Designing

UP

W

Welcome from the Chair

Photo: Anne Hilton

Jan Spyridakis
Department Chair

The Department of Human Centered Design & Engineering (HCDE) focuses its education and research activities on human-computer inter-action (HCI), socio-technical systems, user experience (UX) research and design, and engineering education.

It is an exciting time for our internationally recognized department, with cutting-edge research, 250 phenomenal students, and 14 stellar full-time faculty and 20 part-time faculty from industry. Applications for our undergraduate program have increased by more than 200% in the last two years, and applications to our MS program have increased by more than 60% in the last year, with record enrollments across the board. Our PhD program grew this year to 31 students and we launched a new certificate program in Global Technology and Communication Management to join our existing certificates in User-Centered Design and Technical Writing and Editing.

Our faculty and students continue to conduct innovative research, examining local and global issues. From Professor Charlotte Lee's research on collaborative systems (p. 9) to PhD candidate Jonathan Morgan's summer fellowship at the Wikimedia Foundation (p. 6), our faculty and students are on the move. Professor Julie Kientz led students through projects with indus-try partners (p. 14) and our students are tackling entrepreneurial projects (p. 12). Students also traveled to Uganda (p. 4) and to Taiwan (p. 5) this past summer to conduct research.

I hope you find the inaugural edition of *Designing Up* to be informative. As always, please contact me with comments or inquiries—you can reach me at jansp@uw.edu.

Table of Contents

HCDE Human Centered Design & Engineering
University of Washington

CONTACT US
Department of Human Centered Design & Engineering

College of Engineering
University of Washington

Office Location:
423 Sieg Hall

Mailing Address:
Campus Box 352315
Seattle, WA 98195-2315

Phone: 206.543.2567
Fax: 206.543.8858

Email: hcde@uw.edu
Web: hcde.uw.edu

Staying Ahead of the Curve

By Gian Bruno

The undergraduate curriculum in Human Centered Design & Engineering (HCDE) is being updated to better reflect the constantly evolving academic and industry research.

Three years after changing the name of the department to Human Centered Design & Engineering (from Technical Communication) and making major program changes, HCDE is once again updating the undergraduate curriculum.

Over the last few years, HCDE faculty have worked with an external advisory board, alumni, and current students to identify gaps in the current undergraduate curriculum. The proposed changes reflect the constantly evolving academic and industry research in the field of human centered design and engineering. In addition to new courses and changes to existing courses, HCDE is improving course sequencing to enable students to complete the degree more efficiently.

Professor Beth Kolko headed the committee to redesign the undergraduate curriculum. According to Kolko, the new curriculum "provides a better survey of theory and research methodologies during the third year and depth through core courses and electives in the fourth year." In addition, the faculty have added a capstone course.

HCDE advising staff have been surveying alumni over several years, and the most common suggestion has been to add a capstone experience.

Faculty supported this idea and have designed a comprehensive capstone experience that gives students the opportunity to demonstrate how they have achieved the learning objectives of the Bachelor of Science in Human Centered Design & Engineering.

HCDE undergraduate advisor Stephanie White commented on the modifications, saying, "With the new changes, student schedules will have more flexibility but will also be organized in a sequence such that the courses build upon each other, helping students to add more depth—in addition to breadth—to their undergraduate education."

The curricular changes will take effect with the student cohort starting in Autumn 2012.

More information
hcde.uw.edu/bs

Photo: Josie Nutter

Student volunteers from the HCDE Student Association at World Usability Day 2011. Back row, from left: Dharma Dailey, Kristian Randall, Alex Fromm, Brian Espinosa, Darivanh Vlachos, Jake Landry, Julius Magsino, Ben Howorth, Yoshi McLeod, and Natasha Noltimier. Front row, from left: Cam Pham, John Porter, Josie Nutter, Nebiat Abraha, Anna Delamerced, Shiho Asanuma, Rachel Barnecut, Jabili Kaza, and Thuy Duong.

Designing Global Technologies

MS students Alexis Hope and Laura Schlenke ('11) conduct field work in Uganda

Professor Beth Kolko runs the Hackademia Lab and has been advising a multidisciplinary project focusing on ultrasound systems in resource-limited environments.

In 2010, funded by a grant from the Gates Foundation, Professor Beth Kolko's research group began designing a low-cost, easy-to-use ultrasound system with integrated learning tools for midwives in the developing world.

By simplifying the process of acquiring and optimizing an ultrasound image, and building learning software to help midwives keep up-to-date on best practices, the group is working to lower the barrier for use of the system to meet the needs of those with limited training in ultrasound. In 2010, the team designed and developed a functioning prototype that acquires ultrasound images and supports the process of optimizing these images. In early 2011, members of the group built upon this research with a visit to communities in Uganda to gain a better understanding of local needs.

This summer, members of the research group, including Computer Science & Engineering (CSE) alumnus Wayne Gerard and HCDE graduate students Alexis Hope and Laura Schlenke ('11), traveled to Uganda to conduct usability tests with local midwives on the ultrasound device in order to further improve the prototype system. The group also wanted to learn more about the needs of local midwives and women, and better understand the restrictions of this resource-limited setting.

Based in Kampala (the capital), the group also traveled to rural southwestern Uganda and visited the Mpigi and Ruhiira districts to meet with midwives and other local medical staff.

