## Conference at a Glance

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<th>Time</th>
<th>Session</th>
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<td><strong>SUN</strong></td>
<td>Networking Gathering Palais des Congrès, Level 2 Foyer, 17:30 – 21:30</td>
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<tr>
<td>8:30</td>
<td>Opening Plenary Session: Scott Cook, Intuit: Creating ‘Game Changing’ Innovation - Room: 517ABC</td>
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<tr>
<td>11:30</td>
<td>Panel Usability from the CIO’s Perspective: Papers Navigation</td>
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<td>14:30</td>
<td>Panel Managing International User Research: Papers Participatory Design</td>
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<td>16:30</td>
<td>Research Overview: Large Display Research: Papers End User Programming</td>
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<td><strong>MONDAY</strong></td>
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<tr>
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<td>CHI Madness - Room: 517AB</td>
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<td>9:00</td>
<td>Plenary Panel: Expert Design Critique: XBOX 360 - Room: 517AB</td>
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<td>11:30</td>
<td>Panel Putting Personas to Work: Papers Institutionalizing HCI: What Do I-Schools Offer?</td>
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<td>Panel Managing Deviant Behavior in Online Communities: Papers Building User Value into the Business Case</td>
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<td>Panel Service Innovation &amp; Design: Papers Automatic Generation &amp; Usability</td>
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<td><strong>TUESDAY</strong></td>
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<tr>
<td>8:30</td>
<td>CHI Madness - Room: 517AB</td>
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<td>Plenary Panel: Add a Dash of Interface: Taking Mash-Ups to the Next Level - Room 517AB</td>
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<td>Panel Why Do Tagging Systems Work?: Papers Ubiquitous Computing</td>
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<td>9:00</td>
<td>Panel HCI Engineering for Disasters, Driving, and Distributed Work: Papers Novel Methods: Emotions, Gestures, Events</td>
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<td>Panel The State of Tangible Interfaces: Projects, Studies, &amp; Open Issues: Papers Beliefs &amp; Affect</td>
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<td>Panel “It’s About the Information, Stupid!”: Papers Social Computing 3</td>
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<td>16:30</td>
<td>Closing Plenary Session: Digital Comics: An Art Form in Transition, Scott McCloud - Room: 517ABC</td>
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<td>9:00</td>
<td>Course 13: The Usability Engineering Lifecycle</td>
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<td>10:30</td>
<td>Course 10: Understanding Users in Context: An In-Depth Introduction to Fieldwork</td>
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<td>Course 11: Re-Positioning User Experience as a Strategic Process</td>
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<td>13:00</td>
<td>Course 12: Personal Information Management in Theory &amp; Practice</td>
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<td>Course 14: Usability &amp; Product Development: A Usability Course for Management</td>
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<tr>
<td>14:30</td>
<td>Course 15: The Art of Speaking: Fundamentals for HCI Professionals: Part 1</td>
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<td>Course 16: The Art of Speaking: Fundamentals for HCI Professionals: Part 2</td>
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<td>16:30</td>
<td>Course 22: The Art of Speaking: Advanced Skills for the Lecture Hall &amp; the Hallway</td>
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<td>SIG Methods &amp; Technologies: Other</td>
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Welcome to CHI 2006! CHI is the leading international conference on human-computer interaction (HCI). It provides an opportunity to interact with your colleagues, to inform each other about the latest results and methods in the HCI field, and to inspire each other to move the field forward.

CHI takes on some new forms this year. We have expanded the technical program to four days, in large part due to the growth of activity in the many areas of HCI. We have made courses part of the regular technical program and have included them in the registration fee.

This year we have made an explicit effort to engage the many communities that make up the CHI field. The goal has been to ensure that the conference program contains events that will appeal to all communities. Of course, many events are cross-cutting, appealing to multiple communities.

- Design – Design processes for creating user experiences; user interface innovations.
- Education – Advancing HCI education at all levels.
- Engineering – Organizing the design and construction of interactive artifacts to achieve desired outcomes.
- Management – The business and organizational sides of HCI.
- Research – Scientifically advancing the state of the field in all areas.
- Usability – Methods, tools, and strategies to improve the user experience of products and services.

The CHI 2006 conference is being held at the Palais des Congrès (convention center) in the heart of Montréal. This facility is within walking distance of many attractions. The conference hotels are all clustered near the Palais. Montréal is a wonderful, cosmopolitan city, an interesting mix of European and North American influences.

We hope you enjoy this year’s conference.

Gary Olson  
Conference Chair  
Robin Jeffries  
Technical Program Chair
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Conference Committee

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Technical Program Chair
Robin Jeffries, Google, USA

Conference Chair’s Administrator
Marta Rey-Babarro, University of Michigan, USA

ACM SIGCHI Program Director
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Eric Lee, RWTH Aachen University, Germany

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Steven Wall, University of Glasgow, Scotland

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alt.chi Chair
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Operations

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Engineering the flow of communication

Friends of CHI

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Taking HCI studies to the next level

For the latest tools in HCI research and usability testing, visit the Noldus booth! Our innovative solutions take your work to the next level. We offer scalable solutions that fit everything from straightforward usability testing to sophisticated multimodal HCI research. New items on display:

- The Observer XT - The ultimate research workbench for video annotation, data analysis, and video editing.
- uLog - Automatic recording of mouse clicks, keystrokes, and system events.
- Theme - Pattern detection software. Extract hidden information from computer log files, The Observer data files, and other time-based data.
- Multi-modal measurements - Use The Observer XT and uLog to make synchronized recordings of video, computer screens, user behavior, system responses, physiological data, and eye movements.

For more information visit us at:
Booth G-H
at CHI 2006

www.noldus.com

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Speed up your analysis time to less than an hour of analysis per testing hour and easily create highlight videos to share your insights with everyone.

Get a MORcomplete view with less cost, time and hassle.

Sign up for a free Web demo at www.techsmith.com.

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The CHI 2006 Conference is sponsored by ACM’s Special Interest group on Computer-Human Interaction (ACM SIGCHI). ACM, the Association for Computing Machinery, is a major force in advancing the skills and knowledge of Information Technology (IT) professionals and students throughout the world. ACM serves as an umbrella organization offering its 71,000 members a variety of forums in order to fulfill its members’ needs, the delivery of cutting edge technical information, the transfer of ideas from theory to practice, and opportunities for information exchange. Providing high quality products and services, world-class journals and magazines, dynamic special interest groups, numerous ‘main event’ conferences, tutorials, workshops, local special interest groups and chapters, and electronic forums, ACM is the resource for lifelong learning in the rapidly changing IT field.

SIGCHI is the premier international society for professionals, academics, and students who are interested in human-technology and human-computer interaction (HCI). We provide a forum for the discussion of all aspects of HCI through our conferences, including our flagship CHI conference, publications, web sites, email discussion groups, and other services. We advance education in HCI through courses, workshops, and outreach and we promote informal access to a wide range of individuals and organizations involved in HCI. Members can be involved in HCI-related activities with others in their region through local SIGCHI chapters.

Visit our booth at the conference; come to our membership meeting on Wednesday at 6:10 in Room 511ABCDE; or visit www.sigchi.org to learn more about SIGCHI

Membership Information

Please contact ACM’s Member Services Department online: www.acm.org
Tel:
+1-800-342-6626 (USA/Canada)
+1-212-626-0500 (International)
Fax:
+1-212-944-1318
Email:
acmhelp@acm.org
Write:
ACM Member Services
PO Box 11414
New York, NY 10286-1414
USA

Sessions Overview

The CHI 2006 technical program showcases presentations of outstanding human-computer interaction (HCI) research, demonstrations of new and innovative technology, discussions of timely and controversial issues, and presentations of the latest developments in HCI design and practice.

Pre-Conference (Saturday–Sunday)

Doctoral Consortium

The doctoral consortium provides an opportunity for a group of invited doctoral students to explore their research interests and participate in an interdisciplinary workshop with other students and a group of experienced researchers. Participant posters will be shown in the Commons starting Monday at 16:00.

Doctoral Consortium Faculty:
[CHAIR] John M. Carroll, The Pennsylvania State University, USA
Alan Borning, University of Washington, USA
Kori Inkpen, Dalhousie University, Canada
Bonnie Nardi, University of California, Irvine, USA
Stephen Payne, University of Manchester, UK

Workshops

Workshops provide a valuable opportunity for small communities of people with diverse perspectives to engage in rich one and two-day discussions about topics of common interest. Workshop participants were pre-selected based on submitted position papers and results will be displayed as posters in the Commons starting Monday at 16:00.

Course: Human-Computer Interaction: Introduction and Overview

Location: Room 514ABC
Time: Sunday, 18:00 – 21:00
Keith A. Butler, Robert J.K. Jacob, David Kieras

This course is a tried-and-true introduction to the field of human-computer interaction (HCI). It has become a CHI conference tradition. If you are a newcomer to the field of HCI, this tutorial will give you the background you need to get the most out of the CHI conference.

Refer to page 23 for more information on this course.
General Information, continued

Conference
The CHI technical program includes presentations and posters.

Choosing Sessions
The CHI 2006 Conference Proceedings and Extended Abstracts contain information about each presentation. You may wish to refer to these materials in the DVD in your conference bag to help you choose which sessions to attend. Each morning, before the first session of the day, we will also present CHI Madness, a fast-paced overview of many of the presentations of the day, to help you decide how to spend your time that day. You can also attend the newcomers orientation at 10:30 on Monday where we offer suggestions on planning your conference experience. Conference volunteers are also available to answer questions.

Leaving Sessions
If you plan to leave during the middle of a session, please be considerate of the speakers and others around you by taking a seat near an exit.

Presentation/Session Length
Approximate lengths of each type of session are:

alt.chi 15 minutes
HCI Overviews 30 minutes
Experience Reports 30 minutes
Interactivity 15 minutes
Panels 90 minutes
Papers 30 minutes
Notes 15 minutes
SIGs 90 minutes

Expect about the last third of each presentation to be used for a question and answer session.

alt.chi
These invited sessions allow controversial, hard to publish, and/or alternative perspectives on HCI to be expressed in a format that encourages lively audience participation.

CHI Madness
At the beginning of each day, we will give a fast-paced overview of many elements of that day’s program. This will take place in the plenary room.

Courses
For the first time, the CHI conference offers courses as part of the technical program. The goal of these courses is to provide professional development opportunities for people in the HCI community or those wishing to join.

Courses are strictly limited and pre-registration is required. Please register for courses at the registration desk on the Level 2. CHI 2006 regrets any inconvenience should the course you wish to attend be filled. Please check with the registration desk periodically to see if a space has opened in a particular class due to cancellation.

HCI Overviews
HCI overviews showcase a particular organization or virtual organization that is focused on some aspect of HCI. Of interest is the big picture: how did a group come into being; how do the participants influence each other as well as other groups; the group’s plans and visions for the future; and the basis for these plans.

Invited Research Overviews
This year, we will have two Invited Research Overviews, where leading researchers will provide an overview of a specific research area.

Interactivity
Experience HCI yourself at the Chamber, a hub for Interactivity activities in the Commons. Inside the Chamber are hands-on setups that push the boundaries of tangible, multimodal, collaborative, and multimedia interfaces. Interactivity participants will also present their research in a regular conference session.

Experience Reports
Experience reports are examples of the practice of HCI that are based on real world experience, described and generalized in a way to be of interest and instructive to other members of the community.

Panels
Panels let audience members understand and interact with different perspectives on an emerging or controversial topic. Panels stimulate thought and discussion about ideas and issues of interest to the human-computer interaction community. We have panels from the six different communities, as well as many cross-community panels.
Papers and CHI Notes

Research Papers present significant contributions to research, development, and practice in all areas of the field of human-computer interaction. All accepted papers were rigorously reviewed. Papers in the CHI Proceedings are read and cited worldwide and have wide impact on the development of HCI principles, theories, and techniques, and on their practical application.

CHI Notes is a new participation category, modeled on the successful UIST TechNotes and CSCW Notes categories. CHI Notes are briefer and more focused than Research Papers and follow the same reviewing process used for the Papers. The goal is to increase the diversity of the fully-reviewed technical program by encouraging submissions that might not fit well within the traditional Papers program.

Special Interest Groups (SIGs)

Special Interest Groups enable conference attendees who share similar interests to meet for 90 minutes of facilitated discussion.

Student Design Competition

Professionals in the field of human-computer interaction are unique in their ability to impact the quality of people’s lives. Tackling real-world problems, HCI researchers and designers - in both academia and industry - face many fascinating challenges in designing usable and enjoyable services, applications, interfaces, and environments. This year’s Student Design Competition problem challenged students to apply their creativity to designing an experience in the area of health and fitness.

CHI 2006 Student Design Competition entries will be found on posters in the Commons. Be sure to review them and attend the finalists’ presentations on Wednesday at 11:30 and see if you can guess the winners to be announced at the Closing Plenary on Thursday.

Work-in-Progress Posters

These are brief descriptions of work that is ongoing. They will be presented during the Conference Reception as posters and highlighted in various breaks. This is your opportunity to see the very latest work in HCI and interact with the authors in as much depth as you like.

Special Events

Networking Gathering

Location: Palais des Congrès, Level 2 foyer
Time: Sunday, 17:30 – 20:00

CHI participants are invited to gather, catch up with old friends and make newcomers feel welcome! Complimentary snacks and light appetizers will be served and a cash bar is available.

Conference Reception and Exhibits Grand Opening

Location: The Commons (Hall 210)
Time: Monday, 18:30 – 21:30

Join us for an evening of fellowship, fine food, and circus acrobatics at the Palais des Congrès. You will see some of Montréal’s famous street performers and aerial acrobats who will have performances throughout the evening! You will also have a chance to visit our exhibitors, interact with the authors of Work-in-Progress posters, Student Design Competition posters, Doctoral Consortium posters, and posters describing the Workshops held over the preceding weekend. The event is included with the Conference registration. Additional tickets may be purchased at Registration for $50 USD.

Newcomers’ Orientation

Location: Room 511ABDE
Time: Monday, 10:30 – 11:00

Join ACM SIGCHI President Joseph Konstan and Conference Chair Gary Olson after the Opening Plenary and find out how to get the most from CHI. This session offers first-time attendees information on navigating the conference and making session choices in an environment with many options. The session will also provide a brief history of SIGCHI and an overview of its current structure and activities.
Job Fair
Location: The Commons (Hall 210)
Time: Tuesday, 18:00 – 20:00
To enhance recruiting this year, CHI 2006 is featuring a Job Fair on Tuesday evening. Recruiters and job candidates are invited to take advantage of this key event. Visit the Recruiting Boards and designated exhibit booths throughout the conference to find out more about available positions.

Champion Sponsor Recruiters:
Google, Inc.
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Intuit
Microsoft Corporation
SAP
Yahoo! Inc.

Contributing Sponsor Recruiters:
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eBay, Inc.
IBM Corporation
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Additional Recruiters:
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FutureWei Technologies, Inc.
Human Factors International, Inc.
Oracle, USA
Salesforce.com
St. Jude Medical
Teligence
The Mathworks, Inc
The Vanguard Group
Ubisoft
VMware, Inc.

Recruiting Boards
Please check the recruiting boards in the poster area for information about career opportunities with different organizations. You may submit your resume in response to these opportunities to the CHI 2006 Information Booth. The recruiting boards open at 18:30 Monday evening and will be available during the Commons’ hour of operation.

Hospitality Events
Location: Hyatt Regency Montréal
Time: Wednesday, 18:30 – 20:30

Champion Sponsors:
Google, Inc., Hospitalité
Intuit, Café Fleuri
Microsoft Corporation, Alfred-Rouleau A

Others:
Human Factors International, Inc., Été des Indiens

Exhibits
Location: The Commons (Hall 210)
Hours:
Monday 18:30 – 21:30 (Grand Opening)
Tuesday 10:30 – 18:00 (Job Fair 18:00 – 20:00)
Wednesday 10:30 – 18:00
Thursday 10:30 – 12:00

Exhibits provide an opportunity for conference attendees to learn about a broad spectrum of HCI offerings. They feature the latest HCI-oriented products and services from commercial vendors, institutions, and publishers.

The Exhibit area opens at the beginning of the conference reception on Monday evening. See page 100 for individual exhibit descriptions.

Interactive Posters
Location: The Commons (Hall 210)
Time: During CHI Commons hours

Posters for the Work-in-Progress, Doctoral Consortium, Student Design Competition, and Workshops are on display beginning Monday and throughout the rest of the conference during the Commons hours. Visit the poster authors and discuss their work with them directly during Monday’s reception and during other breaks.

Monday afternoon break (16:00 – 16:30),
View the Workshop and Doctoral Consortium posters in the Foyer on Level 2

Monday evening at the Conference Reception
Authors of odd numbered posters will be at their posters 18:30 – 19:30
Authors of even numbered posters will be at their posters 20:00 – 21:00

Tuesday morning break (10:30 – 11:30), The Commons
General Information, continued

Interact with authors of Work-in-Progress posters 57 – 121
Interact with authors of the Student Design Competition posters

Wednesday morning break (10:30 – 11:30), The Commons
Interact with authors of Work-in-Progress posters 122 – 187

Thursday morning break (10:30 – 11:30), The Commons
Interact with authors of Work-in-Progress posters 188 – 252

ACM SIGCHI Member Meeting
Location: Room 511ABDE
Time: Wednesday, 18:10 – 19:30
SIGCHI officers will present ongoing programs and activities, followed by an audience question and answer session. Participants interested in shaping SIGCHI’s future are encouraged to attend.

CHI 2006 at the Palais

Internet Access
Wireless high-speed Internet access is provided by CHI 2006 from Sunday to Thursday throughout the Palais des Congrès de Montréal for CHI 2006. Hotspots exist throughout the building and are posted for your convenience. Hard wire connections and computers are not provided.

CHI 2006 Information Booth
Location: The Commons (Hall 210)
Hours:
Monday  8:00 – 18:00 (Level 2 Foyer)
Tuesday  8:00 – 17:30
Wednesday  8:00 – 17:30
Thursday  8:00 – 12:00
The CHI 2006 information booth will be staffed by CHI local members and student volunteers who are happy to assist you. The information booth formally opens on Monday. If you need assistance during the pre-conference dates, please inquire at the registration desk.

Lunch with Locals
The CHI local members offer complimentary local tours and a ‘Lunch with a Local’ program, uniquely designed for your enjoyment. You can sign up for these activities by visiting the Information Booth at the beginning of the conference.

Speaker Preparation and Rehearsal
Location: Room 512G
Hours:
Sunday  9:00 – 18:00
Monday  7:30 – 18:00
Tuesday  7:30 – 18:00
Wednesday  7:30 – 18:00
Thursday  7:30 – 14:30
Conference speakers may reserve a LCD projector in this room to help them prepare materials and rehearse for their presentations. There is only one room for your use, therefore space is limited. Please, reserve in advance in room 512G.

Registration
Location: Level 2, Area 200
Hours:
Sunday  9:00 – 19:30
Monday  7:00 – 21:30
Tuesday  8:00 – 18:30
Wednesday  8:00 – 18:30
Thursday  8:00 – 14:30
Pre-registered attendees can pick up their badges and conference materials at Registration. On-site registration is also available.

Accompanying Persons
CHI 2006 welcomes accompanying persons, ages 18 or older, to the conference to share in the excitement of the event. Accompanying persons are encouraged to register for one-day access.
Additional tickets for the conference reception only may be purchased at the CHI Registration Desk for US $50. Reception tickets will not be sold on the evening of the event. Each reception ticket includes one complimentary beer, wine, or soda.
Student Volunteers
Student Volunteers are great sources of information about the conference. Many are working on their Masters or Ph.D.s and some are looking for job or internship opportunities. They help give the conference a friendly, helpful face and work hard to assist during the whole conference. Please be courteous to them and feel free to ask them questions. You can identify Student Volunteers by their white T-shirts.

The Commons
Location: Hall 210
Hours:
Monday 18:30 – 21:30
Tuesday 8:00 – 20:00
Wednesday 8:00 – 18:00
Thursday 8:00 – 12:00

The Commons is a large central area that is the site for all main conference breaks, exhibits, posters, and other interactive activities. Seating areas make The Commons the perfect place to meet with old or new friends, enjoy a refreshing beverage during a coffee break, or just relax between sessions. You will also find tables labeled with the names of each of the six communities, so you will be able to interact with others from your own community or other communities.

Coffee Breaks
The complimentary morning and afternoon coffee breaks take place as follows:
Monday 10:30 – 11:30: Outside the meeting rooms on Level 5 & Level 2
15:30 – 16:00: Outside the meeting rooms on Level 5 & Level 2
Tuesday 10:30 – 11:30: CHI Commons
16:00 – 16:30: CHI Commons
Wednesday 10:30 – 11:30: CHI Commons
16:00 – 16:30: CHI Commons
Thursday 10:30 – 11:30: CHI Commons
16:00 – 16:30: Outside Room 517

Conference Management Office
Location: Room 512D

The Conference Management Office is available to address your questions regarding lost & found items, special access needs, dietary issues, or audio-visual equipment for presenters. We may be able to assist with other issues. Stop by when you do not know where else to turn.

Press Office
Location: Room 512C

CHI 2006 welcomes members of the Press! Please stop by the CHI 2006 Chair’s Office to get information on scheduled Press Events and to learn more about CHI 2006, SIGCHI, and future CHI conferences. CHI 2006 media coordinators will be happy to schedule interviews with selected authors at the conference.

Policies
Cell Phones
CHI 2006 requests that all cellular 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.

Recording
The use of any type of audio or video recording device is not permitted during any part of the conference. The use of still cameras is permissible. However, reprinting photographs in print or electronic publications is prohibited without the written permission of the people photographed.

Blogging and Photosharing
CHI encourages conference participants to blog CHI while at the event.

Please add the category/keyword of “CHI2006” to your blog entries.

To make sure that your blog is discovered, please either:

• Trackback your blog entries to the “blogging chi” entry at the CHI 2006 site, www.chi2006.org/blogs/official/archives/2006/02/blogging_chi_re.html
• Leave a comment that provides a link to your blog posts at the above site.

We also encourage photosharing by services such as flickr. Again, please add the tag “CHI2006” to your photos. You may link those pages to us via the comment field at www.chi2006.org/blogs/official/archives/2006/02/blogging_chi_re.html

Alcoholic Beverages
The legal drinking age in Quebec is 18 years old.

Smoking
The Palais des Congrès de Montréal is a non-smoking facility.
Montréal, Quebec

Montréal is a spectacular blend of Old World charm and North American modernity. You can count on a memorable convention while you’re here, thanks to the array of attractions and activities offered throughout the city.

The Palais de Congrès de Montréal is located at the heart of four city districts. From the Palais, visitors can easily access the Quartier International, Chinatown, the downtown business core, or Old Montréal. Visitors heading to the Palais will find themselves at the very center of a bustling and animated downtown, only a five-minute walk from some 12,000 hotel rooms in a safe and friendly environment.

