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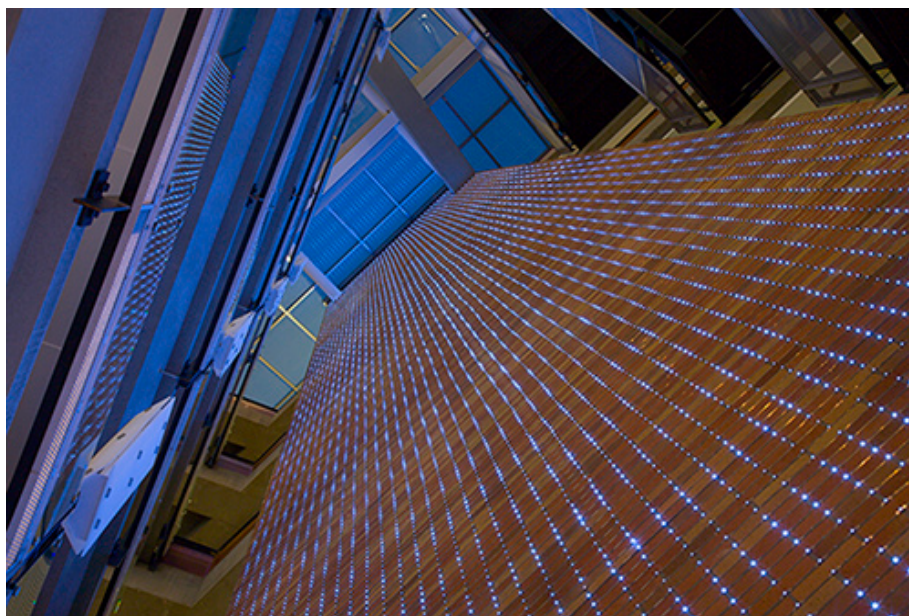
most significant bits

newsletter of uw computer science & engineering

volume 17, number 1, winter 2007



university of washington



Lara Swimmer photo

"Nocturnal Flow", located in the Microsoft Atrium in the Paul G. Allen Center for Computer Science & Engineering

Allen Center "art walk" and dedication of new light installation

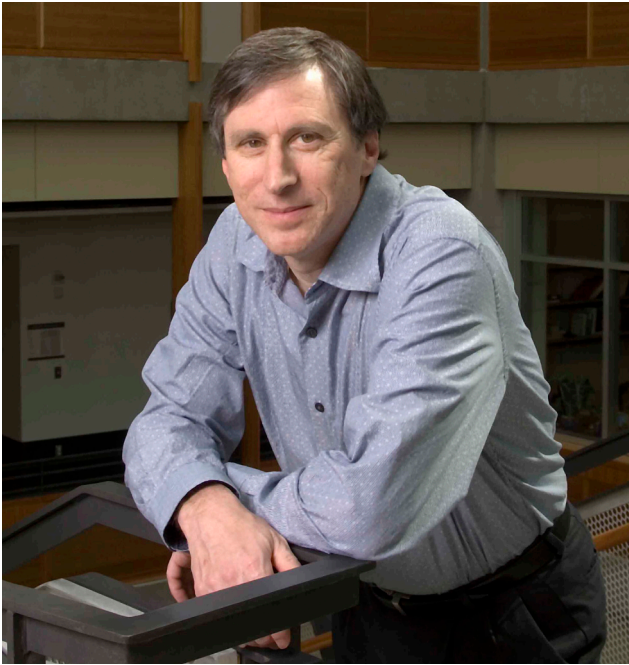
On November 21, 2006, UW CSE hosted an Allen Center "art walk" to dedicate a major new work in the Allen Center and to celebrate the collection of UW-affiliated art that graces the building. The new work is a light sculpture by New York-based artist Irwin Redl. Redl's previous works have received attention both nationally and internationally, particularly after he lit the face of New York's Whitney Museum of American Art for its 2002 Biennial Exhibit with his light sculpture "Matrix VI."

The Allen Center's light installation, named "Nocturnal Flow" due to the upward movement of light on the wall, is constructed from 10,000 LEDs. It uses the full 85-foot height of the shear wall at the west end of the Atrium. The installation was funded by Washington State's Art in Public Places Program.

In addition to the dedication of "Nocturnal Flow," the CSE "art walk" provided an occasion for friends and members of the Seattle arts community to explore the Allen Center and our art collection. Since the opening of the Paul G. Allen Center, we have assembled a wonderful set of paintings, prints, photographs, and sculpture, all by UW-affiliated artists. The collection, curated by Hank Levy and funded by gifts, now has works by 22 artists.

Continued on page 3

from where I sit...



The new year is a chance to reflect on the changes of the previous 12 months. In CSE, there have been some terrific additions that are already having a great impact on our quality and our future direction.

