Lecture Notes in Business Information Processing

92

Series Editors

Wil van der Aalst

Eindhoven Technical University, The Netherlands

John Mylopoulos

University of Trento, Italy

Michael Rosemann

Queensland University of Technology, Brisbane, Qld, Australia

Michael J. Shaw

University of Illinois, Urbana-Champaign, IL, USA

Clemens Szyperski

Microsoft Research, Redmond, WA, USA

Paul Johannesson John Krogstie Andreas L. Opdahl (Eds.)

The Practice of Enterprise Modeling

4th IFIP WG 8.1 Working Conference, PoEM 2011 Oslo, Norway, November 2-3, 2011 Proceedings



Volume Editors

Paul Johannesson Stockholm university DSV Forum 100 164 40 Kista, Sweden E-mail: pajo@dsv.su.se

John Krogstie Norwegian University of Science and Technology (NTNU) Department of Computer and Information Science Sem Sælandsvei 7-9 7491 Trondheim, Norway E-mail: krogstie@idi.ntnu.no

Andreas L. Opdahl
University of Bergen
Department of Information Science and Media Studies
P.O. Box 7802
5020 Bergen, Norway
E-mail: andreas.opdahl@uib.no

ISSN 1865-1348 e-ISSN 1865-1356 ISBN 978-3-642-24848-1 e-ISBN 978-3-642-24849-8 DOI 10.1007/978-3-642-24849-8 Springer Heidelberg Dordrecht London New York

Library of Congress Control Number: 2011938793

ACM Computing Classification (1998): J.1, H.3.5, H.4.1

© IFIP International Federation for Information Processing 2011

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, re-use of illustrations, recitation, broadcasting, reproduction on microfilms or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.

The use of general descriptive names, registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

Enterprise modeling (EM) has gained substantial popularity both in the academic community and among practitioners. A variety of EM methods, approaches, and tools are being developed and offered on the market. In practice they are used for various purposes such as business strategy development, process restructuring, as well as business and IT architecture alignment and governance.

PoEM 2011—the 4th IFIP WG 8.1 Working Conference on the Practice of Enterprise Modeling—took place in November 2011 in Oslo, Norway. The conference series is a dedicated forum where the use of EM in practice is addressed by bringing together researchers, users, and practitioners in order to develop a better understanding of the practice of EM, to contribute to improved EM practice, as well as to share knowledge and experiences. PoEM 2011 attracted 38 submissions with authors from 17 different countries (Australia, Belgium, Brazil, Canada, France, Germany, India, Italy, Latvia, Luxembourg, The Netherlands, Norway, Russia, Spain, Sweden, Switzerland, USA), out of which the Program Committee selected 18 high-quality papers. Among the authors of these papers we find both researchers and practitioners. The resulting program reflects the fact that the topic of EM encompasses human, organizational issues, as well as more technical aspects related to the development of information systems. The program was organized in five thematic sessions:

- Process Modeling
- Business Modeling
- Enterprise Architecture
- Enterprise Modeling
- Model-Driven Development

The program also featured two keynotes. One by Harald Wesenberg, of Statoil, Norway, an experienced EM practitioner discussing the use of enterprise modeling in an agile world. The second keynote was by Wil van der Aalst on intra- and inter-organizational process mining, on how to discover processes within and between organizations Following the positive experiences from earlier PoEM-conference, the program also included a joint working session where researchers and practitioners had the opportunity to discuss emerging issues in the field of EM practice.

We devote a special thanks to the members of the international Program Committee for promoting the conference and for providing excellent reviews of the submitted papers. Their dedicated work was vital for putting together a

VI Preface

high-quality working conference. We also thank the external reviewers. Special thanks go to the Norwegian University of Science and Technology and the Norwegian Computing Society (Dataforeningen) for supporting the organization of the conference. The PoEM 2011 organizers would also like to thank the conference sponsors—Oracle Norway and the Research Council of Norway.

