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Preface

Recently, the area of agents and multi-agent systems has grown into a respected research field and a promising technology that has already been exploited in several industrial cases. There have been many novel methods, algorithms and theories investigated and formulated. These enrich and enhance classical software engineering and computer science, the areas of distributed systems and parallel computing, various fields of robotics, collaborative systems, Internet services and technologies, and grid computing, as well as knowledge management, computer-supported manufacturing or coalition formation and teamwork. Researchers have participated in a vast number of international and national research projects which have resulted in networks of excellence, thematic clusters and large-scale standardization efforts. Even though there has been noteworthy success in applying the research achievements of the areas of multi-agent systems and autonomous agents in design and manufacturing, transport and logistics, military and space applications, the tourism industry, e-commerce, and many other areas, there is still a gap between the state of the art achieved in the theoretical foundations of agent technologies and their potential for industry-wide deployment.

This volume continues in a successful series, "Multi-Agent Systems and Applications", of proceedings of important international events organized by the Gerstner Laboratory, CTU, Prague under EU support within the framework of the MIRACLE Center of Excellence project (IST No. ICA1-CT-2000-70002). The first volume in this series (LNAI vol. 2086) represented the proceedings of the Joint Summer School of ECCAI – 9th ACAI2001 (*Advanced Course on Artificial Intelligence*) and AgentLink – 3rd EASSS2001 (*European Agent Systems Summer School*) held in July 2001. The second volume (LNAI vol. 2322) contained selected papers from HoloMAS2001 (2nd *International Workshop on Holonic and Multi-Agent Systems*) and AEMAS2001 (*International Workshop on Adaptability and Embodiment Using Multi-Agent Systems*).

This volume represents the official proceedings of the CEEMAS 2003 "Central and Eastern Europe Multi-Agents Systems" international conference. After the success of two earlier workshops, namely CEEMAS 1999 (St. Petersburg, Russia) and CEEMAS 2001 (Cracow, Poland), CEEMAS 2003 took place in Prague, Czech Republic on June 16–18th, 2003, having been upgraded into a form of conference. CEEMAS 2003 was really a world-wide conference event. It brought together research scientists, academics, industrial experts and key decision-makers from all over the world in one location, where world-wide technological advances met the research potential of Central and Eastern European countries. The reputation of the conference has been enhanced by the three invited keynote speakers, namely Jeff Bradshaw (University of West Florida, USA), Austin Tate (University of Edinburgh, UK), and Onn Shehory (IBM Research Center, Haifa, Israel).

In this book we have managed to collect a selection of 58 high-quality papers (out of 109 excellent or very good submissions) as well as three contributions from the keynote speakers. The papers cover a wide range of technological areas in the field of agent technologies and multi-agent systems. There are theoretical papers providing formal models of various aspects of agents' individual and collective behavior as well as papers on agents' social behavior, meta-reasoning and reflectivity. The papers from well-known researchers are aimed at protocols, policies and inter-agent negotiations. The conference covered topics of planning, decision-making and coalition formation, but also adaptivity and evolution. A substantial part of the proceedings were devoted to agents' knowledge, ontologies and languages. The practical balance of the proceedings is provided by a selection of papers on applications of multi-agent systems in manufacturing, virtual enterprises, business processes, and the Internet.

We would like to thank all the contributors, PC members and referees (the full list is attached) for their outstanding contribution to the success of the CEEMAS conference. We are especially thankful to Jiří Hodík, Jaroslav Bárta and Aleš Říha for their technical support, to Milena Zeithamlová, Zuzana Hochmeisterová and Hana Krautwurmová for all their excellent organizational activities, and, finally, to Jiří Lažanský who carried out the main portion of the computer work related to the preparation of both the camera-ready and electronic versions of this volume.

April 2003

Vladimír Mařík
Jörg P. Müller
Michal Pěchouček

CEEMAS 2003

Third International/Central and Eastern European Conference
on Multi-Agent Systems

Multi-Agent Systems and Applications III

Prague, Czech Republic, June 16–18, 2003

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Table of Contents

Invited Talks

Making Agents Acceptable to People Abstract of a Key-Note Speech	1
<i>Jeffrey M. Bradshaw</i>	
Coalition Formation: Towards Feasible Solutions Abstract of a Key-Note Speech	4
<i>Onn Shehory</i>	
Coalition Task Support Using I-X and <I-N-C-A>	7
<i>Austin Tate</i>	

