

welcome

MAKING THE IMPOSSIBLE POSSIBLE

At CHI 98, we will offer a multifaceted forum for the advancement, transfer and sharing of human-computer interaction (HCI) knowledge that can be used to improve the quality of life. We invite you to join a multidisciplinary group of people exploring advances in HCI, tackling current real-world challenges and creating the foundation for a promising future. Let's clarify where HCI has evolved, understand more about the context of HCI work and solutions and provide a forum for theory and processes that may be applied to solve real-world challenges. Let's focus on the seemingly impossible challenges facing our communities, and create breakthroughs by channeling the expertise of the people working in these domain areas with the HCI and technology expertise from the SIGCHI community.

The CHI conferences are known for leading-edge programs of Demonstrations, Exhibits, Late-Breaking Results, Panels, Papers, SIGs, Tutorials, Videos, Workshops and much more! This year is no exception, and the conference will build on the strength of the past and explore new innovations as well. All this will occur in the midst of the most important part of the conference, the great group of people who come to hear and discuss current issues with each other!

There are many application domains and solutions that CHI 98 is highlighting; the education, entertainment and health care application domains have been selected for special focus. Since these areas touch all of our lives, they are expected to generate significant general interest for the HCI community. We are providing the opportunity to enhance the growth of core multidisciplinary groups of individuals communicating and collaborating with each other on new projects and application solutions in a wide variety of domain areas.

CHI 98 invites researchers, practitioners and educators, students and professionals; from academia, industry, government, health care and the arts; people who have never attended CHI before, and returning CHI attendees; from all over the world, to come and meet each other, participate in the variety of events at CHI, and begin new collaborations.

Please join us!

CLARE-MARIE KARAT AND ARNOLD LUND, CONFERENCE AND TECHNICAL PROGRAM CO-CHAIRS
chi98-chairs@acm.org

WHAT'S NEW FOR CHI 98?

- ▲ Conference daily schedule is from 8:30 am to 5:30 pm to provide a more usable schedule for attendees from around the world! Please note that the Sunday and Monday Tutorials and Workshops schedule is from 9:00 am to 5:30 pm, with an evening tutorial from 6:00 pm to 9:30 pm!
- ▲ The three application domains of education, health care and entertainment are focus areas throughout the conference program.
- ▲ Invited speakers from the three domains will present during lunch for interested attendees!
- ▲ A variety of sack lunches will be available on site—for informal lunches with peers or to take into the single track invited speaker sessions.
- ▲ Following the successful CHI 97 experiment, the CHI 98 Video will be distributed free to all attendees!

Contents

INTRODUCTION

Welcome	1
What's New for CHI 98?	1
Sponsor Program	2
CHI 98 Champion Sponsors	2
CHI 98 Contributing Sponsors	2

CHI 98 CONSORTIA

Development Consortium	3
Doctoral Consortium	3

CHI 98 TUTORIALS

Introduction	4
Saturday Tutorials	5
Sunday Tutorials	6
Monday Tutorials	11

CHI 98 WORKSHOPS

Introduction	17
Workshop Descriptions	17

CHI 98 TECHNICAL PROGRAM

Introduction and Overview	23
Opening and Closing Plenaries	24
Application Domain Plenaries	25
Tuesday	26
Wednesday	28
Thursday	30

ADDITIONAL CONFERENCE ACTIVITIES

ACM/SIGCHI Business Meeting	32
ACM/SIGCHI Volunteers Appreciation Reception	32
Tours	32
The Commons	32
Exhibits	32
Internet Access	32
Newcomers' Orientation	32
Reception	32
CHIkids	33
Society Row	33
Student Volunteers	33
Walk-In Demonstrations	33
Walk-In Videos	33

CONFERENCE INFORMATION

Travel/Accommodations	35
Transportation	35
Downtown LA Map	36
Housing Reservation Form	37
Conference Registration	38
Cooperating Societies	38
Registration Categories & Fees	38
Tutorial Registration	38
Workshop Registration	38
Advance Registration Form	39
CHI 98 Conference Committees	40

ABOUT LOS ANGELES

41

ABOUT ACM/SIGCHI

42


sponsor program

CHI 98 would like to gratefully acknowledge its sponsor program participants. It is the generosity of those organizations that enable the conference to provide technical content and operational services that otherwise might not have been possible.

CHI 98 Champion Sponsors

CITIBANK 

NOKIA
CONNECTING PEOPLE

IBM 

 **Sun**
microsystems

Microsoft 

UNISYS

Sponsorship Invitation

There are many benefits to sponsoring the CHI conference and sponsorships for CHI 98 are still available. To receive a formal sponsorship invitation, send email to chi98-sponsor@acm.org.

CHI 98 Contributing Sponsors

ANDERSEN
CONSULTING



Bellcore

FXPAL
FX Palo Alto Laboratory

 **HEWLETT
PACKARD**

intel 

Lucent Technologies
Bell Labs Innovations



ORACLE 



PHILIPS

Rent-a-
Computer

TRILOGY

DEVELOPMENT CONSORTIUM

SUNDAY, 19 APRIL

As we look to the future of HCI, one of our goals must be to continue to develop HCI as a field by reaching out to professionals within HCI or related disciplines who are not yet regular participants in the CHI conferences. To extend the reach of the CHI conference, ACM SIGCHI has created the HCI Development Consortium to encourage the interaction between the existing CHI community and focused groups of professionals who have not yet established close links to the CHI conference.

The 1998 Development Consortium will be bringing together teachers who are attempting to utilize computers as an educational tool within their classrooms. These teachers will be from varied grade levels and represent many countries. This event will provide an opportunity for teachers to shape how computers are being used in educational settings and how HCI research and development might improve the use of computers in the classroom.

The Consortium will meet in a workshop-style environment on the Sunday prior to the conference and again at the end of the conference. Participants will also have an opportunity to experience the CHIKids program.

DEVELOPMENT CONSORTIUM CO-CHAIRS

Angela Boltman ▲ *Hawthorne Elementary School, Albuquerque, NM*

Allison Druin ▲ *University of Maryland*

Jürgen Koenemann ▲ *GMD*

DOCTORAL CONSORTIUM

SUNDAY, 19 APRIL & MONDAY, 20 APRIL

The CHI 98 Doctoral Consortium is a closed session that provides an opportunity for Ph.D. students to explore their research interests in an interdisciplinary workshop with established researchers in a group setting. The participants receive feedback on current research and guidance for future research directions. The consortium also aims toward the development of a supportive community of scholars while contributing to the conference goals through interaction with other researchers and participation in conference events. Consortium participants have been invited based on their dissertation proposals, and reflect the wide range of disciplines within HCI research.

DOCTORAL CONSORTIUM FACULTY MEMBERS

Deborah A. Boehm-Davis, Co-Chair ▲ *George Mason University*

Clayton Lewis, Co-Chair ▲ *University of Colorado, Boulder*

Bonnie E. John ▲ *Carnegie Mellon University*

William Newman ▲ *Rank Xerox Research Centre Europe*



Downtown LA skyline with San Gabriel mountains.

Photo courtesy of the Los Angeles Convention and Visitor's Bureau.

Tutorials are full-day and half-day courses that afford you new skills and knowledge through extended interaction with expert instructors. The 36 tutorials available at CHI 98 represent the leading edge of current practice and research in human-computer interaction. Not only do the tutorials provide you with a solid grounding in the field of HCI; they also point the way to where our field will be in the future.

What's new for CHI 98 Tutorials?

- ▲ An additional Saturday evening tutorial.
- ▲ A Monday evening tutorial.
- ▲ New topics and new views on established topics.
- ▲ Increased international representation.

TUTORIAL SCHEDULE

Saturday evening	6:00pm to 9:30pm
Full-day	9:00am to 5:30pm
Half-day, morning	9:00am to 12:30pm
Half-day, afternoon	2:00pm to 5:30pm
Monday evening	6:00pm to 9:30pm

THREE SATURDAY EVENING TUTORIALS

Chances are good that you will arrive in Los Angeles on Saturday, since many favorable airfares require a Saturday night stay.

Spend Saturday evening with:

- ▲ Keith Butler, Rob Jacob and Bonnie John (1 Human-Computer Interaction: Introduction and Overview),
- ▲ Jakob Nielsen (2 Introduction to Web Design) or
- ▲ Stuart Card, Stephen Eick and Nahum Gershon (3 Information Visualization).

All three tutorials run from 6:00 pm to 9:30 pm, with a food and beverage break for the benefit of attendees who have traveled from different time zones.

INTRODUCING MONDAY EVENING TUTORIALS

For the first time, CHI 98 will offer a Monday night tutorial from 6:00 pm to 9:30 pm. Spend the evening learning about the latest developments in the WWW with:

- ▲ Jakob Nielsen, Bruce Tognazzini and Erika Kindlund (36 Current Issues in Web Design)

EARN CEUs FOR CHI TUTORIALS

This year again you can earn Continuing Education Units (CEUs) for taking CHI tutorials.

SIGCHI has been approved as an Authorized CEU Sponsor by the International Association for Continuing Education and Training (IACET). This approval is a recognition of the outstanding professional training available through CHI tutorials.

The CEU is a recognized unit of measure for continuing education and professional training programs. Each CEU requires the successful completion of 10 hours of instruction. Successful completion of a CHI tutorial requires that you attend the entire session and participate fully in the learning activities of the tutorial.

If you wish, you can earn 0.6 CEUs for each full-day tutorial (6 hours of instruction), or 0.3 CEUs for each half-day (3 hours). You can earn a maximum of 1.8 CEUs by taking 3 days of instruction.

To obtain CEU credit, you must register for CEUs at the same time that you register for your tutorials. There is an administrative charge. IACET will send you a confirmation letter, maintain a record of your CEUs and issue transcripts upon your request.

MANY TUTORIALS ARE NEW FOR CHI 98

CHI 98 offers 16 tutorials that are "new for 98." These brand new tutorials have never been offered at the CHI conference before. In addition, new instructors offer different perspectives on 4 classic tutorials. CHI 98 offers 16 other "classic" tutorials, updated versions of highly-rated tutorials from previous CHI conferences.

Recommended Groupings

Newcomers

If you are new to the CHI conference and are just getting started in the field of HCI, the Newcomers tutorials will give you a solid background and prepare you to get the most from the rest of the conference. Good tutorial choices for newcomers include:

- 1 Human-Computer Interaction: Introduction and Overview (Saturday evening)
- 2 Introduction to Web Design (Saturday evening)
- 7 Cognitive Factors in Design: Basic Phenomena in Human Memory and Problem Solving (Sunday)
- 28 Avoiding Damned Lies: Understanding Statistical Ideas (Monday)

Application Domain Area Tutorials

- 16 What Children Can Tell Us About Technology: The CHIkids Model of Technology Immersion (Sunday morning plus additional time during the conference)
- 30 Distance Learning (Monday morning)
- 31 Applying CHI in Health Care: Domain Issues, Resources and Requirements (Monday morning)
- 33 Designing User Interfaces for Interactive Television (Monday afternoon)

Designing for the WWW

- 2 Introduction to Web Design (Saturday evening)
- 6 Java-Based User Interface Design and Development (Sunday)
- 15 Web Site Design from the Trenches (Sunday)
- 24 Web Sites that Work: Designing With Your Eyes Open (Monday)
- 36 Current Issues in Web Design (Monday evening)

Psychology of HCI

- 7 Cognitive Factors in Design: Basic Phenomena in Human Memory and Problem Solving (Sunday)
- 22 The Psychology of Multimedia: Principles of Perception and Cognition (Monday)

Management

- 12 The Usability Engineering Life Cycle (Sunday)
- 27 Selling Usability into Organizations: Strategies for Convincing Management of the Value of Usability (Monday)

Usability Engineering

- 4 Planning and Implementing User-Centred Design (Sunday)
- 5 Product Usability: Survival Techniques (Sunday)
- 34 Documenting UI Design: Practical Techniques for Conveying Design Ideas (Monday afternoon)

Graphic and Visual Design

- 11 Practical GUI Screen Design: Making It Usable (Sunday)
- 13 Metaphor Design for User Interfaces (Sunday)
- 26 The Art of the Interface: Visual Ideas, Principles and Inspiration for Interface Designers (Monday)
- 35 Managing Color in Interactive Systems (Monday afternoon)

Gathering Customer Data

- 10 Structured Observation: Practical Methods for Understanding Users and Their Work in Context (Sunday)
or
- 17 Getting Started on a Contextual Project (Sunday afternoon)
- 25 Contextual Design: Using Customer Work Models to Drive Systems Design (Monday)
or
- 32 Conceptual Design: From User Requirements to User Interface (Monday morning)

Visualization

- 3 Information Visualization (Saturday evening)
- 23 Information Visualization: Advanced Interface and Web Design (Monday)

Collaborative Environments

- 8 CSCW, Groupware and Workflow: Experiences, State of the Art and Future Trends (Sunday)
- 9 Network Communities, Community Networks (Sunday)
- 21 Developing Collaborative Applications on the World Wide Web (Monday)

1

HUMAN-COMPUTER INTERACTION: INTRODUCTION AND OVERVIEW

SATURDAY, 18 APRIL, HALF-DAY, EVENING

Keith A. Butler ▲ *Boeing Information and Support Services*

Robert J. K. Jacob ▲ *Tufts University*

Bonnie E. John ▲ *Carnegie Mellon University*

BENEFITS

If you are a newcomer to the HCI field, this tutorial will give you the background you need to get the most out of the CHI conference.

ORIGINS

This tutorial is a tried-and-true introduction to the field of HCI. It has become a CHI conference tradition.

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 CHI 98
- ▲ where to learn more in the published HCI literature

AUDIENCE

Professionals from computing-related fields who are new to the field of human-computer interaction. No background in HCI is assumed.

PRESENTATION

Lecture and small-group activities.

INSTRUCTORS

Keith Butler is a senior principal scientist for user-centered design at Boeing; previously, a member of the technical staff at Bell Labs. Rob Jacob is a faculty member at Tufts University's Electrical Engineering and Computer Science Department; previously, in the Human-Computer Interaction Lab at the Naval Research Laboratory. He is on the editorial board of *ACM Transactions on Computer-Human Interaction*. Bonnie John is a faculty member at Carnegie Mellon University's Computer Science and Psychology Departments and HCI Institute; previously, a mechanical engineer at Bell Laboratories designing data- and telecommunications systems. Her research develops "engineering models" of computer users and applies them to the evaluation and design of computer systems.

RELATED TUTORIALS

Other suggested choices for newcomers:

- 2 Introduction to Web Design (Saturday evening)
- 7 Cognitive Factors in Design: Basic Phenomena in Human Memory and Problem Solving (Sunday)
- 28 Avoiding Damned Lies: Understanding Statistical Ideas (Monday)

2

INTRODUCTION TO WEB DESIGN

SATURDAY, 18 APRIL, HALF-DAY, EVENING

Jakob Nielsen ▲ *Sun Microsystems*

BENEFITS

You will learn how to design compelling, easy to use, well-structured and attractive Web sites, as well as simple and efficient methods for testing Web sites for usability.

ORIGINS

This tutorial was highly attended at CHI 96 and CHI 97. Earlier versions were also presented at the World Wide Web Consortium's WWW'4, WWW'5 and WWW'6 conferences.

FEATURES

- ▲ understand customer-centric Web design
- ▲ learn how to
 - conduct competitive usability analysis of other sites
 - use card sorting to discover users' mental model of the information space
 - conduct user testing of Web designs
 - test early designs with paper prototypes
 - perform icon intuitiveness testing
 - redesign a Web site
 - designing for an international audience
- ▲ guidelines for usable Web design

AUDIENCE

Anyone responsible for authoring, designing and managing Web sites. Anyone with prior experience with the Web who understands the basic nature of Web pages.

PRESENTATION

Lecture and small-group activities.

INSTRUCTOR

Jakob Nielsen is a Sun Microsystems Distinguished Engineer. He was the user interface lead for the redesign of Sun's WWW pages, co-designed Sun's Intranet and has contributed to user interfaces for several other Web projects, online services and pre-Web hypertexts. Dr. Nielsen's most recent book is *Designing Exceptional Websites: Secrets of an Information Architect* (New Riders, November 1997). Other books include *Multimedia and Hypertext: the Internet and Beyond*, *Usability Engineering*, *Usability Inspection Methods* (with Robert L. Mack) and *International User Interfaces* (with Elisa del Galdo).

RELATED TUTORIALS

- 6 Java-Based User Interface Design and Development (Sunday)
- 15 Web Site Design From the Trenches (Sunday)
- 24 Web Sites that Work: Designing with Your Eyes Open (Monday)
- 36 Current Issues in Web Design (Monday evening)

3

INFORMATION VISUALIZATION

SATURDAY, 18 APRIL, HALF-DAY, EVENING

Stuart Card ▲ *Xerox PARC*

Stephen G. Eick ▲ *Bell Labs*

Nahum Gershon ▲ *MITRE*

BENEFITS

You will gain a working knowledge of the emerging field of information visualization including retrieved information from large document collections, the Web and databases.

ORIGINS

This successful CHI 97 tutorial has been revised for CHI 98.

FEATURES

- ▲ know when visualization improves usability
- ▲ learn about the perceptual and cognitive principles behind information visualization
- ▲ explore visualization and interaction techniques: hierarchies, landscapes and nets
- ▲ case studies, including WWW browsing and querying, are used to demonstrate key concepts

AUDIENCE

Participants should have interest in understanding this emerging and significant area and some basic knowledge in graphics and visualization.

PRESENTATION

Lecture and demonstrations.

INSTRUCTORS

Stuart Card, a XEROX Research Fellow, manages the User Interface Research group at Xerox Palo Alto Research Center performing research on theory and design of interactive computing systems. Card is co-author of the *ACM SIGCHI Curriculum Report*, and has instructed three tutorials at the CHI Conferences. Stephen G. Eick, the Technical Manager of the Data Visualization Research Group at Bell Labs, does research on extracting and visualizing latent in large databases (abstract networks, software source code and text corpora) using novel interactive visualizations. Eick presented tutorials on perception at SIGGRAPH 94, 95 and 96 and a software visualization tutorial at Visualization 93. Nahum Gershon, a Principal Scientist at The Mitre Corporation, works on information and data visualization, network browsers, image processing, data organization, and analysis of medical, environmental and other multidimensional data. He explores how knowledge of the human perceptual system can be exploited when designing visualization systems.

RELATED TUTORIALS

- 23 Information Visualization: Advanced Interface and Web Design (Monday)

4

PLANNING AND IMPLEMENTING USER-CENTRED DESIGN

SUNDAY, APRIL 19, FULL-DAY

Nigel Bevan ▲ *National Physical Laboratory*

Ian Curson ▲ *National Physical Laboratory*

BENEFITS

You will learn a structured approach to user-centered design based on the principles of the forthcoming International Standard "Human centred design processes for interactive systems" (ISO DIS 13407) and other associated standards.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ an introduction to user-centred design
- ▲ learn how ISO 13407 can be used in conjunction with other standards
- ▲ learn core techniques to support user-centred design
- ▲ explore methods for assuring usability
- ▲ learn how to select the right method to assure usability
- ▲ receive a copy of the *Handbook of User Centred Design*
- ▲ learn how to apply new international standards for software quality, including ISO 13407

AUDIENCE

Human factors practitioners and researchers interested in the practical application of appropriate methods. Project and business managers who wish to improve the usability of their systems. IT procurers who wish to ensure their suppliers have a human-centred design process in place.

PRESENTATION

Lecture and small-group exercises.

INSTRUCTORS

Nigel Bevan has first degrees in physics and psychology and a Ph.D. in man-machine interaction. He was technical coordinator of the MUSiC project, and is now manager of the INUSE and RESPECT projects with a network of Usability Support Centres around Europe. He is an active participant in ISO 13407, and is editor of ISO 9241-11, ISO 14598-1 and ISO 9126-1. Ian Curson has been working with NPL Usability Services since obtaining his masters degree in Technical Communication and Human-Machine Interaction in 1993. He is responsible for commercial services provided by NPL Usability Services, including consultant training and evaluations.

RELATED TUTORIALS

- 5 Product Usability: Survival Techniques (Sunday)
- 34 Documenting UI Designs (Monday afternoon)

5

PRODUCT USABILITY: SURVIVAL TECHNIQUES

SUNDAY, 19 APRIL, FULL-DAY

Jared M. Spool ▲ *User Interface Engineering*
Carolyn Snyder ▲ *User Interface Engineering***BENEFITS**

You will learn how to produce a more usable product by prototyping and testing a design in a matter of hours, using readily available materials.

ORIGINS

This is an update of a tutorial presented at several CHI conferences. This year more emphasis is placed on discount usability methods and less on design principles and user interface guidelines.

FEATURES

- ▲ develop products using a process of iterative refinement with frequent measurements to ensure they are still on course
- ▲ build a paper mock-up of a product interface using common office supplies
- ▲ usability test a paper mock-up and improve it very quickly based on feedback from users
- ▲ apply the concepts of affordances and mental models to create a successful design

AUDIENCE

All members of the development team, including engineers, designers, technical writers and managers. Experience in developing commercial products is highly recommended. Participants are not assumed to have experience with usability testing.

PRESENTATION

Lecture, hands-on design exercise and competition.

INSTRUCTORS

Jared M. Spool is Founding Principal of User Interface Engineering. He has over 16 years experience conducting usability evaluation on a variety of products, and is an expert in paper prototyping techniques. Jared is on the faculty of the Tufts University Gordon Institute. He speaks at other conferences around the country such as Web 97, SD 97 and WinHelp. Carolyn Snyder is a Principal at User Interface Engineering. A former software developer, now teaching paper prototyping techniques to development teams, facilitates usability tests, writes articles on topics related to usability and has lectured at Harvard and NIST. She has an MBA from the University of Chicago and a BS in Computer Science from the University of Illinois.

RELATED TUTORIALS

- 4 Planning and Implementing User-Centred Design (Sunday)
- 34 Documenting UI Designs (Monday afternoon)

6

JAVA-BASED USER INTERFACE DESIGN AND DEVELOPMENT

SUNDAY, 19 APRIL, FULL-DAY

Manfred Tscheligi ▲ *Center for Usability Research and Engineering*
Verena Giller ▲ *Center for Usability Research and Engineering***BENEFITS**

You will learn about the benefits of Java from a user interface designer's viewpoint.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ learn about existing user interfaces already implemented in Java
- ▲ learn basic concepts of implementing user interface functionality
- ▲ discover available user interface elements in common Java class libraries
- ▲ become familiar with the usage of the *Java User Interface Possibility Guide*
- ▲ learn about user interface components realized using Java beans
- ▲ use Java for the realization of a metaphor oriented information environment
- ▲ discuss future developments of Java and their implications

AUDIENCE

User interface designers, user interface programmers and researchers. Attendees should have basic knowledge of the Web, some experience with common user interface software concepts and user interface guidelines. Java programming knowledge is not necessary.

