6th International Workshop on
Enterprise & Organizational Modeling and
Simulation
EOMAS 2010
Hammamet, Tunisia, 7-8 June 2010
In conjunction with the CAISE’10
22nd International Conference on Advanced Information Systems Engineering

Workshop Proceedings

Editors
EOMAS 2010 Chair
Joseph Barjis
Delft University of Technology, The Netherlands

Murali Mohan Narasipuram
City University of Hong Kong, China
Ghaith Rabadi
Old Dominion University, USA

CAiSE’10 Workshop Chairs
Jolita Ralyté
University of Geneva, Switzerland
Pierluigi Plebani
Politecnico di Milano, Italy
CAiSE 2010 Workshop EOMAS
Proceedings

This volume contains the original articles presented at the 6th International Workshop on Enterprise & Organizational Modeling and Simulation – EOMAS’10. The workshop was held in conjunction with the 22nd International Conference on Advanced Information Systems Engineering, in Hammamet, Tunisia, June 7-8, 2010.

Copyright © 2010 for the individual papers by the papers’ authors. Copying permitted only for private and academic purposes. This volume is published and copyrighted by its editors.

CEUR Workshop Proceedings, CEUR-WS.org, ISSN 1613-0073.
Preface

The 21st century enterprises are crucial components in delivering services to society and contributing to economic prosperity. Service is provided when an enterprise is conducting its business within its business environment. With growing complexity of modern business processes and evolving business environments, enterprises require profound engineering approaches with properties such as ability for reengineering, scalability, adaptability, and reimplementation.

Enterprises are purposefully designed and implemented systems to fulfill certain functions. As any system, enterprises are objects of continuous improvements, redesign and reimplementation. Usually, a redesigning activity is triggered by changes in the business environment, where the enterprise is functioning (delivering its service), or need for efficiency. The departure point for any design or redesign is understanding the enterprise business processes. Therefore, in the overall enterprise engineering activities, business process modeling plays a central role. However, an extended enterprise and organizational study involves both analysis and design activities, in which Modeling and Simulation play prominent roles.

The growing role of Modeling and Simulation attracts serious attention of researchers in the context of enterprises. Modeling and simulation are the tools and methods that are effective, efficient, economic, and widely used in enterprise engineering, organizational study, and business process management. Complementary insights of modeling and simulation in enterprise engineering constitute a whole cycle of study of these complex sociotechnical systems enterprises. In order to monitor and study business processes and interaction of actors in a realistic and interactive environment, animation and gaming are the other two rapidly growing fields associated with enterprise and organizational study, and business process management.

In order to explore these topics, address the underlying challenges, find and improve solutions, and demonstrate application of modeling and simulation in enterprise engineering, its organization and underlying business processes, peer refereed papers have been accepted for presentation at EOMAS 2010. These proceedings include only a subset of the fully reviewed papers while the other subset is published in a book format in the LNBIP series by Springer.

May 2010

Joseph Barjis
Workshop Chair
EOMAS 2010
Organization

The EOMAS workshop is annually organized as an international forum for researchers and practitioners in the field of Enterprise & Organization Modeling and Simulation. Organization of this workshop and peer review of the contributions made to this workshop are accomplished by an international team of researchers in the fields of Enterprise Modeling and Simulation.

Workshop Chair

Joseph Barjis, Delft University of Technology, Netherlands

Program Co-Chairs

Ghaith Rabadi, Old Dominion University, USA
Murali Mohan Narasipuram, City University of Hong Kong, China