Most important are significant new faculty hires, which are described in more detail in this issue. We were extremely excited by our 2006 recruiting season, in which we made three offers to outstanding candidates and hired all three of them. James Fogarty is an Assistant Professor working in human-computer interaction who completed his Ph.D. at the HCI Institute at Carnegie Mellon University. Yoshi Kohno is an expert in computer security who joins us as Assistant Professor following his Ph.D. at UCSD. And Yoky Matsuoka is an Associate Professor working in Neurobotics, a new science at the boundary of neuroscience and robotics; Yoky was previously a faculty member in the Robotics Institute at Carnegie Mellon. In addition, James Lee joined us this fall as an Assistant Professor. James, who works on the theory of computation, was hired in 2005 following his Berkeley Ph.D., but spent last year as a postdoc at Princeton's Institute for Advanced Studies.

James, Yoshi, Yoky, and James follow an exciting pair of arrivals during the preceding year. Magda Balazinska completed her Ph.D. at MIT in 2005 and joined us as an Assistant Professor in early 2006, working in databases and systems. Dave Bacon, a physicist who works on quantum computing, joined us as a Research Assistant Professor.

I'm thrilled by the arrival of all six of these incredibly talented individuals. They bring new vitality to UW CSE, they strengthen existing areas, and they move us into some important new technical domains. In the future, we are hoping for more growth in key areas such as HCI, computing and biology, and security, among others.

Another great development has been the response of our alumni and friends to the UW's Students First matching challenge fund, which helps to create endowed scholarships and fellowships for undergraduate and graduate students. Under this program, endowments of \$100,000 or more created over a period of up to five years are matched 50% by the university, e.g., a \$100K gift generates a \$150K endowment to support a scholarship or fellowship. The program was announced in November, and in the short time since then, eight new CSE endowments totaling nearly \$3 million have been received to support scholarships and fellowships. Thanks to those of you who have generously supported our students through endowments, and to the huge number who give us smaller amounts on a regular basis. Every gift has an impact on CSE and on our ability to provide quality education for our students.

On a sad note, many of you may be aware of the death of Denice D. Denton, our former Dean of Engineering, last June. Denice left the UW in 2005 to become Chancellor of the University of California, Santa Cruz. During her 8-year tenure as Dean at UW, Denice was highly supportive of CSE and its mission. She had an enormous impact on the College of Engineering and was a wonderful role model for many on campus and around the country. She was completely committed to opportunity, diversity, and excellence, and gained national attention last year when she took on the President of Harvard on the issue of women in science. It's a tragedy for her family and for us and many others who had the opportunity to know Denice and to work with her.

In response to her loss, CSE has named our diversity scholarship/fellowship endowment in her honor. This endowment was created in 1990 under the leadership of Richard Ladner and has grown to more than a quarter of a million dollars. The Denice Dee Denton Scholars in UW Computer Science & Engineering, funded by this program, will serve as a reminder of Denice, her character, and the principles for which she stood.

I'd like to take this opportunity to wish all of you the very best in 2007. I hope I have the opportunity to see many of you at CSE events during the year. I very much appreciated the many kind messages I received on becoming chair last spring. Keep in touch!



Henry M. Levy
Chairman and Wissner-Slivka Chair

UW / Microsoft summer research institute on world-wide sensor web

This year's institute, the latest in a decade long series of international workshops, was held at Semiahmoo Resort in Blaine, WA, August 6-9. The meeting focused on how we can bring to end-users the wealth of sensor data we are now able to collect from embedded as well as mobile sensors; the infrastructure and tools we will need to make this information searchable and visualizable by everyone; the challenges facing the construction of a search engine for the physical properties of places on our planet; and other topics ranging from the properties of the sensing devices all the way to end-user applications and all the networking, databases, and distributed systems in between. The goal of institute was to figure out the use scenarios, the systems requirements, and the societal implications of this World Wide Sensor Web. Based on discussions, attendees will architect a set of papers for a special issue of *IEEE Pervasive Computing* that is expected to appear in the second quarter of 2007.

More information about the institute may be viewed at:
www.cs.washington.edu/mssi/2006/



Allen Center "art walk" and dedication of new light installation

(Continued from front page)

The art walk was attended by 130 people on a stormy Seattle night. The group included Erwin Redl, who flew in for the dedication, and many of the UW-affiliated artists whose work is on display: Alden Mason, Akio Takamori, Julie Spiedel, Karen Ganz, Stephen McClelland, and Johsel Namkung (shown at right).



Information about the Allen Center art collection may be viewed at:

www.cs.washington.edu/building/art

we want to hear from you!

Have news you'd like to share with the CSE community? Have comments or suggestions for future issues of MSB?