PRESENTATION

Interactive presentations and examples

INSTRUCTORS

Manfred Tscheligi is Professor of Applied Computer Science at the University of Vienna and Director of the Center for Usability Research and Engineering (CURE). Verena Giller is Research Associate at the University of Vienna and Vice Director of the Center for Usability Research and Engineering (CURE). CURE is working on research and industrial projects in various domains. CURE is a member of the European Usability Centre (EUSC) Network, and runs the Austrian Java Competence Center (JCCA) in cooperation with SUN Microsystems. Several Java oriented industrial projects are managed by these instructors.

RELATED TUTORIALS

- 2 Introduction to Web Design (Saturday evening)
- 15 Web Site Design From the Trenches (Sunday)
- 24 Web Sites that Work: Designing with Your Eyes Open (Monday)
- 36 Current Issues in Web Design (Monday evening)

7

COGNITIVE FACTORS IN DESIGN: BASIC PHENOMENA IN HUMAN MEMORY AND PROBLEM SOLVING

SUNDAY, APRIL 19, FULL-DAY

Thomas T. Hewett ▲ *Drexel University***BENEFITS**

You will learn the theoretical underpinnings of how people remember and how they solve problems. You will also learn how to use that knowledge during product design to interpret user interface guidelines and also to go beyond the guidelines.

ORIGINS

This was a top-rated tutorial at CHI 95, CHI 96 and CHI 97.

FEATURES

- ▲ intuitively understand a variety of phenomena through direct, hands-on exposure
- ▲ develop a basis for making educated design choices
- ▲ relate cognitive phenomena to human-computer interaction
- ▲ undertake self-directed study in cognitive psychology
- ▲ obtain a useful set of teaching materials for psychological aspects of human-computer interaction.

AUDIENCE

Anyone interested in human-computer interaction and interactive system design who has not done course work in cognitive psychology. Not intended for the human factors specialist, for the individual with extensive training in psychology or for the individual seeking a state-of-the-art literature review of the latest research in cognitive psychology.

PRESENTATION

Interactive presentation and hands-on demonstrations.

INSTRUCTOR

Tom Hewett is Professor of Psychology at Drexel University in Philadelphia, Pennsylvania, USA, where he teaches courses on Cognitive Psychology, Problem Solving and Creativity, Psychology of Human-Computer Interaction and the Psychology of Interaction Design. Some of his papers have described the structure and implications of a taxonomy for thinking about instructional computing. Dr. Hewett chaired the SIGCHI Curriculum Development Group which developed recommendations for undergraduate curricula and courses for HCI. He served for four years as vice-chair for operations of SIGCHI and was one of the general co-chairs for the CHI 94 conference.

RELATED TUTORIALS

- 22 The Psychology of Multimedia (Monday)

8

CSCW, GROUPWARE AND WORKFLOW: EXPERIENCES, STATE OF THE ART AND FUTURE TRENDS

SUNDAY, 19 APRIL, FULL-DAY

Steven Poltrock ▲ *Boeing Information and Support Services*
Jonathan Grudin ▲ *University of California at Irvine*

BENEFITS

You will learn what groupware technologies are being used, what problems people have encountered and how successes were obtained.

ORIGINS

Popular at previous CHI conferences, this tutorial has been revised for CHI 98.

FEATURES

- ▲ discover the multidisciplinary nature of CSCW
- ▲ learn about state-of-the-art technologies that support communication, collaboration and/or coordination
- ▲ understand behavioral, social and organizational challenges to developing, acquiring, and using these technologies and approaches
- ▲ future trends in groupware and global social impacts

AUDIENCE

Designers, developers, researchers, marketers and managers who need to know about the current possibilities and future trends of CSCW, groupware or workflow systems. A general background in HCI and experience working collaboratively is assumed. Broad knowledge or experience with collaborative technologies is not expected.

PRESENTATION

Lectures and structured activities.

INSTRUCTORS

Steven Poltrock and Jonathan Grudin, Co-Chairs of CSCW 98, began collaborating in 1986. Jonathan Grudin, Editor-in-Chief of *ACM Transactions on Computer-Human Interaction*, has worked as a developer and researcher, and has published numerous technical and popular articles. Steven Poltrock introduces, evaluates and deploys groupware systems that support information sharing, organizational memory, concurrent engineering, collaborative authoring and workflow management. Together they have authored several overviews of CSCW and groupware.

RELATED TUTORIALS

- 9 Network Communities, Community Networks (Sunday)
- 21 Developing Collaborative Applications on the World Wide Web (Monday)

9

NETWORK COMMUNITIES, COMMUNITY NETWORKS

SUNDAY, 19 APRIL, FULL DAY

John M. Carroll ▲ *Virginia Tech*
Mary Beth Rosson ▲ *Virginia Tech*

BENEFITS

A community network is a special case of a network community in which a physical community coextends with the network community. Some observers have argued that community networks represent a vital contemporary manifestation of strong democracy. This tutorial will survey and analyze network communities and community networks focusing on how they impact human activities and institutions.

ORIGINS

This timely and contemporary topic that has been successfully presented at previous CHI conferences has been updated for CHI 98.

FEATURES

- ▲ focus on community networks
- ▲ examine the Blacksburg Electronic Village
- ▲ learn about network community techniques and applications
- ▲ understand network mechanisms

AUDIENCE

Intended for HCI professionals who want to attain a basic understanding of network concepts, skills and issues. No prior knowledge is assumed.

PRESENTATION

Lecture and demonstrations.

INSTRUCTORS

John M. Carroll is Professor of Computer Science and Psychology and head of the Computer Science Department at Virginia Tech. His research is the analysis of learning, problem solving and collaboration in HCI contexts, and the design of appropriate methods, tools, and environments. His most recent work focuses on education and community history applications of the Blacksburg Electronic Village and the WWW. Mary Beth Rosson is Associate Professor of Computer Science at Virginia Tech; previously, a Research Staff Member and Manager at the IBM T. J. Watson Research Center. Her research interests include developing new paradigms for the study of human-computer interaction, using network technology to support collaboration, and psychological issues in the learning and use of the object-oriented design paradigm.

RELATED TUTORIALS

- 8 CSCW, Groupware and Workflow: Experiences, State of the Art and Future Trends (Sunday)
- 21 Developing Collaborative Applications on the World Wide Web (Monday)

10

STRUCTURED OBSERVATION: PRACTICAL METHODS FOR UNDERSTANDING USERS AND THEIR WORK IN CONTEXT

SUNDAY, 19 APRIL, FULL-DAY

Susan M. Dray ▲ *Dray & Associates*

BENEFITS

You will learn how to plan for and carry out observations of users. A heavy emphasis is placed on practical steps for the designer to take that will lead to success.

ORIGINS

This is an updated version of a highly-regarded CHI 97 tutorial.

FEATURES

- ▲ learn what Structured Observation techniques are
- ▲ learn four types of Structured Observation techniques:
 - naturalistic observation
 - contextual inquiry
 - usability roundtable
 - artifact walk through
- ▲ practice doing a Structured Observation (using Naturalistic Observation)
- ▲ identify next steps for data analysis and use in design
- ▲ learn when and how to apply these tools to the software development process

AUDIENCE

Anyone who wants to understand how users work in order to do a better job of system design. Developers, designers and managers who are responsible for customer needs analysis and identifying user requirements.

PRESENTATION

Lecture, group discussion and small group exercises to obtain practical experience performing structured observation.

INSTRUCTOR

Susan M. Dray has a Ph.D. in Psychology from UCLA and has worked as researcher, manager and consultant in the organizational design and use of technology at Honeywell, Inc., American Express Financial Advisors and most recently, as an independent consultant who has published numerous articles. She is a Fellow of the Human Factors and Ergonomics Society (HFES). She has been active with the CHI conferences since CHI 84. She was the North American Editor of the international journal, *Behaviour and Information Technology* and currently edits the Business Views column of *Interactions*.

RELATED TUTORIALS

- 17 Getting Started on a Contextual Project (Sunday afternoon)
- 25 Contextual Design: Using Customer Work Models to Drive Systems Design (Monday)
- 32 Conceptual Design: From User Requirements to User Interface (Monday morning)

11 PRACTICAL GUI SCREEN DESIGN: MAKING IT USABLE

SUNDAY, APRIL 19, FULL-DAY

Cliff Wilding ▲ *The Hiser Group*

BENEFITS

You will learn the principles of good screen design, including a detailed examination of screen layout, templates and metaphors.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ understand how to take advantage of user knowledge when creating screen designs that work
- ▲ examine layout techniques, including color, fonts and symbols
- ▲ learn the principles of creating easy-to-use software and interactive new media products

AUDIENCE

Computer professionals involved in user interface design, including systems analysts, business analysts, software developers, multimedia developers and computer-based training authors. It is an advantage if attendees are familiar with GUIs and/or GUI design.

PRESENTATION

Presentation and hands-on exercises.

INSTRUCTOR

Cliff Wilding is from Melbourne, Australia, and is a senior consultant with The Hiser Group, a user interface design and usability consultancy. He specializes in contextual inquiry, user interface design, participatory design and usability testing for commercial and in-house applications. Platforms range from traditional GUI operating systems to new media and the Web. Most of his time is spent on project work for clients in the Australian government and industry, including Telstra, Commonwealth Bank of Australia, Australia Post, Health Insurance, BHP and the Royal Australian Air Force.

RELATED TUTORIALS

- 13 Metaphor Design for User Interfaces (Sunday)
- 26 The Art of the Interface: Visual Ideas, Principles and Inspiration for Interface Designers (Monday)
- 35 Managing Color in Interactive Systems (Monday afternoon)

12 THE USABILITY ENGINEERING LIFE CYCLE

SUNDAY, 19 APRIL, FULL-DAY

Deborah J. Mayhew ▲ *Deborah J. Mayhew & Associates*

BENEFITS

Learn what techniques and methods are available for designing good user interfaces to both traditional software applications and to Web pages and applets, when and why to apply them, evaluation techniques, and organizational and managerial strategies.

ORIGINS

This CHI “classic,” renamed for CHI 98, consistently receives high ratings. The tutorial has been updated to reflect new ideas, approaches and methods in the field.

FEATURES

- ▲ analyzing the costs and benefits of applying usability engineering methods
- ▲ organizational structures and processes that foster good interface design
- ▲ planning for and managing the use of usability techniques within the overall project plan
- ▲ evaluating design alternatives by defining and prioritizing objective goals
- ▲ making interface design decisions by applying quick and inexpensive interface evaluation techniques
- ▲ information gathering methods that support early design and specification
- ▲ testing and evaluation methods for simulations and prototypes

AUDIENCE

Development managers, developers responsible for usability and usability engineering practitioners. Experience with software development methodologies will provide a useful context. No experience with usability engineering is necessary.

PRESENTATION

This tutorial is organized around a sample development life cycle and presents an overview of human factors methods that can be applied at different points in the development process.

INSTRUCTOR

Deborah J. Mayhew holds a Ph.D. in Cognitive Psychology, has worked 19 years in software development organizations, 12 years as a usability consultant and has authored and contributed to three books on usability. Her clients include IBM, AT&T, American Airlines and many others. Often her work involves introducing usability techniques and methods into software development organizations.

RELATED TUTORIALS

- 27 Selling Usability Into Organizations: Strategies for Convincing Management of the Value of Usability (Monday)

13 METAPHOR DESIGN FOR USER INTERFACES

SUNDAY, 19 APRIL, FULL-DAY

Aaron Marcus ▲ *Aaron Marcus and Associates, Inc.*

BENEFITS

You will learn how to manage the fundamental concepts, terms, images and sounds for metaphors in productivity tools, multimedia and Web products and services, including data displays.

ORIGINS

This is a popular tutorial from previous CHI conferences

FEATURES

- ▲ discuss user interface components, classical semiotics and rhetoric
- ▲ examine the history of metaphors in computer systems
- ▲ discover how metaphors of computer systems are changing
- ▲ explore metaphors through live demonstrations
- ▲ test your understanding of metaphors

AUDIENCE

Researchers and developers who may have designed user interfaces but have not studied metaphors specifically. Oriented toward practical user interface designers as well as those interested in visual communication, art history and anthropological aspects of computer interfaces.

PRESENTATION

Lecture, case-study analyses, small-group design exercises and demonstrations.

INSTRUCTOR

Aaron Marcus, president of Aaron Marcus and Associates, Inc. of Emeryville, CA and New York, NY, has presented tutorials since 1980. He founded his user interface design firm in 1982. He has written or co-authored four books on visual communication and over 100 articles, essays and papers on metaphor design, and visual communication.

RELATED TUTORIALS

- 11 Practical GUI Screen Design: Making it Usable (Sunday)
- 26 The Art of the Interface: Visual Ideas, Principles and Inspiration for Interface Designers (Monday)
- 35 Managing Color in Interactive Systems (Monday afternoon)

14 DESIGNING SPEECH USER INTERFACES

SUNDAY, 19 APRIL, FULL-DAY

Nicole Yankelovich ▲ *Sun Microsystems Lab*

Jennifer Lai ▲ *IBM T. J. Watson Research Center*

BENEFITS

You will explore techniques for designing speech user interfaces by examining existing products and research prototypes.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ learn about basic concepts of speech input (recognition) and output (synthesis)
- ▲ understand the breadth of products and types of applications where speech is used
- ▲ discover design issues that affect both multimodal and speech-only systems including techniques for providing user feedback, strategies for designing effective prompts, methods for handling user and system errors
- ▲ examine a range of user studies that are appropriate at different stages of a speech application's life cycle

AUDIENCE

User interface designers and application developers who are interested in understanding the issues involved in designing effective speech interfaces. Participants are not expected to have prior knowledge of the basic underlying speech input and output concepts.

PRESENTATION

Lecture and small-group exercises.

INSTRUCTORS

Nicole Yankelovich is a Principal Investigator of the Speech Applications project at Sun Microsystems Laboratories. She specializes in designing speech user interfaces and has published numerous papers on user interface design, speech applications and hypertext. Jennifer Lai has been working with the Speech Recognition effort at IBM Research for 9 years. She has conducted requirements gathering, design, development and usability testing for speech systems, including the IBM product MedSpeak/Radiology. She has published papers on the use of speech in multimedia systems, the development of statistical language models and holds the patent for a Method and System for Natural Language Translation.

15 WEB SITE DESIGN FROM THE TRENCHES

SUNDAY, 19 APRIL, FULL-DAY

Tom Brinck ▲ *Diamond Bullet Design*

Darren Gergle ▲ *Diamond Bullet Design*

Scott Wood ▲ *Diamond Bullet Design*

BENEFITS

You will learn practical techniques for designing Web sites while meeting tight schedules and working with limited budgets.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ Web site design with tight schedules and limited budgets
- ▲ project management
- ▲ requirements analysis
- ▲ graphic design
- ▲ mock-up methods
- ▲ user interface guidelines for the Web
- ▲ techniques for user testing

AUDIENCE

Designers and developers who are interested in Web site design. Experience browsing and searching the Web is assumed.

PRESENTATION

Lecture and small-group activities.

INSTRUCTORS

Tom Brinck is director of design & production at Diamond Bullet Design, doing Web site design and usability consulting for a wide spectrum of clients. Tom has an MA in computer science and cognitive psychology, and has previously done research in educational software, multimedia, and network services at Apple Computer, Toshiba and Bellcore. Darren Gergle is a digital designer at Diamond Bullet Design. He has degrees in fine arts and psychology from the University of Michigan and studied printmaking at the Glasgow School of Art. He previously worked on various digital media projects at the University of Michigan Museum of Art. Scott Wood is president of Diamond Bullet Design. His duties include site, database and software design. He has an MA in computer science and experience with software development and usability consulting.

RELATED TUTORIALS

- 2 Introduction to Web Design (Saturday evening)
- 6 Java-Based User Interface Design and Development (Sunday)
- 24 Web Sites that Work: Designing with Your Eyes Open (Monday)
- 36 Current Issues in Web Design (Monday evening)

16 WHAT CHILDREN CAN TELL US ABOUT TECHNOLOGY: THE CHIKIDS MODEL OF TECHNOLOGY IMMERSION

FULL-DAY TUTORIAL TO TAKE PLACE AS FOLLOWS:

Sunday, April 19, half-day, morning

1.5 hours during mid-week (multiple time slots available)

Thursday, April 23, 9:00 am - 10:30 am

Angela Boltman ▲ *Hawthorne Elementary School, Albuquerque Public Schools*

Allison Druin ▲ *University of Maryland*

Adrian Miura ▲ *University of New Mexico*

BENEFITS

You will learn about the CHIKids model of technology immersion for kids, a problem-centered approach to teaching for educators, and examples of contextual inquiry and participatory design methodologies for HCI professionals.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ introduction to the CHIKids model of technology immersion
- ▲ exploration with contextual inquiry and participatory design
- ▲ hands-on experience with kids in the CHIKids program (1.5 hours during conference)
- ▲ community discussion, reflection and brainstorming for the future in the area of technology, children and HCI

AUDIENCE

Anyone who is interested in learning more about the design of technology environments for kids, as well as the immersion of kids in the technology experience. No previous background or knowledge in the area of children and technology is assumed.

PRESENTATION

Lecture, group discussion, hands-on participation in CHIKids.

INSTRUCTORS

Angela Boltman is a CHI 98 CHIKids Co-Chair. She was a 1997 CHIKids leader. Angela is the Technology Specialist at Hawthorne Elementary School in Albuquerque, New Mexico. Allison Druin is Assistant Professor at the University of Maryland's College of Education and Institute for Advanced Computer Studies. She is the founder of the CHIKids program. Adrian Miura is a Multimedia Project Developer at the University of New Mexico's Division of Media Technology Services. He is currently developing the University's first Web-based course.

RELATED TUTORIALS

Other tutorials offered within the Education Application Domain Area:

- 30 Distance Learning (Monday morning)

17 GETTING STARTED ON A CONTEXTUAL PROJECT

SUNDAY, 19 APRIL, HALF-DAY AFTERNOON

Karen Holtzblatt ▲ *InContext Enterprises*

Hugh Beyer ▲ *InContext Enterprises*

BENEFITS

You will be able to plan and conduct a project using contextual techniques to gather customer data.

ORIGINS

Update of a highly rated CHI 97 tutorial.

FEATURES

- ▲ learn technical and organizational issues to consider before introducing contextual techniques
- ▲ learn how to
 - choose a project and set its focus
 - define what work to investigate and what techniques to use
 - decide which customers to visit
 - set up the logistics for a visit
 - plan the appropriate methods to analyze the resulting data given organizational constraints
 - structure the project and data gathering teams for best effect
 - communicate the project's findings
 - start planning for your own project
- ▲ have the opportunity to discuss specific situations and problems with others and with the instructors

AUDIENCE

Anyone interested in putting contextual or customer-centered techniques into practice in their own projects. Will be most valuable to those with some knowledge of contextual techniques since it focuses on procedural aspects of using them and takes knowledge of the techniques for granted.

PRESENTATION

Lecture, demonstration and hands-on exercises.

INSTRUCTORS

The instructors developed Contextual Design, a customer-centered design process that extends the contextual inquiry data gathering technique. Dr. Holtzblatt originated the Contextual Inquiry approach to field data collection and pioneered its introduction into working engineering teams. She has used customer-centered processes to design and evaluate software, hardware and business processes. Hugh Beyer has worked in the industry as programmer, architect and consultant. He has designed and developed object-oriented repositories and integrated CASE systems, and has developed processes for using customer data to drive object-oriented design.

RELATED TUTORIALS

10 Structured Observation: Practical Methods for Understanding Users and Their Work in Context (Sunday)

18 19 20 DRAWING ON THE RIGHT SIDE OF THE BRAIN

18 – SUNDAY, 19 APRIL, FULL-DAY

19 – MONDAY, 20 APRIL, FULL-DAY

20 – MONDAY, 20 APRIL, FULL-DAY

Betty Edwards ▲ *Drawing on the Right Side of the Brain, LLC* (teaching #18 & #19)

Brian Bomeisler ▲ *Drawing on the Right Side of the Brain, LLC* (teaching #18 & #20)

BENEFITS

You will learn to draw what you see, rather than what you believe you see. You will learn basic strategies to unlock the visual perceptual mode of thinking.

ORIGINS

This is a top-rated tutorial from CHI 97 and is a one-day version of Betty Edwards' renowned drawing course.

FEATURES

- ▲ an understanding of the nature of drawing
- ▲ basic drawing skills

AUDIENCE

This tutorial is intended for a wide audience. No previous drawing experience is required; in fact, it's designed for people who believe they can't draw. Enrollment is limited for this tutorial—register early to guarantee yourself a space.

PRESENTATION

Lecture with hands-on drawing exercises.

INSTRUCTORS

Betty Edwards is a creativity consultant and author of *Drawing on the Right Side of the Brain* and *Drawing on the Artist Within*. Her educational background is in art education and psychology. She is Professor Emeritus at California State University, Long Beach. Brian Bomeisler is an exhibiting New York painter and instructor of drawing. He holds a BA in fine art from Pratt Institute of New York. His work appears in the permanent collections of the San Diego Museum of Contemporary Art, and in corporate and private collections worldwide. He has taught with Betty Edwards for over ten years.

RELATED TUTORIALS

This tutorial will be offered on Sunday and twice on Monday. Betty Edwards will lead the Sunday session (#18) and one session on Monday (#19). Brian Bomeisler, who teaches this course with Betty, will instruct the second Monday session (#20).

21 DEVELOPING COLLABORATIVE APPLICATIONS ON THE WORLD WIDE WEB

MONDAY, 20 APRIL, FULL-DAY

Andreas Girgensohn ▲ *FX Palo Alto Laboratory*

Allison Lee ▲ *IBM T. J. Watson Research Center*

BENEFITS

You will learn how to use commonly available WWW tools to design, develop, and deploy interactive and collaborative applications.

ORIGINS

This tutorial is revised from its presentation at CHI 97.