Program Committee

Antonia Albani, Delft University of Technology, Netherlands
Anteneh Ayanso, Brock University, Canada
Joseph Barjis, Delft University of Technology, Netherlands
Ygal Bendavid, Polytechnic and Academia RFID, Canada
Peter Bollen, Maastricht University, Netherlands
Mahmoud Boufaida, Mentouri University of Constantine, Algeria
Tatiana Bouzdine-Chameeva, BEM - Bordeaux Management School, France
Manuel I. Capel-Tuñon, University of Granada, Spain
Jan Dietz, Delft University of Technology, Netherlands
Samuel Fosso, Wamba University of Wollongong, Australia
Jose Luis Garrido Bullejos, University of Granada, Spain
Ashish Gupta, Minnesota State University Moorhead, USA
Oleg Gusikhin, Ford Research and Advanced Engineering, USA
Johann Kinghorn, Stellenbosch University, South Africa
P. Radha Krishna, Infosys Technologies Ltd., India
Peggy Daniels Lee, Penn State Great Valley, USA
Oswaldo Lorenzo, Instituto de Empresa, Spain
Prabhat Mahanti, University of New Brunswick, Canada
Yuri Merkuryev, Riga Technical University, Latvia
Vojtech Merunka, Czech U of Life Sciences Prague, Czech Republic
Alta van der Merwe, University of South Africa, South Africa
Martin Molhanec, Czech Technical U in Prague, Czech Republic
Murali Mohan Narasipuram, City University of Hong Kong, China
Ghaith Rabadi, Old Dominion University, USA
Srine Ramaswamy, University of Arkansas at Little Rock, USA
Han Reichgelt, Southern Polytechnic State University, USA
Peter Rittgen, University College of Boras, Sweden
Mamadou Seck, Delft University of Technology, Netherlands
Natalia Sidorova, Eindhoven University, Netherlands
Michel Soares, Federal University of Uberlandia, Brazil
David Sundaram, The University of Auckland, New Zealand
Nick Szirbik, University of Groningen, Netherlands
Yutaka Takahashi, Senshu University, Japan
Andreas Tolk, Old Dominion University, USA
José Tribolet, Technical University of Lisbon, Portugal
Alexander Verbraeck, Delft University of Technology, Netherlands

Auxiliary Reviewers

Kawtar Benghazi Akhlaki, University of Granada, Spain
Michele Fumarola, Delft University of Technology, Netherlands
Yilin Huang, Delft University of Technology, Netherlands
Rick van Krevelen, Delft University of Technology, Netherlands
Max Erik Rohde, The University of Auckland, New Zealand
Christian Stahl, Eindhoven U of Technology, Netherlands

Sponsoring Institutions

- SIGMAS (Special Interest Group on Modeling And Simulation of the Association for Information Systems) - in collaboration
- SIGSIM (Special Interest Group on Simulation of the Association for Computing Machinery) – in Collaboration
- CAiSE 2010 (International Conference on Advanced Information Systems Engineering)
- TU Delft (Delft University of Technology, Department of Systems Engineering)
# Table of Contents

**Preface**

*Joseph Barjis*

I

**Keynote Presentation**

Business Process Simulation Revisited

*Wil van der Aalst*

V

**Research Papers**

Automated Model Transformations Based on STRIPS Planning

*Oldrich Nouza, Vojtech Merunka and Miroslav Virius*

1

A Framework and Methodology for Enterprise Process Type Configurations

*Peter Bollen*

14

A Structural Verification of Web Services Composition Compatibility

*Kamel Barkaoui, Maryam Eslamichalandar, Meryem Kaabachi*

30

Proposition of a Generic Metamodel for Modeling Interorganizational Business Processes

*Khouir Bouchbou, Jacky Akoka and Zaia Alimazighi*

42

Reengineering the Learning Process in a Transport Company

*Pieter de Vries and Heide Lukosch*

57

Gross Product Simulation with pooling of Linear and Nonlinear Regression Models

*Ahmad Flaih, Abbas Abdalmuhsen, Ebtisam Abdulah and Srink Ramaswamy*

69

Actionable Meta Models to Support Inter Organizational Business Processes Modeling for e-Services

*P. Radha Krishna and Murali Mohan Narasipuram*

77

Discovering Organizational Perspective in Workflow using Agent Approach: An illustrative Case Study

*Mahdi Abdelkafi and Lotfi Bouzguenda*

84

Towards a Center for Modeling and Simulation: The Case for Jordan

*Ghaith Rabadi and Hazem Kaylani*

99

Modeling Cross-Docking Operations using Discrete Event Simulation

*Georges Arnaout, Elkin Rodriguez-Velasquez, Ghaith Rabadi and Rami Musa*

113

Feasibility Study Inputs based on Requirements Engineering

*Robert Pergl*

121

Towards the Conceptual Normalisation

*Martin Molhanec*

133

Real-time Web Services Orchestration and Choreography

*Kawtar Benghazi, Carlos Rodriguez-Dominguez, Ana Belén Pelegrina, and José Luis Garrido*

142