HCI NEWS
Volume 7, Issue 2
October 26, 2012

HCI RETREAT TO BE HELD ON NOVEMBER 30
Please mark your calendars for the HCI Retreat to be held on Friday, November 30 from 1-3 pm in Room 10 Howe Hall. Tentative topics for discussion include the CHI Design Competition, World Usability Day, the new curriculum proposal, and distance PhD students. All HCI faculty and students are invited to attend.

WELCOME NEW HCI FACULTY
The HCI Graduate Program welcomes three new faculty members to our program.

• Christina Bloebaum: Christina is the Dennis and Rebecca Muilenburg Professor of Aerospace Engineering and comes to ISU from NSF. She earned her PhD in Aerospace Engineering from the University of Florida. Her research interests include the Design of Complex Engineered Systems, Multidisciplinary Design Synthesis, Visualization and Visual Design Steering for Large-scale Optimal Design, Visualization of Multidimensional/Multivariate Data, Emergency Evacuation Simulation, System of Systems Design, Structural Analysis and Optimization.

• Alex Braidwood: Alex is an assistant professor in Graphic Design and comes to ISU from California. He earned his MFA in Media Design from the Art Center College of Design in Pasadena, CA. His research interests include Audio Ecology, Active Listening, Sound Art, Graphic Design, Interaction Design, and Motion Design.

• Michael Dorneich: Michael is an associate professor in IMSE in the Human Factors Group. He comes to ISU from Honeywell’s R&D group. He earned his PhD in Industrial Engineering from the University of Illinois at Urbana-Champaign. His research interests focus on creating joint human-machine systems that enable people to be effective in the complex and often stressful environments found in aviation, military, robotic, and space
We welcome these faculty members to the HCI Graduate Program!

**PEER REVIEWERS NEEDED**

HCI students and faculty are invited to volunteer to be peer reviewers for our HCI students who want to have their papers peer reviewed before they are submitted for publication. Please contact Juan Sebastian Casallas at casallas@iastate.edu if you would like to volunteer to be a reviewer or if you would like to have a paper peer reviewed.

**WORLD USABILITY DAY DESIGN CHALLENGE**

Watch your email on November 2 for details about the World Usability Day Design Challenge. The theme for World Usability Day 2012 will investigate and advance the application of user-centered design methodologies to financial systems and services. We hope many of you will participate in this year’s design challenge! World Usability day is on November 8, 2012.

**LECTURERS NEEDED TO TEACH HCI COURSES**

The HCI Graduate Program seeks lecturers to grow its pool of courses. These persons would have responsibility to teach graduate courses in Human Computer Interaction, which includes topics such as user-centered design, qualitative and quantitative evaluation techniques, software development, social impact of technology, design (including engineering design, industrial design, interaction design), and others. Please see vacancy number 120695 at http://www.iastate.jobs.com for additional information.

**CHI 2013 STUDENT DESIGN CHALLENGE**

A Design Charrette was held on October 12-13 to develop teams for the CHI Student Design Competition. Two teams emerged, one on cyber bullying recognition and the second to connect kinesiologists with coaches and parents to improve sports for young people. Critiques of these team projects will be held in November. Please watch your email for additional information. Special thanks to Debra Satterfield for her leadership with the design teams.

The theme for the CHI 2013 Student Design Challenge is “Empowering the Crowd: Changing Perspectives Through Collaboration.” Additional information can be found at http://chi2013.acm.org/cfp-students-design.shtml CHI 2013 will be held April 27-May 2 in Paris, France.
POS AND COMMITTEE APPOINTMENT FORMS FOR SPRING 2013 GRADUATION

This is a reminder for those who are planning to graduate or take a preliminary oral or final oral in Spring 2013. The Committee Appointment and Program of Study forms must be RECEIVED by the Graduate College by November 21, 2012 in order to be approved the term before graduation, preliminary or final exam.

Another date to remember is February 1, 2013. This is the deadline date for submission of the Application for Graduation for Spring 2013. This form must be received by the Graduate College by this date.

PLEASE UPDATE YOUR PROFILE ON THE HCI WEBSITE

Please review your student or faculty profile on the HCI website and send Pam a paragraph to update your profile, if it is needed or missing. Please also include the link to your website, if you would like to have that listed.

If you do not have photo on the webpage, please send us a photo to post. We request, if possible, portrait format photos, (vertical vs horizontal rectangle) of at least 1200 pixels in the vertical direction. If you are on campus, you can stop by the VRAC office to ask Sally to take your photo.

HCI Students will receive 100 student group points for updating their profile.

Thank you for your help with keeping the website current!

LINKED IN GROUP FOR HCI

One of our HCI online students, John Churchwell, created a Linked In Group for HCI. This group can be found at HUMAN COMPUTER INTERACTION - IOWA STATE UNIVERSITY

All HCI students, faculty, and alumni are invited to join. Thank you, John, for creating this group!

HCI FACEBOOK AND TWITTER

Please join the HCI social media presence on Facebook and Twitter.