Reflecting on the summer, Hope said, "The highlight for me was talking with rural mothers and midwives, and getting to learn about what daily life is like for them. I came away with tremendous respect for both mothers and midwives in Uganda, and a desire to ensure that the technologies we are designing can improve their quality of life."

This multidisciplinary project is advised by Beth Kolko (HCDE), Gaetano Borriello and Ruth Anderson (CSE), and Robert Nathan (Radiology).

More information
bit.ly/mobile-ultrasound

Photos: Alexis Hope

On left: The third prototype of the ultrasound system being tested in Uganda.
On right: The UW research group with Dr. Emmanuel Atuhairwe (far left). From left: CSE alumnus Wayne Gerard, HCDE alumna Laura Schlenke, and HCDE MS student Alexis Hope.

Maintaining Presence in Absence

PhD student Katie Derthick conducts research in Taiwan

Katie Derthick received a fellowship from the National Science Foundation's East Asia and Pacific Summer Institutes program to spend the summer living in Taiwan and researching photo sharing practices.

For her National Science Foundation (NSF) East Asia and Pacific Institutes (EAPSI) Fellowship, HCDE PhD student Katie Derthick was based in the Mobile HCI Lab in the Computer Science and Information Engineering Department at National Taiwan University.

The goals of her research project were twofold: first, to inform the design of a private, one-to-one photo sharing application that the Mobile HCI Lab is in the process of developing; and second, to fill the knowledge gap of research about photo sharing with respect to significant other (SO) photo sharing—previous research had focused exclusively on family and social photo sharing.

Derthick achieved both of her goals, and based on her recommendations, the Mobile HCI Lab developers are revising their photo sharing application designs. Derthick also plans to submit the results of her photo sharing research as a conference paper.

As part of her research, Derthick interviewed 12 American and Canadian students who were living in Taiwan or Australia for two months and who were in committed relationships with someone back home. Her research is unique in its focus on intimate relationships, as most HCI research on photo sharing focuses on family and social photo sharing. That one of the SOs is living abroad (not traveling) and geographically distant for a significant period of time is also important for her research.

Derthick found that her study participants accomplished maintaining intimacy with their SOs by supporting a continued sense of a shared day-to-day life through photo sharing. While participants all had Skype conversations when they could, synchronous communication was not always possible with 12- to 16-hour time differences. Nor were their life experiences something they could share synchronously.

However, by sharing photos of mundane and routine things like "my walk to work," "my dorm room," and "what I ate for lunch," Derthick found that the participants were able to provide SOs a window into their actual lives, not just their sightseeing or travels.

Commenting on her experience in Taiwan on the EAPSI fellowship, Derthick says, "I was really able to practice being an independent researcher and conducting research on my own initiative—good practice for the looming dissertation process!"

Photo: Katie Derthick

HCDE PhD student Katie Derthick (2nd from the left) with other National Science Foundation (NSF) East Asia and Pacific Summer Institute (EAPSI) Fellows in Taiwan.

More information
nsf.gov

Saving Wikipedians

By Jonathan T. Morgan

HCDE PhD candidate Jonathan Morgan received a Summer Research Fellowship from the Wikimedia Foundation in 2011 to conduct an investigation of the socio-technical phenomena at play in the Wikipedia editor community.

My colleagues and I focused on "Wikipedians" at the Wikimedia Foundation's "Summer of Research." Although Wikipedia is "the encyclopedia anyone can edit," contribution follows what's known as the 80/20 rule: 80% of the work is done by 20% of the contributing population. This amounts to a small but significant group of people—Wikipedians.

Wikipedia has recently noticed a decline in the number of new Wikipedians. At the same time, veteran editors have been "retiring" at greater-than-expected rates. Together, these trends are causing a decline in both the number of new Wikipedia articles created and in the number of people available to maintain and improve existing articles, leading to a reduction in the quality of the information available.

My job, in turn, was to study why editors were leaving, and why fewer newbies were taking their place. Is the software too hard to use? Or is it harder for a newbie to find work to do? Has the editor community become increasingly hostile to new editors over the last few years, driving away people who would otherwise become enthusiastic contributors? Or… is it something else?

So, my colleagues and I used a variety of HCI research methods to answer some of these questions. The Foundation is using our results to help guide policy and technology initiatives, create tools to help recruit new editors, and improve the user experience for existing editors. The results were also presented to Wikipedia's editor community to spark discussion around the problem of editor decline and how it is perceived by current Wikipedians.

My summer research also resulted in a new dissertation topic, WikiProjects, self-organized collaborations among Wikipedians who are interested in particular topics, like military history or anime. Among my questions are: What makes these WikiProjects tick? What separates successful projects (which can last for years with hundreds of members) from less successful ones (which might never boast more than a few members and peter out quickly)?

More information
bit.ly/morgan-wiki

Photos: Victor Grigas

On left: HCDE PhD candidate Jonathan Morgan (center) speaks during a meeting with other Wikimedia Foundation Summer Research Fellows.
On right: Data and statistics produced by the Summer Research Fellows at the Wikimedia Foundation.

Exploring Usability

HCDE co-hosts World Usability Day at Microsoft

HCDE senior Ben Howorth (left) and Professor Julie Kientz dance while playing Kinect during World Usability Day at Microsoft in Redmond.