August 2011

Paul Johannesson John Krogstie Andreas L. Opdahl

Organization

PoEM Steering Committee

Anne Persson University of Skövde, Sweden Janis Stirna University of Stockholm, Sweden

PoEM 2011 Organizers

John Krogstie NTNU, Norway

Paul Johannesson Stockholm University, Sweden Andreas L. Opdahl University of Bergen, Norway

Naci Akkök Oracle, Oslo, Norway Steinar Carlsen Computas, Norway Håvard D. Jørgensen Committment, Norway

PoEM 2011 Program Committee

Marko Bajec University of Ljubljana, Slovenia

Giuseppe Berio University of Turin, Italy

Rimantas Butleris Kaunas University of Technology, Lithuania

Steinar Carlsen Computas, Norway

Wolfgang Deiters Fraunhofer ISST, Germany

Mathias Ekstedt KTH, Sweden

Owen Eriksson Dalarna University, Sweden

Xavier Franch Universitat Politécnica de Catalunya, Spain

Mounira Harzallah University of Nantes, France
Patrick Heymans University of Namur, Belgium
Stijn Hoppenbrouwers Radboud University Nijmegen,

The Netherlands

Jarl Höglund Allmentor, Sweden

Jon Iden Norges Handelshøyskole, Bergen, Norway

Håvard D. Jørgensen Committment, Norway

Robert Lagerström KTH, Sweden

Mikael Lind University College Borås, Sweden Pericles Loucopoulos Loughborough University, UK Raimundas Matulevicius University of Tartu, Estonia

Graham McLeod PROMIS Solutions AG, South Africa

Christer Nellborn Management Consulting AB, Sweden

Björn Nilsson Anatés AB, Sweden

Sietse Overbeek Delft University of Technology,

The Netherlands

VIII Organization

Oscar Pastor Valencia University of Technology, Spain

Anne Persson University of Skövde, Sweden Michaël Petit University of Namur, Belgium

Naveen Prakash GCET, India

Erik Proper Radboud University Nijmegen,

The Netherlands

Jolita Ralyté University of Geneva, Switzerland

Peter Rittgen Vlerick Leuven Gent Management School,

Belgium

Colette Rolland University of Paris 1, France Matti Rossi Aalto University, Finland

Kurt Sandkuhl University of Rostock, Germany

Ulf Seigerroth Jönköping International Business School,

Sweden

Keng Siau University of Nebraska-Lincoln, USA

Pnina Soffer University of Haifa, Israel Maarten Steen Novay, The Netherlands

Janis Stirna University of Stockholm, Sweden Renate Strazdina Ernst & Young SIA, Latvia Patrick van Bommel Radboud University Nijmegen,

The Netherlands

Olegas Vasilecas Vilnius Gediminas Technical University,

Lithuania

Carson Woo University of British Columbia, Canada

PoEM 2011 Additional Reviewers

Quentin Boucher Ulrik Franke Nicolas Genon Kestutis Kapocius

Johan Knig

Algirdas Laukaitis

Liv Marcks Von Würtemberg

Waldo Rocha Flores Sam Solaimani

Table of Contents

Academic Keynote	
Intra- and Inter-Organizational Process Mining: Discovering Processes within and between Organizations	1
Process Modeling	
Business Process Model Similarity as a Proxy for Group Consensus \hdots $Peter\ Rittgen$	12
Instances over Algorithms: A Different Approach to Business Process Modeling	25
Specifying Flexible Business Processes Using Pre and Post	20
Conditions	38
Diagram Notations for Mobile Work Processes	52
Business Modeling	
Modeling Business Strategy: A Consumer Value Perspective	67
Reasoning with Key Performance Indicators	82
VAMEE: A Value Aware Method for Evaluating Inclusive E-Government Initiatives	97
Grounded System Dynamics: A Procedure for Underpinning System Dynamics with a Domain Modeling Method	112
Industrial Keynote	
Enterprise Modeling in an Agile World	126

Χ

Enterprise Architecture

Aligning TOGAF and NAF – Experiences from the Norwegian Armed Forces	131
Havara D. Sørgensen, Tore Luana, and Stein Skogvola	
Towards an Approach for Stakeholder-Oriented Elicitation and Identification of Concerns in EA	147
Capture the Current State	162
Towards a Method for IT Service Management	178
Enterprise Modeling	
Analysing Enterprise Models from a Fractal Organisation Perspective – Potentials and Limitations	193
Enterprise Modeling Practice in ICT-Enabled Process Change	208
Modelling of the Ward Round Process in a Healthcare Unit	223
Modeling an Agile Enterprise: Reconciling Systems and Process Thinking	238
Ilia Bider, Gene Bellinger, and Erik Perjons	
Model-Driven Development	
Towards a CMMI-Compliant Goal-Oriented Software Process through Model-Driven Development	253
Bringing Enterprise Modeling Closer to Model-Driven Development <i>Iyad Zikra, Janis Stirna, and Jelena Zdravkovic</i>	268
Author Index	283