Attire

CHI conferences are casual dress. A light jacket and/or sweater is suggested for the evenings. During the later part of April, Montréalers find themselves enjoying the re-birth of spring with daytime temperatures in the 50’s (avg. 10°C / 51°F) and late evening getting into the 30’s (avg. 1ºC / 34ºF). You may expect a range of weather during the conference; we recommend dressing in layers.

Currency Exchange

It’s easy to exchange foreign currency in Montréal. You can cash travellers cheques at banks and exchange offices (Bureau de change in French) which are common in the areas you’ll be visiting. Banking and credit cards are also welcome, so you can withdraw with your bank card, use major credit cards, or even pay directly at stores, restaurants, etc. Many businesses will also accept US dollars and travellers cheques, but it’s always a good idea to carry Canadian money with you.

Taxes

Two kinds of taxes apply in Montréal: the 7% federal Goods and Services Tax (GST) and Québec’s 7.5% provincial tax (QST). The GST applies to most purchases. However, it is refundable if you qualify.

Visit http://www.cra-arc.gc.ca/visitors/ for information on qualifying and the required forms.

Transportation

City Transportation

The Société de Transportation de Montréal (STM) offers tourists and convention delegates passes valid for a one, three, or seven-day period, allowing them unlimited access to its bus and metro network.

Fares (bus and métro):  
Adult fare: $2.50
Booklet of 6 tickets:  $11.25
The STM tourist pass:  1 day, $8; 3 days, $16

Bus

514-842-2281

L’Aerobus is the shuttle service from Montréal’s Pierre Elliott Trudeau International Airport to the Montréal Central Bus Station. For more information on bus schedules and fares, contact the Station Central d’Autoibus Montréal. The staff can provide schedule and fare information for all bus service from Montréal, including the independent companies that provide service to all Québec and some Ontario destinations.

Complimentary Minibus

514-631-1856

A complimentary minibus shuttle service is also available between the Montréal Central Bus Station and major downtown hotels. Please call to make a reservation for the minibus shuttle service.

Metro

The Montréal metro is made up of 65 stations spread out along four lines. The metro station closest to the Palais de Congrès is the Place-d’Armes on the Orange line. Following are the hours of operation for the metro lines in Montréal:

Green and Orange line
Monday to Friday and Sunday  5:30 – 00:30
Saturday  5:30 – 1:00

Yellow line
Monday to Friday and Sunday  5:30 – 1:00
Saturday  5:30 – 1:30

Blue line
Every day  5:30 – 00:15

Taxi Services

Diamond Taxi: 514-273-6331
Taxi Co-op Montréal: 514-725-2667
General Information, continued

Local Conference Hotels

*Delta Centre-Ville*
(514) 879-1370
777 University Street
Montréal (Quebec) Canada H3C 3Z7

*Fairmont Queen Elizabeth Hotel*
(514) 954-2221
900 René-Levesque Boulevard West
Montréal (Québec) Canada H3B 4A5

*Holiday Inn Select Montréal Centre-Ville*
(514) 878-9888
99 Viger Avenue and St. Urban Street
Montréal (Québec) Canada H2Z 1E9

*Hyatt Regency Montréal (Conference Headquarters)*
(514) 982-1234
1255 Jeanne-Mance, PO Box 130
Montréal (Québec) Canada H5B 1E5

*Le Centre Sheraton*
(514) 878-2000
1201 René-Levesque Boulevard West
Montréal (Québec) Canada H3B 2L7
2006 Lifetime Achievement Award Winners

Judith S. Olson and Gary M. Olson

Gary M. Olson is Paul M. Fitts Collegiate Professor of Human Computer Interaction at the University of Michigan, a Professor and Associate Dean for Research in the School of Information, and a Professor in the Department of Psychology. Since 1993 he has been Professor of Psychology at the Institute of Psychology, Chinese Academy of Science, Beijing.

Judith S. Olson is Richard W. Pew Collegiate Professor of Human Computer Interaction at the University of Michigan, a Professor in the School of Information, the Stephen M. Ross School of Business, and the Department of Psychology.

Both have been extremely active in CHI affairs: Gary is Conference Chair of CHI 2006. Judy served as co-chair for papers for CHI 94. Gary and Judy together served as technical program co-chairs for CHI 91 and as papers co-chairs for the 1996 conference on Computer Supported Cooperative Work, CSCW. Gary served as conference co-chair for DIS 95, DIS 97, and CSCW 2004.

The fact that they co-chaired the program for CSCW 96 is symptomatic, for their major contributions have been to the study of collaboration, which they do by practicing what they preach and study. For many years they have studied collaboration, first in the School of Business at the University of Michigan and now in the School of Information. Although both have published prolifically independently, they have been co-authors together on approximately 49 of their papers.

Both Gary and Judy have each made substantive, independent, original contributions to the fields of human-computer interaction and collaboration, and have served these fields well through academic and leadership positions at the University of Michigan, on editorial boards of the major journals, service to the professional societies (CHI, CSCW, ACM), and as major members of the organizing committees of CHI’s international conferences. Although each stands alone as a strong, independent contributor and was each separately inducted into the CHI Academy, this award recognizes their major, lifetime impact as the collaborative study of collaboration: not only making a major contribution to the development of the science of collaboration, but living the same role themselves. We therefore feel it is only fitting that this award be made to the joint team of Gary M. Olson and Judith S. Olson. This award honors their long, productive collaboration as a single, unique contribution to the field of computer-human interaction, or perhaps more accurately, of human-human collaboration, mediated and enhanced through modern technologies.

2006 CHI Academy Inductees

Scott Hudson

Scott Hudson is a Professor in the Human-Computer Interaction Institute at Carnegie Mellon University where he directs the HCII Ph.D. program. His research focuses on exploration of new interaction techniques and software tools to assist interface development. With over 30 CHI and UIST papers, his impressive body of work includes investigation of database management, interactive and spreadsheet-based specification of user interfaces, direct manipulation interfaces (e.g., integrating snapping and gesture, rule-based techniques, layout by example, light-weight constraints), authoring multimedia documents, information visualization (e.g., ambient displays, information percolator, information collages, kinetic typography), pen-based interaction, sensor-based statistical models of interruptability, and privacy and disruption tradeoffs in awareness systems. His community service record is equally impressive. He serves as a regular member of the CHI and UIST program committees and was a founding associate editor of ACM TOCHI.

Hiroshi Ishii

Hiroshi Ishii is Associate Professor at the MIT Media Lab, where he founded and continues to head the Tangible Media Group. He has led the field in exploring how people live on the “border” between the digital and tangible worlds. His research group has developed an impressive series of creative and influential demonstrations, such as mediaBlocks, Luminous Room, ambientROOM, musicBottles, metaDESK, Illuminating Clay, I/O Brush, Actuated Workbench, and numerous others. These explorations all integrate the digital with the physical, pointing the way to a world of ubiquitous computing that draws on human physical embodiment and appeals to the senses. In addition to his keen understanding of the underlying philosophy and principles, Ishii has brought a unique sense of beauty and playfulness to interaction design.

Michel Beaudouin-Lafon

Michel Beaudouin-Lafon is Director of the Laboratoire de Recherche en Informatique at Université Paris-Sud and CNRS and Professor in Computer Science at Université Paris-Sud. Michel was instrumental in establishing human-computer interaction as a discipline in France and he was one of the founders and first president of AFIHM, the French national equivalent of ACM SIGCHI. In recent years he has played major roles in the CHI, UIST, and ECSCW conferences and is currently member-at-large of the ACM Council and member of the ACM Publications Board. His research includes both technical/engineering aspects of interface construction...
and development and design aspects with work on novel interaction techniques including recent work on two handed zoom and point interactions that support Fitts’ Law selection over many orders of magnitude, even on small screens. He started his academic career working on Petri Nets, but his interest in interfaces developed early including a paper in 1987 on “A Framework for Man-Machine Interface Design” at a major UNIX conference. While covering many areas since then, some of his recent innovative interface techniques are still applied to Petri Net design environments. Michel’s research work continues to inspire and excite readers and his AVI paper in 2004 has been one of the most heavily downloaded papers in the ACM Digital Library.

Jakob Nielsen

Jakob Nielsen is a principal of Nielsen Norman group. He coined the term ‘Discount Usability Engineering’ and is one of the most prolific authors of the HCI field. A co-inventor of the heuristic evaluation method, Nielsen has made strong academic contributions to HCI through his publications while worked as a researcher at Bellcore, IBM Research, and as a Distinguished Engineer at Sun Microsystems. Since he co-founded Nielsen Norman group, he has made even stronger contributions to the practice of HCI. His highly visible work and often provocative commentary have enhanced the visibility of the HCI field in the business world. Jakob is one of the few individuals in our field who have been highly successful at both academic research and making real world impact. He has also been an active member of SIGCHI since its founding, serving as paper co-chair of CHI 1993, among other roles.

Peter Pirolli

Peter Pirolli is a Research Fellow at PARC and one of the most important theorists of HCI. His work has concerned the interaction of human and computational knowledge-based systems, first in intelligent tutoring systems, then in cognitive models for human-computer interaction, methods for analyzing information seeking and Internet behavior, sensemaking, visual attention, and most recently in social foraging. The Lisp tutor built with colleagues is one of the first industrial-strength, successful tutors. Information foraging theory reframed the conventional approach to information retrieval. His work combines bold theoretical moves with concern for how these can shape systems in HCI. Pirolli was formerly a professor at the University of California, Berkeley and Associate Director of the UC Berkeley Cognitive Science Program. He is a Fellow of the National Academy of Education and the American Association for the Advancement of Science.

George Robertson

George Robertson is a Senior Researcher at Microsoft Research. Robertson has been involved in interactive technologies almost from the beginning. He has been one of the few people able to work across the intersection between systems programming at the operating system design level, and human-computer interaction. His early contributions include ZOG (one of the earliest operational hypertext systems), Diamond (the first multimedia messaging system), and co-designing the predecessor to the Mach operating system. While at Xerox PARC, he coined the term ‘Information Visualization’ and was the architect for the Information Visualizer system building early visualization paradigms, including Cone Trees and Web Forager. He has been innovative in his use of animation to highlight and show relationships in information. More recently he has contributed to visualizing polyarchies of data, interacting with large screen real estate and the visualization of tasks. Robertson is a Fellow of the ACM.

2006 Lifetime Service Award

Susan M. Dray

Since 1979, Dr. Susan M. Dray has worked in the field of human factors to increase the quality and intuitiveness of user interface designs for users around the world. She has worked as both an internal and external consultant and combines expertise in interface evaluation, usability evaluation, and contextual and ethnographic research with a cross-cultural and organizational perspective. As President of Dray & Associates, Inc., she consults internationally on interface design and usability. She has evaluated and helped redesign user interfaces for all types of websites, desktop and Web applications, as well as both hardware and software consumer products and technical equipment. She specializes in international user studies, and has conducted user research in 17 countries, including one of the largest international usability evaluations ever done - studying 120 users in eight countries in Europe and Asia.

A pioneer in human-computer interaction, she was Director of Human Factors at IDS [now American Express Financial Advisors], where, in 1988, she developed one of the first corporate usability labs outside the computer industry. Previously, at Honeywell, she was involved in evaluating usability of consumer product hardware and software, as well as military technologies. Dr. Dray was also an pioneer in the Association for Computing Machinery’s Special Interest Group on Computer-Human Interaction (ACM SIGCHI) as liaison from the established Human Factors organization in the early 1980’s. She was instrumental in building an interdisciplinary CHI community and continues to work...
tirelessly for CHI today, teaching tutorials, lecturing worldw ide, and editing the Business column of the ACM magazine, interactions.

As a leader in the Human Factors profession nationally and internationally, Dr. Dray has given over 80 talks at conferences and symposia in the U.S.A., Europe, and Australia, including the invited Plenary Address to the 10th Congress of the International Ergonomics Association in Sydney, Australia, and the Keynote address at the 2nd South African Conference on Human-Computer Interaction, in Pretoria, South Africa in 2001. In addition, she has published numerous papers and book chapters. Dr. Dray was also the North American editor of the prestigious international journal “Behavior and Information Technology.” She was elected a Fellow of the Human Factors and Ergonomics Society and has chaired both the Organizational Design and Management Technical Group and the Computer Systems Technical Group of this same organization, as well as the Computers and Communications Scientific and Technical Committee of the International Ergonomics Association.

Dr. Dray received her doctorate in Psychology from University of California, Los Angeles in 1980 and is a Board Certified Human Factors Professional.

2006 SIGCHI Social Impact Award

Ted Henter

As a young man, Ted Henter was ranked eighth in the world on the motorcycle racing circuit. After a race in London, England he was in an automobile accident that left him blind. Determined not to let this tragedy alter his active lifestyle, he set out to become the U.S.A. Blind Water Skiing Champion and achieved this honor six years running, plus one world championship. Mr. Henter graduated from the University of Florida in 1974 with a bachelor’s degree in mechanical engineering. After he was blinded, he took several computer courses at the University of South Florida, which led to his passion for assistive technology. In 1985, he started his own business. Two years later, he founded Henter-Joyce (now a division of Freedom Scientific) and began developing his first screen reader software that converts computer text to speech so people who are vision impaired can use a computer. In 1987, Mr. Henter and his new company invented JAWS, then a DOS based program and in 1995, he developed a Windows version of the product. Today, JAWS for Windows is the world’s best selling screen reading software, exceeding 78,000 users worldwide and growing. By allowing persons who are blind or with low vision achieve the same or higher productivity in computer-based jobs as sighted people, JAWS has increased employment and educational opportunities while helping employers meet requirements established by the Americans with Disabilities Act (ADA) requirements. Henter-Joyce also developed other software products including MAGIC screen magnification and Connect Outloud Web access software. Ted Henter has received numerous national honors, including the Smithsonian Institute Award for developing JAWS.

Note: We are also recognizing 2005 SIGCHI Distinguished Service Awardee Gary Perlman (who is local to Montréal and could not join us in Portland):

Gary Perlman

Gary is perhaps most well known for the popular, early repository of HCI publications and bibliographic information, the HCI Bibliography. The HCI Bibliography web site has been accessed over 4.5 million times since April 4th, 1998. Gary worked on the committee for the CHI 1986 conference, served as ACM BuckCHI Chair 1997-1998, ACM SIGCHI Vice-Chair for Publications 1995-97, SIGCHI Education Chair 1991-1995, participated on many conference technical program committees, and has published in and refereed for several HCI journals over many years. In addition, Gary set up the current system of SIGCHI mailing lists. Gary served on the SIGCHI Curriculum Development Group and created the web version of the group’s 1992 report. Gary currently telecommutes as a Consulting Research Scientist at OCLC Online Computer Library Center, from Montréal, Canada where his focus there is on the design of useful and usable web-based bibliographic and full text retrieval tools.

Past Honorees

SIGCHI Lifetime Achievement Award

1998 Douglas Engelbart
2000 Stuart K. Card
2001 Ben Shneiderman
2002 Donald A. Norman
2003 John M. Carroll
2004 Thomas P. Moran
2005 Tom Landauer

SIGCHI Lifetime Service Award

2001 Austin Henderson
2003 Lorraine Borman
2004 Robin Jeffries, Gene Lynch
2005 Sara Bly, John “Scooter” Morris, Don Patterson, Gary Perlman, Marilyn Mantei Tremaine
SIGCHI Academy Members

Class of 2001
Stuart K. Card  
James D. Foley  
Morten Kyng  
Thomas P. Moran  
Judith S. Olson  
Ben Shneiderman

Class of 2004
George Furnas  
Jonathan Grudin  
William Newman  
Brad Myers  
Dan R. Olsen Jr.  
Brian Shackel  
Terry Winograd

Class of 2002
William A. S. Buxton  
John M. Carroll  
Douglas C. Engelbart  
Sara Kiesler  
Thomas K. Landauer  
Lucy A. Suchman

Class of 2005
Ron Baecker  
Susan Dumais  
John Gould  
Saul Greenberg  
Bonnie John  
Andrew Monk

Class of 2003
Thomas Green  
James D. Hollan  
Robert E. Kraut  
Gary M. Olson  
Peter G. Polson

Class of 2004

CHI 2006 Best Papers, awarded by SIGCHI:

A Role for Haptics in Mobile Interaction: Initial Design Using a Handheld Tactile Display Prototype  
Joseph Luk, University of British Columbia, Canada  
Jerome Pasquero, McGill University, Canada  
Shannon Little, Karon MacLean, University of British Columbia, Canada  
Vincent Lévesque, Vincent Hayward, McGill University, Canada

Embedded Phenomena: Supporting Science Learning with Classroom-Sized Distributed Simulations  
Tom Moher, University of Illinois, Chicago, USA

Trackball Text Entry for People with Motor Impairments  
Jacob Wobbrock, Brad Myers, Carnegie Mellon University, USA

CHI 2006 Award Nominees, awarded by SIGCHI

Interweaving Mobile Games With Everyday Life  
Marek Bell, Matthew Chalmers, Louise Barkhuus, Malcolm Hall, Scott Sherwood, Barry Brown, University of Glasgow, Scotland  
Duncan Rowland, University of Lincoln, UK  
Steve Benford, Alastair Hampshire, Mauricio Capra, University of Nottingham, UK

Fast, Flexible Filtering with Phlat - Personal Search and Organization Made Easy  
Edward Cutrell, Daniel Robbins, Susan Dumais, Raman Sarin, Microsoft, USA

Desperately Seeking Simplicity: How Young Adults with Cognitive Disabilities and Their Families Adopt Assistive Technologies  
Melissa Dawe, University of Colorado, Boulder, USA

Implications for Design  
Paul Dourish, University of California, Irvine, USA

“Alone Together?” Exploring the Social Dynamics of Massively Multiplayer Online Games  
Nicolas Ducheneaut, PARC, USA  
Nicholas Yee, Stanford University, USA  
Eric Nickell, Robert J. Moore, PARC, USA

Best of CHI Awards

SIGCHI and CHI 2006 are proud to announce CHI 2006’s ‘Best of CHI’ nominees and award winners.

The SIGCHI ‘Best of CHI’ Program is designed to recognize outstanding work in the field of human-computer interaction by selecting and honoring exceptional submissions to SIGCHI-sponsored conferences. This year, the Papers and Notes committees took part in this program, nominating up to 5% of their submissions as Award Nominees. A separate awards committee then chose a select group of these submissions—no more than 1% of the total submissions—to receive a ‘Best’ designation. We are proud to congratulate the award winners and nominees for their outstanding contributions to CHI 2006 and to our field.
Generating Automated Predictions of Behavior Strategically Adapted to Specific Performance Objectives
Katherine Eng, NASA, USA
Richard L. Lewis, University of Michigan, USA
Irene Tollinger, NASA, USA
Alina Chu, University of Michigan, USA
Andrew Howes, Manchester University, UK
Alonso Vera, NASA, USA

Finding Design Qualities in a Tangible Programming Space
Ylva Fernaeus, Jakob Tholander, Stockholm University, Sweden

The Impact of Delayed Visual Feedback on Collaborative Performance
Darren Gergle, Robert E. Kraut, Susan R. Fussell, Carnegie Mellon University, USA

Providing Support for Adaptive Scripting in an On-Line Collaborative Learning Environment
Gahgene Gweon, Carolyn Rose, Zachary Zaiss, Carey Regan, Carnegie Mellon University, USA

Prototyping and Sampling Experience to Evaluate Ubiquitous Computing Privacy in the Real World
Giovanni Iachello, Khai Truong, Gregory Abowd, Gillian Hayes, Georgia Institute of Technology, USA
Molly Stevens, Logical Design Solutions, USA

The Sensual Evaluation Instrument: Developing an Affective Evaluation Tool
Katherine Isbister, Rensselaer Polytechnic Institute, USA
Kristina Höök, Swedish Institute for Computer Science, Sweden
Michael Sharp, Rensselaer Polytechnic Institute, USA
Jarmo Laaksolahti, Swedish Institute for Computer Science, Sweden

Evaluating Interfaces for Privacy Policy Rule Authoring
Clare-Marie Karat, Carloyln Brodie, John Karat, IBM, USA
Jinjuan Feng, University of Maryland, Baltimore County, USA

FaThumb: A Facet-Based Interface for Mobile Search
Amy Karlson, University of Maryland, USA
George Robertson, Daniel Robbins, Mary Czerwinski, Greg Smith, Microsoft, USA

Making Action Visible in Time-Critical Work
Jonas Landgren, Viktoria Institute, Sweden

Investigating Health Management Practices of Individuals with Diabetes
Lena Mamykina, Siemens, USA
Elizabeth D. Mynatt, Georgia Institute of Technology, USA
David R. Kaufman, Columbia University, USA

The Effect of Speech Recognition Accuracy Rates on the Usefulness and Usability of Webcast Archives
Cosmin Munteanu, Ronald Baecker, Gerald Penn, Elaine Toms, David James, University of Toronto, Canada

“LINC-ing” the Family: The Participatory Design of an Inkable Family Calendar
Carman Neustaedter, University of Calgary, Canada
A.J. Bernheim Brush, Microsoft, USA

Remote Usability Evaluations with Disabled People
Helen Petrie, University of York, UK
Fraser Hamilton, Neil King, Pete Pavan, Designed for All, UK

An Evaluation of Using Programming by Demonstration and Guided Walkthrough Techniques for Authoring and Utilizing Documentation
Madhu Prabaker, Carnegie Mellon University, USA
Lawrence Bergman, Vittorio Castelli, IBM, USA

Routine Patterns of Internet Use and Psychological Well-Being: Coping with a Residential Move
Irina Shklovski, Robert Kraut, Carnegie Mellon University, USA
Jonathon Cummings, Duke University, USA

Time is of the Essence: An Evaluation of Temporal Compression Algorithms
Simon Tucker, Steve Whittaker, Sheffield University, UK

Improving Accessibility of the Web with a Computer Game
Luis von Ahn, Shiry Ginosar, Mihir Kedia, Manuel Blum, Carnegie Mellon University, USA

Verbosity: A Game for Collecting Common-Sense Facts
Luis von Ahn, Mihir Kedia, Manuel Blum, Carnegie Mellon University, USA

Synchronous Broadcast Messaging: The Use of ICT
Justin D. Weisz, Carnegie Mellon University, USA
Thomas Erickson, Wendy A. Kellogg, IBM, USA

Dispelling “Design” as the Black Art of CHI
Tracee Vetting Wolf, IBM, USA
Jennifer A. Rode, University of California, Irvine, USA
Jeremy Sussman, Wendy A. Kellogg, IBM, USA

Do Security Toolbars Actually Prevent Phishing Attacks?
Min Wu, Robert Miller, MIT, USA
Simson Garfinkel, Harvard University, USA
This course is a tried-and-true introduction to the field of human-computer interaction (HCI). It has become a CHI conference tradition. If you are a newcomer to the CHI field, this course will give you the background you need to get the most out of the CHI conference.

