritos*, *Greece*
- **A Web Agent for Automatic Extraction of Language Resources from Hypermedia Environments**
  Kyriakos Sgarbas, *University of Patras*, *Greece*; George E. Londos, *University of Patras*, *Greece*; Nikos D. Fakotakis, *University of Patras*, *Greece*; George K. Kokkinakis, *University of Patras*, *Greece*

S107 - Collaboration & Cooperation Support II

Room: **Pente**

Chair: **Duska Rosenberg**, *Royal Holloway University of London, United Kingdom*

- **Discussion over a shared file system**
  Younosuke Furui, *Kyushu University*, *Japan*; Katsuya Matsunaga, *Kyushu University*, *Japan*; Kazunori Shidoji, *Kyushu University*, *Japan*
- **Web Interfaces between users and a centralized MAS for the technological watch**
  Emmanuel Adam, *University of Valenciennes* , *France*; Melanie Lecomte, *University of Valenciennes*, *France*
- **Human Computer Interaction and Cooperative Learning in Mobile Environments**
  Bernd Eßmann, *Universität Paderborn*, *Germany*; Thorsten Hampel, *Universität Paderborn*, *Germany*
- **Agent-Based User Interface Customization in a System-Mediated Collaboration Environment**
  Holger Brocks, *Fraunhofer - IPSI*, *Germany*; Ulrich Thiel, *Fraunhofer - IPSI*, *Germany*; Adelheit Stein, *Fraunhofer - IPSI*, *Germany*
- **Estimation of Useful Field of View on the Situation of Driving Work**
  Kimihiro Yamanaka, *Konan University*, *Japan*; Hidetoshi Nakayasu, *Konan University*, *Japan*; Kazuaki Maeda, *Konan University*, *Japan*
- **The Competence Card – A Tool to improve Service**
  Walter Ganz, *Fraunhofer - IAO*, *Germany*; Anne-Sophie Tombeil, *Fraunhofer - IAO*, *Germany*

S108 - Medical Interfaces

Room: **Exi**

Chair: **Fillia Makedon**, *Dartmouth College, United States*

- **An automated system for studying brain function and brain connectivity in a clinical setting**
  Konstantinos Arfanakis, *Illinois Institute of Technology*, *United States*; Ian Heaton , *Miami Children's Hospital*, *United States*
- **Visualization of Interaction Patterns in Collaborative Knowledge Networks for Medical Applications**
  Peter Gloor, *MIT*, *United States*; Rob Laubacher, *MIT* , *United States*; Scott Dynes, *Dartmouth Tuck CDS*, *United States*; Yan Zhao, *Dartmouth College*, *United States*
- **Knowledge Management Systems: Issues concerning collaboration**
  George Vouros, *University of The Aegean*, *Greece*
- **Multi-Functional Data Collection Interfaces for Biomedical Research Collaboration**
  Fillia Makedon, *Dartmouth College*, *United States*; Tilmann Steinberg, *Dartmouth College*, *United States*; Laurence Rahme, *Massachusetts General Hospital*, *United States*; Aria Tzika, *Massachusetts General Hospital*, *United States*; Heather Wishart, *Dartmouth-Hitchcock Medical Center*, *United States*; Yuhang Wang, *Dartmouth College*, *United States*
- **The Clinical Perspective of Large Scale Projects: A Case Study with Pediatric Brain Tumors & Multiparametric MR Imaging**
  Loukas Astrakas, *Massachusetts General Hospital*, *United States*; Aria Tzika, *Massachusetts General Hospital*, *United States*; Fillia Makedon, *Dartmouth College*, *United States*; Sarantos Kapidakis, *Ionian University*, *Greece*; Song Ye, *Dartmouth College*, *United States*; James Ford, *Dartmouth College*, *United States*
- **Visualizing Medical Imagery in Situ: Augmented Reality as X-Ray Vision**
  Charles Owen, *Michigan State University*, *United States*; Arthur Tang, *Michigan State University*, *United States*

S109 - New Developments in Work Analysis and Design
Room: Minos North

Chair: **Bernhard Zimolong**, *Ruhr University Bochum, Germany*

- **"Job redesign" – still between work organization and work rationalization**
  Ekkehart Frieling, *University of Kassel, Germany*; Sascha Störmer, *University of Kassel, Germany*
- **Work and Off-the-Job Acticities: An Important New Field of Work Analysis**
  Marianne Resch, *Universität Flensburg, Germany*
- **Constraint-Based Teamwork Analysis in the Software Industry**
  Bernhard Zimolong, *Ruhr University Bochum, Germany*; Thorsten Uhle, *Ruhr-University of Bochum, Germany*; Stephan Kolominski, *Ruhr-University of Bochum , Germany*; Patrick Wiederhake, *Ruhr-University of Bochum , Germany*
- **"Stressors of organizational conditions" – a new design-oriented work analysis instrument**
  Markus Buch, *University of Kassel, Germany*
- **Reliability Analysis and Design in Computer-Assisted Surgery**
  Andreas Zimolong, *Synaix IT Aachen, Germany*; Klaus Rademacher, *Helmholtz-Institut Aachen, Germany*; Martin Stockheim, *St. Josef-Hospital Universitätsklinik, Germany*; Bernhard Zimolong, *Ruhr University Bochum, Germany*; Günter Rau, *Helmholtz-Institut Aachen, Germany*
- **Prognostic Work Analysis Using a Simulation Approach**
  Gert Zülch, *Universitaet Karlsruhe, Germany*; Sascha Stowasser, *University Karlsruhe, Germany*; Rainer Schwarz, *University Karlsruhe, Germany*

S110 - Shaping Information Spaces
Room: Apollo East

Chair: **Laurence Nigay**, *University of Grenoble, France*

- **Semantically Enhanced Hypermedia: A First Step**
  Ivana Alfaro, *ITC-irst, Italy*; Massimo Zancanaro, *ITC-irst, Italy*; Alessandro Cappelletti, *ITC-irst, Italy*; Marianna Nardon, *ITC-irst, Italy*; Annalisa Guerzoni, *ITC-irst, Italy*
- **The Conceptual Model for E-Learning Meta-Data Structure**
  Päivi Pöyry, *Helsinki University of Technology, Finland*; Lauri Repokari, *Helsinki University of Technology, Finland*; Heli Kautonen, *Helsinki University of Technology, Finland*
- **Contextualizing Search Results in Networked Directories**
  Christoph Kunz, *Fraunhofer - IAO, Germany*; Veit Botsch, *Fraunhofer - IAO, Germany*; Jürgen Ziegler, *Fraunhofer - IAO, Germany*; Dieter Spath, *Fraunhofer - IAO, Germany*
- **Putting Order to Episodic and Semantic Learning Memories:The Case for KLeOS**
  Giasemi Vavoula, *University of Birmingham, United Kingdom*; Mike Sharples, *University of Birmingham, United Kingdom*
- **Cognitive Strategies and the Process of Teaching and Learning**
  Júnia Silva, *Federal University of Sao Carlos, Brasil*; Vania Almeida, *Federal University of Sao Carlos, Brasil*; Rafael Orbolato, *Federal University of Sao Carlos, Brasil*
- **Adaptive and Context-Aware Information Environments based on ODIN – Using Semantic and Task Knowledge for User Interface Adaptation in Information Systems**
  Maximilian Stempfhuber, *Social Science Information Centre (IZ), Germany*

S111 - Office Work
Room: Deka Tria

Chair: **Andrew Sears**, *UMBC, United States*

- **What is the Most Beneficial Type of Recreation for Computer Operators?**
  Iiji Ogawa, *Teikyo University of Science & Technology, Japan*; Takumi Sakamoto, *Teikyo University of Science & Technology, Japan*
- **Can Computer Work Retard Aging?**
  Ülo Kristjuhan, *Tallinn Technical University, Estonia*
- **An Observational and Interview Study on Personal Digital Assistant (PDA) Uses by Clinicians in Different Contexts**
  Yen-Chiao Lu, *University of Maryland, United States*; Yan Xiao, *University of Maryland Baltimore, United States*; Andrew Sears, *UMBC, United States*; Julie Jacko, *Georgia Institute of Technology, United States*
- **Is the trackball a serious alternative to the mouse? A comparison of trackball and mouse with regard to cursor movement performance in manipulation tasks**
  Martina Ziefle, *Aachen University, Germany*
- **Task Performance with a Wearable Augmented Reality Interface for Welding**
  Holger Luczak, *RWTH Aachen University, Germany*; Milda Park, *Aachen University, Germany*; Björn Balazs, *Aachen University, Germany*; Stefan Wiedenmaier, *Aachen University, Germany*; Ludger Schmidt, *RWTH Aachen University, Germany*
- **Stress in the Office: the Influence of Software-Ergonomic Quality**
  Jörn Hurtienne, *Büro für Arbeits- und Organisationspsychologie GmbH, Germany*; Jochen Prümper, *FHTW-Fachhochschule für Technik und Wirtschaft, Germany*

Parallel Paper Presentations

Thursday 26 June 2003 • 14:00 - 16:00

HCI EP&CE UAHCI

S112 - Work with VDU - Health Consequences
Room: Leda

Chair: **Arne Aarås**, *Buskerud University College, Norway*

- **Position of the arm and the musculoskeletal disorders**
  Arne Aarås, *Buskerud University College, Norway*; Gunnar Horgen , *Buskerud College, Norway*
- **Visual Discomfort Among VDU-users wearing Single Vision Lenses compared to VDU-progressive Lenses?**
  Gunnar Horgen , *Buskerud College, Norway*; Arne Aarås, *Buskerud University College, Norway*; Magne Thoresen, *University of Oslo, Norway*
- **VDU-work and the preferred line-of-sight after long term exposure to different monitor placements**
  Knut Inge Fostervold, *University of Oslo, Norway*
- **Lighting of VDT Workstands and Users' Visual Discomfort – Results of an Experimental Study**
  Agnieszka Wolska, *Central Institute for Labour Protection, National Research Institute, Poland*
- **The effect of mental demand on performance and muscle activity during computer use**
  Bente Jensen, *University of Copenhagen, Denmark*; Bjarne Laursen, *Nat. Inst. of Public Health, Denmark*; Anne Helene Garde, *Nat. Inst. of Occup. Health, Denmark*; Anker Jørgensen, *IT University of Copenhagen, Denmark*
- **Interactions of Visual and Motor Demands on Reaching Actions at Workstations**
  Marvin J. Dainoff, *Miami University Oxford, United States*; Leonard Mark, *Miami University Oxford, United States*; Douglas Gardner, *Miami University Oxford, United States*

S113 - Human Error and Performance
Room: Poseidon

Chair: **Neville Stanton**, *Brunel University, United Kingdom*

- **Operational barrier to control human error**
  Frédéric Van Der Haegen, *LAMIH - CNRS, France*
- **Predicting Pilot Error: Assessing the Performance of SHERPA**
  Neville Stanton, *Brunel University, United Kingdom*; Paul Salmon, *Brunel University, United Kingdom*; Don Harris, *Cranfield University, United Kingdom*; Jason Demagalski, *Cranfield University, United Kingdom*; Andrew Marshall, *Marshall Ergonomics Limited, United Kingdom*; Thomas Waldmann, *University of Limerick, Ireland*; Sidney Dekker, *Linköping Institute of Technology , Sweden*
- **Reducing Interaction Style Errors in Task-Switching**
  Antti Oulasvirta, *Helsinki Institute for Information Technology, Finland*; Hannu Kuoppala, *Helsinki University of Technology, Finland*
- **An Analysis of Potential of Human Error in Hospital Work**
  Yusaku Okada, *Keio University, Japan*
- **Development of an Error Management Taxonomy in ATC**
  Thomas Bove, *Bang & Olufsen A/S, Denmark*; Henning Andersen, *Risø National Laboratory, Denmark*
- **Predicting Design Induced Pilot Error: A comparison of SHERPA, Human Error HAZOP, HEIST and HET, a newly developed aviation specific HEI method**
  Paul Salmon, *Brunel University, United Kingdom*; Neville Stanton, *Brunel University, United Kingdom*; Mark Young, *Brunel University, United Kingdom*; Don Harris, *Cranfield University, United Kingdom*; Jason Demagalski, *Cranfield University, United Kingdom*; Andrew Marshall, *Marshall Ergonomics Limited, United Kingdom*; Thomas Waldmann, *University of Limerick, Ireland*; Sidney Dekker, *Linköping Institute of Technology , Sweden*

S114 - Adaptation & Personalisation II
Room: Europa

Chair: **Christophe Kolski**, *University of Valenciennes, France*

- **Dynamic Adaptation of Navigation Models in Hypermedia: Project Tirsus, a case of Study**
  Aitor De la Puente Salán, *University of Oviedo, Spain*; Juan Ramon Pérez Pérez, *University of Oviedo, Spain*; Sergio Ocio Barriales, *University of Oviedo, Spain*; Martín González Rodríguez, *University of Oviedo, Spain*
- **Pipelined Filter Combination in Product Personalization**
  Volker Renneberg, *University of German Federal Armed Forces, Germany*; Uwe M. Borghoff, *University of German Federal Armed Forces, Germany*
- **Building Adaptive Training and Therapeutic Systems by Considering the User's Affective States**
  Yehya Mohamad, *Fraunhofer - FIT, Germany*; Carlos Velasco, *Fraunhofer - FIT, Germany*; Holger Tebarth, *Klinik am Schlossgarten, Germany*; Thomas Berlage, *Fraunhofer - FIT, Germany*
- **Services and Methods for Personalized Customer Interaction**
  Joannis Vlachakis, *Fraunhofer - IAO, Germany*; Helmut Beckmann, *Fraunhofer - IAO, Germany*
- **Can a web page layout be optimized?**
  Mehmet Mutlu Yenisey, *Istanbul Technical University, Turkey*
- **An Intelligent Agent-Based Personalized Information System**
  Christelle Petit-Rozé, *University of Valenciennes, France*; Emmanuelle Grislin-Le Strugeon, *University of Valenciennes, France*; Guillaume Uster, *INRETS-ESTAS, France*; Christophe Kolski, *University of Valenciennes, France*

S115 - Computer Applications for Blind and Visually Impaired Users

Room: **Enia**

Chair: **Sri Hastuti Kurniawan**, *UMIST, United Kingdom*

- **Towards an improvement of the accessibility of Brazilian Federal Government websites to people with low vision**
  Elza Maria Barboza, *IBICT*, *Brazil*; Eny Nunes, *IBICT*, *Brazil*

- **Interaction of Visually Impaired Users in Virtual Environment with Spatial Sound Enhancement**
  Vladislav Nemec, *Czech Technical University in Prague*, *Czech Republic*; Adam.J. Sporka, *Czech Technical University in Prague , Czech Republic*; Pavel Slavik, *Czech Technical University in Prague*, *Czech Republic*

- **The Use of Design for All to Support Elderly Blind and Partially Sighted Users to Retain their Independence**
  Gill Whitney, *Middlesex University*, *United Kingdom*

- **TACTOS: A Special Computer Interface for the Reading and Writing of 2D Forms in Blind People**
  Olivier Gapenne, *Université de Technologie de Compiègne*, *France*; Amal Ali Ammar, *Universite de technologie de Compiegne*, *France*; Charles Lenay, *Université de Technologie de Compiègne*, *France*; Katia Rovira, *Université de Rouen , France*

- **Accessibility, Usability and Cognitive Considerations in Evaluating Systems with Users who are Blind**
  Helen Graupp, *Royal National Institute of the Blind*, *United Kingdom*; Keith Gladstone, *Royal National Institute of the Blind*, *United Kingdom*; Cathy Rundle, *Royal National Institute of the Blind*, *United Kingdom*

- **A Shared Interface Model for Services Dedicated to Visual Impaired Pupils**
  Claude Moulin, *Université de Technologie de Compiègne*, *France*; Cristian Lai, *CRS4*, *Italy*; Fernando Rosa, *CRS4*, *Italy*

S116 - Interaction Devices & Techniques for Universal Access II

Room: **Artemis**

Chair: **Gerhard Weber**, *University of Kiel, Germany*

- **3D Interactive Augmented Reality in Early Stages of Product Design**
  Pedro Santos, *Fraunhofer - IGD*, *Germany*; Holger Graf, *Fraunhofer - IGD*, *Germany*; Timo Fleisch, *Fraunhofer - IGD*, *Germany*; André Stork, *Fraunhofer - IGD*, *Germany*

- **Using a Bicycle Interface for Interaction and Games**
  Henry Thomas, *France Telecom R&D*, *France*; Rob White, *The London Institute*, *United Kingdom*

- **Video-based Interaction for a Mixed Reality Kiosk System**
  Cornelius Malerczyk, *ZGDV e.V. Computer Graphics Center*, *Germany*; Michael Schnaider, *ZGDV e.V. Computer Graphics Center*, *Germany*; Tim Gleue, *Fraunhofer - IAO*, *Germany*

- **A Virtual Showcase with Intuitive Hands-Free View Control**
  Hiroshi Dohi, *University of Tokyo*, *Japan*; Mitsuru Ishizuka, *University of Tokyo*, *Japan*

- **Emotionally-rich Man-machine Interaction Based on Ges-ture Analysis**
  Athanasios Drosopoulos, *National Technical University of Athens*, *Greece*; Themis Balomenos, *National Technical University of Athens*, *Greece*; Spiros Ioannou , *National Technical University of Athens*, *Greece*; Kostas Karpouzis, *National Technical University of Athens*, *Greece*; Stefanos Kollias, *National Technical University of Athens*, *Greece*

- **Counting Fingers in Real Time: A Webcam-Based Human-Computer Interface with Game Applications**
  Stephen Crampton, *Boston University*, *United States*; Margrit Betke, *Boston University*, *United States*

S117 - Towards Education for All - Extending Today's Definition of Accessibility

Room: **Apollo West**

Chair: **Harald Weber**, *University of Technology Kaiserslautern, Germany*

- **ICT enabling access to the curriculum: UK initiatives**
  Terry Waller, *British Educational Communications and Technology Agency*, *United Kingdom*

- **ECDL PD: Access to a Standard Certificate Based on Universal Access to HCI**
  Klaus Miesenberger, *University of Linz*, *Austria*; Andrea Petz, *University of Linz*, *Austria*; Denise Leahy, *Trinity College*, *Ireland*

- **Focus on Content: helping Irish teachers to access, identify and customize educational software for classroom use**
  Anne Phelan, *National Centre for Technology in Education*, *Ireland*

- **Building Adaptive Learning Material with Distinct Authors**
  Jaakko Kurhila, *University of Helsinki*, *Finland*

- **Providing ICT/IST professionals with access to resources in Special Educational Needs (SEN) and vice versa - a European network approach**
  Jørgen Greve, *European Agency for Development in Special Needs Education*, *Denmark*; Victoria Soriano, *European Agency for Development in Special Needs Education*, *Denmark*; Harald Weber, *University of Technology Kaiserslautern*, *Germany*

- **Information and Communication Technology (ICT) in Special Needs Education (SNE) - Future Visions for Policy, Practice and Research & Development**
  Amanda Watkins, *European Agency for Development in Special Needs Education*, *Denmark*

S118 - User Requirements

Room: **Minos East**

Chair: **Pier Luigi Emiliani**, *CNR-IFAC, Italy*

- **Towards a Cognitive Accessibility Guideline based on Empirical Evidences of Deaf Users Web Interaction**
  Inmaculada Fajardo, *University of the Basque Country*, *Spain*; Jose Cañas, *University of Granada*, *Spain*; Ladislao Salmeron, *University of Granada*, *Spain*; Julio Abascal, *The University of the Basque Country*, *Spain*

- **Effects of grouping thumbnail images in visual search**
  Hisanori Masuda, *University of Yamanashi*, *Japan*; Kentaro Go, *University of Yamanashi*, *Japan*; Atsumi Imamiya, *University of Yamanashi*, *Japan*

- **An investigation to the searching strategies for the information on foreign web sites**
  Kuo-Hung Huang, *National Chiayi University*, *Taiwan*

- **A User-Centered Quality Model for Web Applications**
  Federica Paganelli, *University of Firenze*, *Italy*; Maria Chiara Pettenati, *University of Florence*, *Italy*

- **Specifying Usability Requirements for e-Government Portals: Processes and Target Groups as Key Criteria**
  Ute Holler, *University of Linz*, *Austria*; Maria A. Wimmer , *University of Linz*, *Austria*

- **Addressing User Interaction Requirements in Real Time using Adaptive Interactive Dialogs**
  Martín González Rodríguez, *University of Oviedo*, *Spain*; María del Puerto Paule Ruíz, *University of Oviedo*, *Spain*; Juan Ramon Pérez Pérez, *University of Oviedo*, *Spain*; Sergio Ocio Barriales, *University of Oviedo*, *Spain*

S119 - Visual Data Mining

Room: **Athena**

Chair: **Maria Francesca Costabile**, *Università di Bari, Italy*

- **Visual Data Mining: An Experience with the Users**
  Stephen Kimani, *Universita' di Roma*, *Italy*; Tiziana Catarci, *Università di Roma*, *Italy*; Giuseppe Santucci, *Università di Roma*, *Italy*

- **Helping users get started with visual interfaces: multi-layered interfaces, integrated initial guidance and video demonstrations**
  Catherine Plaisant, *University of Maryland*, *United States*; Hyunmo Kang, *University of Maryland*, *United States*; Ben Shneiderman, *University of Maryland*, *United States*

- **Rapid Serial Visual Presentation Techniques for Visualizing a 3rd Data Dimension**
  Kent Wittenburg, *Mitsubishi Electric Research Laboratories*, *United States*; Tom Lanning, *Mitsubishi Electric Research Laboratories*, *United States*; Cliff Forlines, *Mitsubishi Electric Research Laboratories*, *United States*; Alan Esenther, *Mitsubishi Electric Research Laboratories*, *United States*

- **Parallel Coordinates for Interactive Exploration of Association Rules**
  Dario Bruzzese, *Università di Napoli Federico II*, *Italy*; Cristina Davino, *University of Macerata*, *Italy*; Domenico Vistocco, *Università di Napoli Federico II*, *Italy*

- **A Component-Based Architecture Supporting Visual Data Mining Applications**
  Martin Leissler, *Fraunhofer - IPSI*, *Germany*; Gerald Jaeschke, *Fraunhofer - IPSI*, *Germany*; Matthias Hemmje, *Fraunhofer - IPSI*, *Germany*

- **Analysing Association Rules with an Interactive Graph-Based Technique**
  Paolo Buono, *Università di Bari*, *Italy*

S120 - Design Theory

Room: **Aphrodite**

Chair: **Simone Barbosa**, *Pontifícia Universidade Católica do Rio de Janeiro, Brazil*

- **Specifying the User Interface as an Interactive Message**
  Jair Leite, *Federal University of Rio Grande do Norte*, *Brazil*

- **The Semiotic Engineering Use of Models for Supporting Reflection-in-Action**
  Simone Barbosa, *Pontifícia Universidade Católica do Rio de Janeiro*, *Brazil*; Clarisse Sieckenius de Souza, *Pontifícia Universidade Católica do Rio de Janeiro*, *Brasil*; Maíra Greco de Paula, *Pontifícia Universidade Católica do Rio de Janeiro*, *Brasil*

- **Automatic Generation of Interactive Systems: Why A Task Model is not Enough**
  Philippe Palanque, *Université Paul Sabatier*, *France*; Rémi Bastide, *Université Toulouse , France*; Marco Winckler, *Université Paul Sabatier*, *France*

- **A Theory of Information Scent**
  Peter Pirolli, *PARC*, *United States*

- **Finding Decisions Through Artefacts**
  Alan Dix, *Lancaster University*, *United Kingdom*; Devina Ramduny-Ellis, *Lancaster University*, *United Kingdom*; Paul Rayson, *Lancaster University*, *United Kingdom*; Victor Onditi, *Lancaster University*, *United Kingdom*; Ian Sommerville, *Lancaster University*, *United Kingdom*; Adrian Mackenzie, *Lancaster University*, *United Kingdom*

S121 - e-Learning II
Room: **Athena**

Chair: **Diamantino Freitas**, *University of Porto, Portugal*

- **Effects of WWW Cooperative Learning on Children Education**
  Teresa Roselli, *Università degli Studi di Bari*, *Italy*; Eleonora Faggiano, *Università degli Studi di Bari*, *Italy*; Antonella Grasso, *Università degli Studi di Bari*, *Italy*; Paola Plantamura, *Università degli Studi di Bari*, *Italy*

- **SpyCam and RoboCam: An Application of the Future Technology Workshop Method to the Design of New Technology for Children**
  Giasemi Vavoula, *University of Birmingham*, *United Kingdom*; Mike Sharples, *University of Birmingham*, *United Kingdom*; James Cross, *University of Birmingham*, *United Kingdom*; Chris Baber, *University of Birmingham*, *United Kingdom*

- **Exploring Medium-Tool Relations: Field Trials in Construction of Hypermedia in Schools**
  Anders Kluge, *University of Oslo*, *Norway*

- **A prototype application for helping to teach how to read numbers**
  Diamantino Freitas, *University of Porto*, *Portugal*; Helder Ferreira, *University of Porto , Portugal*; Vitor Carvalho, *Universidade do Porto*, *Portugal*; Dárida Fernandes, *Polytechnic Institute of Porto , Portugal*; Fernando Pedrosa, *Polytechnic Institute of Porto , Portugal*

- **Educational Software Interfaces and Teacher's Use**
  Walquíria Castelo-Branco Lins, *Universidade Federal de Pernambuc*, *Brazil*; Alex Sandro Gomes, *Universidade Federal de Pernambuco*, *Brazil*

S122 - Evaluation Studies II
Room: **Deka Tria**

Chair: **Reinhard Oppermann**, *Fraunhofer - FIT, Germany*

- **A «Combinatory Evaluation» Approach in the Case of a CBL Environment: The «Orestis» Experience**
  Athanasis Karoulis, *Aristotle University of Thessaloniki*, *Greece*; Stavros Demetriadis , *Aristotle University of Thessaloniki*, *Greece*; Andreas Pombortsis, *Aristotle University of Thessaloniki*, *Greece*