Twitter @isuhci https://twitter.com/#!/isuhci

ISU HCI Facebook page at https://www.facebook.com/pages/ISU-HCI/276327419105537 Please “like” our page.

The HCI student group has a Facebook page under the group named ISU HCI Students. HCI students and faculty are welcome to join. Please check it out at https://www.facebook.com/groups/29337281539/
SPRING 2013 COURSE REGISTRATION IS NOW OPEN

Course registration for Spring 2013 is now open. The following courses may be of interest to HCI students.

**HCI 574 Computational Implementation and Prototyping**, 3 credits, taught by Chris Harding

*Offered both online and on campus.*

Description: To support computational thinking and rapid system prototyping for HCI, this course teaches fundamental concepts of software programming and the practical use of the Python programming language. Assignments include user interaction and interface design, information visualization, as well as other computational HCI tools. Intended for graduate students without prior background in software development. Requires programming during class lectures.

**HCI 575 Computational Perception**, 3 credits, taught by Alexander Stoytchev

*Offered both online and on campus.*

Description: This class covers statistical and algorithmic methods for sensing, recognizing, and interpreting the activities of people by a computer. This semester we will focus on machine perception techniques that facilitate and augment human computer interaction. The main goal of the class is to introduce computational perception on both theoretical and practical levels. You will work in small groups to design, implement, and evaluate a prototype of a human-computer interaction system that uses one or more of the techniques covered in the lectures. At the end of this class you will have an understanding of the current state of the art in computational perception and will be able to conduct original research. In addition to that, you will have the skills to design novel human-machine interfaces that push the limits of current interfaces which, in general, are deaf and blind to the human user. This course requires programming knowledge of C/C++. It also uses Matlab, and the instructor gives tutorials on Matlab during the course.

**HCI 589X Design and Ethics**, 3 credits, taught by Debra Satterfield

*Offered both online and on campus.*

Description: This course will introduce the ethical decisions and the social and policy challenges associated with technology and design as they apply to design research and the design industry. The course covers areas of ethics, ethical reasoning, technology policy decisions and their social impacts, and ethical research practices in human-computer based design. Students will be able to analyze ethical and social issues from multiple perspectives or critical lenses and identify the issues in human subjects. Students will learn how to conduct and write research papers based on their research and design outcomes. Students will learn how to articulate a personal code of ethics in human-computer based research and design.

**HCI 522 Scientific Methods in Human Computer Interaction**, 3 credits, instructor to be announced.

*Offered both online and on campus.*

Description: Basics of hypothesis testing, experimental design, analysis and interpretation of data, and the ethical principles of human research as they apply to research in human computer interaction. This course is designed to provide an understanding of the methods and analyses utilized in human-computer interaction research. Students will interact with the material through readings, lectures, lab work, experiments, and describing their projects. This class will include formal lectures where students...
learn the basics of conducting research and laboratory sessions where students have the opportunity to apply the learned concepts to their own projects. Specific goals of this course include:

1. Students should become critical consumers of research and be able to analyze research designs and conclusions.
2. Gain an understanding of the value of scientific research in human-computer interaction.
3. Be able to design observational, correlational, and experimental studies to test empirical research questions.
4. Understand research ethics and its role in experimental design.

**HCI 591 HCI Seminar**, 1 credit, taught by Stephen Gilbert  
*Offered both online and on campus.*

Description: A weekly seminar open to all faculty and students in HCI related disciplines. Each week we will read and discuss one or more articles on the latest research in Human Computer Interaction from a multi-disciplinary perspective. This course can be taken more than once.

**HCI 525 Mechanical System Optimization**, 3 credits, instructor to be announced.  
*Offered both online and on campus.*

Description: Optimization involves finding the 'best' according to specified criteria. In Engineering Design, this might typically be minimum cost or weight, maximum quality or efficiency, or some other performance index pertaining to a disciplinary objective. Realistic optimal design involves not only an objective function to be minimized or maximized, but also constraints, which represent limitations on the design space. Numerical programming requires the mathematical representation of the design space (objective function and constraints) in terms of 'design variables' (parameters that signify some potential for change). Generally, the problems of interest in engineering are of a nonlinear nature, in that the dependence of the objective function and constraints on the design variables is nonlinear. This course looks at a range of optimization methods from traditional nonlinear ones to modern evolutionary methods such as Genetic algorithms. The course will explore how these methods can be used to solve a wide variety of design problems across disciplines, including mechanical systems design, biomedical device design, biomedical imaging, and interaction with digital medical data. By the end of the semester, the student will have gained a basic knowledge of numerical optimization algorithms and will have sufficient understanding of the strengths and weaknesses of these algorithms to apply them appropriately in engineering design. Students will write code as well as use off-the-shelf routines to gain this experience. Students will also be exposed to numerous case-studies of real-world situations in which problems were modeled and solved using advanced optimization techniques. Application Areas: Design optimization is key to the development and implementation of current design methods such as Multidisciplinary Design Optimization and Concurrent Engineering being used in top companies. The next generation of products and processes are using these design methods and it is critical that new engineers understand these concepts. These methods enable complex systems designs, whether in traditional mechanical engineering or other fields such as those with biological implications, to be performed within not only physical constraints (i.e. stress, deformation) but other impact areas as well (e.g., cost and time).
ME 518X Mechanical Consideration in Robotics, 3 credits, taught by Greg Luecke.  
*Offered on campus only.*  
Description: Robotics is an important area in advanced study in engineering. Kinematics and dynamics in robotic systems are applicable to many general dynamical problems, including construction machinery, farm implements and virtual reality. This course in robotics offers valuable expertise to students interested in either industry or advanced study. We will study mechanism dynamics and analysis, kinematic descriptions, force relationships, and control approaches for open kinematic chain manipulators, and learn the basics of MATLAB simulation and analysis, including graphical display and motion capture of analysis outputs.