[Intended audience] Mainly first-time CHI attendees, typically professionals from computing-related fields who are new to the field of human-computer interaction. No background in HCI is assumed.

[Presentation style] Lecture

[Features]
* What is HCI and why is it important?
* Brief history of HCI
* Introduction to building usable systems
* Introduction to the psychology of HCI
* Introduction to computer technologies for HCI
* Future directions of HCI
* Where to learn more during the conference
* Where to learn more in the published HCI literature
## Monday April 24

### Day at a Glance

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<th>Time</th>
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### COMMONS

- Conference Reception, Posters, & Exhibits Grand Opening
  - 18:30 – 21:30
  - Room 511ABCD

### SPECIAL EVENTS

- Newcomers Orientation
  - Room 511ABCD
  - 10:30 – 11:30

- Focus on Doctoral Consortium & Workshop Posters
  - Level 2 Foyer
  - 16:00 – 16:30

### NOTES

- Focus on Doctoral Consortium & Workshop Posters
  - Level 2 Foyer
  - 16:00 – 16:30
OPENING PLENARY SESSION

Monday Morning

8:30 – 10:30

ROOM 517ABC

Creating ‘Game-Changing’ Innovation

Scott Cook, co-founder, Intuit, USA

What role does the customer play in your innovation process? What role do you play in fostering innovation in your work? Hear first-hand from Scott Cook, co-founder of Intuit, about Intuit’s philosophy of Customer-Driven Innovation and how you can drive innovation in your work group, business, or community to create breakthrough products and offerings. Scott will describe how Intuit’s unwavering focus on the customer has led to the creation of such wildly popular products as Quicken, QuickBooks, and TurboTax and transformed the way people manage their business and financial lives.

[PRESENTER BIO] Scott Cook co-founded Intuit Inc. in 1983 and now serves as executive committee chairman. Before founding Intuit, Mr. Cook managed consulting assignments in banking and technology for Bain & Co., a corporate strategy consulting firm. He previously served Procter & Gamble in various marketing positions, including brand manager, for four years. Mr. Cook is a board member of eBay; Procter & Gamble; the Asia Foundation; the Harvard Business School Dean’s Advisory Board; the Center for Brand and Product Management at the University of Wisconsin; and the Intuit Scholarship Foundation. He earned an MBA degree from Harvard University and received a bachelor’s degree in economics and mathematics from the University of Southern California.

CHI Madness

Confused about what to do next? Too many options for you to choose from? We end this session with CHI Madness. The presenters in many of today’s sessions will have one minute each to tell you what’s exciting about their presentation. It’s fast paced; it’s fun; sometimes it’s even funny.

Join us Tuesday, Wednesday, and Thursday morning at 8:30 for that day’s Madness, led by Patrick Baudisch of Microsoft, USA.
Monday Mid-morning

PANEL ROOM 517ABC

Usability from the CIO’s Perspective

[PANELISTS]
James A. Euchner (moderator), Pitney Bowes, USA
Tod Thompson, JetBlue Airways, USA
Keith McGarr, Reed-Elsevier, USA
Ron Blitstein, Improve Technology Advisors, LLC, USA
Jim Roche, The Research Board, USA

CIOs are frustrated with the field success of their systems. HCI professionals are frustrated with the marginalization of usability in systems development. This panel of CIOs will consider strategies and techniques used to balance the apparently competing challenges of faster/better/cheaper systems and the expense of developing highly usable systems.

PAPERS ROOM 511ABDE

Navigation

[SESSION CHAIR] George Furnas, University of Michigan, USA

[PAPER] Faster Document Navigation with Space-Filling Thumbnails
Andy Cockburn, University of Canterbury, NZ
Carl Gutwin, University of Saskatchewan, Canada
Jason Alexander, University of Canterbury, NZ

Describes the Space-Filling Thumbnails interface for document navigation, which replaces scrolling with page-selection from a thumbnail matrix. Evaluations show large performance advantages over scrolling across various document types and lengths.

[PAPER] An Evaluation of Pan&Zoom and Rubber Sheet Navigation with and without an Overview
Dmitry Nekrasovski, Adam Bodnar, Joanna McGrenere, University of British Columbia, Canada
François Guimbretière, University of Maryland, USA
Tamara Munzner, University of British Columbia, Canada

A comparison of Pan&Zoom navigation to a Focus+Context technique, both with and without an overview. Pan&Zoom is found to be significantly faster, while presence of overview improves user satisfaction.

[PAPER] OrthoZoom Scroller: 1D Multi-Scale Navigation
Caroline Appert, Université Paris-Sud, France
Jean-Daniel Fekete, INRIA Futures, France

We introduce and evaluate OrthoZoom Scroller, a mouse-based multi-scale 1D scrolling and pointing technique that performs about twice better than the only other mouse-based multi-scale technique.

PAPERS ROOM 516C

Mobile Surfing and Effects of Wearables

[SESSION CHAIR] Thad Starner, Georgia Institute of Technology, USA

[PAPER] Minimap—A Web Page Visualization Method for Mobile Phones
Virpi Roto, Andrei Popescu, Nokia, Finland
Antti Koivisto, Nokia, USA
Elina Vartiainen, Nokia, Finland

We have developed a modeless web page visualization method for mobile phones. In a long-term usability study, 18 out of 20 participants preferred this Minimap method to a state-of-the-art method.

[PAPER] An Examination of the Effects of a Wearable Display on Informal Face-to-Face Communication
Gerard McAtamney, Yell Com, Scotland
Caroline Parker, Glasgow Caledonian University, Scotland

Presents findings of a study exploring impact of a wearable display on face-to-face conversation. Demonstrates need for careful design of wearable displays to avoid negative social impact.

[CHI NOTE] Time Based Patterns in Mobile-Internet Surfing
Martin Halvey, Mark T. Keane, Barry Smyth, University College Dublin, Ireland

Describes data analyses of mobile web surfing behavior as a function of time and subject. Offers predictive temporal models that improve the design and experience of web personalization.
### Monday Mid-morning, continued

<table>
<thead>
<tr>
<th>Time</th>
<th>Room</th>
<th>Session</th>
<th>Paper Title</th>
<th>Authors</th>
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<tr>
<td>11:30-13:00</td>
<td>ROOM 516AB</td>
<td>Games</td>
<td><strong>[PAPER]  Peekaboom: A Game for Locating Objects in Images</strong></td>
<td>Luis von Ahn, Ruoran Liu, Manuel Blum, Carnegie Mellon University, USA</td>
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<td>Introduces an online interactive system that is an enjoyable game for locating objects in images.</td>
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<td>By playing, thousands of people have constructed a large database for training computer vision algorithms.</td>
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<td><strong>[PAPER]  Representation of Interwoven Surfaces in 2-1/2 D Drawing</strong></td>
<td>Keith Wiley, Lance R. Williams, University of New Mexico, USA</td>
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<td>Describes Druid, a novel drawing program which permits the construction of scenes of interwoven surfaces.</td>
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<td>In addition, Druid’s user interface possesses affordances that are isomorphic to those of physical surfaces.</td>
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<td><strong>[CHI NOTE]  Verbosity: A Game for Collecting Common-Sense Facts</strong></td>
<td>Luis von Ahn, Mihir Kedia, Manuel Blum, Carnegie Mellon University, USA</td>
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<td>Introduces an online interactive system in the form of a game that collects verified and structured common-sense knowledge. Enables builders of intelligent applications to collect large fact databases more easily.</td>
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<td><strong>[CHI NOTE]  Improving Accessibility of the Web with a Computer Game</strong></td>
<td>Luis von Ahn, Shiry Ginosar, Mihir Kedia, Ruoran Liu, Manuel Blum, Carnegie Mellon University, USA</td>
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<td>Presents a game that is an online interactive system in which people, as a side effect of playing, enter explanatory image captions. Enables improved web accessibility through wider captioning.</td>
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<td>ROOM 510ABCD</td>
<td>Privacy 1</td>
<td><strong>[PAPER]  Evaluating Interfaces for Privacy Policy Rule Authoring</strong></td>
<td>Clare-Marie Karat, John Karat, Carolyn Brodie, IBM, USA Jinjuan Feng, Towson University, USA</td>
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<td>Presents design and evaluation of privacy policy rule authoring approaches in field and laboratory settings.</td>
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<td>Presents empirical work done in support of the design of privacy enabling technology.</td>
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<td><strong>[PAPER]  Putting People in Their Place: An Anonymous and Privacy-Sensitive Approach to Collecting Sensed Data in Location-Based Applications</strong></td>
<td>Karen P. Tang, Pedram Keyani, James Fogarty, Jason I. Hong, Carnegie Mellon University, USA</td>
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<td>Presents a privacy risk analysis of hitchhiking, a new approach to end-user privacy in location-based applications. Hitchhiking is location-centric, using mobile devices to collect sensed information from locations people visit.</td>
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<td><strong>[CHI NOTE]  Advancing Ambiguity</strong></td>
<td>Kirsten Boehner, Jeffrey T. Hancock, Cornell University, USA</td>
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<td>Examines the use of ambiguity as a resource for personal communication systems by overturning primary assumptions. Proposes guidelines for designers and evaluators in reconceptualizing ambiguity in everyday interactions.</td>
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<td>Describes the results of research with teenage girls to understand privacy practices supported by technology. Provides examples of the use of photoblogs as a tool for gathering research data.</td>
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**Listen!: Voice Interfaces**  
**[SESSION CHAIR] Rafael Ballagas, RWTH Aachen University, Germany**

**Feedback Management in the Pronunciation Training System**  
**ARTUR**  
Olov Engwall, Olle Bälter, Anne-Marie Öster, Hedvig Kjellström, KTH, Sweden

Presents a software system to help people with speaking disabilities or foreign speakers improve pronunciation. Provides varying levels of auditory and visual feedback based on user performance, progress and mood.

**Enhancing Interactivity in Webcasts Using VoIP**  
**Ronald Baecker, Melanie Baran, Jeremy Birnholtz, Clarence Chan, Joe Laszlo, Kelly Rankin, Russ Schick, Peter Wolf, University of Toronto, Canada**

Demonstrates a system that combines webcast-style audio/video streaming and voice-over-IP audioconferencing for remote or distributed presentations. Discusses the positive user impact of this combination when used for e-Learning.

**VoiceCode: An Innovative Speech Interface for Programming-By-Voice**  
**Alain Désilets, National Research Council of Canada, Canada  
David C. Fox, Nuance, USA  
Stuart Norton, University of California, Santa Cruz, USA**

Describes a tool that uses speech recognition to dictate and navigate source code. May allow programmers with RSI to write code by voice instead of using mouse and keyboard.

**Usability Evaluations: Challenges and Solutions**  
**[SESSION CHAIR] Janice Rohn, World Savings Bank, USA**

**No IM Please, We’re Testing**  
**Richard P. Boardman, Google, USA**

The author surveyed usability moderators and observers about their experiences using instant messaging to communicate between interview and observation rooms. Observers were more positive than moderators, who found distraction an issue.

**Influences of Personal Preference on Product Usability**  
**Shinyoung Park, University of Tsukuba, Japan  
Akira Harada, Sapporo City University, Japan  
Hiroya Igarashi, University of Tsukuba, Japan**

The authors describe a comparative experiment using the NASA-TLX workload assessment tool that demonstrated lower mental/physical demands on participants when using products they preferred. Brand image perceptions influenced participants’ subjective evaluations of usability.

**International Usability Evaluation: Issues and Strategies**  
**[ORGANIZERS]  
Emilie W. Gould, Acadia University, Canada  
Aaron Marcus, Aaron Marcus and Associates, USA  
Apala Lahiri Chavan, Human Factors International, India  
Huatong (Hannah) Sun, Grand Valley State University, USA**

In this SIG, practitioners will discuss challenges they faced in selecting and customizing methods for international usability design. Facilitators and then participants will contribute experiences, case studies, and helpful multicultural contacts.
Monday Afternoon

14:30-16:00

PANEL ROOM 517ABC
Managing International User Research

[PANELISTS]
Alexandra Mack (moderator), Pitney Bowes, USA
Susan M. Dray, Dray and Associates, USA
Patrick Larvie, Yahoo!, USA
Tracey Lovejoy, Microsoft, USA
Girish Prabhu, Intel, USA
Christian Sturm, Arolis, Germany

Many corporate researchers spend a great deal of their time traveling the globe to meet and study consumers, while others look to partner with other researchers or outsource the work entirely. This panel will explore these diverse approaches, how and why choices are made, the issues and challenges faced, and lessons learned based on past experiences.

PAPERS ROOM 511ABDE
Participatory Design

[SESSION CHAIR] Michael Muller, IBM, USA

[PAPER] “LINC-ing” the Family: The Participatory Design of an Inkable Family Calendar
Carman Neustaedter, University of Calgary, Canada
A.J. Bernheim Brush, Microsoft, USA

Describes the participatory design of an inkable family calendar for the home in an effort to address family coordination problems. Presents key implications for the design of family coordination systems.

[PAPER] Participatory Design with Proxies: Developing a Desktop-PDA System to Support People with Aphasia
Jordan L. Boyd-Graber, Sonya S. Nikolova, Princeton University, USA
Karyn A. Moffatt, University of British Columbia, Canada
Kenrick C. Kin, Joshua Y. Lee, Lester W. Mackey, Princeton University, USA
Marilyn M. Tremaine, Rutgers University, USA
María M. Klawe, Princeton University, USA

A novel system to aid people with aphasia was developed via participatory design with therapists as surrogates for the primary audience and highlights the unique information gleaned from ethnographic interviewing.

[PAPER] Participatory Design in Emergency Medical Service: Designing for Future Practice
Margit Kristensen, Morten Kyng, University of Aarhus, Denmark
Leysia Palen, University of Aarhus & University of Colorado, Boulder, Denmark & USA

Results of a participatory design process for emergency medical service address future practice and challenges of designing for major incidents

PAPERS ROOM 516C
Interaction Techniques: Haptic and Gestural

[SESSION CHAIR] Kori Inkpen, Dalhousie University, Canada

[PAPER] A Role for Haptics in Mobile Interaction: Initial Design Using a Handheld Tactile Display Prototype
Joseph Luk, University of British Columbia, Canada
Jérôme Pasquero, McGill University, Canada
Shannon Little, Karan MacLean, University of British Columbia, Canada
Vincent Lévesque, Vincent Hayward, McGill University, Canada

Describes principled process applying haptics to mobile interaction needs, including scenarios, a new device and its perceptual characterization. Provides insight into appropriate mappings between technology and application roles.

[PAPER] The Springboard: Multiple Modes in One Spring-Loaded Control
Ken Hinckley, Microsoft, USA
François Guimbretière, University of Maryland, USA
Patrick Baudisch, Raman Sarin, Maneesh Agrawala, Ed Cutrell, Microsoft, USA

Contributes Springboard technique and experiment that underscores why it is difficult to design local marking menus that can beat round-trips to a tool palette at the edge of the screen.

Bernd Froehlich, Jan Hochstrate, Verena Skuk, Anke Huckauf, Bauhaus-Universitaet Weimar, Germany

Describes two new 6-DOF input devices for graphics applications and a user study. The devices are shown to perform better than the SpaceMouse and subjective data confirms these results.
Activity & Usability: Design Implications

[SESSION CHAIR] Bonnie Nardi, University of California, Irvine, USA

Jonas Landgren, Viktoria Institute & Göteborg University, Sweden
Ethnographic accounts of time-critical physical work. Design implications for making verbal communication persistent to provide accountability. Inspiration for designers and practitioners of systems and applications for time-critical settings.

[PAPER] Support for Activity-Based Computing in a Personal Computing Operating System
Jakob Bardram, Jonathan Bunde-Pedersen, Mads Soegaard, University of Aarhus, Denmark
Presents the design, implementation, and evaluation of activity-based computing support embedded in Windows XP. Enables users to handle multiple parallel activities which can move between different computers.

[PAPER] Share and Share Alike: Exploring the User Interface Affordances of File Sharing
Stephen Voida, W. Keith Edwards, Georgia Institute of Technology, USA
Mark W. Newman, PARC, USA
Rebecca E. Grinter, Georgia Institute of Technology, USA
Nicolas Ducheneaut, PARC, USA
Describes a typology of sharing technologies and presents a new user interface for file sharing. Informs the design of file sharing mechanisms that more closely match users’ actual sharing practices.

Social Computing 1

[SESSION CHAIR] Elizabeth Churchill, PARC, USA

[PAPER] Dogear: Social Bookmarking in the Enterprise
David R. Millen, Jonathan Feinberg, Bernard Kerr, IBM, USA
Describes an enterprise social bookmarking service (dogear), supporting shared and non-anonymous bookmarking for internet and intranet sources. Design approach and results will benefit designers of related kinds of social software.

[PAPER] Increasing User Decision Accuracy Using Suggestions
Pearl Pu, Paolo Viappiani, Boi Faltings, EPFL, Switzerland
Proposes novel strategies for improving the accuracy and usability of example-based recommender systems and evaluates their performance on user studies.

[PAPER] Co-Authoring with Structured Annotations
Qixing Zheng, Kellogg Booth, Joanna McGrenere, University of British Columbia, Canada
Describes a comprehensive taxonomy of structured annotations for collaborative authoring based on requirements derived from a field investigation. Structured annotations improve speed and accuracy and thereby improve reviewing workflow.
**PDAs, Space Invaders, and Chickens: Mobility and Collaboration**

[SESSION CHAIR] Jan Borchers, RWTH Aachen University, Germany

*Age Invaders: Social and Physical Inter-Generational Family Entertainment*

Eng Tat Khoo, Shang Ping Lee, Adrian David Cheok, *Nanyang Technological University*, Singapore
Sameera Kodagoda, *University of Moratuwa*, Sri Lanka
Yu Zhou, Gin Siong Toh, *Nanyang Technological University*, Singapore

Proposes a game in which children play with their grandparents while parents participate remotely over the net. Suggests a way to close generational gaps in society and connect distributed families.

*mSpace Mobile: a UI Gestalt to Support On-the-Go Info-Interaction*

Max Wilson, Daniel A. Smith, Alistair Russel, m c schraefel, *University of Southampton*, UK

Demonstrates seven interaction techniques for mobile devices built around a focus+context viewer that rearranges web content. Enables users on the move to rapidly search information and explore compound query results.

*Poultry.Internet: A Remote Human-Pet Interaction System*

Keng Soon Teh, Shang Ping Lee, Adrian David Cheok, *Nanyang Technological University*, Singapore

Presents a system that forwards touch information from a doll to a distant pet wearing a jacket, and feeds back pet movements. Allows humans to connect to their pets remotely.

**SIG**

[ORGANIZERS]

Philippe Palanque, *University Toulouse*, France
Regina Bernhaupt, *Universität Salzburg*, Austria
Ronald Boring, *Idaho National Laboratory*, USA
Chris Johnson, *University of Glasgow*, Scotland

Testing Interactive Software: a Challenge for Usability and Reliability

This SIG provides a forum for researchers and practitioners interested in testing interactive software. Our goal is to define a roadmap of activities to cross fertilize usability and reliability testing.
Large Display Research

[SESSION CHAIR] Judith S. Olson, University of Michigan, USA

Mary Czerwinski, Microsoft, USA

Our early user studies documenting the increased productivity gained through the use of large displays allowed us to observe quite quickly that Windows and current applications do not scale well when vast amounts of screen real estate are available. Our group therefore set about iteratively designing software tools, based on real user problems, to support large-scale navigation and interaction. To ensure our software user interfaces provided value, we ran user studies against existing features and performed user-centered design. This talk will provide an overview of the prototypes we designed, and our methodology. In addition, I will discuss a few areas of long-term basic research on information visualization and interaction, and our attempts to scale the user experience across the spectrum of large and smaller displays.

[PRESENTER BIO] Mary Czerwinski is a Senior Researcher and Manager of the Visualization and Interaction Research group at Microsoft Research. The group is responsible for studying and designing advanced technology and interaction techniques that leverage human capabilities across a wide variety of input and output channels. Mary’s primary research areas include spatial cognition, information visualization and task switching. Mary has been an affiliate assistant professor at the Department of Psychology, University of Washington since 1996. More information about Dr. Czerwinski can be found at http://research.microsoft.com/users/marycz.

End User Programming

[SESSION CHAIR] Mary Beth Rosson, The Pennsylvania State University, USA

Laura Beckwith, Cory Kissinger, Margaret Burnett, Oregon State University, USA

Investigates males’ and females’ tinkering (feature ‘playfulness’) in end-user debugging environments. Our results show that tinkering, reflection, and self-efficacy combine to impact debugging effectiveness differently for each gender.

Madhu Prabaker, Carnegie Mellon University, USA

Lawrence Bergman, Vittorio Castelli, IBM, USA

Describes and evaluates combining programming-by-demonstration and guided walkthrough techniques to create live documentation. Enables more efficient and accurate creation and consumption of documentation than traditional tools.

Gahgene Gweon, Carolyn Rose, Regan Carey, Zachary Zaiss, Carnegie Mellon University, USA

Provides motivation and support for exploring issues related to structuring productive group dynamics in collaborative e-learning environment. The authors experimentally evaluate mechanisms for enhancing collaborative learning interactions.
Personal Information Management

[SESSION CHAIR] William Newman, Microsoft & University College London, UK

**[PAPER] Fast, Flexible Filtering with Phlat - Personal Search and Organization Made Easy**
Edward Cutrell, Daniel Robbins, Susan Dumais, Raman Sarin, Microsoft, USA

We describe the design and deployment of a new UI for searching personal information. The interface encourages fast, intuitive query iteration and includes a unified tagging system for personal content.

**[PAPER] To Have and to Hold: Exploring the Personal Archive**
Joseph ‘Jofish’ Kaye, Janet Vertesi, Shari Avery, Allan Dafoe, Shay David, Lisa Onaga, Cornell University, USA
Ivan Rosero, Amazon.com, USA
Trevor Pinch, Cornell University, USA

Describes a study of 48 academics’ personal archives, highlights their rationales behind archiving: ‘finding it later’, legacy, sharing, confronting fears, identity construction. Describes how this affects archive structure and function.

**[CHI NOTE] The Project Fragmentation Problem in Personal Information Management**
Ofer Bergman, Tel Aviv University, Israel
Ruth Beyth-Marom, The Open University of Israel, Israel
Rafi Nachmias, Tel Aviv University, Israel

This study sheds light on the Project Fragmentation Problem - the separation of project-related documents, emails, and web favorites into different collections. A new solution is presented to improve usability.

**[CHI NOTE] Peripheral Display of Digital Handwritten Notes**
Gary Hsieh, Carnegie Mellon University, USA
Kenneth Wood, Abigail Sellen, Microsoft, UK

Describes the development and initial testing of a peripheral display supporting digital handwritten notes. Guides designers in balancing serendipity with the costs of ambient display.