Formal Methods

Towards Motivation-Based Decisions for Worth Goals	17
<i>Steve J. Munroe, Michael Luck, and Mark d’Inverno</i>	
Modal Structure for Agents Interaction Based on Concurrent Actions	29
<i>Matías Alvarado and Leonid Sheremetov</i>	
A Multi-agent Modal Language for Concurrency with Non-communicating Agents	40
<i>Stefano Borgo</i>	
Self-Synchronization of Cooperative Agents in a Distributed Environment ..	51
<i>Sergio Illarri, Eduardo Mena, and Arantza Illarramendi</i>	
MIP-Nets: A Compositional Model of Multiagent Interaction	61
<i>Sea Ling and Seng Wai Loke</i>	

Social Knowledge & Meta-Reasoning

Calibrating Collective Commitments	73
<i>Barbara Dunin-Kępicz and Rineke Verbrugge</i>	
Abstract Architecture for Meta-reasoning in Multi-agent Systems	84
<i>Michal Pěchouček, Olga Štěpánková, Vladimír Mařík, and Jaroslav Bárta</i>	
Balancing Individual Capabilities and Social Peer Pressure for Role Adoption	100
<i>Xin Zhang and Henry Hexmoor</i>	
From Social Agents to Multi-agent Systems: Preliminary Report	111
<i>Maria Fasli</i>	

Negotiation & Policies

DAML-Based Policy Enforcement for Semantic Data Transformation
and Filtering in Multi-agent Systems 122
*Niranjani Suri, Jeffrey M. Bradshaw, Mark Burstein, Andrzej Uszok,
Brett Benyo, Maggie Breedy, Marco Carvalho, David Diller, Renia Jeffers,
Matt Johnson, Shri Kulkarni, and James Lott*

Architectures for Negotiating Agents136
Ronald Ashri, Iyad Rahwan, and Michael Luck

RIO: Roles, Interactions and Organizations 147
P. Mathieu, J.C. Routier, and Y. Secq

Conversation Mining in Multi-agent Systems158
Arnaud Mounier, Olivier Boissier, and François Jacquenet

Ontologies & Languages

The Knowledge Market: Agent-Mediated Knowledge Sharing168
Virginia Dignum and Frank Dignum

Ontology of Cooperating Agents by Means of Knowledge Components 180
*Edward Nawarecki, Grzegorz Dobrowolski, Stanisław Ciszewski,
and Marek Kisiel-Dorohinicki*

Mapping between Ontologies in Agent Communication191
Marek Obitko and Vladimír Mařík

A Social ACL Semantics by Deontic Constraints204
*Marco Alberti, Anna Ciampolini, Marco Gavanelli, Evelina Lamma,
Paola Mello, and Paolo Torroni*

A Formal Specification Language for Agent Conversations 214
Javier Soriano, Fernando Alonso, and Genoveva López

Planning

Framework for Multi-agent Planning Based on Hybrid Automata 226
*Amal El Fallah-Seghrouchni, Irene Degirmenciyan-Cartault,
and Frederic Marc*

Multi-agent System for Resource Allocation and Scheduling236
Vladimir Gorodetski, Oleg Karsaev, and Victor Konushy

Towards Autonomous Decision Making in Multi-agent Environments
Using Fuzzy Logic 247
Hamid Haidarian Shahri

Towards an Object Oriented Implementation
of Belief-Goal-Role Multi-agent Systems 258
Walid Chainbi

Coalitions

Fuzzy Coalition Formation among Rational Cooperative Agents	268
<i>Leonid B. Sheremetov and José C. Romero Cortés</i>	
Multi-agent Simulation of Work Teams	281
<i>Antonio Moreno, Aïda Valls, and Marta Marín</i>	
Multi-agent Knowledge Logistics System "KSNet": Implementation and Case Study for Coalition Operations	292
<i>Alexander Smirnov, Mikhail Pashkin, Nikolai Chilov, and Tatiana Levashova</i>	

Evolution & Emergent Behavior

Learning User Preferences for Multi-attribute Negotiation: An Evolutionary Approach	303
<i>Yutao Guo, Jörg P. Müller, and Christof Weinhardt</i>	
A Model of Co-evolution in Multi-agent System	314
<i>Rafał Dreżewski</i>	
Emergence of Specialized Behavior in a Pursuit-Evasion Game	324
<i>Geoff Nitschke</i>	
On a Dynamical Analysis of Reinforcement Learning in Games: Emergence of Occam's Razor	335
<i>Karl Tuyls, Katja Verbeeck, and Sam Maes</i>	
Forgiveness in Strategies in Noisy Multi-agent Environments	345
<i>Colm O' Riordan, Josephine Griffith, and Humphrey Sorensen</i>	