FEATURES

- ▲ insights into understanding of the WWW building blocks
- ▲ how to use the WWW as a rapid prototyping platform for collaborative applications
- ▲ adding application data and behavior to the WWW
- ▲ advantages and limitations of using the WWW for application development

AUDIENCE

Designers, developers and researchers working on CSCW applications or creating WWW context with an interactive and collaborative component. Basic familiarity with at least one programming language with a C-like syntax (C++, Java, Perl) is assumed. No development experience in CSCW is required.

PRESENTATION

Lectures, demonstrations, discussions and group exercises.

INSTRUCTORS

Andreas Girgensohn is a research scientist at FX Palo Alto Laboratory and Alison Lee is a Research Staff member at IBM T. J. Watson Research Center. Both have strong backgrounds in computer science and human-computer interaction. Over the last three years, they have developed tools and methodologies to support distributed work groups. They have presented updated versions of this tutorial to the CHI, CSCW, Web and KBSE communities within the past year.

RELATED TUTORIALS

- 8 CSCW, Groupware and Workflow: Experiences, State of the Art and Future Trends (Sunday)
- 9 Network Communities, Community Networks (Sunday)

22

THE PSYCHOLOGY OF MULTIMEDIA: PRINCIPLES OF PERCEPTION AND COGNITION

MONDAY, 20 APRIL, FULL-DAY

Douglas Gillan ▲ *New Mexico State University*

BENEFITS

You will learn the theoretical foundations of how people perceive objects, color, depth in 2D displays, motion, speech and music. You will also learn how people comprehend text, graphics, animation and video.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ learn about the principles of perception and cognition that underlie the design and use of multimedia systems
- ▲ learn about applied perceptual and cognitive research related to multimedia systems
- ▲ learn how to apply the basic principles of perception and cognition as you design user interfaces

AUDIENCE

Anyone interested in understanding how principles from perception and cognition can influence interface design.

PRESENTATION

Lecture, demonstrations and a design/evaluation exercise.

INSTRUCTOR

Douglas Gillan has extensive experience teaching courses in perception and cognition. He has a Ph.D. in experimental psychology, has worked in industry (10 years) and academia (9 years) focusing on applying cognition and perception to human-computer interaction. Gillan teaches upper division undergraduate and graduate courses in perception, cognition, human factors, engineering psychology and multimedia.

RELATED TUTORIALS

- 7 Cognitive Factors in Design: Basic Phenomena in Human Memory and Problem Solving (Sunday)

23

INFORMATION VISUALIZATION: ADVANCED INTERFACE AND WEB DESIGN

MONDAY, 20 APRIL, FULL-DAY

Ben Shneiderman ▲ *Human-Computer Interaction Laboratory, University of Maryland*

Catherine Plaisant ▲ *Human-Computer Interaction Laboratory, University of Maryland*

BENEFITS

You will learn about recent research results and how they can be applied to state of the art interface and Web design.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ apply information visualization techniques
- ▲ learn about recent research results
- ▲ see effective prototypes
- ▲ understand the strengths and weaknesses in existing designs
- ▲ learn guidelines for advanced interfaces and Web sites

AUDIENCE

User interface and WWW designers and their managers.

PRESENTATION

Lecture, videos and demonstrations.

INSTRUCTORS

Ben Shneiderman (Professor in the Department of Computer Science) and Catherine Plaisant (Assistant Research Scientist) are both at the Human-Computer Interaction Laboratory (HCIL) at the University of Maryland at College Park. Dr. Plaisant has an engineering background from France and has been a successful user interface designer and researcher for 10 years. Dr. Shneiderman is the author of *Software Psychology: Human Factors in Computer and Information Systems* (1980) and *Designing the User Interface: Strategies for Effective Human-Computer Interaction* (Third Edition, 1998).

24

WEB SITES THAT WORK: DESIGNING WITH YOUR EYES OPEN

MONDAY, 20 APRIL, FULL-DAY

Jared M. Spool ▲ *User Interface Engineering*

Will Schroeder ▲ *User Interface Engineering*

Tara Scanlon ▲ *User Interface Engineering*

Carolyn Snyder ▲ *User Interface Engineering*

BENEFITS

You will learn how to design a Web site that matches your business goals, and to identify and avoid usability problems by examining other commercial sites. Includes unpublished results of recent research.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ identify the business goals of your Web site
- ▲ design sites around user needs
- ▲ support users' natural navigational styles
- ▲ identify and avoid usability problems seen in other commercial Web sites
- ▲ hands-on exercises with live Web sites
- ▲ understand and apply research findings

AUDIENCE

Anyone who has experience designing a Web site or creating content for one, including interface designers, developers, writers, graphic designers, usability professionals and marketers. No technical knowledge is necessary. Usability testing experience is useful but not required. Enrollment is limited for this tutorial; register early to guarantee yourself a space.

PRESENTATION

Lecture/discussion, numerous examples including screen shots, video and live demonstrations. Small group exercises with live Web sites on the Internet.

INSTRUCTORS

Jared M. Spool is Founding Principal of User Interface Engineering and on the faculty of the Tufts University Gordon Institute. He has over 16 years of experience conducting usability evaluations on a variety of products, is an expert in paper prototyping techniques, teaches seminars on product usability, and speaks at conferences such as Web 97, SD 97 and WinHelp. Carolyn Snyder is a Principal at User Interface Engineering. She teaches paper prototyping techniques, facilitates usability tests, writes articles on usability and has lectured at Harvard and NIST.

RELATED TUTORIALS

- 2 Introduction to Web Design (Saturday evening)
- 6 Java-Based User Interface Design and Development (Sunday)
- 15 Web Site Design From the Trenches (Sunday)
- 36 Current Issues in Web Design (Monday evening)

25

CONTEXTUAL DESIGN: USING CUSTOMER WORK MODELS TO DRIVE SYSTEMS DESIGN

MONDAY, 20 APRIL, FULL-DAY

Karen Holtzblatt ▲ *InContext Enterprises*

Hugh Beyer ▲ *InContext Enterprises*

BENEFITS

You will learn how to develop work models for representing data from field studies in a form that is suitable for system design.

ORIGINS

This is an update of a highly rated tutorial from CHI 95, CHI 96 and CHI 97.

FEATURES

- ▲ contextual influence on people in their work environments
- ▲ different types of work modeling techniques for representing users' tasks, environments, communication paths and organizational culture
- ▲ how to drive design from work models
- ▲ consolidating work models to reveal common structure, work strategies, intents and concepts
- ▲ techniques to generate, evaluate and iterate innovative designs from work models

AUDIENCE

Anyone interested in customer-centered design, requirements analysis or tailoring products and systems to people's work. Especially valuable for those who have experience collecting field data about users.

PRESENTATION

Lectures, video, demonstrations and hands-on exercises.

INSTRUCTORS

The instructors developed Contextual Design, a customer-centered design process that extends the contextual inquiry data gathering technique. Dr. Holtzblatt originated the Contextual Inquiry approach to field data collection and pioneered its introduction into working engineering teams. She has used customer-centered processes to design and evaluate software, hardware and business processes. Hugh Beyer has worked in the industry as programmer, architect and consultant. He has designed and developed object-oriented repositories and integrated CASE systems, and has developed processes for using customer data to drive object-oriented design.

RELATED TUTORIALS

- 10 Structured Observation: Practical Methods for Understanding Users and their Work in Context (Sunday)
- 17 Getting Started on a Contextual Project (Sunday afternoon)
- 32 Conceptual Design: From User Requirements to User Interface (Monday morning)

26

THE ART OF THE INTERFACE: VISUAL IDEAS, PRINCIPLES AND INSPIRATION FOR INTERFACE DESIGNERS

MONDAY, 20 APRIL, FULL-DAY

Suzanne Watzman ▲ *Watzman Information Design*

BENEFITS

You will learn principles of visual communication from historical art and images, visual communication and information design. Explore these principles through examples, exercises and individual and group activities.

ORIGINS

This is a new tutorial for CHI 98, but is based on established seminar series and tutorials.

FEATURES

- ▲ understand the principles of art/images, visual communication and information design
- ▲ understand successful and failed images
- ▲ learn visual design principles
- ▲ learn basic visual building blocks
- ▲ learn to create effective visual communication solutions

Participants are strongly encouraged to bring printouts of work-in-process for a tutorial project. For example, bring particularly troublesome interactions, unclear visual designs or icons, unclear information designs, confusing graphics. Please limit printouts to the minimum required (2–4).

AUDIENCE

Anyone who is involved in the design and presentation of visual information including visual designers, software developers, researchers, programmers, interface designers, human factors specialists and developers of online information.

PRESENTATION

Interactive lecture, slides, demonstrations, drawing exercises and guided individual and group activities.

INSTRUCTOR

Suzanne Watzman is president and founder of Watzman Information Design. Her work focuses on making things easier to understand and use including interactive environments, branding and organizational identity, technical communications, conceptual graphics and interface design. She has taught professional courses at MIT, Massachusetts College of Art, IBM and Los Alamos National Laboratory; has presented tutorials on visual, graphic and information design at CHI 92, CHI 94, Hypertext, Swiss Ergonomics Society and Influent Technologies.

RELATED TUTORIALS

- 11 Practical GUI Screen Design: Making it Usable (Sunday)
- 13 Metaphor Design for User Interfaces (Sunday)
- 35 Managing Color in Interactive Systems (Monday afternoon)

27

SELLING USABILITY INTO ORGANIZATIONS: STRATEGIES FOR CONVINCING MANAGEMENT OF THE VALUE OF USABILITY

MONDAY, 20 APRIL, FULL-DAY

Sarah Bloomer ▲ *The Hiser Group*

Rachel Croft ▲ *The Hiser Group*

Susan Wolfe ▲ *The Hiser Group*

BENEFITS

You will learn techniques for convincing management and development teams of the value of usability in a way meaningful to their organization.

ORIGINS

This is an update of a highly rated tutorial from CHI 97.

FEATURES

- ▲ barriers to and opportunities for usability activities
- ▲ techniques for communicating the value of usability to your organization
- ▲ aligning usability activities with business goals and objectives
- ▲ translating usability information into terms each target audience understands
- ▲ practice in developing usability strategy for an organization
- ▲ analysis of real-world cases

AUDIENCE

Usability professionals, user interface designers, developers and their managers who want to improve the acceptance of usability activities within their organizations. Consultants who wish to convince potential clients.

PRESENTATION

Lecture with team exercises and group discussions.

INSTRUCTORS

The Hiser Group has consulted to a number of large clients in Australia over the past four years, facilitating the introduction of usability at the organizational level. Sarah Bloomer, Rachel Croft and Susan Wolfe have worked with numerous clients including Telstra, NCR, Kodak, the Australian Bureau of Statistics, GE and IBM. Their expertise includes style guide development, cost-justification, ethnographic methods and sociological issues.

RELATED TUTORIALS

- 12 The Usability Engineering Life Cycle (Sunday)

28

AVOIDING DAMNED LIES: UNDERSTANDING STATISTICAL IDEAS

MONDAY, 20 APRIL, FULL-DAY

Alan Dix ▲ *Staffordshire University*

BENEFITS

You will gain an understanding of key statistical concepts. You will learn to understand and interpret statistics generated by yourself or others.

ORIGINS

This is an update of a highly rated tutorial from BCS HCI 96.

FEATURES

- ▲ see how random the world really is
- ▲ find out how to see through randomness
- ▲ learn about accuracy measures and why square people are a bad idea
- ▲ understand what statistical proof is all about
- ▲ learn what significance does and doesn't mean
- ▲ learn how to design experiments to get the most from your work
- ▲ discuss the special problems of HCI

AUDIENCE

Anyone who reads, writes or reviews HCI literature. Researchers and practitioners who have used statistics or learned about it, but feel they need more depth of understanding.

PRESENTATION

Lecture, demonstrations and group exercises

INSTRUCTOR

Alan Dix is Professor of Computing and Associate Dean at Staffordshire University, UK. He has worked in HCI research since 1984 with an emphasis on applying formal techniques to HCI and CSCW design. Before moving into HCI he was a mathematician and professional statistician. Dix has published numerous articles and several books including *Human-Computer Interaction* (with J. Finlan, G. Abowd and R. Beale, Prentice Hall, 1993, the second edition of which will be launched at CHI 98).

29

DESIGNING SHARED VIRTUAL ENVIRONMENTS

MONDAY, 20 APRIL, FULL-DAY

Andrew McGrath ▲ *BT Labs, Center for Human Communications*

Amanda Oldroyd ▲ *BT Labs, Center for Human Communications*

BENEFITS

You will learn where and when to use virtual worlds. You will also learn about the tools available to support the design of virtual worlds.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ understand the conceptual underpinnings of successful virtual environments
- ▲ learn where to use virtual environments
- ▲ learn about tools for creating virtual environments
- ▲ learn about design issues involved in virtual environments

AUDIENCE

Anyone interested in designing virtual environments. Prior knowledge of Internet technology, basic computer graphics terminology and an interest in visual design concepts is recommended.

PRESENTATION

Lecture, videos, live demonstrations. Design exercises with group discussions.

INSTRUCTORS

Andrew McGrath is a senior designer and technical manager at BT's research labs in the UK working on Shared Spaces projects. His most recent work has been on The Mirror – a collaboration between BT, Sony and the BBC, exploring inhabited TV. Since 1991, he has focused on 3D user interfaces, including management of the Portal—an early VRML site. Andrew has a B.A. in 3D Design from Glasgow School of Art and an M.A. in Product Design from Manchester Polytechnic. Amanda Oldroyd is an animator at BT's research labs working on inhabited TV and education applications. Her most recent work has been on The Mirror. She is currently working on Renegade TV, a collaboration with Channel 4 and Illuminations, extending concepts pioneered in The Mirror. Amanda has a B.A. in Animation from Edinburgh School of Art and an M.A. in Animation from Bournemouth University.

30

DISTANCE LEARNING

MONDAY, 20 APRIL, HALF-DAY MORNING

Lisa Neal ▲ *EDS Collaboration, Groupware, and Messaging Services*

BENEFITS

You will learn what technologies are being used for distance learning, how to select and deploy them, and how to design and deliver effective distance learning classes.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ motivation for distance learning
- ▲ situations in which distance learning is currently being used
- ▲ technologies for delivering asynchronous distance learning, including audio- and videoconferencing, application-sharing, chats and electronic whiteboards
- ▲ combine synchronous and asynchronous distance learning technologies
- ▲ how to structure and deliver a distance learning class
- ▲ issues in the selection, deployment and use of distance learning technologies
- ▲ case studies including EDS, Digital, Open University, Linköping University and Ziff-Davis University
- ▲ future trends in distance learning from an educational and business perspective

AUDIENCE

Managers, administrators or educators interested in setting up distance learning programs or developing and delivering distance learning classes. No experience with collaborative technologies is necessary.

PRESENTATION

Lecture and discussion with both demos and videos. Real-life examples and case-studies will illustrate key points.

INSTRUCTOR

Lisa Neal holds a Ph.D. in Computer Science and is a Senior Research Engineer at Electronic Data Systems where she consults on distance learning and collaborative technologies. She developed a distance learning program at EDS, and develops and teaches courses on Emerging Technologies in HCI and Collaborative Environments. Her work is featured in the proceedings of HCI International '97 and GROUP '97. She has organized and will moderate a panel on distance learning at CHI 98. Neal is author of a forthcoming book on the selection and use of distance learning technologies.

RELATED TUTORIALS

Other tutorials offered within the Education Application Domain Area:

- 16 What Children Can Tell Us About Technology Immersion (Sunday morning plus additional time during the conference)

APPLYING CHI IN HEALTH CARE: DOMAIN ISSUES, RESOURCES AND REQUIREMENTS

MONDAY, 20 APRIL, HALF-DAY MORNING

John Gosbee, MD, M.S. ▲ *Michigan State University—Kalamazoo Center for Medical Studies*

BENEFITS

You will learn about issues in health care that must be considered when designing user interfaces for this community. You will learn about barriers to HCI in the health care industry and how to overcome them.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ macro and micro issues in health care that HCI professionals must consider
- ▲ disciplines similar to HCI already involved in the health care industry
- ▲ learn about the training needed to become an HCI specialist in health care
- ▲ barriers to HCI in the health care industry and how to overcome them

AUDIENCE

Anyone that would like to find and cultivate opportunities in the area of health care information systems.

PRESENTATION

Lecture, case studies and exercises.

INSTRUCTOR

Dr. Gosbee has worked in the area of human factors and medicine for over a decade. He has developed interdisciplinary curriculum and applied research in university settings (e.g. medical school, industrial engineering department). He has consulted with and provided workshops to several medical computer and device companies. Gosbee has participated in developing national guidelines and policy in this area, with, for instance, the Food and Drug Administration.

CONCEPTUAL DESIGN: FROM USER REQUIREMENTS TO USER INTERFACE

MONDAY, 20 APRIL, HALF-DAY MORNING

Kathy Potosnak ▲ *Interface Concepts*

BENEFITS

You will learn the purpose and value of conceptual design as the basis for a user interface. You will gain hands-on experience with a user-centered conceptual design framework that will guide you step-by-step when creating or modifying a conceptual design for a product.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ how to start with user requirements and get to a user interface design
- ▲ the seven steps of the conceptual design framework
- ▲ contents of a conceptual model
- ▲ constructing a user interface model to clearly and accurately convey the conceptual design to users
- ▲ benefits of this simple, cost-effective approach

AUDIENCE

Anyone who participates in product design activities.

PRESENTATION

Lecture interspersed with several large group and small team exercises.

INSTRUCTOR

Kathy Potosnak is principal consultant of Interface Concepts, a user interface consulting firm she established in 1995. She developed and refined the conceptual design framework based on 14 years of experience in human-computer interaction. Previously, Kathy was employed at Adobe, Aldus and Ashton-Tate, where she was responsible for user interface design across entire product lines. She received her Ph.D. in engineering psychology from Johns Hopkins University, has published over 30 articles and taught numerous UI design courses. She is co-founder and past chair of the Puget Sound SIGCHI chapter and a member of SIGCHI, HFES, IEEE-CS and UPA.

RELATED TUTORIALS

- 10 Structured Observation: Practical Methods for Understanding Users and Their Work in Context (Sunday)
- 17 Getting Started on a Contextual Project (Sunday afternoon)
- 25 Contextual Design: Using Customer Work Models to Drive Systems Design (Monday)

DESIGNING USER INTERFACES FOR INTERACTIVE TELEVISION

MONDAY, 20 APRIL, HALF-DAY AFTERNOON

Dale Herigstad ▲ *Dale Herigstad Design*

Anna M. Wichansky ▲ *Oracle*

BENEFITS

You will learn how to design and evaluate user interfaces for interactive television, Internet appliances using television displays and interactive kiosks. You will understand the differences between computer and television technologies.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ understand the differences between computer and television technologies
- ▲ how to create visual designs for television displays
- ▲ how to create software interaction models for infrared remote controls and keyboards
- ▲ how to develop or select a usable input device for television applications
- ▲ how to develop user profiles lab facilities, and test protocols for evaluating television application usability

AUDIENCE

User interface professionals interested in designing and testing interfaces for interactive TV. Basic knowledge of user interface design, development and testing is assumed.

PRESENTATION

Lecture, demonstrations, videos and group exercise.

INSTRUCTORS

Dale Herigstad is an Emmy Award-winning director/designer of motion graphics for television and film since 1978, and interaction designer since 1991. His credits include TV and film graphics for Robert Abel, Rhythm & Hues, other West Coast design and production studios, the TCI and Time Warner Full Service Network (FSN) interactive television trials, and on-air graphics for the CBS Winter Olympics. Anna Wichansky is an applied experimental psychologist specializing in how people interact with technology. She has worked in the telecommunications and computing industries since 1978. At Silicon Graphics, Inc., she managed development of the remote control for the FSN Orlando trial and conducted usability evaluations of Dale's designs. She contributed to design and testing of the NC™ UI at Oracle Corporation, where she now manages the Usability Engineering Labs.

34 DOCUMENTING UI DESIGNS: PRACTICAL TECHNIQUES FOR CONVEYING DESIGN IDEAS

MONDAY, 20 APRIL, HALF-DAY AFTERNOON

Paul McInerney ▲ IBM Canada

BENEFITS

You will learn how to document user interface designs to simplify implementation and evaluation. You will learn several techniques and when to use each.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

- ▲ appreciate the need for good UI documentation
- ▲ become aware of the wide array of available techniques
- ▲ learn to use selected techniques
- ▲ learn to address UI documentation from within the context of a project

AUDIENCE

User interface designers interested in improving how they specify/document their designs. Experience designing user interfaces is assumed.

PRESENTATION

Lecture with hands-on exercises.

INSTRUCTOR

Paul McInerney is a User Interface Designer at IBM. Over the past decade, he has worked at several firms and as a usability consultant. He has authored several publications and has used all of the techniques in this tutorial.

RELATED TUTORIALS

- 4 Planning and Implementing User-Centred Design (Sunday)
- 5 Product Usability: Survival Techniques (Sunday)

35 MANAGING COLOR IN INTERACTIVE SYSTEMS

MONDAY, 20 APRIL, HALF-DAY AFTERNOON

Mary A. Mooney ▲ Sun Microsystems

BENEFITS

You will learn perceptual, physiological and color management principles that underlie effective visual design with color. You will learn to apply these principles to the design of graphical user interfaces, information displays, products and virtual environments.

ORIGINS

This tutorial has been revised from CHI 97.

FEATURES

- ▲ perceptual, physiological and color management principles that underlie effective visual design with color
- ▲ learn to apply these principles to graphical user interfaces, information displays, products and virtual environments
- ▲ learn the basic properties of color and how to manipulate them within various color spaces
- ▲ learn to communicate more effectively about color

AUDIENCE

Anyone that designs or develops user interfaces which incorporate color including interface designers, human factors engineering, usability specialists and developers of online information.

PRESENTATION

Lecture, slides, demonstrations.

INSTRUCTOR

Mary A. Mooney is a Human Factors Engineer, Research Artist and Graphic Designer with Sun Microsystems. She has designed user interfaces for hardware products, television and Internet interfaces for companies such as Tandem Computer, Sybase, TCI, Sun and Time-Warner. In addition to her work in the computer domain, Mooney is an accomplished photographer and painter. She has taught computer graphics and spoken at several industry conferences. She is a member of SIGCHI and Color Marketing Group.

