



# SIGHCI Newsletter

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## The First Annual Workshop on HCI Research in MIS



*Dennis Galletta started the workshop.*

*Photo by Kevin Kuan.*

The First Annual Workshop on HCI Research in the MIS Discipline was held on December 14, 2002 in Barcelona, Spain – right before the International Conference on Information Systems (ICIS'02). The aim of the workshop was to provide an open and constructive discussion forum on important HCI research in MIS that addresses the ways humans interact with information, technologies, and tasks – especially in the business, managerial, organizational, and/or cultural contexts.

Ping Zhang was the workshop chair. Fiona Nah and Sid Davis were the program co-chairs. In addition, the workshop organizing committee consisted of six advisory committee members, 25 program committee members, two local organizing committee members, and one local volunteer. A total of 42 people registered for and participated in the workshop. The participants were from thirty-three universities and one industry in nine countries: US (29), Canada (4), Spain (2), UK (2), Australia (1), Hungary (1), Israel (1), Netherlands (1), and Singapore (1).

Dean Ray von Dran from Syracuse University gave a very intriguing speech during lunch. The workshop program comprised presentations from four invited speakers, Jenny Preece, Ben Shneiderman, Diane Strong, and Dov Te'eni, as well as presentations of eight rigorously double-blind reviewed articles by a total of twenty authors. The presentations covered a variety of timely and interesting topics that spread across all levels of HCI analyses, including individual, group, organization, and society. Perspectives covered included interface design, evaluation, individual reactions to IT, and the impact of IT on individuals, groups, organizations, and society.

The high energy exhibited by participants during the workshop demonstrated their keen interest in HCI issues, suggesting the importance of HCI studies within the MIS community. As nicely commented and summarized by Ben Shneiderman during the workshop, "this workshop is an important and historical event." More information about the workshop including photos, PowerPoint presentations, best presentations selected by the participants, and a detailed summary can be found at the SIG's website at <http://melody.syr.edu/hci>.



*Kevin Kuan lightened up the audience.*

*Photo by Xavier Ferre.*

## The First Annual Workshop on HCI Research in MIS (cont'd)



*Ben Shneiderman.  
Photo by Dennis Galletta.*



*Dov Te'eni and a well-attended audience.  
Photo by Dennis Galletta.*



*Ray von Dran, Gisela von Dran, Diane Strong, and Nick Gassman.  
Photo by Ben Shneiderman.*



*Ben Shneiderman, Jenny Preece, George Kasper, Ping Zhang, and Fiona Nah.  
Photo by Kevin Kuan.*



*Xavier Ferre, Ben Shneiderman, Dennis Galletta, and Jenny Preece.  
Photo by Kevin Kuan.*



*Participants.  
Photo by Kevin Kuan.*

## Ongoing Activities

### 1. JAIS fast tracking the first HCI/MIS workshop papers

Sirkka Jarvenpaa, Izak Benbasat, and Ping Zhang are the special Senior Editors of these special theme papers of Journal of Association for Information Systems, a premier journal for the MIS discipline. Five papers from the workshop are being fast tracked. Publication dates for these papers will vary. Progress of these papers will be reported later.

### 2. AMCIS'03 minitrack

The HCI minitrack is the most popular and largest minitrack at AMCIS 2003 with 40 paper submissions and a panel proposal. The submissions are of very high quality and cover a variety of HCI topics. After a rigorous review process (39 papers received 3 reviews and one paper received 2 reviews), 24 papers were accepted for presentation and 3 papers accepted for a mentored round table session. The acceptance rates are: 65% for regular paper submissions, 75% for doctoral paper submissions, and 67.5% overall. More information about the HCI minitrack at AMCIS'03 is presented on pages 5-6.

### 3. BIT special issue based on AMCIS'03 HCI minitrack

Tom Steward, editor-in-chief of Behaviour & Information Technology, has agreed to fast track the best papers (with revision and expansion) from the HCI minitrack for publication in a special issue of Behaviour & Information Technology, a leading refereed academic HCI journal. Guest Editors are Ping Zhang, Fiona Nah, & Jenny Preece. The special issue is scheduled for publication in March 2004.

### 4. AMCIS'03 Panel on teaching HCI

Building on last year's HCI research panel, the aim of this teaching panel is to raise awareness of HCI in the MIS curriculum and to provide a forum to discuss unique challenges MIS professors face in teaching HCI subjects to their students. Through this panel, we hope to achieve the following objectives: (1) raise awareness of the importance of HCI courses in MIS programs, (2) promote HCI course development, (3) exchange HCI teaching experiences, (4) prepare IS students with the knowledge and skills for HCI practice and consulting, and (5) facilitate (directly or indirectly) the development of human-centered systems. This panel discussion will help clarify the role of HCI in the IS curriculum and provide suggestions on how to structure HCI courses. In addition, various pedagogical approaches will be presented and discussed. It is expected that a summary article will be developed for Communications of the AIS after the panel. Please refer to the Conference Preview section on page 6 for more details.