World Usability Day's 2011 theme was "Designing for Social Change." The Puget Sound event was co-hosted by HCDE.

World Usability Day, held on November 10, 2011, at Microsoft in Redmond, was filled with fascinating talks by usability experts, including HCDE PhD student Toni Ferro on the integration of social networking in knowledge work and HCDE affiliate faculty member Dennis Wixon on facilitating natural user interactions through graphical user interfaces.

Other talks focused on Windows phone design, Metro design language, internet security, civic discussion on the web, how designers can impart usability testing methods to non-designers, and player instruction challenges and 3D gestures in Kinect. In addition to the talks, HCDE Director of Student Services Gian Bruno was on hand to tell people about HCDE programs.

HCDE Chair and Professor Jan Spyridakis and Professor Judy Ramey provided the closing address in which Spyridakis noted the "wonderful synergy between industry and academia" that was present in the talks and that the day was filled with "inspirations, insights, and reflections."

The day ended with an HCDE Alumni and Friends Night, during which HCDE faculty gave "research madness" presentations—each summarizing their current research in four minutes or less. Presenting were Professors David Farkas, Julie Kientz, Charlotte Lee, Judy Ramey, Jan Spyridakis, and Mark Zachry. Before ending the evening, alumni, faculty, and current students enjoyed appetizers and discussion, as well as some good-natured games of Kinect.

Participation from the HCDE Student Association (HCDESA) was integral to making the day run smoothly. HCDESA Co-chair Julius Magsino commented on the day: "World Usability Day was a great opportunity for students to further explore what HCDE is all about: being able to take one's passion, express it through creative design, and incorporate it into innovative technologies. HCDESA enjoyed working with Microsoft and HCDE in putting the event together and is excited about next year!"

More information
microsoftwud.com

The Puget Sound World Usability Day event featured this image in its publicity, designed by Dave Landis, User Experience Designer at Microsoft.

Design: Dave Landis

designing for social change

Faculty News Briefs

What some HCDE faculty have been up to this year... and what's coming up next

From trips to China and grants awarded to papers published, HCDE faculty have been keeping busy. Here, just a glimpse of all that has been going on.

Cecilia Aragon, Associate Professor, directs the Scientific Collaboration and Creativity Lab. Her lab's research focuses on human-computer interaction for scientific collaborations, information visualization, and usability in daily life. Her students are developing novel visual interfaces for collaborative exploration of large datasets, studying how social media is changing scientific practice, producing educational games about cyberinfrastructure and STEM careers, and using machine learning to study how emotion in groups can facilitate scientific creativity. Recently, she and her research group garnered national attention for the science behind usable thermostat design that could lead to millions of dollars in residential energy savings nationwide. Aragon, a recipient of the Presidential Early Career Award for Scientists and Engineers (PECASE), also received two new research awards this year.

Cynthia J. Atman, Professor, is the founding Director of the Center for Engineering Learning & Teaching (CELT), and the Director of the Center for the Advancement of Engineering Education (CAEE). Atman's research in engineering education focuses on engineering design learning with a particular emphasis on issues of design context. CAEE, a multi-institution research center established in 2003, was the first center focusing on engineering education research in the United States. With $12 million in NSF funding, CAEE conducted research on undergraduate learning, faculty teaching, preparing graduate students for teaching, and building capacity in engineering education research. The CAEE final report, *Enabling Engineering Student Success*, identifies key opportunities for improving how engineering students are currently being prepared for professional practice.

David K. Farkas, Professor, conducts research in the area of information design. Recent projects include consumer-decision messaging (LabelPatterns.org) and designing more usable documents. The QuikScan (QuikScan.org) document format provides multiple within-document summaries as an alternative to reading the full text. If you choose to read both the summaries and the full text, comprehension improves dramatically—without an increase in reading time. Also, QuikScan enables you to quickly navigate from an idea expressed in a summary to the full discussion of that idea. Current work aims for an enhanced, web-based version of QuikScan that uses multiple windows and hyperlinking to give readers more pathways through a document.

Professor Charlotte Lee (left) and PhD student Drew Paine in front of Pudong, the financial and commercial hub of Shanghai. Lee was invited to visit Fudan University's Collaboration and Information Systems Lab as a "visiting expert" during the summer of 2011.

Photo courtesy: Charlotte Lee

THE FACULTY OF HUMAN CENTERED DESIGN & ENGINEERING

Cecilia Aragon Associate Professor
Cynthia Atman Professor
David Farkas Professor
Mark Haselkorn Professor

Masashi Kato Senior Lecturer
Kerrie Kephart Visiting Assistant
  Professor
Julie Kientz Assistant Professor

Beth Kolko Professor
Charlotte Lee Assistant Professor
Judy Ramey Professor
Jan Spyridakis Professor & Chair

Michio Tsutsui Professor
Jennifer Turns Associate Professor
Mark Zachry Associate Professor

Photo: Jaime Luce

Professor Julie Kientz (right) works with her Autumn 2011 directed research group. Group members were: Daniel Cortez, Katie Derthick, Brian Hayes, Adam Rule, Mira Shah, and Yi-Chen Sung.