HCI 598X HCI Design, Implementation and Implications, 3 credits, taught by Stephen Gilbert  
*Offered online only.*  
Description: Capstone course in HCI. Through a significant team-based design project and open-book final exam, students demonstrate their mastery of core courses in HCI. This is the final required course in the HCI Online MS program.

HCI 504 Managing and Evaluating Instructional Technology Programs, 3 credits, instructor to be announced.  
*Offered on campus only.*  
Description: This is a graduate course on how to plan, design, and conduct effective evaluation studies (formative, summative, usability). Students will have the opportunity to engage in real or simulated evaluation projects of substantial scope. Students will design the instruments and methods with which to evaluate a product (e.g. usability testing) or program (e.g. formative evaluation), conduct try-outs or usability sessions, analyze the data, report the findings and write-up the recommendations.

HCI 603 Advanced Instructional Systems Design, 3 credits, taught by Ana-Paula Correia  
*Offered on campus only.*  
Description: This course focuses on the design and use of instructional technology for learning and teaching. This class requires application of principles of analysis, design, development & production, evaluation, implementation, and project management. This will be a great opportunity to develop a high quality product to include in a professional portfolio, and serve the community at the same time. Students will work in small groups to solve real instructional problems with real-world clients (e.g. local organizations & businesses). Potential clients are: City of Ames, Story County Emergency Management, Phasient Learning Technologies, Thomas B. Thielen Student Health Ctr., Mid-Iowa Community Action, Inc., Edwards Elementary School, Beyond Welfare, Inc., ISU College for Seniors, and ISU Extension to Families. Lecture and hands-on activities on entrepreneurship by inviting guest speakers to the class with strong business and/or entrepreneurship backgrounds will also be offered.

HCI 509 Computer/Video Game Design and Development, 3 credits, instructor to be announced  
*Offered on campus only.*  
Description: Independent project based creation and development of "frivolous and non-frivolous" computer games in a cross-disciplinary team. Projects require cross-disciplinary teams. Aspects of Indie development and computer/video game history will be discussed.
ArtGR 672B Graphic Design and Human Interaction: Experience Design, 3 credits, taught by Roger Baer
Offered on campus only.

STAT 480 Statistical Computing Applications, 3 credits, instructor to be announced
Offered on campus only.

IE 572 Design and Evaluation of Human-Computer Interaction, 3 credits, taught by Michael Dorneich
Offered on campus only.
Description: Human factors methods applied to interface design, prototyping, and evaluation. Concepts related to understanding user characteristics, usability analysis, methods and techniques for design and evaluation of the interface. The evaluation and design of the information presentation characteristics of a wide variety of interfaces: web sites (e-commerce), computer games, information presentation systems (cockpits, instrumentation, etc.), and desktop virtual reality.

ENGL 529 Multimedia Content Management, 3 credits, taught by Geoff Sauer
Offered on campus only.
Description: Strategies for developing and delivering multimodal content via digital media. Focus on the principles of database design, interface development, usability testing, and collaborative content management within professional communication settings.

ACCT 581 Accounting for Decision Making, 3 credits, taught by Todd Thornock
Offered on campus only.
Description: Decision analysis applied to managerial accounting issues. Generation of information for management decision making and control. Responsibility accounting and non-recurring decisions.

MARK YOUR CALENDARS

October 25: Deere Day

October 25: Professional Presentation: Doing the Right Thing (Research Ethics & Misconduct)

October 27: Corn Maze Social Event at Center Grove Orchard

October 31: Cancellation Deadline for Fall 2012 Graduation

November 8: HCI Student Group Lunch Chat

November 7: Boeing Day

November 8: World Usability Day
November 12: HCI Supervisory Committee Meeting at 4 pm

November 15: HCI Student Group Lunch Chat

November 21: Last Date for Final Oral Exam for Fall 2012 Graduation

November 19-23: Thanksgiving Break, classes recessed

November 22-23: University Holidays, offices closed

November 29: HCI Student Group Lunch Chat

November 30: HCI Retreat

FUTURE EVENTS

January 14: Spring 2013 Semester begins

April 27-May 2: CHI 2012 in Paris, France

Please contact Pam Shill at pshill@iastate.edu if you have an item of interest for a future newsletter.

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