ISR*Connector*

INSTITUTE FOR SOFTWARE RESEARCH / UNIVERSITY OF CALIFORNIA, IRVINE

HOT RESEARCH

ISR: Worldwide Leader in Open Source Software Research

ISR has a distinguished track record in the development of widely-used leading edge open source software and in fostering associated open source software communities. For example, the Apache Group, an open source project that developed the Apache Web server used by over 60% of public Internet Web sites, was founded and led by ISR alumni and External Advisory Committee member **Roy Fielding** while he was at UCI; ArgoUML emerged from ISR alumni **Jason Robbins'** UCI dissertation to become an award-winning open source project now managed at Tigris.org; ISR researcher **Margaret Elliott** and graduate students **Justin Erenkrantz**, **Danyel Fisher**, **Chris Jensen** and others are actively involved in contributing to or studying open source software projects like the Apache Web server, the Java Universal Network/Graph Toolkit, the NetBeans Interactive Development Environment; ISR faculty member **Alfonso Fuggetta** is working with open source in the Italian marketplace; and more.

Scacchi at ProSim

Walt Scacchi and his colleagues, including ISR faculty members **Les Gasser** at the University of Illinois, Urbana-Champaign, **Mark Ackerman** at the University of Michigan, and **John Noll** of Santa Clara University, are currently expanding our understanding of how open source software works and can apply widely to development projects. They are finding that open source software development can be faster, better and cheaper than traditional software engineering methods currently used pervasively in industry. ISR's Web site on open source software research, *http://www.isr.uci.edu/research-open-source.html,* is

RESEARCH BRIEFS

IBM has recently announced its adoption of Aspect Oriented Programming (AOP) for commercial use. The software development technique, developed by a group co-founded by **Crista Lopes** while at Xerox PARC, confers significant benefits in code quality and programming speed. IBM has taken over the technical lead from PARC on the associated AspectJ open source project <*http://www.eclipse.org/aspectj/*>. Lopes, meanwhile, has been awarded an NSF CAREER award to extend her AOP research to software development in ubiquitous and pervasive computing.

IT Media, Japan's largest online IT magazine, has just translated **Walt Scacchi's** paper, "Understanding the Requirements for Development Open Source Software", into Japanese for upcoming publication. This widely cited paper was originally published in the *IEE Proceedings--Software*, 149(1), 24-39, February 2002.

Paul Dourish made the evening Los Angeles Fox news recently. His interview on cell phones and privacy was aired on March 8, 2004; you can see a broadcast clip at *http://www.ics.uci.edu/~jpd/movies/*.

André van der Hoek and **Susan Elliott Sim** have each been awarded an IBM Eclipse Innovation grant. The grants, entitled "Palantir-Eclipse: Improved Support for Developer Coordination in Software Engineering Project Courses" and "MRS.G: Mediating Repository Service for GXL," respectively, were among an elite 78 awardees in a field of 285, and from only five universities worldwide that received two awards this year.

Alfred Kobsa and Oliver Günther of Humboldt University received a collaboration grant from the Alexander von Humboldt Foundation, Bonn, Germany, in the area of Privacy and E-Commerce.

Bonnie Nardi, whose March blogging talk at the University of Aalborg (Denmark) was reported on Radio Inslag, received an NSF Small Grants for Exploratory Research (SGER) award. The grant, "Participatory Democracy and Information Technology: The Use of the Internet in American Elections," supported research focused on the Dean Presidential campaign. (See more on Dean campaign-related research on p. 4.)

Two ISR papers were presented at the ACM Conference on Human Factors in Computing (CHI) held in Vienna, Austria in April. The premier conference on the leading edge of human-computer interaction knowledge, CHI features an international audience of both practitioners and researchers and has a slim 16% paper acceptance rate. **Paul Dourish** and graduate student **Danyel Fisher** presented "Social and Temporal Structures in Everyday Collaborations," and **Gloria Mark** and graduate student **Victor Gonzalez** presented "Constant, Constant Multi-tasking Craziness: Managing Multiple Working Spheres."

Debra J. Richardson has been named first Dean of the School of Information and Computer Science at UCI, the first such school in the UC system. Richardson is also Director of the newly established Ada Byron Research Center, which fosters women and underrepresented populations in computing.