Mark Haselkorn, Professor, and **Keith Butler, Principal Research Scientist**, are collaborating on the development of tools and techniques for the design of evidence-based health information technology. In partnership with the National Center for Cognitive Informatics and Decision Making in Healthcare and with funding from the Office of the National Coordinator for Health Information Technology, they have developed MATH (Modeling & Analysis Toolsuite for Healthcare), consisting of three integrated tools: (1) MATHflow to capture workflows and information flows, and analyze how workflow can be improved with better information flow; (2) MATHsim for discrete-event simulations on MATHflow models to analyze measurable improvements in workflow efficiency; and (3) MATHview to analyze MATHflow models and compute the best information architecture. The first application designed using MATH-based is called Priority Contact with predicted provider time savings of about 47% over the as is requirement. Haselkorn and Butler are in the process of working with the Veterans Health Administration to confirm these benefits.

Julie Kientz, Assistant Professor, has been progressing on three main research trajectories: designing and developing technologies for supporting healthy sleep behaviors, helping parents track developmental progress in young children, and designing technologies for promoting cognition. Kientz, her students, and collaborators have made significant progress on the design and development of several applications for supporting healthy sleep behaviors. This year, Kientz's research group is focusing on how children ages 0–8 from underserved populations can be reached for developmental screening through technology. The design requirements and potential prototypes will be used to inform the Universal Developmental Screening initiative for Washington, whose mission is to screen every child in the state to ensure healthy families and children.

Charlotte P. Lee, Assistant Professor, directs the Computer Supported Collaboration (CSC) Lab, where she conducts research to inform the design of information systems for collaboration. In one project, Lee and PhD student Betsy Rolland received an award from the National Institutes of Health to investigate how different types of coordinating centers support multi-institutional cancer-epidemiology research projects. Lee and PhD student Alex Thayer also drew worldwide attention this year from their work on the adoption of e-readers by students and how reading practices are affected by the introduction of a new reading technology. In addition, Lee was invited this summer to Fudan University in Shanghai as a "visit-

HCDE faculty attended World Usability Day at Microsoft in November 2011. From left: Professors Mark Zachry, Judy Ramey, Jan Spyridakis, Julie Kientz, David Farkas, and Charlotte Lee.

Photo: Anne Hilton

More information
hcde.uw.edu/faculty

ing expert," during which she and PhD student Drew Paine made an enjoyable and stimulating visit to Fudan's Collaboration and Information Systems Lab.

Jan Spyridakis, Professor and Chair, has been busy working with students in her Internet-Based User Experience Lab (IBUXL). This year, IBUXL has been re-engineering the original PHP-based WebLabUX toolkit that the group uses to conduct remote user experience research. This redesign will result in a new open source, user-friendly WebLabUX. Students in IBUXL are continuing to investigate how design features of websites affect user comprehension, task performance, and perceptions. The progressive design of their stud-

ies, from looking at people using to learn, using to do, and using to learn to do, is triggering the research team to expand the functionality of WebLabUX to handle a variety of research designs.

Michio Tsutsui, Professor, has been collaborating in a Computer-Assisted Language Learning project with the University of Michigan and Nagoya University of Foreign Studies to develop self-learning multimedia exercises for basic Japanese grammar in order to help learners build a solid foundation on their own. This project is based on the hypothesis that acquiring the skills necessary for controlling grammar in a "Group IV" language involves more than just the learning of grammar rules. ("Group IV" languages

are defined by the US Defense Language Institute as Japanese, Chinese, Korean, and Arabic.) The exercises are expected to aid not only elementary-level learners, but also upper-level learners who have difficulty controlling basic grammar but have no effective ways to improve their skills. The project team is currently developing exercises for 130 grammar items deemed critical for effective communication.

Mark Zachry, Associate Professor, runs the Communicative Practices in Virtual Workspaces Lab. His lab's work this year includes the fourth annual offering of a national survey of knowledge workers in the technology sector about their uses of publicly available online services for work.

Other research students are engaged in work associated with GEMviz, a web-based visualization tool and social interaction site. Zachry, with collaborator David McDonald, Associate Professor in the Information School at the University of Washington, also extended work on his NSF-funded Social Translucence in Online Contributor Systems project, which is now engaged in user studies of Re:Flex, a visualization system for exploring user behaviors in social media. In yet another interdisciplinary project, Zachry worked with collaborators on a system for analyzing naturally occurring language use to detect social actions.

Hackademia!

Cultivating innovation for non-experts

Developed by Professor Beth Kolko, Hackademia is a two-year experiment at the University of Washington that attempts to infect academic pursuits with a hacker ethos and challenge non-experts to see themselves as potentially significant contributors to innovative technologies.

After operating in "stealth mode" and doing exploratory research for the past two years, Professor Beth Kolko and her research group are ready to unveil Hackademia to the world.

Kolko, who has worked with local hackers for about six years, described her inspiration behind Hackademia, saying that she is "intrigued by the ability of hacker spaces to function as learning environments, in which it's 'okay' to be a non-expert." Recognizing the distinction between an "accredited" engineer and a "functional" engineer (i.e., a person with skills but without official accreditation) is important, Kolko says, because the presence of varied skill sets is valuable and is often what drives innovation.

