

Terry Halpin Selmin Nurcan
John Krogstie Pnina Soffer
Erik Proper Rainer Schmidt
Ilia Bider (Eds.)

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Enterprise, Business-Process and Information Systems Modeling

12th International Conference, BPMDS 2011
and 16th International Conference, EMMSAD 2011
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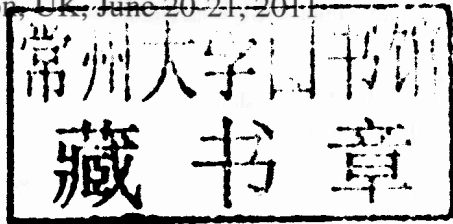


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Proceedings



Volume Editors

Terry Halpin
LogicBlox, Australia
and INTI International University, Malaysia
E-mail: terry.halpin@logicblox.com

Selmin Nurcan
Université Paris 1 Panthéon Sorbonne, France
E-mail: nurcan@univ-paris1.fr

John Krogstie
Norwegian University of Science and Technology, Trondheim, Norway
E-mail: john.krogstie@idi.ntnu.no

Pnina Soffer
Haifa University, Israel
E-mail: spnina@is.haifa.ac.il

Erik Proper
Public Research Centre Henri Tudor, Luxembourg
and Radboud University Nijmegen, The Netherlands
E-mail: erik.proper@tudor.lu

Rainer Schmidt
Aalen University, Germany
E-mail: Rainer.Schmidt@htw-aalen.de

Ilia Bider
IbisSoft, Stockholm, Sweden
E-mail: ilia@ibissoft.se

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Preface

This book contains the proceedings of two long-running events held in connection to the CAiSE conferences relating to the areas of enterprise, business-process and information systems modeling:

- The 12th International Conference on Business Process Modeling, Development and Support (BPMDS 2011)
- The 16th International Conference on Exploring Modeling Methods for Systems Analysis and Design (EMMSAD 2011)

The two working conferences are introduced briefly below.

BPMDS 2011

BPMDS has been held as a series of workshops devoted to business process modeling, development and support since 1998.

During this period, business process analysis and design has been recognized as a central issue in the area of information systems (IS) engineering. The continued interest in these topics on behalf of the IS community is reflected by the success of the last BPMDS workshops and the recent emergence of new conferences and workshops devoted to the theme. Facing this trend, in 2011 BPMDS became a working conference.

While changing the status of BPMDS, we preserved the basic principles of the BPMDS series:

1. BPMDS serves as a meeting place for researchers and practitioners in the areas of business development and business applications (software) development.
2. The aim of the event is mainly discussions, rather than presentations.
3. Each event has a unique theme.

Previously, each workshop had a relatively narrow theme, different each year, related to the current progress in the area of BPM. Our intention when becoming a working conference was to solicit papers related to business process modeling, development and support (BPMDS) in general, using quality as a main selection criterion, instead of relevance to a narrower theme.

As a working conference, our aim was to attract more papers describing mature research, still giving place to industrial reports and visionary papers. We kept the principle of a defined theme for the event, but used relevance to the theme as a criterion only for visionary papers, describing innovative research ideas which are not yet completely mature. In addition, we suggested to the authors of research papers and experience reports, wherever possible, to make a connection to the theme.

The theme chosen for BPMDS 2011 visionary papers was ‘Making BPM theory work in practice: “There is nothing more practical than a good theory (Kurt Lewin)”.’

BPMDS 2011 received a record number of 61 submissions from 25 countries (Australia, Austria, Belgium, Brazil, Canada, Colombia, Denmark, France, Germany, India, Iran, Israel, Italy, Japan, Latvia, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Uganda, United Arab Emirates, UK, USA). The management of paper submission and reviews was supported by the Easy-Chair conference system. Selecting the papers to be accepted was a worthwhile effort. Each paper received at least three reviews. Eventually, 22 high-quality papers were selected; among them three experience reports and two visionary papers.

The accepted papers cover a wide spectrum of issues related to business process development, modeling, and support. They are organized under the following section headings:

- BPMDS in Practice
- Business Process Improvement
- Business Process Flexibility
- Declarative Process Models
- Variety of Modeling Paradigms
- Business Process Modeling and Support Systems Development
- Interoperability and Mobility

We wish to thank all the people who submitted papers to BPMDS 2011 for having shared their work with us, as well as the members of the BPMDS 2011 Program Committee, who made a remarkable effort reviewing the large number of submissions. We also thank the organizers of CAiSE 2011 for their help with the organization of the event, and IFIP WG8.1 for the support.

The goals, format, and history of BPMDS can be found on the website: <http://www.bpmds.org>

April 2011

Ilia Bider
Selmin Nurcan
Rainer Schmidt
Pnina Soffer

EMMSAD 2011

The field of information systems analysis and design includes numerous information modeling methods and notations (e.g., ER, ORM, UML, DFDs, BPMN) that are typically evolving. Even with some attempts toward standardization (e.g., UML for object-oriented design), new modeling methods are constantly being introduced, many of which differ only marginally from existing approaches. These ongoing changes significantly impact the way information systems are analyzed and designed in practice. This workshop focuses on exploring, evaluating, and enhancing current information modeling methods and methodologies. Though the need for such studies is well recognized, there is a paucity of such research in the literature.