IN THIS ISSUE:

ISR Shines at ICSE 2004

The International Conference on Software Engineering (ICSE) is the premier event for researchers, practitioners and educators to present and discuss software engineering innovations, trends, experiences and concerns. This year's conference, with a mixed attendance of over 600, was held May 23-28 in Edinburgh, Scotland. ISR has a strong record of ICSE leadership, and this year was no exception.

Main Conference (3/58 papers, 1/3 panels)

- Program Committee: **André van der Hoek**, **Richard Taylor**, **Jim Whitehead** and ISR alumnus **Kenneth M. Anderson**
- Organizing Committee: **Nenad Medvidovic**, Workshops Chair and **André van der Hoek**, Doctoral Symposium Chair
- Session Chairs: **André van der Hoek** ("Patterns and Frameworks") and **Jim Whitehead** ("Feature-Based Software Engineering")
- **Jon Froehlich** and **Paul Dourish**: "Unifying Artifacts and Activities in a Visual Tool for Distributed Software Development Teams"
- **Rohit Khare** and **Richard Taylor**: "Extending the Representational State Transfer (REST) Architectural Style for Decentralized Systems", awarded the prestigious **ICSE Distinguished Paper Award** (one of five awarded).
- **Ronald van der Lingen** and **André van der Hoek**: "An Experimental, Pluggable Infrastructure for Modular Configuration Management Policy Composition"
- Panel on "Design: Supporting Reflective Practitioners" headed by **David Redmiles**
  Panelist **David Redmiles** presented a panel paper, co-authored with Kumiyo Nakakoji, titled "Supporting Reflective Practitioners"

Workshop on Directions in Software Engineering Environments (WoDiSEE) (2/14 papers)

- **André van der Hoek**, **David Redmiles**, **Paul Dourish**, **Anita Sarma**, **Roberto Silva Filho, Cleidson de Souza**: "Continuous Coordination: A New Paradigm for Collaborative Software Engineering Tools"
- N. Mehta, R. Soma and **Nenad Medvidovic**: "Style-Based Software Architectural Compositions as Domain-Specific Models"

4th Workshop on Open Source Software Engineering: "Collaboration, Conflict and Control" (3/20 papers)

- **Chris Jensen** and **Walt Scacchi**: "Collaboration, Leadership, Control and Conflict Negotiations in the Netbeans.org Community"
- S. Kim, K. Pan and **Jim Whitehead**: "WebDAV based Open Source Collaborative Development"
- **Anita Sarma** and **André van der Hoek**: "A Conflict Detected Earlier is a Conflict Resolved Earlier"

5th International Workshop on Software Process Simulation and Modeling (ProSim) (2/26 papers, 1/3 keynotes)

- Program Committee: **Walt Scacchi**
- Keynote Presentation, **Walt Scacchi**: "Modeling and Simulating Free/Open Source Software Processes"
- **Chris Jensen** and **Walt Scacchi**: "Process Modeling Across the Web Information Infrastructure"
- **Emily Oh Navarro** and **André van der Hoek**: "Software Process Modeling for an Interactive, Graphical, Educational Software Engineering Simulation Game"

2nd Workshop on Remote Analysis and Measurement of Software Systems (RAMSS) (1/12 papers)

- **Leila Naslansky**, **Roberto Silva Filho**, **Cleidson de Souza**, **Marcio Dias**, **Debra J. Richardson** and **David Redmiles**: "Distributed Expectation-Driven Residual Testing"

International Workshop on Mining Software Repositories (MSR) (4/26 papers)

- Program Committee: **Les Gasser**
- Discussion Leader for Session: **Chris Jensen** ("Process and Community Analysis")
- **Les Gasser**, Gabriel Ripoche, and Robert Sandusky: "Research Infrastructure for Empirical Science of F/OSS
- **Jon Froehlich** and **Paul Dourish**: "Augur: Unifying Activity, Artifacts and Authors in a Visual Tool for Distributed Software Development Teams"
- Robert Sandusky, **Les Gasser** and Gabriel Ripoche: "Bug Report Networks: Varieties, Strategies, and Impacts in a F/OSS Development Community"
- **Chris Jensen** and **Walt Scacchi**: "Data Mining for Software Process Discovery in Open Source Software Development"

3rd Workshop on Architecting Dependable Systems (WADS) (4/22 papers, 1/2 invited talks)