As such, Kolko masterminded Hackademia, with input and inspiration from MS student Alexis Hope, as a new approach to inter-disciplinary designs with the goal of giving people basic skills and connecting them to a supportive community (similar to what one might find in hacker spaces). This, in turn, promotes an attitude of life-long learning and teaches non-experts to embrace innovation and self-efficacy.

Hope described how she became involved in the project: "I was interested in how people could break down self-imposed barriers to learning new skills (e.g., not considering oneself a 'technical' person)."

Until now, Kolko has been passively driving Hackademia by giving her directed research groups open-ended assignments and having them proceed at their own pace using self-direction. Students write auto-ethnographies at the beginning of the quarter, but after that, Kolko steps back and observes the evolution of the student research without further instruction. "In Hackademia," she says, "every researcher is also a subject... and the student transformation over time has been remarkable. This won't get them a job, but it's changing their relationship with technology, and making them more well-rounded and inquisitive in the long run."

In spite of the growth she observed in her students, Kolko also noticed that assignments that were too open-ended tended to fail. Moving forward, Kolko plans to refine the group structure to include enough scaffolding for novice learners while maintaining a participant-observation model and simultaneously taking advantage of campus and community resources.
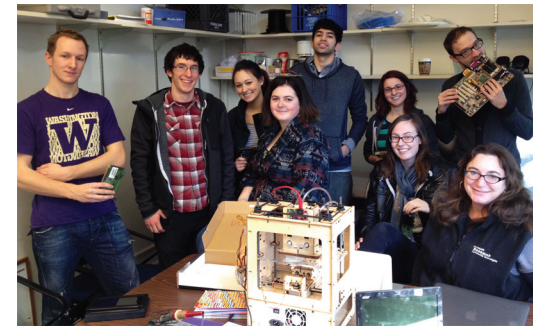

Photo: Anne Hilton

Professor Beth Kolko's Hackademia research group. From left: Marcel Van Remmerden, Mark Ribera, Kim Brown, Erin McLean, Vasu Chintala, Alexis Hope, Julia Chamberlain, Taylor Scott, and Beth Kolko.

More information
www.hackademia.com

Extraordinary Ambitions

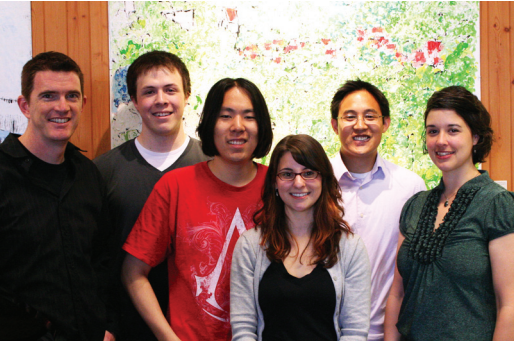## The Shobe Prize competition enters its second year

Photo: Jan Spyridakis

Matt Shobe (far left) with the 2011 Shobe Prize winning team. From left: Wayne Gerard, Clint Tseng, Alexis Hope, Brian Le, and Kate MacCorkle.

More information
hcde.uw.edu/shobe

The brainchild of alumnus Matt Shobe, the Shobe Prize encourages entrepreneurial ideas and is awarded to a winning proposal for a tech-focused or software-based design.

Student teams competing for the Shobe Prize submit their proposals to a panel of judges, who then select a winning team. That team receives $10,000, office space, and one-on-one mentorship for three months over the summer, in order to develop their project into a prototype and a sales pitch.

At the end of the summer, students have the opportunity to pitch their idea to a judging panel of professors and industry representatives. The student team benefits by receiving guidance and mentoring, getting professional feedback on their final presentation, and having the opportunity to take their idea to the next step toward realization as a product.

The current competition entered the judging phase in early 2012. The judging panel consists of: James Fogarty, Associate Professor, Computer Science &

Engineering (CSE); Beth Kolko, Professor, HCDE; Andy Sack, TechStars; and Matt Shobe, Chief Design Officer, BigDoor.com.

In 2011, the winning student team designed an iPhone application call *.calm.* Team members included HCDE students Alexis Hope and Kate MacCorkle, and CSE students and alumni Wayne Gerard, Brian Le, Clint Tseng, and Megan Langley. The project, which aims to support those living with anxiety by encouraging self-awareness through the use of cognitive behavioral therapy, grew out of an assignment in a CSE class.

Judges selected the winning student team from a group of competitive project ideas. Shobe commented on what made the *.calm* project stand out: "The judges and I were thoroughly impressed with the passion,

enthusiasm, and presentation creativity of all of the applicants for the Prize. In the end, we chose the *.calm* team because of the quality of the application's existing design, its potential commercial impact and appeal, and the concreteness of the team's plan to make a product launch happen during summer."

Matt Shobe graduated with an MS in Technical Communication (now HCDE) in 1996 and founded the Shobe Prize in 2010. He is currently Chief Design Officer at bigdoor.com, a Seattle startup. Shobe also serves as a mentor to Seattle-area startups in the TechStars and Startup Weekend programs.

The winning proposal for the 2011 Shobe Prize competition was an application called .calm. More information about this application is available at mydotcalm.com.

Photo: Alexis Hope

Supporting User Research

Students conduct research with Corporate Affiliates Program (CAP) member Microsoft

HCDE alumnus and affiliate faculty member Michael Berg led a directed research group in Autumn 2011 in the study of user research. The research group will continue work throughout the academic year.