## Future Activities under Planning

The following list of activities is being planned. Please let any of the officers know if you would like to be involved (e.g., as co-organizers, program committee members, or any other possible roles). Any comments or suggestions are welcome.

### 1. The 2<sup>nd</sup> Annual Workshop on HCI Research in MIS, Seattle, WA, Dec. 12-13, 2003

Building upon past successes of the first workshop (pre-ICIS HCI/MIS'02, Barcelona), AMCIS panels and minitracks (2002, 2003), as well as the tremendous interests in broad HCI issues exhibited by MIS colleagues, the AIS SIGHCI is planning its second annual HCI/MIS research workshop to be held prior to ICIS 2003 in Seattle, Washington in December 2003. Ping Zhang and Jonathan Lazar are the workshop co-chairs. Fiona Nah is the program chair. The organizing committee is looking for interesting and novel research ideas as well as studies that address important HCI problems in today's organizations by drawing upon theories and/or methodologies from all relevant reference disciplines. This year's workshop will also aim at bridging the gaps between academic research and industry interests by providing panels to debate pressing topics and issues in HCI that are relevant to the MIS field. The paper submission deadline is August 31, 2003. This year's workshop will have a proceedings and a best paper award. More information on the workshop can be found at [http://melody.syr.edu/hci/pre\\_icis03\\_wksp/](http://melody.syr.edu/hci/pre_icis03_wksp/).

### 2. JMIS special issue based on the 2nd HCI/MIS workshop

Vladimir Zwass, editor-in-chief of JMIS (<http://jmis.bentley.edu/>), has agreed to fast track successful expansions of the best complete research papers from the workshop for a special section devoted to the workshop. The special section is to be published in 2004. It will be guest edited by Izak Benbasat, Ping Zhang, Fiona Nah, and Jonathan Lazar.

### 3. AMCIS'04 HCI minitrack

AMCIS'04 will be held in New York City on August 5-8, 2004. Please consider submitting your papers to the HCI minitrack.

## Special Journal Issues

### International Journal of Human-Computer Interaction Special Issue on Enterprise Resource Planning: Management, Social & Organizational Issues

Volume 16, Number 1, 2003

Guest Editor: Fiona Fui-Hoon Nah, University of Nebraska-Lincoln, fnah@unl.edu

This Special Edition of IJHCI addresses the human-computer aspects of Enterprise Resource Planning (ERP) implementation. It covers the management, social and organizational issues involved in ERP implementation. The articles included in this Special Issue are:

1. *ERP Implementation: Chief Information Officers' Perceptions of Critical Success Factors*  
Fiona Fui-Hoon Nah, University of Nebraska-Lincoln  
Kathryn M. Zuckweiler, University of Nebraska-Lincoln  
Janet Lee-Shang Lau, JD Edwards & Company
2. *Implementation Partner Involvement and Knowledge Transfer in the Context of ERP Implementations*  
Marc N. Haines, University of Wisconsin-Milwaukee  
Dale L. Goodhue, University of Georgia
3. *A Process Change-Oriented Model for ERP Application*  
Majed Al-Mashari, King Saud University
4. *Analyzing ERP Implementation at a Public University Using the Innovation Strategy Model*  
Keng Siau, University of Nebraska-Lincoln  
Jake Messersmith, University of Kansas
5. *Misalignments in ERP Implementation: A Dialectical Perspective*  
Christina Soh, Siew Kien Sia, Wai Fong Boh, May Tang,  
Nanyang Technological University
6. *The Decision-Support Characteristics of ERP Systems*  
Clyde W. Holsapple, University of Kentucky  
Mark P. Sena, Xavier University

### International Journal of Human-Computer Studies

#### Special Issue on HCI and MIS: Shared Concerns

Forthcoming, 2003

Guest Editors:

Ping Zhang, School of Information Studies, Syracuse University, pzhang@syr.edu  
Andrew Dillon, Information School, The University of Texas at Austin, adillon@ischool.utexas.edu

The papers in this special issue are expansions of the best papers from the HCI minitrack at the 8<sup>th</sup> Americas Conference on Information Systems (AMCIS'02). This is the first minitrack organized by SIGHCI. It attracted 27 submissions, among which 18 were accepted for presentation at the conference. Eleven of the 18 articles were invited for expansion and possible inclusion in the IJHCS special issue. Authors of ten papers responded. Each of the ten expansions underwent a rigorous review process with three reviewers each. Based on the review results and guest editors' evaluation, six papers were conditionally accepted. After another round of revisions and guest editors' evaluation, five papers were finally accepted for the special issue. The special issue is scheduled for publication in Fall 2003. Articles in the Special Issue are:

1. *HCI and MIS: Shared Concerns, Editorial Introduction*  
Ping Zhang, Syracuse University  
Andrew Dillon, University of Texas at Austin
2. *The Evolution of U.S. State Government Homepages from 1997 to 2002*  
Terry Ryan, Claremont Graduate University  
Richard H.G. Field, University of Alberta  
Lorne Olfman, Claremont Graduate University
3. *Predicting the Use of Web-Based Information Systems: Self-Efficacy, Enjoyment, Learning Goal Orientation, and the Technology Acceptance Model*  
Mun Y. Yi, University of South Carolina  
Yujong Hwang, University of South Carolina
4. *Predicting E-Services Adoption: A Perceived Risk Facets Perspective*  
Mauricio S. Featherman, Washington State University  
Paul A. Pavlou, University of Southern California
5. *A Person-Artifact-Task (PAT) Model of Flow Antecedents in Computer-Mediated Environments*  
Christina Finneran, Syracuse University  
Ping Zhang, Syracuse University
6. *Issues and Strategies for Integrating HCI in Masters Level MIS and E-Commerce Programs*  
Susy S. Chan, DePaul University  
Rosalee Wolfe, DePaul University  
Xiaowen Fang, DePaul University

## Conference Preview: AMCIS'03 HCI Minitrack

<p><b>Regular presentations</b></p> <p><b>Session Chairs:</b></p> <p style="padding-left: 20px;">Mark Dishaw</p> <p style="padding-left: 20px;">Richard Hall</p> <p style="padding-left: 20px;">Traci Hess</p> <p style="padding-left: 20px;">Arnold Kamis</p> <p style="padding-left: 20px;">Jinwoo Kim</p> <p style="padding-left: 20px;">Tom Roberts</p> <p style="padding-left: 20px;">Terry Ryan</p> <p style="padding-left: 20px;">Fatemeh "Mariam" Zahedi</p> <p><b>Web Site Usability</b></p> <ol style="list-style-type: none"> <li>1. "Web Site Usability: A Cultural Perspective" by Adel Aladwani</li> <li>2. "Investigating Online Consumer Behavior Using 'Thin Slices' of Overall Usability of Web Sites" by Ananth Chiravuri and Laura Peracchio</li> <li>3. "Improving the Usability Evaluation Technique, Heuristic Evaluation" by Paul Lowry and Tom Roberts (nominated for best paper)</li> </ol> <p><b>Effects of Web Site Design</b></p> <ol style="list-style-type: none"> <li>1. "The Effect of Web Page Text-Background Color Combinations on Retention and Perceived Readability, Aesthetics, and Behavioral Intention" by Richard Hall and Patrick Hanna</li> <li>2. "Assessing the Effects of Website Control Button Differentiation on User Attitudes and Performance" by Brian Jones and Scott McCoy</li> <li>3. "The Effect of Presentation Flaws in On-line Stores' Web Sites on Perceived Quality and Consumer Trust of the On-line Store and Intention to Purchase" by Andrea Everard</li> </ol>	<p><b>Personalization and Trust</b></p> <ol style="list-style-type: none"> <li>1. "Personalization: An Ongoing Dialogue" by Haiyan Fan and Marshall Scott Poole</li> <li>2. "Website Personalization for Relationship Building: A Conceptual Framework" by Fatemeh "Mariam" Zahedi and Ying Lu</li> <li>3. "Short Arguments for Seals of Approval and Portal Affiliation: Building Consumer Trust in Online Shopping" by Dongmin Kim</li> </ol> <p><b>Cognitive Aspects of HCI</b></p> <ol style="list-style-type: none"> <li>1. "The Impact of Animation on Visual Search Tasks in a Web Environment: A Multi-Year Study" by Ping Zhang and Nelson Massad</li> <li>2. "Observing User's Mental Model of Informational Website" by Paulus Insap Santosa</li> <li>3. "Examining the Influence of Cognitive Style on the Use of a Decision Support Tool for Structured and Unstructured Tasks" by Terry Fox</li> <li>4. "The Role of Individual Characteristics in Software Utilization Models" by Mark Dishaw, Diane Strong and D. Brent Bandy</li> <li>5. "Using Effort, Accuracy and Technology Acceptance to Predict Decision Confidence in Online Shopping" by Arnold Kamis</li> <li>6. "The Effect of Domain Knowledge on Icon Visualization" by Keng Siau and Fiona Nah</li> <li>7. "The Credibility of Online Information" by Terry Ryan and Esperanza Huerta</li> <li>8. "A Study on Tolerable Waiting Time: How Long are Web Users willing to Wait?" by Fiona Fui-Hoon Nah</li> <li>9. "User Frustration with Technology in the Workplace" by Jonathan Lazar, Adam Jones, Katie Bessiere, Irina Ceaparu, and Ben Shneiderman</li> </ol>	<p><b>HCI in Mobile Technology</b></p> <ol style="list-style-type: none"> <li>1. "An Empirical Study on the Breadth/Depth Tradeoffs for Very Small Screen: Focusing on Mobile Internet Phones" by Minhee Chae and Jinwoo Kim</li> <li>2. "In Situ Data Capture and Mobile Knowledge Management: Helping Technicians Share Case Stories" by Jia Shen and Quentin Jones</li> <li>3. "Designing Non-Visual Bookmarks for Mobile PDA Users" by Xiaoyu Chen, Patrick Lacsina, and Marilyn Tremaine</li> </ol> <p><b>Social Aspects of HCI</b></p> <ol style="list-style-type: none"> <li>1. "The Impact of Social Cues and Personality on Decision-Making Involvement and Performance" by Traci Hess, Mark Fuller, and John Mathew</li> <li>2. "Social and Usage Process Motivations for Internet Use: Differences between Light and Heavy Users" by Thomas Stafford (nominated for best paper)</li> <li>3. "Media Switching and Media Integration: An Examination of Instant Messaging and IP-Calling Practices" by Sukeshini Grandhi and Quentin Jones</li> </ol> <p><b>Round Table Session</b></p> <p><b>Mentored by Fred Davis</b></p> <ol style="list-style-type: none"> <li>1. "Online Shopping Experience: a conceptualization" by Yi Guo, Texas A&amp;M University</li> <li>2. "An Integrative Analysis of TAM: Get A Deeper Understanding of Technology Acceptance Model" by Heshan Sun, Syracuse University</li> <li>3. "Antecedents and Impact of Internet Attitudes and Beliefs-A Contingency Approach and A Structural Equation Model" by Hao Zhou, Drexel University</li> </ol>
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## Conference Preview: AMCIS'03 Teaching HCI Panel