- Program Committee: **Nenad Medvidovic** and **Debra J. Richardson**
- Invited Talk: **Nenad Medvidovic**: "From Dependable Architectures to Dependable Systems"
- R. Roshandel and **Nenad Medvidovic**: "Toward Architecture-Based Reliability Estimation"
- **Leila Naslavsky**, **Lihua Xu**, **Marcio Dias**, **Hadar Ziv**, **Debra J. Richardson**: "Extending xADL with Statechart Behavioral Specification"
- **Marcio Dias** and **Debra J. Richardson**: "Enabling Adaptable Verification by Monitoring Evolvable Dependable System Architectures"
- M. Mikic-Rakic, S. Malek, N. Beckman, and **Nenad Medvidovic**: "Improving Availability of Distributed Event-Based Systems via Run-Time Monitoring and Analysis"

Tutorial: Case Studies for Software Engineers

- Presenters: Dewayne E Perry, **Susan Elliott Sim,** and Steve Easterbrook


Froehlich (center) demos at MSR workshop at ICSE

now the largest source of research papers on the subject from a single research center worldwide.

Scacchi and the ISR team have been awarded a series of NSF grants to conduct formal studies of the informal world of open source software development. At the NSF's request, two tandem open source workshops were held last fall, one at ISR/UCI and the other at Univ. of Illinois, Urbana-Champaign, in which groups of researchers gathered to share information and brainstorm (see *http://www.isr.uci.edu/events/ContinuousDesign/* for more information on the workshops). The overall research seeks to understand when open source processes and practices work and when they don't. The ISR team is also trying to devise methods for evaluating the quality of software developed in open source communities.

Several of these projects, including the Gasser and Scacchi project, Scacchi and Noll project, plus one led by ISR's **Richard Taylor**, are applying lessons learned to create new design, process management and knowledge management tools for large-scale, multi-organization development projects, one goal of which is to contribute to the establishment of a "Science of Design." In contrast, Ackerman and Scacchi are examining how scientists working in fields like X-ray astronomy and deep space imaging are developing and using open source software to support basic scientific research studies. Scacchi and colleagues are looking at more than a hundred projects in several categories: network games, Internet and Web infrastructure, academic and scientific software, and industry-sponsored activities.

In addition to looking broadly across many current and potential industry applications of open sourcing, Scacchi and his colleagues are examining complex, fixed-requirements projects typical in the aerospace and military communities. Such security-conscious systems traditionally shun open source development methods. Recently, however, these communities are becoming cautiously drawn to the great benefits of open sourcing. Projects such as those exploring adoption of ISR's xADL 2.0 technology by NASA, Boeing, and Raytheon are proving their worth and breaking unfounded prejudices against open source software.

ISR's open source research has generated considerable interest. More than twenty news stories have appeared in electronic media both nationally (in Slashdot, CNET, Groklaw, Innovation Reports, San Diego Supercomputer Center, Science News Factor, ZDNet, and elsewhere) and internationally, including stories written in Catalan, Chinese, German, Japanese, and Spanish. Open source software projects such as GNUenterprise.org and NetBeans.org have also publicized and discussed ISR research studies and findings. In a recent National Science Foundation press release highlighting ISR research, program director Suzanne Iacono explained, "The software-intensive systems in today's world have become so complex that we need to use every available design tool at our disposal. Open source development has achieved some remarkable successes, and we need to learn from these successes as our systems become increasingly distributed, complex and heterogeneous. Traditional software engineering methods were originally developed for single-system design and development."

ISR research findings will help companies understand the benefits and pitfalls of adopting open source methods or investing in external open source communities. In a series of reports posted on the ISR open source Web site, the team documents how open source development breaks many of the long-held academic software engineering rules. "There's something going on in open source development that is different from what we see in the textbooks," says Scacchi, who has taught software engineering for more than two decades.

They've found that the new approach, based on community building and other socio-technical mechanisms, produces a better product in less time because the very informality of the process fosters continuous improvement through evolution of the community with the software. Since development occurs in the community, tools and the expertise to use them disseminate quickly. Open sourcing is cheaper as the community is often voluntary and/or subsidized by industry or academia, and development tools themselves are often open source and readily available for free, as with ISR's many tools.

