

# COLLOQUIUM

## Center for Embedded Computer Systems

*Presents*

### **PIE - Programmable Internet Environment**

Professor Sinisa Sribljic  
School of Engineering and Computing  
University of Zagreb, Croatia

#### ***Abstract***

Majority of end-users perceive the Internet as a global distributed system solely designated for searching, publishing, and exchanging various kinds of information. However, contemporary society requires a global distributed system that enables more flexible, customizable, and personalized sharing of different resources available on the Internet. Web services and service-oriented architecture have emerged as cornerstone concepts for end-user development, while web-browser based interface is recognized as a “de-facto” standard in human-machine interaction. Based on these objectives, we have developed Programmable Internet Environment (PIE). PIE (<http://www.pie.fer.hr/>) is a framework that supports the development, deployment, and execution of distributed applications over open and shared Internet infrastructure. It uses service-oriented programming model (SOPM) as a programming paradigm, and web-browser based user interface as a “programming language”. SOPM is a methodology for design, development, and execution of large-scale distributed applications where development efforts are concentrated on arrangement, composition, and coordination of services available on the Internet. The foundation of SOPM is Coopetition-Based Distributed Architecture (CBDA) and open-ended integration technology based on Web Services and Web Service Resource Framework (WSRF). CBDA facilitates the development of self-organizing, flexible, large-scale, and service-oriented distributed applications based on coordinated and loosely coupled services. Services comprising distributed application perform local actions without central control authority and mutually cooperate and compete in order to reach the global goals of the application. PIE is developed at School of Electrical Engineering and Computing, University of Zagreb, Croatia in cooperation with Ericsson Nikola Tesla d.d. The research is also sponsored by the Croatian Ministry of Science, Education, and Sport through national CroGrid project.

#### ***Biography***

Sinisa Sribljic is a Professor at the University of Zagreb, School of Electrical Engineering and Computing. He received his B.S. degree in electrical engineering in 1981, and M.S. and Ph.D. degrees in computer engineering in 1985 and 1990 respectively, all from the University of Zagreb, Croatia. He was visiting the University of Toronto, Canada, from 1993 to 1995 where he worked on the NUMAchine multiprocessor project. As a visiting scientist from 1995 to 1996, he was working with the Advanced Technology Group of AT&T, USA, on caching of Internet objects in large distributed multimedia systems. During summers 1997, 1998, and during fall 1999, he was visiting AT&T Labs, Internet Platform Organization, San Jose, California, USA, where he continue his research on the design of the large scale distributed Internet information system. During summer 2000, he was visiting the University of California, Irvine, Department of Information and Computer Science, California, USA.

**Tuesday, November 15, 2005**  
**McDonnell Douglas Auditorium**  
**Talk begins at 4:00pm; Refreshments at 3:30pm**  
**CECS Host: Daniel Gajski, [Gajski@cecs.uci.edu](mailto:Gajski@cecs.uci.edu)**

For more information contact: Maral Melkichian at [maral@ics.uci.edu](mailto:maral@ics.uci.edu)

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