### Panel on the Role of HCI In the Information Systems (IS) Curriculum

#### Panel Chair:

Jane Carey, Arizona State Univ. West

#### Panelists:

Dennis Galletta, University of Pittsburgh  
Jinwoo Kim, Yonsei University  
Dov Te'eni, Bar-Ilan University  
Barbara Wildemuth, Univ. of North Carolina at Chapel Hill  
Ping Zhang, Syracuse University

Human-Computer Interaction (HCI) is an interdisciplinary field that has attracted researchers, educators, and practitioners from many different disciplines. HCI has gained even more attention during recent years in which technology has developed at a fast pace. To improve the usability and interaction support we must educate the next generation of designers and implementers of Information Systems. They must be knowledgeable of the tasks within different contexts, and understand the interplay among users, tasks, IT, and contexts/environments. Many IS programs are beginning to integrate HCI into the IS curriculum. This panel discussion will help IS educators understand the role of HCI in the IS curriculum and how to structure HCI courses. In addition, various pedagogical approaches will be presented and discussed.

At this panel, the panelists will discuss their perspectives by answering the following questions:

1. How does HCI fit into today's model curricula for MIS?
2. What are the attributes of a successful HCI course?
3. How many HCI courses are needed and at what level should they be offered?
  - a. One or more courses?
  - b. Required/Optional
  - c. Undergraduate/Masters/PHD (e.g., HCI Seminar)
  - d. Lower division/Upper Division
4. Can HCI be integrated into existing MIS courses? If so, which courses? Which topics?
5. What should be the content or topical coverage of a HCI course? What pedagogical approach is most appropriate for such a course? Assignments, web resources, readings, cases, experimental research?
6. How would a business-oriented HCI course differ from one in an engineering, computer science, library science or psychology department? For example, is there a role of HCI in object-manipulation languages such as Visual Basic? Where does the Keystroke model fit in? Is there a role of HCI in UIMS (User Interface Management System) and action grammars?

Each of the panelists will bring to the table their own expertise and experiences in teaching HCI in the MIS curriculum, which are summarized below (more information can be found at the panel's web page [http://melody.syr.edu/hci/amcis03\\_t\\_panel/](http://melody.syr.edu/hci/amcis03_t_panel/)).

**Dennis Galletta** has taught HCI at the Katz Graduate School of Business, University of Pittsburgh, since about 1986, beginning with the masters' level, and after a few years, with the addition of a doctoral level course. "Core" HCI topics from Shneiderman's text are covered (design guidelines, response time, presentation styles, reviewing, testing, direct manipulation, menus, forms, command languages, interaction devices, and documentation). Other topics very appropriate to a business school are added, such as Microsoft's Visual Studio.net, a number of illustrations of the difficulty of design and usefulness of testing, the role of HCI in the system development process, and various organizational scenarios of future technologies. (More ...)

**Jinwoo Kim** has been teaching several HCI classes at the School of Management, UC Irvine, as well as at the Graduate Program of Cognitive Science, Yonsei University, Korea. His classes in the business school include Introduction to Human Computer Interaction, Analysis and Design of Internet Business, Design for Digital Content, and Usability Engineering. He also would like to discuss his experience in teaching HCI-related graduate classes including HCI research methodology and graduate Introduction to HCI. (More ...)

**Dov Te'eni** believes HCI is an essential ingredient of any IS curriculum but also recognizes that this belief has not been widely shared by IS colleagues. He would argue that HCI should be a topic covered in the Introductory IS course, specifically in a meeting on design or development, but could also be referenced in meetings on implementation. In the broader debate on the structure of the entire IS curriculum, it could be a compulsory course within a design or development track (if such a track exists) or an elective in a general track. He has taught this course for well over 10 years to different audiences and has found that it must be tailored to specific areas. (More ...)