RELATED TUTORIALS

- 11 Practical GUI Screen Design: Making it Usable (Sunday)
- 13 Metaphor Design for User Interfaces (Sunday)
- 26 The Art of the Interface: Visual Ideas, Principles and Inspiration for Interface-Designers (Monday)

36 CURRENT ISSUES IN WEB DESIGN

MONDAY, 20 APRIL, HALF-DAY EVENING

Jakob Nielsen ▲ Sun Microsystems

Bruce "Tog" Tognazzini ▲ Healthon

Erika Kindlund ▲ JavaSoft

BENEFITS

You will gain an understanding of the current trends on the Web and their impact on the changing requirements for Web design.

ORIGINS

This is a new tutorial for CHI 98.

FEATURES

An exact list is impossible to provide because this tutorial will deal with issues that are current at the time of the conference. Some possible topics include:

- ▲ managing and coordinating the design of large Web sites
- ▲ designing Web-based applications
- ▲ applet design issues

AUDIENCE

Anyone interested in learning about current trends in Web design. Experience with the Web, basic Web trends and technologies, and Web design and usability is assumed.

PRESENTATION

Lecture, demonstrations, case studies and discussion of issues raised by participants.

INSTRUCTORS

Jakob Nielsen is a Sun Microsystems Distinguished Engineer. He was the user interface lead for the redesign of Sun's WWW pages, co-designed Sun's intranet, and has contributed to user interfaces for several other Web projects as well as online services and pre-Web hypertexts. In 1996, Bruce Tognazzini left his position as a Distinguished Engineer at Sun Microsystems to become Principal Scientist at Healthon, a start-up company devoted to moving the medical industry onto the Internet. Erika Kindlund is a usability engineer at the JavaSoft division of Sun Microsystems. She conducts usability studies on the JavaSoft product line and evaluates emerging Web-enabling technologies and their impact on the user experience. Prior to joining Sun, Erika was a Human Factors Engineer at IBM's Santa Teresa Labs, developing multimedia database technology. She has also been a research scientist with the Interactive Multimedia Group at Cornell University, where she investigated collaborative design within networked multimedia environments.

RELATED TUTORIALS

- 2 Introduction to Web Design (Saturday evening)
- 6 Java-Based User Interface Design and Development User Interface (Sunday)
- 15 Web Site Design from the Trenches (Sunday)
- 24 Web Sites that Work: Designing with Your Eyes Open (Monday)

Workshops provide an extended forum for small groups (15-20 people) to exchange ideas on a specific topic of common interest. CHI 98 offers workshops covering a wide range of HCI topics. Workshops will be held on Sunday and Monday, 19 and 20 April 1998.

Workshops require prospective participants to submit a position paper to the organizers prior to CHI 98. Position statements are expected to be 2-4 pages long and to outline participants' views on the workshop theme and reasons for interest in the topic. Check each workshop for specific information.

Workshop Acceptance

Submit position statements directly to the designated contact person. The contact person can also answer questions and provide additional information. Unless otherwise noted, position statements must be received by 15 February 1998. Submitters will be notified of selection by the end of February 1998. Accepted workshop participants will be charged a registration fee of US\$50 for a one-day workshop and US\$100 for one-and-a-half- or two-day workshops.

Workshop Registration

To take advantage of reduced conference fees, register by the early deadline (12 March 1998) even if you have not received notification of workshop acceptance. If you receive notification after registering for the conference, please send workshop payment to the Registration Office along with a note including the name of your workshop and your name, address, telephone, fax and email.

If you register for the conference after you receive notification of workshop acceptance, you may register for the workshop and conference with the conference registration form. Just complete the designated workshop section and include your workshop payment along with your conference payment.

For additional information about CHI 98 Workshops visit the Web at: www.acm.org/sigchi/chi98/workshops/

1 BASIC RESEARCH SYMPOSIUM

SUNDAY, 19 APRIL & MONDAY, 20 APRIL

Joseph Konstan ▲ *University of Minnesota*

Jane Siegel ▲ *Carnegie Mellon University*

The CHI Basic Research Symposium presents an opportunity for researchers from different disciplines to exchange new developments and insights from their own fields and thereby expand their vision of human-computer interaction. The two-day event is a cross between a mini-conference and a workshop. Participants are selected by a program committee that reviews submitted position papers, bringing together a diverse group of researchers with innovative research underway. The symposium itself includes interactive research presentations, group discussions around common themes and small, group break-out activities.

The mission of the CHI Basic Research Symposium is to provide a venue where researchers conducting ground-breaking, controversial and emerging research can discuss that research with a diverse group of peers. Our vision for this year's Basic Research Symposium is for each participant to leave with a better understanding of the research methods, goals and frontiers of a wide range of HCI disciplines. Each participant should contribute to the collective understanding and leave with new ideas for conducting, integrating and applying research.

The Basic Research Symposium welcomes two types of submissions:

(1) Position Papers. Up to ten pages introducing your field and your work. Authors of accepted position papers will be given time to present the work in an interactive discussion format.

(2) Position Statements. Up to two pages introducing you and your interests. Authors of accepted position statements will be invited to participate in the symposium.

CONTACT

Joseph Konstan

University of Minnesota

Department of Computer Science

4-192 EE/CS Building, 200 Union St. SE

Minneapolis, MN 55455 USA

Tel: +1 612 625 1831

Email: chi98-brs@cs.umn.edu

2

INNOVATION AND EVALUATION IN INFORMATION EXPLORATION INTERFACES

SUNDAY, 19 APRIL & MONDAY, 20 APRIL

Gene Golovchinsky ▲ *FX Palo Alto Laboratory*

Nick Belkin ▲ *Rutgers University*

Traditional Information Retrieval (IR) is concerned with improving effectiveness of indexing and retrieval mechanisms, and with supporting one information seeking behavior: specified searching through query formulation. This supports one kind of user population, with one kind of information need. The networked information environment has resulted in a shift in the user population of IR systems. This has introduced new classes of users, in the sense of levels of expertise, and has also made clear that there are different kinds of information needs and different kinds of information seeking behaviors than those supported by traditional IR systems and techniques. This workshop focuses on developing an understanding of one such information seeking behavior, Information Exploration, on interface design for supporting this behavior and on evaluation methods for assessing such interfaces. Information Exploration addresses the goal of refining a vague concept into a more thorough understanding of the problem that led to the information interaction.

Problems to be addressed include:

- ▲ Identification of the different tasks associated with Information Exploration
- ▲ The principled design of interfaces to support such tasks
- ▲ The evaluation of such interfaces

Twenty participants will be selected on the basis of a one-page abstract of a position paper on one of the three themes of the workshop. These abstracts must include a specification of the Information Exploration task which is being addressed and an explicit statement of the relationship of the proposal/position to that task.

CONTACT

Gene Golovchinsky

FX PAL, Inc.

3400 Hillview Ave., Bldg 4

Palo Alto, CA 94304 USA

Tel: +1 650 813 7361

Email: gene@pal.xerox.com

3

INCORPORATING WORK, PROCESS AND TASK ANALYSIS INTO INDUSTRIAL OBJECT-ORIENTED SYSTEMS DESIGN

SUNDAY, 19 APRIL & MONDAY, 20 APRIL

John Artim ▲ *OOCL*

Mark van Harmelen ▲ *Cutting Edge*

Discussion at last year's workshop, "Object-Oriented Models in User Interface Design," examined the role of object modeling in user interface design. Workshop participants collaborated on a framework describing user interface design in the software development life cycle. This framework is described in the October 1997 issue of *SIGCHI Bulletin*. We take as a starting point this framework. The goal of this workshop is to produce a method and notation framework to support the use of task, process and work analysis and modeling as a source of objects for system design and a determinant for suitable end user support by the system.

Potential participants should submit a position paper of approximately 2000 words that describes experience or theory relating to:

- ▲ The role of task, process and work analysis in object identification and user interface design
- ▲ The role of additional techniques such as ethnography
- ▲ Methods and notations in user interface design and their role in collaboration with object-oriented development teams
- ▲ User interface architectures in object-oriented development
- ▲ The role and content of meta-models in user interface design and collaborative development of the interface
- ▲ Tool support issues
- ▲ Levels of formality in models of user interfaces
- ▲ Any flaws and difficulties in these approaches

Papers should, where appropriate, build upon last year's workshop discussion as expressed in the *SIGCHI Bulletin* article.

CONTACT

John Artim

OOCL (USA), Inc.

2841 Junction Ave., Suite 200

San Jose, CA 95134 USA

Tel: +1 408 576 6494

Email: jartim@acm.org

4

INNOVATIVE INTERFACE METAPHORS FOR VISUAL MEDIA

SUNDAY, 19 APRIL & MONDAY, 20 APRIL

Arnd Steinmetz ▲ *GMD-IPSI*

Frank Nack ▲ *GMD-IPSI*

Nahum D. Gershon ▲ *MITRE*

The fundamental problem associated with video and images is that they are already visual data. Thus, many interesting classes of visual information have no natural and obvious alternative presentation despite their original appearance. The arising problem is, therefore, to visualize a more metaphorical view onto that information which does not automatically map onto the physical world. In spite of this need, current visualization research (e.g., Videostreamer (Davenport) or Video Micons and Video Space Icon (Tonomura/Abe)) has not been active enough in discovering new visual metaphors for representing/presenting pictorial information.

The purpose of the workshop is to explore new ideas for representations of visual media and to clarify the nature, scope, limits and dangers of new interface metaphors for visual media.

Applicants should send position papers (3–5 pages in .pdf format), articulating their interests, ideas and experiences in information visualization and visual media. Videos and application demonstrations are strongly encouraged. We welcome papers from people with a variety of insights and perspectives (e.g., HCI, data mining, imaging, graphics, entertainment, education, etc.). Selection, based on the position papers, will seek to balance perspective and interests of the participants.

Participants will be expected to read the position papers of other participants prior to the workshop, and to prepare a brief presentation of their own views. Participants will be asked to assist in the preparation of the workshop report. The workshop is limited to 15 participants.

CONTACT

Arnd Steinmetz

Mobile Interactive Media, GMD-IPSI

Dolivostr. 15

64293 Darmstadt Germany

Tel: +49 6151 869862

Email: arnd.steinmetz@darmstadt.gmd.de

5

DESIGNING USER INTERFACES FOR SAFETY CRITICAL SYSTEMS

SUNDAY, 19 APRIL &
MONDAY, 20 APRIL (HALF-DAY)

Phillipe Palanque ▲ *University Toulouse 1*

Fabio Paterno ▲ *CNUCE-CNR*

Peter Wright ▲ *University of York*

When designing user interfaces for safety critical systems designers must satisfy both usability and safety requirements at both the specification and implementation level. These systems have human operators and increasingly their role is mediated by computer technology. Clearly, in this domain, usability issues can have potentially disastrous consequences, yet CHI conferences have not addressed this type of application. We believe that the design of user interfaces in this area requires the use of innovative technologies for supporting user interactions and the support of many kinds of skills and backgrounds to be addressed effectively.

The challenge of the workshop is to bring together researchers from the disciplines of software engineering and human factors to consider issues in safety critical system design which are at the intersection of usability and safety. Areas of concern are requirements analysis, specification, testing and evaluation.

We will focus on specific issues which we feel are relevant in this application area:

- ▲ What is usability in a safety critical context and how to evaluate it
- ▲ How to analyze and prevent human error through system specification and implementation; possible classifications of human errors improving their understanding
- ▲ How to guarantee the safety of possible interactions
- ▲ How to design for robust cooperation among the users of technologically mediated work.

CONTACT

Phillipe Palanque

University Toulouse 1

Place Anatole France

31042 Toulouse Cedex France

Tel: +33 561 63 35 88

Email: palanque@cict.fr

6

FROM TASK TO DIALOGUE: TASK-BASED USER INTERFACE DESIGN

SUNDAY, 19 APRIL &
MONDAY, 20 APRIL (HALF-DAY)

Birgit Bomsdorf ▲ *University of Paderborn*

Gerd Szwillus ▲ *University of Paderborn*

It is generally accepted that the tasks the user has to fulfill with a system should play an important role in its design. Knowing the user's tasks enables the designer to construct user interfaces reflecting the tasks' properties, including efficient usage patterns, easy-to-use interaction sequences and powerful assistance features. As a consequence, task modeling becomes a central part of the user interface design process. To accomplish this, a systematic transition has to exist from task identification to user interface construction. Hence, a task model of how the user performs her or his tasks with the system has to be defined. This model contains the task structure, the division of labor between user and system as well as information about the objects used within tasks. The result of this design phase is a dialogue model: a constructive abstraction of the finally implemented user interface.

The goal of our workshop is to learn more about the transition from task model to dialogue model. We will bring together people with expertise in this domain in order to collect, structure and interrelate work dealing with this non-trivial transition. We will discuss practical design projects where this problem showed up, research on theoretical, systematic approaches to the problem and development of tools and techniques supporting the transition.

The workshop is directed at people from academia, research departments of companies or software development companies dealing with practical user interface design problems. All participants should be actively interested in task and dialogue modeling and in the transition from one model to the other.

CONTACT

Gerd Szwillus

University of Paderborn

Fachbereich Mathematik/Informatik

D-33095 Paderborn Germany

Tel: +49 5251 606624

Email: szwillus@uni-paderborn.de

7

HYPED-MEDIA TO HYPER-MEDIA: TOWARD THEORETICAL FOUNDATIONS OF DESIGN, USE AND EVALUATION

SUNDAY, 19 APRIL &
MONDAY, 20 APRIL (HALF-DAY)

N. Hari Narayanan ▲ *Auburn University*

The rate of creation of hypermedia information has far outpaced developments in the theory of how to design hypermedia to best facilitate users' comprehension of, and navigation within, the information being presented. Despite (or perhaps, because of) the commercial success of these systems, their design had largely been guided by common sense and intuitions rather than theory. In this context, the theme of the workshop is emerging theoretical foundations of design, use and evaluation of interactive visualization, multimedia and hypermedia systems.

Topics Include

- ▲ Computational models
- ▲ Cognitive models of interacting with hypermedia
- ▲ Comprehension models of extracting and integrating information from multimedia components
- ▲ Hypermedia learning models
- ▲ Design guidelines derived from formal analyses or empirical investigations
- ▲ Models for predicting browsing and navigation patterns
- ▲ Theoretical and experimental approaches to evaluating hypermedia systems.

Two kinds of electronic submissions (HTML files) are solicited:

Long papers on the development or application of theoretical models, surveys of different approaches or position papers on the workshop's topic.

Short statements with relevant prior research.

Invitations to participate will be issued based on a review of submissions. We will be looking for innovative theories, integrative approaches, promising works in progress and the potential to stimulate discussion. We expect to invite no more than 20 participants.

CONTACT

N. Hari Narayanan

Computer Science & Engineering Department

Auburn University

Auburn AL 36849 USA

Tel: +1 334 844 6312

Email: narayan@eng.auburn.edu

8

THE TOUGHEST WEB USER INTERFACE CHALLENGES

SUNDAY, 19 APRIL

Richard Miller ▲ *SoftCom*Keith Rettig ▲ *Bellcore*

User interfaces on the Web are different from typical software interfaces because, as designers, we are constrained by the rapidly changing technology, Hyper-Text Markup Language (HTML), its related tools and a lack of robust widgets. Many of these problems may not be optimally solvable, but currently solutions are clearly less than optimal.

The goal of this workshop is to take the "cocktail napkin" interface discussions that commonly occur at conferences and move them into a structured workshop setting to further our understanding of Web interface issues. Issues such as cross-platform compatibility, navigation complexity, object selection and manipulation, and design considerations are relevant.

This workshop requires and encourages active participation of those involved. It is an exciting and bustling atmosphere with design work going on within each small work group. A user-centered design process for facilitating the workshop's activities and paper prototyping will be used to develop potential interface solutions.

In order to prepare for the workshop, design issues are required to be submitted electronically to the workshop organizers by 1 April 1998. Thus, participants are guaranteed that discussions and the results of the workshop will be current and interesting. It is acceptable to submit a short text-only email if the design issue can be expressed accurately. Solutions are not required or expected in the submission. We are looking, as a group, to solve problems that participants find difficult to translate into a Web solution. Knowledge of HTML is expected from all participants, and exposure to other Web technologies is helpful.

CONTACT

Richard Miller

SoftCom, Inc.

200 Middlesex Essex Turnpike, Suite 303

Iselin, NJ 08830 USA

Tel: +1 732 283 5900, Ext.612

Email: rmiller@softcom.com

9

UNPACKING STRATEGIC USABILITY: CORPORATE STRATEGY AND USABILITY RESEARCH

SUNDAY, 19 APRIL

Stephanie Rosenbaum ▲ *Tec-Ed*Janice Rohn ▲ *Sun Microsystems*Judee Humburg ▲ *Independent Consultant*

Usability research can be a strategic tool that contributes to an organization's business direction, marketing position and overall strategic planning. Human factors professionals can partner with other groups and build cross-functional teams to define usability research programs that help focus product development to achieve key company goals.

This workshop expands on the organizers' previous CHI workshops and panels on corporate strategy and usability research. Strategic usability reaches beyond best practices in product development and design, striving for a role where customer understanding and usability data influence decision-making throughout the organization. In "unpacking strategic usability" we will explore the meaning of "strategic" in both product and organizational contexts.

The workshop will bring together practitioners who:

- ▲ Already incorporate iterative usability research in product design and development
- ▲ Are trying to establish usability research as a strategic tool within their organizations
- ▲ Have attempted to build cross-functional teams to achieve this vision.

We solicit case studies of successful and unsuccessful experiences; we'll learn as much or more from unsuccessful efforts. This workshop is limited to 15 participants. In your 3-10 page position paper, describe your organizational environment, what you have done to achieve strategic usability (the methods you used and how well they worked) and any other new ideas for building strategic usability. A template is available for describing organizational environments.

CONTACT

Stephanie Rosenbaum

Tec-Ed, Inc.

P.O. Box 1905

Ann Arbor, MI 48106 USA

Tel: +1 313 995 1010

Email: stephanie@teced.com

10

USER INTERFACES FOR COMPUTERS—TOO MUCH OF A GOOD THING? IDENTIFYING AND RESOLVING BLOAT IN THE USER INTERFACE

SUNDAY, 19 APRIL

Leah Kaufman ▲ *Microsoft*Brad Weed ▲ *Microsoft*

The steady increase in the number of functions in software applications has led to consistent criticism of feature and interface bloat. The sheer number of features challenges interaction designers to make interfaces that communicate the software's potential as well as its visible functions. It charges users with figuring out which of the myriad of features will actually accomplish the tasks they want to do.

This workshop explores three distinct aspects of feature and interface bloat:

- ▲ In what way(s) have features increased? How have interfaces changed to accommodate this?
- ▲ How have these changes affected users? How does bloat enhance and/or detract from user's work?
- ▲ How do we truly resolve this issue: optimize for many features, trim down to essentials or some compromise of the two positions?

Through examples, discussions, formal debate, shared experience with interface design and use, we will try to reach a clear understanding of bloat and finally, a set of recommendations for addressing it. A collaborative paper based on the workshop's discussion and findings will be submitted for publication.

Those interested in this workshop should submit a 1-2 page paper describing their ideas on this problem, specifically, the advantages and disadvantages of expansive software vs. software with a limited set of commonly used features. Please state your position on the issue, based on empirical evidence if possible.

CONTACT

Leah Kaufman

Microsoft Corporation

One Microsoft Way

Redmond, WA 98052-6399 USA

Tel: +1 425 703 2245

Email: leahk@microsoft.com

11

WEB NAVIGATION: RESOLVING CONFLICTS BETWEEN THE DESKTOP AND THE WEB

SUNDAY, 19 APRIL

Hal Shubin ▲ *Interaction Design*

Ron Perkins ▲ *Design Perspectives*

Navigation on the Web is different from navigation on "traditional" platforms like Macintosh and Windows. Users of the new platform find a model of navigation that conflicts with the conceptual model they developed on the older platforms. Rather than finding ways for users to cope on this new platform, how can we design Web applications so people can work more easily, with fewer transfer-learning problems?

This topic is becoming more important as the Web is becoming ubiquitous. Good navigation is crucial for the success of applications on this platform. Little work has been done on this topic to date; this workshop should stimulate some good discussion. Workshop members will discuss their experiences and ways to overcome the problems. They will walk away with a concrete understanding of the important differences and with new ideas for designing for the Web.

Submit a 2–4 page position paper including a portfolio of Web navigation problems caused by the differences in navigation on the Web and other platforms. The paper should describe your background and the examples. The examples can be problems that you have solved, or problems that you have come across, with suggestions for change. We will look for a variety of participants who have given significant thought to navigation issues on the Web.

Submissions will be via email, and will be posted on the Web for easy access and discussion.

CONTACT

Hal Shubin

Interaction Design, Inc.

78 Chilton Street

Belmont, MA 02178 USA

Tel: +1 617 489 6595

Email: hshubin@user.com

12

BEYOND INTERNET BUSINESS-AS-USUAL

MONDAY, 20 APRIL

Markus Stolze ▲ *IBM Zurich*

Patrick Steiger ▲ *IBM Zurich*

Michael Good ▲ *SAP Technology*

The increasing success and popularity of Internet commerce makes it important to step beyond current limitations to overcome the problems shop designers are struggling with today, to better exploit the opportunities of electronic media and to prepare for new types of products and services. The goal of the workshop is to better understand the current state of Internet commerce and to generate a road map and research agenda for moving beyond Internet business-as-usual. Towards this end we want designers to report their practical experiences with setting up, running, maintaining and improving electronic shops. We want researchers to present prototypes, technologies and frameworks that show ways to transcend the current state of the art in Internet commerce and to accommodate growing user needs. Moreover, we want research and experience reports on how Internet commerce is changing the social fabric of business as well as the nature of individual transactions.

If you are interested in the workshop, submit a one-page statement of your background and pertinent interests, together with one recent paper (or description of an implemented system, including URL and/or other screen shots) related to the workshop topic. Before submitting an application and in order to receive a longer description of the workshop and what will be asked of participants please review the workshop Web page at: www.zurich.ibm.com/~mrs/chi98ws.html.