Let us know! Email the editors at:

msb@cs.washington.edu

and be sure to visit us online at:

www.cs.washington.edu

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Past and present issues of MSB can be downloaded from
www.cs.washington.edu/msb

Three CSE undergrads recognized in CRA awards competition



UW CSE seniors (l-r) Benjamin Hindman, Daria Craciunoiu, and Robert Carroll

The 2007 Computing Research Association Outstanding Undergraduate Award competition has recognized 68 students from 45 different universities -- including three from UW Computer Science & Engineering. (Waterloo and CMU both had four students recognized. Harvard and Stanford each had three students recognized. Eleven schools had two students recognized. Twenty-nine schools had a single student recognized.)

CRA's Outstanding Undergraduate Award program recognizes undergraduate students in US or Canadian universities and colleges who show outstanding research potential. In addition to evidence of significant research contributions, the committee also considers the student's academic record and service to the community.

UW CSE senior Ben Hindman was named a Finalist for the Outstanding Male Undergraduate Award. Seniors Daria Craciunoiu and Robert Carroll both received Honorable Mention.

Ben's undergraduate research concerned advanced programming systems. He interned at Microsoft Research last summer and has applied for graduate school.

Daria's undergraduate research concerned the study of compilers and data layout optimization. Next year she will join Microsoft.

Robert's undergraduate research concerned computer vision and applications to medical imaging. He is continuing his research at the UW Human Interface Technology lab and plans to start graduate school next fall.

Since 2000, UW CSE undergrads have been awarded a total of 18 Honorable Mentions, 4 Finalists, 2 Runners Up, and 2 Winners.

datagrams

Wen-Hann Wang named Intel Vice President

UW CSE Ph.D. alumnus Wen-Hann Wang has been named Vice President, Software and Solutions Group, and General Manager, Software and Solutions and Product Development, China, for Intel Corporation. Wen-Hann received his Ph.D. from UW in 1989, working with Jean-Loup Baer.

Susan Eggers, Henry Kautz named Fellows of AAAS

UW CSE professors Susan Eggers and Henry Kautz have been named Fellows of the American Association for the Advancement of Science. They are among 449 AAAS members elevated this year to honor their efforts toward advancing science applications that are deemed scientifically or socially distinguished. Eggers was cited for her contributions designing and evaluating advanced processor architectures. Kautz was cited for his contributions to many areas of artificial intelligence. AAAS is the world's largest general scientific society. Founded in 1848, it includes some 262 affiliated societies and academies of science serving 10 million individuals and is the publisher of the journal *Science*.

UW CSE reunion at OSDI

More than 50 UW CSE faculty, students, alumni, and students of alumni gathered at a reunion held at the 2006 OSDI conference in Seattle on Nov. 6, 2006. To view more pictures, please see: <http://lazowska.cs.washington.edu/osdi/>



Anna Cavender wins Best Student Paper Award, ASSETS 2006

CSE graduate student Anna Cavender received the Best Student Paper Award at ASSETS 2006 for her paper "Intelligibility of sign language video as constrained by mobile phone technology." Cavender works with faculty members Richard Ladner and Eve Riskin, who co-authored the award-winning paper, on the MobileASL project. MobileASL is a video compression project with the goal of making wireless cell phone communication accessible to deaf people through the use of video phones and sign language. The challenge is to provide video phone capability on the low bandwidth cell phone network and with the limited processing power of cell phones.

Mira Dontcheva wins Best Student Paper Honorable Mention Award, UIST 2006

CSE graduate student Mira Dontcheva presented her work on "Summarizing Personal Web Browsing Sessions" at UIST

2006 and received the Best Student Paper Honorable Mention Award. Dontcheva works with UW CSE faculty member David Salesin and Microsoft researchers and UW CSE affiliate faculty members Michael Cohen and Steven Drucker, who co-authored the award-winning paper. Their research on creating visual summaries of web content attempts to make the web more accessible for everyone. The challenge lies in effectively automating both the collecting and organizing of many different types of information so that users can remain abreast of the growing amount of web content.

UW CSE -- the new UCSD North?

As of autumn 2006, nine UW CSE alumni have joined the UCSD CSE faculty, and the reverse flow has begun, with UCSD CSE Ph.D. alumnus Yoshi Kohno joining the UW CSE faculty. The photo (a composite -- too many people to ever be in the same place at the same time!) shows UW CSE alumni / UCSD CSE faculty Fran Berman, Steve Swanson, Geoff Voelker, Dean Tullsen, Bill Griswold, Sorin Lerner, Stefan Savage, Amin Vahdat, and Brad Calder, plus UCSD CSE alumnus / UW CSE faculty Yoshi Kohno, wearing t-shirts bearing Yoshi's photo and the text "UCSD North -- Seattle Branch."