- **Evaluation of Story-Based Content Structure and Navigation for a Learning Module in SCORM**
  Boris Gauss, *Berlin University of Technology*, *Germany*; Christopher Hausmanns, *Berlin University of Technology*, *Germany*; Rodolphe Zerry, *Berlin University of Technology*, *Germany*; Guenter Wozny, *Berlin University of Technology*, *Germany*; Leon Urbas, *Technische Universität Berlin*, *Germany*

- **Development and Validation of a Tool for Measuring Online Trust**
  Christy Thomas, *Meridian Incorporated*, *United States*; Cynthia Corritore, *Creighton University*, *United States*; Beverly Kracher, *Creighton University*, *United States*; Susan Wiedenbeck, *Drexel University*, *United States*

- **Experimental evaluation of the effectiveness of expert online help strategies**
  Antonio Capobianco, *LORIA – INRIA LORRAINE*, *France*

- **Multimodal interfaces evaluation with virtual reality simulation**
  Laurent Le Bodic, *Software Engineering Laboratory - LI²*, *France*; Pierre Deloor, *Software Engineering Laboritory - LI²*, *France*; Julien Kahn, *FRANCE TELECOM R&D / DIH / UCE / RCE*, *France*

S123 - Gesture-Based Interaction
Room: **Ikosi**

Chair: **Masaki Nakagawa**, *Tokyo University of Agriculture & Technology, Japan*

- **EDEMO-Gesture Based Interaction with Future Environments**
  Jarno Vehmas, *VTT Technical Research Centre of Finland*, *Finland*; Sanna Kallio, *VTT Technical Research Centre of Finland*, *Finland*; Juha Kela, *VTT Electronics , Finland*; Johan Plomp, *VTT Technical Research Centre of Finland*, *Finland*; Esa Tuulari, *VTT Technical Research Centre of Finland*, *Finland*; Heikki Ailisto, *VTT Technical Research Centre of Finland*, *Finland*

- **Pointing Gesture Recognition and Indicated Object Detection**
  Tomohiro Mashita, *Osaka University*, *Japan*; Yoshio Iwai, *Osaka University*, *Japan*; Masahiko Yachida, *Osaka University*, *Japan*

- **A Simple Learning Procedure for Gesture Based Control of Robot Arm Movement**
  Paulraj Pandiyan, *Universiti Malaysia Sabah*, *Malaysia*; G. Sainarayanan, *Universiti Malaysia Sabah*, *Malaysia*; R. Nagarajan, *Universiti Malaysia Sabah*, *Malaysia*; Sazali Yaacob, *Universiti Malaysia Sabah*, *Malaysia*

- **Human Information Retrieval Based on Face Recognition in Video Image through Multi-modal Interaction Using Speech and Hand Pointing Action**
  Yasuo Ariki, *Ryukoku University*, *Japan*; Masakiyo Fujimoto, *Ryukoku University*, *Japan*; Natsuo Yamamoto, *Ryukoku University*, *Japan*; Masahito Kumano, *Ryukoku University*, *Japan*

- **Temporal Context and the Recognition of Emotion from Facial Expression**
  Rana El Kaliouby, *University of Cambridge*, *United Kingdom*; Peter Robinson, *University of Cambridge*, *United Kingdom*; Simeon Keates, *University of Cambridge*, *United Kingdom*

Parallel Paper Presentations

Thursday 26 June 2003 • 16:30 - 18:00

HCI

S124 - Participatory & Contextual Design
Room: **Europa**

Chair: **Marko Nieminen**, *Helsinki University of Technology, Finland*

- **Social Network Analysis of a Participatory Designed Online Foreign Language Course**
  Meenakshi Sundaram Rajasekaran, *City University*, *United Kingdom*; Panayiotis Zaphiris, *City University*, *United Kingdom*

- **System Development Influenced by Rituals and Taboos**
  Karin Tweddell Levinsen, *Copenhagen Business School*, *Denmark*

- **Semiotic Conference: Work Signs and Participatory Design**
  Rodrigo Bonacin, *State University of Campinas*, *Brazil*; M. Cecilia Baranauskas, *State University of Campinas*, *Brazil*

- **Meta—Design: Beyond User-Centered and Participatory Design**
  Gerhard Fischer, *University of Colorado*, *United States*

- **Lightweight Contextual Design – a Case Study in Process Control Environment**
  Kirsi Kontio, *Helsinki University of Technology*, *Finland*; Juhani Rauhamaa, *ABB Oy*, *Finland*; Marko Nieminen, *Helsinki University of Technology*, *Finland*; Toni Koskinen, *Helsinki University of Technology*, *Finland*

S125 - Pervasive Computing
Room: **Minos North**

Chair: **Panos Markopoulos**, *Technical University of Eindhoven, Netherlands*

- **Architecture for a full-dynamical Interaction in Pervasive Computing**
  Michèle Courant, *University of Fribourg*, *Switzerland*; Sergio Maffioletti, *University of Fribourg*, *Switzerland*; Béat Hirsbrunner, *University of Fribourg*, *Switzerland*; Stephane Le Peutrec, *University of Applied Sciences of the State of Vaud*, *Switzerland*

- **Developing a Ubiquitous reception-hall using the User-Centred design Usability Engineering Process Model**
  Toni Granollers, *GRIHO/ University of Lleida*, *Spain*; Jesus Lores, *GRIHO / University of Lleida*, *Spain*; Jordi Solà, *University of Lleida*, *Spain*; Xavier Rubió, *University of Lleida*, *Spain*

- **Visibility and accessibility of a component-based approach for Ubiquitous Computing applications: the e-Gadgets case**
  Irene Mavrommati, *Research Academic Computer Technology Institute*, *Greece*; Achilles Kameas, *Research Academic Computer Technology Institute*, *Greece*; Panos Markopoulos, *Technical University of Eindhoven*, *Netherlands*

- **Ambient Interfaces: Design Challenges and Recommendations**
  Tom Gross, *Fraunhofer - FIT*, *Germany*

- **End-user programming tools in ubiquitous computing applications**
  Irene Mavrommati, *Research Academic Computer Technology Institute*, *Greece*; Achilles Kameas, *Research Academic Computer Technology Institute*, *Greece*

S126 - Soft Computing for Situation Awareness and Recognition
Room: **Artemis**

Chair: **Kentaro Kotani**, *Kansai University, Japan* ; **Hidekazu Yoshikawa**, *Kyoto University, Japan*

- **Human-system Interaction Container Paradigm**
  Célestin Sedogbo, *THALES Research & Technology France*, *France*; Pascal Bisson, *THALES Research & Technology France*, *France*; Olivier Grisvard, *THALES Research & Technology France*, *France*; Thierry Poibeau, *THALES Research & Technology France*, *France*

- **Mutual Awareness as a Basis for Defining and Assessing Team Situation Awareness in Cooperative Work**
  Yufei Shu, *The University of Tokyo*, *Japan*; Kazuo Furuta, *The University of Tokyo*, *Japan*; Keiichi Nakata, *The University of Tokyo*, *Japan*

- **Model of Intention Inference Using Bayesian Network**
  Naoki Hatakeyama, *The University of Tokyo*, *Japan*; Kazuo Furuta, *The University of Tokyo*, *Japan*; Keiichi Nakata, *The University of Tokyo*, *Japan*

- **A design and evaluation of the user authentication system by using characteristics of mouse movements on a soft keyboard**
  Kentaro Kotani, *Kansai University*, *Japan*; Ken Horii , *Kansai University*, *Japan*

- **A Kansei-based Color Conspicuity Model and Its Application to the Design of Road Signs**
  Katsuari Kamei, *Ritsumeikan University*, *Japan*; Eric Cooper, *Ritsumeikan University*, *Japan*; Naoki Fujiwara, *Ritsumeikan University*, *Japan*

S127 - Ubiquitous Computing I

Room: **Exi**

Chair: **Woontack Woo**, *KJIST U-VR Lab, Korea*

- **MobiGuiding, an European Multimodal and Multilingual System for Ubiquitous Access to Leisure and Cultural Contents**
  Carlo Aliprandi, *Synthema .r.l.*, *Italy*; Michel Athénour, *Cityvox S.A.S.*, *France*; Sara Carro Martinez, *Telefónica I+D S.A.*, *Spain*; Nikos Patsis, *VoiceWeb S.A.*, *Greece*

- **A Framework for Transferring Desktop Images and Remote Operations in Multiple Computer Environments**
  Motoki Miura, *University of Tsukuba*, *Japan*; Buntarou Shizuki, *University of Tsukuba*, *Japan*; Jiro Tanaka, *University of Tsukuba*, *Japan*

- **Telemurals: catalytic connections for remote public spaces**
  Karrie Karahalios, *MIT Media Lab*, *United States*; Judith Donath, *MIT Media Lab*, *United States*

- **Embedded versus portable interfaces for personalizing shared ubiquitous devices**
  David Hilbert, *FX Palo Alto Laboratory, Inc.*, *United States*; Jonathan Trevor, *FX Palo Alto Laboratory*, *United States*

- **Tangible Media Player with embedded RF tags**
  Seiie Jang, *KJIST U-VR Lab*, *S. Korea*; Ning Zhang, *KJIST U-VR Lab*, *S. Korea*; Woontack Woo, *KJIST U-VR Lab*, *Korea*

s128 - Usability Engineering in Industry - Overcome Obstacles and Start Up New Territories: Usability Activity in Industry

Room: **Minos South**

Chair: **Masaaki Kurosu**, *National Institute of Multimedia Education, Japan*

- **Example of a motorcycle manufacturer's approaches to usability**
  Masamori Sugizaki, *Yamaha Motor co., Ltd.*, *Japan*

- **User Research at Adobe: Establishing a User-Centered Culture**
  Sheryl Ehrlich, *Adobe Systems*, *United States*

- **Coping with Increasing SW Complexity - Stepwise Feature Introduction and User-Centred Design**
  Heikki Anttila, *Nokia Mobile Phones*, *Finland*; Ralph-Johan Back, *Abo Akademi University / TUCS*, *Finland*; Pekka Ketola, *Nokia*, *Finland*; Katja Konkka, *Nokia Mobile Phones*, *Finland*; Jyrki Leskelä, *Nokia Mobile Phones*, *Finland*; Erkki Rysä, *Nokia Mobile Phones*, *Finland*

- **Usability in India – An Uneven Journey**
  Apala Lahiri Chavan, *Human Factors International Pvt. Ltd.*, *India*

- **Usability of Usability Engineers: Usability Activities in Developing Office Products**
  Makoto Yamasaki, *Ricoh Co.,Ltd.*, *Japan*; Ryuichi Shimamura, *Ricoh Co., Ltd.*, *Japan*; Takako Inagaki, *Ricoh Co., Ltd.*, *Japan*

S129 - Automation, Monitoring & Control

Room: **Poseidon**

Chair: **Klaus-Peter Fähnrich**, *Fraunhofer - IAO, Germany*

- **Overview of Process Trend Analysis**
  Slim Triki, *LAMIH, University of Valenciennes*, *France*; Bernard Riera, *LAM, University of Reims*, *France*

- **Combining Virtual Reality with an Easy to Use and Learn Interface in a tool for Planning and Simulating Interventions in Radiologically Controlled Areas**
  Angelica de Antonio, *Universidad Politécnica de Madrid*, *Spain*; Xavier Ferre, *Universidad Politecnica de Madrid*, *Spain*; Jaime Ramirez, *Universidad Politécnica de Madrid*, *Spain*

- **Training and Assistance to Maintenance in an Augmented Reality environment**
  Bernd Schwald, *ZGDV e.V. Computer Graphics Center*, *Germany*; Blandine de Laval, *Thales Optronique SA*, *France*

- **The Impact of Flexibility Management on Total Chain of Manufacturing**
  Berman Kayis, *The University of New South Wales*, *Australia*; Sami Kara, *The University of New South Wales*, *Australia*; Kanyaporn Skutalakul, *The University of New South Wales*, *Australia*

- **Monitoring and Control of Systems by Interactive Virtual Environments**
  Jochen Manfred Quick, *Centre for Advanced Media Technology / NTU*, *Singapore*

Parallel Paper Presentations

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S130 - Computer-Supported Design

Room: **Danae**

Chair: **Wilhelm Bauer**, *Fraunhofer - IAO, Germany*

- **Empowering the User in Product Design with Virtual Reality**
  Oya Demirbilek, *University of New South Wales*, *Australia*; Aybuke Aurum, *University of New South Wales*, *Australia*

- **The usage of CRM system at modelling quality of products(CRM FQ - Customer Relationship Management for Quality)**
  Marek Golinski, *Poznan University of Technology*, *Poland*; Joanna Kalkowska, *Poznan University of Technology*, *Poland*

- **Breaking New Ground in Interactive Configuration of Production Environments by the Use of Intelligent Computer Tool**
  Frank Butke, *Fraunhofer - IPA*, *Germany*; Thomas Rist, *Fraunhofer - IPA*, *Germany*; Wilfried Sihn, *Fraunhofer - IPA*, *Germany*

- **Synthesising Creativity: Systems to support interactive human processes for aesthetic product design**
  Modestos Stavrakis, *University of the Aegean*, *Greece*; Thomas Spyrou, *University of the Aegean*, *Greece*; John Darzentas, *University of the Aegean*, *Greece*

- **New technology driven processes for the construction sector – the research project ViBaL**
  Alexander Rieck, *Fraunhofer - IAO*, *Germany*; Wilhelm Bauer, *Fraunhofer - IAO*, *Germany*

S131 - Design and Development of Inclusive Groupware Systems

Room: **Pente**

Chair: **Elaine Raybourn**, *Fraunhofer - FIT, Germany*

- **Libraries as Social Spaces**
  Nick Kings, *BTexact Technologies*, *United Kingdom*; David Alsmeyer, *BTexact Technologies*, *United Kingdom*; Fay Owston, *BTexact Technologies*, *United Kingdom*

- **Electronic Behavior Settings in Distributed Cooperation**
  Uta Pankoke-Babatz, *Fraunhofer - FIT*, *Germany*; Elaine Raybourn, *Fraunhofer - FIT*, *Germany*

- **Group Storytelling to Support Tacit Knowledge Externalization**
  Carla Valle, *Fraunhofer - FIT*, *Germany*; Elaine Raybourn, *Fraunhofer - FIT*, *Germany*; Wolfgang Prinz, *Fraunhofer - FIT*, *Germany*; Marcos Borges, *Federal University of Rio de Janeiro , Brasil*

- **Universal Access to Groupware with Multimodal Interfaces**
  Tom Gross, *Fraunhofer - FIT*, *Germany*

- **Using Cultural Differences in Educational Program Design and Approaches to Computers for Adaptation Concepts of Multimedia Learning**
  Elisabeth Kamentz, *University of Hildesheim*, *Germany*; Christa Womser-Hacker, *University of Hildesheim , Germany*

S132 - Extending the Reach of IT Use for the Wider Population

Room: **Leda**

Chair: **Martin Maguire**, *Loughborough University, United Kingdom*

- **Designing for Older Adults – Are they a Special Group?**
  Jan Noyes, *University of Bristol*, *United Kingdom*; Mary Sheard, *Royal National Institute for the Deaf*, *United Kingdom*

- **User needs for Digital TV services among older users**
  Martin Maguire, *Loughborough University*, *United Kingdom*

- **Investigating Digital TV design issues: A usability test of Interactive Advertising**
  Konstantina Vassilopoulou, *ELTRUN-Athens University of Economics and Business*, *Greece*; George Lekakos, *ELTRUN-Athens University of Economics and Business , Greece*

- **The VISTA project: universal access to Electronic Programme Guides for digital TV**
  Fraser Hamilton, *City University*, *United Kingdom*; Helen Petrie, *City University*, *United Kingdom*; Alex Carmichael, *University of Dundee*, *United Kingdom*

- **Usability Evaluation Techniques for Interactive Television**
  Lyn Pemberton, *University of Brighton*, *United Kingdom*; Richard N. Griffiths, *University of Brighton*, *United Kingdom*

S133 - Human-Computer Interaction Aspects of Assistive Technology

Room: Apollo East

Chair: **Pier Luigi Emiliani**, *CNR-IFAC, Italy*

- **Accessibility of web applications: different approaches for different fields**
  Laura Burzagli, *CNR-IFAC*, *Italy*; Paolo Graziani, *CNR - IFAC*, *Italy*
- **Distance Training for the Inclusion of Low-incidence Groups**
  Leonor Moniz - Pereira, *Technical University of Lisbon*, *Portugal*; Cristina Espadinha, *Technical University of Lisbon*, *Portugal*; Elisabete Saragoça, *Technical University of Lisbon*, *Portugal*
- **Better accessibility to promote human-computer interaction for all**
  Claes Tjäder, *Swedish Handicap Institute*, *Sweden*
- **Will the interfaces be more human in the future?**
  Jan Ekberg, *STAKES*, *Finland*
- **Issues in Human Computer Interaction seen from an Assistive Technology perspective**
  Mathijs Soede, *Institute for Rehabilitation Research*, *iRv*, *Netherlands*

S134 - Learning & Education

Room: Apollo West

Chair: **Jan Engelen**, *Kath. Univ. Leuven-Docarch, Belgium*

- **Accessibility and usability of learning environments for disabled: an example**
  Ileana Hamburg, *Wissensschaftszentrum NRW*, *Germany*; Judith Terstriep, *Institut Arbeit und Technik*, *Germany*; Steffi Engert, *SOKOM GmbH*, *Germany*
- **The teaching wheel: an agent for site viewing and subsite building**
  Marie-Christine Haton, *LORIA/Université Henri-Poincaré-Nancy 1*, *France*
- **Universal Design for Learning: Accessing the Curriculum through Digitized Text**
  Debra Bauder, *University of Louisville*, *United States*; Thomas Simmons, *University of Louisville*, *United States*
- **Considerations on Universal Access and Universal Design as concerns Educational Software**
  Giuliana Dettori, *ITD - CNR*, *Italy*; Michela Ott, *ITD-CNR*, *Italy*
- **Evolving Multimedia Systems in Education**
  Garry Patterson, *University of Ulster*, *United Kingdom*; Sandra Moffett, *University of Ulster*, *United Kingdom*

S135 - Multilingual & Multicultural Issues

Room: Enia

Chair: **George Weir**, *University of Strathclyde, United Kingdom*

- **Tools for Second Language Support**
  George Weir, *University of Strathclyde*, *United Kingdom*; George Lepouras, *University of Athens*, *Greece*
- **TransSMS: A Multi-Lingual SMS Tool**
  Mazliza Othman, *University of Malaya*, *Malaysia*; Bikesh Lakhmichand, *Univeristy of Malaya*, *Malaysia*
- **Open Source Software Development with Your Mother Language: Intercultural Collaboration Experiment 2002**
  Saeko Nomura, *Kyoto University*, *Japan*; Toru Ishida, *Kyoto University*, *Japan*; Mika Yasuoka, *Kyoto University*, *Japan*; Naomi Yamashita, *Laboratories, NTT Corp*, *Japan*; Kaname Funakoshi, *NTT Corp.*, *Japan*
- **Lessons Learned from Multilingual Collaboration in Global Virtual Teams**
  Kaname Funakoshi, *NTT Corp.*, *Japan*; Akishige Yamamoto, *Mathematical Systems Inc.*, *Japan*; Saeko Nomura, *Kyoto University*, *Japan*; Toru Ishida, *Kyoto University*, *Japan*
- **Nonresponse Bias of Non-Native Speakers in Web-Based Research**
  Douglas Pyle, *Microsoft Corporation*, *United States*; Stephen Giff, *Microsoft Corporation*, *United States*

Parallel Paper Presentations

S136 - Universal Access of Ubiquitous Computing

Room: Minos East

Chair: **Joaquim A. Jorge**, *INESC-ID, Portugal*

- **Sentinel: Universal Access to Ambient Devices**
  Simon Harper, *University of Manchester*, *United Kingdom*; Carole Goble, *University of Manchester*, *United Kingdom*; Stephen Pettitt, *Salford Electronic Systems*, *United Kingdom*
- **Ubiquitous Access to Documents: Using Storytelling to Alleviate Cognitive Problems**
  Daniel Gonçalves, *INESC-ID*, *Portugal*; Joaquim Jorge, *Instituto Superior Técnico*, *Portugal*
- **A Standard for Controlling Ubiquitous Computing and Environmental Resources from Any Personal Device**
  Gregg C. Vanderheiden, *University of Wisconsin*, *United States*; Gottfried Zimmermann , *University Wisconsin-Madison*, *United States*; Shari Trewin, *IBM T.J.Watson Research Center*, *United States*
- **Facing the future: Including elderly users when considering universal access**
  Vicki Hanson, *IBM T. J. Watson Reserach Center*, *United States*
- **Architectures for Multimodal Interactive Assistant Systems**
  Thomas Kirste, *Fraunhofer - IGD*, *Germany*; Stefan Rapp, *Sony Corporate Laboratories Europe*, *Germany*

S137 - Adaptive Techniques II

Room: Athena

Chair: **Giuliano Benelli**, *University of Siena, Italy*

- **A Toolkit for Exploring Affective Interface Adaptation in Videogames**
  Kiel Mark Gilleade, *Lancaster Univeristy*, *United Kingdom*; Jen Allanson, *Lancaster University*, *United Kingdom*
- **GUI Navigator/Cover: GUI Transformation Systems for PC Novice Users**
  Hidehiko Okada, *NEC Corporation*, *Japan*; Toshiyuki Asahi, *NEC Corporation*, *Japan*
- **An Adaptive Human-Computer Design Method Led By Objectives**
  Charles Santoni, *LSIS (UMR CNRS 6168)*, *France*; Pierre Aubert, *LSIS (UMR CNRS 6168)*, *France*
- **A Framework for Dynamic Adaptation in Information Systems**
  Thomas Mandl, *University of Hildesheim*, *Germany*; Monika Schudnagis, *University of Hildesheim* , *Germany*; Christa Womser-Hacker, *University of Hildesheim* , *Germany*
- **Adaptive Help for e-mail Users**
  Katerina Kabassi, *University of Piraeus*, *Greece*; Maria Virvou, *University of Piraeus* , *Greece*
- **Web site adaptation: a model-based approach**
  Nikolaos Avouris, *University of Patras*, *Greece*; Martha Koutri, *University of Patras*, *Greece*; Sophia Daskalaki, *University of Patras*, *Greece*

S138 - Culture Issues and Mobile UI Design

Room: Minos North

Chair: **Aaron Marcus**, *Aaron Marcus and Associates, Inc., United States*

- **Effects of Chinese Character Font and Size on Visual Performance between Different Age Groups**
  Tzai-Zang Lee, *Kun Shan University of Technology*, *Taiwan*; Jian-Zhe Huang, *National Cheng Kung University*, *Taiwan*
- **Travel Planning on the Web: A Cross-Cultural Case Study of Where Differences Become Evident Within the Design Process**
  Sonja Pedell, *The University of Melbourne*, *Australia*; Helmut Degen, *SIEMENS AG*, *Germany*; Kem-Laurin Lubin, *Siemens Corporate Research, Inc.*, *United States*; Ji Zheng, *Siemens Ltd.* , *China*
- **Pitfalls in International User Testing, and How to Avoid (some of) Them – A Case Study**
  Magnus Lif, *Enea Redina AB*, *Sweden*
- **User-Interface Design and Culture**
  Aaron Marcus, *Aaron Marcus and Associates, Inc.*, *United States*; Valentina-Johanna Baumgartner, *Aaron Marcus and Associates, Inc.*, *United States*; Eugene Chen, *Aaron Marcus and Associates, Inc.*, *United States*
- **Basics of Intercultural Engineering: Analysis of User Requirements in Mainland China**
  Kerstin Röse, *University of Kaiserslautern*, *Germany*
- **Characteristics of the use of mobile devices in Japan**
  Masaaki Kurosu, *National Institute of Multimedia Education*, *Japan*

S139 - e-Commerce
Room: Pente

Chair: **Asim Ant Ozok**, *UMBC, United States*

- **Attitudes Towards Technology Use in Public Areas: The Influence of External Factors on ATM use**
  Linda Little, *Northumbria University*, *United Kingdom*; Pamela Briggs, *Northumbria University*, *United Kingdom*; David Knight, *Northumbria University*, *United Kingdom*; Lynne Coventry, *NCR Financial Solutions Group Ltd*, *United Kingdom*

- **The Use of m-Commerce Services and Technologies as an Instrument of Personnel Marketing – Conceptual Considerations and Empirical Studies**
  Iris Bruns, *RWTH Aachen University*, *Germany*; Olaf Oehme, *RWTH Aachen University*, *Germany*; Holger Luczak, *RWTH Aachen University*, *Germany*

- **Direct Manipulation for E-commerce Sites: a New Approach**
  Giuseppe Capozzo, *Università di Pavia*, *Italy*; Mauro Mosconi, *University of Pavia*, *Italy*; Marco Porta, *University of Pavia*, *Italy*

- **An evaluation of Turkish e-commerce sites according to several guidelines: An empirical study**
  Mehmet Mutlu Yenisey, *Istanbul Technical University*, *Turkey*; Cafer Erhan Bozdag, *Istanbul Technical University*, *Turkey*; Pelin Nisari, *Istanbul Technical University*, *Turkey*

- **Persistent Cart Design: A Review of Implementations**
  Dena Fletcher, *Columbia House*, *United States*; Mark Fletcher, *Pace University*, *United States*

- **How to Treat Your Customers: Guidelines for Consistency in E-Commerce**
  Asim Ant Ozok, *UMBC*, *United States*; Gavriel Salvendy, *Purdue University*, *United States*; Kristen Oldenburger, *Purdue University*, *United States*

S140 - HCI approaches to Collaboration & Cooperation
Room: Apollo West

Chair: **Hans-Jörg Bullinger**, *Fraunhofer-Gesellschaft, Germany*

- **Supporting Operations-Reference Knowledge Development Cycles for Collaborative, Distributed Research**
  Barrett Caldwell, *Purdue University*, *United States*; Sudip Ghosh, *Purdue University*, *United States*

- **A Support System for Collaborative Decision Making by People of Different Countries**
  YunKi Hong, *Keio University*, *Japan*; Morio Nagata, *Keio University*, *Japan*; Tai-Suk Kim, *DongEui University*, *Korea*