As a discipline, usability aims to enhance the experience that users have with products or services. But how well are UX researchers supported in this work? Few companies have institutionalized UX to the point of building proprietary tools to support UX research. That's why HCDE alumnus and affiliate faculty member Michael Berg proposed a directed research group as a joint project between HCDE and Microsoft to look at a core tool that supports user research at an enterprise-size company. The focus of the group was to assess user experiences and make recommendations for improving the design and usability of this tool. The directed research group will continue through winter and spring quarters, and has been a great opportunity for students to practice usability testing and user-centered design techniques.

A dedicated development team at Microsoft will incorporate the research group's suggestions into future versions of the UX tool with the aim of creating a more efficient, more effective tool. This has been a great opportunity for students to see what it takes to support UX research on a large scale, while applying skills in a real world environment.

The research team has also had the opportunity to shadow research coordinators to see how they are able to find and motivate research participants. The winter and spring quarter projects will investigate the researcher's experience and recruitment of usability study participants, respectively.

Reflecting on the research, Ellen Gasca, Senior Program Manager Lead at Microsoft, commented: "It was extremely valuable to our team to receive such rich, informative data that will inform the future development of our external websites. The research was robust, well designed and implemented; the analysis from each group was well founded and the recommendations not only solid, but very creative. All offered fresh, unbiased feedback on a key tool we rely on to engage our research participants. We look forward to partnering with HCDE on future opportunities."

More information
hcde.uw.edu/cap

Photo: Jan Spyridakis

Michael Berg (back left) with his Autumn 2011 directed research group. Back row, from left: Mihaela Susan, Jon McClay, Alan Rumpel, and Brian Espinosa. Front row, from left: Vibha Panth, Yunjia Zhong, Kim Brown, Rachel Barnecut, Josie Nutter, Leo Ham, and Julius Magsino.

Learning by Doing

Professor Julie Kientz guides students through projects proposed by industry partners

In Autumn 2011, students in HCDE Professor Julie Kientz's User-Centered Design class researched topics proposed by Microsoft and General UI, members of HCDE's Corporate Affiliates Program (CAP).

One of the benefits enjoyed by Corporate Affiliate Program (CAP) members and HCDE students and faculty alike is the opportunity to partner on research projects. In Autumn 2011, CAP members proposed topics to Professor Julie Kientz's User-Centered Design (HCDE 518) students for their research projects.

Three student teams who worked on CAP proposals elaborated on their research projects— one team worked on a General UI proposal involving an iPad magazine reader, and two teams worked on Microsoft proposals involving a smart phone app for farmers' markets and social media privacy.

HCDE MS student Nikki Lee discussed her team project proposed by CAP member General UI. The team developed an iPad magazine reader for *Mamalode*, a magazine aimed at mothers and one of General UI's clients. General UI had already developed a first version of the app, and the goal of the project was to conceptualize what version 2.0 would look like. She commented on the team's interactions with General UI, saying, "One of the great things that General UI has done is emphasize that the project should be about our learning first, with the overall project goals second. They've also given us a lot of freedom to make meaningful design decisions…. They have done an excellent job scoping the project. It's a great 'level 2' project; what we're doing is neither critical to their success (level 1), nor is it trivial (level 3)."

The team members for this project were MS students Asmi Joshi, Nikki Lee, Adam Rule, Rohit Sharma, and Thomas Stanton.

Another class project was proposed by CAP member Microsoft, and involves Market Maven, a smart phone app, which helps connect buyers and sellers at farmers' markets. The goal of the project was to develop ad-

MS student Adam Rule works on a research project proposed by Corporate Affiliates Program member General UI. The goal of the project was to develop an iPad magazine reader for General UI client Mamalode, *a magazine aimed at mothers.*

Photo: Nikki Lee

> "One of the great things that General UI has done is emphasize that the project should be about our learning first, with the overall project goals second.
>
> *Nikki Lee*
> **MS Student**

ditional design ideas for how to meet the needs of target users. Group member and HCDE MS student Jamie Badilla described the project: "Microsoft's original project proposal… left room to incorporate ideas outside of a smart phone application. In turn, our group utilized survey results and semi-structured interviews to come up with a few tools apart from the phone application that could potentially better address the needs of our users…. Our research reflected the need to

provide tools not only for our tech-savvy users, but also address the needs of non-technological users." Team members were MS students Jamie Badilla, Bob Kittle, Mike Lipp, Daniel Shank, and Mari Tsukamoto.

Another Microsoft-proposed project involved social media privacy features with a focus on Facebook, specifically dealing with the problem of how Facebook can empower its users to control their privacy. Microsoft was interested in learning how people feel about privacy and the exchange of personal information on social networking sites. Team members were MS students Heidi Connor, Luke Dressel, Bill Van Hecke, and Logan Wells.

The student team initially thought about looking at privacy issues across several social networks, but they decided to focus exclusively on Facebook. Most Facebook users know about Facebook's privacy issues, from confusing settings to frequently shifting polices and general concern about how personal information is shared. From their research findings, ideation sessions, user research, and prototype designs, the group found ways that Facebook could improve on the way in which it addresses privacy issues and how Facebook can empower users to control their privacy.