UW ranked among "Top 25 Global Universities" by Newsweek

"In response to the same forces that have propelled the world economy toward global integration, universities have also become more self-consciously global: seeking students from around the world who represent the entire spectrum of cultures and values, sending their own students abroad to prepare them for global careers, offering courses of study that address the challenges of an inter-connected world and collaborative research programs to advance science for the benefit of all humanity. To capture these developments, Newsweek devised a ranking of global universities that takes into account openness and diversity, as well as distinction in research."

Gerome Miklau wins 2006 ACM SIGMOD Dissertation Award

UW CSE Ph.D. alumnus Gerome Miklau, now an Assistant Professor at UMass, Amherst, has been named the recipient of the 2006 ACM SIGMOD Dissertation Award, for the most outstanding Ph.D. dissertation in databases during the past year. Gerome's dissertation, "Confidentiality and Integrity in Distributed Data Exchange," was supervised by UW CSE professor Dan Suciu.

Google features CSE alum Jennifer Maurer in Seattle Times

A full page recruiting ad in the Seattle Times features CSE alum Jennifer Maurer: "Google is looking for engineers with great aspirations. Take Jennifer Maurer, for example. Jennifer, who counts fluency in Spanish and a deft touch with horses among her prodigious talents, is a software engineer who works on Google Maps in our Seattle engineering office in Kirkland, Washington. Jennifer once dreamed of a career working outdoors with animals, and was a riding instructor at a summer camp for four years. And then an advanced placement computer science class she took in high school captured her imagination ..."



Jeff Dean, Craig Chambers, Dave Grove win "Most Influential PLDI Paper Award"

The "Most Influential PLDI Paper Award" is presented annually to the author(s) of a paper presented at the PLDI held 10 years prior to the award year. The papers are judged by their influence over the past decade. CSE professor Craig Chambers and his former students Jeff Dean and Dave Grove were honored for their 2005 paper "Selective Specialization for Object-Oriented Languages."

Gail Murphy wins 2006 CRA-W Anita Borg Early Career Award

UW CSE Ph.D. alumna Gail Murphy, a professor at the University of British Columbia, has won the 2006 CRA-W Anita Borg Early Career Award. The award honors the late Anita Borg, who was an early member of CRA-W and an inspiration for her commitment in increasing the participation of women in computing research. The award is given annually by CRA-W to a woman in computer science who has made significant research contributions and who has contributed to her profession, especially in the outreach to women. Murphy received one of the six NSERC Steacie Fellowships in 2006.

CSE's IDAT recognized in business plan competition

IDAT, the Institute for the Development of Access Technology, won the \$5,000 Herbert B. Jones Best Nonprofit/Socially Responsible Idea award in the 2006 UW Center for Innovation and Entrepreneurship Business Plan Competition. IDAT is an outgrowth of CSE's Tactile Graphics Project, spearheaded by Prof. Richard Ladner. CSE graduate students Sangyun Hahn, Ethan Katz-Bassett, and Chandrika Jayant and CSE undergraduate students Dana Wen and Satria Krisnandi, as well as math major Zach Lattin, contributed to the business plan. Dan Comden of the Access Technology Lab provided technical guidance, and Fred Holt and Laura Dorsey of the Tech Transfer Office provided much strategic advice. Team leader was Mitch Berg from the Technology Management MBA Program with some help from Jon Lee of the same program.

Anderson family's UW journey traces path from talking toaster to new student endowments

The “Talking Toaster” generated a hot buzz in the senior capstone design course in spring 1996. Voice-activated and programmed to respond to instructions and talk back (no need to set dials or push levers), it remains firmly and fondly embedded in CSE’s cultural memory and in video format on the department’s website.

Its co-designer, Corin (“Corey”) Anderson, recently set off another buzz around CSE when he simultaneously established both fellowship and scholarship endowments with a substantial gift through the UW’s new Students First program (page 7). Now a software engineer at Google, he is, at age 29, CSE’s youngest donor at this level. With a 50 percent match from the UW, his endowments will support undergraduate and graduate students each year, in perpetuity.

Corey earned bachelor’s degrees in math and computer science in 1996 and a PhD in computer science in 2002. His well-rounded training in CSE’s collaborative research environment has made him a perfect fit for Google, where he works with a team improving its Web search property. As an undergraduate he had delved into computer graphics, and as a graduate student his research included machine learning, planning systems, data mining, and applying artificial intelligence to problems on the Web. Corey’s dissertation on machine learning was supervised by Professors Dan Weld and Pedro Domingos.

From his undergraduate days through his years as a grad student, Corey heard Ed Lazowska talk about efforts to raise money for the new CSE building. It left an impression. “The idea just stuck that I wanted to give back to CSE someday,” Corey says. “CSE has a unique culture that I’m glad I could add to while a graduate student. It’s a friendly place and a lot of fun, too. Setting up a fellowship to aid future graduate students who also appreciate and contribute to this culture sounded like a great idea.”

