SLIS Events News

EclipseCon 2007 - Santa Clara, CA

Network Workbench -- Towards a Cyberinfrastructure for Network Science
Image composition by Elisha Hardy

The Network Workbench project is one of the major projects at the Cyberinfrastructure for Network Science Center directed by SLIS faculty member Katy Börner. The project aims to develop a cyberinfrastructure and tools for the analysis, modeling and visualization of social and behavioral, biomedical, and physical networks in support of research and education in diverse scientific disciplines. Primary investigators are Katy Börner, Albert-L�szl� Barab�si, Santiago Schnell, Alessandro Vespignani, Stanley Wasserman, and Eric A Wernert. The development team includes Weixia (Bonnie) Huang, Bruce Herr, Ben Markines, Santo Fortunato, Russell Duhon, Cesar A. Hidalgo, Ramya Sabbineni and Vivek S. Thakre.

"There is a very active group of network and complex systems researchers at IUB, many of whom deal with large-scale networks," says Börner. "The CNS Center will provide the socio-technical infrastructure for diverse projects that often involve investigators from different scientific disciplines and are at the frontiers of research."
[SLIS News Story]

Weixia (Bonnie) Huang, Senior System Architect and Bruce Herr, Software Developer are both fulltime members of the Cyberinfrastructure for Network Science Center at SLIS. They will present the CIShell (http://cishell.org) and Network Workbench (NWB) Tool (http://nwb.slis.indiana.edu/software.html) in the OSGi track at EclipseCon 2007. Read more about their accepted abstract:

Cyberinfrastructure Shell (CIShell): An OSGi-Based Framework for the Integration of Datasets and Algorithms

"OSGi (http://www.osgi.org) Alliance is initiated by industry companies including IBM, Intel, Nokia, Motorola, NEC, etc. After seven years, the OSGi techniques have been adopted not only by diverse markets including mobile, automotive electronics, SmartHome, and enterprises but also by open source communities such as Eclipse. The OSGi Service Platforms have been delivered in many Fortune Global 100 company products and services. By demonstrating the CIShell and NWB Tool, both of which use OSGi techniques to implement their plug-and-play architecture, we want to deliver a message that OSGi can be extended to and is useful in academic research as well." - Weixia (Bonnie) Huang (huangb@indiana.edu)

"Bonnie and I are going to EclipseCon 2007, a major industry conference surrounding eclipse technology, which we use a lot in our software work. This will be the first time our lab has presented our software at a major industry conference." - Bruce Herr (bherr@indiana.edu)

Abstract (excerpt):

"In the 21st century, progress in science and technology requires collaborations across scientific disciplines and the utilization of advanced cyberinfrastructures. In scientific fields, increasing interdisciplinary research demands novel means for the sharing of data, service, computer resource, and expertise. The *Cyberinfrastructure for Network Science Center* at Indiana University is working on the Cyberinfrastructure Shell (CIShell) - a user- friendly cyberinfrastructure that addresses this new need. The center is supported by several grants from NSF and other funding agencies. In this demo, we will focus on how we design and implement the CIShell."

Biographical Notes (from conference site):

Weixia (Bonnie) Huang is a Senior System Architect at Cyberinfrastructure for Network Science Center founded by Dr. Katy Börner. She is working on the Network Workbench and Cyberinfrastructure Shell projects. Before joining Indiana University, she worked as a Research Staff Member at Xerox Research Center.

Katy Börner is an Associate Professor of Information Science in the School of Library and Information Science, Adjunct Associate Professor in the School of Informatics, Core Faculty of Cognitive Science, Research Affiliate of the Biocomplexity Institute, Fellow of the Center for Research on Learning and Technology, Member of the Advanced Visualization Laboratory and Founding Director of the new Cyberinfrastructure for Network Science Center at Indiana University. Her research focuses on the development of data analysis and visualization techniques that inform knowledge access and management. She is particularly interested in the study of the structure and evolution of scientific disciplines and the development of cyberinfrastructures for large scale scientific collaboration and computation.

Bruce Herr is a CS graduate from Indiana University working in Dr. Katy Börner's Information Visualization Lab as a software developer. He enjoys making cool, extensible, usable, and maintainable software. His current projects are the Cyberinfrastructure Shell (CIShell), Taxonomy Validator, InfoVis Cyberinfrastructure, Network Workbench, and SciMaps.org. Notable visualizations he has helped produce are the Internet Movie Database visualization for

the Viszards contest at Sunbelt 2006 and the US Patent Hierarchy visualization for the second iteration of Places & Spaces. His personal website is at http://bh2.net.

Ben Markines is a Ph.D. student at Indiana University. He received his B.S. and M.S. in Computer Science from Northern Illinois University. He is currently on an educational leave from IBM and has been on the Network Workbench team since January 2005. His interests include information visualization, network science, and the social Web.

Posted March 1, 2007