- **A Collective of Smart Artefacts Hopes for Collaboration with the Owner**
  Elena Vildjiounaite, *Technical Reserch Centre of Finland*, *Finland*; Esko-Juhani Malm, *Technical Reserch Centre of Finland*, *Finland*; Jouni Kaartinen, *Technical Reserch Centre of Finland*, *Finland*; Petteri Alahuhta, *Technical Reserch Centre of Finland*, *Finland*

- **The Treatment of Collaboration in the Usability Evaluation Models for Collaborative Virtual Environments**
  Ilona Heldal, *Chalmers University of Technology*, *Sweden*

- **An interface for supporting versioning in a cooperative editor**
  Marcos Borges, *Federal University of Rio de Janeiro , Brasil*; Alexandre Meire, *Federal University of Rio de Janeiro , Brazil*; Jose Pino, *University of Chile*, *Chile*

- **Man Machine Cooperation**
  Bertrand David, *Ecole Centrale de Lyon*, *France*; Ahmad Skaf, *Ecole Centrale de Lyon*, *France*

S141 - HCI Methodology Issues II
Room: Apollo East

Chair: **Julie Jacko**, *Georgia Institute of Technology, United States*

- **Eighteen Classes of Functionality: The D.EU.PS. Model of Information Systems Use**
  Pär Ågerfalk, *Örebro University*, *Sweden*; Emma Eliason, *Örebro University*, *Sweden*

- **Nine Principles for Actable Systems Design**
  Pär Ågerfalk, *Örebro University*, *Sweden*

- **A Tentative Model for Procuring Usable Systems**
  Stefan Holmlid, *Royal Institute of Technology*, *Sweden*; Henrik Artman, *Royal Institute of Technology*, *Sweden*

- **End-User Requirements for Seamless and Transparent Middleware**
  Päivi Pöyry, *Helsinki University of Technology*, *Finland*; Lauri Repokari, *Helsinki University of Technology*, *Finland*

- **CII: A Taxonomic Model of Innovations in Human-Computer Interaction**
  Timo Partala, *University of Tampere*, *Finland*

- **Expanding HCI Methodologies to Incorporate Motivational Evaluation**
  Winslow Burleson, *MIT Media Lab*, *United States*

Parallel Paper Presentations

Friday 27 June 2003 • 09:00 - 11:00

HCI

S142 - Human Computer Interaction Techniques I
Room: Danae

Chair: **Jae Wook Jeon**, *Sungkyunkwan University, Korea*

- **Making Machines Understand Facial Motion & Expressions Like Humans Do**
  Ana Andrés del Valle, *Institut Eurécom*, *France*; Jean-Luc Dugelay, *Institut Eurécom*, *France*

- **Proposal of Grasping Force Interface as Realtime Mickey Ratio Adjuster for Pointing Tasks of Mouse**
  Sigeru Sato, *National Institute of Advanced Industrial Science and Technology*, *Japan*; Muneo Kitajima, *National Institute of Advanced Industrial Science and Technology*, *Japan*; Yukio Fukui, *University of Tsukuba*, *Japan*

- **Keyboard Encoding of Hand Gestures**
  Nicoletta Adamo-Villani, *Purdue University*, *United States*; Gerardo Beni, *University of California at Riverside*, *United States*

- **A User Study On Advanced Interaction Techniques in the Virtual Dressmaker Application**
  Michael Keckeisen, *University of Tübingen*, *Germany*; Stanislav Stoev, *University of Tübingen*, *Germany*; Markus Wacker, *University of Tübingen , Germany*; Matthias Feurer, *University of Tübingen*, *Germany*; Wolfgang Strasser, *WSI/GRIS*, *Germany*

- **Magic Pages – Providing Added Value to Electronic Documents**
  Marcel Götze, *University of Magdeburg*, *Germany*; Stefan Schlechtweg, *University of Magdeburg. , Germany*

- **Laser Pointer Interaction with Hand Tremor Elimination**
  Sergey Matveyev, *Fraunhofer - IMK*, *Germany*; Martin Goebel, *Fraunhofer - IMK*, *Germany*; Pavel Frolov, *Fraunhofer - IMK*, *Germany*

S143 - Learning Environments
Room: Enia

Chair: **Hiroshi Tsuji**, *Osaka Prefecture University, Japan*

- **Lecture Enhancement by Community Portal**
  Hiroshi Tsuji, *Osaka Prefecture University*, *Japan*

- **Investigating the Role of User Cognitive Style in an Adaptive Educational System**
  Evangelos Triantafillou, *Aristotle University of Thessaloniki*, *Greece*; Athanasis Karoulis, *Aristotle University of Thessaloniki*, *Greece*; Andreas Pombortsis, *Aristotle University of Thessaloniki*, *Greece*

- **The electronic bulletin board system "IS-Board" which supports the information education**
  Yoshihisa Shinozawa, *Keio University*, *Japan*; Tomofumi Uetake, *Senshu University*, *Japan*; Shinji Takao, *NTT Advanced Technology Corporation*, *Japan*

- **Bringing History Online: Plimoth Plantation's Online Learning Center**
  Lisa Neal, *EDS and eLearn Magazine*, *United States*

- **Visual Knowledge Construction Algorithms for Supporting Learner-Instructor Interaction**
  Shoichi Nakamura, *The University of Aizu*, *Japan*; Kazuhiko Sato, *Muroran Institute of Technology*, *Japan*; Youzou Miyadera, *Tokyo Gakugei University*, *Japan*; Akio Koyama, *Yamagata University*, *Japan*; Zixue Cheng, *The University of Aizu*, *Japan*

- **Context-Based Autonomous Monitoring Module for Web Educational Environments**
  Theofanis Despotakis, *Aristotle University of Thessaloniki*, *Greece*; George Palaigeorgiou, *Aristotle University of Thessaloniki*, *Greece*; Panagiotis Siozos, *Aristotle University of Thessaloniki*, *Greece*

S144 - Multimodality II
Room: Minos South

Chair: **Noëlle Carbonell**, *LORIA, CNRS & INRIA, France*

- **Multi-Modal Fusion Model, a design based on D.A.I.M, the Decoupled Application Interaction Model**
  Ing-Marie Jonsson, *Royal Institute of Technology / Dejima Inc , United States*

- **A Universal Approach to Multimodal User Interfaces**
  Pavel Zikovsky, *Czech Technical University in Prague*, *Czech Republic*; Zdenek Mikovec, *Czech Technical University in Prague*, *Czech Republic*; Pavel Slavik, *Czech Technical University in Prague*, *Czech Republic*

- **Flow of action in mixed interaction modalities**
  Ernst Kruijff, *Fraunhofer - IMK*, *Germany*; Stefan Conrad, *Fraunhofer - IMK*, *Germany*; Arnold Mueller, *Fraunhofer - IMK*, *Germany*

- **The Development of 'Hybrid' Multimodal Shopping Systems Within a 'Rapid Ethnographic' Methodology**
  Stuart Booth, *University of Leeds , United Kingdom*; Steve Westerman, *University of Leeds*, *United Kingdom*; Karim Khakzar, *University of Applied Sciences Fulda*, *Germany*; Thomas Berger, *Inter.Research Institut fuer Interdisziplinaere Forschung*, *Germany*; Hans-Martin Pohl, *Institut fuer Digitale Medien und Kommunikation*, *Germany*; Katarina Dubracova, *Houot Agencement*, *France*

- **Multimodality and learning: linking science to everyday activities**
  Stamatina Anastopoulou, *University of Birmingham*, *United Kingdom*; Mike Sharples, *University of Birmingham*, *United Kingdom*; Chris Baber, *University of Birmingham*, *United Kingdom*

- **Arbitrating Multimodal Outputs: Using Ambient Displays as Interruptions**
  Ernesto Arroyo, *MIT Media Laboratory*, *United States*; Ted Selker, *MIT Media Laboratory*, *United States*

S145 - Pen-Based UI in ubiquitous computing
Room: **Exi**

Chair: **Masaki Nakagawa**, *Tokyo University of Agriculture & Technology, Japan*

- **A Circular Fashion Menu System Based on Human Motor Control Knowledge for the Pen-based Computer**
  Kimiyasu Kiyota, *Kumamoto National College of Technology*, *Japan*; Nobuo Ezaki, *Toba National College of Maritime Technology*, *Japan*; Hotaka Takizawa, *Toyohashi University of Technology*, *Japan*; Shinji Yamamoto, *Toyohashi University of Technology*, *Japan*

- **An Evaluation of Text Entry Methods in a Standing Posture for Application to an Immersive Virtual Environment**
  Noritaka OSAWA, *National Institute of Multimedia Education*, *Japan*; Xiangshi Ren, *Kochi University of Technology*, *Japan*; Motofumi Suzuki, *National Institute of Multimedia Education*, *Japan*

- **Blind-handwriting Interface for Wearable Computing**
  Junko Tokuno, *Japan Advanced Institute of Science and Technology*, *Japan*; Naoto Akira, *Hitachi, Ltd*, *Japan*; Mitsuru Nakai, *Japan Advanced Institute of Science and Technology*, *Japan*; Hiroshi Shimodaira, *Japan Advanced Institute of Science and Technology*, *Japan*; Shigeki Sagayama, *University of Tokyo*, *Japan*

- **Pen-based Ubiquitous Computing System for visually Impaired Person**
  Nobuo Ezaki, *Toba National College of Maritime Technology*, *Japan*; Kimiyasu Kiyota, *Kumamoto National College of Technology*, *Japan*; Hotaka Takizawa, *Toyohashi University of Technology*, *Japan*; Shinji Yamamoto, *Toyohashi University of Technology*, *Japan*

- **Web-based applications using pen-based interfaces and network-based on-line handwriting recognition**
  Takeshi Sakurada, *Tokyo University of Agriculture & Technology*, *Japan*; Mitsunori Yorifuji, *Tokyo University of Agriculture & Technology*, *Japan*; Motoki Onuma, *Tokyo University of Agriculture & Technology*, *Japan*; Masaki Nakagawa, *Tokyo University of Agriculture & Technology*, *Japan*

- **Information Hiding with a Handwritten Message on PDA**
  Norihisa Segawa, *Iwate Prefectural University*, *Japan*; Yuko Murayama, *Iwate Prefectural University*, *Japan*; Masatoshi Miyazaki, *Iwate Prefectural University* , *Japan*

S146 - Web Design
Room: **Poseidon**

Chair: **Melody Ivory**, *University of Washington, United States*

- **Creating sophisticated web sites using well-known interfaces**
  Fabio Vitali, *University of Bologna*, *Italy*

- **Characteristics of Web Site Designs: Reality vs. Recommendations**
  Melody Ivory, *University of Washington*, *United States*

- **A rhetorical model to augment the functionality of adaptive interfaces**
  Licia Calvi, *University of Pavia*, *Italy*

- **Interactive Design Elements to Improve Information Presentation on Web Pages**
  Christian Rathke, *Hochschule der Medien*, *Germany*; Valerie Schreiweis, *Hochschule der Medien*, *Germany*

- **Deconstructing Web Pages**
  Anthoula Maidou, *Aristotle University of Thessaloniki*, *Greece*; Hariton Polatoglou, *Aristotle University of Thessaloniki*, *Greece*

- **On the application of W3C Guidelines in Website Design from scratch**
  Diamantino Freitas, *University of Porto*, *Portugal*; Helder Ferreira, *University of Porto* , *Portugal*

S147 - Web Usability II
Room: **Leda**

Chair: **Panos Karampelas**, *ICS-FORTH, Greece*

- **A Fuzzy Model to Measure Colour Contrast as an aspect of Web Usability**
  Maysoon Abulkhair, *University of Sheffield*, *United Kingdom*; Siobhan North, *University of Sheffield*, *United Kingdom*

- **A Quality Model For Testing the Usability of Web Sites**
  Francisco Montero, *University of Castilla-La Mancha*, *Spain*; Victor Lopez-Jaquero, *University of Castilla-La Mancha* , *Spain*; María Lozano Pérez, *University of Castilla-La Mancha*, *Spain*; Pascual González López, *University of Castilla-La Mancha*, *Spain*

- **Evaluation of Tourism Website Effectiveness: Methodological Issues and Survey Results**
  Adriana Corfu, *Universidade de Aveiro*, *Portugal*; Laranja Manuel, *Universidade Tecnica de Lisboa*, *Portugal*; Carlos Costa , *Universidade de Aveiro*, *Portugal*

- **WebSCORE Expert Screening – a low-budget method for optimizing web applications**
  Matthias Peissner, *Fraunhofer - IAO*, *Germany*; Frank Heidmann, *Fraunhofer - IAO*, *Germany*; Inga Wagner, *Fraunhofer - IAO*, *Germany*

- **Usability Evaluation of Architecture Based Web Sites**
  Canan Akoğlu, *Yildiz Technical University*, *Turkey*; Oğuzhan Özcan, *Yildiz Technical University*, *Turkey*

- **MiLE: a reuse-oriented usability evaluation method for the web**
  Marco Speroni, *University of Lugano*, *Switzerland*; Giovanni Randazzo, *University of Lugano*, *Switzerland*; Marco Speroni, *University of Lugano*, *Switzerland*

Parallel Paper Presentations

Friday 27 June 2003 • 09:00 - 11:00

HCI

S148 - Human Information Processing and Information Management
Room: **Deka Tria**

Chair: **Michael J. Smith**, *University of Wisconsin, United States*

- **Computer Mediated Communication: A Study of Student Interaction with the Resources**
  Leanne Morris, *Deakin University*, *Australia*; Lynette Genua, *Deakin University*, *Australia*; Greg Wood, *Deakin University*, *Australia*

- **Filter Effects of Mediating Technologies**
  Gunnvald Svendsen, *Telenor R&D*, *Norway*; Bente Evjemo, *Telenor R&D*, *Norway*

- **Text comprehension processes and hypertext design**
  Anja Naumann, *Chemnitz University of Technology*, *Germany*; Jacqueline Waniek, *Chemnitz University of Technology*, *Germany*; Angela Brunstein, *Chemnitz University of Technology*, *Germany*; Josef Krems, *Chemnitz University of Technology*, *Germany*

- **Searching for Patient Educational Information Using Electronic Resources: An Exploration of Nurses' Search Behavior**
  Josette Jones, *Indiana University* , *United States*; Michael J. Smith, *University of Wisconsin*, *United States*

- **Experiments Using Combinations of Auditory Stimuli to Communicate E-mail Data**
  Dimitris Rigas, *University of Bradford*, *United Kingdom*; Dave Memery, *University of Bradford*, *United Kingdom*

- **Mining Network Quality of Service with Neural Networks**
  Ajith Abraham, *Oklahoma State University*, *United States*; Johnson Thomas, *Oklahoma State University*, *United States*; Gheorghita Ghinea, *Brunel University*, *United Kingdom*

S149 - VR Technology for Museum Exhibits
Room: **Ikosi**

Chair: **Michitaka Hirose**, *University of Tokyo, Japan*

- **Avatar Communication: Virtual Instructor in the Demonstration Exhibit**
  Tetsuro Ogi, *University of Tokyo*, *Japan*; Toshio Yamada, *Gifu MVL Research Center, TAO*, *Japan*; Takuro Kayahara, *Telecommunications Advancement Organization of Japan*, *Japan*; Yuji Kurita, *Telecommunications Advancement Organization of Japan*, *Japan*

- **Haptics in Museum Exhibitions**
  Koichi Hirota, *University of Tokyo*, *Japan*; Michitaka Hirose, *University of Tokyo*, *Japan*

- **Wearable Computers and Field Museum**
  Atsushi Hiyama, *The University of Tokyo*, *Japan*; Michitaka Hirose, *University of Tokyo*, *Japan*

- **GestureMan PS: Effect of a Head and a Pointing Stick on Robot Mediated Communication**
  Hideaki Kuzuoka, *University of Tsukuba*, *Japan*; Jun'ichi Kosaka, *University of Tsukuba*, *Japan*; Shin'ya Oyama, *Communications Research Lab.*, *Japan*; Keiichi Yamazaki, *Saitama University*, *Japan*

- **Networked VR for Virtual Heritage**
  Makoto Ando, *The University of Tokyo*, *Japan*

- **Implementation of a Scalable Virtual Environment**
  Tomohiro Tanikawa, *Telecommunications Advancement Organization of Japan*, *Japan*

S150 - Visual Display Units
Room: **Europa**

Chair: **Danuta Koradecka**, *Central Institute for Labour Protection - National Research Institute, Poland*

- **Anisotropic characteristics of LCD TFTs and their impact on visual performance: "Everything's superior with TFTs?"**
  Thomas Groeger, *Institute of Psychology, Aachen University*, *Germany*; Martina Ziefle, *Aachen University*, *Germany*; Dietmar Sommer, *Aachen University*, *Germany*

- **The User-Computer Relation as an Anticipator of Musculoskeletal Strain in VDU Work**
  Seppo Tuomivaara, *Finnish Institute of Occupational Health*, *Finland*; Ritva Ketola, *Finnish Institute of Occupational Health*, *Finland*; Pekka Huuhtanen, *Finnish Institute of Occupational Health*, *Finland*; Risto Toivonen, *Finnish Institute of Occupational Health*, *Finland*

- **Effect of Bezel Reflectance on People Using a Computer Monitor**
  Claudia Hunter, *Rensselaer Polytechnic Institute*, *United States*; Peter R. Boyce, *Rensselaer Polytechnic Institute*, *United States*; James Watt H., *Rensselaer Polytechnic Institute*, *United States*

- **Human Characteristics of Pointing an Object on Small Screen of Personal Digital Assistant by Pen Based Interface**
  Kazunari Morimoto, *Kyoto Institute of Technology*, *Japan*; Takao Kurokawa, *Kyoto Institute of Technology*, *Japan*; Atsuo Mukae, *Kyoto Institute of Technology*, *Japan*

- **World Wide Web and Sustainable Workplaces with Visual Display Units**
  Hilja Taal, *Tallinn Technical University* , *Estonia*

- **Quantitative Evaluation of Emotional Reaction Induced by Visual Stimulation Based on Cross-Correlation between Blood Pressure and Heart Rate**
  Norihiro Sugita, *Tohoku University*, *Japan*; Makoto Yoshizawa, *Tohoku University*, *Japan*; Akira Tanaka, *Tohoku University*, *Japan*; Ken-ichi Abe, *Tohoku University*, *Japan*; Tomoyuki Yambe, *Tohoku University*, *Japan*; Shin-ichi Nitta, *Tohoku University*, *Japan*

Parallel Paper Presentations

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UAHCI

S151 - Access to Information
Room: Minos East

Chair: **Jill Hewitt**, *University of Hertfordshire, United Kingdom*

- **Towards a General Theory for Information Supply**
  Bas Gils, *University of Nijmegen*, *Netherlands*; Erik Proper, *University of Nijmegen*, *Netherlands*; Patrick van Bommel, *University of Nijmegen*, *Netherlands*
- **The Usability and Content Accessibility of the E-government in the UK**
  Terry Hoi-Yan Ma, *City University*, *United Kingdom*; Panayiotis Zaphiris, *City University*, *United Kingdom*
- **Television and Visual Impairment: Prospects for the Accessibility of Interactive Television**
  Mark Rice, *University of Brighton* , *United Kingdom*
- **New Perspectives on Accessible Information for Visually Impaired People**
  Keith Gladstone, *Royal National Institute of the Blind*, *United Kingdom*; Cathy Rundle, *Royal National Institute of the Blind*, *United Kingdom*; Sue King, *Royal National Institute of the Blind*, *United Kingdom*
- **Spoken Books: Multimodal Interaction and Information Repurposing**
  Luis Carriço, *University of Lisbon*, *Portugal*; Nuno Guimarães, *University of Lisbon*, *Portugal*; Carlos Duarte, *University of Lisbon*, *Portugal*; Teresa Chambel, *University of Lisbon*, *Portugal*; Hugo Simões, *University of Lisbon*, *Portugal*
- **Towards an Informatics System enabling Disabled people universal access to information and assistance services**
  Angelos Amditis, *National Technical University of Athens*, *Greece*; Ioannis Karaseitanidis, *National Technical University of Athens*, *Greece*; Maria Fernanda Gabrera, *Polytechnic University of Madrid*, *Spain*; Evangelos Bekiaris, *Hellenic Institute of Transport (CERTH/HIT)*, *Greece*; Joachim Machate, *User Interface Design GmbH*, *Germany*; Juan Carlos Naranjo, *Polytechnic University of Valencia*, *Spain*

S152 - Applications in Gerontechnology
Room: Aphrodite

Chair: **Hiroyuki Umemuro**, *Tokyo Institute of Technology, Japan*

- **Overview of Gerontechnology**
  Sara Czaja, *University of Miami* , *United States*
- **Design for Older People: Standardization vs. Personal Fit**
  Hiroyuki Umemuro, *Tokyo Institute of Technology*, *Japan*; Hajime Ogi, *National Institute of Advanced Industrial Science and Technology*, *Japan*
- **Technology-based Caregiver Intervention Research**
  Richard Schulz, *University of Pittsburgh*, *United States*
- **Problems in Healthcare Website Designs: Implications for Usability and Comprehension in the Elderly**
  Raymond Ownby, *University of Miami* , *United States*; Sara Czaja, *University of Miami* , *United States*; Jarvis T. Gray, *University of Miami* , *United States*; Cheryl N. Carmin, *University of Illinois*, *United States*
- **Technology in the Workplace: Implications for Older Workers**
  Sara Czaja, *University of Miami* , *United States*
- **Eye tracking approach for gerontechnology**
  Ryoko Fukuda, *Technische Universität München*, *Germany*; Heiner Bubb, *Technische Universität München*, *Germany*

S153 - Design for Participation
Room: Artemis

Chair: **Simeon Keates**, *University of Cambridge, United Kingdom*

- **Cognitive Capability Scales for Design for Participation**
  Patrick Langdon, *University of Cambridge* , *United Kingdom*; Ray Adams, *Middlesex University*, *United Kingdom*; P. John Clarkson, *University of Cambridge*, *United Kingdom*
- **The Emotional Hearing Aid: An Assistive Tool for Autism**
  Rana El Kaliouby, *University of Cambridge*, *United Kingdom*; Peter Robinson, *University of Cambridge*, *United Kingdom*
- **Addressing Print Disabilities in Adult Foreign-language Acquisition**
  Silas Brown, *University of Cambridge*, *United Kingdom*; Peter Robinson, *University of Cambridge*, *United Kingdom*
- **Usability and Accessibility Investigation of E-Banking Registration Processes**
  Jon Dodd, *Bunnyfoot*, *United Kingdom*; Robert Stevens, *Bunnyfoot*, *United Kingdom*; Patrick Langdon, *University of Cambridge* , *United Kingdom*
- **Universal Access Heuristics for Blind and Visually Impaired People Who Use ICT**
  Ray Adams, *Middlesex University*, *United Kingdom*; Gill Whitney, *Middlesex University*, *United Kingdom*; Patrick Langdon, *University of Cambridge* , *United Kingdom*
- **Investigating Mobile Use for Wearable Product Concept Design**
  Kristiina Karvonen, *Nokia Networks*, *Finland*; Jarmo Parkkinen, *Helsinki University of Technology*, *Finland*; Liina Poropudas, *Helsinki University of Technology*, *Finland*

Parallel Paper Presentations

Friday 27 June 2003 • 11:30 - 13:00

HCI

S154 - Advanced Communication Systems and the Related Software Method
Room: Enia

Chair: **Tetsuo Sawaragi**, *Kyoto University, Japan* ; **Hidekazu Yoshikawa**, *Kyoto University, Japan*

- **Integrated Information System for Supporting Maintenance Activities of Nuclear Power Plants**
  Wu Wei, *Mitsubishi Electric Corporation*, *Japan*; Tadashi Ohi, *Mitsubishi Electric Corporation*, *Japan*; Yoshihiko Ozaki, *Mitsubishi Electric Corporation*, *Japan*; Yangping Zhou, *Kyoto University*, *Japan*; Hidekazu Yoshikawa, *Kyoto University*, *Japan*
- **Integration of Heterogeneous Multi-Agent Systems**
  Hiroki Suguri, *Communication Technologies*, *Japan*; Eiichiro Kodama, *Iwate Prefectural University*, *Japan*; Masatoshi Miyazaki, *Iwate Prefectural University* , *Japan*
- **A Tsunami Hazard Mitigation System from the Viewpoint of Human Interface**
  Yoshio Nakatani, *Mitsubishi Electric Corporation*, *Japan*
- **Development of an Education System for Surface Mount Work of a Printed Circuit Board**
  Hirotake Ishii, *Kyoto University*, *Japan*; Takashi Kobayashi, *Kyoto University*, *Japan*; Hidenori Fujino, *Kyoto University*, *Japan*; Yasunori Nishimura, *Kyoto University*, *Japan*; Hiroshi Shimoda, *Kyoto University*, *Japan*; Hidekazu Yoshikawa, *Kyoto University*, *Japan*; Wu Wei, *Mitsubishi Electric Corporation*, *Japan*; Naotaka Terashita, *Mitsubishi Electric Corporation*, *Japan*
- **Sociality of an Interface Agent for Sharing Mutual Beliefs in Collaborative Monitoring of Complex Artifact Systems with a Human Operator**
  Tetsuo Sawaragi, *Kyoto University*, *Japan*; Yukio Horiguchi, *Kyoto University*, *Japan*; Yasunori Nishimoto, *Kyoto University*, *Japan*

S155 - Avatars
Room: Apollo West

Chair: **Satoshi Yonemoto**, *Kyushu Sangyo University, Japan*

- **Personality Engineering for Emotional Interactive Avatars**
  Simon Lock, *Lancaster University*, *United Kingdom*; Paul Rayson, *Lancaster University*, *United Kingdom*; Jen Allanson, *Lancaster University*, *United Kingdom*
- **Walkable shared virtual space with avatar animation for remote communication**
  Kinya Fujita, *Tokyo University of Agriculture and Technology*, *Japan*; Takashi Shimoji, *Tokyo University of Agriculture and Technology*, *Japan*
- **AVICE: Evolving Avatar's Movements**
  Hiromi Wakaki, *The University of Tokyo*, *Japan*; Hitoshi Iba, *The University of Tokyo*, *Japan*
- **"Moving" Avatars: Emotion Synthesis in Virtual Worlds**
  Kostas Karpouzis, *National Technical University of Athens*, *Greece*; Amaryllis Raouzaiou, *National Technical University of Athens*, *Greece*; Stefanos Kollias, *National Technical University of Athens*, *Greece*
- **2.5D Video Avatar for Networked VRPhoto System**
  Youngjung Suh, *K-JIST U-VR Lab*, *S. Korea*; Dongpyo Hong, *K-JIST U-VR Lab*, *S. Korea*; Woontack Woo, *KJIST U-VR Lab*, *Korea*