Still, he felt it was a little odd to be creating an endowment in just his own name, so after consulting with his dad, Craig, he decided to honor his family by establishing the Anderson Family Endowed Scholarship for undergraduates. “This idea was just perfect,” Corey says, “because my entire family was involved with my education and my brother, Casey, overlapped with me at CSE. It would be wonderful,



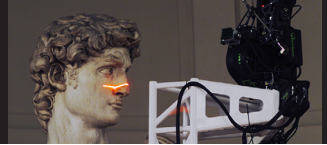
The Anderson family celebrates graduation in 2002. From left the “4 C’s” are: Craig, Casey, Corey, and Cathy.

for example, if families with more than one member at the UW could benefit from scholarships so the recipients can have a richer college experience, shared with family.”

Corey, Casey, and their mother, Cathy, started taking math classes together at Highline Community College when Corey was 12 and Casey was 13. “I thought they were too young to go on their own, so I enrolled too,” says Cathy. By 1993 all three had AA degrees and had entered the UW. Their motto might well be, “The family that studies together, succeeds together.”

Cathy earned her bachelor’s degree in technical communication and works at Microsoft as a content release manager for its email and messaging server. She hails from a family full of engineers dating back to her great grandfather. Craig is an electronic technician, so Corey and Casey received technological encouragement from both sides. Casey earned a bachelor of science in computer engineering in 1996 and in 2002 completed his professional masters degree in CSE. Like Cathy, Casey works for Microsoft, as a software development programmer for K-12 products.

To announce the scholarship endowment to his family, Corey hatched a plan to present it as a surprise Christmas gift. At their celebration just before Christmas, Ed Lazowska appeared at the Anderson’s door, bearing a gift box with an engraved crystal plaque. “He came in to say hello and cheer the unwrapping and then disappeared like Santa Claus,” Corey reports. “We were dumbfounded,” Cathy says. “Speechless,” Casey adds. “It was absolutely cool and awesome. It’s impressive to be able to give something back as a family, and we have a lot to be thankful for.”



■ Students First fund will ease financial obstacles and draw talented students

The new Students First Matching Challenge Fund addresses a critical UW goal — a commitment to increasing access by removing financial barriers for deserving students. Corin Anderson (page 6) is an example of the CSE alumni and friends listed below who are front-runners in embracing this challenge. CSE leads all other UW programs in the number of Students First endowments established to date. “While this is great news, we hope it’s just the beginning,” says Ed Lazowska. “CSE needs many more scholarships and fellowships to draw terrific students who could not attend the UW without financial support.”

Under the first Campaign UW matching initiative, which concluded a year ago, CSE alumni and friends established 12 endowments for chairs, professorships, scholarships, and fellowships. Close to \$5 million in gifts generated nearly \$2.5 million in matching funds. Students First offers an opportunity to expand upon this success. New endowments with a minimum contribution of \$100,000 are eligible for matching funds of 50 percent on the principal. The challenge continues through the conclusion of Campaign UW in June 2008. Let’s make sure CSE remains in the forefront. To learn how you can establish an endowment, contact Ed Lazowska, lazowska@cs.washington.edu.

Students First Endowments in Computer Science & Engineering

Corin Anderson Endowed Fellowship
Hacherl Endowed Fellowship

Anderson Family Endowed Scholarship
Google Endowed Scholarship
Pedrizetti Family Endowed Scholarship
RealNetworks Endowed Scholarship
Alfred C. Weaver Endowed Scholarship
Craig and Gretchen Wittenberg Endowed Scholarship



Undergraduates in a spring 2006 capstone course designed an autonomous robotic blimp. The students working on control planned an obstacle-free path through the Atrium to a goal location. They designed a system that significantly outperformed a human operator.

For Annual Fund giving, every bit counts!

Absolutely every gift to the CSE Annual Fund, large or small, is important. It sounds like a cliché but it’s true! The CSE Annual Fund provides direct support for both the undergraduate and graduate student experience, from student projects to conference attendance and scholarships.

You may not be ready to give \$100,000 to start a new endowment, but please don’t let that stop you from giving what you can. Perhaps \$1,000 fits your budget better, or \$100. Even \$10 boosts the fund.

The beautiful thing about the Annual Fund is that it’s a team effort! It is an opportunity for you, our friends and alumni, to work together, giving back to the department in a way that directly supports the students who are here today. We are happy to report that, thanks to you, the Annual Fund for CSE has been growing steadily, with dollars donated increasing by more than 400 percent between 2004 and 2006. During that time both the number of individual donors and the average gift size more than doubled. With your help, we can continue this upward trend and you can positively influence the student experience.