Platforms

An Unified Framework for Programming Autonomous, Intelligent and Mobile Agents	353
<i>Amal El Fallah-Seghrouchni and Alexandru Suna</i>	
Tailoring an Agent Architecture to a Flexible Platform Suitable for Cooperative Robotics	363
<i>Lars Kock Jensen, Yves Demazeau, and Bent Bruun Kristensen</i>	
Airports for Agents: An Open MAS Infrastructure for Mobile Agents	373
<i>Jan Tožička</i>	
Beyond Prototyping in the Factory of Agents	383
<i>Rem Collier, Gregory O'Hare, Terry Lowen, and Colm Rooney</i>	
Agent Oriented Software Engineering with INGENIAS	394
<i>Juan Pavón and Jorge Gómez-Sanz</i>	

Protocols

Requirement Analysis for Interaction Protocols	404
<i>Marc-Philippe Huget and Jean-Luc Koning</i>	
Engineering a Protocol Server Using Strategy-Agents	413
<i>Cosmin Carabelea and Philippe Beaune</i>	
Refinement of Open Protocols for Modelling and Analysis of Complex Interactions in Multi-agent Systems	423
<i>Nabil Hameurlain</i>	

Security

Biological Approach to System Information Security (BASIS): A Multi-agent Approach to Information Security	435
<i>Victor Skormin, James Moronski, Dennis McGee, and Douglas Summerville</i>	
Adaptive Agents Applied to Intrusion Detection	445
<i>Javier Carbó, Agustín Orfila, and Arturo Ribagorda</i>	
Communication Security in Multi-agent Systems	454
<i>Petr Novák, Milan Rollo, Jirí Hodík, and Tomáš Vlcek</i>	
Teamwork of Hackers-Agents: Modeling and Simulation of Coordinated Distributed Attacks on Computer Networks	464
<i>Igor Kotenko</i>	

Real-Time & Synchronization

Formal Modeling of Dynamic Environments for Real-Time Agents	475
<i>Miguel Rebollo, Vicente Botti, and Eva Onaindía</i>	
Deliberative Server for Real-Time Agents	485
<i>Carlos Carrascosa, Miguel Rebollo, Vicente Julián, and Vicente Botti</i>	
Regional Synchronization for Simultaneous Actions in Situated Multi-agent Systems	497
<i>Danny Weyns and Tom Holvoet</i>	
A Multi-agent System for Dynamic Network Reconfiguration	511
<i>Artur Maj, Jaroslaw Jurowicz, Jaroslaw Kozlak, and Krzysztof Cetnarowicz</i>	

Industrial Applications

A Highly Distributed Intelligent Multi-agent Architecture for Industrial Automation	522
<i>Francisco P. Maturana, Pavel Tichý, Petr Šlechta, Raymond J. Staron, Fred M. Discenzo, and Kenwood Hall</i>	
The Cambridge Packing Cell – A Holonic Enterprise Demonstrator	533
<i>Martyn Fletcher, Duncan McFarlane, Andrew Lucas, James Brusey, and Dennis Jarvis</i>	
Towards Autonomy, Self-Organisation and Learning in Holonic Manufacturing	544
<i>Paulo Leitão and Francisco Restivo</i>	
An Agent-Based Personalized Producer/Consumer Scenario	554
<i>Christian Seitz and Bernhard Bauer</i>	
Application of Intelligent Agents in Power Industry: Promises and Complex Issues	564
<i>Eleni E. Mangina</i>	

E-business & Virtual Enterprises

Brokering in Electronic Insurance Markets	574
<i>Luís Nogueira and Eugénio Oliveira</i>	
Modelling Electronic Organizations	584
<i>Javier Vázquez-Salceda and Frank Dignum</i>	
The Use of Adaptive Negotiation by a Shopping Agent in Agent-Mediated Electronic Commerce	594
<i>Mihaela Oprea</i>	
Agent Interaction Protocols for the Selection of Partners for Virtual Enterprises	606
<i>Sobah Abbas Petersen and Mihhail Matskin</i>	

Web & Mobile Agents

A Multiagent-Based Peer-to-Peer Network in Java for Distributed Spam Filtering	616
<i>Jörg Metzger, Michael Schillo, and Klaus Fischer</i>	
Engineering Web Service Invocations from Agent Systems	626
<i>László Zsolt Varga and Ákos Hajnal</i>	
A Component Based Multi-agent Architecture to Support Mobile Business Processes	636
<i>Habin Lee and John Shepherdson</i>	

Code Complexity Metrics for Mobile Agents Implemented
with Aspect/J647
Jana Dospisil