S156 - Comparative Evaluation
Room: Aphrodite

Chair: **Barbara Cohen**, *IRS SAFETY/HEALTH/ ERGONOMICS PROGRAM, United States*

- **A Comparison of Four New Communication Technologies**
  Ruth Rettie, *Kingston University*, *United Kingdom*
- **Automatic vs. Intellectual Document Clustering: Evaluating 2D Topographic Maps**
  Maximilian Eibl, *GESIS*, *Germany*; Thomas Mandl, *University of Hildesheim*, *Germany*
- **A Comparative Study of Design Solutions for Industrial Process Control Systems**
  Tobias Komischke, *Siemens Corporate Research*, *United States*; Govind Govindaraj, *Georgia Institute of Technology*, *United States*; Kerstin Röse, *University of Kaiserslautern*, *Germany*; Makoto Takahashi, *Tohoku University*, *Japan*
- **3D Modelling Is Not for WIMPs**
  Silvia Scali, *Edinburgh College of Art*, *United Kingdom*; Mark Wright, *University of Edinburgh*, *United Kingdom*; Ann Marie Shillito, *Edinburgh College of Art*, *United Kingdom*
- **Learning a Procedural Task with Animation: A Comparison between High and Low Visual Spatial Learners**
  Hoi Ling Tsang, *The University of Hong Kong*, *Hong Kong*; ALbert W.L. Chau, *The University of Hong Kong*, *Hong Kong*

S157 - Handheld & Mobile Devices I
Room: Exi

Chair: **Xiaowen Fang**, *DePaul University, United States*

- **What Tasks are Suitable for Handheld Devices?**
  Shuang Xu, *DePaul University*, *United States*; Xiaowen Fang, *DePaul University*, *United States*; Susy Chan, *DePaul University*, *United States*; Jacek Brzezinski, *DePaul University*, *United States*

- **The Effects of Display Orientation and Target Position on Target Pointing Tasks on a PDA**
  Masafumi Ogasawara, *Kochi University of Technology*, *Japan*; Sachi Mizobuchi, *Nokia Research Center / Keio University*, *Japan*; Xiangshi Ren, *Kochi University of Technology*, *Japan*

- **An Intuitive Information Space Navigation Method based on the Window Metaphor**
  Yu Shibuya, *Kyoto Institute of Technology*, *Japan*; Tomoya Narita, *Kyoto Institute of Technology*, *Japan*; Takeshi Yoshida, *Kyoto Institute of Technology*, *Japan*; Itaru Kuramoto, *Kyoto Institute of Technology*, *Japan*; Yoshihiro Tsujino, *Kyoto Institute of Technology*, *Japan*

- **Collaborative Visual Jockey using Mobile Phones**
  Haruhiro Katayose, *Kwansei Gakuin University*, *Japan*; Tsuyoshi Miyamichi, *Wakayama University*, *Japan*; Naruki Mitsuda, *Wakayama University*, *Japan*

- **Designing a Speech Operated Calendar Application for Mobile Users**
  Sami Ronkainen, *Nokia Mobile Phones*, *Finland*; Juha Kela, *VTT Electronics* , *Finland*; Juha Marila, *Nokia Research Center*, *Finland*

S158 - Human Aspects of VR
Room: Poseidon

Chair: **Wilhelm Bauer**, *Fraunhofer - IAO, Germany* ; **Alex Bullinger**, *University of Basel, Switzerland*

- **Anticipation in a VR-based Anthropomorphic Construction Assistant**
  Ian Voss, *University of Bielefeld*, *Germany*; Ipke Wachsmuth, *University of Bielefeld*, *Germany*

- **Development of a Mixed-Mock-Up-Simulator for Work Science Related Studies**
  Lorenz Hagenmeyer, *Fraunhofer - IAO*, *Germany*; Martin Braun, *Fraunhofer - IAO*, *Germany*; Dieter Spath, *Fraunhofer - IAO*, *Germany*

- **Interacting with Hierarchical Information Structures in Immersive Environments**
  Roland Blach, *Fraunhofer - IAO*, *Germany*; Hilko Hoffmann, *Fraunhofer - IAO*, *Germany*; Oliver Stefani, *University of Stuttgart, IAT*, *Germany*; Manfred Dangelmaier, *Fraunhofer - IAO*, *Germany*

- **Cognitive Ergonomics in the Development of Virtual Reality: A Neurophysiological approach**
  Ralph Mager, *University of Basel*, *Switzerland*; Robert Stoermer, *University of Basel*, *Switzerland*; Marcus F. Kuntze, *University of Basel*, *Switzerland*; Franz Mueller-Spahn, *University of Basel*, *Switzerland*; Angelos Amditis, *National Technical University of Athens*, *Greece*; Evangelos Bekiaris, *Hellenic Institute of Transport (CERTH/HIT)*, *Greece*; Alex Bullinger, *University of Basel*, *Switzerland*

- **Virtual Reality - Ergonomic Solutions for Overcoming the Complexity Trap**
  Alex Bullinger, *University of Basel*, *Switzerland*; Marcus F. Kuntze, *University of Basel*, *Switzerland*; Franz Mueller-Spahn, *University of Basel*, *Switzerland*; Angelos Amditis, *National Technical University of Athens*, *Greece*; Ralph Mager, *University of Basel*, *Switzerland*

S159 - Information Retrieval and Human Computer Interaction
Room: Leda

Chair: **Marco Porta**, *University of Pavia, Italy*

- **GraphSQL: a Visual Query Specification Language for Relational Databases**
  Marco Porta, *University of Pavia*, *Italy*

- **Advanced methods of search query refinement in web environment**
  Pavel Zikovsky, *Czech Technical University in Prague*, *Czech Republic*; Pavel Slavik, *Czech Technical University in Prague*, *Czech Republic*

- **Study on A Retrieval Method which Reflects Individual Preferences by Preference Analysis with Mediation Variables**
  Takashi Mitsuishi, *Tohoku University*, *Japan*

- **An End Users Dedicated New Language for Geographical Information Retrieval**
  Mohamed Limam, *Université de Caen* , *France*; Mauro Gaio, *Université de Caen*, *France*; Jacques Madelaine, *Uiversité de Caen* , *France*

- **An Interactive Ontology-Based Query Formulation Approach for Exploratory Styles of Interaction**
  Elena García, *University of Alcalá*, *Spain*; Miguel Ángel Sicilia, *Universidad Carlos III de Madrid*, *Spain*; Paloma Díaz, *Universidad Carlos III de Madrid*, *Spain*; Ignacio Aedo, *Universidad Carlos III de Madrid*, *Spain*

Parallel Paper Presentations

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HCI

S160 - Tools
Room: Deka Tria

Chair: **Fabio Paterno**, *ISTI-CNR, Italy*

- **Development of a Crew Station Design Tool**
  Brett Walters, *Micro Analysis and Design, Inc.*, *United States*; Susan Archer, *Micro Analysis and Design, Inc.*, *United States*; Shannon Pray, *Micro Analysis and Design, Inc.*, *United States*

- **DESK-H: Building Meaningful Histories in an Editor of Dynamic Web Pages**
  José Antonio Macías Iglesias, *Universidad Autónoma de Madrid*, *Spain*; Pablo Castells Azpilicueta, *Universidad Autónoma de Madrid*, *Spain*

- **Development of GUI Design Consistency Auto-Scoring System**
  Hidehiko Okada, *NEC Corporation*, *Japan*; Toshiyuki Asahi, *NEC Corporation*, *Japan*

- **Tools for task-based interaction and collaboration analysis**
  Nikolaos Avouris, *University of Patras*, *Greece*; George Fiotakis, *University of Patras*, *Greece*; Nikolaos Tselios, *University of Patras*, *Greece*; Vassilis Komis, *University of Patras*, *Greece*

- **Mindtape – a Technique in Verbal Protocol Analysis**
  Janni Nielsen, *Copenhagen Business School*, *Denmark*; Nina Christiansen, *Copenhagen Business School*, *Denmark*; Torkil Clemmensen, *Copenhagen Business School*, *Denmark*; Carsten Yssing, *Copenhagen Business School*, *Denmark*

S161 - Usability Engineering
Room: Minos North

Chair: **John Eklund**, *Access Testing Centre and The University of Sydney, Australia*

- **How to Integrate Usability and Functional Requirements: A Usability Requirements Model**
  Johan Fransson, *Swedish Defence Research Agency*, *Sweden*; Emma Bosson, *Swedish Defence Research Agency*, *Sweden*; Erika Svensson, *Swedish Defence Research Agency*, *Sweden*

- **Usability of Software Online Documentation: A User Study**
  Abbas Moallem, *PeopleSoft, Inc.*, *United States*

- **State of the Art: Approaches to Behaviour Coding in Usability Laboratories in German-Speaking Countries**
  Britta Hofmann, *Fraunhofer - FIT*, *Germany*; Marc Hümmer, *Fraunhofer - FIT*, *Germany*; Peter Blachani, *Fraunhofer - FIT*, *Germany*

- **Usability Evaluation as a Component of the OPEN Development Framework**
  John Eklund, *Access Testing Centre and The University of Sydney*, *Australia*; Matthew Baker, *The University of Technology, Sydney*, *Australia*; David Lowe, *The University of Technology, Sydney*, *Australia*

- **ObSys – a Tool for Visualizing Usability Evaluation Patterns with Mousemaps**
  Michael Gellner, *University of Rostock*, *Germany*; Peter Forbrig, *University of Rostock*, *Germany*

S162 - Usability Engineering in Industry - Overcome Obstacles and Start Up New Territories: Promoting Usability Engineering in New Territories - II
Room: Pente

Chair: **Zhengjie Liu**, *Dalian Maritime University, China*

- **Usability Design for the Home Media Station**
  Konstantinos Chorianopoulos, *Athens University of Economics & Business*, *Greece*; Diomidis Spinellis, *Athens University of Economics & Business*, *Greece*

- **Procuring Usable Systems - An Analysis of a Commercial Procurement Project**
  Erik Markensten, *Royal Institute of Technology*, *Sweden*

- **Lightweight Usability Engineering Scaling Usability-Evaluation to a Minimum?**
  Ronald Hartwig, *University of Luebeck*, *Germany*; Cristina Darolti, *University of Luebeck*, *Germany*; Michael Herczeg, *University of Luebeck*, *Germany*

- **Usability Challenges in Social Projects in Brazil: Lessons Learned about the Digital Divide**
  Clarisse Sieckenius de Souza, *Pontifical Catholic University of Rio de Janeiro*, *Brazil*; Simone Barbosa, *Pontifícia Universidade Católica do Rio de Janeiro*, *Brazil*; Raquel Oliveira Prates, *State University of Rio de Janeiro*, *Brasil*

- **Ten Factors Affecting Adobe's Overseas Research**
  Lynn Shade, *Adobe Systems Inc.*, *United States*

S163 - Virtual Environments III
Room: Europa

Chair: **Terrence Fernando**, *University of Salford, United Kingdom*

- **RTSA – Reaction Time Sensitivity Analysis: A Methodology to Design an Augmented Reality User Interface for a Head Based Virtual Retinal Display**
  Olaf Oehme, *RWTH Aachen University, Germany*; Britta Sommer, *RWTH Aachen University, Germany*; Holger Luczak, *RWTH Aachen University, Germany*
- **Integration of 3D Sound Feedback into Virtual Assembly Environment**
  Ying Zhang, *University of Salford, United Kingdom*; Norman Murray, *University of Salford, United Kingdom*; Terrence Fernando, *University of Salford, United Kingdom*
- **Developing 3D UIs using the IDEAS Tool: A case of study**
  José Pascual Molina Massó, *University of Castilla-La Mancha, Spain*; Pascual González López, *University of Castilla-La Mancha, Spain*; María Lozano Pérez, *University of Castilla-La Mancha, Spain*
- **Immersive HMD-Delivered 360 Degree Panoramic Video Environments: Research on Creating Useful and Usable Applications**
  Albert Rizzo, *University of Southern California, United States*; Kambiz Ghahremani, *University of Southern California , United States*; Larry Pryor, *University of Southern California , United States*; Susannah Gardner, *University of Southern California , United States*
- **Phobia Treatment Using a Virtual Reality System**
  Miguel Leitao, *ISEP / INESC , Portugal*; Vitor Cunha, *ISEP, Portugal*

S164 - Mobile & Wearable Computing
Room: Minos South

Chair: **Thorsten Hampel**, *Universität Paderborn, Germany*

- **Auditory Pointing for Interaction with Wearable Systems**
  Koichi Hirota, *University of Tokyo, Japan*; Michitaka Hirose, *University of Tokyo, Japan*
- **Innovative UI Concepts for Mobile Devices**
  Birgit Otto, *SIEMENS AG, Germany*; Fritjof Kaiser, *Siemens AG Corporate Technology, Germany*
- **Visualization Techniques for Personal Tasks on Mobile Computers**
  Gerald Bieber, *Fraunhofer - IGD, Germany*; Christian Tominski, *University of Rostock, Germany*
- **iFlashBack: A Wearable System for Reinforcing Memorization Using Interaction Records**
  Yasushi Ikei, *Tokyo Metropolitan Institute of Technology, Japan*; Yoji Hirose, *Tokyo Metropolitan Institute of Technology, Japan*; Koichi Hirota, *University of Tokyo, Japan*; Michitaka Hirose, *University of Tokyo, Japan*
- **Concept Design of Mobile Phone for Chinese Deaf Mutes**
  Yan Li, *Legend Corporate Research & Development, China*; Wanli Yang, *Legend Corporate Research & Development, China*; Rong Yang, *Legend Corporate Research & Development, China*; Xuelian Li, *Legend Corporate Research & Development, China*

S165 - Organisational Learning and Knowledge Management
Room: Dodeka

Chair: **Shogo Nishida**, *Osaka University, Japan*

- **The Use and Usability of Communication, Collaboration and Knowledge Management Tools in Virtual Organizations**
  Matti Vartiainen, *Helsinki University of Technology, Finland*; Marko Hakonen, *Helsinki University of Technology, Finland*; Niina Kokko, *Helsinki University of Technology, Finland*
- **Organisational Learning: An Investigation of Response to Rapid Change in a Traditional Environment**
  Kathy Buckner, *Napier University, United Kingdom*; Elisabeth Davenport, *Napier University, United Kingdom*
- **Group Knowledge Acquisition System Using Two or More Domain Knowledge**
  Yoshinori Hijikata, *Osaka University, Japan*; Toshihiro Takenaka, *Osaka University, Japan*; Yukitaka Kusumura, *Osaka University, Japan*; Shogo Nishida, *Osaka University, Japan*
- **Knowledge Management: An Essential Ingredient for Learning Organisations**
  Berman Kayis, *The University of New South Wales, Australia*; Ammar Ahmed, *The University of New South Wales, Australia*; Carl Reidsema, *The University of New South Wales, Australia*; Oriel Webster, *The University of New South Wales, Australia*
- **Users driven optimization for a web-based university Management Information System**
  Jorge Del Rio Cumbreño, *Universidad de Santiago de Compostela, Spain*; Jose Taboada González, *University of Santiago de Compostela., Spain*; Julian Flores González, *University of Santiago de Compostela, Spain*; Manuel Gomez Sobradelo, *Labsis - University of Santiago de Compostela, Spain*

Parallel Paper Presentations

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EP&CE | UAHCI

S166 - Social Aspects
Room: Minos East

Chair: **Jennifer J. Preece**, *UMBC, United States*

- **Measuring Team Situation Awareness by means of Eye Movement Data**
  Gunnar Hauland, *Risø National Laboratory, now with DNV, Norway*
- **Evaluating Situation Awareness in Different Levels of Fidelity of Synthetic Environments: Virtual Cockpit Versus Conventional Flight Simulator**
  Ungul Laptaned, *University of Nottingham, United Kingdom*; Sarah Nichols, *University of Nottingham, United Kingdom*; John Wilson, *University of Nottingham, United Kingdom*
- **Analyzing Emotional Human-Computer Interaction as Distributed Cognition: The Affective Resources model**
  Ioannis Tarnanas, *Aristotle University of Thessaloniki, Greece*; Athanasis Karoulis, *Aristotle University of Thessaloniki, Greece*; Ioannis Tsoukalas, *Aristotle University of Thessaloniki, Greece*
- **Applying an eye-tracking based process measure for analysing team situation awareness in aviation**
  Rud Pedersen, *Risoe National Laboratory, Denmark*; Hans Andersen, *Riso National Laboratory, Denmark*
- **Emergence of Shared Mental Models During Distributed Teamwork: Integration of Distributed Cognition Traces**
  Rita Vick, *University of Hawaii at Manoa, United States*; Martha Crosby, *University of Hawaii, United States*; Brent Auernheimer, *California State University, United States*; Marie Iding, *University of Hawaii at Manoa, United States*

S167 - Age-related User Diversity
Room: Athena

Chair: **Michela Ott**, *ITD-CNR, Italy*

- **Age-Related Differences in Subjective Ratings of Hierarchical Information**
  Sri Hastuti Kurniawan, *UMIST, United Kingdom*; Panayiotis Zaphiris, *City University, United Kingdom*; R. Darin Ellis, *Wayne State University, United States*
- **Mathematical Formulation of Age Related Differences in Mouse Movement Tasks**
  Panayiotis Zaphiris, *City University, United Kingdom*; Sri Hastuti Kurniawan, *UMIST, United Kingdom*; R. Darin Ellis, *Wayne State University, United States*
- **Studying the Usability of a web site focused on children**
  Ferran Perdrix Sapiña, *Universitat de Lleida -GRIHO, Spain*; Toni Granollers Saltiveri, *AIPO-Spain (GRIHO-UdL), Spain*; Marta González, *GRIHO-UdL, Spain*
- **How Age Can Inform the Future Design of the Mobile Phone Experience**
  Jacqueline Brodie, *Brunel University, United Kingdom*; Jarinee Chattratichart, *London Metropolitan University, United Kingdom*; Mark Perry, *Brunel University, United Kingdom*; Robert Scane, *London Metropolitan University, United Kingdom*
- **The Web accessible for all : guidelines for seniors**
  Gabriel Michel, *University of Metz, France*; Ulrich Benoît, *University of Metz , France*

S168 - Context Awareness
Room: Danae

Chair: **Anthony Savidis**, *ICS-FORTH, Greece*

- **Human-smart environment interaction in case of severe disability**
  Mounir Mokhtari, *Institut National des Telecommunications, France*; M. Ali Feki, *Institut National des Télécomunications (INT), Evry, France*; Bessam Abdulrazak, *Institut National des Télécomunications (INT), Evry, France*
- **A Reference Framework for Multi-Surface Interaction**
  Christophe Lachenal, *University of Grenoble, France*; Joelle Coutaz, *University of GrenobleDomaine Universitaire, France*
- **User-friendly interaction/interface control of intelligent home for movement-disabled people**
  Z. Zenn Bien, *Korea Advanced Institute of Science and Technology (KAIST), Korea*; Jun-Hyeong Do, *Korea Advanced Institute of Science and Technology (KAIST), Korea*; Jung-Bae Kim, *Korea Advanced Institute of Science and Technology (KAIST), Korea*; Dimitar Stefanov, *Korea Advanced Institute of Science and Technology (KAIST), Korea*; Kwang-Hyun Park, *Korea Advanced Institute of Science and Technology (KAIST), Korea*
- **Intelligent User Interface for Integrated Alert System in Tele-homecare**
  Erwin Fugger, *ARC Seibersdorf research , Austria*; Markus Asslaber, *ARC Seibersdorf research, Austria*; Andreas Hochgatterer, *ARC Seibersdorf research, Austria*; Barbara Prazak, *ARC Seibersdorf research, Austria*
- **Decreasing the Annoyance of Your Mobile Device A Case Study in Context Awareness**
  Tatiana Lashina, *Philips Research, Netherlands*; Fabio Vignoli, *Philips Research, Netherlands*; Vincent Buil, *Philips Research, Netherlands*; Sander van de Wijdeven, *Philips Research, Netherlands*; Jettie Hoonhout, *Philips Research, Netherlands*; Gerard Hollemans, *Philips Research, Netherlands*

S169 - Design for All in the University Curriculum

Room: **Artemis**

Chair: **John Darzentas**, *University of the Aegean, Greece*

- **Empathic Modelling in Teaching Design for All**
  Colette Nicolle, *Loughborough University*, *United Kingdom*; Martin Maguire, *Loughborough University*, *United Kingdom*
- **Teaching design for all: the needs and expectations of industry from a DfA curriculum**
  Jan Engelen, *Kath. Univ. Leuven-Docarch*, *Belgium*; Christophe Strobbe, *Katholieke Universiteit Leuven Research and Development*, *Belgium*; Jenny Darzentas, *University of the Aegean*, *Greece*
- **Design for All Key Knowledge and Skill Sets for Information and Communication Products, Services and Systems**
  Jenny Darzentas, *University of the Aegean*, *Greece*; John Darzentas, *University of the Aegean*, *Greece*
- **Teaching design for all in HCI**
  Julio Abascal, *The University of the Basque Country*, *Spain*; Nestor Garay, *University of the Basque Country*, *Spain*
- **IDCnet – A thematic network for Inclusive Design Curricula: aims and objectives**
  Yehya Mohamad, *Fraunhofer - FIT*, *Germany*; Carlos Velasco, *Fraunhofer - FIT*, *Germany*

S170 - Haptic Interaction

Room: **Apollo East**

Chair: **Klaus Miesenberger**, *University of Linz, Austria*

- **Mental-Map Creation Support System for Blind Person-Fusion of Verbal Message and Somesthetic Sense-**
  Yoshihiko Nomura, *Mie University*, *Japan*; Haruki Kakehashi, *Mie University*, *Japan*; Tokuhiro Sugiura, *Mie University*, *Japan*; Norihiko Kato, *Mie University*, *Japan*
- **Neural Implants for Artificially Generated Sensation and Feedback Control**
  Mark Gasson, *University of Reading*, *United Kingdom*; Peter Kyberd, *University of Reading*, *United Kingdom*; Ben Hutt, *University of Reading*, *United Kingdom*; Iain Goodhew, *University of Reading*, *United Kingdom*; Kevin Warwick, *University of Reading*, *United Kingdom*
- **TOOL DEVICE: Handy Haptic Feedback Devices Imitating Everyday Tools**
  Youichi Ikeda, *Osaka University*, *Japan*; Asako Kimura, *Osaka University*, *Japan*; Kosuke Sato, *Osaka University*, *Japan*
- **A Haptics Experiment in Assistive Technology for Undergraduate HCI Students**
  Blaise Liffick, *Millersville University of Pennsylvania*, *United States*
- **Haptic help for orientation in unknown environments**
  Per Sodren, *University of Colorado*, *United States*; Sudhanshu Semwal, *University of Colorado at Colorado Springs*, *United States*

S171 - Advanced Automotive HMI for Particular Driver Cohorts

Room: **Athena**

Chair: **Evangelos Bekiaris**, *Hellenic Institute of Transport (CERTH/HIT), Greece*

- **Warning Strategies Adaptation in a collision avoidance/vision enhancement system**
  Aris Polychronopoulos, *Institute of Communications and Computer Systems*, *Greece*; Dietmar Kempf, *University of Stuttgart*, *Germany*; Manuella Martinetto, *EC, Joint Research Centre*, *Italy*; Angelos Amditis, *National Technical University of Athens*, *Greece*; Harald Widlroither, *Fraunhofer - IAO*, *Germany*; Pietro Carlo Cacciabue, *EC, Joint Research Centre*, *Italy*; Luisa Andreone, *Fiat Research Centre*, *Italy*
- **Effective Warning of a Drowsy Driver - the AWAKE Experience**
  Manfred Dangelmaier, *Fraunhofer - IAO*, *Germany*; Dieter Spath, *Fraunhofer - IAO*, *Germany*; Evangelos Bekiaris, *Hellenic Institute of Transport (CERTH/HIT)*, *Greece*; Claus Marberger, *IAT University of Stuttgart*, *Germany*
- **On designing automotive HMIs for elderly drivers: the AGILE initiative**
  Harald Widlroither, *Fraunhofer - IAO*, *Germany*; Lorenz Hagenmeyer, *Fraunhofer - IAO*, *Germany*; Sascha Breker, *Leibniz Research Center for Working Environment and Human Factors (IfADo)*, *Germany*; Maria Panou, *Hellenic Institute of Transport (CERTH/HIT)*, *Greece*
- **Advanced User Interface for the SAFEGUARD professional driver seat**
  Angelos Amditis, *National Technical University of Athens*, *Greece*; Ioannis Karaseitanidis, *National Technical University of Athens*, *Greece*; Oliver Stefani, *University of Stuttgart, IAT*, *Germany*; Simon Sartor, *ISRINGHAUSEN*, *Germany*
- **Key Issues in Automotive HMI for Elderly and Disabled Drivers - The CONSENSUS Approach**
  Guido Baten, *Belgian Road Safety Institute*, *Belgium*; Maria Panou, *Hellenic Institute of Transport (CERTH/HIT)*, *Greece*
- **Providing Traffic and Route Guidance Information to Tourists**
  Sascha Breker, *Leibniz Research Center for Working Environment and Human Factors (IfADo)*, *Germany*; Karel Brookhuis, *University of Groningen*, *Netherlands*; Pirkko Rama, *VTT Building and Transport*, *Finland*