For more information on ISR open source researchers, see Focus on Faculty: Les Gasser, below. Note that open source will be a key topic at the ISR Forum on June 8 (see p. 8).

Walt Scacchi can be reached at wscacchi@uci.edu, (949) 824-4130.

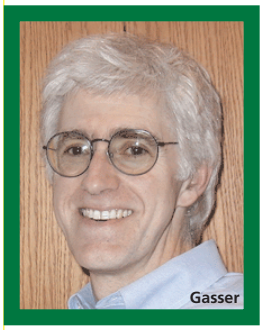
DID YOU KNOW?

Did you know that ISR has produced the most research publications on open source software in the world?

FOCUS ON FACULTY

Meet Les Gasser, University of Illinois

Les Gasser <*http://www.uiuc.edu/~gasser/*> represents a sterling group of highly respected interdisciplinary researchers outside UC Irvine (UCI) who are also ISR members. Such faculty affiliates have strong interests in one or more of ISR research agendas and have active lines of communication and collaboration with other ISR members. Les is an Associate Professor at the University of Illinois at Urbana-Champaign with joint appointments in the Graduate School of Library and Information Science and the Computer Science Department, College of Engineering. He is an internationally renowned scholar in both Social Informatics and Multi-Agent Systems and is currently President of the International Foundation for Multi-Agent Systems (IFMAS). He is part of a team of ISR members involved in open source software research (see p. 1 article).


Gasser

Les has strong roots at UCI, having received his M.S. and Ph.D. degrees in Computer Science here in 1972 and 1984, respectively. Earlier, he received his B.A. in English Literature, magna cum laude, from the University of Massachusetts. Before joining the University of Illinois, he was on the faculties of Computer Science, Systems Management, and Industrial Engineering at the University of Southern California. He also directed the Program on Computation

and Social Systems in the Computer Science Directorate of the National Science Foundation. Les has consulted and taught extensively in Europe and Japan for many years, including visiting faculty positions at the University of Paris and L'Ecole des Mines de Paris.

In true ISR fashion, Les has roots in industry as well as academia. He has significant project management, leadership and entrepreneurial experience, including advisory or principal roles in a number of technology startup firms. He co-directed a $10M, five year industry-university project on computer-supported design of high-performance manufacturing organizations, resulting in a commercialized product called TOP Modeler.

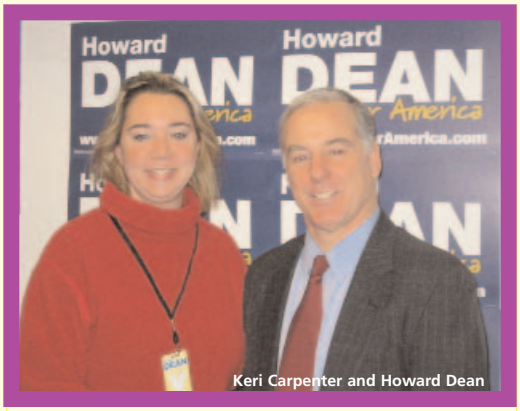
In addition to his current research on open source software with Walt Scacchi and others, Les has active projects examining multi-agent systems, digital libraries, information quality, and social aspects of information systems.

Les can be reached at gasser@uicu.edu, (217) 265-5021.

ISR Graduate Student Examines the Computer Science behind the "Dean for President" Campaign

In the 2000 Presidential election, only 51% of eligible voters and a third of voters aged 18-24 voted. If the remainder had voted, the world might be a different place today. Many of these potential voters have since been galvanized into action through the Internet. Howard Dean lost the Democratic nomination this year, but will long be remembered as the first politician to show the world the power of digital democracy. Dean raised half the $50 million for his campaign online, created a social movement of 640,000 devoted online supporters, and produced enough clout to force other Democratic candidates to address his issues.

So what does this have to do with ISR research? Plenty. Graduate student **Keri Carpenter** (B. Nardi, advisor) spent the three final campaign months "embedded" with Dean's webteam. Team members were aware she was simultaneously working as a volunteer within the 25-strong online team and conducting ethnographic research. Research goals were to document Dean's application of Internet tools to digital democracy, examining particularly the social features of a campaign that make the tools effective. Carpenter examined the use of Internet tools in the campaign, interviewed key staffers and the public, learned the culture of the campaign through participant-observation, and gathered quantitative data on a wide variety of supporters' and competitors' Internet use patterns. She also read the campaign blog daily and attended a wide variety of both internal and external campaign events and activities.



