The Second AgentLink III Technical Forum: Main Issues and Hot Topics in European Agent Research — Part 2

1   Introduction

Together with the previous edition, the present number of *Informatica* presents topics out of the leading edge of European research in agent-oriented systems. The contributions collected in this double special issue originated in the presentations and discussions at and surrounding the Second AgentLink III Technical Forum (AL3-TF2) hosted by the Jozef Stefan Institute in Ljubljana, Slovenia, from February 28 to March 2, 2005. We refer the interested reader to the companion issue (29(4)) for details on AgentLink III, a European Commission (EC)-sponsored Coordination Action aimed at supporting and strengthening European research and development in agent-based technologies.

The double special issue includes both, broader survey papers on different research areas, as well as *hot topic* articles complementing the critical characterisation of the consolidated achievements with deeper analyses and some fresh ideas, thereby conveying an impression of the liveliness of (still much needed!) research in this technological area of ever-growing importance.

The first number of the double special issue includes articles from the areas of Agent-Oriented Software Engineering and the emerging research topic of Environments for Multiagent Systems. The contributions in the present issue cover three additional areas (for which the short names of the AgentLink Technical Forum Groups pursuing the research efforts are again given in parentheses[1], as follows.

Multiagent Resource Allocation (TFG-MARA)

– *Issues in Multiagent Resource Allocation*, by Yann Chevaleyre, Paul E. Dunne, Ulle Endriss, Jérôme Lang, Michel Lemaître, Nicolas Maudet, Julian Padget, Steve Phelps, Juan A. Rodríguez-Aguilar, and Paulo Sousa, surveys some of the most salient issues in Multiagent Resource Allocation, an emerging area of research at the interface of Computer Science and Economics.

Programming Multi-Agent Systems (TFG-PROMAS)

– *A Survey of Programming Languages and Platforms for Multi-Agent System*, by Rafael Bordini, Lars Braubach, Mehdi Dastani, Amal El Fallah-Seghrouchni, Jorge J. Gomez-Sanz, João Leite, Gregory O'Hare, Alexander Pokahr and Alessandro Ricci, surveys the most recent research on programming languages and development tools for MASs.

Self-Organisation in MAS (TFG-SELFORG)

– *Self-Organisation and Emergence in MAS: An Overview*, by Giovanna Di Marzo Serugendo, Marie-Pierre Gleizes, and Anthony Karageorgos, aims at defining the concepts of self-organisation and emergence, and also at providing a state-of-the-art survey about the different classes of self-organisation mechanisms applied in the MAS domain.

– *Bio-inspired Mechanisms for Artificial Self-organised Systems*, by Jean-Pierre Mano, Christine Bourjot, Gabriel Lopardo, Pierre Glize, analyses three forms of biological self-organisation (stigmergy, reinforcement mechanisms and cooperation), and discusses some case studies to show how they could be transposed to artificial systems.

– *On Self-Organising Mechanisms from Social, Business and Economic Domains*, by Salima Hassas, Giovanna Di Marzo Serugendo, Anthony Karageorgos and Cristiano Castelfranchi, discusses examples of socially-inspired self-organisation approaches, as well as their use to build socially-aware, self-organising computational systems.

– *Applications of Self-Organising Multi-Agent Systems: An Initial Framework for Comparison*, by Carole Bernon, Vincent Chevrier, Vincent Hilaire and Paul Marrow, provides MAS examples where self-organisation is used to solve complex problems, along with a number of criteria for comparison of self-organisation between different applications.

Acknowledgements

We hope you enjoy this second part of the double special issue of *Informatica*: please do consider it an open invitation to join the efforts described!

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[1]Further information about AgentLink III Technical Fora is available from the AgentLink website at `http://www.agentlink.org/activities/al3-tf/`.