**Barbara M. Wildemuth** has taught a graduate course on User Interface Design for over a decade. In this course, she takes a usability engineering approach. One of Barbara's primary teaching goals is to raise the students' consciousness in relation to interface design. To accomplish this goal, each class includes a brief show-and-tell session in which a student may present an artifact that is very well-designed (or very poorly-designed) and the class discusses the design tradeoffs made in creating the artifact. (More ...)

**Ping Zhang** has been teaching HCI courses for seven years at undergraduate, graduate, and doctoral levels. She believes that HCI courses (one or more) should be an integral part of IS curricula for all three levels (upper division for undergraduate) with different emphases. Overall, HCI is one of the few courses that examine individual users' capabilities and limitations, their tasks within organizational and societal contexts, and their need for technologies. Depending on the nature of an IS program (more technical or more behavioral), one or more HCI courses should be included in the IS curriculum. HCI content can also be integrated into other existing courses. (More ...)

## Book Review

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

By Ben Shneiderman

Review by Jane M. Carey  
Arizona State University West

Ben Shneiderman is the champion of the human user of computer technologies. Once again he is an advocate for users and challenges us to expect more from our machines. He asks what makes us human and then challenges developers to deliver interfaces and products that allow users to go way beyond today's paradigms.

Ben envisions the future by challenging all of us to imagine technologies that would support the creativity and invention of Leonardo da Vinci. If Leonardo had a laptop, what would he do with it? Shneiderman wants developers to put humans at the center of the technology and imagine new ways to support a wide variety of human endeavors including creativity.

The book uses an organizing structure that is very appealing and brings human relationships together with the creative process. A 4x4 table with 4 dimensions of the creative process (collect, relate, create, donate) and 4 dimensions of relationships (self, family and friends, colleagues and neighbors, citizens and markets) is explained and used throughout the book. In the later chapters of the book, various applications are placed into this structure, including education, medicine, business, government, and something called "mega-creativity".

Ben also proposes some "grander goals" for technology support. He doesn't imagine that the new technologies will replace humans, but rather empower them. He believes that good technology design and a will to make better the quality of life can ultimately result in attaining very worthy goals, such as: increasing life expectancy, controlling population growth, reducing homelessness, reducing literacy worldwide, reducing premature death, increasing air quality and reducing the threat of war. Imagine the wonderful future humankind would have if Ben Shneiderman were in charge.

This book is an excellent reference for application designers and developers. It would also make a good text for courses that focus on Human-Computer Interaction at both the graduate and undergraduate levels within the business computing and computer science fields.

#### Footnote:

As I was reading Ben's book, a newspaper article on the Louvre art museum in Paris came to my attention. Twelve of Leonardo Da Vinci's notebooks have been digitized and hyperlinked and put out for interactive display at the Louvre. These are notebooks that have been unavailable to the public since 1952 because of their fragile nature. Museum goers are fascinated with the exhibit which gives them a glimpse into the mind of the artist and inventor. Could it be that Ben's book inspired the museum or maybe Leonardo inspires the best in all of us? It seems that brilliant minds think alike. Ok, Ben, have you mastered writing backwards in Italian?

#### References:

Shneiderman, B. (2002). Leonardo's Laptop: Human Needs and the New Computing Technologies. Cambridge, MA: MIT Press.

## Announcements

### Treemap Visualization Software Available for Hierarchies

Ben Shneiderman, University of Maryland

Treemaps are a space-filling visualization for hierarchical structures that are extremely effective in showing attributes of leaf nodes by size and color-coding. Treemaps enable users to compare sizes of nodes and of sub-trees, and are especially strong in spotting unusual patterns. They were initially developed by Ben Shneiderman at the Human-Computer Interaction Laboratory (HCIL) of the University of Maryland, during the 1990s, and continue to be refined. A review of treemaps and their growing set of applications appears at: <http://www.cs.umd.edu/hcil/treemap-history/>

A Java version, Treemap 4.0, includes dynamic queries, flexible hierarchies, improved binning, improved color management, export facilities, and three treemap layout algorithms: slice-and-dice, squarified, and strip. Treemap 4.0 runs as a stand-alone executable or as a Java applet. A full demo version that allows users to load their own data, with five data sets is at: <http://www.cs.umd.edu/hcil/treemap>

### The Maturing of HCI and Usability: Strategic HCI

**Misha W. Vaughan, PhD**  
Principal Usability Engineer  
Usability and Interface Design  
Oracle Corporation  
mwvaughan@acm.org

I will freely admit that MIS is not my area of study. However, HCI, or human-computer interaction, certainly is. I caught wind of the growing interest in HCI by the AIS community as a function of a newsletter that Ping Zhang forwarded to some HCI listservs. It piqued my interest enough to email Ping back about my 'research wishlist on HCI' for the MIS community. Ping has quite agreeably invited me to share this list with you.