CONTACT

Markus Stolze

IBM Research Division

Zurich Research Laboratory

Saeumerstrasse 4

CH-8803 Rueschlikon Switzerland

Tel: +41 1 724 8263

Email: mrs@zurich.ibm.com

13

LEARNER-CENTERED DESIGN: ADDRESSING, FINALLY, THE UNIQUE NEEDS OF LEARNERS

MONDAY, 20 APRIL

Sherry Hsi ▲ *UC Berkeley*

Elliot Soloway ▲ *University of Michigan*

Ease of use, valuable as it certainly is, is too limited a vision. We need to raise our expectations for what computationally-based interfaces can support and address the challenge of nurturing the intellectual growth of children and adults. Simply put, we need to move from focusing just on the needs of users to focusing on the needs of learners (i.e., growth, diversity, motivation).

A new generation of researchers cross-trained in education, engineering, design, cognitive science and computer science, are taking the design process into schools, homes and workplaces. This new generation's design practices combine academic research, technology design, and assessment in authentic classroom context to formulate emerging practices, new design methods and principles. The goal of these folks is to design software that "make people more effective learners" while also designing interfaces that make them want to learn and know how to learn beyond the computer task at hand. We wish to take the opportunity of CHI 98, with its theme of education, to hold the first formal meeting of those interested in Learner-Centered Design (LCD).

If you are interested in participating, please send a one-page description of your current efforts in addressing the needs of learners, plus a one-paragraph statement about what you hope to get out of such a one-day workshop. The program committee will then review all submissions and select 20 participants. Send statements to Elliot Soloway, soloway@umich.edu and Sherry Hsi, hsi@socrates.berkeley.edu.

CONTACT

Elliot Soloway

University of Michigan

Ann Arbor, MI 48109

Tel: +1 313 763 6988

Email: soloway@umich.edu

14

TRUST AND ACCOUNTABILITY: PRESERVING HUMAN VALUES IN INTERACTIONAL EXPERIENCE

MONDAY, 20 APRIL

Batya Friedman ▲ *Colby College*

Jonathan Grudin ▲ *UC Irvine*

The common good of our information infrastructure depends on designs through which users can establish and maintain trust and accountability. Consider, for example, current questions in the design of Internet commerce. Should we provide simple statements of security? Should we provide technical descriptions of security technology (e.g., encryption algorithms)? Or, following the UL approval seal for electric light bulbs and appliances, should we evolve a set of standards and conventional notations for establishing levels of trust and channels for accountability? Or all of the above and more?

In this workshop we are concerned with understanding how to design computer-based interactional experiences that preserve trust and accountability. We draw on the organizers' background and participants' research and design experiences to: (1) identify positive designs and abuses of trust and accountability in computer systems and (2) generate design principles for preserving trust and accountability in the design of future systems. Presumably successful designs will require multi-faceted innovations that include new technical mechanisms, interface metaphors and, on a societal level, the development of social conventions and standards.

Who should attend? Participants with diverse backgrounds and design experiences are desired, including designers, educators, practitioners and researchers. Interested individuals should submit a letter describing his or her (1) interest in the topic, (2) background and (3) three cases in which he or she has encountered issues of trust and/or accountability in a computer system, either as a designer or as a user. Each case should discuss the context of use, the design and the issue that arose.

CONTACT

Batya Friedman

Colby College

Waterville, ME 04901 USA

Tel: +1 207 872 3572

Email: b_friedm@colby.edu

15

USER INTERFACES FOR COMPUTER-BASED PATIENT RECORDS

MONDAY, 20 APRIL

Tom Brinck ▲ *Diamond Bullet Design*

Gary York ▲ *ComFrame Software*

The patient record is a central artifact used throughout the health care setting, not only by physicians and nurses, but by numerous hospital staff from clinicians to housekeeping. In 1991, the Institute of Medicine produced a report called *The Computer-Based Patient Record* (CPR) that set down a vision for computerizing the wide variety of activities in documenting, reviewing and storing the patient record.

Variations of CPR systems have been known by many names, including "electronic medical records" and "clinical information systems." CPRs offer the potential for substantially reduced healthcare costs and improved patient care, but many would attribute their slow adoption to the difficulty of designing user interfaces appropriate to the incredibly complex domain of health care.

The goals for the workshop are:

- ▲ To share research and experience with user interfaces for CPRs
- ▲ To lay out a set of findings and usability requirements which guide the design of CPRs
- ▲ To prepare a set of user interface guidelines for CPRs
- ▲ To set forth an agenda for future research and a user interface focus for future systems development

We invite participation from a wide range of professionals involved with the design, development, deployment and evaluation of the CPR to discuss user interface issues, identify roadblocks in designing effective user interfaces and set an agenda for the future of user interface issues in the design of CPRs.

Up to date information on the workshop will be available at: www.diamondbullet.com/cpr

CONTACT

Tom Brinck

Diamond Bullet Design

315 W. Huron, Suite 140

Ann Arbor, MI 48103 USA

Tel: +1 313 665 9307

Email: tom@diamondbullet.com



We have a particularly exciting technical program this year. Records were set for submissions in almost every program category, and the re-

sponse from reviewers was almost overwhelming! The result is that the quality of the program is higher than ever. One of our goals is to continue to try new venues for presenting content. In order to make room for new areas, we used your feedback from the last two years to decide which program areas would benefit from a sabbatical. Another goal is to infuse new perspectives about HCI into the program, and we will be very interested in your feedback on how well this works. A third goal is to provide more opportunities for developing the skills that will be needed as the industries supported by our community continue to evolve. Overall, the diversity of the program provides something for everyone. There are opportunities for learning and contributing whether you are a practitioner or a researcher, whether you are in industry or academia, whether you are just entering the field or whether you have been in it for awhile.

The major area of innovation this year is the introduction of an increased emphasis on application domains. For CHI 98, efforts were made to bring in experts in the areas of education, health care and entertainment. You will have the opportunity to hear special speakers over lunch, take tutorials, attend panels and listen to papers in each of these areas. You will hear about the challenges faced in each of these areas that the HCI community can help to address; you will find new ways of thinking about our discipline. As a result, we hope conversations throughout the conference will be stimulating and informative.

The Tutorial Program draws on lessons and requests from the past. For example, there will be several opportunities to develop skills in Web design, and breakthrough courses in developing drawing skills. Many of the tutorials will be organized into groups and scheduled such that a set of interrelated skills can be developed over the tutorial program. A great deal of work has gone into continuing to enrich the Demonstrations, Late-Breaking Results, Papers, Panels, Workshops and Video areas of the program. This year, the posters program focuses on Student Posters and opportunities to talk with students about their work. The SIGs provide another wonderful opportunity for meeting with other professionals to exchange ideas about topics of common interest.

The CHIkids program is back for its third exciting year at CHI 98! The CHIkids "computer camp" is an ideal way for children

and parents to share in the evolving HCI adventure! The Development Consortium will draw on the CHIkids program to provide unique opportunities for a group of teachers to participate in CHI and exchange ideas about how to introduce and work with technology in the classroom. Students participating as part of the Doctoral Consortium and Student Vol-

unteers at the conference will have a chance to meet speakers informally, share ideas and build upon their knowledge of the field.

CHI always offers more than can possibly be experienced in the time available. Please join us at CHI 98 and choose those program areas and events that will benefit or challenge you the most...and have fun!

▲ CLARE-MARIE KARAT AND ARNOLD LUND ▲ CONFERENCE AND TECHNICAL PROGRAM CO-CHAIRS ▲

Technical Program Overview

APPLICATION DOMAINS

The domain tracks consist of thematically related collections of papers, panels, tutorials, speakers and other events. The tracks provide a way to learn about and discuss the issues in education (Ed), health care (H) and entertainment (E) (see specially designated sessions), and explore work that is underway addressing the issues of making the impossible possible.

DEMONSTRATIONS

Demonstrations enable participants to view systems in action in a "lecture" style presentation. In addition, selected demonstrations provide an opportunity to gain hands-on experience with demonstrations presented in the formal technical program.

LATE BREAKING RESULTS

These are short talks that are lightly refereed and enable presenters to discuss new ideas and recent research. These sessions will be less formal than those containing material from the early submission categories.

PANELS

Panels allow speakers and the audience to explore, debate and reflect upon controversial or emerging HCI issues.

PAPERS

Papers (including design briefings) present high quality original research, theory or case studies of the design process for solutions.

PLENARIES

The attendees will hear content-rich descriptions of experts' perspectives on major trends in the HCI field. These visionaries will share their insights on future research and practice that will make the impossible possible.

POSTERS

Student posters provide an excellent opportunity to discuss late-breaking results and on-going work during the presentations. Student posters remain posted throughout the conference. Presenters will be available at their posters in The Commons on Wednesday from 10:00 to 11:00 am. Any workshop-generated posters will also be available here during the conference.

SPECIAL INTEREST GROUPS (SIGs)

Special Interest Groups (SIGs) enable people sharing common interests to meet informally for discussion. SIG topics can include new research areas, tools, methods, cultural diversity, industrial relations or social implications of computing. Anyone can organize a SIG and anyone can attend (you don't have to be a "member" of these groups). SIGs may still be proposed after 8 January 1998, up to and at the conference, but if accepted they will only be publicized at the conference. For information on SIG proposals please see the CHI 98 Call for Participation, the CHI 98 Web site (www.acm.org/sigchi/chi98) or email (chi98-sigs@acm.org).

VIDEO PROGRAM

The Formal Video Program contributions come from researchers and practitioners around the world and serve as a showcase for a wide variety of innovative HCI design, tools and interaction techniques. The video program also includes video figures from some of the conference technical papers. The Formal Video Program is included with the registration materials for conference participants. The Formal Video Program will also be shown Sunday through Thursday, in most conference hotel rooms. A contents listing of the video program can be found at the CHI 98 Web site (www.acm.org/sigchi/chi98). Additional copies of the Formal Video Program can be purchased at the CHI 98 Store.

opening and closing plenaries

OPENING PLENARY

TUESDAY, 21 APRIL, 8:30 AM TO 10:00 AM

Codex, Memex, Genex: The Pursuit of Transformational Technologies



Ben Shneiderman
Department of Computer Science
University of Maryland
Lab: www.cs.umd.edu/projects/hcil

A handwritten codex or printed book transformed society by allowing users to preserve and share information. Today, leather-bound volumes and illuminated manuscripts have given way to animated image maps and hot links. Vannevar Bush's memex has inspired the World Wide Web, which provides users with vast information resources and convenient communications. In looking to the future, we might again transform society by building a genex, a generator of excellence. Such an inspirational environment would empower personal and collaborative creativity by enabling users to:

- ▲ collect information from an existing domain of knowledge,

- ▲ create innovations using advanced tools,
- ▲ consult with peers or mentors in the field, and then
- ▲ disseminate the results widely.

This talk describes how a family of integrated software tools might support this four-phase model of creativity in health, education, entertainment and beyond.

Ben Shneiderman is a Professor in the Department of Computer Science, Head of the Human-Computer Interaction Laboratory and Member of the Institutes for Advanced Computer Studies and for Systems Research, all at the University of Maryland at College Park. He received an honorary doctorate of science from Guelph University in 1995 and was elected as a Fellow of the Association for Computing (ACM) in 1997.

Dr. Shneiderman is the author of *Software Psychology: Human Factors in Computer and Information Systems* (1980) and *Designing the User Interface: Strategies for Effective Human-Computer Interaction* (1987, second edition 1992, third edition 1998), Addison-

Wesley Publishers, Reading, MA. His 1989 book, co-authored with Greg Kearsley, *Hypertext Hands-On!*, contains a hypertext version on two disks. It was the world's first commercial electronic book and pioneered the highlighted embedded link. This concept was part of the Hyperties hypermedia system, produced by Cognetics Corporation, Princeton Junction, NJ. His starfield displays with dynamic queries has been implemented in the commercial product Spotfire.

Dr. Shneiderman has co-authored two textbooks, edited three technical books, and published more than 200 technical papers and book chapters. His 1993 edited book *Sparks of Innovation in Human-Computer Interaction* collects 25 papers from ten years of research at the University of Maryland. This collection includes Dr. Shneiderman's seminal paper on direct manipulation, a term he coined in 1981 to describe the graphical user interface design principles: visual presentation of objects and actions combined with pointing techniques to accomplish rapid incremental and reversible operations.

CLOSING PLENARY

THURSDAY, 23 APRIL, 4:00 PM TO 5:30 PM

Technological Humanism and Values-Driven Design



Brenda Laurel
Founder and Vice President, Design
Purple Moon
www.purple-moon.com

The discipline of interface design is a shrinking subset of the domain of human-computer interaction. Despite our best efforts, HCI is traditionally understood as the art of slapping a friendly front-end on a functional *fait accompli*. Our role as advocates for "users" has been expressed in the details of the interface. But the growing pervasiveness of computers in human lives requires us to extend the scope of our advocacy; to express our values in the broader dimensions of form, structure and purpose.

In the Enlightenment, the philosophy of Humanism asserted that humans were innately

improvable through their own efforts. Blind progress is humanism's evil twin. As our technologies become more profoundly formative of our future, we steal a growing portion of responsibility for our destiny from nature. Our ability to rely on nature to assert balance and wholeness appears to decline in direct proportion to the technological strides we take.

We cannot simply depend upon "human nature" or "family values" or even "the free market" to insure that the instrumentalities we develop will actually serve humanity or any individual human. If we are to advocate for humans in our technological world, how must our discipline grow? How can we do values-driven work while remaining closely attuned to actual human lives, needs and desires? The HCI community has the opportunity—and the responsibility—to make changes at the level of popular culture which will have a profound effect on the role of technology and the quality of human life.

Brenda Laurel is a 20-year entertainment software industry veteran who masterminded the

four-year gender, play and technology research initiative that led to Purple Moon's creation. As Purple Moon Vice President, Design, Laurel drives the product's conceptual and creative direction toward the company mission to provide delightful and inspiring entertainment to girls ages 8–12. Laurel co-founded Purple Moon after serving as a member of the research staff at Interval Research Corporation, Purple Moon's parent company. Prior to Purple Moon, Laurel's career spanned renowned work in virtual reality, human-computer interface design and product development for companies such as Apple Computer, Atari, Activision, Fujitsu Laboratories, Lucasfilm Games, Sony Pictures and Paramount New Media.

Laurel began her career in 1977 as a computer game designer and programmer at CyberVision. She holds a B.A. in Communication and an M.F.A. and Ph.D. in theatre. She is editor of *The Art of Human Computer Interface Design* (1990) and author of *Computers as Theatre* (1991).

EDUCATION APPLICATION DOMAIN PLENARY

TUESDAY, 21 APRIL, 1:00 PM TO 1:45 PM



Is the Best Way to Predict the Future to Invent It? Or to Prevent It?

Alan Kay
The Walt Disney Company

History, and especially recent history, is littered with new useful ideas that have been rejected over and over again. Then, after desperate attempts to make them look like old existing ideas, they are grudgingly accepted. As Kuhn dryly noted, even in science it seems to take 25 years for a new idea framework to be accepted, because that is how long it takes for the old scientists to die off! Outside of science, it seems to take still longer.

In this talk, we will explore the nature of creativity—particularly in the computer and user interface areas—and then try to discover why what is creative to one group seems so destructive to another.

Dr. Kay, Disney Fellow and Vice President of Research and Development, is best known for the idea of personal computing, the conception of the intimate laptop computer and the inventions of the now ubiquitous overlapping-window interface and modern object-oriented programming. His deep interest in children and education was the catalyst for these ideas and continues to be a source of inspiration to him. As one of the founders of the Xerox PARC, Kay led one of the groups that in concert developed these ideas into modern workstations (and the forerunners of the Macintosh), Smalltalk, the overlapping-window interface, desktop publishing, the Ethernet, laser printing and network “client-servers.”

Dr. Kay was a member of the University of Utah ARPA research team that developed 3-D graphics, where he earned a doctorate (with distinction) for the development of the first graphical object-oriented personal computer. He holds undergraduate degrees in mathematics and molecular biology from the University of Colorado. Kay also participated in the original design of the ARPANet, which later became the Internet. Kay has received numerous honors, including the ACM Software Systems Award and the J-D Warnier Prix D’Informatique. He is a Fellow of the American Academy of Arts and Sciences, the National Academy of Engineering and the Royal Society of Arts.

HEALTH CARE APPLICATION DOMAIN PLENARY

WEDNESDAY, 22 APRIL, 1:00 PM TO 1:45 PM



Keep No Secrets and Tell No Lies: Computer Interfaces in Clinical Care

Michael G. Kahn, MD, Ph.D.
Rodeer Systems, Inc.

The art and science of clinical care is based on a special relationship of openness and trust which exists between clinicians and their patients. Clinicians require that their patients keep no secrets or else any hope of reaching the right diagnosis or selecting the right therapy will be lost. Patients require physicians to be non-judgmental to establish this trusting relationship. Yet at the same time, clinicians are taught to question everything they hear from patients and colleagues and to base no clinical decision on information obtained by others. How many times have you been asked the same question by many different people? Now you know why.

Clinicians will gratefully accept access to patient information which previously was not available; yet at the same time demand that that data be perfect. As the clinician’s “mirror” into the system, the interface and its designers are held “responsible” to account for, or at least to make visible, the compromising sins of prior data collection, storage and computation processes that precede the user interface. “Keep No Secrets” refers to the desire to make available all information that is known about a patient; “Tell No Lies” refers to the desire to ensure that all such information accurately reflects what has actually occurred. New methods of analysis must be utilized to ensure that we can develop systems which show information which is needed and no more, and can highlight where data integrity compromises have been made—where there are secrets and maybe even lies.

Dr. Kahn received his MD from the University of California, San Diego, did his Internal Medicine internship and residency at St. Marys, a UCLA affiliate program, and his Ph.D. from the University of California, San Francisco. Dr. Kahn was responsible for the development of a 15-hospital clinical data repository and Web-based physician interface. Dr. Kahn is a member of the Board of Directors for the American Medical Informatics Association, the Board of Scientific Counselors at the National Library of Medicine, the editorial board for the *Journal of the American Medical Informatics Association* and the *International Journal of Medical Informatics*.

ENTERTAINMENT APPLICATION DOMAIN PLENARY

THURSDAY, 23 APRIL, 1:00 PM TO 1:45 PM



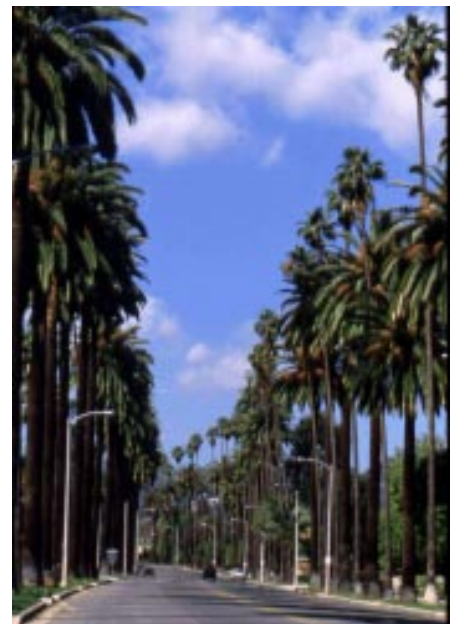
Alien Technology—Tools of Digital Production

Mark Swain
Disney Feature Animation

The Hollywood Walk of Fame is a trademark of the Hollywood Chamber of Commerce, and is used with permission.

Digital production in filmmaking has exploded in the 90’s. The newly converted digital artists have a lavish set of 2D and 3D packages at their disposal in today’s multimedia software environments. These production tools enable them to depict a wide range of expressions and special effects. The key to making these tools not feel like alien technology is to accommodate the artist’s workflow by placing needed tools into the artist’s hands and by providing interfaces that conform to the artist. This talk will address the impact of user interface design on digital production in the fast-paced entertainment industry.

Mark Swain has been working in digital production for over 8 years. His work has appeared in dozens of national commercials, MTV’s *Liquid Television*, feature films, and the 1990 SIGGRAPH Film and Video Theater. Mark is currently a Technical Director/Designer at Disney Feature Animation in Los Angeles.



A palm-lined street in Beverly Hills.

Photo courtesy of the Los Angeles Convention and Visitor’s Bureau.