The objective of EMMSAD 2011 was to provide a forum for researchers and practitioners interested in modeling methods in systems analysis and design to meet and exchange research ideas and results. It also gave the participants an opportunity to present their research papers and experience reports, and to take part in open discussions.

EMMSAD 2011 was the 16th in a very successful series of EMMSAD events, previously held in Heraklion, Barcelona, Pisa, Heidelberg, Stockholm, Interlaken, Toronto, Velden, Riga, Porto, Luxembourg, Trondheim, Montpellier, Amsterdam and Hammamet. This year we had 31 submissions by authors from 16 different countries (Australia, Austria, Belgium, Brazil, France, Germany, Israel, Italy, Luxembourg, Malaysia, The Netherlands, Norway, Spain, Sweden, the UK, and the USA). The management of paper submission and reviews was facilitated by use of the EasyChair conference system. After an extensive review process by a distinguished international Program Committee, with each paper receiving at least three reviews, we accepted the 16 papers that appear in these proceedings. Congratulations to the successful authors!

Apart from the contribution by paper authors, the quality of this conference depended in no small way on the generous contribution of time and effort by the Program Committee and the additional reviewers. Their work is greatly appreciated. Continuing with our very successful collaboration with IFIP WG 8.1 that started in 1997, this year's conference was again a joint activity of CAiSE and WG 8.1. We are also grateful for the sponsorship of the European INTEROP Network of Excellence, AIS-SIGSAND, the Enterprise Engineering Network, and the ORM Foundation. For more information on past and future EMMSAD conferences, please see our website <http://www.emmsad.org>

April 2011

Terry Halpin
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Business Process Management for Open E-Services in Local Government - Experience Report*

Petia Wohed¹, David Truffet^{2,**}, and Gustaf Juell-Skielse¹

¹ Stockholm University, Sweden
{petia,gjs}@dsv.su.se

² Esri, Australia
dtruffet@esriaustralia.com.au

Abstract. E-government has become one of the most prominent means to reform the public sector. Building e-government embraces a variety of efforts both at a centralised level, (e.g. the integration of and communication between systems across different agencies, domains and geographies), and at local levels such as the development of e-services for the provision of 24/7 public sector agencies. In this paper, we report on the results of a project aimed to develop e-services as a part of the e-government initiative in Sweden. The project was carried out at the elderly and handicapped unit at one municipality. The e-services considered in the project were also intended to open up the underlying social services and are, therefore, referred to as open e-services. We discuss the results of the development of one such e-service as a proof-of concept solution for which a business process management system is used. We present the solution and explain the features of using a business process management system as a back-end system.

Keywords: Business process management, e-services, e-government.

1 Open E-Services in Local Government

Local governments in Sweden are responsible for a large share of public services in the fields of education, care and healthcare. Elderly care and care for the disabled are two important tasks and account for almost 30% of municipal budgets. To meet the challenges of an aging population [5], local governments are strengthening their capabilities in the area of assisted living services [6]. Focus is placed on streamlining the administration associated with the services, on opening up the services, and on developing e-services.

Opening up the services includes the removal of the formal decisions of granting or rejecting services to citizens taken by municipal officials. For instance 26

* This work is funded in part through the project Open Social Services financed by The Swedish Agency for Research and Innovation for Sustainable Growth (Vinnova).

** Work conducted during a visit at the Queensland University of Technology.

(out of 290) municipalities in the country provide the emergency phone service as an open service [7, p. 28], i.e. the service is ordered and subscribed to by citizens instead of applied for and then formally approved by authorities.

The *development of e-services* has initially resulted in the development of application forms that can be submitted electronically. Although these *application e-forms* imply some simplification for the citizen they offer only a limited improvement for those who handle the applications at the government. To develop e-services that support the entire processes, we engaged in a project aiming at the development of three *open e-services* for the elderly and disabled care at a municipality. Our role in the project included the business process analysis and design for the e-services, as well as an analysis of the use of open source software for their implementation¹. To provide support for the entire processes, we used a business process management system (BPMS) as a back-end system. To analyse the use of open source software, we prototyped the first e-service, i.e. the emergency phone application e-service, in an open source BPMS called YAWL². This paper reports on the prototype as a proof-of-concept implementation³.

The paper is structured as follows. Section 2 presents the steps we followed to develop the e-service. Section 3 outlines a number of goals considered in the provision of e-services. Section 4 presents the solution. Section 5 and an Epilogue conclude the work with an analysis of how well the BPMS-based solution meets the goals and reflections from the work.

2 Method of Work

To develop the open social e-service, we progressed through the following phases: process analysis, process specification and e-form development. During the *process analysis* phase, an as-is analysis of the current process was performed. For this, a number of workshops were carried out with a work-group consisting of six municipal officials, two executives, a representative from the IT department, and sometimes a representative from the social service provider, who is a sub-supplier for the municipality.

The purpose of the workshops was to gather information about the existing routines. The workshops were complemented with four in-depth interviews with representatives from the different roles during which also the current IT system was looked into. After every workshop the results were documented in YAWL process models and validated during the next following workshop. The process models were also periodically presented to municipality management.

During the *process specification* phase, a to-be process (solving the problems identified during the process analysis) was designed and agreed upon. The work was carried out in a similar way as before, i.e. through workshops with officials

¹ The actual implementation of the services is the responsibility of two software development companies.

² www.yawlfoundation.org

³ The prototype is available for download at <http://dash.dsv.su.se/2010/10/19/sundsvall142/>