Author Index659

Author Index

- Alberti, Marco204
Alonso, Fernando214
Alvarado, Matías 29
Ashri, Ronald 136
Bárta, Jaroslav 84
Bauer, Bernhard554
Beaune, Philippe 413
Benyo, Brett122
Boissier, Olivier158
Borgo, Stefano 40
Botti, Vicente475, 485
Bradshaw, Jeffrey M.1, 122
Breedy, Maggie 122
Brusey, James 533
Burststein, Mark 122
Carabelea, Cosmin413
Carbó, Javier 445
Carrascosa, Carlos 485
Carvalho, Marco122
Cetnarowicz, Krzysztof 511
Chainbi, Walid 258
Chilov, Nikolai292
Ciampolini, Anna204
Ciszewski, Stanisław 180
Collier, Rem383
d’Inverno, Mark 17
Degirmenciyan-Cartault, Irene
.....226
Demazeau, Yves 363
Dignum, Frank168, 584
Dignum, Virginia 168
Diller, David122
Discenzo, Fred M. 522
Dobrowolski, Grzegorz180
Dospisil, Jana 647
Dreżewski, Rafał314
Dunin-Keplicz, Barbara 73
Fallah-Seghrouchni, Amal El
.....226, 353
Fasli, Maria111
Fischer, Klaus 616
Fletcher, Martyn 533
Gavanelli, Marco 204
Gómez-Sanz, Jorge 394
Gorodetski, Vladimir 236
Griffith, Josephine 345
Guo, Yutao 303
Hajnal, Ákos 626
Hall, Kenwood522
Hameurlain, Nabil 423
Hexmoor, Henry 100
Hodík, Jirí454
Holvoet, Tom497
Hugot, Marc-Philippe 404
Ilarri, Sergio 51
Illarramendi, Arantza 51
Jacquenet, François158
Jarvis, Dennis 533
Jeffers, Renia 122
Jensen, Lars Kock 363
Johnson, Matt 122
Julián, Vicente 485
Jurowicz, Jaroslaw 511
Karsaev, Oleg 236
Kisiel-Dorohinicki, Marek180
Koning, Jean-Luc 404
Konushy, Victor 236
Kotenko, Igor464
Kozlak, Jaroslaw511
Kristensen, Bent Bruun363
Kulkarni, Shri 122
Lamma, Evelina 204
Lee, Habin636
Leitão, Paulo544
Levashova, Tatiana 292
Ling, Sea 61
Loke, Seng Wai 61

- López, Genoveva 214
 Lott, James 122
 Lowen, Terry 383
 Lucas, Andrew 533
 Luck, Michael 17, 136
 Maes, Sam 335
 Maj, Artur 511
 Mangina, Eleni E. 564
 Marc, Frederic 226
 Mařík, Vladimír 84, 191
 Marín, Marta 281
 Mathieu, P. 147
 Matskin, Mihhail 606
 Maturana, Francisco P. 522
 McFarlane, Duncan 533
 McGee, Dennis 435
 Mello, Paola 204
 Mena, Eduardo 51
 Metzger, Jörg 616
 Moreno, Antonio 281
 Moronski, James 435
 Mounier, Arnaud 158
 Müller, Jörg P. 303
 Munroe, Steve J. 17
 Nawarecki, Edward 180
 Nitschke, Geoff 324
 Nogueira, Luís 574
 Novák, Petr 454
 O'Hare, Gregory 383
 O'Riordan, Colm 345
 Obitko, Marek 191
 Oliveira, Eugénio 574
 Onaindía, Eva 475
 Oprea, Mihaela 594
 Orfila, Agustín 445
 Pashkin, Mikhail 292
 Pavón, Juan 394
 Pěchouček, Michal 84
 Petersen, Sobah Abbas 606
 Rahwan, Iyad 136
 Rebollo, Miguel 475, 485
 Restivo, Francisco 544
 Ribagorda, Arturo 445
 Rollo, Milan 454
 Romero Cortés, José C. 268
 Rooney, Colm 383
 Routier, J.C. 147
 Schillo, Michael 616
 Secq, Y. 147
 Seitz, Christian 554
 Shahri, Hamid Haidarian 247
 Shehory, Onn 4
 Shepherdson, John 636
 Sheremetov, Leonid 29
 Sheremetov, Leonid B. 268
 Skormin, Victor 435
 Šlechta, Petr 522
 Smirnov, Alexander 292
 Sorensen, Humphrey 345
 Soriano, Javier 214
 Staron, Raymond J. 522
 Štěpánková, Olga 84
 Summerville, Douglas 435
 Suna, Alexandru 353
 Suri, Niranjana 122
 Tate, Austin 7
 Tichý, Pavel 522
 Torroni, Paolo 204
 Tožička, Jan 373
 Tuyls, Karl 335
 Uszok, Andrzej 122
 Valls, Aïda 281
 Varga, László Zsolt 626
 Vázquez-Salceda, Javier 584
 Verbeeck, Katja 335
 Verbrugge, Rineke 73
 Vlcek, Tomáš 454
 Weinhardt, Christof 303
 Weyns, Danny 497
 Zhang, Xin 100