8:30 AM TO 10:00 AM

OPENING PLENARY

Codex, Memex, Genex: The Pursuit of Transformational Technologies
Ben Shneiderman, *University of Maryland*

11:00 AM TO 12:30 PM

PANEL

Public Information: Documents, Spectacles and the Politics of Public Participation

ORGANIZERS

Scott Minneman, *Xerox PARC*
Natalie Jeremijenko, *Stanford University*

PANELISTS

Mike Davis, *Southern California Institute of Architecture*
Natalie Jeremijenko, *Stanford University*
Scott Minneman, *Xerox PARC*
S. Joy Mouniford, *Interval Research*
Anthony Turner, *Names Foundation*
Krzysztof Wodiczko, *MIT*

PAPERS

Squeezing, Stroking and Poking

NaviPoint: An Input Device for Mobile Information Browsing

Kiyokuni Kawachiya, Hiroshi Ishikawa, *IBM Tokyo Research Lab*

The PadMouse: Facilitating Selection and Spatial Positioning for the Non-Dominant Hand

Ravin Balakrishnan, *University of Toronto*
Pranay Patel, *Alias/Wavefront*

The Design and Use of Squeezable Computers: An Exploration of Manipulative User Interfaces

Beverly L. Harrison, Ken Fishkin, Anuj Gujar, Carlos Mochon, Roy Want, *Xerox PARC*

1:00 PM TO 1:45 PM

Presented during lunch
(box lunches will be available)

EDUCATION APPLICATION DOMAIN PLENARY

Is the Best Way to Predict the Future to Invent It? Or to Prevent It? (Ed)

Alan Kay, *The Walt Disney Company*

2:00 PM TO 3:30 PM

PANEL

Human-Computer Interaction in Health Care: What Works? What Doesn't (H)

ORGANIZER

Janette Coble, *Washington University School of Medicine*

PANELISTS

Jo Carol Gordon Hiatt, *Kaiser Permanente*
Pamela Jamar, *Medtronics*
John Karat, *IBM T. J. Watson Research Center*
John Mattison, *Kaiser Permanente*
Matthew Orland, *Washington University School of Medicine*

PAPERS

Crafting Designs

Patterns of Change in Design Metaphor: A Case Study

William A. Stubblefield, *Sandia National Laboratories*

Netscape Communicator's Collapsible Toolbars

Irene Au, Shuang Li, *Netscape Communications*

A Study of Fonts Designed for Screen Display

Daniel Boyarski, Christine Neuwirth, Jodi Forlizzi, Susan Harkness Regli, *Carnegie Mellon University*

4:00 PM TO 5:30 PM

PANEL

Intelligent Interfaces in the Real World: Progress and Success Stories

ORGANIZER

Jim Miller, *Independent Consultant*

PANELISTS

Kelly Braun, *Oracle*
Tony Lovell, *Wildfire Communications*
Jim Miller, *Independent Consultant*
Brad Weed, *Microsoft*

PAPERS

About Faces

Visual Tracking for Multimodal Human Computer Interaction

Jie Yang, Rainer Stiefelhagen, Uwe Meier, Alex Waibel, *Carnegie Mellon University*

When My Face is the Interface: An Experimental Comparison of Interacting with One's Own Face or Someone Else's Face

Clifford Nass, Eun-Young Kim, Eun-Ju Lee, *Stanford University*

Digital Smart Kiosk Project

Andrew D. Christian, Brian L. Avery, *Digital*

PAPERS

Web Page Design

Web Page Design: Implications of Memory, Structure and Scent for Information RetrievalKevin Larson, Mary Czerwinski, *Microsoft Research***Exploring Browser Design Trade-Offs Using a Dynamical Model of Optimal Information Foraging**Peter Pirolli, *Xerox PARC***Information Archiving with Bookmarks: Personal Web Space Construction and Organization**David Abrams, Ron Baecker, Mark Chignell, *University of Toronto***PAPERS**

Entertainment (E)

Triangles: Tangible Interface for Manipulation and Exploration of Digital Information TopographyMatthew G. Gorbet, Maggie Orth, Hiroshi Ishii, *MIT Media Laboratory***HandJive: A Device for Interpersonal Haptic Entertainment**BJ Fogg, *Stanford University*Larry Cutler, *Pixar Animation Studios*Perry Arnold, *Trilogy Development Group*Chris Eisbach, *Stanford University***Simplifying the Controls of an Interactive Movie Game**Jeff Johnson, *UI Wizards***LEGEND**

(Ed) = Education

(E) = Entertainment

(H) = Health Care

PAPERS

Remote Collaboration

From Documents to Discourse: Shifting Conceptions of Scholarly PublishingTamara Sumner, Simon Buckingham Shum, *The Open University***The Effects of Distance in Local versus Remote Human-Computer Interaction**Youngme Moon, *MIT***Design Evolution in a Multimedia Tutorial on User-Centered Design**Tom Carey, *University of Waterloo*Slade Mitchell, *Interactive Software Solutions*Dan Peerenboom, *University of Waterloo*Mary Lytwyn, *Bank of Montreal***PAPERS**

The Eyes Have It

Evaluating the Location of Hot Spots in Interactive Scenes using the 3R ToolboxAndre Plante, Shoji Tanaka, Seiki Inoue, *ATR Media Integration & Communications Research Laboratories***Providing Advice for Multimedia Designers**Pete Faraday, Alistair Sutcliffe, *City University, London***101 Spots, or How Do Users Read Menus?**Antti Aaltonen, Aulikki Hyrskykari, Kari-Jouko Raihä, *University of Tampere***DEMONSTRATIONS**

HCI Lessons from Games (E)

CD-ROM Computer Games: Adventure & Simulation GamesChuck Clanton, *Aratar***CD-ROM Computer Games: Action & Strategy Games**Chuck Clanton, *Aratar***PAPERS**

Navigation

Worldlets: 3D Thumbnails for 3D BrowsingT. Todd Elvins, David R. Nadeau, Rina Schul, David Kirsh, *University of California, San Diego***Evolving Video Skims into Useful Multimedia Abstractions**

Michael G. Christel, Michael A. Smith, C. Roy Taylor,

David B. Winkler, *Carnegie Mellon University***Navigation Guided by Artificial Force Fields**Dongbo Xiao, Roger Hubbard, *University of Manchester***PAPERS**

Learner Centered Design (Ed)

The Design of Guided Learner-Adaptable Scaffolding in Interactive Learning EnvironmentsShari L. Jackson, Joseph Krajcik, Elliot Soloway, *University of Michigan***ARTEMIS: Learner-Centered Design of an Information Seeking Environment for K-12 Education**Raven Wallace, Nathan Bos, Joseph Hoffman, Heather Eccleston Hunter, Joseph Krajcik, Elliot Soloway, Dan Kiskis, Elisabeth Klann, Greg Peters, David Richardson, Ofer Ronen, *University of Michigan***Building an Electronic Learning Community: From Design to Implementation**Anne Rose, Wei Ding, Gary Marchionini, Josephus Beale, Jr., Victor Nolet, *University of Maryland***DEMONSTRATIONS**

Avatars & Characters (E)

Double Agent: Presentation & Filtering Agents for a Digital Television Recording SystemPeter Meuleman, Anita Heister, Han Kohar, Douglas Tedd, *Philips Research***Microcosm: Support for Virtual Communities via an Online Graphical Environment**Ellen Isaacs, *Electric Communities*

8:30 AM TO 10:00 AM

PANEL

Constructing Community in Cyberspace

ORGANIZER

Mary B. Williamson, *University of California, Berkeley*

PANELISTS

Cheryl Chase, *Intersex Society of North America*
 Andrew Glassner, *Microsoft Research*
 Margaret McLaughlin, *Annenberg School of Communication, USC*

PAPERS

Persuasion

Quantifying the Effect of User Interface Design Features on Cyberstore Traffic and Sales

Gerald L. Lohse, *University of Pennsylvania*
 Peter Spiller, *McKinsey & Company*

Interactive Advertising: Patterns of Use and Effectiveness

Kirsten Ridsden, Mary Czerwinski, Stephanie Worley, Lynda Hamilton, Joe Kubiniec, *Microsoft*
 Hunter Hoffman, Nancy Mickel, Elizabeth Loftus, *University of Washington*

Persuasive Computers: Perspectives and Research Directions

BJ Fogg, *Stanford University*

11:00 AM TO 12:30 PM

PANEL

Distance Education: Is it the End of Education as Most of Us Know It? (Ed)

ORGANIZERS

Lisa Neal, *EDS*
 Jenny Preece, *University of Maryland*

PANELISTS

Diana Laurillard, *Open University*
 Lisa Neal, *EDS*
 Jenny Preece, *University of Maryland*
 Ben Shneiderman, *University of Maryland*
 Yvonne Waern, *Linköping University*

PAPERS

Dinosaurs and Robots (E/Ed)

Digital Manipulatives: New Toys to Think With

Mitchel Resnick, Fred Martin, Robert Berg, Rick Borovoy, Vanessa Colella, Kwin Kramer, Brian Silverman, *MIT Media Laboratory*

When the Interface is a Talking Dinosaur: Learning Across Media with ActiMates Barney

Erik Strommen, *Microsoft*

PROP: Personal Roving Presence

Eric Paulos, John Canny, *University of California, Berkeley*

1:00 PM TO 1:45 PM

Presented during lunch
 (box lunches will be available)

HEALTH CARE APPLICATION DOMAIN PLENARY

Keep No Secrets and Tell No Lies: Computer Interfaces in Clinical Care (H)

Michael G. Kahn, MD, Ph.D., *Rodeer Systems*

2:00 PM TO 3:30 PM

PANEL

Interactive Narrative: Stepping Into Our Own Stories (E)

ORGANIZER

Mary Flanagan, *State University of New York at Buffalo*

PANELISTS

Mary Flanagan, *State University of New York at Buffalo*
 Harry Marks, *Marks Communications*
 Janet Murray, *MIT*

PAPERS

Talking on the Net

The First Noble Truth of Cyberspace: People are People, Even When They Moo

Diane J. Schiano, Sean White, *Interval Research*

Are Newsgroups Virtual Communities?

Teresa L. Roberts, *Sun Microsystems*

Communication and Information: Alternative Uses of the Internet in Households

Robert Kraut, Tridas Mukhopadhyay, Janusz Szczypula, Sara Kiesler, William Scherlis, *Carnegie Mellon University*

4:00 PM TO 5:30 PM

PANEL

Good Web Design: Essential Ingredient!

ORGANIZER

Nahum Gershon, *MITRE*

PANELISTS

Mary Czerwinski, *Microsoft*
 Wayne Neale, *Eastman Kodak*
 Jakob Nielsen, *SunSoft*
 Nick Ragouzis, *Enosis Group*
 David Siegel, *Studio Verso*

PAPERS

Young Adult Learners (Ed)

National Geographic Unplugged: Designing Interactive Nature Films for Classrooms

Brian K. Smith, *MIT Media Laboratory*
 Brian J. Reiser, *Northwestern University*

New Media, New Practices: Experiences in Open Learning Course Design

Tamara Sumner, Josie Taylor, *The Open University*

Investigating the Capture, Integration and Access Problem of Ubiquitous Computing in an Educational Setting

Gregory D. Abowd, Christopher G. Atkeson, Jason Brotherton, Tommy Enqvist, Paul Gulley, Johan LeMon, *Georgia Institute of Technology*

PAPERS

Reading and Writing

Student Readers' Use of Library Documents: Implications for Digital Library Technologies

Kenton O'Hara, Fiona Smith, William Newman, Abigail Sellen, *Xerox Research Centre Europe*

A Diary Study of Work-Related Reading: Design Implications for Digital Reading Devices

Annette Adler, Anuj Gujar, Beverly L. Harrison, Xerox PARC
Kenton O'Hara, Abigail Sellen, *Xerox Research Centre Europe*

Beyond Paper: Supporting Active Reading with Free-Form Digital Ink Annotations

Bill N. Schilit, Gene Golovchinsky, Morgan N. Price, *FX Palo Alto Laboratory*

PAPERS

Cognitive Models

Bullseye! When Fitts' Law Doesn't Fit

Naomi Friedlander, Kevin Schlueter, Marilyn M. Mantei, *University of Toronto*

Cognitive Function Analysis for Human-Centered Automation of Safety-Critical Systems

Guy A. Boy, *European Institute of Cognitive Sciences and Engineering*

Delegation and Circumvention: Two Faces of Efficiency

Suresh K. Bhavnani, Bonnie E. John, *Carnegie Mellon University*

DEMONSTRATIONS

Interaction via Play

Evolution of the Talking Dinosaur: The (Not So) Natural History of a New Interface for Children

Kristin Alexander, Erik Strommen, *Microsoft*

Participatory Simulations: Using Computational Objects to Learn about Dynamic Systems

Vanessa Colella, Richard Borovoy, Mitchel Resnick, *MIT Media Lab*

PAPERS

3D

Coincident Display Using Haptics and Holographic Video

Wendy Plesniak, Ravikanth Pappu, *MIT Media Laboratory*

The Structure of Object Transportation and Orientation in Human-Computer Interaction

Yanqing Wang, Christine L. MacKenzie, *Simon Fraser University*
Valerie A. Summers, Kellogg Booth, *University of British Columbia*

Quantifying Coordination in Multiple DOF Movement and Its Application to Evaluating 6 DOF Input Devices

Shumin Zhai, *IBM Almaden Research Center*

PAPERS

In Touch with Interfaces

An Efficient Text Input Method for Pen-Based Computers

Toshiyuki Masui, *Sony Computer Science Laboratory*

A Comparison of Three Selection Techniques for Touchpads

I. Scott MacKenzie, Aleks Oniszczak, *University of Guelph*

A Multiple Device Approach for Supporting Whiteboard-Based Interactions

Jun Rekimoto, *Sony Computer Science Laboratory*

DEMONSTRATIONS

Language & Object

Grammex: Defining Grammars by Example

Henry Lieberman, *MIT Media Lab*
Bonnie Nardi, David Wright, *Apple Computer*

IBM Real Things

John Mullaly, *IBM*

PAPERS

Supporting the Design Process

The Vista Environment for the Co-Evolutionary Design of User Interfaces

Judy Brown, *Victoria University of Wellington*
T.C. Nicholas Graham, *Queen's University*
Timothy Wright, *Victoria University of Wellington*

Tools For Incremental Development of Educational Software Interfaces

Wolff Daniel Dobson, Christopher K. Riesbeck, *Northwestern University*

Visual Task Characterization for Automated Visual Discourse Synthesis

Michelle X. Zhou, Steven K. Feiner, *Columbia University*

PAPERS

Visualizing Dynamic Information

Visualizing the Evolution of Web Ecologies

Ed H. Chi, James Pitkow, Jock Mackinlay, Peter Pirolli, Rich Gossweiler, Stuart K. Card, *Xerox PARC*

Hi-Cites: Dynamically-Created Citations with Active Highlighting

Michelle Q. Wang Baldonado, Terry Winograd, *Stanford University*

DIVA: Exploratory Data Analysis with Multimedia Streams

Wendy E. Mackay, *Centre d'Etudes de la Navigation Aérienne and LRI, Université de Paris-Sud*

Michel Beaudouin-Lafon, *LRI, Université de Paris-Sud*

DEMONSTRATION

Honoring Our Elders (1)

Augment, Bootstrap Communities, the Web: What Next?

Douglas C. Engelbart, *Bootstrap Institute*
Harvey G. Lehtman, *Institute for the Future*
Christina Engelbart, *Bootstrap Institute*

PAPERS

CSCW

Finding and Visualizing Inter-Site Clan Graphs

Loren Terveen, Will Hill, *AT&T Labs - Research*

Effects of Interfaces for Annotation on Communication in a Collaborative Task

Patricia G. Wajahn, *Robert Morris College*
Christine M. Neuwirth, *Carnegie Mellon University*
Barbara Bullock, *Wright State University*

Awareness Driven Video Quality of Service in Collaborative Virtual Environments

Gail Reynard, Steve Benford, Chris Geenhalgh, Christian Heath, *The University of Nottingham*

PAPERS

Monitoring the Complexity of Real Users

Supporting Situated Actions in High Volume Conversational Data Situations

Christopher Lueg, *University of Zurich*

Heart Rate Variability: Indicator of User State as an Aid to Human-Computer Interaction

Dennis W. Rowe, *MITRE*
John Sibert, *The George Washington University*
Don Irwin, *United States Air Force*

Evolution of the Conversation Machine: A Case of Bringing Advanced Technology to the Marketplace

Catherine G. Wolf, Wlodek Zadrozny, *IBM T. J. Watson Research Center*

DEMONSTRATIONS

Honoring Our Elders (2)

Xerox Star Live Demonstration

David Canfield Smith, *Stagecast Software*
Charles H. Irby, *Silicon Graphics*

Lisa User Interface

Frank Ludolph, *Sun Microsystems*
Rod Perkins, *Interval Research*

8:30 AM TO 10:00 AM

PANEL

Is the Web Really Different from Everything Else?

ORGANIZERS

Frederick G. Conrad, Michael D. Levi, *Bureau of Labor Statistics*

PANELISTS

Scott A. Butler, *Rockwell*
 Michael D. Levi, *Bureau of Labor Statistics*
 Jakob Nielsen, *SunSoft*
 Ben Shneiderman, *University of Maryland*

PAPERS

Usability of Groupware

Trust Breaks Down in Electronic Contexts but Can Be Repaired by Some Initial Face-to-Face Contact

Elena Rocco, *University of Michigan*

Expertise and Collaborative Design

Alonso H. Vera, Thomas Kvan, Robert L. West, Simon Lai, *The University of Hong Kong*

Effects of Awareness Support on Groupware Usability

Carl Gutwin, *University of Saskatchewan*
 Saul Greenberg, *University of Calgary*

11:00 AM TO 12:30 PM

PANEL

Famous HCI Educators Tell All (Ed)

ORGANIZERS

Marian G. Williams, *University of Massachusetts at Lowell*
 Andrew Sears, *DePaul University*

PANELISTS

Alan Dix, *Staffordshire University*
 Tom Hewett, *Drexel University*
 Marilyn Mantei, *University of Toronto*
 Jenny Preece, *University of Maryland*
 Andrew Sears, *DePaul University*
 Marian G. Williams, *University of Massachusetts at Lowell*

PAPERS

Computer Augmented Environments

Illuminating Light: An Optical Design Tool with a Luminous-Tangible Interface

John Underkoffler, Hiroshi Ishii, *MIT Media Laboratory*

Insight Lab: An Immersive Environment Utilizing Barcodes to Ink Paper, Displays and Data

Beth M. Lange, Mark A. Jones, James L. Meyers, *Andersen Consulting*

Reinventing the Familiar: Exploring an Augmented Reality Design Space for Air Traffic Control

Wendy E. Mackay, Anne-Laure Fayard, Laurent Frobert, Lionel Médini, *Centre d'Etudes de la Navigation Aérienne*

1:00 PM TO 1:45 PM

Presented during lunch
 (box lunches will be available)

ENTERTAINMENT APPLICATION DOMAIN PLENARY

Alien Technology—Tools of Digital Production (E)

Mark Swain, *Disney Feature Animation*

2:00 PM TO 3:30 PM

PANEL

Baby Faces, UI Design for Small Displays

ORGANIZER

Aaron Marcus, *Aaron Marcus and Associates*

PANELISTS

Joseph V. Ferrante, *Fluke Corporation*
 Aaron Marcus, *Aaron Marcus and Associates*
 Timo Kinnunen, *Nokia Mobila Phones*
 Kari Kuutti, *University of Oulu*
 Erik Sparre, *Ericsson Mobile Communications AB*

4:00 PM TO 5:30 PM

CLOSING PLENARY

Technological Humanism and Values-Driven Design

Brenda Laurel, *Purple Moon*

PAPERS

Software Behind the Scenes

Composing Magic Lenses

David Fox, *NYU Media Research Lab*

Generalized Pointing: Enabling Multiagent Interaction

Dan R. Olsen, Jr., Dan Boyarski, Matt Phelps, Jack Moffat, Edson Lo, *Carnegie Mellon University*

Scripting Graphical Applications by Demonstration

Brad A. Myers, *Carnegie Mellon University*

DEMONSTRATIONS

Dynamic Documents

Classroom 2000: A System for Capturing and Accessing Multimedia Classroom Experiences

Gregory D. Abowd, Jason Brotherton, Janak Bhalodhia, *Georgia Institute of Technology*

XLibris: The Active Reading Machine

Morgan N. Price, Bill N. Schilit, Gene Golovchinsky, *FX Palo Alto Laboratory*

DEMONSTRATIONS

2D & 3D Graphics

Pegasus: A Drawing System for Rapid Geometric Design

Takeo Igarashi, Sachiko Kawachiya, *University of Tokyo*

Satoshi Matsuoka, *Tokyo Institute of Technology*

Hidehiko Tanaka, *University of Tokyo*

Alice: Easy to Learn Interactive 3D Graphics

Jeff Pierce, Kevin Christianson, Dennis Cosgrove, *Carnegie Mellon University*

Matt Conway, *Microsoft Research*

Dan Moskowitz, Brian Stearns, Chris Sturgill, Randy Pausch, *Carnegie Mellon University*

PAPERS

Hear Here!

Designing Audio Aura

Elizabeth D. Mynatt, Maribeth Back, Roy Want, Michael Baer,

Jason B. Ellis, *Xerox PARC*

Communicating Graphical Information to Blind Users

Using Music: The Role of Context in Design

James L. Alty, *Loughborough University*

Dimitrios I. Rigas, *Liverpool John Moores University*

What Can I Say?: Evaluating a Spoken Language

Interface to Email

Marilyn A. Walker, *AT&T Labs Research*

Jeanne Fromer, *MIT AI Lab*

Giuseppe Di Fabbrizio, Craig Mestel, Don Hindle,

AT&T Labs Research

PAPERS

Better Health Through... (H)

Device Design Methodology for Trauma Applications

Diane S. Brown, *ATL Ultrasound*

Susan Motte, *Breeze Design*

Voice-Enabled Structured Medical Reporting

Mary-Marshall Teel, *Kurzweil A.I./Lernout & Hausoie Speech Products*

Matt Belge, *Vision & Logic*

Rachel Sokolowski, Dave Rosenthal, *Kurzweil A.I.*

Interactive Storytelling Environments; Coping with

Cardiac Illness at Boston Children's Hospital

Marina Umaschi Bers, *MIT Media Laboratory*

Edith Ackermann, *MERL*

Justine Cassell, *MIT Research Laboratory*

PAPERS

Science, It's Elementary (Ed)

Progressive Design: Staged Evolution of Scenarios in the

Design of a Collaborative Science Learning Environment

George Chin, Mary Beth Rosson, *Virginia Polytechnic Institute and State University*

Adapting User Interface Design Methods to the

Design of Educational Activities

Clayton Lewis, Cathy Brand, Gina Cherry, Cyndi Rader,

University of Colorado

The Design of the Progress Portfolio: Steps Toward a

Classroom-Centered Design Framework

Ben Loh, Josh Radinsky, Eric Russell, Louis M. Gomez,

Brian J. Reiser, Daniel C. Edelson, *Northwestern University*

Don't miss the Citibank
tour on Friday!

(See page 32 for details)

DEMONSTRATIONS

Interactive Medicine (H)

Visualizing Medical Records with Lifelines

Catherine Plaisant, Daniel Heller, Jia Li, Ben Shneiderman,

University of Maryland

Richard Mushlin, John Karat, *IBM T. J. Watson Research Center*

Incremental Improvements in Physician Computer

Interaction in Response to Clinical Needs and User

Feedback

Edward P. Cutolo, Nicholas A. Coblio, *James A. Haley Veterans'*

Hospital

Paul McCright, *University of South Florida*

Michael T. McCormick, Willard S. Harris, *James A. Haley Veterans'*

Hospital

additional activities

Additional activities will be featured throughout the conference. All conference attendees are welcome to participate in these events.

ACM/SIGCHI Business Meeting

WEDNESDAY, 22 APRIL 1998, 6:00 PM

The annual ACM SIGCHI Business Meeting will be held after the last session of the day on Wednesday. This meeting will review ongoing SIGCHI programs and activities, discuss issues affecting SIGCHI and SIGCHI's future and answer any questions you care to raise. This meeting is open to all conference participants. Please attend!

ACM/SIGCHI Volunteers Appreciation Reception

WEDNESDAY, 22 APRIL 1998, FOLLOWING ACM SIGCHI BUSINESS MEETING

ACM SIGCHI appreciates the contributions of time, energy and resources given by the many volunteers who participate in running the SIGCHI conferences and organization. Volunteers are the life blood of our field and truly deserve special recognition. If you are one of the many volunteers who have served on committees, reviewed papers, worked on a task force or have otherwise volunteered your time and energy to SIGCHI, you are invited to this celebration!