First, let me tell you a little bit about where I'm coming from to help provide some context. I was trained up in HCI by Dr. Andrew Dillon at Indiana University (IU), did consulting work on usability and interface design for telecoms, ran a usability lab at IU, and have been working at Oracle in the Usability and Interface Design group for about 4.5 years. I've seen the dotcom bubble and the dotcom bust. I've seen the traffic in Silicon Valley go from murderous to pleasantly, albeit disturbingly, light. I've seen Usability, Human Factors, and UI Design groups go from feast to famine (read: workforce reduction). In all of this, some trends within HCI as a domain have become clearer, at least to me.

First, as a field, we have a good degree of knowledge about usability and UI design processes, procedures, etc. In design, we know what works (e.g., Apple 1992; IBM, 1992; Lynch & Horton, 2002; Nielsen, 1999; Van Duyne, Landay, & Hong, 2002) and what does not (Johnson, 2001), and we understand how to capture information about users to help drive that process, from user requirements (e.g., Hackos & Redish, 1998; Kuniavsky, 2003) to user evaluations (e.g., Dumas & Redish, 1999; Rubin, 1994). What we lack (and this is just my opinion here ;-), is the theoretical framework and practical tool set to enable us to assess our own effectiveness and to play a strategic role inside our own organizations. By effectiveness I mean beyond bottom-line (or dollar) contributions, to organizational maturity and influence (Andersen, 2000). This is not a plea for helping us make the "why you need usability!" argument. Those tools already exist (Bias & Mayhew, 1994). Rather this is a plea for theory and methods, which can help us to be effective in a strategic fashion inside our organizations, and where MIS can make a significant contribution. Key MIS strengths include: units of analysis beyond the individual, to the group, department, and company level; a strong background in organizational culture and psychology; and a historical intermixing of technology and the workplace.

Let's get to the specifics of where I think MIS can make a unique contribution to the HCI community:

- **The role of HCI inside organizations – what is, and what should be the role of HCI?** For example, helping us answer questions like, What kind of impact do we have on our corporate culture? Where have we, or should we, be influencing change to build better products, given certain market pressures?
- **The strategic value of HCI for organizations – identifying, and communicating this message.** For example, given a certain level of software maturity for a company or group, what are appropriate 'usability and UI objectives'? What are the best approaches for usability and UI to add strategic value to a company? Also, UI professionals are still seen as technical specialists. We have not made it into the C-level positions (i.e., senior/upper management). We have something to contribute to strategic decisions but have not been effective at making our case. MIS professionals can help up figure out how to do this.
- **Understanding the value-add/cost-benefit of HCI.** I know I said we already have it, but this issue will never disappear, so might as well keep it on the list. For example, What is the impact of poor usability on 'total cost of ownership'?
- **Teaching the language and methods of HCI to product managers/MBAs/IT professionals.** I've worked with countless number of product managers, product analysts, development managers, developers, directors, and senior managers. What amazes me each time is how few of them know about 'usability and interface design' – even at a surface level – and how it can contribute to huge cost savings in development in the short run and to happy return customers in the long run. The dilemma I constantly run into is how to explain HCI 'in the language of IT/MIS' to help facilitate their education.
- **Beyond user requirements - to improving business and marketing requirements.** As a function of the data we collect about user needs in the trenches, we have the potential to help shape business and marketing requirements. However, we lack the language, tools, and channels to communicate these benefits effectively.

(to be continued on page 9)

## Industry Voice (cont'd)

- **HCI as a source of innovation.** Right now we are pretty good at describing problems and defining specific design solutions to solve them. However, innovation has typically emerged from engineering or business. We need to access those who have been successful in this way to create our own new ways of thinking.

In the early days, our focus was on how to justify our existence to management, demonstrate a need for budget and resources, etc. We've done a reasonably good job of this. However, it puts the focus on 'what we need to do to avoid getting laid off' as opposed to putting the focus on 'what we need to do to add value to the software development process.'

There has been some early work on understanding the strategic value of usability (Rosenbaum et al, 1996, 1998, 2000), but strategic usability is still in its infancy. In the final analysis, my belief is HCI as a field is ready to mature. However, most of us are designers, human factors specialists, or usability engineers. At this stage in our evolution, I think we need to turn to experts who have historically been outside our field, to MIS to teach us how to have a broader impact on organizations.