Keri Carpenter and Howard Dean

This pioneering research effort—the first on-the-ground study of Internet use in high level politics—resulted in the ISR researchers becoming the sole information repository and reference for the computer science of Dean-type campaigning. With the dismantling of much of Dean's unique webteam, institutional memory would have (and largely has) been lost, if it weren't for Carpenter's efforts. Nardi and Carpenter have submitted a paper capturing key findings to the Computer Supported Cooperative Work (CSCW) conference <*http://www.acm.org/cscw2004/*>, to be held in Chicago, November 6-10, and Carpenter's dissertation will document and analyze this remarkable event in history.

Carpenter's experience is a good example of the potential synergy between academic research agendas and real life applications. ISR encourages all graduate students to interact early and often with industry partners and in other environments where real life rubber hits the road. This often suggests key problems that beg for academic solutions, and results in not only seminal research contributions, but also practical results for a real world. In Carpenter's case, her experience with the Dean campaign energized her research agenda and solidified her dissertation topic. She also has forged strong bonds with those who can benefit from research results. ISR research and solutions are communicated back to industry through multiple channels, including the **ISR *Connector***, partnership interactions in many forms, the ISR web site, and a wealth of academic, media and other publications.

More information about Keri Carpenter can be found at *http://www.isr.uci.edu/~kcarpent/*. She can be reached at keri@uci.edu, (949) 824-7308.

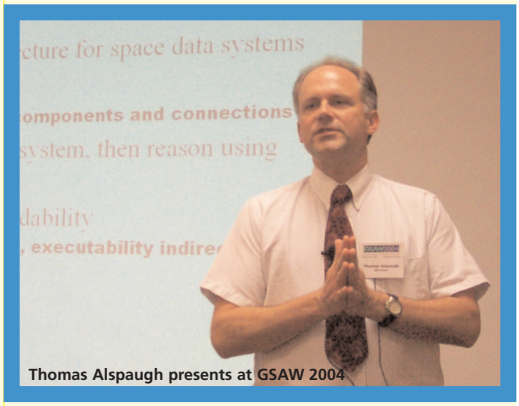
DID YOU KNOW?

Did you know that ISR faculty member Alfonso Fuggetta's 2003 paper, "Open Source Software—An Evaluation," written at UCI/ISR, is the most downloaded paper from the Elsevier *Journal of Systems and Software* web site?

BLOG for America
The Official Howard Dean Weblog

FOCUS ON SPONSORS

ISR Participates in SMC-IT 2003, GSAW 2004



Thomas Alspaugh presents at GSAW 2004

Working closely with our sponsors has many mutual rewards. For example, by invitation from sponsor NASA Jet Propulsion Laboratory (JPL), ISR faculty member **André van der Hoek** and graduate students **John Georgas** and **Scott Hendrickson** (R. Taylor advisees) presented posters at the inaugural JPL event Space Mission Challenges for Information Technology (SMC-IT) last year. Georgas had interned at JPL the previous summer.

Similarly, this year ISR faculty member **Thomas Alspaugh** and graduate students Georgas and Hendrickson served on the program committee for the "Architecture-Centric Evolution and Evaluation of Software-Intensive Systems" (ACE2) session at The Aerospace Corporation's annual Ground Systems Architecture Workshop (GSAW). In addition, Alspaugh presented at the session and ISR Director **Richard Taylor** served on the plenary session closing panel. Such interactions prompt other collaborations. Georgas, who also helped with and presented at last year's GSAW, will intern at Aerospace this summer, while Hendrickson will intern there for the first time. Alspaugh will obtain data from Aerospace's Michael Gorlick for a research project.

ISR Garners One-Third of Coveted IBM Internships

Each year a diverse pool of talented students from across the country converge on Cambridge, Massachusetts, where IBM's Collaborative User Experience (CUE) research group welcomes them for summer internships. Students work side-by-side with IBM researchers specializing in software, systems, prototypes, and interfaces that enable users to collaborate electronically. Much of the summer's work finds its way into IBM products, prestigious conferences, and even intern-coauthored patents.

