CONGRATULATIONS HCI DECEMBER GRADUATES

Ten students will earn HCI degrees this December.

Janea Triplett will graduate with her PhD in HCI. Her dissertation title is “Mining for meaning: The use of unstructured textual data in information systems research”. Her major professor is Brian Mennecke from the College of Business. Janea will be employed with Oklahoma University as a lecturer in the College of Business.

Alfred Taylor, Sr. will graduate with his PhD in HCI. His dissertation title is “Improving web accessibility for older adults based on error detection strategies”. His major professor is Les Miller from Computer Science. Al is an Information Technology Specialist with the Department of Treasury in Dallas, Texas.

Oliva Kar will graduate with her MS in HCI and a Computer Science co-major. Her thesis title is “Data Driven Prognosis: A Multi-scale and Multi-Physics Approach”. Her major professors are Abhijit Chandra from Mechanical Engineering and David Fernandez-Baca from Computer Science. Oliva is a software engineering with Cerner Corporation in Overland Park, Kansas.

David Prater will graduate with his MS in HCI. His thesis title is “Impact tactor design and research for creating consequence in virtual military training”. His major professors are James Oliver from Mechanical Engineering and Stephen Gilbert from Industrial and Manufacturing Systems Engineering. David is a Design Engineer with Haldex Brake Products in Kansas City, Missouri.

Tylor Husske will graduate with his MS in HCI. His major professor is James Oliver from Mechanical Engineering. Tylor works for Iowa State University as a Systems Analyst in IT Services.

Guillermo Hernandez Santos will graduate with his MS in HCI. His major professors are Stephen Gilbert from Industrial and Manufacturing Systems Engineering and Debra Satterfield from Graphic Design. Guillermo works for Accenture Technology Consulting in Houston, Texas.

Kelly Kalvelage, Regis Fauquet, Henry Navarro, and Venkat Tatituri have earned the Graduate Certificate in Human Computer Interaction.
Congratulations to these graduates!

HCI RETREAT WAS HELD ON NOVEMBER 30

Forty HCI faculty and students attended the November 30 HCI Retreat. Jim Oliver began the event by talking about the growth in the program, particularly in online students. Even with a large online population, the program’s attrition rate is 7%. With the end of the Fall 2012 semester, the HCI program will have a total of 162 graduates. He also announced some of the spring courses that HCI students may be interested in taking. UX Lab statistics were announced and then Stephen Gilbert gave a presentation on the new curriculum proposal. Those present at the retreat then were given a list of topics related to the curriculum to discuss in breakout sessions, with reports given at the end of the event.

World Usability Day Challenge winners were also announced. Three students, Eduardo Rubio, Batzaya Batsaikhan, and Frederick Thompson, also presented their CHI Student Design Competition poster and received feedback from the group.

WORLD USABILITY DAY DESIGN CHALLENGE WINNERS ANNOUNCED

The ISU World Usability Day Design Challenge was announced on November 2, with the theme to investigate and advance the application of user-centered design methodologies to financial systems and services. The entries for this year’s challenge were:

Budgeted.me was submitted by Batzaya Zack Batsaikhan. Budgeted.me is a simple, fun, easy to use and intelligent financial application that actually interacts and suggests possible ways to save money based on the credible financial data analysis of the registered users of the system.

Debt Snowball Program was submitted by Matthew Hakeman. This program is an active way for students to manage their debt and reduce their interest payments.

After voting by the HCI/VRAC community, the first place winner was the Debt Snowball Program by Matthew Hakeman.

The first place winner received a $200 gift card to Amazon.com and the runner-up received a $100 gift card to Amazon.com, sponsored by WebFilings.

Thank you to all of you who participated in the ISU World Usability Day Challenge.

HCI NEW CURRICULUM PROPOSAL ANNOUNCED AT RETREAT

Last year, after discussions about the quality, growth, and reputation of the program, the HCI Supervisory Committee appointed an HCI Curriculum Task Force to discuss a new curriculum. This Task Force was made up of Stephen Gilbert, Les Miller, Ana-Paula Correia, Andrea Peer, Hannah Hunt and Pam Shill. The Task Force met several times and after much discussion, proposed a new curriculum for
the program. This proposal was presented, first to the HCI Supervisory Committee and then to the community at the HCI Retreat. The next step is for the Task Force to discuss the feedback received from faculty and students.

The implementation of the new curriculum will also need to be discussed. Students already admitted to the program will still adhere to the old curriculum, with students admitted in a future semester (to be determined) placed under the new curriculum.

If you are interested in reviewing the new curriculum proposal that was presented at the HCI Retreat, it can be found on the Student Group Intranet at https://intranet.vrac.iastate.edu/twiki/bin/view/TheLab/HciStudentGroup. Please use your net id and password to log in. Please send your feedback to any of the Task Force members.