Parallel Paper Presentations

S172 - Collaborative Work Environments

Room: **Enia**

Chair: **Pentti Seppala**, *Finnish Institute of Occupational Health, Finland*

- **CMS: A Collaborative Work Environment for the Assurance of Conference Proceedings Quality**
  David Tuñón Fernández, *University of Oviedo*, *Spain*; Sergio Ocio Barriales, *University of Oviedo*, *Spain*; Martín González Rodríguez, *University of Oviedo*, *Spain*; Juan Ramon Pérez Pérez, *University of Oviedo*, *Spain*
- **Collaboration Table: An Alternative Medium for Multi-user Multi-site Cooperation**
  Hiroyuki Umemuro, *Tokyo Institute of Technology*, *Japan*
- **CoVitesse: A Groupware Interface for Collaborative Navigation on the WWW**
  Yann Laurillau, *University of Grenoble*, *France*; Laurence Nigay, *University of Grenoble*, *France*
- **Data Analysis and Visualization for Usability Evaluation for Collaborative Systems**
  Jeffrey Campbell, *UMBC*, *United States*; Enrique Stanziola, *UMBC*, *United States*; Andrew Sears, *UMBC*, *United States*
- **Capillary CSCW**
  Bertrand David, *Ecole Centrale de Lyon*, *France*; René Chalon, *Ecole Centrale de Lyon*, *France*; Gérald Vaisman, *Ecole Centrale de Lyon*, *France*; Olivier Delotte, *Ecole Centrale de Lyon*, *France*

S173 - Computer Simulation

Room: **Exi**

Chair: **Henry Duh**, *Nanyang Technological University, Singapore*

- **A Training System for Coronary Stent Implant Simulation**
  Giovanni Aloisio, *University of Lecce*, *Italy*; Lucio De Paolis, *University of Lecce*, *Italy*; Luciana Provenzano, *University of Lecce*, *Italy*; Massimo Cafaro, *University of Lecce*, *Italy*
- **Computer simulations according to different learning theories**
  Gisela Broder, *Helsinki University of Technology*, *Finland*
- **The Development from Physical to Interaction based Simulation Procedures on the Example of Virtual Cables or Hose Simulations**
  Elke Hergenröther, *Fraunhofer - IGD*, *Germany*
- **Simulation Supported Learning of Soft Computing Models**
  Bojana Dalbelo Basic, *University of Zagreb*, *Croatia*; Vlado Glavinic, *University of Zagreb*, *Croatia*; Marko Cupic, *University of Zagreb*, *Croatia*
- **The relationship between simulator sickness and presence: positive, negative, none?**
  Henry Duh, *Nanyang Technological University*, *Singapore*; James Lin, *University of Washington*, *United States*; Donald Parker, *University of Washington*, *United States*; Thomas Furness, *University of Washington*, *United States*
- **prototyping.ppt – Power Point® for interface - simulation of complex machines**
  Barbara Bönisch, *Swiss Federal Institute of Technology, ETH* , *Switzerland*; Jürgen Held, *Swiss Federal Institute of Technology, ETH* , *Switzerland*; Helmut Krueger, *Swiss Federal Institute of Technology, ETH* , *Switzerland*

S174 - Human Computer Interaction Techniques II

Room: **Leda**

Chair: **Meehae Song**, *Nanyang Technological University, Singapore*

- **Foresight Scope: An Interaction Tool for Quickly and Efficiently Browsing Linked Contents**
  Shinji Fukatsu, *NTT Cyber Solutions Laboratories*, *Japan*; Akihito Akutsu, *NTT Cyber Solutions Laboratories*, *Japan*; Yoshinobu Tonomura, *NTT Cyber Solutions Laboratories*, *Japan*
- **Interactive Sight: A New Interaction Method For Real World Environment**
  Yuichi Mitsudo, *University of Electro-Communications*, *Japan*; Ken Mogi, *Sony Computer Science Laboratory*, *Japan*
- **Novel Interaction Techniques for Virtual Heritage Applications using Chinese Calligraphy Brush and Virtual Avatar**
  Meehae Song, *Nanyang Technological University*, *Singapore*; Thomas Elias, *Nanyang Technological University (NTU)*, *Singapore* ; Wolfgang Mueller-Wittig, *Nanyang Technological University (NTU)*, *Singapore*; Tony Chan, *Nanyang Technological University (NTU)*, *Singapore*
- **DynaGraffiti: Hand-written Annotation System for Interactive and Dynamic Digital Information**
  Shun'ichi Tano, *University of Electro Communications*, *Japan*; Daisuke Ogisawa, *University of Electro-Communications*, *Japan*; Mitsuru Iwata, *University of Electro-Communications*, *Japan*; Yusuke Sasaki, *University of Electro-Communications*, *Japan*
- **Non Hierarchical Mergeable Dialogs**
  Eric Blechschmitt, *Fraunhofer - IGD*, *Germany*; Christoph Strödecke, *Fraunhofer - IGD*, *Germany*
- **Sivit ShopWindow - a video-based interaction system**
  Michael Lützeler, *Siemens AG*, *Germany*; Jens Racky, *Siemens AG*, *Germany*; Hans Röttger, *Siemens AG*, *Germany*

S175 - Interactive Games & Toys

Room: **Danae**

Chair: **Elric Williams**, *Trinity and All Saints College, United Kingdom*

- **Dream3D: Design and Implementation of an Online 3D Game Engine**
  Tae-Joon Park,, *ETRI*, *Korea*; Soon Hyoung Pyo, *ETRI*, *Korea*; Chang Woo Chu, *ETRI*, *Korea*; Seong Won Ryu, *ETRI*, *Korea*; Dohyung Kim, *ETRI*, *Korea*; Kwang Hyun Shim, *ETRI*, *Korea*; Byoung Tae Choi, *ETRI*, *Korea*

- **Speech Interaction for Networked Video Games**
  Eleni Spyridou, *Bradford University*, *United Kingdom*; Ian Palmer, *Bradford University*, *United Kingdom*; Elric Williams, *Trinity and All Saints College*, *United Kingdom*

- **Main Features of a CBIR Prototype supporting Cartoon Production**
  Tania Di Mascio, *University of Rome*, *Italy*; Laura Tarantino, *Universita' dell'Aquila*, *Italy*

- **How game-like tests can be used in the development of a user model for a Universal Access interface**
  Linda White, *University of Portsmouth*, *United Kingdom*; Jenny Jerrams-Smith, *University of Portsmouth*, *United Kingdom*; David Heathcote, *Bournemouth University*, *United Kingdom*

- **Is every kid having fun? A gender crossover approach to interactive toy design**
  Marcelle Stienstra, *Mads Clausen Institute*, *Denmark*; Jettie Hoonhout, *Philips Research*, *Netherlands*

- **Making the Network Visible to the User in Virtual Environments and Online Games**
  Manuel Oliveira, *University College London*, *United Kingdom*; Mel Slater, *University College London*, *United Kingdom*; Jon Crowcroft, *Cambridge University*, *United Kingdom*

S176 - Model-based Approaches

Room: **Minos North**

Chair: **Mieke Massink**, *C.N.R. - ISTI, Italy*

- **Modeling Collaborative Environment**
  Miguel Gea, *University of Granada*, *Spain*; Francisco Gutierrez, *University of Granada*, *Spain*; Jose Luis Garrido, *University of Granada*, *Spain*; Jose Cañas, *University of Granada*, *Spain*

- **Towards virtual intuitive tools for computer aided design**
  Yvon Gardan, *CMCAO team / IFTS*, *France*; Erwan Malik, *CMCAO Team / IFTS*, *France*; Estelle Perrin, *CMCAO team / University of Metz*, *France*

- **Deriving Manuals from Formal Specifications**
  Mieke Massink, *C.N.R. - ISTI*, *Italy*; Diego Latella, *C.N.R. -ISTI*, *Italy*

- **TOMBOLA: Simulation and User-Specific Presentation of Executable Task Models**
  Holger Uhr, *University of Paderborn*, *Germany*

- **Extensions to the Method of Using Conceptual Graphs for User Modeling**
  Aimilia Tzanavari, *University of Cyprus*, *Cyprus*; Patrick Paulson, *Miami University*, *United States*

- **Aspect Model-Based Methods for Scenarios and Prototype Development**
  Youn-kyung Lim, *Illinois Institute of Technology*, *United States*; Keiichi Sato, *Illinois Institute of Technology*, *United States*

S177 - Universal Use of E-Learning Systems: Challenges for Research and Practice

Room: **Europa**

Chair: **Aggeliki Poulimenakou**, *Athens University of Economics & Business, Greece* ; **Diomidis Spinellis**, *Athens University of Economics & Business, Greece* ; **Konstantina Vassilopoulou**, *ELTRUN-Athens University of Economics and Business, Greece* ; **Panagiotis Zaharias**, *Athens University of Economics and Business, Greece*

- **Innovating Web Based Collaborative Learning by Applying the Case Method**
  Christine Frank, *University of Paderborn*, *Germany*; Leena Suhl, *University of Paderborn*, *Germany*

- **Designing Appropriate Technology for Group Learning**
  Ingrid Mulder, *Telematica Instituut*, *Netherlands*; Janine Swaak, *Telematica Instituut*, *Netherlands*; Joseph Kessels, *University of Twente*, *Netherlands*

- **Added-Value Functionality for Learning Management Systems: the selection process within a German insurance company**
  Nadja Reckmann, *University of Koblenz-Landau*, *Germany*; Paula Swatman, *University of Koblenz-Landau*, *Germany*

- **Multimedia in Education: Myths and Realities**
  Andreas Evaggelatos, *Athens University of Economics and Business*, *Greece*; Maria Constantopoulou, *Athens University of Economics and Business*, *Greece*

- **Social mechanisms for content quality control in web-based learning: An agent approach**
  Nikolaos Avouris, *University of Patras*, *Greece*; Konstantinos Solomos, *University of Patras*, *Greece*

- **Learning to Learn: HCI-Methods for personalised eLearning**
  Christian Voigt, *Universität Koblenz-Landau*, *Germany*; Paula Swatman, *University of Koblenz-Landau*, *Germany*

Parallel Paper Presentations

Friday 27 June 2003 • 14:00 - 16:00

HCI

S178 - User Modelling

Room: **Deka Tria**

Chair: **Peter Forbrig**, *University of Rostock, Germany*

- **Constructing the user**
  Lene Nielsen, *Copenhagen Business School*, *Denmark*

- **Integrating Machine Learning Methods throughout the Temporal Extent of a Web-based Student Model**
  Victoria Tsiriga, *University of Piraeus*, *Greece*; Maria Virvou, *University of Piraeus , Greece*

- **User Learning Modeling in Learnware Design - Case Study with Dynamic Geometry Software**
  Alex Sandro Gomes, *Universidade Federal de Pernambuco*, *Brazil*; Ana Emília de Melo Queiroz, *Universidade Federal de Pernambuco*, *Brasil*; Fransisco de Assis Tenorio de Carvalho, *Universidade Federal de Pernambuco*, *Brasil*; Francisco Alves, *Universidade Fortaleza*, *Brasil*

- **Relating Error Diagnosis and Performance Characteristics for Affect Perception and Empathy in an Educational Software Application**
  Maria Virvou, *University of Piraeus , Greece*; George Katsionis, *University of Piraeus*, *Greece*

- **On the Role of User Models and User Modeling in Knowledge Management Systems**
  Liana Razmerita, *INSEAD , France*; Albert Angehrn, *INSEAD*, *France*; Thierry Nabeth, *INSEAD*, *France*

- **User Modelling Based on Topic Maps**
  Wolfgang Beinhauer, *Fraunhofer - IAO*, *Germany*; Franz Koller, *User Interface Design GmbH*, *Germany*

S179 - Visualisation I

Room: **Pente**

Chair: **Tiziana Catarci**, *Università di Roma, Italy*

- **Hybrid Visualization of Manufacturing Management Information for the Shop Floor**
  Sascha Stowasser, *University Karlsruhe*, *Germany*

- **Visual Interfaces for Opportunistic Information Seeking**
  Pearl Pu, *Swiss Federal Institute of Technology (EPFL)*, *Switzerland*; Paul Janecek, *Swiss Federal Institute of Technology (EPFL)*, *Switzerland*

- **Visualizing Social Navigation in Scientific Literature**
  Pearl Pu, *Swiss Federal Institute of Technology (EPFL)*, *Switzerland*; Punit Gupta, *Indian Institute of Technology*, *India*

- **Lessons Learned in Designing a 3D Interface for Collaborative Inquiry in Scientific Visualization**
  Stephan Olbrich, *University of Hannover*, *Germany*; Nils Jensen, *University of Hannover*, *Germany*

- **Visualizing aircraft properties: An empirical study**
  Monica Tavanti, *EEC Eurocontrol Experimental Centre*, *France*; Geraldine Flynn, *EEC Eurocontrol Experimental Centre*, *France*

- **Visualizing Activity in Shared Information Spaces**
  Wolfgang Gräther, *Fraunhofer - FIT*, *Germany*; Wolfgang Prinz, *Fraunhofer - FIT*, *Germany*

S180 - Information Technologies & Society

Room: **Poseidon**

Chair: **Jan Ekberg**, *STAKES, Finland*

- **Changing Technology – Equal Opportunities?**
  Niina Helminen, *Helsinki University of Technology*, *Finland*

- **TV Viewing and Internet Use:Experiences from a Large-Scale Broadband Field Trial in Norway**
  Siri Nilsen, *Telenor R&D*, *Norway*; Kari Hamnes, *Telenor R&D*, *Norway*; Kristin Thrane, *Telenor R&D*, *Norway*; Rich Ling, *Telenor R&D*, *Norway*; Marianne Jensen, *Telenor R&D*, *Norway*

- **Fruitful Collaborations: Integrating Research and Practice**
  Michael Levi, *U.S. Bureau of Labor Statistics*, *United States*; Gary Marchionini, *University of North Carolina*, *United States*

- **Designing and evaluating Government Websites within the context of the Electronic Democracy**
  Braam van der Vyver, *Monash*, *South Africa*

- **Audience of Local Online Newspapers in Sweden, Slovakia and Spain - a comparative study**
  Carina Ihlström, *Halmstad University*, *Sweden*; Jonas Lundberg, *Linköpings Universitet*, *Sweden*; Ferran Perdrix Sapiña, *Universitat de Lleida -GRIHO*, *Spain*

- **Mobile communication, image messaging and photo sharing: A preliminary comparison of Japanese and Finnish teenagers**
  Sakari Tamminen, *Helsinki University of Technology*, *Finland*; Salla Hari, *Helsinki University of Technology*, *Finland*; Kalle Toiskallio, *Helsinki University of Technology*, *Finland*

S181 - Testing & Evaluation

Room: Minos South

Chair: **Hiroshi Tamura**, *Hiroshima International University, Japan*

- **An examination method of human interface using physiological information**
  Yoshiaki Hayasaka, *Iwate Prefectural University*, *Japan*; Tatsuhiro Kimura, *Iwate Prefectural University*, *Japan*; Shuhei Ogawa, *Tokai University*, *Japan*; Norihisa Segawa, *Iwate Prefectural University*, *Japan*; Kiyoyuki Yamazaki, *Tokai University*, *Japan*; Masatoshi Miyazaki, *Iwate Prefectural University , Japan*

- **Qualitative Evaluation of TT-Net Project**
  Jörn Krückeberg, *Protestant University of Applied Sciences Hannover*, *Germany*; Sigrun Goll, *Protestant University of Applied Sciences Hannover*, *Germany*; Marianne Behrends, *Hannover Medical School*, *Germany*; Ingo Köster, *Hannover Medical School*, *Germany*; Herbert Matthies, *Hannover Medical School*, *Germany*

- **Software evaluation by the ergonomic assessment tool EKIDES**
  Heiner Bubb, *Technische Universität München*, *Germany*; Iwona Jastrzebska-Fraczek, *University of Technology Munich*, *Germany*

- **Interactive Maps on Mobile, Location-Based Systems: Design Solutions and Usability Testing**
  Fabian Hermann, *Fraunhofer - IAO*, *Germany*; Frank Heidmann, *Fraunhofer - IAO*, *Germany*

- **Technical and Social Standards to support Appropriate Use of Digital Everyday Appliances**
  Hiroshi Tamura, *Hiroshima International University*, *Japan*

- **Gestural User Interaction**
  Jian Wang, *Microsoft Research Asia*, *China*

S182 - Cognitive Behaviour

Room: Aphrodite

Chair: **Erik Hollnagel**, *University of Linkoeping, Sweden*

- **Input Requirements to a Performance Monitoring System**
  Erik Hollnagel, *University of Linkoeping*, *Sweden*; Yuji Niwa, *Institute of Nuclear Safety System, Inc.*, *Japan*

- **User Studies on Tactile Perception of Vibrating Alert**
  Jukka Linjama, *NOKIA Mobile Phones , Finland*; Monika Puhakka, *Nokia Research Center*, *Finland*; Topi Kaaresoja, *Nokia Research Center*, *Finland*

- **Difference Presentation: A Method for Facilitating Users' Adaptation to Software Upgrade**
  Hiroshi Hayama, *University of Tokyo*, *Japan*; Kazuhiro Ueda, *University of Tokyo*, *Japan*

- **Study of Wearable Computer for Subjective Visual Recording**
  Ryoko Ueoka, *University of Tokyo*, *Japan*; Koichi Hirota, *University of Tokyo*, *Japan*; Michitaka Hirose, *University of Tokyo*, *Japan*

- **Self-Organized Criticality of Color Information of Impressionist's Art Works**
  Asako Fukumoto , *Keio Graduate School of Media and Governance*, *Japan*; Dong Sheng Cai, *Tsukuba University*, *Japan* ; Michiaki Yasumura, *Keio University*, *Japan*

S183 - Design Methods

Room: Apollo West

Chair: **Marvin J. Dainoff**, *Miami University Oxford, United States*

- **Task Analysis Method of Advertising Design Process Using Computer Media Based on Cognitive Behaviour Description and Eye Tracking Technique**
  Hirotaka Aoki, *Tokyo Institute of Technology*, *Japan*

- **Requirements Analysis and Task Design in Dynamic Environments**
  Johan Hoorn, *Vrije Universiteit*, *Netherlands*; Gerrit van der Veer, *Vrije Universiteit*, *Netherlands*

- **Making Instructions 'Visible' on the Interface: An Instructional Approach to the Acquisition and Retention of Fault-finding Skills**
  Tom Kontogiannis, *Technical Univerisity of Crete*, *Greece*; Nadia Linou, *Technical University of Crete*, *Greece*

- **Incorporating Cognitive Usability into Software Design Processes**
  Michael Feary, *NASA Ames Research Center*, *United States*; Lance Sherry, *Athena Technologies, Inc.*, *United States*; Peter Polson, *University of Colorado*, *United States*; Karl Fennel, *United Airlines*, *United States*

- **Designing for Psychological Effects: Towards Mind-Based Media and Communications Technologies**
  Timo Saari, *Helsinki School of Economics*, *Finland*

- **Designing a Pleasurable Web Pad User Interface with the Participatory Function Analysis**
  Chien-Hsiung Chen, *National Taiwan University of Science and Technology*, *Taiwan*; Hong-Tien Wang, *Tatung Company*, *Taiwan*; Hung Liang Hsu, *Tatung Company*, *Taiwan*

Parallel Paper Presentations

Friday 27 June 2003 • 14:00 - 16:00

S184 - Information Retrieval and Information Mining

Room: Artemis

Chair: **Josiane Mothe**, *Institut de Recherche en Informatique de Toulouse , France*

- **Information mining and information retrieval : methods and applications**
  Josiane Mothe, *Institut de Recherche en Informatique de Toulouse , France*; Claude Chrisment, *Université Paul Sabatier*, *France*

- **Modeling the information contained in an organizational memory to facilitate its access**
  Jean-Yves Fortier, *Université de Picardie Jules Verne*, *France*; Gilles Kassel, *Université de Picardie Jules Verne*, *France*

- **Visual User Interaction in Three Dimensional Environments**
  Mohsen Farid, *Queen"s University Belfast*, *United Kingdom*; Fionn Murtagh, *Queen's University Belfast*, *United Kingdom*

- **Interactive Retrieval and Visualization of Semantically Complex Data in Domain-Specific Information Systems**
  Maximilian Stempfhuber, *Social Science Information Centre (IZ)*, *Germany*

- **An automatic system to build resource databases for researchers**
  Constantin Orasan, *University of Wolverhampton*, *United Kingdom*; Richard Evans, *University of Wolverhampton*, *United Kingdom*; Ruslan Mitkov, *University of Wolverhampton*, *United Kingdom*

S185 - Semantic Awareness: When Computers Sense what you are Talking About

Room: Minos East

Chair: **Kurt Englmeier**, *German Institute for Economic Research (DIW), Germany*

- **Setting the scene for context-aware information providing**
  Kurt Englmeier, *German Institute for Economic Research (DIW)*, *Germany*

- **Robust Semantic Analysis for Adaptive Speech Interfaces**
  Maria Cheadle, *Swedish Institute of Computer Science - SICS AB*, *Sweden*; Björn Gambäck, *Swedish Institute of Computer Science (SICS)*, *Sweden*

- **Supporting Population Centered Medical Decision Making:Design Recommendations and Preliminary Assessment**
  George Potamias, *ICS-FORTH*, *Greece*; Lefteris Koumakis, *ICS-FORTH*, *Greece*; George Charissis, *ICS-FORTH*, *Greece*; Vassilis Moustakis, *ICS-FORTH*, *Greece*; Manolis Tsiknakis, *ICS-FORTH*, *Greece*; Stelios Orphanoudakis, *ICS-FORTH*, *Greece*

- **Multimedia Content Personalisation using MPEG-7/MPEG-21**
  Minaz Parmar, *Brunel University*, *United Kingdom*; David Knight, *Brunel University*, *United Kingdom*; Marios Angelides, *Brunel University*, *United Kingdom*

- **Distributed Multimedia Content with P2P JXTA Technology**
  Pedro Contreras, *Queen's University Belfast*, *United Kingdom*; Steven Johnstone, *Queen's University Belfast*, *United Kingdom*; Fionn Murtagh, *Queen's University Belfast*, *United Kingdom*; Kurt Englmeier, *German Institute for Economic Research (DIW)*, *Germany*

- **Collaborative Filtering of User Profiles using MPEG-7/MPEG-21**
  Minaz Parmar, *Brunel University*, *United Kingdom*; David Knight, *Brunel University*, *United Kingdom*; Marios Angelides, *Brunel University*, *United Kingdom*

S186 - Studies of Web Accessibility

Room: Ikosi

Chair: **Sri Hastuti Kurniawan**, *UMIST, United Kingdom* ; **Panayiotis Zaphiris**, *City University, United Kingdom*

- **How will mobile devices contribute to an accessible ubiquitous iTV scenario**
  Anxo Cereijo Roibas, *University of Brighton*, *United Kingdom*; Riccardo Sala, *Politecnico di Milano*, *Italy*; Sanna Simola, *University of Lapland*, *Finland* ; Anna Hill, *Space Synapse Ltd.*, *Ireland*

- **On Expert-Based Interface Evaluation of Web Resources Regarding Accessibility Issues: A Preliminary Investigation**
  Athanasis Karoulis, *Aristotle University of Thessaloniki*, *Greece*; Anastasia Polyxenidou, *Aristotle University of Thessaloniki*, *Greece*; Andreas Pombortsis, *Aristotle University of Thessaloniki*, *Greece*

- **Multimedia Clip Type: Quality of Perception Impact on Users With and Without Hearing Loss**
  Stephen R. Gulliver, *Brunel University*, *United Kingdom*; Gheorghita Ghinea, *Brunel University*, *United Kingdom*

- **High Quality Scenarios for Raising Web Content Accessibility Awareness**
  Liddy Nevile , *La Trobe University*, *Australia* ; Oliver Burmeister, *Swinburne University of Technology*, *Australia*; Charles McCathieNevile, *La Fundacion Sidar*, *Australia*

- **Aphasiahelp: Developing an Accessible Website for People with Communication Disabilities**
  James Newbery, *City University*, *United Kingdom*; Susie Parr, *City University*, *United Kingdom*; Becky Moss, *City University*, *United Kingdom*; Brian Petheram, *University of the West of England*, *United Kingdom*; Sally Byng, *Connect*, *United Kingdom*

- **Extension of W3C Standards for Real Web Accessibility**
  Fabrice Maurel, *Université Paul Sabatier, IRIT*, *France*; Mathieu Raynal, *Université Paul Sabatier, IRIT*, *France*; Bernard Oriola, *Université Paul Sabatier, IRIT*, *France*; Nadine Vigouroux, *IRIT UMR CNRS 5505*, *France*

S187 - Web Accessibility
Room: Apollo East

Chair: **Christian Bühler**, *FTB (Forschungsinstitut Technologie - Behindertenhilfe), Germany*

- **Application of Barrier free Internet in German Legislation**
  Christian Bühler, *FTB (Forschungsinstitut Technologie - Behindertenhilfe), Germany*

- **A Web Service for Automatic Accessibility Analysis of Web Pages Based on the Use of XML Structures**
  Julio Abascal, *The University of the Basque Country*, *Spain*; Myriam Arrue, *The University of the Basque Country*, *Spain*; Nestor Garay, *University of the Basque Country*, *Spain*; Jorge Tomás, *University of the Basque Country*, *Spain*

- **A Study of Web Accessibility for the Hearing Impaired**
  Miki Namatame, *Tsukuba College of Technology*, *Japan*; Makoto Kobayashi, *Tsukuba College of Technology*, *Japan*; Akira Harada, *University of Tsukuba*, *Japan*

- **Automatic Accessibility Guideline Validation of XML Documents Based on a Specification Language**
  Yoshiaki Takata, *Nara Institute of Science and Technology*, *Japan*; Takeshi Nakamura, *Nara Institute of Science and Technology*, *Japan*; Hiroyuki Seki, *Nara Institute of Science and Technology*, *Japan*

- **RepairML: Linking Tools for Web Accessibility**
  Hironobu Takagi, *IBM*, *Japan*; Kentarou Fukuda, *IBM , Japan*; Chieko Asakawa, *IBM*, *Japan*

- **An assist method for realizing a Web page structure for blind people**
  Kentarou Fukuda, *IBM , Japan*; Hironobu Takagi, *IBM, Japan*; Junji Maeda, *IBM , Japan*; Chieko Asakawa, *IBM*, *Japan*

S188 - Advanced Learning
Room: Pente

Chair: **Nigel Ward**, *University of Texas at El Paso, United States*

- **Development of an Instructional Training Model and Diagnostics in Support of e-Learning**
  Philip Callahan, *University of Arizona*, *United States*

- **Designing A Tool for Taking Class Notes**
  Nigel Ward, *University of Texas at El Paso*, *United States*; Hajime Tatsukawa, *NTT Communications*, *Japan*