Department chair Jan Spyridakis noted that CAP member involvement in the course had produced an exciting "synergy between industry and academia, giving students a chance to explore real-world design problems and develop solutions to those problems."

Kientz also commented on CAP involvement in HCDE 518: "The CAP-sponsored projects are a great way to get students involved in a real world project under realistic time constraints. It's also great for the companies to get exposed to our students and learn from an outsider's perspective, which can lead to interesting design insights. We hope to continue this tradition in future HCDE 518 classes."

Photo: Luke Dressel

Graduate students who researched Facebook privacy issues. From left: Luke Dressel, Heidi Connor, Bill Van Hecke, and Logan Wells.

More information
hcde.uw.edu/cap

When Engineering and Art Collide

HCDE MS alumna Tiffany Larsen launches design firm

Tiffany Larsen received her MS in Human Centered Design & Engineering in 2007. She launched her own design firm at the beginning of 2012, Sweatshop Designworks.

Image courtesy: Tiffany Larsen

In one of her projects at Sweatshop Designworks, HCDE MS alumna Tiffany Larsen designed the Xbox Gamertag Generator for Microsoft's Xbox console.

More information

gosweatshop.com

Tiffany Larsen began her career with a Bachelor of Fine Arts (BFA) from UC-Davis as a web designer, creating a website for Ricoh Camera in 1996—her first client—and then moving to Sanrio (Hello Kitty) to build their first website and e-commerce site. Larsen then ran her own business, gaining expertise in what it takes to be a successful entrepreneur.

While her art degree was invaluable, Larsen says, "After almost ten years of creating interfaces, flows, and architectures, I began to question my process. I lacked formal training and had been operating on instinct."

That's where Larsen's graduate work came in. As part of her graduate research, Larsen worked with HCDE Professors David Farkas, Judy Ramey, and Jan Spyridakis.

In Ramey's Usability Testing course, Larsen worked on a team that evaluated MEdianet, a live Infospace product and pre-smartphone service for delivering content to mobile phones. This was Larsen's first opportunity to construct and conduct a formal usability study, and she reflected on the project, saying, "It was exciting to see my assumptions about user pain-points and confusing interaction being validated by both qualitative and measurable quantitative results."

Larsen continued to work with clients such as Microsoft and Amazon after graduation, and she says that the most exciting project she's worked on to date was as part of the Xbox Shell & Platform Team before the launch of Kinect. Her team spent weeks brainstorming on the natural user interface (NUI) interaction model and interesting ways it could applied to core areas. Larsen says that it was very fulfilling to see NUI slowly becoming a reality with each new build.

Now ready for her next adventure with the launch of Sweatshop Designworks, Larsen says she's bringing a more diverse portfolio, more professional connections, and a better understanding of what it takes to run a successful business to the table. Commenting on her experience at the University of Washington, Larsen says, "The HCDE program provided me with the academic vocabulary, process, rigor, and theoretical foundation that I had lacked. I left the program ready to take on any project, armed with a well-rounded education and years of fantastic work experience."

Saving the World

HCDE PhD alumna Rebecca Walton researches technology and development

Photo courtesy: Rebecca Walton

HCDE PhD alumna Rebecca Walton during her field work in India. Walton received her PhD in 2011.

More information
bit.ly/rebeccawalton

Rebecca Walton received her PhD in Human Centered Design & Engineering in 2011 and was recently hired as Assistant Professor at Utah State University.

While at the University of Washington, Rebecca Walton and her advisor, Professor Mark Haselkorn, were guest editors of a journal special issue focusing on professional communication in humanitarian environments. Walton also worked with Professor Beth Kolko on a Central Asia project focusing on information and communication technology. Walton's dissertation focused on the transition of technology-based development projects from exploratory research to long-term implementation.

According to Walton, one of the highlights of her doctoral work was conducting research abroad. She spent several months in Kyrgyzstan, working on a project with Mercy Corps to learn more about how micro-finance employees gathered and used information about their clients. Walton also spent time in India, collecting dissertation data and working with Microsoft Research. However, Walton notes, "A less flashy (but still momentous) highlight of my graduate studies was falling in love with teaching. When I applied to the PhD program, I knew that I loved conducting research, and I was focused on humanitarian work from the beginning. But I hadn't taught before and was surprised to find that I love teaching and wanted to pursue an academic career."

Walton was hired as an assistant professor at Utah State University in 2011. Her appointment is in the Technical and Professional Communication program in the English department. The program offers both undergraduate and graduate degrees in technical communication, which was one of the reasons Walton wanted to work there. "I love teaching undergraduates, but I also wanted to work with graduate students on research projects. Working in a program that includes all three degrees provides a wonderful range of opportunities."

Walton is currently teaching an undergraduate course in document design and graphics and a course in professional communication technologies. Regarding her research, Walton has been focusing on publishing from her dissertation work and other research she conducted at the UW.

Walton is also working with a graduate student on a project involving healthcare for resource-constrained communities in Utah and working on a new project to amplify care-giving for youth heads of household in Rwanda. She's hoping to partner with local communities in Utah to build relationships that can support long-term research directly benefiting community members.

Pioneer, Teacher, Legend

HCDE Professor Judy Ramey to retire

Professor Judy Ramey came to the University of Washington in 1983 and served as chair of the Department of Human Centered Design & Engineering from 1997 until 2008.