Says IBM researcher and intern coordinator Li-Te Cheng, "The internship program is one of the major highlights of our summer. The researchers get excited about working with each year's crop of talented students, carefully selecting interns that best match their project requirements, are innovative, and can contribute to solid work. We get a massive amount of applications every year, and it is very competitive."

This year thirteen students were chosen from among such schools as Carnegie Mellon, M.I.T., Rensselaer Polytechnic, and multiple University of California campuses. ISR garnered more of the 2004 coveted slots than any other university—one third of the thirteen. The four ISR students headed for Cambridge this summer are: **Cleidson de Souza** (D. Redmiles, advisor), **Anita Sarma** (A. van der Hoek, advisor), **Roberto Silva Filho** (D. Redmiles, advisor), and **Norman M. Su**.

CUE, which is part of the IBM T.J. Watson Research Center, is not the only IBM research group to invite ISR graduate students to participate in summer internships. IBM Almaden (San José, CA) had two ISR student interns last year and this year IBM T.J. Watson (New York) will welcome **Sameer Patil** (A. Kobsa, advisor) and **Leila Naslavsky** (D. Richardson, advisor).

More about IBM's CUE group can be found at:

http://domino.research.ibm.com/cambridge/research.nsf/pages/cue.html


Susan J. Knight

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ISR ALUMNI NEWSBRIEFS

Mark Bergman, Ph.D. 2003 (G. Mark, advisor), has accepted an Assistant Professor position in the Information Sciences Department at the Naval Postgraduate School in Monterey, California. Bergman, Mark and Steven Poltrock of Boeing will present their research on groupware tool diffusion at the Requirements Engineering Conference in Kyoto, Japan, in September.

Gregory Alan Bolcer, Ph.D. 1998 (R. Taylor, advisor) received a UCI Lauds and Laurels Award at the May 2004 ceremony. The prestigious award honors alumni for their excellence and contributions to society and the university. Bolcer, a renowned information technology innovator, is co-founder and Chief Technology Officer of Endeavors Technology, Inc., *http://www.endeavors.com/*, a peer-to-peer network infrastructure company.

Peter Kammer (R. Taylor, advisor) received his Ph.D. in March 2004. His dissertation was titled "A Distributed Architectural Approach to Supporting Work Practice." Kammer, who completed his M.S. in Information and Computer Science at UCI in 1997, is currently Senior Software Engineer at Endeavors Technology, Inc.

Rohit Khare (R. Taylor, advisor) co-chaired Developer's Day at the May Thirteenth International World Wide Web Conference in New York City. The Developer's Day track focuses on late-breaking, practical, and commercial innovations to a greater degree than the main conference. More recently, Khare and Taylor's paper, "Extending Representational State Transfer (REST) Architectural Style for Decentralized Systems", was awarded one of five Distinguished Paper Awards (less than 1% of all submitted papers and in the top 10% of accepted papers) at the May 23-26 International Conference on Software Engineering (ICSE) in Edinburgh, Scotland. (More on ISR at ICSE on p. 2.)


Khare

ISR Technical Reports Available Online

ISR technical reports present information resulting from student and faculty research carried out under the auspices of the Institute. They showcase early results not available in print elsewhere. ISR technical reports are available in PDF on the ISR web site. Recent reports include:

"Web Services: SOAP, UDDI, and Semantic Web"
Justin R. Erenkrantz, UCI-ISR-04-3, May 2004

"Proceedings of the CHI 2004 Workshop on Designing for Reflective Practitioners"
David Redmiles, Anders Mørch, Kumiyo Nakakoji, Gerhard Fischer
UCI-ISR-04-2, April 2004

"Design and Experiments with YANCEES, a Versatile Publish-Subscribe Service"
Roberto S. Silva Filho, Cleidson R. B. de Souza, David F. Redmiles
UCI-ISR-04-1, March 2004

"Final Report on Collaborative Software Engineering Tools Workshop and Follow-Up"
David Redmiles, Editor, UCI-ISR-03-14, December 2003

"Privacy as Impression Management"
Sameer Patil, Alfred Kobsa, UCI-ISR-03-13, December 2003

"Use Case, Goal, and Scenario Analysis of the Euronet System: Comparing Methods and Results"
Thomas A. Alspaugh, Annie I. Antón, UCI-ISR-03-12, November 2003