Multidisplay Environments

[SESSION CHAIR] Dan Horn, Army Research Institute, USA

**[PAPER] Perspective Cursor: Perspective-Based Interaction for Multi-Display Environments**
Miguel A. Nacenta, Samer Sallam, Bernard Champoux, Sriram Subramanian, Carl Gutwin, University of Saskatchewan, Canada

We present Perspective Cursor, a technique that uses a mouse and the user’s perspective for multi-display interaction. We show through a user study that Perspective Cursor is better than existing alternatives.

**[PAPER] Improving Selection of Off-Screen Targets with Hopping**
Pourang Irani, University of Manitoba, Canada
Carl Gutwin, University of Saskatchewan, Canada
Xing Dong Yang, University of Alberta, Canada

Introduces Hop, a technique for selecting off-screen targets that combines halos and proxies. A study showed that hopping is faster than either zooming or panning, and is strongly preferred.

**[PAPER] Effects of Display Position and Control Space Orientation on User Preference and Performance**
Daniel Wigdor, University of Toronto & Mitsubishi Electric Research Labs, Canada & USA
Chia Shen, Clifton Forlines, Mitsubishi Electric Research Labs, USA
Ravin Balakrishnan, University of Toronto, Canada

Two experiments that explore the impact of display space position and input control space orientation on users’ subjective preference and objective performance. Provide guidelines as to optimal display placement and control orientation in collaborative computing environments with one or more shared displays.
Managing Voice Input

[SESSION CHAIR] Paul Aoki, PARC, USA


Min Yin, Shumin Zhai, IBM, USA

A set of experiments demonstrating that telephone voice menu navigation can be significantly improved with a visual channel augmentation, resulting in both human performance improvement and user experience satisfaction.

[PAPER] Time is of the Essence: An Evaluation of Temporal Compression Algorithms

Simon Tucker, Steve Whittaker, Sheffield University, UK

We evaluate novel techniques for accessing speech recordings, developing a new evaluation method. Users prefer and perform better with excision that removes unimportant speech, than with standard speedup techniques.

[PAPER] Error Correction of Voicemail Transcripts in SCANMail

Moira Burke, Carnegie Mellon University, USA
Brian Amento, Philip Isenhour, AT&T Labs, USA

Describes a system that generates text transcripts of voicemail messages, and an empirical evaluation of transcript error correction. Users can skim, archive, and retrieve voicemail transcripts from mobile devices.

Design is Fun and People are Great

[SESSION CHAIR] Sidney Fels, University of British Columbia, Canada

A New Playground Experience: Going Digital?

Susanne Seitinger, Elisabeth Sylvan, Oren Zuckerman, Marko Popovic, Orit Zuckerman, MIT, USA

Explores the benefits and drawbacks of integrating digital technologies into outdoor playgrounds. Presents new prototypes, a participatory design process, and field observations. Frames future HCI work on computationally enhanced playgrounds.

Tokyo Youth at Leisure: Towards the Design of Media to Support Leisure Planning and Practice

Diane Schiano, Ame Elliot, Victoria Bellotti, PARC, USA

A large project explored leisure practices and resources—including mobile phones and other media—of Tokyo young adults. Findings will help inform the design of future leisure support technologies.

RoomBugs: Simulating Insect Infestations in Elementary Classrooms Using Commodity Hardware

Michael Barron, Tom Moher, University of Illinois, Chicago, USA
Jeff Maharry, Galileo Scholastic Academy of Mathematics and Science, USA

This paper examines the creation of an embedded simulation inside a classroom. Using minimal instrumentation we attempt to create a rich environment useful for student scientific observation and manipulation.

The Orbital Browser: Composing Ubicomp Services Using Only Rotation and Selection

Nicolas Ducheneaut, Trevor F. Smith, James ‘Bo’ Begole, Mark W. Newman, PARC, USA
Chris Beckmann, University of California, Berkeley, USA

Presents the design of a novel user interface to control large networks of devices using only two operations: rotation and selection.

Quill: A Narrative-Based Interface for Personal Document Retrieval

Daniel Gonçalves, Joaquim A. Jorge, Instituto Superior Técnico, Portugal

We present a novel interaction paradigm, narrative-based interfaces, usable for information retrieval. We describe the Quill system: soundly designed, based on user studies, it uses narratives to retrieve personal documents.
EXPERIENCE REPORTS

ROOM 511CF

Design Representations

SESSION CHAIR Kristina Höök, Swedish Institute of Computer Science, Sweden

Growing Bloom: Design of a Visualization of Project Evolution

Bernard Kerr, Li-Te Cheng, IBM, USA
Timothy Sweeney, Carnegie Mellon University, USA

Bloom Diagram is a tool to visualize the evolution of individual participants’ code and comment contributions to open source software projects. The design blends techniques such as concentric pie charts, animation, motion trails, and social proxies to produce a compact presentation of the large scale dynamics around software development.

Scalability in System Management GUIs: A Designer’s Nightmare

Andreas Dieberger, Eser Kandogan, Cheryl A. Kieliszewski, IBM, USA

Designing effective interactions and representations of large systems with intricate relationships among components is a formidable challenge. The presented approach addresses these challenges by extensive use of semantic zooming and progressive information disclosure.

SIG

ROOM 515C

Producing Human-Centered, Usability-Sensitive, and HCI-Competent Managers, CIOs, and CEOs

ORGANIZER Ping Zhang, Syracuse University, USA

Taking a collaborative and multi-disciplinary perspective, we discuss issues and opportunities in college education so that our future managers, CIOs, and CEOs are inherently and intrinsically human-centered, usability-sensitive, and HCI-competent.
COURSE 2
ROOM 513CD
An Introduction to Designing for the Scent of Information
11:30 – 13:00
Jared M. Spool, User Interface Engineering, USA

Using the results of hundreds of usability tests, we will show you how users follow a scent trail and the different ways your design could be blocking scent.

[INTENDED AUDIENCE] Web Designers & Usability Practitioners

[Presentation Style] Lecture

[Features]
* What is the scent of information?
* What does scent look like when it works?
* What does scent look like when it doesn’t work?
* Common scent blockers
* Optimal link length
* Three types of graphics
* The design process for scent
* Measuring scent with user confidence

COURSE 7
ROOM 514ABC
Top 10 Field Interview Mistakes: Recognizing and Preventing Them
11:30 – 13:00
Karen Holtzblat, InContext Enterprises, USA
Shelley Wood, InContext Enterprises, USA

Tested techniques for getting the most out of user interviews, giving you tools for improving your skills that you can also use as a framework for assisting others in your organization.

[INTENDED AUDIENCE] No specific background is required. It is appropriate for all roles.

[Presentation Style] Lecture and group discussion

[Features]
Attendees will learn:
* The top mistakes that lead to ineffective field interviews
* Interview styles to be avoided, such as ‘Court Reporter’ and ‘Police Interrogator’
* Techniques for avoiding mistakes and how to take corrective steps when mistakes occur

COURSE 5
ROOM 513EF
Web Bloopers: Avoiding Common Web Design Mistakes
11:30 – 18:00
Jeff Johnson, UI Wizards, Inc., USA

The web is not commercial product quality, largely due to poor usability. This class explains how to avoid common web design mistakes, illustrated with examples from real websites.

[INTENDED AUDIENCE] Web designers and developers, mainly those lacking experience designing and evaluating websites and web applications. Also: Web Q/A engineers, usability testers, and managers.

[Presentation Style] Lecture, blooper-spotting quizzes, blooper-correction exercises, and website-review exercises.

[Features]
* Common bloopers, organized into types: Content, Task-Support, Navigation, Form, Search, Text & Writing, Link Presentation, and Graphic & Layout.
* Uses real web examples.
* Explains how to avoid each blooper. Includes exercises in which participants:
  – Spot bloopers
  – Correct bloopers
  – Review live websites for bloopers and discuss how to avoid them.

COURSE 9
ROOM 513AB
Faceted Metadata for Information Architecture and Search
11:30 – 16:00
Marti Hearst, University of California, Berkeley, USA
Preston Smalley, eBay, USA

Learn the advantages of and strategies for using faceted metadata for integrating browsing and search of large information collections. Examples are drawn from formal studies and results of real-world applications.

[INTENDED AUDIENCE] The intended audience is usability professionals, especially information architects.

[Presentation Style] Instruction will consist of lectures, case studies, and in-class discussion.

[Features]
Attendees will learn:
* The advantages of and strategies for using faceted metadata for integrated browsing and search of large information collections.
* Examples drawn from both formal studies and from real-world application
* Emphasis on interface design issues.
COURSE 3

Designing for the Scent of Information: Advanced Concepts
14:30 – 16:00
Christine Perfetti, User Interface Engineering, USA

An in-depth look at the five types of navigation and the three predictors of failure found in UIE’s advanced research of the Scent of Information.

[INTENDED AUDIENCE] Web Designers & Usability Practitioners

[PRESENTATION STYLE] Lecture

[FEATURES]
* Five types of navigation pages
* The role of trigger words
* Three predictors of failed scent
* Three types of navigation approaches
* Most effective use of screen real estate

COURSE 8

Building Affinity Diagrams to Reveal User Needs and Engage Developers
14:30 – 16:00
Karen Holtzblatt, InContext Enterprises, USA
Shelley Wood, InContext Enterprises, USA

How to build affinity diagrams that reveal design implications—not just organize user data—and then leverage them as communication tools that stakeholders pay attention to.

[INTENDED AUDIENCE] No specific background is required.

[PRESENTATION STYLE] Lecture, group discussion, exercises

[FEATURES]
Attendees will learn how to:
* Use inductive reasoning to create data groupings and write labels that reveal insights
* Run affinity building sessions and drive to completion
* Use the affinity to generate design ideas and identify holes for future inquiry
* Leverage the affinity as a communication tool

COURSE 4

The Goldilocks Content Framework: What Users Want
16:30 – 18:00
Jared M. Spool, User Interface Engineering, USA

A research-based framework that explains the content users are seeking. You’ll see how different approaches to information architecture, site navigation, layout, and content affect the success of your users.

[INTENDED AUDIENCE] Web Designers & Usability Practitioners

[PRESENTATION STYLE] Lecture

[FEATURES]
* Novice vs. expert knowledge
* The knowledge gap
* Tool knowledge vs. domain knowledge
* Designing for tool knowledge
* Challenges of domain knowledge
* The Goldilocks research project
* The Goldilocks content framework

COURSE 6

An Exercise in the Politics of Usability: Test Your Skills
16:30 – 18:00
Rolf Molich, DialogDesign, Denmark

A fun and realistic exercise to gauge your strengths in the area of usability politics—specific, practical actions to promote usability in an organization.

[INTENDED AUDIENCE] Usability professionals at all levels who want to increase their political impact in their organization.

[PRESENTATION STYLE] 1. Participants study a business case presented by the instructor, propose actions and discuss them with other participants. 2. Discussion of the instructor’s suggested solution, which is based on discussions with many experienced usability professionals. 3. Participants compare themselves anonymously to their peers.

[FEATURES]
* A thorough discussion of a carefully researched, hypothetical but highly realistic political usability business case (scenario).
* Practical and efficient actions to promote usability in a commercial or public organization.
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<td>Usability &amp; Product Development: A Usability Course for Management</td>
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**Day at a Glance**

**Tuesday April 25**

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**Courses**

1. Understanding Users in Context: An In-Depth Introduction to Fieldwork
2. Re-Positioning User Experience as a Strategic Process
3. Usability in Information Management: A Usability Course for Management
4. Institutionalizing HCI: What Do I Schools Offer?
5. Putting Personas to Work
6. Papers Interaction Methods
7. Papers Understanding Programs & Interfaces
8. Papers Games & Performances
9. Papers Designing for Tangible Interactions
10. Mobile iTV
11. Rhetoric & Argumentation
12. Experience Reports End to End Design
13. Experience Reports Real-World Design Solutions
14. Experience Reports Usability in the Wild
15. Designing Environments for Outdoors Gaming & Play

**Commons**

- Commons Open: 08:00 – 20:00
- Exhibits, Interactivity: 10:30 – 18.00
- Focus on Posters Including Student Design Competition: 10:30 – 11:30
- Job Fair: 18:00 – 20:00
CHI Madness  
8:30 – 9:00  
[SESSION CHAIR] Patrick Baudisch, Microsoft, USA

Join us again for the session that will tell you what's what and where to go. Presenters for today's sessions will again have less than a minute each to entice you to their session.

PANEL  
ROOM 517AB

Expert Design Critique: Xbox 360  
9:00 – 10:30

[PANELISTS]  
Russ Glaser (moderator), Microsoft, USA  
Paolo Malabuyo, Microsoft, USA  
Duan Evans, AKQA, UK  
Peter Boatwright, Carnegie Mellon University, USA  
Nicole Lazzaro, XEODesign, USA  
Maxime Beland, Ubisoft, Canada  
Scott Berkun, ScottBerkun.com, USA

Get a behind the scenes look into the actual process used to solve design problems behind the creation of the Xbox 360 and hear expert critique of the process and results.
Tuesday Mid-morning

11:30-13:00

PANEL
ROOM 517AB

Putting Personas to Work

[PANELISTS]
Tamara Adlin (moderator), Adlin, Inc., USA
John Pruitt, Microsoft, USA
Kim Goodwin, Cooper, USA
Colin Hynes, Staples, USA
Karen McGrane, Avenue A / Razorfish, USA
Aviva Rosenstein, Yahoo! Inc., USA
Michael Muller, IBM, USA

This panel brings together professionals who have used personas to solve real business problems.

PANEL
ROOM 517C

Institutionalizing HCI: What Do I-Schools Offer?

[PANELISTS]
John M. Carroll, The Pennsylvania State University, USA
Paul Dourish, University of California, Irvine, USA
Batya Friedman, University of Washington, USA
Masaaki Kurosu, Graduate University for Advanced Studies, Japan
Gary M. Olson, University of Michigan, USA
Alistair Sutcliffe, University of Manchester, UK

I-schools (schools of information, of informatics, of information studies, and of information sciences) have emerged as a new academic home for university programs in HCI. This panel will discuss the significance of i-schools, the trajectory of HCI within i-schools, and the role the CHI community can play in this development.

PAPERS
ROOM 511ABDE

Interaction Methods

[SESSION CHAIR] Shumin Zhai, IBM, USA

[PAPER] symSpline: Symmetric Two-Handed Spline Manipulation
Celine Latulipe, Stephen Mann, Craig S. Kaplan, Charlie L.A. Clarke, University of Waterloo, Canada

This paper describes a new interaction technique for manipulating splines that uses dual mice and dual cursors. An experiment shows that symSpline outperforms other techniques in a spline matching task.

[PAPER] Effects of Feedback, Mobility, and Index of Difficulty on Deictic Spatial Audio Target Acquisition in the Horizontal Plane
Georgios N. Marentakis, Stephen A. Brewster, University of Glasgow, Scotland

Deictic acquisition of feedback marked 3D-audio targets is effective in standing and mobile situations without increasing workload, users maintaining 73% of their walking speed. Mobility degrades interaction performance by 20%.

[CHI NOTE] Prototyping Retractable String-Based Interaction Techniques for Dual-Display Mobile Devices
Gabor Blasko, Columbia University, USA
Chandra Narayanaswami, IBM, USA
Steven Feiner, Columbia University, USA

Introduces a novel interaction method based on retractable strings with embedded linear displays. Provides end-users and designers with an expressive but mechanically simple I/O method for small devices.

[CHI NOTE] Enhancing Human-Machine Interactions: Virtual Interface Alteration Through Wearable Computers
Alexandre Plouznikoff, Nicolas Plouznikoff, Jean-Marc Robert, Michel Desmarais, École Polytechnique de Montréal, Canada

Presents a system enabling the virtual augmentation of real-world appliance interfaces. Provides designers with a means of helping end-users to navigate appliance interfaces more efficiently.
Understanding Programs and Interfaces

[SESSION CHAIR] Ronald Baecker, University of Toronto, Canada

Evaluating a Fisheye View of Source Code
Mikkel R. Jakobsen, Kasper Hornbæk, University of Copenhagen, Denmark

Describes a fisheye view for supporting programmers’ navigation and understanding based on both syntactic and semantic relations in programs. The fisheye view significantly improves task completion times and satisfaction.

Andrew J. Ko, Brad A. Myers, Carnegie Mellon University, USA

Toolkit that enables the creation of structured code editors with visualizations, annotations and alternative views embedded in code. Helps editor designers explore new tools not possible with textual code editors.

Answering Why and Why Not Questions in User Interfaces
Brad A. Myers, David A. Weitzman, Andrew J. Ko, Duen H. Chau, Carnegie Mellon University, USA

The new ‘Why’ interaction techniques can significantly help people understand what their user interfaces are doing, increasing learning, productivity, etc.

Games and Performances

[SESSION CHAIR] Dennis Wixon, Microsoft, USA

Alone Together? Exploring the Social Dynamics of Massively Multiplayer Online Games
Nicolas Ducheneaut, PARC, USA
Nicholas Yee, Stanford University, USA
Eric Nickell, Robert J. Moore, PARC, USA

Reports on longitudinal analysis of play and grouping patterns in one of the largest massively multiplayer online games. Offers guidelines for the design of future games and online social spaces.

Designing for Tangible Interactions

[SESSION CHAIR] Wendy Mackay, INRIA, France

Getting a Grip on Tangible Interaction: A Framework on Physical Space and Social Interaction
Eva Hornecker, University of Sussex, UK
Jacob Buur, MCI & University of Southern Denmark, Denmark

We introduce a framework that contributes to understanding the (social) user experience of tangible interaction and provides concepts aiding analysis and design.

Finding Design Qualities in a Tangible Programming Space
Ylva Fernaeus, Jakob Tholander, Stockholm University, Sweden

Through experimental designs we contribute to the understanding of the design of tangible programming tools for children. We specifically address how to support children’s collaborative construction of screen-based systems.
[PAPER] Design Requirements for Technologies that Encourage Physical Activity

Sunny Consolvo, Intel & University of Washington, USA
Katherine Everitt, University of Washington, USA
Ian Smith, Intel, USA
James Landay, Intel & University of Washington, USA

Presents design requirements for technology to encourage physical activity and fitness derived from an in situ pilot study. Can prevent designers and developers from overlooking key elements of fitness-enabling technologies.

SIG ROOM 516DE

Mobile iTV: New Challenges for the Design of Pervasive Multimedia Systems

[ORGANIZERS]
Anxo Cereijo Roibás, University of Brighton, UK
David Geerts, Licia Calvi, Centre for Usability Research, Belgium
Akseli Anttila, Nokia, Finland
Owen Daly-Jones, Serco Usability Services, UK

This SIG will stimulate informal debate around the futures of interfaces for pervasive multimedia systems such as mobile and ubiquitous iTV with special attention to the new contextual usage of this media in entertainment, work, and government contexts.

EXPERIENCE REPORTS ROOM 511CF

End-to-End Design

[SESSION CHAIR] Thea Turner, FXPAL, USA

The Experience Engineering Framework Applied in Two Contexts

Rick Spencer, Monty Hammontree, Donna Wallace, Microsoft, USA

Analysis of existing User-centered Design methods revealed an underlying common framework consisting of three components and three principles. It is named the Experience Engineering Framework (EEF) and two applications of EEF are discussed.

Theatre as an Intermediary between Users and CHI Designers

Alan F. Newell, M. E. Morgan, Peter Morgan, Alex Carmichael, University of Dundee, Scotland

Through a theatre, including professional actors, scriptwriters and artistic directors, it is possible to do requirements gathering, usability testing, and communicate the results of such work to the design community, or individual designers.

Phases of Use: A Means to Identify Factors that Influence Product Utilization

Karin den Bouwmeester, Edward Bosma, Océ Technologies, Netherlands

A very easy to use product that exactly fits the tasks of the users is no guarantee that the product will be a success. The users must be aware of the product, be seduced to try it, learn the product, and change their behaviour to imbed the product in their daily lives.

How Can Rhetoric and Argumentation Help Us Make the Case for UCD?

[ORGANIZERS]
Colleen Pettit Jones, Nick Sabadosh, Cingular Wireless, USA
Susan J. Robinson, Centers for Disease Control and Prevention, USA
David Bishop, MAYA Design, Inc., USA
Sanjay Koyani, U.S. Department of Health and Human Services, USA

This SIG will explore how rhetoric and argumentation can help advance the case for UCD on organizational and project levels in various contexts and organizations.
Tuesday Afternoon

PANEL

MANAGING DEVIANT BEHAVIOR IN ONLINE COMMUNITIES

[PANELISTS]
Amy Bruckman, Georgia Institute of Technology, USA
Catalina Danis, IBM, USA
Cliff Lampe, Michigan State University, USA
Janet Sternberg, Fordham University, USA
Chris Waldron, Cartoon Network New Media, USA

How do designers of online communication systems decide what kind of conduct is acceptable? How are these expectations communicated to members? How can designers help prevent and manage deviant behavior? What are the implications of corporate control of content for ideals of free expression? The panel will explore current issues in this complex research area.

PAPERS

TEXT INPUT

[SESSION CHAIR] Yves Guiard, University of Marseilles, France

[CHI NOTE] An Intuitive Text Input Method for Touch Wheels
Morten Proschowsky, Nette Schultz, Technical University of Denmark, Denmark
Niels Ebbe Jacobsen, Nokia, Denmark

This paper introduces a method for using language knowledge to improve text entry speed. The method is transparent for the user and does not require any extra user interaction.

[CHI NOTE] A New Error Metric for Text Entry Method Evaluation
Jun Gong, Peter Tarasewich, Northeastern University, USA

Describes a new metric for text entry error analysis that uses the complete keypress input stream. Can assist designers in better understanding how users input text using a given interface.

[CHI NOTE] Text Entry Using a Dual Joystick Game Controller
Andrew D. Wilson, Microsoft, USA
Maneesh Agrawala, Microsoft and University of California, Berkeley, USA

Presents a new bimanual text entry technique designed for today's dual-joystick game controllers. The technique is readily learnable and provides strong performance benefits over traditional onscreen selection keyboards.

[CHI NOTE] Few-Key Text Entry Revisited: Mnemonic Gestures on Four Keys
Jacob Wobbrock, Brad Myers, Brandon Rothrock, Carnegie Mellon University, USA

Presents a gestural text entry method that uses only four keys, and compares it to predominant few-key methods. Has implications for mobile device design, mobile text entry, and wearable computing.

[CHI NOTE] Trackball Text Entry for People with Motor Impairments
Jacob Wobbrock, Brad Myers, Carnegie Mellon University, USA

Presents a novel text entry method designed specifically for trackballs. Helps motor-impaired users to enter text with mnemonic, Roman-like gestures significantly faster than with on-screen keyboards.
**Visualization and Search**

**PAPERS**

**ROOM 516C**

**[PAPER]** The Effect of Speech Recognition Accuracy Rates on the Usefulness and Usability of Webcast Archives

Cosmin Munteanu, Ronald Baecker, Gerald Penn, *University of Toronto*, Canada
Elaine Toms, *Dalhousie University*, Canada
David James, *University of Toronto*, Canada

Study investigating on effects of the accuracy of transcripts obtained through speech recognition on webcast archives’ usefulness and usability. Can assist designers in enhancing webcast interfaces by integrating text transcripts.