The Commons

The Commons is *the* place to meet people. It is where to go for food and drink during the breaks, and where you can browse through the Exhibits. You'll also find Domain Gatherings, an Information Center, the Internet Room, Message Boards, Posters and the Informal SIGs' sign-up sheets. There will be plenty of comfortable seating areas for socializing—it's the perfect place to meet with old or new friends, rendezvous with your accompanying person or just relax between sessions :-)

Exhibits

The Exhibits provide an opportunity for conference attendees to learn about a broad spectrum of HCI offerings featuring the latest in HCI-oriented products and services from commercial vendors, institutions and publishers. The exhibits are located in The Commons, a large central area serving as the site for all conference breaks, posters and other interactive activities.

Exhibits are a wonderful way to promote your organization, network with the HCI community

and recruit new talent! Companies interested in exhibiting at CHI 98 should contact the Conference Office to request an Exhibitor's Invitation.

Current exhibitors include:

ACM
Applied Science Laboratories
ErgoLight Usability Software
Human Factors International, Inc.
IBM
John Wiley & Sons, Inc.
The KOHL Group
The MIT Press
Microsoft Usability
Morgan Kaufmann Publishers
Nokia
Noldus Information Technology, Inc.
Nortel
Nova Solutions, Inc.
Springer-Verlag
Sun Microsystems
Taylor & Francis
Triology
Usability Systems, Inc.

EXHIBIT HOURS

Tuesday 10:00 am to 6:00 pm
 Highlight on Exhibits 10:00 to 11:00 am
Wednesday 8:30 am to 6:00 pm
Thursday 8:30 am to 4:00 pm

Internet Access

Internet access is available in The Commons.

Newcomers to the CHI Conference

TUESDAY, 21 APRIL 1998, 10:00 TO 11:00 AM

Never been to CHI before? We're glad you are coming and we want to meet you at the Newcomers' Orientation directly following the opening plenary. Please join us and meet SIGCHI and CHI 98 leaders, as well as many members of the CHI community and find out how to maximize your experience at CHI 98.

Reception

TUESDAY EVENING, 21 APRIL 1998, 7:30 PM

A TASTE OF HOLLYWOOD

CHI 98 is hosting the Conference Reception on the Plaza Pool Deck of the Westin Bonaventure Hotel (the CHI 98 Headquarters Hotel). Come and enjoy this outside venue which offers a beautiful view of the Los Angeles skyline. Since Hollywood is the "home to the stars," you will be treated to a dazzling, star-studded evening.

The Westin Bonaventure is within walking distance of the other conference hotels. The Conference Reception promises to delight all conference attendees with events that may include sites from the Hollywood Walk of Fame, visions of the Hollywood studios or the ambiance of the Pacific Coast along with musical entertainment and fine cuisine to satisfy your appetite.

We invite you to join your colleagues for an evening of entertainment and fun. The Conference Reception is included with conference registration and Accompanying Persons registration. Additional tickets may be purchased for US\$50 with your advance registration or on site at the CHI Store.

This is an adult-only event. No one under the age of 18 will be permitted. Concerned caregivers should check with their hotel Concierge for child care options. The legal drinking age in California is 21 years old.

Tours

CITIBANK LAB TOUR

FRIDAY, 24 APRIL 1998, 9:30 AM TO 11:30 AM (INCLUDING TRANSPORTATION TIME)

Citibank, a CHI 98 Champion, will be hosting a tour of their Consumer Research Lab on Friday, the day after the conference. Located in Marina Del Rey, about 25 minutes from downtown, this lab is the newest facility of Citibank's User-Centered Design Department. Interactive demonstrations and videotapes of application domain work in trading and investing, smart card use, corporate electronic banking for countries with rapidly changing economies, and automated teller use by the visually impaired are just some of the topics you can explore on this lab tour.

Reservations:

Transportation is being provided, but there is limited availability and reservations are necessary. Buses will leave downtown at 9:30 am and return from the lab by 11:30 am.

For tour and/or transportation reservations, please contact: Sandra Newsome, Human Factors Engineer, Email: sandra.newsome@citicorp.com, Fax: +1 310 302 4124

For more information on tours check the CHI 98 Web site at www.acm.org/sigchi/chi98.

Society Row

Society Row, located in The Commons, is where attendees can meet and learn more about the Cooperating Societies of ACM/SIGCHI.

Student Volunteers

Student volunteers are an integral part of the success of each CHI conference. Students from all disciplines are invited to be part of the most exciting event in the HCI field. A wide variety of positions are available at the conference, ranging from audio-visual support to registration assistance. Many of the duties are not glamorous, but all positions provide opportunities to interact with CHI 98 contributors, attendees and committee members from all parts of the world and many diverse areas of HCI community. In return for their help with the conference, student volunteers receive free registration for the conference, some free meals, an invitation to the conference reception, a free T-shirt and an invitation to the thank-you party for all volunteers of the conference. Often arrangements for housing at reasonable rates can also be arranged. All student volunteers are responsible for their own travel to and from Los Angeles, housing and for meals not provided by the conference. Volunteers must be undergraduate, master's or doctoral students during the 1997-1998 academic year. All students, regardless of discipline, are encouraged to apply. No experience is required, but student volunteers are expected to be enthusiastic, intelligent and reliable people. Volunteers must commit to a total of 20 hours at the conference between 17-23 April. A valid, dated, student identification card, or a letter from your university or school must be presented when registering at the conference.

FOR MORE INFORMATION

The Student Volunteer Handbook can be found online at www.acm.org/sigchi/chi98/svhq. There you can also find the application form needed to sign up as a Student Volunteer. You can sign up until 1 February 1998. However, there is already a waiting list.

Student Volunteers Co-Chairs

Mike Byrne, Carnegie Mellon University
Hans de Graaff, KPN Research

Walk-In Demonstrations

Walk-In Demonstrations provide CHI 98 participants interested in showing their works in progress or late-breaking works are encouraged to use the CHI 98 Walk-In Demonstration area. A limited number of Walk-In Demonstrations may be scheduled in advance with the Demonstrations Co-Chairs. All other slots will be available on site, on a first-come, first-served basis.

CHI 98 will provide a flip chart and some basic equipment including one IBM PC

compatible and one Apple Macintosh with Internet access and built-in audio support. No external speakers, external CD-ROM drives or ZIP drives will be provided. Participants with more extensive needs should bring their own hardware and software.

For information and scheduling, contact:

Eric Bergman & Nancy Frishberg
Demonstrations Co-Chairs
chi98-demos@acm.org

Walk-In Videos

Attendees are invited to bring videotapes showing their recent work. These videos can be left at the Information Booth in Exhibit Hall B for others to view during the conference. Several viewing stations will be available, each set with a VHS/NTSC video player and a monitor. At least one station will also be equipped to play PAL and SECAM videotapes. Past CHI videos will be available.

CHIKids

The innovative CHIKids program, now in its third year, has been expanded for CHI 98. CHIKids combines the feeling of summer camp, with the fun of technology, all as a part of the unique CHI conference experience. The CHIKids program offers an opportunity for young people to explore computers, technology and user interface design. There are two options: the traditional child care option offers children 6 months and older creative, fun-filled, developmentally appropriate activities. The technology option provides children 3 to 15 years of age with four areas of technology exploration: creating multimedia stories in the Multimedia Storytelling area, trying the latest educational multimedia titles in the CD-ROM Field Trips area, testing emerging software technologies with CHI researchers in the Technology Workouts area or being conference reporters using desktop publishing tools and the WWW in the CHIKids Newsroom.

All CHIKids activities will be led by KiddieCorp, our experienced childcare facilitators, along with CHI volunteers with experience in technology, kids and fun! Each day children will be able to choose among the various activities. Registration fees range from US\$55 to US\$70 a day, depending on age, and includes a daily lunch, snack and CHIKids T-shirt. An optional field trip to the California

Museum of Science and Industry will be offered on Monday afternoon to CHIKids 9 years or older. An additional fee of US\$23 will be charged and space is limited.

REGISTRATION

To register or for more information, please contact KiddieCorp via email, phone or by faxing the form below. Space is limited, and there will be NO on-site registration. Therefore, registration will be on a first-come, first-served basis. A waiting list will be formed if all spaces are filled. Waiting list registrants will be notified if space becomes available. Please note: All pre-conference registration requests after 1 March 1998 will be considered on a space available basis.

Contact KiddieCorp at:

Email: chikids@kiddiecorp.com
Tel: +1 619 455-1718
Fax: +1 619 455-5841
Address: 5665 Oberlin Drive, Suite 102
San Diego, CA 92121 USA

For questions about the CHIKids Technology Option contact:

Angela Boltman, CHIKids Co-Chair
Email: chi98-kids@acm.org
Tel: +1 505 299-4424, ext. 23
Fax: +1 505 291-6836

CHIKids INFORMATION REQUEST FORM

I am interested in learning more about the following options for my child(ren):

- Traditional Child Care Option
- Technology Option (child must be 3 years or older)
- CHIKids Junior Leader (child must be 12 years or older)

Parent(s) Name(s) _____

Email _____

Phone _____ Fax _____

Child(ren)'s Name(s) _____

conference information

CHI 98 is more to the HCI profession than just the leading technical forum, it provides attendees with an excellent opportunity to make new contacts and renew old friendships with colleagues from around the world.

Accompanying Persons

CHI 98 welcomes accompanying persons to the conference, to share in the excitement of the event. An Accompanying Person is an adult, 18 years and older. Accompanying Persons can be registered for US\$95 each, giving them access to The Commons (containing the exhibits, the message boards and the conference breaks), opening and closing plenaries, and to the Conference Reception. Please complete the appropriate section of your registration form on behalf of the person(s) accompanying you.

Alcoholic Beverages

The legal drinking age in the State of California is 21 years of age.

Attire

CHI conferences are casual, so dress comfortably. Since CHI 98 is in Los Angeles, sun glasses and sun screen lotion are recommended. A light jacket and/or sweater is suggested for the evenings.

Audio/Video Recording Prohibited

The use of any type of recording device is not permitted during any part of the conference. The use of snapshot cameras is permissible; however, reprinting photographs in print or electronic publications is prohibited without the written permission of the people photographed. Video cameras are prohibited.

Electrical Power Availability

It is ACM/SIGCHI policy to use the local power source. In Los Angeles, it is 120 volt, single phase, 60 Hz, 120/208 volt, single and three phase, 60 Hz and 480 volt, three phase, 60 Hz.

Information Booths

You can find the CHI 98 Conference Information Booths in two locations in the Los Angeles Convention Center: 1. West Hall Lobby; 2. The Commons in West Hall B.

INFORMATION BOOTH HOURS:

Saturday 2:00 pm to 7:00 pm
Sunday–Thursday 7:30 am to 6:30 pm

Representatives of the Los Angeles Convention and Visitors Bureau will be available to answer your questions regarding local attractions, tours and dining options at the Information Booth in the West Hall Lobby.

International Relations

CHI 98 welcomes participants from around the world. If you have any questions or need assistance, please contact:

Tel: +1 410 263 5382
Fax: +1 410 267 0332
Email: chi98-help@acm.org

Message Service

A telephone line for incoming calls will be available after 3:00 pm on Saturday, 18 April. The number is +1 213 765 4200. During the conference, messages can be taken for you at this number. All messages will be posted on the message boards located in The Commons. You may also post notes to other conference participants on these message boards.

Questions and Contact Information

If you have questions about CHI 98 that need to be answered before the conference, please call the Conference Office at +1 410 263 5382 between 9:00 am and 5:00 pm US Eastern Time. You may also send questions via email to: chi98-help@acm.org.

During the Conference, you may contact the number listed above under "Message Service."

Registration

The CHI 98 Registration area is located in the West Hall Lobby of the Los Angeles Convention Center. Pre-registered participants (including workshops) must pick up their badges and conference materials in this area. On-site registration for the conference and tutorials (subject to space availability) is located here.

REGISTRATION HOURS:

Saturday 2:00 pm to 7:00 pm
Sunday–Wednesday 8:00 am to 5:30 pm
Thursday 8:00 am to 2:00 pm

Shuttle Service

The conference hotels are within walking distance of the L.A. Convention Center. However, CHI 98 will provide free shuttle transportation between the sites. Information will be available in your hotel lobby.

Smoking Policy

CHI conferences are smoke-free. There are designated smoking areas at the entrances to the Los Angeles Convention Center.

Special Needs and Access

The registration form in this Advance Program includes a space for indicating any special needs you may have. Items such as special directions for persons with impaired mobility, sign language, interpreters, dietary restrictions or other assistance can be made available upon request. Please take a moment to describe your special needs in the appropriate place on the registration form. If you would like more information about making these arrangements, please contact the Conference Office:

Tel: +1 410 263 5382
Fax: +1 410 267 0332
Email: chi98-office@acm.org

CHI 98 Store

CHI 98 polo shirts, mugs, publications, T-shirts and videos will be sold at the CHI Store located near Registration in the West Hall Lobby of the Los Angeles Convention Center. The CHI Store opens at 12:00 noon on Sunday and will be open concurrent with registration hours.

travel arrangements

Airline Discounts to Attend CHI 98


▲ Delta Air Lines Delta Air Lines is offering special rates to CHI 98 for both domestic and international flights. To take advantage of these special savings you or your travel agent may call Delta Meeting Network® Reservations at 1 800 241 6760, weekdays 7:30 am–11:00 pm; weekends 8:30 am–11 pm, Eastern Time. Outside of North America, call your local Delta Air Lines office.

Refer to File Number #107904A.

 US Airways is also offering special rates to CHI 98. You or your travel agent may call US Airways' Meeting and Convention

U-S AIRWAYS Reservation Office at 1 800 334 8644, 8:00 am–9:00 pm, Eastern Time. Outside of North America, call your local US Airways office. **Refer to Gold File No. 44640431.**

Rental Cars

 Alamo is the official conference rental car company.

SPECIAL RATES

Special daily and weekly rates are available to conference participants traveling between 11 April and 29 April 1998. Special rates apply to all size cars and all rentals include unlimited mileage. Alamo awards credits to many airline frequent flyer and hotel programs. Ask the reservations agent for details.

RESERVATIONS

Within North America, reservations can be made by calling Alamo's toll free number: 1 800 732 3232. Non-North American delegates only may fax reservations to +1 954 527 4600. The fax must include your name, address telephone and fax numbers, date you wish to pick up your car, number of days you wish to rent and credit card number with expiration date.

When placing your reservations, please refer to ACM/CHI 98 and rate code GR-469698. Twenty-four hour advance reservations are required for special rates to apply.

Airport Information

Los Angeles International Airport (LAX) services 75 major airlines and is the third largest in the world in terms of passenger traffic. LAX offers direct and non-stop service from all major cities in the United States. The airport

is 15 miles from downtown Los Angeles and the trip takes approximately 20-30 minutes by car. Ground transportation is available at the Airport. All LAX facilities are accessible to persons with disabilities.

AIRPOPRT SHUTTLE SERVICE

The LAX Shuttle and the Super Shuttle provide transportation to downtown Los Angeles, including the conference hotels. The fare is currently US\$12.00 one way. Arrangements can be made through direct information telephone lines provided on information boards in the baggage claim areas.

AIRPORT TAXICABS

Taxicabs are available outside the airport terminal. A one-way fare between the airport and downtown hotels is currently a flat rate of US\$24.00 plus a US\$2.50 surcharge per trip, regardless of number of passengers. Be sure to confirm this fare with your driver before leaving the airport.

THE DASH

The DASH shuttle system offers low-cost public transportation. The service runs approximately every 5 to 20 minutes and is a clean, fast way to get around town. For US\$0.25 a ride, five DASH lines run in the Downtown area. The Convention Center, the Garment and Jewelry districts, Olvera Street, the Metro Blue Line and Union Station are easily accessible with DASH lines and are free. Tel: +1 213 580 5444

Housing

TO REGISTER FOR HOUSING

Complete the Housing Form and mail or fax to Heritage World Travel, Inc. at the location listed at the bottom of the form.

Telephone reservations cannot be accepted. If you are faxing, please do not mail a duplicate hard copy. This will result in multiple reservations. Make copies of this form if additional room reservations are needed.

SPECIAL CONFERENCE RATES

The conference rates are available only through Heritage World Travel, Inc. Reservations cannot be accepted directly by hotels.

CHECK-IN TIME

Check-in at all conference hotels is 4:00 pm. However, the hotels will make every effort to accommodate earlier arrivals.

HOTEL SHUTTLE SERVICE

The conference hotels are within walking distance of the L.A. Convention Center. However, CHI 98 will provide free shuttle transportation between the sites. Information will be available in your hotel lobby.

RESERVATION CONFIRMATION

All conference attendees will receive actual confirmation of hotel assignment directly from the specific hotel by postal mail within 3 weeks of receipt of reservation. The hotel will also send specific deposit requirements and instructions for payment if you did not provide a credit card.

Non-North American conference attendees only will also receive an acknowledgment from Heritage World Travel, Inc. within 10 days. This acknowledgment will indicate which hotel you have been assigned. However, hotel assignment is not final until you receive your specific hotel confirmation. It is recommended that non-North American attendees provide a fax number on the housing form.

If you choose to register for housing online (www.acm.org/sigchi/chi98), Heritage World Travel, Inc. will issue a reply message indicating that your form has been received. This reply message is not a housing confirmation.

HOUSING RESERVATION DEADLINE

All reservations must be received by Heritage World Travel, Inc. no later than 16 March 1998. After this date, the conference cannot guarantee that hotel rooms will be available.

CHANGES AND CANCELLATIONS

Changes and cancellations for an existing reservation may be made by fax or email to Heritage World Travel, Inc. (fax: +1 202 518 5333; email: eolivas@hwtravel.com) before 10 April 1998. After 10 April 1998, you must call your hotel directly. Cancellations must be received a minimum of 48 hours prior to arrival to receive a refund of your deposit.

HOTEL TELEPHONE NUMBERS

Please do not use these numbers to make reservations! All reservations must be made through Heritage World Travel, Inc.

Westin Bonaventure Hotel & Suites
Tel: +1 213 624 1000
Fax: +1 213 612 4800

Figueroa Hotel
Tel: +1 213 627 8971
Fax: +1 213 689 0305

Holiday Inn Los Angeles City Center
Tel: +1 213 748 1291
Fax: +1 213 748 6028

Omni Los Angeles Hotel & Center
Tel: +1 213 688 7777
Fax: +1 213 612 3989

Regal Biltmore Hotel
Tel: +1 213 624 1011
Fax: +1 213 612 1545

CHI 98 Conference Facilities

1 [WESTIN BONAVENTURE HOTEL & SUITES](#) (Conference Headquarters Hotel)

This newly renovated landmark in the heart of downtown houses a 6-story atrium lobby complete with lake and trees. As the site for the conference reception and the largest number CHI 98 attendees, this hotel offers more than 40 restaurants, lounges and shops as well as commanding views from the Top of Five Restaurant and revolving BonaVista lounge. Services include 24 hour room service, concierge, in-room movies and refreshment centers, irons & ironing boards, wall safes, business center, health club access and outdoor swimming pool. US\$130 single/double

2 [FIGUEROA HOTEL](#)

With Mediterranean-Spanish decor, the Figueroa is a quaint little hotel with a restaurant, lounge, outdoor pool and spa. Located one block from the Convention Center this hotel is not only a superb value but also convenient. US\$88 single/US\$98 double

3 [HOLIDAY INN LOS ANGELES CITY CENTER](#)

Located one block from the Convention Center this hotel offers modern comfort with California decor. Services include a restaurant, lounge, outdoor pool, fitness center, sauna, concierge, room services and cable TV. US\$125 single/double

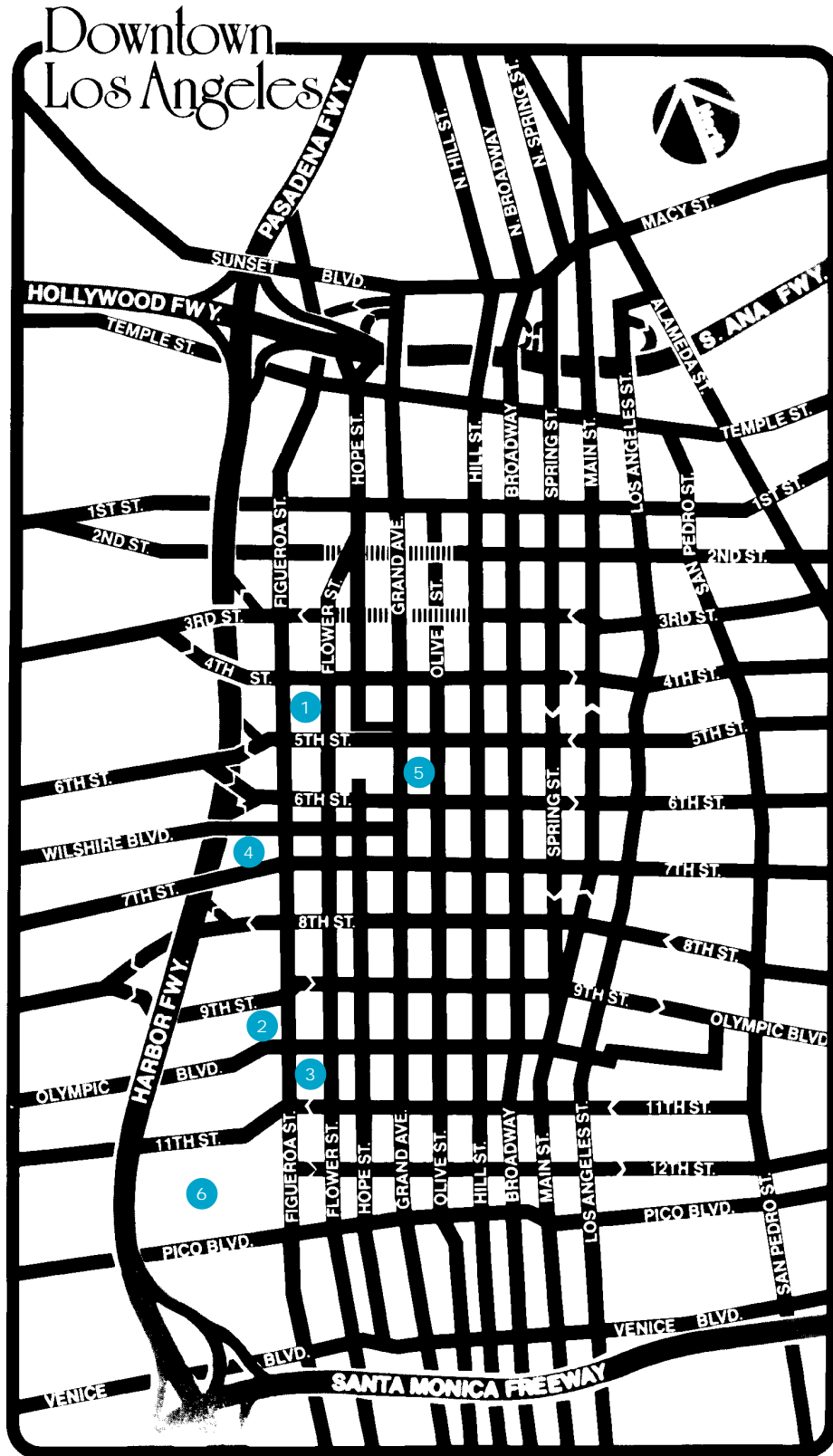
4 [OMNI LOS ANGELES HOTEL & CENTER](#)

This four star, four diamond Hotel offers four restaurants including Seoul Jung (Korean tabletop barbecue), Kyoto (Japanese cuisine), Cardini's (Italian fine dining) and City Grill. Services also include the lobby bar, outdoor pool and jacuzzi, fitness center, room service, concierge, child care, in-room movies and multiple line phones. US\$125 single/double

5 [REGAL BILTMORE HOTEL](#)

The Regal Biltmore's interior reflects a blending of classical architecture of European palaces with contemporary luxury. Services include restaurants, lounges, indoor pool, spa, fitness center, room service, concierge and downtown shuttle. US\$130 single/double

6 [LOS ANGELES CONVENTION CENTER](#)



CHI·98 housing reservation form

Last Name First Name

--	--

Company/Organization

--

Company Address

--

City Prov/State

--	--

Postal/Zip Code Country

--	--

Telephone Fax

--	--

Name of person making reservation

--

hotel data

Arrival Date	Arrival Time (if known)
Departure Date	Departure Time (if known)

HOTEL (please see opposite page for a listing of hotels and rates)
 Rates are subject to prevailing room tax and individual reservation deadlines. Space in conference hotels may not be available after 16 March 1998.