"User Experiments with Tree Visualization Systems"
Alfred Kobsa, UCI-ISR-03-11, November 2003

"Decentralized Software Evolution"
Peyman Oreizy, Richard N. Taylor, UCI-ISR-03-10, September 2003

"PACE: An Architectural Style for Trust Management in Decentralized Applications"
Girish Suryanarayana, Justin Erenkrantz, Scott Hendrickson, Richard N. Taylor
UCI-ISR-03-9, September 2003

"Extending the REpresentational State Transfer (REST) Architectural Style for Decentralized Systems"
Rohit Khare, Richard N. Taylor, UCI-ISR-03-8, September 2003

"An Empirical Study of Scenario Similarity Measures"
Thomas A. Alspaugh, Annie I. Antón, Laura J. Davis, UCI-ISR-03-7, September 2003

"Free Software: A Case Study of Software Development in a Virtual Organizational Culture"
Margaret S. Elliott, Walt Scacchi, UCI-ISR-03-6, August 2003

"Security Day-to-Day: User Strategies for Managing Security as an Everyday, Practical Problem"
Paul Dourish, Rebecca E. Grinter, Brinda Dalal, Jessica Delgado de la Flor and Melissa Joseph, UCI-ISR-03-5, June 2003

"Supporting Distributed and Decentralized Projects: Drawing Lessons from the Open Source Community"
Justin R. Erenkrantz, Richard N. Taylor, UCI-ISR-03-4, June 2003

All ISR technical reports are available at:

http://www.isr.uci.edu/tech-reports.html

ISR STUDENT NEWSBRIEFS


Erenkrantz

In July, 2004, **Justin Erenkrantz,** will present a paper authored by **Girish Suryanarayana,** Erenkrantz, **Scott Hendrickson,** and **Richard Taylor** (advisor) at the Fourth Working IEEE/IFIP conference on Software Architecture (WICSA4) in Oslo, Norway. An earlier version of the paper, "Pace: An Architectural Style for Trust Management in Decentralized Applications", is available as ISR Technical Report UCI-ISR-03-9, October 2003.


Georgas

Scott Hendrickson and **John Georgas** (R. Taylor advisees) have internships at The Aerospace Corp. this summer. Hendrickson will be working on an aspect-oriented, architecture-centric testbed capable of analyzing and modeling architecture designs prior to code development. Georgas will be assisting in the development of an experimental, all-digital replacement for the Western Range video system, which is used for such applications as providing security, range safety, launch monitoring and post-launch analysis for Vandenberg Air Force Base.

ISR Hosts International Workshop on Community-Driven Evolution of Knowledge Artifacts

Complex knowledge artifacts, such as organizations, urban plans, buildings and software systems, must evolve over time to accommo-

ISR STUDENT NEWSBRIEFS

Anita Sarma, **Emily Navarro**, and faculty advisor **A. van der Hoek** are collaborating with Claudia Werner, Associate Professor in the Computer Systems Engineering Program at the Federal University of Rio de Janeiro (UFRJ), Brazil. The first part of the collaboration is a visit by UFRJ student Leonardo Murta, who will visit ISR for four months as part of the collaboration. He will work on building an architecture-based CM system, combining some of the strengths of the research at UFRJ and ISR.


Sarma

Roger Ripley and **Ryan Yasui** each received an ICS Outstanding Masters Student award for their contributions to the ISR technology Palantir, a system that allows a developer to be cognizant of the changes taking place in the entire project domain. For more info on Palantir: *http://www.ics.uci.edu/~asarma/Palantir/*


Yasui

For more information on students: *http://www.isr.uci.edu/people.html*

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Support Level	*Annual Contribution*	*Contribution goes to:*
Friend	$10,000	ISR's general research fund.
Affiliate—Research	$30,000	A designated ISR research area.
Affiliate—Visiting	$40,000	Host Faculty's research area.
Affiliate—Grad Student	$60,000	Graduate Student fellowship.
Partner	$100,000 or more	Large-scale research project.

For more information about ISR Sponsorship, please contact:

Dr. Susan J. Knight
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International attendees at CDEKA Workshop

date changes in environments and human needs. An international workshop on Community-Driven Evolution of Knowledge Artifacts was convened at ISR last December to discuss these issues. Hosted by faculty member **David Redmiles**, the event brought researchers from Japanese laboratories and universities together with ISR researchers for three days. The key workshop goal was to understand how collaborative knowledge creation takes place in a community during the process of developing and evolving knowledge artifacts. The group also sought input on how to design better tools to facilitate such collaboration and evolution.