**HCI BOEING RESEARCH SCHOLARSHIP ANNOUNCED**

The HCI Graduate Program received funds from Boeing to be used for tuition scholarships awarded to students for HCI research as measured by publications. They are:

- Award for the Strongest HCI Research Contribution at Conferences ($500)
- Award for the Strongest HCI Research Contribution in Journals ($1000)
- Award for the Greatest Number of HCI-Related Conference Publications ($500)
- Award for the Greatest Number of HCI-Related Journal Publications ($1000)

These scholarship funds would be applied directly to your tuition bill. The scholarship winners will be announced at ETC2013.

To apply for these scholarships, students will send Pam a list of publications and conference papers for the 2012 calendar year by March 1, 2013. This list should include the citation, abstract and a link/attachment to a PDF for each publication.

**HCI STUDENTS RECOGNIZED**

Tim Morgan received the Mechanical Engineering Teaching Excellence Award in recognition of the quality of his teaching accomplishments. Tim is an HCI PhD student with a Mechanical Engineering co-major. His co-major professors are Judy Vance and Ted Heindel.

Juan Sebastian Casallas has been invited to present his paper at HCI International in Las Vegas in July 2013. He was also chosen as a student volunteer for CHI 2013 in Paris, France. Sebastian is an HCI PhD student and James Oliver serves as his major professor.

Congratulations to these students!
2013 GRAD COHORT WORKSHOP
The 2013 Grad Cohort Workshop will be held April 5-6, 2013 in Boston, Massachusetts. Women students in their first, second or third year of graduate school in computer science and engineering or a closely relate field are eligible to attend. Applications are accepted through January 15, 2013. For additional information, please see the website at http://cra-w.org/ArticleDetails/tabid/77/ArticleID/55/Default.aspx One of our HCI students attended last year and found it very valuable.

USABILITY LAB STATISTICS
The Usability Lab on the second floor of Howe Hall has been used quite extensively since it was opened last year.

- 1809 total hours of use
- 41 faculty users
- 65 student users
- 13 industry users
- 6 publications accepted from research done in the lab
- 3 grants have been awarded

To book the lab, please see the website at uxlab.hci.iastate.edu. Please contact Andrea Peer with questions.

CHI 2013 SUBMISSION DEADLINE
January 5, 2013 is the next submission deadline for CHI2013. This is the deadline for Works-In-Progress, Student Design Competition, as well as other events. Please see the CHI website at http://chi2013.acm.org/communities/design/ for additional information.

The theme for the CHI 2013 Student Design Challenge is “Empowering the Crowd: Changing Perspectives Through Collaboration.” CHI 2013 will be held April 27-May 2 in Paris, France.

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.

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!

HCI SOCIAL MEDIA

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/

Linked In Group for HCI can be found at Human Computer Interaction - Iowa State University

SPRING 2013 COURSE REGISTRATION IS OPEN

Course registration for Spring 2013 is open. We encourage students to register by December 21, as decisions about course cancellations and capping high enrollment courses will be made at that time. 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 571X Augmented Reality**, 3 credits, taught by Rafael Radkowski  
*Offered both online and on campus.*  
Description: Fundamental technologies enabling augmented reality (AR) application development. Assessment and integration of the hardware and software systems necessary for AR including, tracking, image processing and rendering. Programming skills in C++ and GPU-based optimization are developed to enable evaluation of interaction devices and modalities afforded by AR.

**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.

**ArtGR 672B Graphic Design and Human Interaction: Experience Design**, 3 credits, taught by Roger Baer  
*Offered on campus only.*

**ArtGR 584, section C, Selected Studies in Graphic Design**, 3 credits, taught by Chad Kilgore  
*Offered both online and on campus.*

Description: Special issues related to graphic design. This is a game development course. It will not be supported by Engineering/LAS Online Learning. Both on campus and online students will use section C to enroll.

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

Description: Modern statistical computing. Data management; spread sheets, verifying data accuracy, transferring data between software packages. Data and graphical analysis with statistical software.

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

December 14: Fall 2012 semester ends

December 15: Graduation Ceremony at 1:30 pm in Hilton Coliseum

January 14: Spring 2013 semester begins

FUTURE EVENTS

February 1: Applications for Graduation for Spring 2013 are due

February 15: HCI Recruiting Open House

March 18-22: Spring Break

April 19: Last date for Final Oral Exam for Spring 2013 graduation

April 24-25: ETC 2013 – tentative date

April 27-May 2: CHI 2012 in Paris, France
May 28-August 2: SPIRE-EIT Summer REU Program

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

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