1st Choice _____

2nd Choice _____

3rd Choice _____

ROOM TYPE

Single (1 person 1 bed) Double (2 persons 1 bed)

Twin (2 persons 2 beds) Triple (3 persons 2 beds) Quad (4 persons 2 beds)

Smoking Non-smoking

Rooming with: _____

Special requirements: _____

method of payment

All rooms must be guaranteed. It is recommended that you guarantee your room with a credit card. If you do not provide a credit card, the hotel will send specific deposit requirements and instructions for mailing your check, with confirmation. Do not send checks to Heritage World Travel, Inc. Please be advised that you will be charged for one night's accommodation if you do not cancel at least 48 hours prior to arrival.

CREDIT CARD GUARANTEE: Visa Master Card American Express

Name (as it appears on card) _____

Card Number _____

Expiration Date _____

Signature _____

MAIL TO: Heritage World Travel, Inc.
 1611 Connecticut Avenue, N.W.
 Suite 4-C
 Washington, DC 20009 USA

CALL: For inquiries only. No reservations will be taken by phone.
 1 888 336 9187 (toll-free in North America)
 +1 202 518 5300 (from anywhere in the world)
 Monday–Friday, 9:00 am–5:00 pm Eastern Time

FAX: +1 202 518 5333 (from anywhere in the world, anytime)

conference registration

Early Registration Discount

A substantial discount is available for registrations postmarked or faxed on or before 12 March 1998. No telephone registrations will be accepted, but you can register online at www.acm.org/sigchi/chi98.

Conference participants are urged to register early and arrange their travel and accommodations as soon as possible. Please mail or fax your registration form (page 39) with payment in US dollars to the Registration Office address on the form.

Early Registration Fees

Member	(USD) \$415
Non-Member	535
Student	125
Tutorial unit with conference	255
Tutorial unit without conference	315
Student tutorial unit with conference	110
Student tutorial unit without conference	185

On-site conference registration fees are significantly higher. The CHI 98 Registration area is located in the West Hall Lobby of the Los Angeles Convention Center. Pre-registered participants (including workshops) must pick up their badges and other conference materials here.

Hours are:

Saturday	2:00 pm to 7:00 pm
Sunday–Wednesday	8:00 am to 5:30 pm
Thursday	8:00 am to 2:00 pm

Conference Registration Fee Includes

- ▲ Three days of technical sessions
- ▲ Conference Proceedings and Summary
- ▲ A copy of the CHI 98 Videos
- ▲ Conference Reception and Coffee Breaks
- ▲ Exhibits

"Member" Conference Fee

If you are a member of ACM/SIGCHI or any of the cooperating societies listed below, you qualify for the member registration fee.

"Non-Member" Conference Fee

Included in the registration fee for non-members is a one-year membership in ACM and ACM/SIGCHI.

Tutorial Registration

Full and half-day tutorials are offered on Saturday, Sunday and Monday, 18–20 April. For information about tutorials, see pages 4–16.

There is a separate fee for each tutorial. Registration for tutorials is limited and assigned on a first-come, first-served basis. Tutorial availability information is accessible at the www.reg-master/chi98.tut.avail.html.

Workshop Registration

Workshops run Sunday and Monday, 19 and 20 April. Participation requires the payment of an additional fees: US\$50 for a one-day workshop or US\$100 for one-and-a-half and two-day workshops. To take advantage of reduced conference fees, register by the early deadline (12 March 1998) even if you have not received notification of workshop attendance. When you receive notification of acceptance, please send workshop payment to the Registration Office along with a note including the name of your workshop, your name, address, telephone, fax and email.

If you register for the conference following notification of workshop acceptance, you may register for the workshop and conference with the conference registration form. Just complete the designated workshop section and include your workshop payment along with your conference payment.

Accompanying Persons

You can register accompanying adults (18 years or older) for US\$95 each.

Conference Reception Tickets

The CHI 98 Reception will take place on Tuesday, 21 April at the Westin Bonaventure (Headquarters Hotel), within walking distance of all hotels and the Los Angeles Convention Center. Conference participants and registered Accompanying Persons will receive a reception ticket (good for one admission) in their registration packet. Additional reception tickets are available for US\$50 on the advance registration form or at the CHI Store.

Registration Deadlines

THURSDAY, 12 MARCH 1998

The early registration discount deadline is Thursday, 12 March 1998. To qualify for the greatest discount, forms must be received by this date.

THURSDAY, 2 APRIL 1998

The last day to advance register by fax or on line is 2 April 1998. If your registration form is received at the Registration Office after this date, you will be charged the on-site registration fee. On-site registration closes at 2:00 pm, Thursday, 23 April 1998 and you will not receive a confirmation.

Payment

Registration forms must be accompanied by full payment in US dollars. Forms without payment will be returned. Payment may be by credit card, check or money order. Checks and money orders should be made payable to ACM/CHI 98. CHI 98 cannot accept purchase orders, wire transfers or government vouchers. Registration forms may be submitted by fax, postal mail or online via the CHI 98 Web site. Telephone registrations cannot be accepted. Electronic and faxed registrations must be paid by credit card.

Confirmation

Please allow up to two weeks for mailed confirmation of your registration. CHI 98 cannot fax or email confirmations. Please be advised that if your registration form is received after 27 March 1998, you may not receive a confirmation prior to your arrival.

Refund Requests

Refund requests must be submitted in writing and must be received or faxed on or before 2 April 1998. Direct requests for refunds to the Registration Office. A US\$75 cancellation fee will be deducted to cover processing costs. CHI 98 cannot accept refund requests received or faxed after 2 April 1998.

Registration Transfers

If you cannot attend, your registration may be transferred by giving a colleague a letter authorizing the transfer. The letter must be presented at registration.

CHI 98 is sponsored by the ACM/Special Interest Group on Computer-Human Interaction (ACM/SIGCHI). If you are a member of ACM/SIGCHI or any of these Cooperating Societies, you qualify for the member conference registration fee.

COOPERATING SOCIETIES

ACM/SIGDOC
ACM/SIGGRAPH
ACM/SIGGROUP
ACM/SIGLINK
Austrian Computer Society (OCG)
British HCI Group, B-HCI-G(BCS)
CHISIG New Zealand
Dutch Computer Society (NGI), HCI Special Interest Group
Eurographics
European Association of Cognitive Ergonomics (EACE)
German Society for Informatics (GI), Fachausschuss 2.3
Hong Kong Chapter of ACM
Human Communication Group [HCG] of the IEICE of Japan
Human Factors and Ergonomics Society
IPSI (Information Processing Society of Japan), SIGGroupware
International Artificial Intelligence in Education Society (AIED)
Italian Association for Artificial Intelligence (AIIA)
Italian Computer Society (AICA)
Italian Ergonomics Society (SIE)
Swedish Interdisciplinary Interest Group for Human-Computer Interaction (STIMDI)
Swiss Society for Informatics (SGI), Fachgruppe Software Ergonomie

CHI-98 advance registration form

First Name _____ Last Name _____

Company/Institution _____

Address _____

City _____ State/Province _____

Postal Code _____ Country _____

Tel _____ Fax _____

Email _____

a. * I do NOT want ACM/SIGCHI membership included in the non-member conference fee. The fee does not change.

b. I do NOT want my name on a mailing list given or sold to outside organizations.

Mail Form to:

CHI 98 Registration Office
P. O. Box 941126
Maitland, FL 32794 USA

For Express Mail only:

CHI 98 Registration Office
2060 Goldwater Court
Maitland, FL 32751 USA

or Fax to: +1 407 628 3186 (with credit card payment only)

c. It is my first time attending CHI

d. Childcare needed

e. Special Needs and Access: _____

f. I am a member of: _____

Member number: _____

g. I am a full-time student providing proof of current student status with registration.

conference and tutorial fees in U.S. dollars

(Please circle the appropriate fees)	On or Before 12 March 1998			13 March to 2 April 1998			No confirmations will be provided. 3 April through Conference		
	Student	Member	Non-member	Student	Member	Non-member	Student	Member	Non-member
Conference Fee Only	\$125	\$415	\$535*	\$135	\$615	\$735*	\$145	\$815	\$935*
Each Tutorial Unit with Conference Fee	110	255	255	120	355	355	140	455	455
Each Tutorial Unit without Conference Fee	185	315	315	195	415	415	215	515	515

tutorial selections Circle tutorial numbers and total number of units

	UNITS															
Saturday Evening	<input type="checkbox"/> 1	1	2	3												
Sunday Full-day	<input type="checkbox"/> 2	4	5	6	7	8	9	10	11	12	13	14	15	18		
Sunday Morning	<input type="checkbox"/> 1	16														
Sunday Afternoon	<input type="checkbox"/> 1	17														
Monday Full-day	<input type="checkbox"/> 2	19	20	21	22	23	24	25	26	27	28	29				
Monday Morning	<input type="checkbox"/> 1	30	31	32												
Monday Afternoon	<input type="checkbox"/> 1	33	34	35												
Monday Evening	<input type="checkbox"/> 1	36														
Total Units	<input type="text"/>	Add tutorial units above; the maximum number of units is 6.														

Alternative tutorials:

Saturday: _____ Sunday: _____ Monday: _____

For CEU credits, please provide your social security number or other personal ID number:

Compute the appropriate CEU fees in payment computation section.

workshops Circle workshop numbers below

Sunday and Monday	\$ 100	1	2	3	4
Sunday and 1/2 Monday	\$ 100	5	6	7	
Sunday Only	\$ 50	8	9	10	11
Monday Only	\$ 50	12	13	14	15

payment computation

- 1. Conference Fee \$ _____
 - 2. Tutorial Units: _____ x \$ _____ \$ _____
 - 3. Tutorial Units: _____ x \$ 5 (CEU fee if desired) .. \$ _____
 - 4. Workshop Fee (accepted registrants only) \$ _____
 - 5. Accompanying Person (incl. Reception¹) @ \$ 95 \$ _____
Acc. Person's Name: _____
 - 6. Extra Reception Tickets[†]: _____ x \$ 50 \$ _____
 - 7. Extra Proceedings: _____ x \$ 50 \$ _____
 - 8. Extra Summary Volume: _____ x \$ 25 \$ _____
 - 9. Extra NTSC Video: _____ x \$ 20 \$ _____
 - 10. Extra PAL Video: _____ x \$ 20 \$ _____
 - 11. Mugs: _____ x \$ 5 \$ _____
 - 12. T-shirts*: M L XL _____ x \$ 8 \$ _____
 - 13. Polo shirts*: M L XL _____ x \$ 20 \$ _____
 - 14. Free video with registration*: NTSC / PAL \$ - 0 -
- *Circle shirt size and/or video format. [†]Restricted to 18 and older.

Total Fees Enclosed \$

Forms without payment will not be processed. Make checks and money orders payable in U.S. Dollars to ACM/CHI 98. Purchase orders, government vouchers, and wire transfers are not accepted and will be returned to sender. If paying by VISA, MasterCard or American Express, please provide the following credit card information in full to avoid delays:

Card Number: _____ Exp. Date: _____

Cardholder's Name _____

Cardholder's Signature _____

Billing Address _____
(if different from above)

conference committees

Special Thanks

This conference depends heavily on the efforts of volunteers. CHI 98 is made possible by contributions of the conference committee. Thanks to all these individuals and the corporations and institutions whose support has made their participation possible.

Management Team

Conference and Technical Program

Co-Chairs

Clare-Marie Karat
IBM T. J. Watson Research Center
Arnold Lund
U S WEST Advanced Technologies

SIGCHI CMC Liaison

Gerrit C. van der Veer
Vrije Universiteit

ACM Liaison

David S. Riederman, CAE
ACM SIGCHI Program Director

Conference Management

Paul Henning
Conference & Logistics Consultants, Inc.

Technical Program

CHikids Co-Chairs

Angela Boltman
Hawthorne Elementary School

Allison Druin
University of Maryland

Mark Platt
LSUMC

Demonstrations Co-Chairs

Eric Bergman
Sun Microsystems

Nancy Frishberg
New Media Centers

Development Consortium Co-Chairs

Allison Druin
University of Maryland

Angela Boltman
Hawthorne Elementary School

Jürgen Koenenmann
GMD

Design Briefings Co-Chairs

Mary Czerwinski
Microsoft

Bob Schumacher
BelgaCom

Doctoral Consortium Co-Chairs

Deborah A. Boehm-Davis
George Mason University

Clayton Lewis
University of Colorado

Education Application Domain Chair

Allison Druin
University of Maryland

Entertainment Application Domain Chair

Francine Arble
AT&T Labs

Health Care Application Domain Chair

Janette Coble
Washington University School of Medicine

Late-Breaking Results and Student

Posters Co-Chairs

Nigel Bevan
National Physical Laboratory

Gilbert Cockton
University of Sunderland

Mentoring Liaison

Robin Jeffries
Sun Microsystems

Panels Co-Chairs

Michel Beaudouin-Lafon
Université de Paris Sud

Catherine Wolf
IBM T. J. Watson Research Center

Papers Co-Chairs

Joëlle Coutaz
CLIPS - IMAG

John Karat
IBM T. J. Watson Research Center

Tutorials Co-Chairs

Julie Jacko
Florida International University

Andrew Sears
DePaul University

Videos Co-Chairs

Benjamin B. Bederson
University of Maryland

Kristian T. Simsarian
Swedish Institute of Computer Science

Workshops and SIGs Co-Chairs

Susan Dumais
Microsoft Research

Jürgen Ziegler
Fraunhofer IAO

Operations

Americas Regional Liaison

Susan Dray
Dray and Associates

Asia Regional Liaison

Masaaki Kurosu
Shizuoka University

Australia Regional Liaison

Robert Rist
University of Technology

Europe Regional Liaison

Susan Harker
Loughborough University of Technology

Local Lab Tour/Arrangements Liaison

Leila Johannesen
Pacific Bell

Sponsorship Liaison

Jakob Nielsen
Sun Microsystems

Student Volunteers Co-Chairs

Mike Byrne
Carnegie Mellon University

Hans de Graaff
KPN Research

Technical Liaisons

David Hamilton
Pacific Bell

Marilyn Salzman
George Mason University

Professional Staff

Conference Administrators/Conference

Logistics

Borysa O. Struk
Mike Yancy
Conference & Logistics Consultants, Inc.

Graphic Design

Mo Viele
Mo Viele, Inc.

Online Communications

Keith Instone
Usable Web

Publications Coordination &

Exhibit Promotion

Debbie Hall
Meeting Hall, Inc.

Publicity

Rosemary Wick Stevens
Ace Public Relations

Registration

Carole Mann
Registration Systems Lab

Sponsorship Support

Carol Klyver
Foundations of Excellence

SIGCHI Executive Committee

Chair

Michael E. Atwood
Bell Atlantic Science and Technology, Inc.

Executive Vice-Chair

Guy Boy
European Institute of Cognitive Sciences & Engineering

Vice-Chair for Communications

Cathleen Wharton
U S WEST Advanced Technologies

Vice-Chair for Conference Planning

Gerrit C. van der Veer
Vrije Universiteit

Vice-Chair for Finances

Jean Scholtz
National Institute of Standards and Technology

Vice-Chair for Operations

Robert Mack
IBM T. J. Watson Research Center

Vice-Chair for Publications

Dan R. Olsen, Jr.
Carnegie Mellon University

Past-Chair

Jim Miller
Independent Consultant

SIGCHI Bulletin Editor

Steven Pemberton
CWI

SIGCHI Advisory Board

Richard I. Anderson
Usability/Design/Discovery Adventures

Allison Druin
University of Maryland

John Karat
IBM T. J. Watson Research Center

SIGCHI Adjunct Chairs

Information

Keith Instone
Usable Web

Organizational Development

Clare-Marie Karat
IBM T. J. Watson Research Center

Public Relations

Rosemary Wick Stevens
Ace Public Relations

SIGCHI Conference Management Committee

CMC Chair

Gerrit C. van der Veer
Vrije Universiteit

Austin Henderson
Rivendel Consulting

Jim Miller
Independent Consultant

Kevin Schofield
Microsoft Corporation

Michael Tauber
University of Paderborn

Thea Turner
Bell Atlantic Science and Technology, Inc.

ACM Liaison

David S. Riederman, CAE
ACM/SIGCHI Program Director

about Los Angeles



© LACVB. Los Angeles CVB/Michèle & Tom Grimm

L

os Angeles, the City of Angels, offers something for everyone. Trends start here... some say so does the future. America's second largest city is constantly recreating and redefining itself. The region enjoys a cultural diversity that is unmatched by any city in the United States—or the world.

Whether you seek the excitement of outdoor activities, the intrigue of sophisticated culture or the energy of the streets, Los Angeles will keep you busy from dawn 'til dusk.



© LACVB. Los Angeles CVB/Michèle & Tom Grimm

Visiting Los Angeles

Below are some of the things you can do while in Los Angeles.

DOWNTOWN:

- Angel's Flight
- Museum of Neon Art
- The Geffen Contemporary at MOCA
- La Brea Tar Pits
- Little Tokyo Walk
- Leimert Park

HOLLYWOOD:

- Hollywood Palace
- L.A. Zoo
- Silver Lake District
- Hollywood Entertainment Museum
- Universal Studios Hollywood
- Universal CityWalk

WESTSIDE:

- Museum of Television and Radio
- Skirball Cultural Center

- The Petersen Automotive Museum
- Craft and Folk Art Museum
- Planet Hollywood
- House of Blues
- Billboard Live

BEACHES:

- Hermosa Beach Pier Plaza
- Pacific Park
- Streisand Center
- Latin American Art Museum
- Long Beach Aquarium of the Pacific
- Venice Beach

THE VALLEYS:

- Warner Bros. VIP Studio Tour
- San Vicente Mountain Park

BEYOND LOS ANGELES:

- Disneyland
- Knott's Berry Farm
- Ontario Mills
- Six Flags Magic Mountain

FOR MORE INFORMATION

For more information on Los Angeles and nearby areas, you can:

- ▲ Contact the Los Angeles Convention and Visitors Bureau at:
Tel: +1 213 624 7300
Fax: +1 213 624 9746
- ▲ Check www.losangeles.com
- ▲ Check the CHI 98 Web site
- ▲ Ask your hotel concierge
- ▲ Visit the CHI 98 Information Booth in the West Hall Lobby

© LACVB. Los Angeles CVB/Michèle & Tom Grimm



Climate

Southern California's climate has often been described as "perfect" and for very good reasons. Mostly it is sunny and warm with gentle ocean breezes in the summer. The humidity is low with little rain.

Average temperatures in April are 71°F / 22°C during the day and 53°F / 12°C at night. Dress comfortably and consider bringing sunglasses and sunscreen lotion.

Some of the sights of Los Angeles: top left: Marina Del Rey fisherman's village; bottom left: Downtown Los Angeles; above: Mann's Chinese Theater star's hand and foot prints. Photos courtesy of the Los Angeles Convention and Visitor's Bureau.



ACM
1515 Broadway
New York, NY 10036-5701
USA

About ACM/SIGCHI

ACM, the Association for Computing, 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 70,000 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.

The scope of SIGCHI consists of the study of the human-computer interaction process and includes research, design, development and evaluation efforts for interactive computer systems. The focus of SIGCHI is on how people communicate and interact with a broadly defined range of computer systems. SIGCHI serves as a forum for the exchange of ideas among computer scientists, human factors scientists, psychologists, social scientists, systems designers and end users. Over 6200 professionals work together toward common goals and objectives.

MEMBERSHIP INFORMATION

Please contact ACM's Member Services Department: www.acm.org/

In USA & Canada

Tel: 1 800 342 6626

In Metro NY & Outside USA

Tel: +1 212 626 0500

Fax: +1 212 944 1318

Email: acmhelp@acm.org

Write: ACM Member Services Department

1515 Broadway

New York, NY 10036 USA

In Europe

Tel: +44 1865 382338

Fax: +44 1865 381338

Email: acm_europe@acm.org

Write: ACM European Service Centre

108 Cowley Road

Oxford OX4 1JF UK

ACM SIGCHI Web site

www.acm.org/sigchi/



ACM SIGCHI has been approved as an Authorized CEU Sponsor member of the International Association for Continuing Education and Training.