Each of the three days started with a keynote presentation. Gerhard Fischer of the University of Colorado at Boulder launched the first day with a presentation on "Community-Driven Evolution of Knowledge Artifacts: Frameworks, Systems, Experiences, Obstacles, and Challenges." The second day's keynote by Katsuro Inoue of Osaka University addressed "Mega Software Engineering and the EASE Project." Workshop host David Redmiles presented the final day's keynote, "Using Activity Theory to Study Collaborative Software Development." Slides from these and other workshop presentations can be found on the event Web site: *http://www.isr.uci.edu/events/CDEKA-Workshop/*.

ISR EVENT SCHEDULE

Mark your calendars now!

Tuesday, June 8, 2004
2004 ISR Research Forum


Kapor

Keynote speaker:
Mitch Kapor, Founder and Chair, Open Source Applications Foundation
1:30-7:30 p.m.
McDonnell Douglas Auditorium,
Reception with posters and demos at UCI University Club (UClub)
Special event: "Students Only" session preceding the Forum
Details and full schedule at:

http://www.isr.uci.edu/events/Research-Forum-2004/

ISR 2004-05 Distinguished Speaker series will be announced this summer.

For more information: *http://www.isr.uci.edu/events.html*

ISR PLAYS A LEAD ROLE IN UPCOMING CONFERENCES


Taylor

October 31-November 5, 2004
SIGSOFT 2004/FSE-12: Twelfth International Symposium on the Foundations of Software Engineering
Hyatt Newporter Hotel, Newport Beach, California

General Chair: **Richard N. Taylor,** ISR Director
Local Arrangements Chair: **Debra A. Brodbeck**, ISR Technical Relations Director
Treasurer: **Kiana Fallah**, ISR Director of Operations

http://www.isr.uci.edu/FSE-12/


Redmiles

November 7-13, 2005
ASE 2005: 20th IEEE International Conference on Automated Software Engineering
Long Beach, California

General Chair: **David F. Redmiles,** ISR Faculty
Local Arrangements Chair: **Debra A. Brodbeck**, ISR Technical Relations Director
Treasurer: **Kiana Fallah**, ISR Director of Operations


Brodbeck

May 20-28, 2006
28th International Conference on Software Engineering (ICSE)
Pudong, Shanghai, China

External Relations Director: **Debra A. Brodbeck**, ISR Technical Relations Director
Webmaster: **Justin R. Erenkrantz**, graduate student (R. Taylor, advisor)

http://www.isr.uci.edu/ICSE2006/

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The Aerospace Corporation
The Boeing Company
IBM
Intel Corporation
NASA Jet Propulsion Laboratory


Graduate Student Chris Jensen, Forum 2003

ISR 2004 Research Forum

This year's Forum, "Industry Problems, ISR Solutions," will include presentations on bridging the gap between research and practice; use case scenarios; weblogs; and areas such as software architecture, software design, CSCW, interaction and collaboration.

In addition to a full program featuring several of ISR's active research areas, and a panel that explores the benefits and pitfalls of open source applications, the Forum will feature Keynoter Mitch Kapor, founder of the Open Source Applications Foundation and Lotus Development Corp. and designer of Lotus 1-2-3. Kapor will talk about Chandler, an innovative Personal Information Manager now under development at the Open Source Applications Foundation. The novel process of Chandler development combines open source methods with rigorous attention to the process of software applications design, a combination which heretofore has not been undertaken in a large-scale project. The goals, process, results to date and challenges of the methodology will be discussed.

After the expected standing-room only plenary session, the poster session reception will be larger than ever, as ISR has launched a new initiative to give regional software students a forum to share information and get acquainted. We know our industry friends appreciate the opportunity to get to know our students up close and personally, and this initiative provides an opportunity to meet the best-of-the-best regional software students in one place at one time. *http://www.isr.uci.edu/events/Research-Forum-2004/.*

ISR

To receive the ISR *Connector*, send an email request to: *isr@uci.edu*

ISR news, including the *Connector*, is available at the ISR Web site: *http://www.isr.uci.edu/*

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