- **Usability Engineering in Computer Aided Learning Contexts Results from usability tests and questionnaires**
  Ronald Hartwig, *University of Luebeck*, *Germany*; Inga Schön, *University of Luebeck*, *Germany*; Michael Herczeg, *University of Luebeck*, *Germany*

- **User-Centered Design of Workflows in E-Learning**
  Genesio Neto, *FIR - Faculdade Integradado Recife*, *Brazil*; Alex Sandro Gomes, *Universidade Federal de Pernambuco*, *Brazil*

- **Enriching the Pedagogical Value of an Asynchronous HCI Course: Adding Value Through Synchronous Collaborative Knowledge Building**
  Rita Vick, *University of Hawaii at Manoa*, *United States*; Brent Auernheimer, *California State University*, *United States*; Martha Crosby, *University of Hawaii*, *United States*; Marie Iding, *University of Hawaii at Manoa*, *United States*

S189 - Agents
Room: Minos North

Chair: **Giovanni Semeraro**, *University of Bari, Italy*

- **SAMIR: A Jack of all Trades Clerk**
  Fabio Zambetta, *University of Bari*, *Italy*; Graziano Catucci, *University of Bari*, *Italy*; Fabio Abbattista, *University of Bari*, *Italy*; Giovanni Semeraro, *University of Bari*, *Italy*

- **Social Influence of Agent's Presence in Desktop Interaction**
  Yugo Takeuchi, *Shizuoka University*, *Japan*; Keiko Watanabe, *Shizuoka University*, *Japan*; Yasuhiro Katagiri, *ATR MIS*, *Japan*

- **Construction of Meaning Acquisition Model Using Prosodic Information: Toward a Smooth Human-Agent Interaction**
  Atsushi Utsunomiya, *University of Tokyo*, *Japan*; Takanori Komatsu, *University of Tokyo*, *Japan*; Kentaro Suzuki, *University of Tokyo*, *Japan*; Kazuhiro Ueda, *University of Tokyo*, *Japan*; Kazuo Hiraki, *University of Tokyo*, *Japan*; Natsuki Oka, *Matsushita Electric Industrial Co., Ltd.*, *Japan*

- **Anthropomorphic characteristics of Interface agents**
  Manuel Vélez Cea, *Universidad de Granada*, *Spain*; Esther Esteban Izquierdo, *Universidad de Granada*, *Spain*; Jose Cañas, *University of Granada*, *Spain*

- **Ontology Based Search for Distributed Agent Platforms**
  Vlado Glavinic, *University of Zagreb*, *Croatia*; Marko Cupic, *University of Zagreb*, *Croatia*

S190 - Community Access
Room: Minos South

Chair: **Michael Pieper**, *Fraunhofer - FIT, Germany*

- **Engineering and Evaluation of Community Support in useworld.net**
  Sandro Leuchter, *Technische Universität Berlin*, *Germany*; Leon Urbas, *Technische Universität Berlin*, *Germany*; Kerstin Röse, *University of Kaiserslautern*, *Germany*

- **Transparent Community: Creating a Novel Community Framework Using P2P Technologies**
  Hiroshi Tamura, *Hakuhodo Inc.*, *Japan*; Tetsuji Hidaka, *Hakuhodo Inc.*, *Japan*; Tetsuya Oishi, *NTT Corp.*, *Japan*; Kazuhiro Kikuma, *NTT Corp.*, *Japan*

- **Designing Online Communities: Community-Centered Development for Intensively Focused User Groups**
  Emmanouil Kalaitzakis, *UMIST*, *United Kingdom*; Georgios A. Dafoulas, *UMIST*, *United Kingdom*; Linda A. Macaulay, *UMIST*, *United Kingdom*

- **Evaluating an Online Academic Community: 'Purpose' is the Key**
  Chadia Abras, *UMBC*, *United States*; Diane Maloney-Krichmar, *University of Maryland , United States*; Jennifer J. Preece, *UMBC*, *United States*

- **Requirements for Intelligent Access to Mankind's Collective Memory in I-Mass**
  Geert de Haan, *University of Maastricht*, *Netherlands*

S191 - Handheld & Mobile Devices II
Room: Artemis

Chair: **Xiaowen Fang**, *DePaul University, United States*

- **Evaluation of a Text Entry Method for Mobile Devices**
  Peter Tarasewich, *Northeastern University*, *United States*

- **Towards a model for an Internet content pre-caching agent for small computing devices**
  Andreas Komninos, *University of Strathclyde*, *United Kingdom*; Mark Dunlop, *University of Strathclyde*, *United Kingdom*

- **A Human-Computer-Interface Concept for Mobile Devices to support Service & Maintenance Staff in Industrial Domains**
  Carsten Wittenberg, *SIEMENS AG*, *Germany*; Birgit Otto, *SIEMENS AG*, *Germany*

- **Evaluating the Usability of Mobile Systems: Exploring Different Laboratory Approaches**
  Jesper Kjeldskov, *University of Melbourne*, *Australia*; Mikael Skov, *Aalborg University*, *Denmark*

- **Browsing and Visualisation of Recorded Collaborative Meetings on Small Devices**
  Saturnino Luz, *University of Dublin*, *Ireland*; Masood Masoodian, *University of Waikato*, *New Zealand*; Gary Weng, *The University of Waikato*, *New Zealand*

S192 - HCI Methodology Issues III
Room: Deka Tria

Chair: **Liam Bannon**, *University of Limerick, Ireland*

- **Integrating Data Analysis, Navigation and Knowledge Transfer by Visualizing Conceptual Models**
  Maximilian Eibl, *GESIS*, *Germany*

- **Improving Knowledge Transfer Through Ubiquitous Multimedia Applications**
  Stephen Giff, *Microsoft Corporation*, *United States*

- **"A Role With No Edges": The Work Practices of Information Architects**
  Toni Robertson, *University of Technology*, *Australia*; Cindy Hewlett, *University of Technology, Sydney*, *Australia*; Sam Harvey, *University of Technology, Sydney*, *Australia*; Jenny Edwards, *University of Technology, Sydney*, *Australia*

- **Conceptualising an Experience Framework for HCI**
  Salvatore Fiore, *Northumbria University*, *United Kingdom*

- **The Imaginative Powers of the User´s Mind - a prerequisite in Human-Computer Interaction**
  Janni Nielsen, *Copenhagen Business School*, *Denmark*

S193 - Mobile & Wearable Devices

Room: **Enia**

Chair: **Michitaka Hirose**, *University of Tokyo, Japan*

- **Short Span Interaction in Mobile Phone Answering Situations**
  Lauri Repokari, *Helsinki University of Technology*, *Finland*

- **A Study of Navigation Support Tools for Mobile Devices**
  Pei-Luen Patrick Rau, *Tsinghua University*, *China*; Yin-Jue Wang, *Nation Chiao Tung University*, *Taiwan*

- **Mobile contexts of use: Socio-spatial attributes**
  Kalle Toiskallio, *Helsinki University of Technology*, *Finland*; Sakari Tamminen, *Helsinki University of Technology*, *Finland*

- **Interacting with Mobile Intelligence**
  Lynne Hall, *University of Sunderland*, *United Kingdom*; Adrian Gordon, *Mimosa Wireless Limited*, *United Kingdom*; Russel James, *Mimosa Wireless Limited*, *United Kingdom*; Lynne Newall, *University of Northumbria*, *United Kingdom*

- **Wireless Input Devices and Their Communication Module for Wearable Computers**
  Kwang Hyun Park, *Sungkyunkwan University*, *Korea*; Jae Wook Jeon, *Sungkyunkwan University*, *Korea*

S194 - New Technologies for E-learning & Edutainment II

Room: **Athena**

Chair: **Sepideh Chakaveh**, *Fraunhofer - IMK, Germany*

- **MARILYN: A Novel Platform For Intelligent Interactive TV (IITV)**
  Maad Soha, *Fraunhofer - IMK*, *Germany*

- **Rapid Development of IMS compliant - E-Learning Content**
  Joerg Caumanns, *Fraunhofer - ISST*, *Germany*; Hatice Elmasgünes, *Fraunhofer - ISST*, *Germany*

- **Shared 3D Internet environments for education: usability, educational, psychological and cognitive issues**
  Nicoletta Di Blas, *Hoc – Politecnico di Milano*, *Italy*; Paolo Paolini, *Hoc - Politechnico di Milano*, *Italy*; Caterina Poggi, *University of Italian - Switzerland*, *Switzerland*

- **Developing Context- and User Groups Sensitive Learning Scenarios with XML Configuration**
  Michael Hellenschmidt, *Fraunhofer - IGD*, *Germany*; Norbert Braun, *GRIS, FB Informatik*, *Germany*

- **A Proposal for: Internet University**
  Karim Khakzar, *University of Applied Sciences Fulda*, *Germany*

S195 - Software Design

Room: **Danae**

Chair: **Elizabeth Furtado**, *Universidade de Fortaleza, Brazil*

- **A Comprehensive Process Model for Usable Information Architecture Systems: Integrating Top-down and Bottom-up Information Architecture**
  Arno Reichenauer, *Siemens AG*, *Germany*; Tobias Komischke, *Siemens Corporate Research*, *United States*

- **A New Approach to Software Reuse Based on Interpretative Approach to Analogical Reasoning**
  Nima Reyhani, *Iran Telecom Research Center*, *Iran*; Kambiz Badie, *Iran Telecom Research Center*, *Iran*

- **Study of Spatial Biological Systems using a Graphical User Interface**
  Nigel Burroughs, *University of Warwick*, *United Kingdom*; George Tsibidis, *University of Warwick*, *United Kingdom*; William Gaze, *University of Warwick*, *United Kingdom*; Liz Wellington, *University of Warwick*, *United Kingdom*

- **Development of an OS Visualization System for Learning Systems Programming**
  Yosuke Nishino, *Takushuku University*, *Japan*; Eiichi Hayakawa, *Takushoku University*, *Japan*

- **A Methodology for the Component-Based Development of Web Applications**
  Michael Wissen, *Fraunhofer - IAO*, *Germany*; Jürgen Ziegler, *Fraunhofer - IAO*, *Germany*

Parallel Paper Presentations

Friday 27 June 2003 • 16:30 - 18:00

HCI

S196 - Ubiquitous Computing II

Room: **Leda**

Chair: **Anthony Savidis**, *ICS-FORTH, Greece*

- **Location-Transparent User Interaction for Heterogenous Environments**
  Chris Vandervelpen, *Limburgs Universitair Centrum*, *Belgium*; Kris Luyten, *Limburgs Universitair Centrum*, *Belgium*; Karin Coninx, *Limburgs Universitair Centrum*, *Belgium*

- **A Run-time System for Context-Aware Multi-Device User Interfaces**
  Jan Van den Bergh, *Limburgs Universitair Centrum*, *Belgium*; Kris Luyten, *Limburgs Universitair Centrum*, *Belgium*; Karin Coninx, *Limburgs Universitair Centrum*, *Belgium*

- **ARK: Augmented Reality Kiosk**
  Nuno Matos, *Centro de Computação Gráfica*, *Portugal*; Pedro Pereira, *Centro de Computação Gráfica*, *Portugal*; Aderito Marcos, *University of Minho*, *Portugal*

- **Delivery of Services on Any Device From Java Code to User Interface**
  Davide Carboni, *CRS4 , Italy*; Andrea Piras, *CRS4*, *Italy*; Stefano Sanna, *CRS4*, *Italy*; Gavino Paddeu, *CRS4*, *Italy*; Sylvain Giroux, *Université de Sherbrooke*, *Canada*

- **Interface or Interspace? Mediated Communication for Nomadic Knowledge Workers**
  Stavros Kammas, *University of London*, *United Kingdom*; Simon Foley, *University of London*, *United Kingdom*; Duska Rosenberg, *Royal Holloway University of London*, *United Kingdom*

S197 - User Centred Design

Room: **Minos East**

Chair: **Jan Gulliksen**, *Uppsala University, Sweden*

- **Experiences with User Centered Development (UCD) for the Front End of the Virtual Medical Campus Graz**
  Andreas Holzinger, *Graz University*, *Austria*

- **A Socio-centric Model of User Interactions**
  David Ambaye, *Middlesex University*, *United Kingdom*

- **User-centered Design in the Software Engineering Lifecycle: Organizational, Cultural and Educational Obstacles to a Successful Integration**
  Eduard Metzker, *DaimlerChrysler Research Center Ulm*, *Germany*; Ahmed Seffah, *Concordia University , Canada*

- **Configuring the Design Process – Applying the JIET Design Process Framework**
  Helmut Degen, *SIEMENS AG*, *Germany*; Sonja Pedell, *The University of Melbourne*, *Australia*; Stefan Schoen, *Siemens AG*, *Germany*

- **Process Snapshots Supporting Operators' Expertise Management**
  Toni Koskinen, *Helsinki University of Technology*, *Finland*; Marko Nieminen, *Helsinki University of Technology*, *Finland*; Hannu Paunonen, *Metso Automation Inc.*, *Finland*; Jaakko Oksanen, *Metso Automation Inc.*, *Finland*

S198 - Visualisation II

Room: **Europa**

Chair: **Stefano Levialdi**, *Universita' di Roma La Sapienza, Italy*

- **'SnapShots' – A Household Visualisation and Planning Tool**
  Jonathan Matthews, *University of Sussex*, *United Kingdom*

- **Experimental Interfaces for Visual Browsing of Large Collections of Images**
  Gianluca Demontis, *University of Pavia*, *Italy*; Mauro Mosconi, *University of Pavia*, *Italy*; Marco Porta, *University of Pavia*, *Italy*

- **Synergistic Use of Visualisation Technique and Web Navigation Model for Information Space Exploration**
  Carla Freitas, *Federal University of Rio Grande do Sul*, *Brazil*; Ricardo Cava, *UCPel - Universidade Católica de Pelotas*, *Brazil*; Marco Winckler, *Université Paul Sabatier*, *France*; Philippe Palanque, *Université Paul Sabatier*, *France*

- **Visualizing Metadata: LevelTable vs. GranularityTable in the SuperTable/ Scatterplot Framework**
  Tobias Limbach, *University of Konstanz*, *Germany*; Peter Klein, *University of Konstanz*, *Germany*; Frank Müller, *University of Konstanz*, *Germany*; Harald Reiterer, *University of Konstanz*, *Germany*

- **Visualization and interaction in a SCADA throughout GIS components**
  M. Sordo Touza, *Universidad de Santiago de Compostela*, *Spain*; Jose Taboada González, *University of Santiago de Compostela.*, *Spain*; Julian Flores González, *University of Santiago de Compostela*, *Spain*; Jorge Del Rio Cumbreño, *Universidad de Santiago de Compostela*, *Spain*

S199 - Context Sensitive Interactive Systems Design

Room: **Aphrodite**

Chair: **Keiichi Sato**, *Illinois Institute of Technology, United States*

- **Context Sensitive Interactive Systems Design: A Framework for Representation of contexts**
  Keiichi Sato, *Illinois Institute of Technology*, *United States*
- **The Context Quintet: Narrative Elements Applied to Context Awareness**
  Kevin Brooks, *Motorola Human Interface Labs*, *United States*
- **Designing Self-directed Learning Environments in Museum Settings: A Context Sensitive Approach**
  Karen Tichy, *Tichy Associates*, *United States*
- **Computer-Supported Design Tools for Incorporating Multiple Levels of Cultural Context**
  Kun-Pyo Lee, *Korea Advanced Institute of Science and Technology*, *Korea*
- **Methods for exploring workplace activities and user contexts employing intermediate objects - self-photos, personal view records, and skit performance**
  Kimitake Hasuike, *Fuji Xerox Co., Ltd.*, *Japan*; Eriko Tamaru, *Fuji Xerox Co., Ltd*, *Japan*; Mikio Tozaki, *Fuji Xerox Co., Ltd*, *Japan*

S200 - Images, Graphics & Animation

Room: **Dodeka**

Chair: **Kenichi Kobori**, *Osaka Institute of Technology, Japan*

- **A Method of Volume Metamorphosis by Using Mathematical Morphology**
  Yuji Teshima, *Osaka Institute of Technology*, *Japan*; Kenichi Kobori, *Osaka Institute of Technology*, *Japan*
- **On the Statistical Distribution of Features in Content-Based Image Retrieval**
  George Tsihrintzis, *University of Piraeus*, *Greece*; Aggeliki Theodossi, *University of Piraeus*, *Greece*
- **Redesign the Data Dump – Statistical Vector Field**
  Philipp von Hellberg, *Vorarlberg University of Applied Sciences*, *Austria*
- **A method for compression of three dimensional bi-level image**
  Koji Nishio, *Osaka Institute of Technology*, *Japan*; Kenichi Kobori, *Osaka Institute of Technology*, *Japan*
- **Human-Human Collaborative Intentions in Learning Environment through Computer Graphics Interactions**
  Cesar Osuna-Gómez, *Mexican Petroleum Institute*, *Mexico*; Leonid Sheremetov, *Mexican Petroleum Institute*, *Mexico*; Manuel Romero-Salcedo, *Mexican Petroleum Institute*, *Mexico*

S201 - Information Society Technologies

Room: **Exi**

Chair: **Yasufumi Kume**, *Kinki University, Japan*

- **Virtual museum of informatics history in Siberia**
  Victor Kasyanov, *A.P.Ershov Institute of Informatics Systems*, *Russia*; Galina Nesgovorova, *A.P.Ershov Institute of Informatics Systems*, *Russia*; Tatyana Volyanskaya, *A.P.Ershov Institute of Informatics Systems*, *Russia*
- **Communicating the Company Brand in the Investor Market: The Collocational Analysis of the Case Company's Quarterly Reports**
  Pentti Järvi, *Technical University of Tampere*, *Finland*; Hannu Vanharanta, *Tampere University of Technology*, *Finland*; Camilla Magnusson, *University of Helsinki*, *Finland*; Antti Arppe, *University of Helsinki*, *Finland*
- **The Computer Human Interface as a Partner in the Doctor Patient Relationship**
  Daniel Hoch, *Massachusetts General Hospital*, *United States*; Stephanie Prady, *Massachusetts General Hospital*, *United States*; Yolanda Finegan, *Massachusetts General Hospital*, *United States*; Lisa Daly, *Massachusetts General Hospital*, *United States*; John Lester, *Massachusetts General Hospital / Harvard Medical School*, *United States*
- **Framing the Flightdeck of the Future: Human Factors Issues in Freeflight and Datalink**
  Alex Stedmon, *University of Nottingham*, *United Kingdom*; Sarah Nichols, *University of Nottingham*, *United Kingdom*; Gemma Cox, *University of Nottingham*, *United Kingdom*; Helen Neale, *University of Nottingham*, *United Kingdom*; Sarah Jackson, -, *United Kingdom*; John Wilson, *University of Nottingham*, *United Kingdom*; Tracey Milne, *QinetiQ*, *United Kingdom*
- **A System to Manage the Information Related to the Reinforced Concrete Decay**
  Simona Colajanni, *D.P.C.E. - University of Palermo*, *Italy*; Rossella Corrao, *D.P.C.E. - University of Palermo*, *Italy*; Antonio de Vecchi, *D.P.C.E. - University of Palermo*, *Italy*; Antonietta Giammanco, *D.P.C.E. - University of Palermo*, *Italy*

Parallel Paper Presentations

Friday 27 June 2003 • 16:30 - 18:00

S202 - Information Visualisation

Room: **Apollo West**

Chair: **Christian Rathke**, *Hochschule der Medien, Germany*

- **InfoSky: Visual Exploration of Large Hierarchical Document Repositories**
  Frank Kappe, *Hyperwave R&D*, *Austria*; Georg Droschl, *Hyperwave R&D*, *Austria*; Wolfgang Kienreich, *Know-Center*, *Austria*; Vedran Sabol, *Know-Center*, *Austria*; Jutta Becker, *Know-Center*, *Austria*; Keith Andrews, *Graz University of Technology*, *Austria*; Michael Granitzer, *Know-Center*, *Austria*; Klaus Tochtermann, *Know-Center*, *Austria*; Peter Auer, *Graz University of Technology*, *Austria*
- **On the relevance of 3D shapes for use as interfaces to architectural heritage data**
  Iwona Dudek, *UMR MAP CNRS/MCC 694*, *France*; Jean-Yves Blaise, *UMR MAP CNRS/MCC 694*, *France*; Pascal Benistant, *UMR MAP CNRS/MCC 694*, *France*
- **Dying Link**
  Koji Tsukada, *Keio University*, *Japan*; Satoru Takabayashi, *Sony Computer Science Laboratories, Inc.*, *Japan*; Toshiyuki Masui, *Sony Computer Science Laboratories, Inc.*, *Japan*
- **VisJex – a Tool for Interactive Information Visualization**
  Silke Kleindienst, *Hochschule der Medien*, *Germany*; Christian Rathke, *Hochschule der Medien*, *Germany*
- **Grid Transparent Windows**
  Antonio Gomez Lorente, *Vigo University*, *Spain*; Javier Rodeiro Iglesias, *University of Vigo*, *Spain*

S203 - Interpersonal Communication

Room: **Poseidon**

Chair: **Vicki Hanson**, *IBM T. J. Watson Reserach Center, United States*

- **A Sign Language Interface for Web-Based Bilingual / Bicultural Education of Deaf Children**
  Vicki Hanson, *IBM T. J. Watson Reserach Center*, *United States*
- **Animated Chatting - Universal access by Converting Text Information into Animation,Symbols, and Background Pictures-**
  Haru Ando, *Hitachi Ltd., Central Research Laboratory*, *Japan*; Sachiko Hori, *Hitachi ULSI Systems Co., Ltd*, *Japan*; Jun'ichi Matsuda, *Hitachi, Ltd.*, *Japan*
- **A Proposal for a Communication Device with a Finger and a Palm for the Deaf-blind**
  Chikamune Wada, *Kyushu Institute of Technology*, *Japan*; Yasuhiro Wada, *Kyushu Institute of Technology*, *Japan*
- **Automated Vocabulary Collection to Allow Topical Conversation for Non-Speaking People**
  Saqib Ashraf, *University of Dundee*, *United Kingdom*; Ian Ricketts, *University of Dundee*, *United Kingdom*
- **e-AAC: Making Internet-based Interpersonal Communication and WWW Content Accessible for AAC Symbol Users**
  Constantinos Viglas, *National and Kapodistrian University of Athens*, *Greece*; George Kouroupetroglou, *National and Kapodistrian University of Athens*, *Greece*

S204 - Non Visual Interaction

Room: **Apollo East**

Chair: **Helen Petrie**, *City University, United Kingdom*

- **GUI Objects Represented by New Localized Sounds using HRTF**
  Kazunori Itoh, *Shinshu University*, *Japan*; Michio Shimizu, *Nagano-ken College*, *Japan*
- **Evaluating the Usability of a Screen Reader with Blind Users**
  Sri Hastuti Kurniawan, *UMIST*, *United Kingdom*; Alistair Sutcliffe, *UMIST*, *United Kingdom*
- **Ergonomic evaluation of computer games for visually impaired children**
  Aurélie Buaud, *INSERM U483 / INOVA - Université Pierre et Marie Curie*, *France*; Dominique Archambault, *INSERM U483 Université Pierre et Marie Curie*, *France*; Benoît Roussel, *Laboratoire RGSI*, *France*
- **Automatic translator for mathematical Braille**
  Moço Victor, *INSERM U483 /INOVA, Université Pierre et Marie Curie*, *France*; Dominique Archambault, *INSERM U483 Université Pierre et Marie Curie*, *France*
- **A Proposal for a Dial-based Interface for Voice Output Based on Blind Users' Cognitive Listening Abilities**
  Chieko Asakawa, *IBM*, *Japan*; Hironobu Takagi, *IBM*, *Japan*; Shuichi Ino, *University of Tokyo*, *Japan*; Tohru Ifukube, *The University of Tokyo*, *Japan*

Poster Sessions

HCI International 2003

1 - AWE, an Innovative Writing Prediction Environment
Carlo Aliprandi, *Synthema .r.l., Italy*; Daniele Barsocchi, *Synthema Srl., Italy*; Francesca Fanciulli, *Synthema Srl, Italy*; Paolo Mancarella, *Università degli Studi di Pisa, Italy*; Daniele Pupillo, *Politecnico di Milano , Italy*; Remo Raffaelli, *Synthema Srl, Italy*; R. Scudellari, *Synthema Srl, Italy*

2 - MMC Zwickau - Germany's best practice Community Technology Center to serve the special needs of disabled and elderly people in the Information Society
Renate Anderweit, *Fraunhofer Institute for Applied Information Technology FIT, Germany*; Claudia Bär, *CJD Zwickau Multi-Media-Center, Germany*; Werner Homeier, *CJD Zwickau, Germany*; Peter Karwath, *CJD Zwickau Multi-Media-Center, Germany*

3 - Standard for Judging Users' Mastery Level of the Web
Noriyuki Aoyama, *Keio University, Japan*; Shohei Nomura, *Keio University, Japan*; Tadahiko Fukuda, *Keio University, Japan*

4 - Context Aware Information Supply by Definition of User Roles in the Product Development Process
Stephanie Aslanidis, *IAT - University of Stuttgart, Germany*; Joachim Warschat, *University of Stuttgart, Germany*

5 - Basic Concepts on Application of Agent-Based Virtual Environment for Collaborative Life-Long Learning in Bulgaria
Teodora Bakardjieva, *Varna Free University, Bulgaria*; Nickola Lyutov, *Varna Free University, Bulgaria*

6 - The Use of Subjective Attributes in Personal Information Management Systems - Pilot Results
Ofer Bergman, *Tel Aviv University, Israel*; Ruth Beyth-Marom, *The Open University of Israel, Israel*; Rafi Nachmias, *Tel Aviv University, Israel*

7 - Are Computers Really Better than Paper? Subjective Comparisons of Computer and Paper Administered Workload Questionnaires
Daniel Bruneau, *University of Bristol, United Kingdom*; Jan Noyes, *University of Bristol, United Kingdom*

8 - Designing for Group Creativity
Nick Bryan-Kinns, *University of London, United Kingdom*; Patrick G T Healey, *University of London, United Kingdom*; Mike Thirlwell, *University of London, United Kingdom*; Joe Leach, *University of London, United Kingdom*

9 - An Investigation into Non-Verbal Sound-Based Modes of Human-to-Computer Communication with Rehabilitation Applications
Edward Burke, *National University of Ireland, Ireland*; Yvonne Nolan, *National University of Ireland, Ireland*; Annraoi de Paor, *National University of Ireland, Ireland*

10 - Interaction Design for the Stocktrader Workstation
Ivan Burmistrov, *Moscow State University, Russia*

11 - An Augmented Reality Based Learning Assistant for Electric Bass Guitar
Ozan Cakmakci, *School of Optics/CREOL, United States*; Francois Berard, *University of Grenoble, France*

12 - Fuzzy Model for Synapse
Constantin Ceacar, *MOTOREX Co, Romania*

13 - Human Scheduling and its Support
Julien Cegarra, *Equipe PsyCoTec (Psychologie, Cognition, Technologie) , France*; Jean-Michel Hoc, *Equipe PsyCoTec (Psychologie, Cognition, Technologie) , France*

14 - Social Navigation for Cyber Culture-Experience Space
Dong Hoon Chang, *Ewha Womans University, Korea*

15 - Using cultural fingerprints to assess local website acceptability
Yu Chang, *University of Luton, United Kingdom*; Andrew Smith, *University of Luton, United Kingdom*

16 - Video Games: A Heuristic Evaluation for E-learning
Francisco Cipolla Ficarra, *Universita di Bergamo, Italy*

17 - Evaluation of the Synthetic Characters for the Content Quality Hypermedia
Francisco Cipolla Ficarra, *Universita di Bergamo, Italy*

Posters are presented in the Zeus Hall of the Creta Maris Hotel Conference Centre during the following hours:

Wednesday 25 June 2003, 14:00 - 18:00

Thursday 26 June 2003, 09:00 - 18:00

Friday 27 June 2003, 09:00 - 18:00

Presenters of posters should indicate on the poster board the dates and times they will be available to provide brief presentations and answer questions.