**[PAPER]** Visual Search and Reading Tasks Using ClearType and Regular Displays: Two Experiments

Andrew Dillon, Lisa Kleinman, Gil Ok Choi, Randolph Bias, *University of Texas, Austin*, USA

Two experiments tested reading of digital documents with ClearType display enhancement. Contributes to readability research by demonstrating speed improvements for different ways users work online (scanning versus reading for meaning).

**[CHI NOTE]** Using Hybrid Networks for the Analysis of Online Software Development Communities

Yevgeniy “Eugene” Medynskiy, *Cornell University*, USA
Nicolas Ducheneaut, PARC, USA
Ayman Farahat, *PricewaterhouseCoopers, Inc.*, USA

Describes method for visualizing heterogeneous networks of users, digital artifacts, and relationships, integrating multiple data sources. Supports analysts of role and work patterns in online communities.

**[CHI NOTE]** Visualization of Large Hierarchical Data by Circle Packing

Weixin Wang, Hui Wang, Guozhong Dai, Hongan Wang, *Chinese Academy of Sciences*, China

Describes a novel approach for tree visualization using nested circles. Offers widget designers an alternative to tree-maps with improved visual properties (aspect ratio and hierarchy).

**Information Handling**

**PAPERS**

**ROOM 516AB**

**[PAPER]** Mobile Phones and Paper Documents: Evaluating A New Approach for Capturing Microfinance Data in Rural India

Tapan S. Parikh, Paul Javid, *University of Washington*, USA
Sasi K. Kumar, *ekgaon technologies*, India
Kaushik Ghosh, *Human Factors India*, India
Kentaro Toyama, *Microsoft*, India

Description and evaluation of a novel mobile interface for collecting data from rural microfinance groups in India. Demonstrates that mobile phones, with an appropriate UI, are viable for rural computing.

**[PAPER]** Handling Documents and Discriminating Objects in Hybrid Spaces

Paul Luff, Christian Heath, *King’s College London*, UK
Hideaki Kuzuoka, *University of Tsukuba*, Japan
Keiichi Yamazaki, *Saitama University*, Japan
Jun Yamashita, *University of Tsukuba*, Japan

This paper suggests implications for the design of collaborative systems such as enhanced video-mediated communication systems and for the understanding of the conduct to be supported by such technologies.

**[PAPER]** ButterflyNet: A Mobile Capture and Access System for Field Biology Research

Ron Yeh, *Stanford University*, USA
Chunyuan Liao, *University of Maryland*, USA
Scott Klemmer, *Stanford University*, USA
François Guimbretière, *University of Maryland*, USA
Brian Lee, Boyko Kakaradov, Jeannie Stamberger, Andreas Paepcke, *Stanford University*, USA

Introduces techniques for enriching field biologists’ paper notes through automatic capture, correlation with other data sources, and transformation. Reports on current practice, system implementation, and evaluation with field biologists.
**Tuesday Afternoon, continued**

**PAPERS**

**ROOM 510ABCD**

**Design: Creative and Historical Perspectives**  
**[SESSION CHAIR] Jodi Forlizzi, Carnegie Mellon University, USA**

**[PAPER] Dispelling “Design” as the Black Art of CHI**

Tracee Vetting Wolf, IBM, USA  
Jennifer A. Rode, University of California, Irvine, USA  
Jeremy Sussman, Wendy A. Kellogg, IBM, USA

This paper differentiates creative design from user centered design. A key contribution of this work is an example providing a framework to CHI.

**[PAPER] Interaction in Creative Tasks: Ideation, Representation, and Evaluation in Composition**

Tim Coughlan, Peter Johnson, University of Bath, UK

Identifies key factors in the individual and collaborative creative processes of composers, describes the design of a support tool, considers the application of this knowledge to supporting other creative activities.

**[PAPER] Implications for Design**

Paul Dourish, University of California, Irvine, USA

Provides an alternative account of the value of ethnographic work based on historical and conceptual exploration of ethnographic practice. Helps practitioners, researchers, and reviewers assess ethnographic studies and their contributions.

**INTERACTIVITY**

**ROOM 516DE**

**Meet the Artists: Music, Dance, and Painting**  
**[SESSION CHAIR] Elaine Huang, Georgia Institute of Technology, USA**

**Magic Asian Art**

Eunkwang Park, Byeongsoo Kim, William Salim, Adrian Cheok, Nanyang Technological University, Singapore

Presents a system that lets viewers of a painting influence its contents dynamically, using gaze tracking, object movement models, and Asian-style rendering. Can make art viewing a more interactive experience.

**iSymphony: An Adaptive Interactive Orchestral Conducting System for Digital Audio and Video Streams**

Eric Lee, Henning Kiel, Saskia Dedenbach, Ingo Gruell, Thorsten Karrer, Marius Wolf, Jan Borchers, RWTH Aachen University, Germany

Presents an interactive exhibit that recognizes different conducting gestures and time-stretches a digital recording accordingly in real time. Lets users conduct audio-visual orchestral recordings while adapting to their skill level.

**Virtual Rap Dancer: Invitation to Dance**

Dennis Reidsma, Anton Nijholt, Ronald Poppe, Rutger Rienks, Hendri Hondorp, University of Twente, Netherlands

Presents a system that displays a virtual avatar dancing to the beat of incoming music or human dance movements. Uses captured styles of various rap dancers to generate its moves.
EXPERIENCE REPORTS

ROOM 511CF

Real-World Design Solutions

[SESSION CHAIR] Jim Miller, Miramontes Computing, USA

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Café Life in the Digital Age: Augmenting Information Flow in a Café-Work-Entertainment Space

Elizabeth F. Churchill, Les Nelson, PARC, USA
Gary Hsieh, Carnegie Mellon University, USA

In this paper we describe our installation of a large-screen public, interactive community board, the eyeCanvas, in a neighbourhood café and art gallery in San Francisco.

The Design of a Tangible Interaction Device to Alleviate Anxiety and Pain in Paediatric Burns Patients

Sam Bucolo, ACID, Australia
Roy Kimble, Jonathan Mott, Royal Children’s Hospital, Australia

This paper presents a case study of the design of a unique tangible media device to alleviate anxiety and pain in paediatric burns patients.

Use of Keyboard for Mouseless Data Entry in UI Design

Rachel M. Nilsson, Sam J. Racine, Unisys Corporation, USA

In the airline industry, mouseless operation is a standard form of user interface design. The presented design solution relies on a particular configuration of commands mapped to specific keys of the keyboard.

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SIG

ROOM 515C

Current Issues in Assessing and Improving Information Usability

[ORGANIZERS]
Stephanie Rosenbaum, Tec-Ed, Inc., USA
Judith Ramey, University of Washington, USA

In this 16th annual forum on human factors of information design, we address information usability issues from the facilitators’ list of topics, augmented by attendees’ suggestions. Five issues are selected by the group and discussed in depth.
Tuesday Late Afternoon 16:30-18:00

PANEL ROOM 517AB

Service Innovation and Design

[PANELISTS]
Jeanette Blomberg, IBM, USA
Shelley Evenson, Carnegie Mellon University, USA
Ryan Armbruster, The Mayo Clinic, USA
Mark Jones, IDEO, USA
Mary Jo Bitner, Arizona State University, USA
Terry Winograd, Stanford University, USA

This panel introduces the CHI community to a growing area of innovation and business development that leverages new technology platforms, namely service design. This topic is explored through a series of case studies of service design in a diverse set of industries and contexts from healthcare delivery to IT services.

PANEL ROOM 517C

Agile Development: Opportunity or Fad?

[PANELISTS]
Helen Sharp, The Open University, UK
Robert Biddle, Carleton University, Canada
Philip D. Gray, University of Glasgow, Scotland
Lynn Miller, Alias, Canada
Jeff Patton, Thoughtworks, USA

Agile development, e.g., eXtreme Programming (XP), is an approach to software engineering that explicitly champions an active role for the customer. This panel explores whether agile development provides an opportunity to integrate software engineering and HCI and overcome problems encountered with more traditional development processes.

PAPERS ROOM 511ABDE

Automatic Generation and Usability
[SESSION CHAIR] Erik Nilsen, Lewis & Clark University, USA

[PAPER] UNIFORM: Automatically Generating Consistent Remote Control User Interfaces
Jeffrey Nichols, Brad Myers, Brandon Rothrock, Carnegie Mellon University, USA

This paper describes UNIFORM, the first system to automatically generate consistent remote control user interfaces from models of appliances that are guaranteed not to be consistent.

PAPERS ROOM 516C

Security
[SESSION CHAIR] Batya Friedman, University of Washington, USA

[PAPER] Why Phishing Works
Rachna Dhamija, Harvard University, USA
J. D. Tygar, Marti Hearst, University of California, Berkeley, USA

This paper provides the first empirical evidence about phishing strategies that successfully deceive users. To design systems that protect users from fraudulent websites, we must understand how users are deceived.

[PAPER] Secrecy, Flagging, and Paranoia: Adoption Criteria in Encrypted Email
Shirley Gaw, Edward W. Felten, Patricia Fernandez-Kelly, Princeton University, USA

Qualitative study analyzing why encrypted e-mail has failed to gain popularity and demonstrating how social norms affect adoption. Can assist designers incorporate social context in secure e-mail clients.
Do Security Toolbars Actually Prevent Phishing Attacks?

Min Wu, Robert C. Miller, Simson L. Garfinkel, MIT, USA

User study showing that security toolbars are not effective at preventing people from being tricked by fake websites. Can assist in developing usable software to protect people’s online identity.

It’s a Small World After All

[SESSION CHAIR] Joseph ‘Jofish’ Kaye, Cornell University, USA

Snapshots from a Study of Context Photography

Maria Håkansson, Sara Ljungblad, Lalya Gaye, Lars Erik Holmquist, Viktoria Institute, Sweden

Presents a user study of a novel camera application, in which contextual movement and sound visually affect the picture. Shows how photography can be extended beyond the analogue metaphor.

TinyMotion: Camera Phone Based Interaction Methods

Jingtao Wang, John F. Canny, University of California, Berkeley, USA

This paper presents TinyMotion, a pure software approach that detects the movements of cellphones in real time by analyzing image sequences captured by the built-in camera.

Virtual Information Piles for Small Screen Devices

QianYing Wang, Tony Tseieh, Meredith Ringel Morris, Andreas Paepcke, Stanford University, USA

We present our design and implementation of the Piles Across Space system. This facility breaks through the screen real-estate barrier that PDAs impose on their applications.

Z-agon: Mobile Multi-Display Browser Cube

Takashi Matsumoto, Daisuke Horiguchi, Shihori Nakashima, Naohito Okude, Keio University, Japan

Based on research of user needs and user interaction, a cubic multi-display device named Z-agon was envisioned as a packaged design of the hardware, tangible interface and contents.

CarCOACH: A Polite and Effective Driving Coach

Ernesto Arroyo, Shawn Sullivan, Ted Selker, MIT, USA

Experiment evaluating an in-vehicle driving advisor using controlled feedback and continuous feedback (positive and negative). Can assist designers in deciding what type of feedback works best for guidance systems.
Usability in the Wild

[SESSION CHAIR] Gary Marsden, University of Cape Town, South Africa

Web Tool for Health Insurance Design by Small Groups: Usability Study
Laurie Kantner, Tec-Ed, Inc., USA
Marion Danis, National Institutes of Health, USA
Susan Dorr Goold, Mike Nowak, Lesa Monroe-Gatrell, University of Michigan, USA

The authors describe iterative usability evaluation of a web-based collaborative health insurance benefits planning application, which was developed by the U.S. National Institutes of Health and the University of Michigan.

Applying Contextual Design to ERP System Implementation
Inka Vilpola, Kaisa Väänänen-Vainio-Mattila, Taru Salmimaa, Institute of Human-Centered Technology, Finland

Enterprise resource planning systems (ERP) affect the daily work of millions of users. Applying Contextual Design introduces the missing user-centered approach in ERP implementations and improves the system success.

Making Oracle Behave
Sofie Vanophem, Kris Vanstappen, The Human Interface Group, Belgium

The authors describe how usability consultants worked with developers using Oracle Designer to build an ERP tool for temporary agencies, creating a custom user interface for 7,000 end-users familiar with Windows, not Oracle applications.

Designing Interactive Environments for Outdoors Gaming and Play

[ORGANIZERS]
Oren Zuckerman, MIT, USA
Narcis Pares, Universitat Pompeu Fabra, Spain
Steve Benford, University of Nottingham, UK
Henrik Hautop Lund, University of Southern Denmark, Denmark

In this SIG we want to discuss the key points in the design of an outdoor interactive environment, including interaction techniques, appropriate technologies, usage patterns, robustness, and safety.
The Usability Engineering Lifecycle
9:00 – 18:00
Deborah J. Mayhew, Deborah J. Mayhew & Associates, USA

In this course you will obtain an overview of a highly structured but adaptable engineering process for designing high quality user interfaces to traditional and web-based software applications.

[Intended Audience] Managers, developers, designers, and usability engineers in both traditional software development and web development organizations. The course is at an introductory level.

[Presentation Style] Lecture materials will provide an overview of The Usability Engineering Lifecycle. ‘War stories’ and concrete examples, one detailed case study that runs throughout the course and audience discussion will augment the lecture materials.

[Features]
* Setting the stage by applying usability requirements analysis techniques
* Extracting usability goals from requirements analysis data
* Applying a structured top-down approach to user interface design
* Applying iterative evaluation techniques to validate designs
* Integrating ‘The Usability Engineering Lifecycle’ into an underlying software development methodology
* Applying ‘The Usability Engineering Lifecycle’ to web development projects

Re-Positioning User Experience as a Strategic Process
9:00 – 18:00
Liam Friedland, SAP, USA
Jon Innes, Intuit, USA

This course covers the operational, organizational, and strategic aspects that UX groups impact within product development companies. Course includes case studies and exercises aimed at intermediate to advanced HCI practitioners.

[Intended Audience] Course content includes case studies and group exercises aimed at intermediate to advanced practitioners with HCI experience in corporate settings, or managers charged with championing user-centered design processes.

[Features]
* A framework for thinking about UX as a strategic business process
* The difference between operational, tactical, and strategic activities
* How resources, processes, and values impact design organizations
* How UX is uniquely positioned to help organizations survive strategic inflection points
* To articulate the rationale for UX as a must-have competence
A management course on integrating usability into product development: why usability is non-trivial, the value of and when to use various techniques, and the issues and concerns for successful integration.

[Intended Audience] Managers with responsibility for integrating usability engineering into the product development process. No previous knowledge of usability engineering is assumed.

[Presentation Style] A lecture presentation interspersed with attendee discussion

[Features]
* Explains why usability is difficult to achieve and why usability engineering is needed;
* Description of the usability engineering lifecycle and its relationship to the product development lifecycle;
* Reviews the major usability engineering techniques, their value, and use;
* Explains how usability engineering can be justified by ROI and strategic advantage.

This highly interactive, general-audience course provides an overview of personal information management (PIM) both as a field of inquiry and as an activity that each of us performs every day.

[Intended Audience] The course is designed for a general audience and provides a highly interactive combination of lectures, exercises, and group discussions.

[Features]
Attendees will gain an understanding for:
* PIM and its key activities.
* The history and current state of PIM research and development (R&D)
* How PIM relates to human-computer interaction (HCI).
* How to assess individual practices of PIM
* How to map from key activities and fundamental problems of PIM to the design and evaluation of supporting tools and strategies.
* How new directions in R&D will likely impact PIM over the next 10 years.
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<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>9:00</td>
<td>Plenary Panel: Add a Dash of Interface: Taking Mash-Ups to the Next Level</td>
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<td>11:30</td>
<td>Panel Why Do Tagging Systems Work?</td>
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<td>Panel Integrating Socially Relevant Projects into HCI Teaching</td>
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<td>Papers Ubiquitous Computing</td>
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<td>Papers Search &amp; Navigation: Mobiles &amp; Audio</td>
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<td>11:30</td>
<td>Papers Student Design Competition: Final Round</td>
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<td>Papers Using Knowledge to Predict &amp; Manage</td>
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<td>Papers Collecting &amp; Editing Photos</td>
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<td>Papers Managing Design</td>
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<td>SIG The CHI Engineering Community</td>
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<td>11:30</td>
<td>Course 15 The Art of Speaking: Fundamentals for HCI Professionals: Part 1</td>
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<td>11:30</td>
<td>Course 16 The Art of Speaking: Fundamentals for HCI Professionals: Part 2</td>
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<td>Course 17 Web Design for Usability</td>
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<td>Course 18 Designing for User Efficiency</td>
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<td>Course 19 From Usability Testing to User Experience: Tools for Data Collection &amp; Analysis</td>
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<td>11:30</td>
<td>Course 20 Analyzing Qualitative Data from Field Studies</td>
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<td>11:30</td>
<td>10:30 SIGCHI Member Meeting Room S11ABDE</td>
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<td>11:30</td>
<td>Day at a Glance</td>
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### Commons
- Commons Open: 08:00 – 18:00
- Exhibits, Interactivity: 10:30 – 18:00
  - Room: 511ABDE
- Focus on Posters: 10:30 – 11:30
  - Room: 511ABDE
- SIGCHI Member Meeting: 18:10 – 19:30
  - Room: 511ABDE
- Hospitality Events: 18:30 – 20:30
  - Hyatt Regency Montréal
Wednesday Morning  8:30-10:30

**CHI Madness**

8:30 – 9:00

[SESSION CHAIR] Patrick Baudisch, Microsoft, USA

Join us again for the session that will tell you what’s what and where to go. Presenters for today’s sessions will again have less than a minute each to entice you to their session.

**PANEL**

ROOM 517AB

**Add a Dash of Interface: Taking Mash-Ups to the Next Level**

9:00 – 10:30

[SESSION CHAIR] David Gilmore, Intel, USA

[PANELISTS]
Ben Metcalfe, BBC, UK
Bret Taylor, Google, USA
Hart Rossman (discussant), SAIC, USA

Mash-ups traditionally consisted of the fusion of two or more data sources to create a new proposition. Ben Metcalfe and Bret Taylor will introduce how the remix community is going to take mash-ups to the next level—by combing data sources with your innovate interfaces to produce consumer-friendly mash-ups. Find out why extendable interfaces and open design patterns are a welcome addition to Web2.0 to the community.

[PRESENTER BIOS] Ben Metcalfe is the Project Lead of http://backstage.bbc.co.uk, the BBC’s developer network. Before helping to create backstage, Ben was a software engineer on the award winning BBC News website. He has also been a member of the BBC’s New Media Accessibility Working Group and is a strong advocate for user-centred design processes. Ben blogs at http://benmetcalfe.com/blog/

Bret Taylor is the Product Manager for Google Maps. He joined Google in early 2003 and has managed a number of products, including Google Local, Google’s web search infrastructure, and Search Quality. Prior to Google, Bret worked as a software engineer at Reactivity, a startup incubator in Silicon Valley. Bret holds an M.S. and B.S. in Computer Science from Stanford University.
Why Do Tagging Systems Work?

George Furnas, University of Michigan, USA
Caterina Fake, Yahoo!, USA
Luis von Ahn, Carnegie Mellon University, USA
Joshua Schachter, del.icio.us, Inc., USA
Kevin Fox, Google, USA
Scott Golder, Hewlett-Packard Laboratories, USA
Marc Davis, Cameron Marlow, Mor Naaman, Yahoo!, USA

Web-based social tagging systems such as Del.icio.us and Flickr allow participants to annotate a particular resource, such as a web page or an image, with a freely chosen set of keywords (‘tags’). As tagging systems grow in scale and popularity, new challenges must be addressed in their design and affordances.

Making a Difference: Integrating Socially Relevant Projects into HCI Teaching

Ben Shneiderman, University of Maryland, USA
Batya Friedman, University of Washington, USA
Jonathan Lazar, Towson University, USA
Gary Marsden, University of Cape Town, South Africa
Cliff Nass, Stanford University, USA
Matt Jones, University of Swansea, UK
Ann Bishop, University of Illinois, USA

Leading human-computer interaction educators describe how they enrich their courses with socially-relevant team projects that provide compelling opportunities for students to improve their education and make socially beneficial contributions. These group projects can produce life-changing experiences for students and give them excellent portfolios when seeking employment.

Ubiquitous Computing

Beyond Record and Play - Backpacks: Tangible Modulators for Kinetic Behavior
Hayes Raffle, Amanda Parkes, Hiroshi Ishii, Joshua Lifton, MIT, USA

Backpacks are physical components that modulate parameters of motion recordings in modular robotic creations, extending the conceptual limits of record-and-play by making tangible some of the benefits of symbolic abstraction.

Embedded Phenomena: Supporting Science Learning with Classroom-Sized Distributed Simulations
Tom Moher, University of Illinois, Chicago, USA

Describes method and case studies extending ambient media to represent simulated science phenomena in classrooms. Can assist designers in development of classroom learning environments and activities supporting science inquiry.

TAP: Touch-And-Play
Duck Gun Park, Jin Kyung Kim, Jin Bong Sung, Jung Hwan Hwang, Chang Hee Hyung, Sung Weon Kang, Electronics and Telecommunications Research Institute, Republic of Korea

Describes a system for controlling interaction between intelligent devices using intra-body signaling. Provides designers with a practical and intuitive means of creating ad hoc device networks.
SEARCH AND NAVIGATION: MOBILES AND AUDIO

A LARGE SCALE STUDY OF WIRELESS SEARCH BEHAVIOR:
GOOGLE MOBILE SEARCH
Maryam Kamvar, Google & Columbia University, USA
Shumeet Baluja, Google & Carnegie Mellon University, USA

This is the first large-scale study of mobile users’ search behavior. We hope this provides insight to facilitate a quantitative understanding of the needs and shortcomings of wireless search interfaces.

FATHUMB: A FACET-BASED INTERFACE FOR MOBILE SEARCH
Amy K. Karlson, University of Maryland, USA
George G. Robertson, Daniel C. Robbins, Mary Czerwinski, Greg R. Smith, Microsoft, USA

A novel facet-based navigation technique is presented for searching large datasets on mobile phones. Study results characterize tasks for which the technique is most effective, providing a better user experience.

SEARCHING IN AUDIO: THE UTILITY OF TRANSCRIPTS, DICHTOTIC PRESENTATION, AND TIME-COMPRESSION
Abhishek Ranjan, Ravin Balakrishnan, Mark Chignell, University of Toronto, Canada

Contributes empirical data evaluating the value of text transcripts, dichotic presentation, and time-compression in user ability to search in audio streams. Results can guide design of audio access interfaces.