### References

1. Andersen, R. (ed.) (2000). Organizational limits to HCI: Conversations with Don Norman and Janice Rohn. *Interactions*, 7(4), p. 27-30.
2. Apple Computers, Inc. (1992). *Macintosh Human Interface Guidelines*. Reading, MA: Addison Wesley.
3. Bias, R. G. & Mayhew, D. J. (eds.) (1994). *Cost-Justifying Usability*. New York: Academic Press.
4. Dumas, J. S. & Redish, J. C. (1999). *A Practical Guide to Usability Testing*. Briston, UK: Intellect.
5. Hackos, J. T. & Redish, J. C. (1998). *User and Task Analysis for Interface Design*. New York: Wiley.
6. IBM Corporation (1992). *Object-Oriented Interface Design: IBM Common User Access Guidelines*. Carmel, IN: QUE.
7. Johnson, J. (2001). *GUI Bloopers: Don'ts and Do's for Software Developers and Web Designers*. San Francisco, CA: Morgan Kaufmann.
8. Kuniavsky, M. (2003). *Observing the User Experience: A Practitioner's Guide to User Research*. San Francisco, CA: Morgan Kaufmann.
9. Lynch, P. & Horton, S. (2002). *Web Style Guide: Basic Design Principles for Creating Web Sites*. (2<sup>nd</sup> ed.). New Haven, CT: Yale University Press.
10. Nielsen, J. (1999). *Designing Web Usability: The Practice of Simplicity*. Indianapolis, IN: New Riders Publishing.
11. Rosenbaum, S., Rohn, J. A., & Humburg, J. (2000). A toolkit for strategic usability: Results from workshops, panels, and surveys. In *Proceedings of ACM CHI 2000 Conference on Human Factors in Computing Systems* (vol. 1, p.337-344). New York: ACM Press.
12. Rosenbaum, S., Humburg, J. & Rohn, J. (1998). SIG on Unpacking strategic usability: Corporate strategy and usability research. In *Proceedings of ACM CHI 1998 Conference on Human Factors in Computing Systems* (p.382). New York: ACM Press.
13. Rosenbaum, S., Humburg, J., Rohn, J., Bloomer, S., Thomas, J., & Czerwinski, M. (1996). Corporate strategy and usability research: A new partnership. In *ACM CHI 97 Electronic Publications: Panels*. Available at: <http://www.acm.org/sigs/sigchi/chi97/proceedings/panel/slr.htm>, retrieved on June 10, 2003.
14. Rubin, J. (1994). *Handbook of Usability Testing: How to Plan, Design, and Conduct Effective Tests*. New York: John Wiley.
15. Van Duyne, D. K., Landay, J. A., & Hong, J. I. (2002). *The Design of Sites*. Reading, MA: Addison Wesley.

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## What is AIS SIGHCI

AIS SIGHCI is the Special Interest Group on Human-Computer Interaction (SIGHCI) affiliated with the Association for Information Systems (AIS). It is one of the first six SIGs announced in ISWORLD in July 2001. Ping Zhang & Fiona Nah prepared the proposal that was approved by the AIS council in Spring 2001.

AIS SIGHCI is a forum for AIS members to discuss, develop, and promote a range of issues related to the history, reference disciplines, theories, practice, methodologies and techniques, new development, and applications of the interaction between humans, tasks, information technologies, and contexts (organizational, cultural, etc.). Possible topics include, but are not limited to, the following:

- The behavioral, cognitive, motivational, and affective aspects of human/technology interaction
- User task analysis and modeling
- Digital documents/genres and human information seeking behavior
- User interface design and evaluation of the Web for B2B, B2C, C2C e-commerce, e-marketplace and supply chain management, group collaboration, negotiation and auction, enterprise systems, intranets, and extranets
- Integrated and/or innovative approaches, guidelines, and standards for analysis, design, and development of interactive devices and systems
- Design of computer interfaces for single-user or collaborative decision support, including design of standard computer interfaces, as well as design for small-screen mobile devices and pervasive computing
- Development and applications of multi-dimensional information visualizations
- Usability engineering metrics and methods for user interface assessment and evaluation
- Usability studies for end-user computing in work or non-work environments, especially in the Internet era
- Information technology acceptance and diffusion issues from cognitive, motivational, cultural, and user interface design perspectives
- The impact of interfaces/information technology on attitudes, behavior, performance, perception, and productivity
- Issues in software learning and training, including perceptual, cognitive, and motivational aspects of learning
- Gender and technology
- Issues related to the elderly, the young and special needs populations
- Issues in teaching HCI courses

The SIG's mission is twofold:

- To facilitate the exchange, development, communication, and dissemination of information among AIS members, and
- To promote research related to human-computer interaction within the business, managerial, and organizational contexts among AIS members and to the larger community of practitioners and scholars.

SIGHCI has started to provide some services to members (see Services to Members section of the newsletter). In addition, a number of activities have been organized and new ones are being planned (see details in the newsletter).

Any AIS member is welcome to join SIGHCI through the AIS website (<http://aisnet.org>). Currently the annual due is \$10 for SIG, and \$85/\$50 (academic/student) for AIS. For more information about SIGHCI, contact Ping Zhang (pzhang@syr.edu), Fiona Nah (fnah@unl.edu) or any of the SIGHCI officers.

## Services to SIGHCI Members

### **SIGHCI Website (<http://melody.syr.edu/hci>)**

Created on 10/15/2001, the website is the central data source for information related to the SIGHCI. It is updated frequently to reflect timely information that may be of interest to SIG members. You can find information about mission, membership, listserv, conferences, news, photo gallery, HCI related journals, research resources, teaching resources, other HCI associations, and SIG contacts on the site.

