Proceedings of the Workshop on Applications of Software Agents

July 3 – 5, 2011

Department of Mathematics and Informatics
Faculty of Sciences
University of Novi Sad
Serbia

Editors:
M. Ivanović
M. Ganzha
M. Paprzycki
C. Badica

ISBN 978-86-7031-188-6

2011
# TABLE OF CONTENTS

**About the Workshop**

**Decentralized and Embedded Management for Smart Buildings**  
*Giancarlo Fortino, Antonio Guerrieri*  

**Decision Making Methods in Agent Based Modeling**  
*Galina Ilieva*  

**Self-organized Multi-agent System for Service Management in the Next Generation Networks**  
*Mario Kusek, Gordan Jezic*  

**Experiments with Protocols for Service Negotiation**  
*Costin Badica, Mihnea Scafas*  

**Investigating F# as a development tool for distributed multi-agent systems**  
*Alex Muscar*  

**A Framework towards the Verification of Emergent Properties in Spatial Multi-Agent Systems**  
*Isidora Petreska, Petros Kefalas, Marian Gheorghe*  

**Security Based Performance Issues in Agent-based Web Services Integrating Legacy Information Systems**  
*Sashko Ristov, Aristotel Tentov*  

**An overview of agent mobility in heterogeneous environments**  
*Dejan Mitrovic, Mirjana Ivanovic, Zoran Budimac, Milan Vidakovic*  

**Integration of agents and planning systems**  
*Sasa Tosic, Milan Radovanovic, Mirjana Ivanovic*  

**Agent-based monitoring system for cloud/Grid computing**  
*Gleb Peregud, Julian Zubek, Marcin Paprzycki, Maria Ganzha*  

**Agent-based Virtual Organization**  
*Adam Omenczuk, Mateusz Wypysiak, Maria Ganzha, Katarzyna Wasielewska, Marcin Paprzycki*  

**Software Agents as Resource Brokers in Grid**  
*Katarzyna Wasielewska, Maria Ganzha, Michal Drozdowicz, Pawel Szmeja, Marcin Paprzycki*
About the Workshop

Software agent technologies include standardized frameworks, platforms, and methodologies, modeling and programming languages for development of (multi-) agent systems. Software agents have basic features including autonomy, reactivity, proactivity, and interactivity, as well as more advanced features including mobility, adaptivity, and intelligence, social and cognitive/mental abilities. Software agent technologies are able to address difficult problems of software development like interoperability and heterogeneity, costs reduction, and maintainability and thus have the potential to expand the horizon for development of software applications.

The workshop welcomes papers addressing research on software agents’ applications. Papers describing finalized research, as well as work-in-progress are welcome. The topics of the workshop cover, broadly understood, software agent technologies connected to applications and experiences in areas like: e-business, social networks, e-learning, grid computing, gaming, optimization, disaster management, virtual organizations, simulation, etc. (but this list is not exhaustive).

Workshop organization

Program Chairs:
  Mirjana Ivanović, University of Novi Sad, Serbia
  Maria Ganzha, University of Gdansk and IBS PAN, Poland

Program Co-chairs:
  Marcin Paprzycki, IBS PAN and WSM, Poland
  Costin Badica, University of Craiova, Romania

Program Committee Members:
  Zoran Budimac, University of Novi Sad, Serbia
  Giacomo Cabri, University of Modena, Italy
  Adina Magda Florea, University Politehnica of Bucharest, Romania
  Giancarlo Fortino, University of Calabria, Italy
  Matjaz Gams, Jožef Stefan Institute, Slovenia
  Goran Jezic, University of Zagreb, Zagreb, Croatia
  Galina Ilieva, University of Plovdiv, Bulgaria
  Mario Kusek, University of Zagreb, Zagreb, Croatia
  Viorel Negrui, West University of Timisoara, Romania
  Denis Trcek, University of Ljubljana, Slovenia

Organizing Committee (University of Novi Sad, Serbia)
  Mirjana Ivanović, Chair
  Dejan Mitrović, Secretary
  Zoran Budimac
  Saša Tošić
  Gordana Rakić
  Doni Pracner