For each poster, a poster board (panel) is provided, with a usable surface that is 170 cm high and 90 cm wide. Posters can be fixed with blue-tag or double-sided tape only. This material is available at the Conference Secretariat upon request.

The set-up of the posters takes place on Wednesday, 25 June 2003, 07:00 - 12:00.
Dismantling of the posters can take place either on Friday, 27 June 2003, 16:00 - 18:00, or on Saturday, 28 June 2003, 09:00-.12:00.

18 - Emphasize and empathize for International E-commerce Access
Francisco Cipolla Ficarra, *Universita di Bergamo, Italy*

19 - Visual Search Strategies on Hypertexts
Teresa Colombi, *University of Nice-Sophia Antipolis, France*; Thierry Baccino, *University of Nice Sophia-Antipolis, France*

20 - Reducing Workload when Using Speech Recognition
Elsbeth de Korte, *TNO Work & Employment, Netherlands*; Piet van Lingen, *TNO Work and Employment, Netherlands*; Heleen de Kraker, *TNO Work and Employment, Netherlands*

21 - Use of Input Devices within Different Types of Computer Tasks
Elsbeth de Korte, *TNO Work & Employment, Netherlands*; Piet van Lingen, *TNO Work and Employment, Netherlands*; Heleen de Kraker, *TNO Work and Employment, Netherlands*; Marjolein Douwes, *TNO Work and Employment, Netherlands*; Birgitte Blatter, *TNO Work & Employment, Netherlands*

Poster Sessions

HCI International 2003

22 - The Value of Presence at Work and on the Move
Henk de Poot, *Telematica Instituut, Netherlands*; Henri ter Hofte, *Telematica Instituut, Netherlands*; Björn Kijl, *University of Twente, Nethelands*; Ingrid Mulder, *Telematica Instituut, Netherlands*

23 - Towards an Evolution Model for Supporting Plasticity of User Interfaces
Alexandre Demeure, *CLIPS IMAG, France*; Gaelle Calvary, *CLIPS IMAG, France*; Nicolas Barralon, *University of Grenoble, France*

24 - HCI in modern BMS
Georgios Detsis, *INTRACOM S.A., Greece*; Eleftheria Dimaki, *Intracom S.A., Greece*

25 - The Technology Profile Inventory: Individual Differences in Responses to Information Technology
Colin DeYoung, *University of Toronto, Canada*; Ian Spence, *University of Toronto, Canada*

26 - Assisting Users of Semantic Web: the SEWASIE proposal
Tania Di Mascio, *University of Rome, Italy*

27 - De Facto Standards for Web Search
Maximilian Eibl, *GESIS, Germany*

28 - TangiTable: 80 000 People Simulating Pollutant Transport
Joao Ferreira, *Environmental Systems Analysis Group (GASA) - DCEA, Portugal*; Edmundo Nobre, *Ydreams, Portugal*; Ivan Franco, *Ydreams, Portugal*; Nuno Cardoso, *YDreams, Portugal*; Manuel Costa, *YDreams, Portugal*; Antonio Lobo, *YDreams, Portugal*; Antonio Camara, *GASA-YDreams, Portugal*

29 - Description Method of Surgical Operation for Intra-operative Support
Kaori Fujiwara, *Tokyo Research Lab., IBM Japan, Japan*; Tomohiro Kuroda, *Kyoto University Hospital, Japan*

30 - Co-located Multi-user Support for Cooperative Process and Production Planning
Jose Garcia, *Fraunhofer Institute for Computer Graphics, Germany*; Pedro Santos, *Fraunhofer Institute for Computer Graphics, Germany*; André Stork, *Fraunhofer Institute for Computer Graphics, Germany*; Bernhard Nett, *Fraunhofer - Institute for Applied Information Technology, Germany*; Arno Ritter, *Fraunhofer Institute for Manufacturing Engineering and Automation IPA , Germany*

31 - Analyzing Personal Document Spaces
Daniel Gonçalves, *INESC-ID, Portugal*; Joaquim Jorge, *Instituto Superior Técnico, Portugal*

32 - Experience and Attitudes Related to the Use of Information Technology Among Young Users
Ewa Gustafsson, *Göteborg University, Sweden*; Lotta Dellve, *Göteborg University, Sweden*; Maria Edlund, *Göteborg University, Sweden*; Mats Hagberg, *Goteborg University , Sweden*

33 - Working Conditions and Health Among Students with Intensive Laptop Use at a Senior High School
Eva Hansson Risberg, *National Institute for Working Life, Sweden*; Mats Hagberg, *Goteborg University , Sweden*; Maud Hagman, *National Institute for Working Life, Sweden*; Anita Isaksson, *National Institute for Working Life, Sweden*; Allan Toomingas, *National Institute for Working Life, Sweden*; Ewa Wigaeus Tornqvist, *National Institute for Working Life, Sweden*

34 - CONTEXT – Human Factors for System Safety
Charles Hardwick, *Praxis Critical Systems Limited, United Kingdom*

35 - The Relaxation Biofeedback System with Computer and Bio-signal Interaction
Takayuki Hasegawa, *Nagoya City University, Japan*; Kiyoko Yokoyama, *Nagoya City University, Japan*

36 - Code Review Support System on the Web
Eiichi Hayakawa, *Takushoku University, Japan*; Hirotaka Maeda, *Takushoku University, Japan*

37 - The Impacts of Technological Implementations on Job-Descriptions, Competencies and Work-related Well-Being
Niina Helminen, *Helsinki University of Technology, Finland*

38 - A Proposal of an Interactive Presentation System for a Lecture
Yuki Higuchi, *Tohoku University, Japan*; Takashi Mitsuishi, *Tohoku University, Japan*; Katsuaki Suzuki, *Iwate Prefectural University, Japan*

39 - The Consequences of Commas for Text-to-Speech Software
Robin Hill, *University of Dundee, United Kingdom*; Wayne Murray, *University of Dundee, United Kingdom*

40 - Punctuation and Spacing: Modulating On-Screen Reading Patterns
Robin Hill, *University of Dundee, United Kingdom*; Wayne Murray, *University of Dundee, United Kingdom*

41 - Human Interface Design
John Hodgson, *University of Paisley, United Kingdom*

42 - Unsupervised Learning in Human-Computer Interfaces
Timo Honkela, *Helsinki University of Technology, Finland*; Mikko Kurimo, *Helsinki University of Technology, Finland*; Krista Lagus, *Helsinki University of Technology, Finland*; Vuokko Lantz, *Nokia Research Center, Finland*; Erkki Oja, *Helsinki University of Technology, Finland*

43 - Adaptive and Visual Map Interface for Document Collections
Timo Honkela, *Helsinki University of Technology, Finland*; Jukka Honkela, *Gurusoft, Inc., Finland*; Mikko Myyryläinen, *Gurusoft, Inc., Finland*; Ville Tuulos, *Gurusoft, Inc., Finland*

44 - Identifying Socio-Organisational Factors in the Adoption and Usage of Educational Software Through Users' Perceptions
Sarmin Hossain, *Brunel University, United Kingdom*; George D. Magoulas, *Brunel University, United Kingdom*

45 - Integrated Technology into the Real-world Information Management Problem: a Case Study of Project-based Learning
Kuo-Hung Huang, *National Chiayi University, Taiwan*

46 - Visual Overloading
James Hudson, *Lancaster University, United Kingdom*; Alan Parkes, *Lancaster University, United Kingdom*

47 - Information Technology as a Basis for Competitive Advance in Global Proportion
Karolina Ilieska, *Gjorce Petrov bb, FYROM*; Adrijana Risteska, *Gjorce Petrov bb, FYROM*; Zdravko Stojanoski, *Gjorce Petrov bb, FYROM*

48 - An Electronic Name Card System on a Mobile Device for People with Disabilities and Elderly People
Mamoru Iwabuchi, *Hiroshima University, Japan*; Kenryu Nakamura, *Kagawa University, Japan*; Yuri Fujiwara, *Kagawa University, Japan*; Norman Alm, *University of Dundee, United Kingdom*; Shery Burgstahler, *University of Washington, United States*

49 - The Parasympathetic Nerve Activity Monitoring Using CG Images
Noriaki Kamiya, *Nagoya City University, Japan*; Kiyoko Yokoyama, *Nagoya City University, Japan*; Shinji Niwa, *Nagoya City University, Japan*

50 - A Method of Data Compression for the Virtual 3D World
Takayuki Kanaya, *Hiroshima International University, Japan*; Koji Nishio, *Osaka Institute of Technology, Japan*; Kenichi Kobori, *Osaka Institute of Technology, Japan*

51 - An Environment for Web-based Education of Programming
Victor Kasyanov, *A.P.Ershov Institute of Informatics Systems, Russia*; Elena Kasianova, *Institute of Informatics Systems, Russia*

52 - Development of a Traveling Support White Cane for Visually Handicapped Persons
Kazuo Kawada, *Takamatsu National College of Technology, Japan*; Toru Yamamoto, *Hiroshima University, Japan*; Shoichiro Fujisawa, *Takamatsu National College of Technology, Japan*; Yasuhiro Mada, *Hiroshima University, Japan*

53 - A Technique for User Interface Design Unified with Users' Features
Yuuhi Kawase, *Iwate Prefectual University, Japan*; Yoshiaki Hayasaka, *Iwate Prefectural University, Japan*; Tatsuhiro Kimura, *Iwate Prefectural University, Japan*; Shuhei Ogawa, *Tokai University, Japan*; Norihisa Segawa, *Iwate Prefectural University, Japan*; Kiyoyuki Yamazaki, *Tokai University, Japan*; Masatoshi Miyazaki, *Iwate Prefectural University , Japan*

54 - An Integrated Method for Measuring the Complexity of Diagnosis Tasks in Advanced Control Rooms of Nuclear Power Plants
Jong Hyun Kim, *Korea Advanced Institute of Science and Technology (KAIST), Korea*; Poong Hyun Seong, *KAIST, Dept. of Nuclear and Quantum Engineering, Korea*; Hyun Gook Kang, *Korea Atomic Energy Research Institute (KAERI), Korea*

55 - A User Research for Gesture-based Remote Control Design
Mijeong Kim, *Samsung Electronics Co., Ltd., Korea*; Sang-Hwan Kim, *Samsung Electronics, Korea*; Joonho Ok, *Samsung Electronics Co., Ltd, Korea*; SoonJoo Kwon, *SAIT(Samsung Advanced Institute of Technology), Korea*

56 - Smart Table with Experiential Menu System
Mirea Kim, *Open Cyber University, Korea*

57 - Usability Test Equipment for Mobile Devices
Sang-Hwan Kim, *Samsung Electronics, Korea*; Mijeong Kim, *Samsung Electronics Co., Ltd., Korea*; Sung Woo Kim, *Samsung Electronics Co, Ltd, Korea*; Hyun-joo Kang , *Samsung Electronics Co, Ltd, Korea*

58 - Visual Fatigue Assessment by Physiological Measurement: toward Development of a Low-workload Human Interface
Tatsuhiro Kimura, *Iwate Prefectural University, Japan*; Yoshiaki Hayasaka, *Iwate Prefectural University, Japan*; Manami Takaishi, *Tokai University, Japan*; Norihisa Segawa, *Iwate Prefectural University, Japan*; Kiyoyuki Yamazaki, *Tokai University, Japan*; Yuko Murayama, *Iwate Prefectural University, Japan*; Masatoshi Miyazaki, *Iwate Prefectural University , Japan*

59 - Usability and Accessibility Framework for Digital Libraries
Neil King, *City University, United Kingdom*; Terry Hoi-Yan Ma, *City University, United Kingdom*; Panayiotis Zaphiris, *School of Informatics - City University, United Kingdom*; Helen Petrie, *City University, United Kingdom*; Fraser Hamilton, *City University, United Kingdom*

60 - Assessment Tool of Computer Access Task for Users with Low Vision
Iwao Kobayashi, *Tokyo Gakugei University, Japan*

61 - A Fast Drawing Method with Cylindrical Billboard in Large Scale Virtual Environment
Kenichi Kobori, *Osaka Institute of Technology, Japan*; Takahito Hirakawa, *Osaka Institute of Technology, Japan*

62 - Next Generation Battle Management Systems - Virtual Environments for Military Decision-making
John Kostaras, *INTRACOM S.A., Greece*; Georgios Detsis, *INTRACOM S.A., Greece*

63 - Human behavior analysis on Drum Performance Game for the training system design
Kagemasa Kozuki, *Konami Corp., Japan*; Michiaki Imachi, *Konami Corp, Japan*; Masayuki Ueno, *Osaka Electro-Communication University, Japan*; Katsuhide Tsushima, *Osaka Electro-Communication Univ., Japan*

64 - Interactive Immersive Design Application: Analysis of Requirements
Urs Künzler, *Berne University of Applied Sciences, Switzerland*; Roger Wetzel, *Berne University of Applied Sciences, Switzerland*; Martin Iseli, *Iseli Design und Partner AG, Switzerland*

65 - Effects of Color, Font Type and Word Style on User Preferences and Emotions
Jari Laarni, *Helsinki School of Economics , Finland*

66 - Listening and Watching News from a PDA: the Effect of Lip Reading
Jari Laarni, *Helsinki School of Economics , Finland*; Ilpo Kojo, *Helsinki School of Economics, Finland*; Lari Kärkkäinen, *Helsinki School of Economics, Finland*; Niklas Ravaja, *Helsinki School of Economics, Finland*

67 - MUSICAE, an infrastructure for MUltiple Surface Interaction in Context Aware Environment
Christophe Lachenal, *University of Grenoble, France*; Gaetan Rey, *University of Grenoble, France*; Nicolas Barralon, *University of Grenoble, France*

68 - The Self-Evaluation Program: A Tool in the Identification of Personal Competencies and Creative Tensions
Kirsi Liikamaa, *Tampere University of Technology, Finland*; Hannu Vanharanta, *Tampere University of Technology, Finland*

69 - Concordance Between Ratings of Comfort and Perceived Exertion, and Observations of Work Place Layout, and Working Postures Among VDU-Users
Agneta Lindegård, *Sahlgrenska University Hospital, Sweden*; Catarina Karlberg, *Göteborg University, Sweden*; Ewa Wigaeus Tornqvist, *National Institute for Working Life, Sweden*; Mats Hagberg, *Goteborg University , Sweden*; Allan Toomingas, *National Institute for Working Life, Sweden*

70 - The Study of the Second Vigilance by S/N Ratio and Extension Analysis
Cheng-Li Liu, *Van Nung Institute of Technology, Taiwan*

Poster Sessions
HCI International 2003

71 - Widget multiplexers for side-by-side display and control of information-processing scenarios
Aran Lunzer, *University of Copenhagen, Denmark*; Kasper Hornbaek, *University of Copenhagen, Denmark*

72 - Measuring the Effects of Augmented Reality in a Visual Search and Detection Task
Masha Maltz, *Ben-Gurion University of Negev, Israel*; David Shinar, *Ben-Gurion University of the Negev, Israel*

73 - MoShAS: Development of Motion Shadowing Assistant System
Yoshitsugu Manabe, *Nara Institute of Science and Technology, Japan*; Atsunobu Kimura, *Nara Institute of Science and Technology, Japan*; Yoshihiro Yasumuro, *Nara Institute of Science and Technology, Japan*; Kunihiro Chihara, *Nara Institute of Science and Technology, Japan*

74 - Macroergonomics Approach on Public Constructions Design using Kansei Engineering
Yukihiro Matsubara, *Hiroshima City University, Japan*; Wataru Shiraki, *Faculty of Engineering, Kagawa University, Japan*; Toshinori Yamasaki, *Faculty of Engineering, Kagawa University, Japan*; John Wilson, *University of Nottingham, United Kingdom*

75 - An Institutional Network Sustained Proposal for Stable Media Memory
Óscar Mealha, *University of Aveiro, Portugal*

76 - Facial Expression Recognition using Support Vector Machines
Philipp Michel, *University of Cambridge, United Kingdom*; Rana El Kaliouby, *University of Cambridge, United Kingdom*

77 - Merchandise Information Service for Visually Impaired People Using Barcode
Murakami Mikako, *Nara Institute of Science and Technology, Japan*; Yoshihiro Yasumuro, *Nara Institute of Science and Technology, Japan*; Yoshitsugu Manabe, *Nara Institute of Science and Technology, Japan*; Kunihiro Chihara, *Nara Institute of Science and Technology, Japan*; Tomohiro Kuroda, *Kyoto University Hospital, Japan*

78 - Situated Negotiation of Telephone Presence: Call Screening
Allen Milewski, *Monmouth University, United States*

79 - Effects of a Memory Task during a Multi-attribute Task
Shinji Miyake, *University of Occupational and Environmental Health, Japan*; Masahiro Hashimoto, *University of Occupational and Environmental Health, Japan*; Tiejun Miao, *Computer Convenience Inc., Japan*; Toshiyuki Shimizu, *Computer Convenience Inc., Japan*; Masahiko Tabe, *Nissan Motor Co., Ltd., Japan*; Yasuhiro Shiraishi, *Nissan Motor Co., Ltd., Japan*

80 - Strategic Planning for IS Adoption: Critical Indirect Human Costs
Souad Mohamed, *Brunel Univeristy, United Kingdom*; Jacqueline Brodie, *Brunel University, United Kingdom*

81 - Recent Research in Mobile Computing: A Review and Taxonomy of HCI Issues
Dean Mohamedally, *Centre for HCI Design - City University, United Kingdom*; Panayiotis Zaphiris, *School of Informatics - City University, United Kingdom*; Helen Petrie, *City University, United Kingdom*

82 - An E-Mail Programme For Mentally Impaired Persons
Leonor Moniz - Pereira, *Technical University of Lisbon, Portugal*; Elisabete Saragoça, *Technical University of Lisbon, Portugal*; Luísa C. Loura, *Technical University of Lisbon, Portugal*; Cristina Espadinha, *Technical University of Lisbon, Portugal*

83 - Scenario Based Design: Concepts for a Mobile Personal Service Environment
Stacey Nagata, *Utrecht University, Netherlands*; Mark Neerincx, *TNO Human Factors, Netherlands*; Herre Van Oostendorp, *Utrecht University, Netherlands*

84 - High Presence from Remotely Controlled Robots for Human Communication
Isao Nishihara, *Toyama Prefectural University, Japan*; Tomoji Toriyama, *NTT Service Integration Laboratories, Japan*; Shizuo Nakano, *Toyama Prefectural University, Japan*

85 - Aircraft Automation – Expectations Versus Perceptions of Flight Deck Crew
Jan Noyes, *University of Bristol, United Kingdom*; Alison Starr, *Smiths Aerospace, United Kingdom*

86 - A quantitative assessment system of human walking behavior
Toshihiko Ohhashi, *Tokai University, Japan*; Katsuro Okamoto, *Tokai University, Japan*; Naoaki Kanai, *Tokai University, Japan*; Kenji Ikeda, *Tokai University, Japan*; Kiyoyuki Yamazaki, *Tokai University, Japan*

87 - How Does E-mail Work? A Pilot Study of Student Teachers' Mental Models Based on their Drawings and Reactions to Messages of the E-mailing Software
Marina Papastergiou, *University of Thessaly, Greece*; Panayiota Metallidou, *University of Thessaly, Greece*; Fotini Bonoti, *University of Thessaly, Greece*

88 - Assessment of Various Door Grips of Virtual Refrigerator in a CAVE
Jae Hee Park, *Hankyong National University, Korea*; Inseok Lee, *Hankyong National University, Korea*; Jinwook Kim, *KIST, Korea*; Heedong Ko, *KIST, Korea*

89 - An Adaptive Web Interface to Accommodate User Cognitive Style
Adrian Parkinson, *Trinity College, Ireland*; James Redmond, *Trinity College, Ireland*

90 - The Perceived Visual Layout of Web Pages
Avi Parush, *Technion, Israel*; Pnina Feldman, *Israel Institute of Technology, Israel*; Reut Raz, *Israel Institute of Technology, Israel*

91 - Apple Pie - Cooking User Interfaces? User Interface Design Patterns for Web-based E-business Applications
Anke Richter, *Siemens, FU Berlin, Germany*; Helmut Degen, *Vodafone, Germany*

92 - Managing Category Abundance at eBay
Krisela Rivera, *eBay, Inc., United States*; Jennifer Kozenski, *eBay, Inc., United States*; Larry Cornett, *eBay, Inc., United States*; Jannie Lai, *eBay Inc., United States*

93 - Page layout influence on eye movements during proof-reading tasks on computer screen
Carlo Robino, *University of Pavia, Italy*; Daniela Zambarbieri, *University of Pavia, Italy*; Thierry Baccino, *University of Nice Sophia-Antipolis, France*

94 - Human Factors Issues in Multi-modal Interaction in Complex Design Tasks
Stéphane Rossignol, *University of Nijmegen, Netherlands*; Louis ten Bosch, *University of Nijmegen, Netherlands*; Louis Vuurpijl, *University of Nijmegen, NICI, Netherlands*; Andre Neumann, *University of Nijmegen, NICI, Netherlands*; Louis Boves, *University of Nijmegen, Netherlands*; Els den Os, *MPI - Nijmegen, Netherlands*; Jan Peter de Ruiter, *Max Planck Institute - Nijmegen, Netherlands*

95 - Rendering Digital Images Accessible for Blind Computer Users
Patrick Roth, *Humboldt Universität, Germany*; Julien Kronegg, *University of Geneva, Switzerland*; Thierry Pun, *University of Geneva, Switzerland*

96 - An Introductory Course on Human Computer Interaction at the University of Aveiro
Beatriz Santos, *University of Aveiro, Portugal*

97 - Study on Displaying Method for Narrow Road Driving Assistance System Based on Elderly Drivers' Characteristics
Toshihisa Sato, *Keio University, Japan*; Hironao Kawashima, *Keio University, Japan*; Tatsuru Daimon, *Keio University, Japan*

98 - Audio Preview Cues: Interaction Aides for Exploration of Online Music and Beyond
monica schraefel, *uToronto/uSouthampton, United Kingdom*; Maria Karam, *University of Toronto, Canada*; Shengdong Zhao, *University of Toronto, Canada*

99 - Medical Accidents Caused by the Automation and Computerization
Kazuhiko Shinohara, *Tokyo University of Technology, Japan*

100 - Approximation of Head Related Transfer Functions
Jaka Sodnik, *University of Ljubljana, Slovenia*; Rudolf Susnik, *University of Ljubljana, Slovenia*; Saso Tomazic, *University of Ljubljana, Slovenia*

101 - The Relationship of Culture and Information-Seeking Behaviour: A Case Study in Central Asia
Jan Spyridakis, *University of Washington, United States*; Carolyn Wei, *University of Washington, United States*; Beth Kolko, *University of Washington, United States*

102 - Using Creative Writing for developing Realistic Scenarios
Georg Strom, *University of Copenhagen, Denmark*

103 - An Experimental Analysis of Human Error Caused by the Use of Cellular Phone while Driving a Car
Futoshi Sugimoto, *Toyo University, Japan*; Masahide Yoneyama, *Toyo University, Japan*

104 - Sound Source Choice in HRTF Acoustic Imaging
Rudolf Susnik, *University of Ljubljana, Slovenia*; Jaka Sodnik, *University of Ljubljana, Slovenia*; Saso Tomazic, *University of Ljubljana, Slovenia*

105 - Empathy-inducing Effects on Subjective Impression via Multimedia Haiku
Masami Suzuki, *ATR Media Information Science Laboratories, Japan*; Yuichi Kobayashi, *ATR Media Information Science Laboratories, Japan*; Takahiro Nakai, *ATR Media Information Science Laboratories, Japan*; Norihiro Hagita, *ATR Media Information Science Laboratories, Japan*

106 - Thesis for the Virtual Design and future in Engineering Work
Krzysztof Sztajkowski, *College of Art and Design, Poland*; Jerzy Charytonowicz, *Wroclaw University of Technology , Poland*

107 - Japanese Input with Conversion Candidate Display Methods
Kinya Tamura, *Kochi University of Technology, Japan*; Jing Kong, *Kochi University of Technology, Japan*; Xiangshi Ren, *Kochi University of Technology, Japan*

108 - Finding a Usable Vocabulary for Privacy Enhancing Technology
Claes Thoren, *Karlstad University, Sweden*

