Jörg Desel, Ulrich Frank (Eds.)

Enterprise Modelling and Information Systems Architectures

Workshop

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Volume Editors
Prof. Dr. Jörg Desel
Lehrstuhl für Angewandte Informatik
Math.-Geogr. Fakultät
Katholische Universität Eichstätt-Ingolstadt
Ostenstr. 14
85072 Eichstätt
Email: joerg.desel@ku-eichstaett.de

Prof. Dr. Ulrich Frank
Lehrstuhl für Wirtschaftsinformatik und Unternehmensmodellierung
Institut für Informatik und Wirtschaftsinformatik
Universität Duisburg-Essen
Universitätsstr. 9
D-45141 Essen
E-mail: ulrich.frank@uni-duisburg-essen.de

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Preface

The design of flexible and reliable information systems that are in line with an organization's strategy and its business processes is a complex task. It requires accounting for a thorough analysis of requirements, for technological chances and constraints as well as for the economics of implementing and maintaining an information system. To reduce the complexity of this task, the use of models is recommended – such as models of business processes and related resources, models of information structures, e. g. object models, or models of the corporate strategy. Enterprise models are aimed at integrating these models in order to avoid redundant work, to foster communication between the involved stakeholders, and to contribute to the overall integration of an information system. Research on enterprise modelling includes the development and evaluation of modelling languages and corresponding methods, the design of reference models as well as various approaches towards model analysis and model transformation. Information system architectures are models of an information system that focus on the construction of a system from building blocks (e. g. applications, middleware, components). Research on enterprise modelling and information systems architectures is characterized by common research areas at the intersection of Information Systems and Computer Science, which calls for a cross-disciplinary approach including an intensive exchange with those who are responsible for designing, introducing and maintaining information systems in practice.

Against this background, EMISA and SIG-MoBIS decided to intensify their cooperation. EMISA, the Special Interest Group on Design Methods for Information Systems (http://www.emisa.org) within the German Informatics Society (GI) provides a forum for researchers from various disciplines as well as for practitioners who develop and apply methods to support the analysis and design of information systems. The GI Special Interest Group on Modelling Business Information Systems (SIG-MoBIS, http://www.fg-mobis.gi-ev.de/) is a community of researchers at universities and experts in industry for exchanging concepts and experiences around enterprise modelling. Altogether, both groups have about 1,500 members. To emphasize their intention to cooperate and to involve researchers and practitioners from other countries, SIG-MoBIS and EMISA jointly organized the workshop 'Enterprise Modelling and Information Systems Architectures' in Klagenfurt, Austria, October 24-25, 2005. The workshop took place in conjunction with the Entity Relationship Conference (ER'05). Authors from 13 countries submitted 51 papers to the workshop. 18 papers were accepted after a double-blind review process. The main topics covered by the articles include methods for enterprise modelling, business process and workflow modelling, web services, IT management and Software Engineering.

Christian Braun and Robert Winter present a language for enterprise modelling, which aims at describing the interplay between a company's information system, its organization, and strategy. Iris Reinhartz-Berger et al. propose a method for developing and applying reference models. Antiona Albani and Johannes M. Zaha go one step further by suggesting an approach to deduct component models from reference models. Jan Mendling et al. propose an XML-based language for representing Configurable Event Process Chains, which allows for exchanging process models between modelling tools and workflow management systems. Carlo Simon describes an approach to the incremental devel-

opment of business process models. It makes use of so called module nets, which are an extension of workflow nets. Karsten Schmidt presents a formal investigation of various aspects of controllability in open workflow nets. While aspect-oriented programming has gained remarkable awareness during the last few years, there is still demand for an adequate integration of corresponding concepts into object-oriented modelling languages. As a response to this challenge, Dominik Stein et al. present an approach to visualize join points through state diagrams. The paper contributed by Morad Benyoucef and Stefanie Rinderle describes an approach to the model-driven development of negotiation systems. Frank Wolff et al. analyze the economics of various options for managing web services. Addressing a similar topic, Rainer Berbner et al. suggest an extension of service-oriented architectures with components that provide management functionality. Manuel Caeiro-Rodríguez et al. propose an architecture that makes use of web services in order to support the enactment of learning processes modelled by a specialized modelling language.

Aspects of IT management and IT controlling have only recently been introduced to the agenda of research on enterprise modelling. Christoph Moser presents a framework for IT governance that allows for integrating the management of IT services and IT architectures. To support the management of IT landscapes, Lutz Kirchner proposes a specialized modelling language that accounts for economic aspects such as costs. For a similar purpose, yet with a different focus, Bela Mutschler and Johannes Bumiller suggest concepts that help with quantifying the cost of systems used to support business processes. To support the mapping of conceptual models to XML Schema, Reema Al-Kamha et al. propose an extension of XML Schema to represent generalization/specialization relationships. Comparing data models for the purpose of integrating them is a challenging task. Andreas Gehlert and Daniel Pfeiffer suggest a framework that serves to guide the semi-automatic comparison of data models. In engineering design processes, there is often a lack of coordination between the actual design process and corresponding administrative processes. In their paper, Michalis Miatidis and Matthias Jarke present a language that allows for modelling both levels, thus contributing to a better integration. The "best of breed" vision that inspires the composition of information systems from existing building blocks such as components or services requires the existence of appropriate building blocks. Focusing on CRM applications, Pedro R. Falcone Sampaio and Yong He suggest an approach to cope with this requirement by unbundling and deploying applications as e-services.

Many people were involved in planning the workshop and in preparing the proceedings. We are grateful to all authors for their contributions. Due to an extremely tight schedule, the members of the program committee had a tremendous workload to handle. They were supported by an additional review board. We would like to thank all reviewers for their outstanding support and commitment. Also, we thank Torsten Schlichting and Reinhard Thöne who took care of the conference management tool, and Jürgen Jung who was in charge of preparing the proceedings. On behalf of SIG-MoBIS and EMISA, we express our gratitude to Heinrich C. Mayr, the chair of the ER'05, and his team for their professional support with organizing the workshop.

Eichstätt and Essen, October 2005 Jörg Desel, Ulrich Frank

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GI SIG-MobIS	Special Interest Group on Modelling Business Information Systems

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