STUDENT DESIGN COMPETITION

This is the third and final round of the CHI 2006 Student Design Competition. This session offers the four finalist student teams the opportunity to present their design projects to CHI attendees. A panel of expert judges will evaluate and score the projects on the basis of this presentation, considering the design process as well as the final product.

USING KNOWLEDGE TO PREDICT AND MANAGE

RESPONSIVENESS IN INSTANT MESSAGING: PREDICTIVE MODELS SUPPORTING INTER-PERSONAL COMMUNICATION
Daniel Avrahami, Scott E. Hudson, Carnegie Mellon University, USA

Describes the successful creation of statistical models that are able to accurately predict users’ responsiveness to incoming instant messages, and in particular responsiveness to attempts at initiating a new session.

LEVERAGING CHARACTERISTICS OF TASK STRUCTURE TO PREDICT THE COST OF INTERRUPTION
Shamsi T. Iqbal, Brian P. Bailey, University of Illinois, USA

Contributes a model for predicting the cost of interruption (COI) at subtask boundaries. Systems can use it to predict a more accurate COI, enabling effective decisions about when to interrupt.

A GOAL-ORIENTED WEB BROWSER
Alexander Faaborg, Henry Lieberman, MIT, USA

Presents how large scale knowledge bases of semantic information can be leveraged to expand the breadth and functionality of programming by ‘Example Systems’ and ‘Data Detectors.’
**PAPERS**  
**ROOM 516DE**

**Collecting and Editing Photos**  
**[SESSION CHAIR]** Andreas Paepcke, *Stanford University, USA*

**[PAPER]**  
**Understanding Photowork**

David Kirk, *University of Nottingham, UK*  
Abigail Sellen, Carsten Rother, Kenneth Wood, *Microsoft, UK*

Field study of how users work with their home photo collections. Offers implications for software design and a descriptive framework of realistic tasks against which new tools can be assessed.

**[PAPER]**  
**Gaze-Based Interaction for Semi-Automatic Photo Cropping**

Anthony Santella, *Rutgers University, USA*  
Maneesh Agrawala, *University of California, Berkeley, USA*  
Doug DeCarlo, *Rutgers University, USA*  
David Salesin, *Adobe Systems & University of Washington, USA*  
Michael Cohen, *Microsoft, USA*

Presents a gaze-based interface allowing photo cropping with no explicit user effort. Includes an algorithm for identifying important photo content that should be broadly useful in gaze-based interaction with photographs.

**[PAPER]**  
**Tabletop Sharing of Digital Photographs for the Elderly**

Trent Apted, Judy Kay, *University of Sydney, Australia*  
Aaron Quigley, *University College Dublin, Ireland*

Usability studies of digital photograph sharing interfaces for the demographic with the most life experience to share—the elderly—has been neglected. We contribute a novel interface and study.

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**EXPERIENCE REPORTS**  
**ROOM 511CF**

**Managing Design**  
**[SESSION CHAIR]** Austin Henderson, *Pitney Bowes, USA*

**Managing International Usability Projects: Cooperative Strategy**

Lada Gorlenko, *IBM, USA*  
Sven Krause, *Foviance, UK*

Managing international usability teams using cooperative strategy, particularly the setup and data analysis.

**When Design Is Not the Problem: Better Usability Through Non-Design Means**

Luke Kowalski, Jeremy Ashley, Misha Vaughan, *Oracle, USA*

In shipping quality software, design is not the hard part. Through interdisciplinary collaboration, design impact can instead be made through non-design means: technology, organizational, legal, marketing, documentation/QA, and development tools.

**In Search of End-Users**

Rachel K. E. Bellamy, Tracee Vetting Wolf, Rhonda Rosenbaum, *IBM, USA*

In order to learn from end-users we need to find end-users to collaborate with. However, finding end-users can be the hardest part of a project.

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**SIG**  
**ROOM 515C**

**The CHI Engineering Community**

**[ORGANIZERS]**

Bonnie E. John, *Carnegie Mellon University, USA*  
William Newman, *Consultant, Microsoft, UK*  
Alan Blackwell, *Cambridge University, United Kingdom*  
Scooter Morris, *University of California, San Francisco, USA*

This SIG will provide a forum for people interested in bringing the best of the field of engineering to the field of HCI.
Does Think Aloud Work? How Do We Know?

**[PANELISTS]**
- Judith Ramey, University of Washington, USA
- Ted Boren, The Church of Jesus Christ of Latter-day Saints, USA
- Elisabeth Cuddihy, University of Washington, USA
- Joe Dumas, Bentley College, USA
- Zhiwei Guan, University of Washington, USA
- Maaike J. van den Haak, Menno D.T. De Jong, University of Twente, Netherlands

The think-aloud method is widely employed in usability research to gain insights into underlying usability problems, but concerns remain about its validity and usefulness. This panel presents current studies of the think-aloud method, examines its usage in the field, discusses pitfalls that may threaten its validity, and comments on how to apply the method.

Design Communication: How Do You Get Your Point Across?

**[PANELISTS]**
- Scott Jenson (moderator), Google, USA
- Harry Sadler, Nasa, USA
- Charlie Hill, IBM Software Group, USA
- Carl DiSalvio, Carnegie Mellon University, USA

One of the core issues of design is communication. Not only between designers, but just as importantly between managers and developers. There hasn’t been much discussion in the design community on how to communicate design.

Privacy 2

**[SESSION CHAIR]** Ian Smith, Intel, USA

**[PAPER]** Keeping Up Appearances: Understanding the Dimensions of Incidental Information Privacy
- Kirstie Hawkey, Kori Inkpen, Dalhousie University, Canada

Survey investigated the privacy of incidental information visible in web browsers. Provides understanding of dimensions of privacy that combine to affect a user’s comfort level when others view their display.

**[PAPER]** Being Watched or Being Special: How I Learned to Stop Worrying and Love Being Monitored, Surveilled, and Assessed
- Erica Robles, Abhay Sukumaran, Kathryn Rickertsen, Cliff Nass, Stanford University, USA

Experimental study shows that rationale mediates perceptions and judgments of being monitored and evaluated in public/private. Interdisciplinary understanding of social aspects of public/private suggested as needed research area.

Pen

**[SESSION CHAIR]** Jean-Marc Robert, Ecole Polytechnique de Montréal, Canada

**[PAPER]** Effectiveness of Annotating by Hand for Non-Alphabetical Languages
- Muhd Dzulkhiflee Hamzah, Shun’ichi Tano, Mitsuru Iwata, Tomonori Hashiyama, The University of Electro-Communications, Japan

Describes a quantitative analysis of the effectiveness of hand-written annotations during a note-taking task in Japanese. Can assist in developing better annotation systems for non-alphabetical languages such in East Asian countries.
Wednesday Afternoon, continued 14:30-16:00

[PAPER] Speech Pen: Predictive Handwriting Based on Ambient Multimodal Recognition
Kazutaka Kurihara, The University of Tokyo, Japan
Masataka Goto, Jun Ogata, National Institute of Advanced Industrial Science and Technology, Japan,
Takeo Igarashi, The University of Tokyo & JST, Japan
Shows that handwriting with prediction can be useful in Japanese, and presents a prototype system using speech and handwriting recognition. Can make digital writing faster and more efficient.

[PAPER] Hover Widgets: Using the Tracking State to Extend the Capabilities of Pen-Operated Devices
Tovi Grossman, Microsoft and University of Toronto, USA & Canada
Ken Hinckley, Patrick Baudisch, Microsoft, USA
Maneesh Agrawala, Microsoft and University of California, Berkeley, USA
Ravin Balakrishnan, University of Toronto, Canada
The paper presents Hover Widgets, a new technique for pen-based interfaces using gestures made in the tracking state. We found Hover Widgets to have beneficial qualities in a formal evaluation.

[PAPER] Everyday Practices with Mobile Video Telephony
Kenton O’Hara, Hewlett-Packard, UK
Alison Black, Alison Black Research and Consulting, UK
Matthew Lipson, Orange, UK
The paper presents a study of everyday use of mobile video telephony. Real use episodes highlight key motivations underlying video calling and the social and practical barriers that hinder it.

[CHI NOTE] Sashay: Designing for Wonderment
Eric Paulos, Chris Beckmann, Intel, USA
Presents a cultural perspective on locative media, and descriptions of two projects that intervene in the urban landscape. Provides a strong rethinking of methods and goals for designing systems in urban context.

[CHI NOTE] Urbanhermes: Social Signaling with Electronic Fashion
Christine M. Liu, Judith S. Donath, MIT, USA
Describes a prototype ‘communicative accessory’, a brief user study and the underlying conceptual framework for social signaling. Draws insights for the design of ‘fashion signaling’ systems.

[PAPER] Because I Carry My Cell Phone Anyway: Functional Location-Based Reminder Applications
Pamela J. Ludford, Dan Frankowski, Ken Reily, Kurt Wilms, Loren Terveen, University of Minnesota, USA
Develops a novel location-based reminder system. Demonstrates its utility for everyday task management and identifies a rich model for effective location-based information delivery.

INTERACTIVITY ROOM 510ABCD

Touch Me: Haptics and Clothes
[SESSION CHAIR] Eric Lee, RWTH Aachen University, Germany

MultiVis: Improving Access to Visualisations for Visually Impaired People
David McGookin, Stephen Brewster, University of Glasgow, Scotland
Illustrates a system to construct and browse mathematical graphs using haptic and auditory feedback. Points to better ways for visually impaired users to create and interact with graph-based data representations.

A Haptic Memory Game Using the STReSS2 Tactile Display
Qi Wang, Vincent Levesque, Jerome Pasquero, Vincent Hayward, McGill University, Canada
Presents a memory card game that uses tactile feedback on the finger tip to distinguish cards. Showcases a new 2D haptic display and three different tactile rendering techniques.

Memory-Rich Clothing
Joanna Berzowska, Marcelo Coelho, Concordia University, Canada
This paper describes conceptual and technical prototypes of reactive body-worn artifacts that display their history of use and communicate physical (or embodied) memory.
Visualization 1
[SESSION CHAIR] Mary Czerwinski, Microsoft, USA

[PAPER] GUESS: A Language and Interface for Graph Exploration
Eytan Adar, University of Washington, USA

The main contributions of GUESS are a) the design of a domain-specific language for graph exploration and the experience of its design and b) the interactive interpreter which connects visual components to the programming environment.

[PAPER] The Sandbox for Analysis—Concepts and Evaluation
William Wright, David Schroh, Pascale Proulx, Alex Skaburskis, Brian Cort, Oculus, Canada

New sense-making system uses innovative human information interactions and visualizations to provide flexible, expressive thinking environment for analysis. Experiments show it’s easy to learn, encourages best practices and saves time.

[PAPER] Visual Exploration of Multivariate Graphs
Martin Wattenberg, IBM, USA

This paper describes a new visualization technique for a common type of graph structure. We believe it is broadly applicable and a useful complement to current graph visualization methods.

HCI Overviews 1
[SESSION CHAIR] David Millen, IBM, USA

UCD of Financial Services at the Smart Internet Technology Centre
Supriya Singh, RMIT University, Australia

The experience of contributing sociological and anthropological perspectives to the user-centered design of financial services in the Smart Internet Technology Cooperative Research Centre in Australia.

COST294-MAUSE: A Pan European Usability Research Community
Effie Lai-Chong Law, ETH Zurich, Switzerland
Ebba Thora Hvannberg, University of Iceland, Iceland

COST294-MAUSE is a usability research community whose goal is to apply more science to usability evaluation methods and transfer this deeper understanding to industry and educators. Its working groups address usability database management, comparative studies, defect classification, and formalized models.

The HTI Lab @ ftw: User Research for Telecom Systems
Peter Fröhlich, Lynne Baillie, Peter Reichl, Raimund Schatz, Florian Hammer, Georg Niklfeld, Telecommunications Research Center Vienna (ftw.), Austria

This overview presents the Human-Telecom Systems Interaction Laboratory at the Telecommunications Research Center (FTW), Vienna. The current setup of the HTI Lab and its contributions to related application-oriented projects at FTW are described.

The CHI Management Community

[ORGANIZER] James A. Euchner, Austin Henderson, Pitney Bowes, USA

This SIG will provide those interested in the interplay between management and HCI to explore this subject and the ongoing development of the Management Community at the CHI conferences.
PANEL

ROOM 517AB

The Route to the Sea for User Value

[PANELISTS]
Austin Henderson (moderator), Pitney Bowes, USA
Lisa Anderson, Intuit, USA
Jeremy Ashley, Oracle, USA
Patrik Heuman, Sony Ericsson, USA
Janice Rohn, World Savings Bank, USA

HCI managers with experience in participating in delivering user value as shipping products that make good businesses will discuss the hazards that the product development process holds, and what it takes for HCI managers to ensure that user value remains in the products throughout that process.

PAPERS

ROOM 511ABDE

Awareness and Presence

[SESSION CHAIR] Steve Benford, University of Nottingham, UK

[PAPER] From Awareness to Connectedness: The Design and Deployment of Presence Displays
Anind K. Dey, Carnegie Mellon University, USA
Ed de Guzman, University of Illinois, Urbana-Champaign, USA

Describes user-centered process for designing awareness displays and evaluation demonstrating these displays improve sense of awareness and connectedness. Assists display designers in building displays that effectively support awareness and connectedness.

[CHI NOTE] Negotiating Presence-in-Absence: Contact, Content, and Context
Steve Howard, The University of Melbourne, Australia
Jesper Kjeldskov, Mikael B. Skov, Kasper Garnæs, Olga Grünberger, Aalborg University, Denmark

Develops an analytic framework integrating previous HCI findings on intimate communication and illustrates it with a case study. Offers a design space for social presence systems.

[CHI NOTE] Using Linguistic Features to Measure Presence in Computer-Mediated Communication
Adam D. I. Kramer, University of Oregon, USA
Lui Min Oh, DSO National Laboratories, Singapore
Susan R. Fussell, Carnegie Mellon University, USA

Presents a new technique for measuring presence in computer-mediated communication using linguistic features of dialogues. Provides an easy-to-use method for assessing the effects of communications technologies on presence.

INVITED RESEARCH OVERVIEW

ROOM517C

End-User Programming

[SESSION CHAIR] Dan Olsen, Brigham Young University, USA

Brad Myers, Carnegie Mellon University, USA

In the past few decades there has been considerable work on empowering end users to be able to write their own programs, and as a result, users are indeed doing so. In fact, we estimate that over 12 million people in American workplaces would say that they do programming at work, and almost 50 million people use spreadsheets or databases (and therefore may potentially program), compared to only 3 million professional programmers. The motivation for end-user programming is to have the computer be useful for each person’s specific individual needs. While the empirical study of programming has been an HCI topic since the beginning the field, it is only recently that there has been a focus on the End-User Programmer as a separate class from novices who are assumed to be studying to be professional programmers. Another recent focus is on making end-user programming more reliable, using End-User Software Engineering. My presentation will summarize the current and past research in the area of End-User Programming.

[PRESENTER BIO] Brad A. Myers is a Professor in the Human-Computer Interaction Institute in the School of Computer Science at Carnegie Mellon University, where he is the principal investigator for various research projects including: the Pebbles Hand-Held Computer Project, Natural Programming, User Interface Software, and Demonstrational Interfaces. He is the author or editor of over 275 publications, including the books “Creating User Interfaces by Demonstration” and “Languages for Developing User Interfaces,” and he is on the editorial board of five journals.

He became an ACM Fellow in 2005, and in 2004, he was elected to the CHI Academy. His research interests include user interface development systems, user interfaces, hand-held computers, programming by example, end-user programming, visual programming, programming language design, interaction techniques, window management, and programming environments.
The Paradox of the Assisted User: Guidance Can Be Counterproductive

Christof C. van Nimwegen, Utrecht University, Netherlands
Daniel Burgos, Open University of the Netherlands, Netherlands
Herre H. van Oostendorp, Hermina H.J.M Schijf, Utrecht University, Netherlands

This paper contributes to the empirical and cognitive foundation of principles underlying human computer interaction. It shows that guidance in interfaces by externalizing information does not always yield better performance.

Investigating Health Management Practices of Individuals with Diabetes

Lena Mamykina, Siemens, USA
Elizabeth D. Mynatt, Georgia Institute of Technology, USA
David R. Kaufman, Columbia University, USA

The paper presents analysis of diabetes self-management practices using qualitative interviews, an observational study and a technology probe. We draw implications for the design of health monitoring applications.

Tensions in Designing Capture Technologies for an Evidence-Based Care Community

Gillian Hayes, Gregory Abowd, Georgia Institute of Technology, USA

An analysis of privacy, surveillance, and awareness concerns with regard to evidence-based healthcare and education. The design of socially appropriate capture technologies for the community of stakeholders in this domain.

Pride and Prejudice: Learning How Chronically Ill People Think about Food

Katie A. Siek, Kay H. Connelly, Yvonne Rogers, Indiana University, USA

Presents a formative study exploring how chronically ill people organize food and read nutrition indicator icons. Can assist researchers develop nutrition applications and motivate participant usage for patient populations.
**Visualization 2**

**[SESSION CHAIR]** Martin Wattenberg, *IBM, USA*

**[PAPER]** Visualizing Email Content: Portraying Relationships from Conversational Histories

Fernanda B. Viégas, *IBM, USA*
Scott Golder, *Hewlett-Packard, USA*
Judith Donath, *MIT, USA*

Presents a visualization of email content. Discusses different interaction modes that emerged in user study: exploration of overall trends and detail-oriented investigation. Can help improve user interaction with email archives.

**[PAPER]** Clipping Lists and Change Borders: Improving Multitasking Efficiency with Peripheral Information Design

Tara Matthews, *University of California, Berkeley, USA*
Mary Czerwinski, George Robertson, Desney Tan, *Microsoft, USA*

We compare abstraction techniques in peripheral interfaces to determine their effects on task flow, resumption timing, and reacquisition in multitasking situations. Our empirical results will help guide future peripheral design.

**[PAPER]** A Fisheye Follow-up: Further Reflections on Focus + Context

George Furnas, *University of Michigan, USA*

Further understanding for creating small interfaces to large information worlds, includes unification of several visual techniques, discussion of non-visual fisheye-views, and models for why these kinds of presentations are valuable.

**The CHI Design Community**

**[ORGANIZERS]**

David Gilmore, *Intel, USA*
Kristina Höök, *Swedish Institute of Computer Science, Sweden*
Jon Kolko, *Savannah College of Art and Design, USA*
Bill Lucas, *MAYA, USA*

While most of the HCI literature can be seen as part of an engineering-science practice (with an emphasis on the acquisition and interpretation of “facts”), the CHI 2006 Design Community focuses on how arts and engineering come together in the construction, study and interpretation of created objects (maybe more like the study of literature and criticism).

**The CHI Education Community**

**[ORGANIZERS]**

James Foley, *Georgia Institute of Technology, USA*
Jenny Preece, *University of Maryland, USA*

The purpose of this SIG is to ask “What can the CHI Education Community do for you at CHI conferences?” and to discuss criteria for CHI Education Experience Reports.
Wednesday Courses

**COURSE 15  ROOM 513CD**

**The Art of Speaking: Fundamentals for HCI Professionals: Part 1**
9:00 – 13:00
Lisa B. Marshall, lisabmarshall.com, USA
Deborah A. Boehm-Davis, George Mason University, USA

Scientific professionals need more than good ideas to get ahead. Just as important is the ability to clearly and persuasively communicate ideas. This tutorial helps develop those fundamental presentation skills.

[Intended Audience] This course is targeted at developing fundamental presentation skills for any presenter who would like to improve his or her presentations.

[Presentation Style] Mostly lecture

[Features]
* Plan presentation strategy and objectives
* Organize presentations
* Get and keep the audience’s attention
* Reduce rambling and eliminate non-words
* Practice appropriate eye contact
* Make smooth transitions
* Use gestures, facial expressions, and posture for clarity and emphasis
* Design visuals to reinforce major points and explain complex data
* Enhance your skills for on-going self-evaluation

**COURSE 19  ROOM 513EF**

**From Usability Testing to User Experience: Tools for Data Collection and Analysis**
9:00 – 18:00
Lucas P.J.J. Noldus, Tobias Heffelaar, Noldus Information Technology BV, Netherlands

This course brings you up to date with video technology, software tools, and integrated solutions. You will learn how to select the right tools for field studies or lab tests.

[Intended Audience] HCI researchers and usability practitioners (usability engineers, UI designers, usability testers) working in academia or industry.

[Presentation Style] Classroom lectures, group exercises, discussion and hands-on training.

[Features]
* Video recording and screen capture, storage and retrieval
* Designing a usability lab
* Observational data collection
* Automatic logging of user-system interaction
* Multimodal measurements: eye tracking and physiology
* Qualitative data analysis
* Quantitative data analysis
* Creating usability test reports

**COURSE 20  ROOM 514ABC**

**Analyzing Qualitative Data from Field Studies**
9:00 – 18:00
David A. Siegel, Susan M. Dray, Dray & Associates, Inc., USA

Field study data can be overwhelming and messy. Learn analysis methods to go beyond ‘anecdote collecting,’ improve the quality of findings, and provide better input to product planning and design.

[Intended Audience] This intermediate to advanced course is intended for people with some experience or training in fieldwork. It does not cover data-gathering techniques.

[Presentation Style] Lecture, demonstration, discussion, and hands-on exercises built around simulated field research.

The course also includes a demonstration of Computer Assisted Qualitative Data Analysis Software.
Wednesday Courses, continued

COURSE 18  ROOM 513AB

Designing for User Efficiency
9:00 – 18:00
Deborah J. Mayhew, Deborah J. Mayhew & Associates, USA

This course focuses on how to achieve motor, cognitive, and perceptual efficiency or ease-of-use (as opposed to intuitiveness or ease-of-learning) in software user interface design.

[INTENDED AUDIENCE] This course is aimed at anyone (developers, designers, usability engineers, end-users, managers, marketers, trainers, etc.) who has an interest in achieving end-user productivity (i.e., efficiency) through the design of software tools. It is presented at an introductory level.

[PRESENTATION STYLE] Lecture materials will provide an overview of the ‘what, when, why, and how’ of designing for user efficiency. The materials include real examples and ‘war stories’ from the instructor’s experience, and will be augmented by audience discussion.

[FEATURES]
- On completion of this course you will be able to:
  * apply the principles of user-centered design
  * be sure you understand users’ needs
  * improve usability and accessibility
  * build on existing user experience

COURSE 17  ROOM 515AB

Web Design for Usability
9:00 – 18:00
William Hudson, Syntagm Ltd, UK

A combined tutorial and workshop where you will discover and use a range of principles and techniques for designing usable web sites, including an innovative approach to card sorting.

[INTENDED AUDIENCE] Web and intranet designers, developers and managers. Usability and HCI professionals interested in the practical aspects of usable design. No specialist skills or knowledge are required.