109 - Work and Health at Call Centres in Sweden - Presentation of an Ongoing Study
Allan Toomingas, *National Institute for Working Life, Sweden*; Antonio Chemor-Ruiz, *National Institute for Working Life, Sweden*; Maud Hagman, *National Institute for Working Life, Sweden*; Eva Hansson Risberg, *National Institute for Working Life, Sweden*; Anita Isaksson, *National Institute for Working Life, Sweden*; Anders Kjellberg, *National Institute for Working Life, Sweden*; Tohr Nilsson, *Sundsvalls hospital, Sweden*; Kerstin Norman, *National Institute for Working Life, Sweden*; Björn Sköldström, *National Institute for Working Life, Sweden*; Töres Theorell, *National Institute for Psychosocial medicine, Sweden*; Ewa Wigaeus Tornqvist, *National Institute for Working Life, Sweden*; Torbjörn Åkerstedt, *National Institute for Psychosocial medicine, Sweden*

110 - Performance and Subjective Evaluations of Older Users' of Computer Input Devices: Comparison of Four Input Device Configurations
Hiroyuki Umemuro, *Tokyo Institute of Technology, Japan*

111 - Interactive Control of Background Music Volume by Heart Rate Variability
Jun-ichiroh Ushida, *Nagoya City University, Japan*; Kiyoko Yokoyama, *Nagoya City University, Japan*

112 - Subjective and Objective Measures for Duration of Computer Work
Piet van Lingen, *TNO Work and Employment, Netherlands*; Marjolein Douwes, *TNO Work and Employment, Netherlands*

113 - Narrow Keyboards Can Reduce Risks for WMSD
Piet van Lingen, *TNO Work and Employment, Netherlands*; Elsbeth de Korte, *TNO Work & Employment, Netherlands*; Heleen de Kraker, *TNO Work and Employment, Netherlands*

114 - Evolutionary Computation in the Improvement of Intelligent Interface Agents
Oswaldo Velez-Langs, *Researcher, Spain*; Angelica de Antonio, *Universidad Politécnica de Madrid, Spain*

115 - Human-like Characteristics by Speaking, Animated Agents in a Web-based Tutoring System
Maria Virvou, *University of Piraeus , Greece*; Eythimios Alepis, *University of Piraeus, Greece*

116 - Conceptualisation of Episodes in Interactive Virtual Construction
Ian Voss, *University of Bielefeld, Germany*

117 - Subjective Image Quality of Mobile Phone Camera Lens
Tero Vuori, *Nokia Research Center, Finland*; Terhi Mustonen, *Nokia Research Center, Finland*; Juha-Pekka Heikkilä, *Nokia Research Center, Finland*; Ari Siren, *Nokia Research Center, Finland*; Joni Oja, *Nokia Research Center, Finland*

Poster Sessions
HCI International 2003

118 - Perceived Muscular Tension and Stress and Associations With Muscle Activity in the Trapezius Muscles During VDU Work
Jens Wahlström, *Göteborg University, Sweden*; Agneta Lindegård, *Sahlgrenska University Hospital, Sweden*; Gunnar Ahlborg, *Göteborg University, Sweden*; Anna Ekman, *Göteborg University, Sweden*; Mats Hagberg, *Goteborg University , Sweden*

119 - Hook-up-n-leave & Come-n-play: Interaction Techniques for Smooth Transitions Between Separated Mobile Media Platforms
Mikael Wiberg, *Umeå University, Sweden*

120 - E-cane: Look Before You Step
Yoshihiro Yasumuro, *Nara Institute of Science and Technology, Japan*; Murakami Mikako, *Nara Institute of Science and Technology, Japan*; Masataka Imura, *Nara Institute of Science and Technology, Japan*; Yoshitsugu Manabe, *Nara Institute of Science and Technology, Japan*; Kunihiro Chihara, *Nara Institute of Science and Technology, Japan*; Tomohiro Kuroda, *Kyoto University Hospital, Japan*

121 - Optimal Duration of Free-Trial Software
Ruyi Ye, *HKUST, Hong Kong S.A.R*; Bodoff David, *HKUST, Hong Kong*

122 - An Evaluation about the Comfortable Input Method of Mobile Phone based on User's Physiological Indices and EEG
Yanyan Zhu, *Tokyo Denki University, Japan*; Yoshio Machi, *Tokyo Denki University, Japan*; Xiangshi Ren, *Kochi University of Technology, Japan*

Demonstrations

Demonstrations are presented in the Zeus Hall of the Creta Maris Hotel Conference Centre during the following hours:

Wednesday 25 June 2003, 14:00 - 18:00

Thursday 26 June 2003, 09:00 - 18:00

Friday 27 June 2003, 09:00 - 18:00

Conference organisers provide each demonstration with a table and a poster board (panel with a usable surface that is 170 cm high and 90 cm wide). Any additional equipment needed for demonstrations is the responsibility of the presenters.

Presenters of demonstrations should indicate on the poster board the dates and times they will be available to provide brief presentations and answer questions. The set-up of the demonstration material takes place on Wednesday, 25 June 2003, 07:00 - 12:00.

Dismantling of the demonstration material takes place on Friday, 27 June 2003, 16:00 - 18:00, and on Saturday, 28 June 2003, 09:00-.12:00.

1 - Evaluating affective interaction in gaming
Adrian Bullock, *SICS, Sweden*; Björn Gambäck, *SICS, Swedish Institute of Computer Science, Sweden*

2 - MtvBoX: Interactive Music Television Programming with the Virtual Channel API
Konstantinos Chorianopoulos, *Athens University of Economics & Business, Greece*

3 - Hellas Alive: The Development of a Flexible, Web-enabled, Multimedia-based Greek Language Learning Environment
Andreas Karatsolis, *Rensselaer Polytechnic Institute, United States*; Diana Slattery, *Rensselaer Polytechnic Institute, United States*; Dimitris Tolias, *Hellenic American Union, Greece*

4 - Indoor Localization and Navigation using IR Markers for Augmented Reality
Masaki Maeda, *Osaka University, Japan*; Takefumi Ogawa, *Osaka University, Japan*; Takashi Machida, *Osaka University, Japan*; Kiyoshi Kiyokawa, *Osaka University, Japan*; Haruo Takemura, *Osaka University, Japan*

5 - A Quantitative Usability Evaluation Tool for Multimodal Human Machine Interfaces and Its Application to Vehicle-Navigation System
Masana Minami, *Alpine Electronics, INC. and Shizuoka University, Japan*; Yoichi Takebayashi, *Shizuoka University, Japan*; Mitsuaki Watanabe, *Alpine Electronics, Inc., Japan*; Nozomu Saito, *Alpine Electrronics, Inc., Japan*

6 - Multimedia prototyping without programming
John Sören Pettersson, *Karlstad University, Sweden*; Joe Siponen, *Karlstad University, Sweden*

7 - WebTracer: A New Integrated Environment for Web Usability Testing
Makoto Sakai, *SRA Key Technology Laboratory, Inc., Japan*; Noboru Nakamichi, *Nara Institute of Science and Technology, Japan*; Jian Hu, *Nara Institute of Science and Technology, Japan*; Kazuyuki Shima, *Nara Institute of Science and Technology, Japan*; Masahide Nakamura, *Nara Institute of Science and Technology, Japan*; Ken'ichi Matsumoto, *Nara Institute of Science and Technology, Japan*

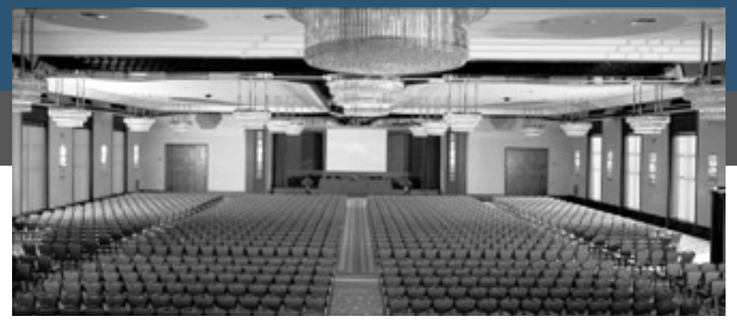
8 - Influence of Work with Computer on Students Refraction Errors
Ewa Salomon, *Medical University of Wroclaw, Poland*; Anna Janocha, *Medical University of Wroclaw, Poland*; Ludmila Borodulin-Nadzieja, *Medical University of Wroclaw, Poland*

9 - Web Complaint Desk: A system for extracting users' potential needs
Nozomi Uchinomiya, *Hitachi, Ltd., Systems Development Laboratory, Japan*; Chiaki Hirai, *Hitachi, Ltd., Systems Development Laboratory, Japan*; Ryota Mibe, *Hitachi, Ltd., Systems Development Laboratory, Japan*; Yoshinobu Uchida, *Hitachi, Ltd., Systems Development Laboratory, Japan*; Takafumi Kawasaki, *Hitachi, Ltd., Design Division, Japan*

10 - DASDA: Dissemination Activities Supporting Design-for-All
Everard Van Kemenade, *Fontys Hogescholen, Netherlands*

11 - Cycling Support System Using Multimodal Knowledge and Ad-hoc Network
Sachiyo Yoshitaki, *Shizuoka University, Japan*; Yutaka Sakane, *Shizuoka University, Japan*; Yoichi Takebayashi, *Shizuoka University, Japan*

12 - PreBIS – Pre Built Information Space
Andreas Zagos, *InTraCoM GmbH, Germany*; Balaji Mohanaradhakrishnan, *InTraCoM GmbH, Germany*; Dierk-Oliver Kiehne, *InTraCoM GmbH, Germany*



Smoking Policy

HCI International 2003 is a smoke-free Conference. There are easily accessible outdoor areas at the Conference Centre where smoking is permitted.

Mobile Phone Courtesy

HCI International 2003 requests that all mobile phones, pagers and other equipment with audible alarms be turned off in all sessions as a courtesy to the presenters and to the other attendees.

Transport

A shuttle bus operating between the Conference Centre and the Conference hotels is available free of charge. Services run from 08:00 each day, for the entire duration of the Conference.

The Airport Shuttle service between the Conference Hotels and Heraklion International Airport "Nikos Kazantzakis" is available until 30 June. Tickets are on sale until Friday 27 June at the Conference Secretariat.

A special desk of Union Coach Services S.A., operators of all Conference transport services, is located at the Olympus Hall, Conference Centre level 0. The desk is open from Saturday 21 June through Friday 27 June 2003, from 09:00 to 19:00.

From Saturday 28 to Monday 30 June 2003, representatives of Union Coach Services S.A. will be available in front of the main reception of Creta Maris Hotel, from 10:00 – 12:00 and 18:00 – 20:00.

Postal Service

The Hellenic Post (ELTA) are located at the Olympus Hall, Conference Centre level 0, offering full postal services. Conference participants will be able to use ELTA services for shipping parcels (e.g. Conference Proceedings) to their home address.

Internet Park

PCs with Internet connectivity are provided in the Internet Park located at the Olympus Hall, Conference Centre level 0, near the Conference Secretariat.

Participants carrying their own portable equipment can use the available slots provided to connect their equipment. The Internet Park is open during Conference working hours.

Coffee breaks

Coffee breaks are offered:

- From Sunday 22 June to Tuesday 24 June 2003 at the terrace outside Zeus Hall.
- In the morning of Wednesday 25 June at the West Wing Lobby.
- From the afternoon of Wednesday 25 June to Friday 27 June 2003 at the terrace of Zeus Hall as well as in the Exhibition Hall.

Lunch

Conference participants may benefit from reduced-price lunch served at the Main Restaurant of Creta Maris Hotel, by using vouchers available for sale at the Conference Secretariat.

Message boards

Two message boards, one for announcements of the Conference Organisers and one for use by the Conference participants are located at the Olympus Hall, Conference Centre level 0, next to the Conference Secretariat.

Display boards and tables

Display boards and tables for Conference participants that wish to share or distribute promotional material, are available at Zeus Hall, Conference Centre level 1, next to the Posters Exhibition.

Telephone equipment

Card phones are available in the Conference Centre. Telephone cards can be bought at the Conference Secretariat.

Conference location

The Conference is hosted at the Conference Centre of Creta Maris Hotel.

This 5-star Hotel combines traditional Aegean Architecture and luxurious facilities. It was the first hotel in the South East Mediterranean region to have obtained the International Quality Certificate ISO 9001. It is situated in Hersonissos, a seaside resort located 24 Km east of 'Nikos Kazantzakis' International Airport of Heraklion.

The purpose-built convention centre at Creta Maris Hotel, the largest Convention centre in Crete and one of the largest in Greece is an extremely flexible and sophisticated venue for conferences, exhibitions, product launches and banquets. It covers an area of 6.000 m² and with its 68 halls can accommodate in full function up to 5.000 delegates.

The convention centre is situated on the south western section of the 25-year old luxury Creta Maris hotel and a newly convenient wing of 146 rooms – an expansion of Creta Maris Hotel – leads directly to the Conference centre. It is equipped with state-of the art audio-visual equipment, advanced telecommunications infrastructure, excellent technical support and expert staff.

High quality accommodation combined with traditional Cretan hospitality is the prime ambition of the Creta Maris Hotel which now strives for the best quality standards by offering the best facilities that modern summits and conventions demand.

Conference Store

The Conference Store is located at the Conference Secretariat, Olympus Hall, Conference Centre level 0, selling Conference t-shirts and hats, and copies of the following books:

- *Human-Computer Interaction Handbook*, Julie A. Jacko and Andrew Sears (Ed.) (2003), Mahwah, NJ, LEA.
- *Handbook of Virtual Environments*, M. Stanney (Ed.) (2002), Mahwah, NJ, LEA.
- *User Interfaces for All – Concepts, Methods, and Tools*, Constantine Stephanidis (Ed.) (2001), Mahwah, NJ, LEA.

The store is open during Conference working hours.

Special Offers

Special offers are available for all Conference participants and accompanying persons, who carry an HCI International 2003 badge:

- 15% discount on all leisure services and activities offered in Creta Maris hotel: Thalassotherapy, Bowling, Tennis, Mini Golf, Water Sports etc.
- complimentary use of the Gym facilities in Creta Maris, Silva Maris and Bella Maris hotels
- complimentary use of the child care service, offered in Creta Maris, Silva Maris and Bella Maris hotels.

Left luggage

Left luggage service is available at the reception desk of the Creta Maris Hotel Conference Centre.

Weather

The climate in Crete is one of the mildest and healthiest in Europe. On average, winter is mild and summer warm and sunny. Average year temperature is 19°C (66°F). During June and throughout the summer, temperatures range from 24°C to 34°C with a sea breeze usually moderating the heat. Local time is +2 GMT (or +1 CET).

Information for Presenters

Parallel Paper Presentations

Papers are allocated approximately 15 minutes, with an additional 2-3 minutes for a question-and-answer period following each talk. The Session Chair introduces the speakers and moderates the question-and-answer period.

- **Visual Support**

  An overhead projector (OHP), data video projector, a projection screen and, upon request, a flipchart.
- **Computer Support**

  1 PC with CD-ROM, Microsoft Office viewers, Microsoft Media Player, Acrobat Reader and Internet connection. Help is available to presenters for the installation of their presentation, upon request.
- **Audio Support**

  A clip-on, podium, or table microphone for each presenter; a connection from the computer sound output to the room audio.
- **The Speaker Preparation Room**

  A Speaker Preparation Room is available for all presenters, for any final preparations. When in the Speaker Preparation Room, presenters should be aware of other speakers who may have urgent needs for equipment in the room. If using the speaker preparation room for last-minute materials preparation and need special software, presenters should make use of their own portable computers. No special applications are pre-loaded on the computers supplied in the room.

Poster Sessions

For each poster, a poster board (panel) will be provided, with a usable surface that is 170 cm high and 90 cm wide. Posters can be fixed with blue-tag or double-sided tape **ONLY**. This material will be available from the Conference Secretariat.

Demonstration Sessions

Conference organisers will provide each demonstration with a table and a poster board (panel with a usable surface that is 170 cm high and 90 cm wide). Any additional equipment needed for demonstrations is the responsibility of the presenters.

Electricity Supply

Electricity in Greece is supplied at 220V. Appliances from other parts of the world than Europe, Australia or South-east Asia need an adaptor or transformer.

Parking facilities

Parking place is available outside the Creta Maris Conference Centre, for those interested to rent a car during the Conference.

Excursions are offered exclusively to Conference participants and their accompanying persons at special rates. You can book at the special desk of Union Coach Services S.A., operators of all Conference excursions, located at the Olympus Hall, Conference Centre level 0, until 17:00 the day before each excursion.

Minimum number of participants for each excursion is 20 persons.

Excursion	Scheduled Dates	Price (Adult) in Euro
Knossos-Archaeological Museum (Half day)	22, 23, 25, 26, 27, June 2003	30
Samaria Gorge (Full day)	26, June 2003	42
Elounda-Spinalonga (Full day)	25, June 2003	47
Arkadi-Rethymno-Chania (Full day)	25, 27, June 2003	40
Phaestos-Gortys-Matala (Full day)	25, 27, June 2003	32
Sitia-Vai-Toplou Monastery (Full day)	26, June 2003	30
Lassithi Plateau (Full day)	24, 27, June 2003	35

- Prices include museum, boat and all other entry tickets but exclude meals.
- Children aged 3 -12 receive a 35% discount.

Cancellation Policy:

- Cancellations up to 48 hours prior to the excursion date: no cost
- Cancellations up until 5 p.m. the previous day: 35% of the excursion price
- Non-show fee: 100% of the excursion price

All excursions are operated by:

Union Coach Services S.A.
Heraklion, Industrial Estate
A' Street
Heraklion 71601
Tel: +30 2810 381040 (24 hours)
Fax: +30 2810 381018

1. Knossos - Archaeological Museum (Half day)

This excursion takes visitors to the most important Minoan Palace, Knossos, located 5km south of Heraklion. The first palace of Knossos was built around 1900 B.C. Two hundred years later it was destroyed by an earthquake and rebuilt, only to become grander and more luxurious. The final catastrophe occurred about 1500 - 1400 BC, with the eruption of the volcano of Santorini. The Palace was a labyrinthine complex, where according to the myth, Theseus killed the Minotaur.

The Archaeological Museum of Heraklion is one of the most important museums in Greece housing many exhibits from the Minoan era. The famous disk of Phaestos with the script that has not been deciphered yet, pottery, stone carvings, seal stones, statuettes, gold and metal work pieces, the marvellous frescoes from the Palace of Knossos are all assembled in the museum. Some free time in Heraklion will be available.

2. Samaria Gorge (Full day)

Samaria Gorge is located 43 km south of the city of Chania. It is the longest gorge in Europe, one of Greece's National Parks, measuring some 18 Kilometres and renowned for its awesome beauty. This trip takes visitors to the gorge "the easy way", a short boat trip from Sfakia, to the beach village of Agia Roumeli, where the gorge ends. Visitors enter the gorge from Agia Roumeli and walk halfway through the gorge and back. There will be enough time to also stop at the village for lunch or swimming, before returning to the fishing village of Sfakia and the hotels.

3. Elounda, Spinalonga, Ag. Nikolaos (Full day)

This excursion takes visitors to the resorts of the Cretan north-east coast and Agios Nikolaos, a small but modern and picturesque town located in the bay of Merabelo. The most spectacular attraction of the town is the little "bottomless" lake adjacent to the harbour. A short boat trip from Agios Nikolaos takes us to the rock-isle of Spinalonga, where the Venetians, back in 1575, built a fortified castle to combat pirate ships operating in the area. During the early 1900's the castle was used as a leper colony, only to be abandoned in the 1950's. Following a tour on the island we depart for the fishing village of Elounda, where visitors can enjoy swimming and have lunch in one of Elounda's renowned restaurants.

4. Arkadi-Rethymno-Chania (Full day)

This trip takes you along the North West coast with its breathtaking scenery and spectacular mountain ranges. The first stop is at the monastery of Arkadi, built in the 16th century in wonderful natural settings. The history of the monastery is linked with memorable events of the island's struggle against the Ottoman occupation. The trip continues to Rethymnon, known as the City of scholars, a town where Arts flourished during the Venetian Occupation. Next, we move on to Chania, the second largest and one of the most picturesque towns of Crete. It reputedly possesses the largest covered market place in the Balkans, a stunning Venetian Harbour and a street almost dedicated to leather goods.

5. Phaestos, Gortys, Matala (Full day)

This trip takes you south through the impressive landscape of central Crete. The first stop is at Gortys, an ancient city 46 km south of Heraklion, capital of the Roman province of Crete during the Roman occupation. You can view the ancient forum and theatre, and see the famous inscription with the Doric law codes carved on stone blocks. Also at Gortys visitors can see one of the best and most beautiful ancient churches on Crete - St. Titus dating from 5-6 A.D. The trip continues to Phaestos, the second most important palace-city of Minoan Crete, overlooking the Messara plain. Here is where the famous Disk of Phaestos was found. The afternoon is spent at the coastal village of Matala with the famous Neolithic caves.

6. Sitia-Vai-Toplou Monastery (Full day)

Sitia is an idyllic amphitheatrically built town on the north-east coast of Crete. The tour continues to the palm forest of Vai, unique in Europe, and an ideal place for swimming and relaxation. From Vai we move on to the Monastery of Toplou, dating from the 15th Century and famous for its 18th century icons.

7. Lassithi Plateau (Full day)

This trip takes visitors through the impressive scenery of Lassithi Plateau, passing through wooded villages and climbing up to the plateau at an altitude of 900 m. dotted with stone windmills. Visitors will have a chance to enjoy breathtaking views of the Cretan seascapes and landscapes. On course to the plateau, we stop at the monastery of "Kera Kardiotissa", rich in votive offerings. The trip continues to the picturesque town of Tzermiado, where we stop for a short coffee and refreshments break. The mythical birthplace of Zeus, the cave of Psychro with its stalactites and stalagmites is the last stop before returning to the hotels in the afternoon.

Social Program

The Welcome Reception and Gala Dinner takes place on Tuesday 24 June, 20:30 – 23:30, at the West Wing main pool of the Creta Maris Hotel Conference Centre, after the Conference opening session and the keynote speech of Prof. Ben Shneiderman. One ticket is included in the Conference registration bag. Extra tickets are on sale at the Conference Secretariat for 50 Euro/ticket.

A special entertainment program for children, including a special kids menu and a clown show, is organized during the Gala Dinner, at a specially styled hall, very close to the main pool.

The closing Reception will take place on Friday 27 June at 20:30, at the Circle Hall of the Creta Maris Hotel Conference Centre, after the closing keynote presentation of Prof. Jenny Preece. A good-bye local drink (raki) with traditional cretan delicacies ('meze') will be offered free of charge to all Conference participants and accompanying persons.

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Masamitsu Oshima, *The Medical Information System Development Center, Tokyo, Japan*

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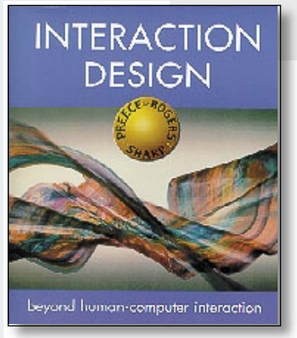
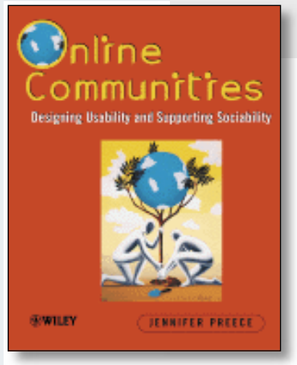


Interaction Design: Beyond Human-Computer Interaction

Written by Jenny Preece, Yvonne Rogers, Helen Sharp (2002), published by John Wiley &Sons, discusses how to design interactive products that enhance and extend the way people communicate, interact and work, such as the web, mobiles and wearables. These exciting new technologies bring additional challenges for designers and developers – challenges that require careful thought and a disciplined approach.

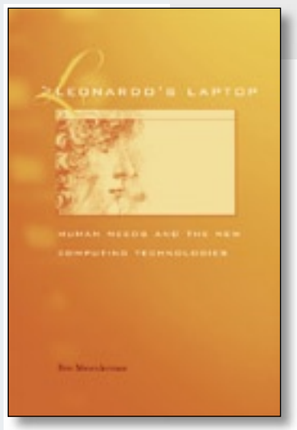
Written for both students and practitioners from a broad range of backgrounds, this book addresses these challenges using a practical and refreshing approach. The text covers a wide range of issues, topics, and paradigms that go beyond the traditional scope of human-computer interaction (HCI).



Online Communities: Designing Usability, Supporting Sociability

Written by Jenny Preece (2000), published by John Wiley & Sons, presents a unique, cross-disciplinary perspective of developing online communities. What truly makes 'community'? How are community relationships built, nurtured and supported? This book provides both practical and insightful views on the role of those most able to influence community participation. By bridging both the technical and social props on which online communities are built, a clear overview of the integrated nature of the issues merge.

This book is for students, community developers and enthusiasts wanting to learn how to create and maintain successful online communities. It is richly peppered with examples and guidelines for creating satisfying and stimulating online communities.



Leonardo's Laptop: Human Needs and the New Computing Technologies

Ben Shneiderman's book dramatically raises computer users' expectations of what they should get from technology. He opens their eyes to new possibilities and invites them to think freshly about future technology. He challenges developers to build products that better support human needs and that are usable at any bandwidth. Shneiderman proposes Leonardo da Vinci as an inspirational muse for the "new computing." He wonders how Leonardo would use a laptop and what applications he would create.

Shneiderman shifts the focus from what computers can do to what users can do. A key transformation is to what he calls "universal usability," enabling participation by young and old, novice and expert, able and disabled. This transformation would empower those yearning for literacy or coping with their limitations. Shneiderman proposes new computing applications in education, medicine, business, and government. He envisions a World Wide Med that delivers secure patient histories in local languages at any emergency room and thriving million-person communities for e-commerce and e-government. Raising larger questions about human relationships and society, he explores the computer's potential to support creativity, consensus-seeking, conflict resolution. Each chapter ends with a Skeptic's Corner that challenges assumptions about trust, privacy, and digital divides.

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Institute of Computer Science (ICS)
Foundation for Research and
Technology - Hellas (FORTH)
Science and Technology Park of Crete
Heraklion, Crete, GR-71110
GREECE

Tel.: +30-2810-391752
Fax: +30-2810-391740
Email: info@hcii2003.gr