If you would like to make a donation online, please visit:

<http://www.cs.washington.edu/campaign/>



History of computing - from those who made it



offered a joint graduate course, utilizing Microsoft's ConferenceXP Internet collaboration technology and UW CSE professor Richard Anderson's Classroom Presenter system. In 2005-06, they jointly offered Homeland Security / Cyber Security, and in 2004-05 they jointly offered Information Technology and Public Policy.

"These courses are made incredibly richer by the collaboration," says Lazowska. "Project teams often include students from all three campuses, guest speakers can reach three great universities with one stop, and the injection of the policy angle by Steve and his students from the Goldman School is a huge plus." ConferenceXP and Classroom Presenter also provide a durable archive of the course sessions. See:

www.cs.washington.edu/education/courses/csep590a/06au/
www.cs.washington.edu/education/courses/csep590/05au/
www.cs.washington.edu/education/courses/csep590/04au/

Imagine learning about the history of minicomputers from Gordon Bell, Vice President of Engineering at Digital Equipment Corporation during its glory years. Or learning about the history of personal workstations and distributed computing from Butler Lampson, a designer of the Xerox Alto hardware and software, networked laser printing, and much more. Imagine learning about the history of the Apple II from Steve Wozniak, and of the Mac from Bud Tribble, manager of the original Macintosh® Software team. Imagine learning about the history of high performance computing from Burton Smith, former Chief Scientist of Tera and Cray, about the history of collaboration software from Ray Ozzie (University of Illinois / Data General / Software Arts / Lotus Development / Iris Associates / Groove / Microsoft), and about the impact of 1960s culture on the development of computing from the New York Times's John Markoff. Imagine learning about the history of software from Stanford's Armando Fox, and about the mathematical origins of computing from Berkeley's Christos Papadimitriou. Imagine actually operating a World War II German Enigma cipher machine owned by UW CSE friend Mike Koss.

These were among the highlights of History of Computing, a course in UW CSE's Professional Masters Program taught this fall by Ed Lazowska, jointly with UW CSE alumnus Geoff Voelker from UC San Diego Computer Science & Engineering, and Steve Maurer from UC Berkeley's Goldman School of Public Policy.

This is the third year that Lazowska, Voelker and Maurer have

Woz....



Steve Wozniak, co-founder of Apple with Steve Jobs and designer of the landmark Apple I and Apple II personal computers, not only participated in UW CSE's *History of Computing* course, but also visited a month earlier as part of the book tour for *iWoz: From Computer Geek to Cult Icon: How I Invented the Personal Computer, Co-Founded Apple, and Had Fun Doing It*. Woz spoke for an hour to a large and enthusiastic group of UW CSE students, staff, and faculty in the atrium of the Allen Center.

Madrona Venture Group reception 2006

Once again, Madrona Venture Group hosted its annual fall investor reception in the Allen Center. Madrona has just invested in its ninth CSE-related startup company and featured three of these companies at this year's meeting.



Impinj, Inc., founded by UW CSE faculty member Chris Diorio and his Caltech thesis advisor Carver Mead, is a semiconductor and RFID

company whose patented Self-Adaptive Silicon® technology enables its two synergistic business lines: high-performance RFID products and semiconductor intellectual property. A leading contributor to the RFID standards for high-volume supply-chain applications worldwide, Impinj leverages its technical expertise and industry partnerships to deliver tags, readers, software and systems integration. Impinj's innovative IP products, core to the company's RFID tags, are licensed to leading semiconductor companies worldwide, allowing them to seamlessly integrate crucial nonvolatile memory (NVM) alongside analog and digital functionality on a single chip. Impinj's IP products include the popular AEON® family of embeddable cores, which provides rewriteable NVM technology in logic CMOS manufacturing. For more information: www.impinj.com.

Incorporated in July, 2006, Illumita is a new startup, backed by Madrona Venture Group and WRF Capital. Illumita's founders include faculty members Steve Gribble, Hank

Levy, and Brian Bershad, plus CSE graduate student Dave Richardson. Illumita is not talking about what they're doing, but to see their cool logo, visit www.illumita.com.



Farecast is the first and only airfare prediction website. Farecast helps airfare shoppers

save money by answering the question: should you buy now or buy later? In addition to being the first to provide airfare predictions, Farecast displays the lowest fares from the major airline sites and offers industry leading flexible search tools. Farecast was named "Best of What's New for 2006" by *Popular Science*, one of TIME Magazine's 50 Coolest Websites for 2006, and one of the "Best Trip Planning Tools" by *Business Week* readers. The company is funded by Greylock Partners, Madrona Venture Group, and WRF Capital. To get an airfare prediction or to learn more, visit: www.farecast.com.