[PRESENTATION STYLE] The course is approximately 60% tutorials and 40% activities or group discussions.

COURSE 16  ROOM 513CD

The Art of Speaking: Fundamentals for HCI Professionals: Part 2
14:30 – 18:00
Lisa B. Marshall, lisabmarshall.com, USA
Deborah A. Boehm-Davis, George Mason University, USA

Practice makes perfect. Put the presentation skills described in Part 1 of this tutorial into practice by revising existing slides and receiving constructive feedback on practice presentations. (Registration restricted to those who have completed Part 1).

[INTENDED AUDIENCE] This course develops fundamental presentation skills for any presenter who would like to improve his or her presentations. Participants should bring copies of slides from a recent presentation for use in this tutorial. Participants must have taken Part 1 of this course.

[PRESENTATION STYLE] Combines lecture and hands-on experiences to provide the opportunity to practice the skills described in Part 1 and reviewed in Part 2.

[FEATURES]
- Plan presentation objectives and strategy
- Organize the presentation
- Practice appropriate eye contact
- Make smooth transitions
- Use gestures, facial expressions, and posture for clarity and emphasis
- Design visuals to reinforce major points and explain complex data
- Enhance skills for on-going self-evaluation
### Thursday April 27

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<td>Panel: Engineering for Disasters, Driving, &amp; Distributed Work</td>
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<td>11:30 – 13:00</td>
<td>Papers: Novel Methods: Emotions, Gestures, Events</td>
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<td>SIG: Tips &amp; Tricks for Better Usability Test Recommendations</td>
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<tr>
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<td>Course 22: The Art of Speaking: Advanced Skills for the Lecture Hall &amp; the Hallway</td>
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<td>Course 24: How to Build Rich Personas from Field Data</td>
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<td>Course 21: Usable for the World: A Practical Guide to International User Studies</td>
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<td>Course 26: Usability Design: A New Rational Unified Process Discipline</td>
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<td>14:30 – 16:00</td>
<td>Course 23: Designing Responsive Software</td>
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<tr>
<td>16:30 – 18:00</td>
<td>Closing Plenary Session: Digital Comics: An Art Form in Transition, Scott McCloud</td>
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### Day at a Glance

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- **11:30 – 13:00**
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  - Papers: Beliefs & Affect p.77
  - Papers: Gestures & Visualizations p.77
  - Papers: Loving Me Loving You p.78
  - Papers: Disabilities p.78
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  - SIG: How to Collect Field Data & Produce a Tested Design in 1-8 Weeks p.85
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- **14:30 – 16:00**
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  - Papers: Social Computing 3 p.80
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<td>Focus on Posters</td>
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### Notes
Thursday Morning

ROOM 517AB

CHI Madness
8:30 – 9:00
[SESSION CHAIR] Patrick Baudisch, Microsoft, USA

Join us again for the session that will tell you what's what and where to go. Presenters for today's sessions will again have less than a minute each to entice you to their session.

ROOM 517AB

PANEL

Real HCI: What it Takes to do HCI Engineering for Disasters, Driving, and Distributed Work

[PANELISTS]
Stuart Card, PARC, USA
Robin Murphy, University of South Florida, USA
Judith S. Olson, University of Michigan, USA
John D. Lee, University of Iowa, USA
William Newman, Microsoft, UK

How are interactive technologies helping tackle major societal problems? Panelists will present and contrast four very different yet topical problem domains, describing how HCI research is enabling measurable advances in each. They will join with the audience in discussing how best to engineer progress for society.

ROOM 511ABDE

PAPERS

Novel Methods: Emotions, Gestures, Events
[SESSION CHAIR] Terry Winograd, Stanford University, USA

[PAPER] Prototyping and Sampling Experience to Evaluate Ubiquitous Computing Privacy in the Real World
Giovanni Iachello, Georgia Institute of Technology, USA
Khai N. Truong, University of Toronto, Canada
Gregory D. Abowd, Gillian R. Hayes, Georgia Institute of Technology, USA
Molly Stevens, Logical Design Solutions, USA

Presents an event-contingent experience sampling technique to gather situated opinions on technology with reference to real-life situations. The technique can improve the design of mobile and ubiquitous computing applications.

ROOM 516C

PAPERS

Social Computing 2
[SESSION CHAIR] Victoria Bellotti, PARC, USA

[PAPER] Using Intelligent Task Routing and Contribution Review to Help Communities Build Artifacts of Lasting Value
Dan Cosley, Dan Frankowski, Loren Terveen, John Riedl, University of Minnesota, USA

We provide researchers and designers with experimentally-supported algorithms and models for influencing and reasoning about contributions to lasting artifacts of value created and maintained by online communities.
groupTime: Preference Based Group Scheduling
Mike Brzozowski, Kendra Carattini, Scott Klemmer, Patrick Mihelich, Jiang Hu, Andrew Y. Ng, Stanford University, USA
Introduces a user interface that combines machine learning and direct manipulation for lightweight group scheduling, exploiting social pressure while preserving plausible deniability. Describes design implications for similar intelligent user interfaces.

Accounting for Taste: Using Profile Similarity to Improve Recommender Systems
Philip Bonhard, Clare Harries, John McCarthy, M. Angela Sasse, University College London, UK
This paper presents insights into user decision-making strategies in online environments. It uses this as a basis to suggest how the utility and usability of recommender systems can be improved.

Face-Tracking as an Augmented Input in Video Games: Enhancing Presence, Role-Playing, and Control
Shuo Wang, Microsoft, China
Xiaocao Xiong, Tsinghua University, China
Yan Xu, Renmin University, China
Chao Wang, Tsinghua University, China
Weiwei Zhang, Xiaofeng Dai, Dongmei Zhang, Microsoft, China
We designed and implemented two game prototypes, applying face/head information to different user experiences. These prototypes were based on analysis from prior camera-based games and face tracking technology.

Direct Pointer: Direct Manipulation for Large-Display Interaction Using Handheld Cameras
Hao Jiang, Tsinghua University, China
Eyal Ofek, Microsoft, China
Neema Moraveji, Microsoft, China
Yuan Chun Shi, Tsinghua University, China
Introduces and evaluates a new pointing technique for large (possibly multi-user) displays using input from a hand-held camera. Provides designers with a method with reduced hardware requirements and UI modifications.

Interacting with Communication Appliances: An Evaluation of Two Computer Vision-Based Selection Techniques
Jacob Eisenstein, MIT, USA
Wendy E. Mackay, INRIA Futurs, France
Experimentally compares two computer-vision based selection techniques (object-tracking, motion-sensing). Suggests that designers should consider object-tracking as well as (the widely-accepted) motion-sensing.

Attention Funnel: Omnidirectional 3D Cursor for Mobile Augmented Reality Platforms
Frank Biocca, Michigan State University, USA
Arthur Tang, University of Central Florida, USA
Charles Owen, Fan Xiao, Michigan State University, USA
Research contributes unique mobile AR interface technique. General and broad applicability. Guides attention via any location-aware interface including cell phones. Controlled experiment validates improved user performance on search time, consistency, and mental workload.

Improving Menu Interaction: A Comparison of Standard, Force Enhanced, and Jumping Menus
David Ahlstroem, Rainer Alexandrowicz, Martin Hitz, Klagenfurt University, Austria
Based on an analysis of low level GUI interaction models, a cursor warping technique to facilitate selection tasks in cascading-pull-down menus is described. The technique can significantly reduce menu-selection times.

Zone and Polygon Menus: Using Relative Position to Increase the Breadth of Multi-Stroke Marking Menus
Shengdong Zhao, University of Toronto, Canada
Maneesh Agrawala, University of California, Berkeley & Microsoft, USA
Ken Hinckley, Microsoft, USA
New multi-stroke marking menu designs that consider relative position of strokes to increase menu breadth by 2x or more. User studies show new techniques outperform purely orientation-based menus.
**[PAPER] Measuring the Difficulty of Steering Through Corners**

Robert Pastel, *Michigan Technological University, USA*

Laboratory experiments extend the steering law to negotiating corners. Analysis and models predict the difficulties and illustrate design improvements for menus hierarchies and gestures.

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**EXPERIENCE REPORTS ROOM 511CF**

**Creative User Experience Methods**

**[SESSION CHAIR] A.J. Brush, Microsoft, USA**

**Developing User Interface Guidelines for DVD Menus**

Karin Kappel, Martin Tomitsch, Thomas Koltringer, Thomas Grechenig, *Vienna University of Technology, Austria*

Watching DVDs can be frustrating because their menus are complex and difficult to navigate. The authors present guidelines for designing usable DVD menus and a general methodology for developing user-interface guidelines.

**Understanding Users in Consumer Electronics Experience Design**

Joonhwan Kim, Sanghee Lee, SungWoo Kim, *Samsung Electronics, Republic of Korea*

The authors describe user research methodologies Samsung Electronics applies to experience design: ethnographic in-home interviews for understanding user requirements, subjective design preference measurements, and a new approach to stimulated recall in usability testing.

**AdWords Help Center**

Yelena Nakhimovsky, *Google & Georgia Institute of Technology, USA*

Rudy Schusteritsch, Kerry Rodden, *Google, USA*

The authors describe adapting card-sorting methodology to redesign the information architecture of the Google AdWords Help Center. The process can be applied to other large information sets where traditional card sorting is impractical.

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**SIG ROOM 515C**

**Tips and Tricks for Better Usability Test Recommendations**

**[ORGANIZERS]**

Rolf Molich, *DialogDesign, Denmark*

Kyle Pero, *Usable Interface, USA*

Neha Modgil, *Human Factors International, India*

Will Schroeder, *The MathWorks, USA*

This SIG will discuss what are useful and usable recommendations, and why some are less valuable than expected. The examples come from the CUE-5 study, where 13 usability teams independently evaluated the IKEA PAX wardrobe planning tool.
### Thursday Mid-morning 11:30-13:00

#### PANEL ROOM 517AB

**The State of Tangible Interfaces: Projects, Studies, and Open Issues**

**[PANELISTS]**
- Oren Zuckerman, MIT, USA
- Brygg Ullmer, *Louisiana State University*, USA
- Lars Erik Holmqquist, *Viktoria Institute*, Sweden
- Hiroshi Ishii, *MIT*, USA
- George Fitzmaurice, *Alias*, Canada
- Yvonne Rogers, *Indian University*, USA
- Wendy Mackay, *I.N.R.I.A.*, France
- Tom Rodden, *University of Nottingham*, UK

Pioneers and active researchers in tangible user interfaces (TUIs) will give an up-to-date picture of TUI-related projects, research findings, and industry adoption case studies. The panel will discuss the merits and drawbacks of TUIs, review the open issues in the field, and hopefully help interested researchers to better direct their future research efforts.

#### PAPERS ROOM 511ABDE

**Beliefs and Affect**

**[SESSION CHAIR]** Elissa Giaccardi, *University of Colorado*, USA

**[PAPER]** *Can a Virtual Cat Persuade You? The Role of Gender and Realism in Speaker Persuasiveness*

Catherine Zanbaka, Paula Goolkasian, Larry Hodges, *University of North Carolina, Charlotte*, USA

Presents findings revealing how virtual characters are as persuasive as real people and that cross-gender interactions transfer to virtual speakers. Explains how virtual characters can be exploited for persuasive interfaces.

**[PAPER]** *The Sensual Evaluation Instrument: Developing an Affective Evaluation Tool*

Katherine Isbister, *Rensselaer Polytechnic Institute*, USA
- Michael Sharp, *Rensselaer Polytechnic Institute*, USA

Describes an instrument for collecting real-time self-assessment of affect. Portable, may work across cultures, offers consistency and flexibility. Can help elicit emotional feedback quickly and easily during the design process.

**[PAPER]** *Listening to Your Inner Voices: Investigating Means for Voice Notifications*

Saurabh Bhatia, Scott McCrickard, *Virginia Tech*, USA

Reports on an user study of the notification qualities of voice and the development and deployment of a system exploiting the results. Suggests that voice familiarity is a useful property for notification.

#### PAPERS ROOM 516AB

**Gestures and Visualizations**

**[SESSION CHAIR]** Deborah Tatar, *Virginia Polytechnic Institute and State University*, USA

**[PAPER]** *Comparing Remote Gesture Technologies for Supporting Collaborative Physical Tasks*

David Kirk, *University of Nottingham*, UK
- Danae Stanton Fraser, *University of Bath*, UK

A study comparing performance in a collaborative assembly task using remote gesture systems constructed with combinations of three different gesture formats. Results are of benefit to those developing gesture systems.

**[PAPER]** *Collaborative Coupling Over Tabletop Displays*

Anthony Tang, Melanie Tory, Barry Po, *University of British Columbia*, Canada
- Petra Neumann, Sheelagh Carpendale, *University of Calgary*, Canada

Describes two observational studies investigating group cohesion for visualization tasks on an interactive tabletop display. Presents design guidelines based on six identified styles of group cohesion.

**[PAPER]** *Cooperative Gestures: Multi-User Gestural Interactions for Co-Located Groupware*

Meredith Ringel Morris, *Stanford University*, USA
- Anqi Huang, *Harvard University*, USA
- Andreas Paepcke, Terry Winograd, *Stanford University*, USA

We define cooperative gesturing and discuss appropriate application scenarios for this multi-user interaction technique. We present an implementation of cooperative gestures and discuss lessons learned from observations of system use.
Thursday Mid-morning, continued

alt.chi ROOM 510ABCD

Loving Me Loving You
SESSION CHAIR Michael Lyons, Advanced Telecommunications Research Labs, Japan

I Just Clicked To Say I Love You: Rich Evaluations of Minimal Communication
Joseph ‘Jofish’ Kaye, Cornell University, USA
Describes a method for developing an in-depth understanding of a subject’s technology use. Studies five couples in long-distance relationships and their use of a simple technology design to transmit intimacy.

ComSlipper: An Expressive Design to Support Awareness and Availability
Chun-Yi Chen, Jodi Forlizzi, Pamela Jennings, Carnegie Mellon University, USA
An emotionally rich communication device that supports showing presence and availability. Can help the user to initiate a socially appropriate conversation, and ultimately, enhance the quality of computer-mediated relationships.

Lover’s Cups: Drinking Interfaces as New Communication Channels
Hyemin Chung, Chia-Hsun Jackie Lee, Ted Selker, MIT, USA
We suggest a new kind of communication channel, social drinking interactions, and test its potential in remote communications.

AuraOrb: Social Notification Appliance
Mark Altosaar, Roel Vertegaal, Changuk Sohn, Daniel Cheng, Queen’s University, Canada
Discusses the design of a ambient notification appliance that implements progressive notification techniques through the use of eye contact sensing.

Dance Your Work Away: Exploring Step User Interfaces
Brian Meyers, A.J. Bernheim Brush, Steve Drucker, Marc A. Smith, Mary Czerwinski, Microsoft, USA
Formative evaluation of novel step user interfaces to encourage physical movement and promote enjoyment while completing real world tasks. Provides design considerations for step user interfaces.

The Affective Remixer: Personalized Music Arranging
Jae-woo Chung, G. Scott Vercoe, MIT, USA
Describes a mechanism for using affect data in real time to modify the experience of playing of music. Such systems have the potential to modify users’ affective state.

PAPERS ROOM 516DE

Disabilities
SESSION CHAIR Gilbert Cockton, University of Sunderland, UK

Feeling What You Hear: Tactile Feedback for Navigation of Audio Graphs
Steven Wall, Stephen Brewster, University of Glasgow, Scotland
Presents guidelines and a prototype evaluation using tactile feedback to support point-and-click interaction for data access by sight impaired users. Can assist in developing accessible multimodal interfaces.

Remote Usability Evaluations with Disabled People
Helen Petrie, University of York, UK
Fraser Hamilton, Neil King, Pete Pavan, Designed for All, UK
Two case studies describing the use of remote evaluation techniques with disabled participants. Can assist in understanding the advantages and disadvantages of using remote techniques with disabled users.

Desperately Seeking Simplicity: How Young Adults with Cognitive Disabilities and Their Families Adopt Assistive Technologies
Melissa Dawe, University of Colorado, Boulder, USA
Case studies describing how families with individuals with cognitive disabilities adopt and incorporate assistive technologies. Illuminates the complexity of the adoption process and presents clear recommendations for assistive technology designers.
Adaptive Language Behavior in HCI: How Expectations and Beliefs About a System Affect Users’ Word Choice

Jamie Pearson, University of Edinburgh, Scotland
Jiang Hu, Stanford University, USA
Holly P. Branigan, Martin J. Pickering, University of Edinburgh, Scotland
Cliff I. Nass, Stanford University, USA

Experimentally demonstrates that users adapt language behaviors depending on beliefs about the sophistication of a system. Suggests that designers should attend to relevant ‘non-functional’ system characteristics.

SIG Usability Community: Past, Present, and Future

[ORGANIZERS]
Janice Rohn, World Savings Bank, USA
Stephanie Rosenbaum, Tec-Ed, Inc., USA

This SIG is sponsored by the CHI 2006 and CHI 2007 Usability Community chairs to collect feedback and discuss how CHI can best serve the Usability Community, both at the annual conference and in other activities.

User-Centered Design for Learning and Education

[SESSION CHAIR] Gregory Abowd, Georgia Institute of Technology, USA

Evaluating Web Lectures as an Alternative Approach to Education: A Case Study from HCI

Jason A. Day, James D. Foley, Georgia Institute of Technology, USA

Presents a novel use of educational technology, and a longitudinal study demonstrating its effectiveness for HCI education. Illustrates use of HCI methodology for educational technology design and evaluation.

Practical Service Learning Issues in HCI

Jennifer Mankoff, Carnegie Mellon University, USA

Presents an approach to incorporating service learning into undergraduate human-computer interaction teaching. Provides practical guidance for using service learning in regularly-taught, large courses.

HCI Techniques from Idea to Deployment: A Case Study for a Dynamic Learning Environment

John C. Thomas, Robert Farrell, IBM, USA

The authors describe HCI techniques employed for iterative design and evaluation of a ‘Dynamic Learning Environment’ now in use at IBM, that extends XML standards for digital content (the IEEE Learning Object Metadata Standard).
“It’s About the Information, Stupid!”, Why We Need a Separate Field of Human-Information Interaction

[Panelists]
William Jones, University of Washington, USA
Peter Pirolli, Stuart Card, PARC, USA
Raya Fidel, University of Washington, USA
Nahum Gershon, The Mitre Corporation, USA
Peter Morville, Semantic Studios, USA
Bonnie Nardi, University of California, Irvine, USA
Nahum Gershon, The Mitre Corporation, USA
Daniel M. Russell, Google, USA

The past few years have seen increasing discussion of the need for—even the inevitability of—a field of human-information interaction (HII). The ‘I’ in HII implies a focus on information and not computing technology. The panel is structured to encourage an exploration of both pros and cons in favor of a separate field of HII. Panelists provide a diversity of perspectives from several different disciplines and research traditions including cognitive modeling and the study of human cognition, information science, information architecture, personal information management, ethnography, and anthropology.

Social Computing 3

[Session Chair] Jeremy Birnholtz, University of Toronto, Canada

Antti Salovaara, Giulio Jacucci, Antti Oulasvirta, Timo Saari, Pekka Kanerva, Esko Kurvinen, Sauli Titta, Helsinki Institute for Information Technology, Finland

Analyzing a field trial of a prototype we show the importance of collective use of mobile group media and its connections to social achievements, presence, and shared experience between people.

Usability Methods

[Session Chair] Alistair Sutcliffe, University of Nottingham, UK

[Paper] Breaking the Fidelity Barrier: An Examination of our Current Characterization of Prototypes and an Example of a Mixed-Fidelity Success
Michael McCurdy, NASA, USA
Christopher Connors, Apple, USA
Guy Pyrzak, San Jose State University Foundation, USA
Bob Kanevary, University of California, Santa Cruz, USA
Alonso Vera, Carnegie Mellon University, USA

This paper presents a method for characterizing prototypes and an example prototype constructed using this method. Applying this method can yield more focused prototype development and better return on investment.
Experiment demonstrates the impact of evaluating three meaningfully distinct designs in one usability session, rather than just one. Brings process in line with design practice and provides more accurate results.

**Precise Selection Techniques for Multi-Touch Screens**

Hrvoje Benko, Columbia University, USA
Andrew Wilson, Patrick Baudisch, Microsoft, USA

Our novel interaction techniques, called Dual Finger Selections, enable pixel-accurate selections on multi-touch screens. Our user study confirmed their low error rate performance and resilience to varying input noise.

**TeamTag: Exploring Centralized versus Replicated Controls for Co-located Tabletop Groupware**

Meredith Ringel Morris, Andreas Paepcke, Terry Winograd, Jeannie Stamberger, Stanford University, USA

We describe an experiment comparing two alternative widget layout schemes for a collaborative tabletop interface. We discuss the benefits and drawbacks of each design based on our experimental results.

**Keepin’ It Real: Pushing the Desktop Metaphor with Physics, Piles, and the Pen**

Anand Agarawala, Ravin Balakrishnan, University of Toronto, Canada

Contributes interaction and visualization techniques for a new physically realistic pen-based desktop using piles and casual object organization. Benefits to designers of pen-centric interfaces.

**The Validity of the Stimulated Retrospective Think-Aloud Method as Measured by Eye Tracking**

Zhiwei Guan, Shirley Lee, Elisabeth Cuddihy, Judith Ramey, University of Washington, Seattle, USA

Provides evidence that retrospective think aloud (RTA) method provides valid and reliable information about users’ performance. Supports the use of RTA to assess and identify usability issues.

**Synchronous Broadcast Messaging: The Use of ICT**

Justin D. Weisz, Carnegie Mellon University, USA
Thomas Erickson, Wendy A. Kellogg, IBM, USA

An empirical characterization of the use of a novel broadcast messaging system in a large organization. Such characterizations are an essential part of the research base for CMC and CSCW.

An empirical characterization of the use of a novel broadcast messaging system in a large organization. Such characterizations are an essential part of the research base for CMC and CSCW.

**Interacting with Large Surfaces**

[SESSION CHAIR] Scott Klemmer, Stanford University, USA

**The Impact of Delayed Visual Feedback on Collaborative Performance**

Darren Gergle, Robert Kraut, Susan Fussell, Carnegie Mellon University, USA

This work provides a detailed description of how pairs deal with visual delay in collaborative environments. The results inform the future development and deployment of such technologies.
**EXPERIENCE REPORTS**  
ROOM 511CF

**Mobile Design Experiences**  
[SESSION CHAIR] Aaron Marcus, Aaron Marcus Associates, USA

**Combining Multiple Gaming Interfaces in Epidemic Menace**  
Irma Lindt, Jan Ohlenburg, Uta Pankoke-Babatz, Wolfgang Prinz, Fraunhofer FIT, Germany  
Sbiha Ghellal, Sony NetServices, Germany  

A crossmedia game, Epidemic Menace, including a game board station, a mobile assistant and a mobile Augmented Reality (AR) system is described. Early results of an ethnographic observation are described, showing how the different gaming interfaces were used by the players to observe, collaborate and interact within the game.