HCDE Professor Judy Ramey has taught at the University of Washington since 1983 and plans to retire after the 2011–2012 academic year. As a pioneer of usability, Ramey's impact on both the university and the world has been enormous.

Ramey got her start in usability following an unconventional path, studying Medieval Studies at the University of Texas. After completing her PhD, Ramey worked at Texas Instruments as a technical writer and editor. Her interest in usability studies formed in part from observing the culture clashes between computer manufacturers and computer users, which led her to apply for a position at the University of Washington in 1983.

After completing a large usability study for a local company in 1988, Ramey began steps to create the Laboratory for Usability Testing and Evaluation (LUTE), the first lab of its kind in the nation. LUTE has been a cornerstone of HCDE's identity since its formation in 1990, with students learning how to create and run usability studies of all kinds in the lab.

When asked to comment on his work in LUTE with Ramey, PhD student Robert Racadio said, "I am privileged to have Judy as one of my mentors. She has been genuinely encouraging and supportive of my own goals, and a guiding figure for my academic and professional development. Judy's commitment to her students is without parallel."

Current HCDE Chair Jan Spyridakis also notes that "the department owes much of its current stature to Professor Ramey for her broad vision in designing both the MS and PhD degree programs for the department." She continues, saying, "Judy's professional competence and indefatigable research efforts have served as a model for our department and the international development of usability research methods. Judy's dedication as a scholar, teacher, researcher, and innovator has served the field well."

> Judy is a key to the UW's rise into being one of the top places in the world for working on human-computer interaction and design.
>
> *James Landay*
> **Associate Professor, Computer Science & Engineering**

Photo: Mary Levin
Professor Judy Ramey has taught at the University of Washington since 1983.

When reflecting on her career at the University of Washington, Ramey says that helping to grow HCDE was fulfilling. Perhaps more than that, however, has been watching her former students build careers in the field of usability with astonishing creativity. HCDE alumni, Ramey says, "are designing the future, even as we speak."

We are

Human Centered Design & Engineering

ACADEMIC PROGRAMS

Bachelor of Science Human Centered Design & Engineering
Master of Science Human Centered Design & Engineering
Doctor of Philosophy Human Centered Design & Engineering
Interdisciplinary Master of Science Technical Japanese
Certificate Global Technology & Communication Management
Certificate Technical Writing and Editing
Certificate User-Centered Design

RESEARCH LABORATORIES

Center for Engineering Learning & Teaching Directed by Dr. Cindy Atman
Communicative Practices in Virtual Workspaces Directed by Dr. Mark Zachry
Computer Supported Collaboration Lab Directed by Dr. Charlotte Lee
Computing for Healthy Living and Learning Lab Directed by Dr. Julie Kientz
Hackademia Lab Directed by Dr. Beth Kolko
Internet-Based User Experience Lab Directed by Dr. Jan Spyridakis
Laboratory for Usability Testing and Evaluation Directed by Dr. Judy Ramey
Laboratory for Human-Centered Engineering Education Directed by Dr. Jennifer Turns
Pacific Rim Visualization and Analytics Center Directed by Dr. Mark Haselkorn
Scientific Collaboration and Creativity Lab Directed by Dr. Cecilia Aragon
Technical Japanese Lab Directed by Dr. Michio Tsutsui

FACULTY AND STAFF

Cecilia Aragon Associate Professor
Cynthia Atman Professor
Gian Bruno Director of Student Services
Keith Butler Principal Research Scientist
David Farkas Professor
Patty Foster Grants Coordinator
Mark Haselkorn Professor
Anne Hilton Communications Manager
Masashi Kato Senior Lecturer
Kerrie Kephart Visiting Asst. Professor
Julie Kientz Assistant Professor
Beth Kolko Professor
Allen Lee Fiscal Specialist
Charlotte Lee Assistant Professor
Jaime Luce Assistant to the Chair
DJ Miller Administrator
Judy Ramey Professor
Jan Spyridakis Professor & Chair
Michio Tsutsui Professor
Jennifer Turns Associate Professor
Stephanie White Academic Advisor
Lisa Yamasaki Office Manager
Mark Zachry Associate Professor

HCDE Human Centered Design & Engineering
University of Washington

CONTACT US
Department of Human Centered Design & Engineering
College of Engineering
University of Washington

423 Sieg Hall
Campus Box 352315
Seattle, WA 98195-2315

Phone: 206.543.2567
Fax: 206.543.8858

Email: hcde@uw.edu
Web: hcde.uw.edu

HCDE
Human Centered Design & Engineering

College of Engineering
University of Washington

Box 352315, Sieg Hall 423
Seattle, WA 98195-2315

RETURN SERVICE REQUESTED

09-9187

The Department of Human Centered Design & Engineering offers degree programs at the undergraduate and graduate level, as well as certificate programs in user-centered design, global technology and communication management, and technical writing and editing.

Contact Us

Department of Human Centered Design & Engineering
College of Engineering
University of Washington

423 Sieg Hall
Campus Box 352315
Seattle, WA 98195-2315

Phone: 206.543.2567
Fax: 206.543.8858

Email: hcde@uw.edu
Web: hcde.uw.edu