
CALL FOR PAPERS

SELMAS'03

In conjunction with:



May 3 - 4, 2003
Portland, Oregon
USA

2nd International Workshop on Software Engineering for Large-Scale Multi-Agent Systems

<http://www.teccomm.les.inf.puc-rio.br/selmas2003/>

Motivation and Goals. The wide spread of Internet technologies and the new challenges raised by the development of modern software makes it no longer affordable to have techniques and methodologies based solely in the OO paradigm. Nowadays we are faced with the task of engineering large-scale systems composed of pervasive software components, which move across and adapt to non-deterministic and open environments, like the Internet, in order to coordinate autonomously specialized services and achieve the systems' goals. Multi-Agent Systems (MASs) and the underlying theories associated with its many properties bring with themselves more natural support for autonomy, mobility, environment heterogeneity, organizations, openness, and intelligence. As a consequence, agent-based systems are likely to master the complexity of modern software. However, new software engineering approaches are required. So the Software Engineering discipline is trying to understand how the lessons learned from the agency theories can be used to overcome the limitations of the OO paradigm. There are currently many methods and techniques for dealing with individual agents or systems built using only few agents. Unfortunately, agent-based software engineering is still in its infancy and existing software engineering approaches are unable to cope with large-scale MASs. MAS features are now being applied to the development of large industrial systems. Such systems involve hundreds, perhaps thousands of agents, and there is a pressing need for software engineering techniques that allow their peculiarities to be effectively managed, and principled methods are also required to guide the process of MAS development.

Topics of Interest. The workshop is intended to cover wide ranges of topics of software engineering for large-scale MASs, from theoretical foundations to empirical studies. We encourage authors to present novel ideas, critique of existing work, and practical studies and experiments, which demonstrate how software engineering techniques and methods can assist the development of large-scale multi-agent systems. We welcome the submission of papers in all aspects of agent-multi software engineering, including the following:

- Software engineering theories for large-scale MAS
- Comparative studies between MASs and OO systems
- Experiments and case studies with large-scale MAS development
- Advanced separation of concerns in the context of MAS
- Design patterns, design principles, and architectural styles
- Frameworks and software architectures
- Reflective software architectures
- Coordination architectures, infrastructures, and tools
- Domain-specific languages for MAS
- Requirements engineering for MAS
- Software reliability engineering and MAS
- Exception handling and fault-tolerance techniques
- Mobility and security issues in large MAS
- Software engineering techniques for resource-bounded MAS
- MAS development and pervasive computing
- Verification and validation techniques for MAS
- Modeling of large MAS
- UML application to large-scale MAS
- Methodologies for agent-oriented analysis and design
- Testing and metrics for MAS

Workshop Format and Submissions. The format of the workshop will combine short presentations and focused discussion groups. The number of participants will be between 40 and 50, and it will be restricted to authors of accepted papers and to a few invited guests. Prospective participants should submit electronically a position paper (between 5 and 8 pages) in PDF format via the web site <http://icse2003-submissions.ira.uka.de:8080/selmas-papers/submit/> by February 15, 2003.

Workshop Organizers

Jose Alberto R. P. Sardinha, PUC-Rio - Brazil
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Carlos Lucena, PUC-Rio - Brazil
Jaelson Castro, Federal University of Pernambuco - Brazil

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Paulo Alencar, University of Waterloo - Canada
Donald Cowan, University of Waterloo - Canada

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Michael Stal (Siemens - Germany)
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