**Discovering Design Drivers for Mobile Media Solutions**  
Akseli Anttila, Younghee Jung, Nokia, Finland  

By comparing the results of studies separated both by geographical and chronological space a set of constant design drivers was discovered. These were applied to a number of different design projects in the domain of mobile media.

**Mobile Blogging: Experiences of Technologically Inspired Design**  
Russell Beale, University of Birmingham, UK  

A technologically led design approach towards creating new artefacts is discussed, and the details of the architecture, design, and acceptability of the resulting system to support mobile blogging, called SmartBlog.

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**SIG**  
ROOM 515C

**Online Health Communities**  
[ORGANIZERS]  
Lisa Neal, eLearn Magazine, USA  
Gitte Lindgaard, Kate Oakley, Carleton University, Canada  
Derek Hansen, University of Michigan, USA  
Sandra Kogan, IBM, USA  

The importance of on-line health communities is evidenced by their popularity, as well as the significant impact they have on the lives of their members. This Special Interest Group (SIG) will explore current trends in online health communities, as well as discuss the socio-technical design challenges and opportunities that they afford.
Scott McCloud, scottmccloud.com, USA

In the last 20 years, comics in its printed incarnation has struggled toward maturity through ‘graphic novels’. Now, that same art form is entering a new infancy on the web and other digital venues, raising fundamental questions about the reading experience, the functions of storytelling media in society, how art forms adapt to dominant technologies, and the role of space in information design. Cartoonist and author Scott McCloud explores these and other questions in a fast-moving visual presentation.

[PRESENTER BIO] Scott McCloud has been writing and drawing independent comic books since 1984. His book “Understanding Comics” was a New York Times Notable book for 1994, is available in 15 languages. McCloud has lectured on comics and digital media at Harvard University, Pixar Animation Studios, Microsoft, and The Smithsonian Institution. His 5-Day Seminar in making comics was most recently held at MIT. McCloud’s online comics can be found at scottmccloud.com
Thursday Courses

COURSE 22  ROOM 513CD

The Art of Speaking: Advanced Skills for the Lecture Hall and the Hallway
9:00 – 13:00
Lisa B. Marshall, lisabmarshall.com, USA
Deborah A. Boehm-Davis, George Mason University, USA

Are you terrified of being asked questions or about presentation disasters? Learn to present complex ideas concisely and accurately and to speak professionally in the lecture hall and the hallway.

[INTENDED AUDIENCE] Experienced presenters who would like to improve their presentation skills.

[PRESENTATION STYLE] Mostly lecture

[FEATURES]
* Handling question and answer sessions, both at professional conferences and in industry settings
* Overcoming presentation disasters
* Presenting complex ideas concisely, accurately, and in an interesting fashion

COURSE 21  ROOM 513AB

Usable for the World: A Practical Guide to International User Studies
9:00 – 16:00
Susan M. Dray, David A. Siegel, Dray & Associates, Inc., USA

Learn what’s involved in planning and carrying out international user studies, including tailoring the study to “fit” local circumstances, working with and through local resources, and avoiding common pitfalls.

[INTENDED AUDIENCE] This class is aimed at people experienced in doing usability and user studies in their own country who want to learn how to conduct such studies in other countries.

[PRESENTATION STYLE] Lecture, group discussion, and small group exercises. The class includes a video of a usability evaluation from Hong Kong with simultaneous translation, and discussion of a set of multi-faceted real-life research scenarios.

COURSE 24  ROOM 514ABC

How to Build Rich Personas from Field Data
9:00 – 10:30
Karen Holtzblatt, Shelley Wood, InContext Enterprises, USA

Personas have had mixed success because they typically are not informed by deep data. Address this issue by using the data provided with Contextual Design work models and affinity diagrams.

[INTENDED AUDIENCE] No specific background is required. Although the course focuses on CD models, previous experience with them is not required

[PRESENTATION STYLE] Lecture, group discussion, exercises

[FEATURES]
* Why personas are powerful tools for communicating user needs to stakeholders
* Why to be effective, personas need to be based on deep data that comes from field studies, and not just 2–3 field interviews
* The steps for creating personas with Contextual Design (CD) data
* How to harvest CD models for user goals, roles, tasks, and strategies
**Thursday Courses, continued**

**COURSE 26**
**ROOM 515AB**

**Usability Design: A New Rational Unified Process Discipline**
**11:30 – 16:00**

Magnus Lif, Bengt Gøransson, *Guide Redina AB*, Sweden

The Usability Design discipline will be explained. The course is aimed at those wanting to work with User-Centered Design (UCD) within a systems development framework such as the RUP.

[Intended Audience] This course is aimed at anyone interested in software development, typically usability professionals, project managers, software architects, etc. The participants should be familiar with standard usability methods. Knowledge about the RUP is not a prerequisite.

[Presentation Style] Lecture, exercises, discussions, and a case study

[Features]

* Introduction to UCD
* Problems with UCD in the ‘Rational Unified Process’
* Introduction to the new usability design discipline
* Exercises and discussions
* A case study
* Practical tips and hints

**COURSE 23**
**ROOM 513CD**

**Designing Responsive Software Despite Performance Limitations**
**14:30 – 16:00**

Jeff Johnson, *UI Wizards, Inc.*, USA

Responsiveness is extremely important for user satisfaction with software and online services, but it is often poor. This class distinguishes responsiveness from performance and presents design principles for achieving responsiveness.

[Intended Audience] Software designers and developers of all experience levels. Also: Q/A engineers, usability testers, and managers.

[Presentation Style] Lecture, Q&A.

[Features]

Responsiveness is very important in determining user satisfaction with software and online services, but it is often poor. This class distinguishes responsiveness from performance and explains that performance need not limit responsiveness. It explains that the user interface is a real-time interface, with time-constraints systems must satisfy to be perceived as responsive. The class presents techniques for improving responsiveness, with examples of responsive and unresponsive systems.

**COURSE 25**
**ROOM 514ABC**

**How to Collect Field Data and Produce a Tested Design in 1–8 Weeks**
**11:30 – 13:00**

Karen Holtzblatt, Shelley Wood, *InContext Enterprises*, USA

Rapid Contextual Design provides tools for infusing customer data into designs, even when resources and schedules are restricted. Learn guidelines for selecting customers, creating schedules, and working inside agile development iterations.

[Intended Audience] No background is expected; the course will offer the most value to those leading user experience aspects of projects.

[Presentation Style] Lecture and group discussion

[Features]

Attendees will learn:

* The 3 variants of Rapid CD and how to select the right one
* Guidelines for selecting the right number and mix of customers given available time and project type
* How to create day-by-day schedules based on project scope and available time, including agile iterations
Posters

Posters will be on display in the Commons area throughout the conference. Poster authors are asked to be at their posters at the following times:

Doctoral Consortium:
   Monday afternoon break, Monday evening reception

Student Design Competition:
   Monday evening reception, Tuesday morning break

Workshops:
   Monday afternoon break, Monday evening reception

Work-in-Progress:
   All posters: Monday evening reception
   WIP posters 57 – 121: Tuesday morning break
   WIP posters 122 – 187: Wednesday morning break
   WIP posters 188 – 252: Thursday morning break

During the Monday Evening Conference Reception (for all types of posters):
   All odd numbered posters: 18:30 – 19:30
   All even numbered posters: 20:00 – 21:00

Doctoral Consortium

001 Video and Image-Based Reflective Learning Tools for Professional Training Environments
   L. Amaya Becvar, University of California, San Diego, USA

002 Transference of Dance Knowledge through Interface Design
   Natalie Erika Ebenreuter, Swinburne University, UK

003 Providing a Tailored Overview of Program Source Code
   J. Louise Finlayson, University of Aberdeen, UK

004 Integrating Models of Human-Computer Visual Interaction
   Tim Halverson, University of Oregon, USA

005 Knowledge Sharing, Maintenance, and Use in Online Support Communities
   Derek L. Hansen, University of Michigan, USA

006 Assessing the Attractiveness of Interactive Systems
   Jan Hartmann, University of Manchester, USA

007 Documenting and Understanding Everyday Activities through the Selective Archiving of Live Experiences
   Gillian R. Hayes, Georgia Institute of Technology, USA

008 An Examination of User Behaviour During Web Information Tasks
   Melanie Kellar, Dalhousie University, Canada

009 Embracing Agile Development of Usable Software Systems
   Jason Chong Lee, Virginia Polytechnic Institute & State University, USA

010 Sharing Everyday Places I Go While Preserving Privacy
   Pamela J. Ludford, University of Minnesota, USA

011 Multi-Touch Interaction
   Tomer Moscovich, Brown University, USA

012 Making Sense of Social Networks
   Adam Perer, University of Maryland, USA

013 Test Methodologies For Pedestrian Navigation Aids In Old Age
   Michael Schellenbach, Max-Planck-Institute for Human Development, Germany

014 Residential Mobility, Technology, and Social Ties
   Irina Shklovski, Carnegie Mellon University, USA

015 Physical-Digital Ensembles for Mobile Interaction
   Ron B. Yeh, Stanford University, USA

Student Design Competition

016 Fitster: Social Fitness Information Visualizer
   Noor Ali-Hasan, Diana Gavales, Andrew Peterson, Matthew Raw, University of Michigan, USA

017 Health View: A Simple and Subtle Approach to Monitoring Nutrition
   Jesse R. Beach, Christian M. Briggs, Sam D. Shahrani, Craig A. Elliott, Indiana University, USA

018 Reflecting on Health: A System For Students to Monitor Diet and Exercise
   Brandon Brown, Marshini Chetty, Andrea Grimes, Ellie Harmon, Georgia Institute of Technology, USA

019 Balance Pass: Service Design for a Healthy College Lifestyle
   Aditya Chand, Monica González, Julian Missig, Phanichphant, Pen Fan Sun, Carnegie Mellon University, USA
020 AVIVA: A Health and Fitness Monitor for Young Women
Rachel Gockley, Michael Marotta, Carin Rogoff, Adrian Tang, 
Carnegie Mellon University, USA

021 PEDdo: Steps to a Healthy Lifestyle
Visda Goudarzi, Stanislav Tomic, Vienna University of 
Technology, Austria

022 NutriStat - Tracking Young Child Nutrition
Victor Hanson-Smith, Daya Wimalasuriya, Andrew Fortier, 
University of Oregon, USA

023 A Responsive and Persuasive Audio Device to Stimulate 
Exercise and Fitness in Children
Jeffrey Hartnett, Pearl Lin, University of California, Berkeley, 
USA
Lillian Ortiz, California College of the Arts, USA
Lindsay Tabas, University of California, Berkeley, USA

024 myPyramid: Increasing Nutritional Awareness
Eunhyung Kim, Benjamin Koh, Jennifer Ng, Ray Su, Carnegie 
Mellon University, USA

025 RoutePlanner
Marek Kudlacz, Robert Tan, Jon Prindiville, Marc Peters, 
University of Toronto, Canada

026 NutraStick: Portable Diet Assistant
Barry Diarmuid Mulrooney, Mairead Anne McDermott, 
Nick Justin Earley, IADT Institute of Art, Design, and 
Technology, Ireland

027 My Health, My Life: A Web-Based Health Monitoring 
Application
Paul Nuschke, Tara Holmes, Yaseen Qadah, North Carolina 
Agricultural & Technical State University, USA

028 Promoting a Healthy Lifestyle Through a Virtual 
Specialist Solution
Juan M. Silva, Selene Zamarripa, Elisa B. Moran, Monica 
Tentori, Leonardo Galicia, CICESE Research Center, 
Mexico

029 Chick Clique: Persuasive Technology to Motivate 
Teenage Girls to Exercise
Tammy Toscos, Anne Marie Faber, Shunying An, Mona 
Praful Gandhi, Indiana University, USA

030 Food Information Network: Informed Shopping for 
Healthier Living
Jiawei Rong, Leo Ochoa, Lee Ritter, Erik Brown, University of 
Oregon, USA

Workshops

031 Privacy-Enhanced Personalization
Alfred Kobsa, University of California, USA

032 Designing Technology for People with Cognitive 
Impairments
Joanna McGrenere, University of British Columbia, Canada
Jim Sullivan, University of Colorado, USA
Ronald M. Baeccker, University of Toronto, Canada

033 The Many Faces of Consistency in Cross-Platform 
Design
Kai Richter, Computer Graphics Center (ZGDV), Germany
Jeffrey Nichols, Carnegie Mellon University, USA
Krzysztof Gajos, University of Washington, USA
Ahmed Seffah, Concordia University, Canada

034 Information Visualization and Interaction Techniques 
for Collaboration across Multiple Displays
Lucia Terrenghi, University of Munich, Germany
Richard May, Pacific Northwest National Laboratory, USA
Patrick Baudisch, Microsoft, USA

035 Misuse and Abuse of Interactive Technologies 
Antonella De Angeli, University of Manchester, UK
Sheryl Brahnam, Missouri State University, USA
Peter Wallis, The University of Sheffield, UK
Alan Dix, Lancaster University, UK

036 Entertainment Media at Home - Looking at the Social 
Aspects
Louise Barkhuus, University of Glasgow, Scotland
Jennifer Rode, University of California, Irvine, USA
Genevieve Bell, Intel, USA

037 Workshop on SIGCHI Public Policy
Benjamin B. Bederson, University of Maryland, USA
Jonathan Lazar, Towson University, USA
Jeff Johnson, UI Wizards, Inc., USA
Harry Hochheiser, University of Maryland, USA
Clare-Marie Karat, IBM, USA

038 Investigating New User Experience Challenges in iTV: 
Mobility & Sociability
Anxo Cereijo Roibás, University of Brighton, UK
David Geerts, Katholieke Universiteit Leuven, Belgium
Elizabeth Furtado, Universidade de Fortaleza, Brazil
Licia Calvi, Katholieke Universiteit Leuven, Belgium
039 About Face Interface: Creative Engagement in the New Media Arts and HCI
Pamela Jennings, Carnegie Mellon University, USA
Elisa Giaccardi, University of Colorado, Boulder, USA
Magda Wesolkowska, University of Montréal, Canada

040 Social Visualization: Exploring Text, Audio, and Video Interaction
Karrie Karahalios, University of Illinois, USA
Fernanda Viégas, IBM, USA

041 HCI and the Face
Michael J. Lyons, ATR Intelligent Robotics and Communication Labs, Japan
Christoph Bartneck, Technical University of Eindhoven, Netherlands

042 IT@Home: Unraveling Complexities of Networked Devices in the Home
David McDonald, University of Washington, USA
Bill Schilit, Intel, USA
Sara Bly, Sara Bly Consulting, USA

043 Privacy and HCI: Methodologies for Studying Privacy Issues
Sameer Patil, University of California, Irvine, USA
Natalia Romero, University of Technology, Eindhoven, The Netherlands
John Karat, IBM, USA

044 Usability Research Challenges for Cyberinfrastructure and Tools
Rob N. Procter, National Centre for e-Social, UK
Christine Borgman, University of California, Los Angeles, USA
Geof Bowker, University of California, Santa Clara, USA
Marina Jirotka, Oxford University, UK
Gary Olson, University of Michigan, USA
Cherri Pancake, Oregon State University, USA
Tom Rodden, University of Nottingham, UK
m c schraefel, University of Southampton, UK

045 Reality Testing: HCI Challenges in Non-Traditional Environments
Gisele Bennett, Georgia Institute of Technology, USA
Kay H. Connelly, Indiana University, USA
Gitte Lindgaard, Carleton University, Canada
Katie A. Siek, Indiana University, USA
Bruce Tsuji, Carleton University, Canada

046 Reflective HCI: Articulating an Agenda for Critical Practice
Phoebe Sengers, Cornell University, USA
John McCarthy, University College Cork, UK
Paul Dourish, University of California, Irvine, USA

047 Reinventing Trust, Collaboration and Compliance in Social Systems
Jens Riegelsberger, Framfab UK Ltd., UK
Asimina Vasalou, Imperial College London, UK
Philip Bonhard, Anne Adams, University College London, UK

048 Theory and Method for Experience Centered Design
Mark A. Blythe, Peter C. Wright, University of York, UK
John McCarthy, University College Cork, UK
Olav W. Bertelsen, University of Aarhus, Denmark

049 Sexual Interactions: Why We Should Talk About Sex in HCI
Johanna Brewer, University of California, Irvine, USA
Joseph Kaye, Cornell University, USA
Amanda Williams, University of California, Irvine, USA
Susan Wyche, Georgia Institute of Technology, USA

050 The Next Step: From End-User Programming to End-User Software Engineering
Margaret Burnett, Oregon State University, USA
Brad Myers, Carnegie Mellon University, USA
Mary Beth Rosson, The Pennsylvania State University, USA
Susan Wiedenbeck, Drexel University, USA

051 Mobile Social Software: Realizing Potential, Managing Risks
Scott Counts, Microsoft, USA
Henri ter Hofte, Telematica Instituut, Netherlands
Ian Smith, Intel, USA

052 What is the Next Generation of Human-Computer Interaction?
Robert J.K. Jacob, Tufts University, USA

053 Sketching Nurturing Creativity: Commonalities in Art Design Engineering and Research
Kumiyo Nakakoji, University of Tokyo, Japan
Atau Tanaka, Sony Paris, France
Daniel Fallman, Umeå University, France

054 Getting a Measure of Satisfaction from Eyetracking in Practice
J. A. Renshaw, Leeds Metropolitan University, UK
J. Finlay, Leeds Metropolitan University, UK
N. Webb, Amberlight Partners Ltd., UK
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- Timothy Bickmore, Daniel Schulman, Northeastern University, USA
- Jacob T. Biehl, Piotr D. Adamczyk, Brian P. Bailey, University of Illinois, Urbana-Champaign, USA
077 Entity Quick Click: Rapid Text Copying Based on Automatic Entity Extraction
Eric A. Bier, PARC, USA
Edward W. Ishak, Columbia University, USA
Ed Chi, PARC, USA

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Cati Vaucelle, Harvard University, USA
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Rosa Baños, Universitat de València, Spain
Beatriz Rey, Mariano Alcàñiz, Universidad Politécnica de Valencia, Spain
Verónica Guillén, Universitat de València, Spain
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Topi Kaaresoja, Nokia, Finland

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Amy S. Bruckman, Georgia Institute of Technology, USA

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Aditya Chand, Carnegie Mellon University, USA
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Edward C. Clarkson, Jason A. Day, James D. Foley, Georgia Institute of Technology, USA

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Richard M. Conlan, Peter Tarasewich, Northeastern University, USA

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Gregorio Convertino, Brian Asti, Yang Zhang, Mary Beth Rosson, Susan Mohammed, The Pennsylvania State University, USA

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Vlad Coroama, ETZ Zurich, Switzerland
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Murray Crease, National Research Council, Canada

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Andrew Crossan, Stephen Brewster, University of Glasgow, Scotland

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Raimund Dachselt, Markus Weiland, Dresden University of Technology, Germany

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Janet Davis, University of Washington, USA

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Hoda Dehmeshki, Wolfgang Stuerzlinger, York University, UK

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Geoffrey B. Duggan, Stephen J. Payne, University of Manchester, UK

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Greg T. Elliott, Bill Tomlinson, University of California, Los Angeles, USA

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Jason Ellis, Catalina Danis, Christine Halverson, Wendy Kellogg, IBM, USA

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Julien R. Epps, Serge Lichman, Mike Wu, National ICT Australia, Australia

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Juergen Falb, Hermann Kaindl, Vienna University of Technology, Austria
Helmut Horacek, Universität des Saarlandes, Germany
Cristian Bogdan, Roman Popp, Edin Arnautovic, Vienna University of Technology, Austria

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Andrew Faulring, Brad A. Myers, Carnegie Mellon University, USA

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Harriet Fell, Northeastern University, USA
Joel MacAuslan, Speech Technology and Applied Research Corp., USA
Jun Gong, Northeastern University, USA
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Svante Hermansson, University of Copenhagen, Denmark
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Elizabeth Goodman, Brooke E. Foucault, Intel, USA
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Lada Gorlenko, Paul Englefield, IBM, USA

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K. E. Green, I. D. Walker, L. J. Gugerty, J. C. Witte, Clemson University, USA

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Leo Gugerty, Craig Treadaway, James S. Rubinstein, Clemson University, USA

121 JamSpace: A Networked Real-Time Collaborative Music Environment
Michael Gurevich, Institute for Infocomm Research, Singapore

122 From the Personal to the Profound: Understanding the Blog Life Cycle
David Gurzick, Wayne G. Lutters, University of Maryland, Baltimore County, USA

123 An Examination of User Perception and Misconception of Internet Cookies
Vicki Ha, Kori Inkpen, Farah Al Shaar, Lina Hdeib, Dalhousie University, Canada

124 Effects of Alphabetical Display Formatting on Search Time Among Chinese and American Users
Songmei Han, SUNY Oswego, USA

125 Use Your Head - Exploring Face Tracking for Mobile Interaction
Thomas Rilsgaard Hansen, University of Aarhus, Denmark
Eva E. Eriksson, Chalmers University of Technology, Sweden
Andreas Lykke-Olesen, Aarhus School of Architecture, Denmark

126 A Sense of Spatial Semantics
Matthew Hockenberry, Ted Selker, MIT, USA

127 Crossmodal Icons for Information Display
Eve E. Hoggan, Stephen A. Brewster, University of Glasgow, Scotland

128 Fly: An Organic Presentation Tool
David Holman, Predrag Stojadinovic, Thorsten Karrer, Jan Borchers, RWTH Aachen University, Germany

129 Tangible Programming in the Classroom: A Practical Approach
Michael S. Horn, Robert J.K. Jacob, Tufts University, USA

130 Girls Don’t Waste Time
Weimin Hou, Jennifer Ng, Manpreet Kaur, Anita Komlodi, Wayne G. Lutters, Lee Boot, University of Maryland, Baltimore County, USA
Shelia R. Cotten, University of Alabama, USA
Claudia Morrell, A. Ant Ozak, Zeynep Tufekci, University of Maryland, Baltimore County, USA

131 Tap or Touch? Pen-Based Selection Accuracy for the Young and Old
Juan Pablo Hourcade, University of Iowa, USA
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Yan Xu, Renmin University of China, China
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Sho Iwasaki, Yasufumi Hirakawa, Harumi Mase, Eiji Tokunaga, Tatsuo Nakajima, Waseda University, Japan

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Nada Jaksic, University of Rhode Island, USA
Pedro Branco, Peter Stephenson, L. Miguel Encarnacao, IMEDIA, USA

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Nikhil Kalghatgi, Aaron Burgman, Erika Darling, Chris Newbern, Kristine Recktenwald, Shawn Chin, Howard Kong, The MITRE Corporation, USA

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Angela M. Kessell, Christopher Chan, Stanford University, USA

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