### **Listserv ([http://melody.syr.edu/hci/sig\\_listserv.cgi](http://melody.syr.edu/hci/sig_listserv.cgi))**

Please subscribe to our listserv if you would like to be informed of the latest relevant events, or to participate in any discussions related to the SIGHCI. Created in July 2001, the list currently has more than 260 subscribers (as of June 30, 2003). There is also an archive of past postings since January 2002, available on the SIGHCI Website. Information about how to subscribe and how to access the archive can also be found on the same site.

### **Member Directory (<http://melody.syr.edu/hci/sigdir>)**

The AIS SIGHCI Member Directory contains members' contact information, academic record, teaching interests, research interests, on-going projects and publications. It is meant for members to get to know each other, exchange common interests in teaching and research, and to find possible collaborators. The contact and academic sections of the directory have been uploaded from the AIS member directory. The rest of the sections will need to be updated by the members themselves. The directory has been available since 12/4/2002 and is accessible from the SIGHCI Website. So far, there are 186 official SIGHCI members in our member directory.

\*\* SIGHCI Members: please update your records in order for all SIGHCI members to fully utilize the directory. You will need to use your 5-digit AIS member ID (such as 34123) as a password to update your record.

### **Photo Gallery ([http://melody.syr.edu/hci/sig\\_photos/](http://melody.syr.edu/hci/sig_photos/))**

To preserve the excitement and memory of SIGHCI activities (including get-togethers), this gallery collects the true moments captured by SIGHCI members. If any member has valuable pictures related to SIGHCI activities, please send them to Ping Zhang ([pzhang@syr.edu](mailto:pzhang@syr.edu)) for inclusion in the gallery. The gallery was created on 9/28/2002.

### **Newsletter (<http://melody.syr.edu/hci/newsletters/>)**

The first newsletter was published in 11/2002. The second (the current one) is published in July 2003. There are two newsletters in each year/volume, one in July and one in November. Please send your items to the newsletter editor, Lina ([nli@syr.edu](mailto:nli@syr.edu)), by early June 2003 for the July/No.1 issue and early October for the November/No.2 issue.

## Helpful URLs and Listserv Addresses

**AIS SIGHCI website:**  
<http://melody.syr.edu/hci>

**AIS SIGHCI listserv webpage (how to subscribe to the list):**  
[http://melody.syr.edu/hci/sig\\_listserv.cgi](http://melody.syr.edu/hci/sig_listserv.cgi)

**AIS SIGHCI listserv:** [ais\\_hci@listserv.syr.edu](mailto:ais_hci@listserv.syr.edu)

**AIS SIGHCI Member Directory:**  
<http://melody.syr.edu/hci/sigdir/>

**AIS SIGHCI Photo Gallery:**  
[http://melody.syr.edu/hci/sig\\_photos/](http://melody.syr.edu/hci/sig_photos/)

**AIS website:**  
<http://aisnet.org>

**ISWORLD website:**  
<http://www.isworld.org/>

**ISWORLD listserv webpage (how to subscribe to the list):**  
<http://disc-nt.cba.uh.edu/isworldlist/index.htm>

**ISWORLD listserv:**  
[isworld@lyris.isworld.org](mailto:isworld@lyris.isworld.org)

**AIS SIGHCI Newsletter:**  
<http://melody.syr.edu/hci/newsletters/>

## News from SIGHCI Members

### **User Frustration with Information Technology**

**Ben Shneiderman, University of Maryland**

Our research report, "Determining the Causes and Severity of End User Frustration" (presentation slides available), details the 373 frustrating experiences encountered by 111 subjects during their use of personal computers for approximately 2.6 hours each. The applications in which the frustrating experiences happened most frequently were web browsing, e-mail, and word processing. The most-cited causes of the frustrating experiences were error messages, dropped network connections, long download times, and hard-to-find features. The time lost due to the frustrating experiences ranged from 30.5% of time spent on the computer to 45.9% of time spent on the computer. These disturbing results should be a basis for future study. To appear in International Journal of Human-Computer Interaction (2004).

Our second study, "Understanding Computer User Frustration: Measuring and Modeling the Disruption from Poor Designs," looks at psychological and social perspectives on frustration in an attempt to clarify the relationships among variables such as personality types, cultural factors, goal attainment, workplace anger, and computer anxiety and to develop a technology frustration model.

Our third study, "Social and Psychological Influences on Computer User Frustration," deals with subjects that use computers as a part of their work-related responsibilities. Specific goals of the study include: to determine the most frequent causes of frustration, to measure the time lost due to frustrating incidents, and to describe the impact that the frustrating incidents have on the users and their interactions with co-workers. The study will allow a better understanding of how user frustration impacts employees and companies.

Draft versions of these reports are at: <http://www.cs.umd.edu/hcil/newcomputing/>