



Fifth International Workshop

Engineering Societies in the Agents World

20-22 October 2004

Université Paul Sabatier, Toulouse, France

<http://www.irit.fr/ESAW04>

Organisers

Marie-Pierre Gleizes (*Local Chair*)

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Extended Submission Deadline

5 July 2004

Notification of acceptance/rejection

15 August 2004

Revised papers for Workshop notes

3 October 2004

Program Committee

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Aims & Scope

Software systems are undergoing dramatic changes in scale and complexity. Whether at a planetary scale with Web-based systems or at a microscopic scale with nanotechnologies, there is a huge amount of components interacting dynamically. Whatever the component granularity is, their interactions provide us with increasingly complex, context-aware, and content-adaptive services and functionalities. There is therefore a strong qualitative impact on the nature, substance and style of interactions between components. At the macro-level the system is viewed as the result of the interactions between micro-level components. These interactions will occur in patterns and via mechanisms that can hardly be grasped in terms of classical models of interaction. To some extent, inspiration should be taken from natural systems and societies for future software systems will exhibit characteristics closer to these than to mechanical systems and traditional software architectures. For example, future systems may need to have self-assembling capabilities in order to enable the emergence of the right collective behaviour.

This situation poses exciting challenges to computer scientists and software engineers. Already, software agents and multi-agent systems are recognised as both useful abstractions and effective technologies for the modelling and building of complex distributed applications. However, little is done with regard to effective and methodical development of complex software systems in terms of multi-agent societies. An urgent need exists for novel approaches to software modelling and software engineering that can support the successful deployment of software systems made up of a massive number of autonomous components. We need to enable designers to control and predict the behaviour of their systems, but alternatively to enable emergent global system properties and discovered functionality to be commonplace. It is very likely that such innovations will exploit lessons from a variety of different scientific disciplines, such as sociology, economics, organisation science, modern thermodynamics, and biology. Furthermore, since these systems will be ubiquitous, persistent, and pervasive, i.e. embedded in the real world, we need to know what frameworks of law will facilitate their regulation.

The sequel to successful editions since 2000, ESAW'04 remains committed to the use of the notion of multi-agent systems as seed for animated, constructive, and highly inter-disciplinary discussions about technologies, methodologies, and tools for the engineering of complex distributed applications. While the workshop places an emphasis on practical engineering issues, it also welcomes theoretical, philosophical, and empirical contributions, provided that they clearly document their connection to the core applied issues. Prospective papers about new paradigms, theories, models are also appreciated.

Post-proceedings

The series of ESAW post-proceedings is published by Springer-Verlag in the LNAI series (LNAI 1972, 2203, 2577, 3071), the last volume being published under the "Hot Topics" subseries.



Topics of interest...

...therefore include (but are not limited to):

- analysis, design, development and verification of agent societies
- open, large-scale multi-agent systems
- models of complex distributed systems with agents and societies
- interaction-coordination patterns in agent societies
- inter-disciplinary approaches for agent societies engineering
- engineering of social intelligence in multi-agent systems
- self-organisation and self regulation in agent societies
- autonomy and self-design of agent societies in an environment
- security, trust and norms in agent societies
- middleware infrastructures for agent societies
- tools and models for agent societies management
- studies of information ecosystems
- experiences in building and maintaining large agent societies
- evolution of institutions in agent societies
- insightful analyses of negative results