CSE hosts vertical mentoring workshop for the blind

Held at the end of July in the Paul G. Allen Center for Computer Science & Engineering, this three-day workshop provided a venue for blind students and professionals in science, technology, engineering and mathematics (STEM) to get together to share their experiences and learn from each other how to maximize their chances for success. High school students were able to learn from college students, college students from graduate students and professionals, and graduate students from professionals.



On the final day of the workshop, a technology fair provided participants an opportunity to explore various accessibility related technologies. Fourteen researchers and vendors demonstrated their latest technologies that provide access for students in their studies and for professionals in their work.

For more on the workshop, please see:

<http://www.cs.washington.edu/vmwb/>



CAM - technologies for the rural developing world

Designing and evaluating technologies for the rural developing world presents unique challenges. While working in rural India and Guatemala, the undergraduate and graduate students of UW CSE's CAM research project have encountered more than their share.

CAM is investigating user interface, system, and application design for mobile phones in rural areas of the developing world. The project has created a novel user interface framework for mobile phones, and used that framework to develop and deploy a record-keeping system for microfinance groups in rural India, and inventory management and organic certification tools for coffee farmers in rural Guatemala.

Developing and evaluating appropriate technologies for the rural developing world – technologies that accommodate intermittent power, intermittent connectivity, intermittent literacy, and intermittent financial resources – is not a laboratory exercise: “You’ve gotta be there.” The CAM team is, and as a result, in addition to a stellar reputation for their accomplishments and a superb publication record, they have more than their share of interesting stories to tell!

Tapan Parikh and Yael Schwartzman, two graduate students working on CAM, were once riding the 14-hour chicken bus to Barillas, the location of Asobagri, a Guatemalan coffee cooperative they had partnered with. Riding the twisting, turning mountain road, the driver's bloodshot eyes told a grim story. Periodically, he sank his head into a bucket in his lap, and emitted some disturbing noises.

August is Barillas' rainy season. Walking up and down the steep coffee parcels, the CAM team found that out the hard way. On one particular day, it was impossible for the pickup truck to get through to a coffee producers' village.



Tapan Parikh, Yael Schwartzman, and Ronak Parikh



Yael heads for a day of user interface testing

Determined to conduct the scheduled user interface testing, Yael slept on a wooden board with a Guatemalan family of five, then hiked by foot the next day for three hours through the hills. All the while she was thinking “How will this affect my p-values for CHI??”

The CAM team also had a chance to practice their extracurricular skills with the coffee cooperative's staff in Guatemala. Yael tried to teach them salsa dancing – although her efforts were largely unsuccessful. Ronak Parikh (Tapan's cousin, an undergraduate volunteer from Tufts) became a local soccer hero for the floundering Asobagri team. Tapan

became even more popular by hooking an LCD projector up to a half-broken VCR to watch the European soccer final.



Yael teaches salsa dancing to the coffee co-op staff

Tapan, the initiator of the CAM project, has had to do his share of introducing new team members to the realities of tropical living. Paul Javid, a UW CSE senior undergraduate and Mary Gates Scholar, worked in India with Tapan during the summer of 2005. On the flight to India, Tapan repeatedly emphasized the importance of food hygiene, including not consuming any cold dairy products (many milk products in India are unpasteurized). Within an hour of reaching Bangalore, Tapan returned from a short walk to find Paul enjoying (temporarily) a strawberry milkshake. Later that evening, and throughout the next week, Paul received periodic reminders of the wisdom of Tapan's advice.



Tapan demonstrates food hygiene

Joking aside, the CAM research team has had an amazing and fulfilling time working in both India and Guatemala – doing computer science, and changing lives. Whoever said CSE students sit behind their desks programming all day.



Undergraduate Paul Javid in India

For further information on CAM research, see:

<http://cam.cs.washington.edu/>

New additions to the CSE faculty

James Fogarty joined the department in October 2006, after receiving his Ph.D. from the HCI Institute in the



School of Computer Science at Carnegie Mellon University. Fogarty is broadly interested in human computer interaction, user interface software and technology, and ubiquitous computing. Specifically, he is focused on developing, deploying, and evaluating new approaches to the human obstacles surrounding

widespread adoption of ubiquitous and intelligent computing technologies. For more information on James and his research, see:

<http://www.cs.washington.edu/homes/jfogarty/>

Tadayoshi Kohno joined the faculty in the summer of 2006, after receiving his Ph.D. in Computer Science from UCSD. His research focuses on computer security and privacy, including the theoretical aspects of modern cryptography, systems security, and the interface between computers and society. Kohno's



principal research goal is to provide a rigorous foundation for the security of modern cryptographic protocols, thereby lifting cryptography from an art to a science and helping ensure that future cryptographic protocols do not suffer from subtle and unexpected bugs. His perspective is uniquely systems-oriented: the research revolves around the pragmatic constraints of real systems. More details on Yoshi's research are located at:

<http://www.cs.washington.edu/homes/yoshi/>



James Lee joined the faculty in September 2006, after completing a Postdoctoral Fellowship at the Institute for Advanced Study in Princeton. Lee received his Ph.D. in Computer Science from UC Berkeley in 2005. He is broadly interested in theoretical aspects of Computer Science, and in particular the design and

analysis of approximate algorithms for difficult computational problems. His recent research focuses on applying ideas and

techniques from high-dimensional geometry and analysis to develop provably effective algorithms for classical problems in graph theory and data clustering. Another of Lee's primary interests lies in the field of geometric search, where he studies how algorithms can exploit the intrinsic dimensionality properties of massive datasets to uncover hidden structure and run more efficiently. For further information on James and his research, see: <http://www.cs.washington.edu/homes/jrl/>

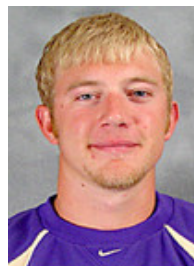
Yoky Matsuoka joined as Associate Professor in September 2006.

Previously, she was a faculty member in the Robotics Institute, Mechanical Engineering, Biomedical Engineering, and the Center for the Neural Basis of Cognition at Carnegie Mellon University. She received her Ph.D. at MIT in EECS in 1998. Prior to joining CMU, she was a Postdoctoral Fellow in the Brain and Cognitive Sciences Department at MIT and in Mechanical Engineering at Harvard University. Her work at CMU earned a Presidential Early Career Award for Scientists and Engineers in 2004, Anna Loomis McCandless Professorship in 2004, and IEEE Robotics and Automation Society Early Academic Career Award in 2005. Matsuoka heads the Neurobotics Laboratory at the UW. Her primary goal is to understand, rehabilitate, and enhance the human neuro-muscular systems of both healthy and motor-impaired people. For more information, see:

<http://www.cs.washington.edu/homes/yoky/>



CSE alum Brett Newlin named 2006 USRowing male athlete of year



Brett Newlin has been honored as the 2006 USRowing Male Athlete of the Year. Newlin is a 2005 Computer Engineering graduate from the University of Washington. He stroked the men's four to a fourth-place finish at the 2006 FISA World Championships, which was the top U.S. finish in the event since 2001.

Newlin went on to race in the men's eight that won the 2006 E.ON Hanse Cup, a 12.7 kilometer long-distance race held in Germany. Newlin, a two-time national team member, also won the men's pair at both the second and third USRowing National Selection Regattas.

industrial affiliates meeting huge success

Held on October 30th-31st in the Paul G. Allen Center for Computer Science & Engineering, over 145 Affiliate members attended this year's technical sessions, and 28 companies participated in the recruiting fair. Meeting highlights include:

- technical sessions, which focused on the future of search, digital entertainment, RFID, and accessible computing, to name a few;
- 75+ poster presentations and demonstrations; and
- an after-dinner keynote and demonstration on the UW/Microsoft collaboration that led to the exciting new Photosynth offering.

The main objective of the Affiliates Program is to support the mutual needs of business, industry and academia in computing research, development, and education. The annual meeting is one of the venues through which we pursue this goal. For more information on the CSE Industrial Affiliates Program, please check us out on the web at:

www.cs.washington.edu/affiliates

We hope to see you at our meeting next fall. Dates will be announced shortly.

msb p12

Photo Tourism and Photosynth: UW CSE, Microsoft Research, and Microsoft Live Labs Create a Winner

With presentations by Noah Snavely (UW), Rick Szeliski (Microsoft Research), and Blaise Agüera y Arcas (Microsoft Live Labs), the CSE Industrial Affiliates meeting keynote presentation highlighted the research and collaboration, and demonstrated the amazing product.

Photosynth is an amazing new technology that will change the way you think about digital photos. Photosynth takes a large collection of photos of a place or object, analyzes them for similarities, and displays them in a reconstructed 3-dimensional space. Photosynth is a collaboration between Microsoft and the University of Washington. It began with ground breaking Photo Tourism research by Noah Snavely (UW graduate student), Steve Seitz (UW faculty member), and Rick Szeliski (Microsoft Research). The new Microsoft Live Labs organization -- dedicated to advancing the state-of-the-art in Internet products and technology -- embraced the Photo Tourism technology and combined it with complementary photo browsing technology created by the team at Seadragon, a Madrona-backed Seattle startup headed by Blaise Agüera y Arcas that had been acquired by Live Labs. The presentation of the Photo Tourism research and the rollout of the Photosynth prototype stole the show at the 2006 SIGGRAPH conference this past summer. More information may be viewed at:

<http://labs.live.com/photosynth/>
<http://phototour.cs.washington.edu/>

most significant bits

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