Lecture Notes in Informatics (LNI) - Proceedings
Series of the Gesellschaft für Informatik (GI)

Volume P-96

ISBN 978-3-88579-190-4
ISSN 1617-5468

Volume Editors
Lic. Inform. Saartje Brockmans
Institut für Angewandte Informatik und Formale Beschreibungsverfahren, Universität Karlsruhe (TH)
D-76128 Karlsruhe
E-Mail: sbr@aifb.uni-karlsruhe.de

Dipl.-Inform. Jürgen Jung
Institut für Informatik und Wirtschaftsinformatik
Universität Duisburg-Essen
D-45141 Essen
E-Mail: juergen.jung@uni-duisburg-essen

Dr. York Sure
Institut für Angewandte Informatik und Formale Beschreibungsverfahren, Universität Karlsruhe (TH)
D-76128 Karlsruhe
E-Mail: sure@aifb.uni-karlsruhe.de

Series Editorial Board
Heinrich C. Mayr, Universität Klagenfurt, Austria (Chairman, mayr@ifit.uni-klu.ac.at)
Jörg Becker, Universität Münster, Germany
Ulrich Furbach, Universität Koblenz, Germany
Axel Lehmann, Universität der Bundeswehr München, Germany
Peter Liggesmeyer, TU Kaiserslautern und Fraunhofer IESE, Germany
Ernst W. Mayr, Technische Universität München, Germany
Heinrich Müller, Universität Dortmund, Germany
Heinrich Reinermann, Hochschule für Verwaltungswissenschaften Speyer, Germany
Karl-Heinz Rödiger, Universität Bremen, Germany
Sigrid Schubert, Universität Siegen, Germany

Dissertations
Dorothea Wagner, Universität Karlsruhe, Germany

Seminars
Reinhard Wilhelm, Universität des Saarlandes, Germany

© Gesellschaft für Informatik, Bonn 2006
printed by Köllen Druck+Verlag GmbH, Bonn
Preface

Meta-modelling is the activity of designing languages through precise definitions of constructs and rules needed. The result of such an activity is a meta-model. An ontology is a shared conceptualisation of a domain of interest. A frequently used description of the relationship among meta-models and ontologies is that a valid meta-model might be an ontology, but not every ontology is modelled explicitly as a meta-model. However, currently the communities of meta-modelling and ontologies only have few overlaps and the exact relationship has still to be worked out in more detail.

A particular use case for combination of both is to use meta-modelling for defining mappings between different ontologies expressed in the same language or even between different ontology languages. The problem of mapping different ontology languages is essential for the success of the Semantic Web: one of the key advantages of ontologies is to provide interoperability among heterogeneous data sources and applications, each using potentially different ontologies and ontology languages.

The second Workshop on Meta-Modelling and Ontologies (WoMM’06) brings together researchers and practitioners from the field of meta-modelling as well as ontologies, thus timely addressing the intersection of two major research areas in computer science and information systems. It takes place at the University of Karlsruhe (TH) on October 12-13, 2006. We received 16 submissions out of which only 7 papers were accepted for publication, one of them as a short paper. We are very happy that Brian Henderson-Sellers and Cesar Gonzalez-Perez accepted the invitation for this years keynote.

WoMM’06 is the successor of the Workshop on Meta-Modelling and Corresponding Tools (WoMM’05) which was held in Essen at the University Duisburg-Essen in March 2005. Thirty professionals involved in meta-modelling attended the workshop – both from academia and industry. They enjoyed ten academic presentations as well as six elaborate meta-modelling tool presentations. During a concluding discussion, all participants agreed that meta-modelling is very attractive from an academic point-of-view. Consequently, we strove for the continuation of a series of workshops on meta-modelling.

We thank our sponsors for their valuable contribution to the workshop: Graduate School IME at the University of Karlsruhe (TH), the EU funded integrated project SEKT, the EU funded network of excellence Knowledge Web, and MetaCase. Without their support this workshop would not have been possible.

We are confident that the workshop significantly strengthens collaborations of the intersecting communities. We wish all participants a pleasant stay in Karlsruhe and a stimulating workshop. We also hope you enjoy reading these workshop proceedings.

Saartje Brockmans
Jürgen Jung
York Sure (Chair)
Programme Committee

Ziv Baida (Vrije Universiteit Amsterdam, NL)
Peter Fettke (Universität Mainz, DE)
Ulrich Frank (Universität Duisburg-Essen, DE)
Peter Haase (Universität Karlsruhe (TH), DE)
Martin Hepp (Universität Innsbruck, AT)
Steven Kelly (Metacase, FI)
Elisa Kendall (Sandpiper Software, Inc., USA)
Lutz Kirchner (Universität Duisburg-Essen, DE)
Agnes Koschmider (Universität Karlsruhe (TH), DE)
Thomas Kühne (Technische Universität Darmstadt, DE)
Jan Mendling (Wirtschaftsuniversität Wien, AT)
Boris Motik (University of Manchester, UK)
Andreas Nahr (Universität Bamberg, DE)
Alexander Paar (Universität Karlsruhe (TH), DE)
Ulrich Reimer (University of Konstanz, University of Applied Sciences St. Gallen, CH)
Pete Rivett (Adaptive, USA)
Rudi Studer (University of Konstanz, University of Applied Sciences St. Gallen, CH)
Juha-Pekka Tolvanen (MetaCase + University Jyväskylä, FI)
Evan Wallace (NIST, USA)
Jens Weller (Universität Dresden, DE)

Additional Reviewers

Hans-Joerg Happel (FZI, DE)
Holger Lewen (Universität Karlsruhe (TH), DE)
Boriana Rukanova (Vrije Universiteit Amsterdam, NL)
Yimin Wang (Universität Karlsruhe (TH), DE)

Organisation Committee

York Sure (Chair)
  Institut AIFB, Universität Karlsruhe (TH)
Saartje Brockmans (Contact)
  Institut AIFB, Universität Karlsruhe (TH)
Jürgen Jung
  ICB, Universität Duisburg-Essen
Sponsors

Graduate School IME
http://www.ime.uni-karlsruhe.de/

Sekt Project (funded by EU 6th FP)
http://www.sekt-project.com/

Knowledge Web Project (funded by EU 6th FP)
http://knowledgeweb.semanticweb.org/

MetaCase
http://www.metacase.com
Contents

Henderson-Sellers B., Gonzalez-Perez C.
Keynote: On the Ease of Extending a Powertype-Based Methodology Metamodel ...... 11

Rosenkranz C., Holten R.
An Ontology for the Conceptual Modeling of Visualization and Presentation in Management Information Systems ................................................................. 27

Atkinson C., Gutheil M., Kiko K.
On the Relationship of Ontologies and Models ......................................................... 47

Delfmann P., Janiesch C., Knackstedt R., Rieke T., Seidel S.
Towards Tool Support for Configurative Reference Modeling - Experiences from a Meta Modeling Teaching Case ......................................................... 61

Becker J., Seidel S., Pfeiffer D., Janiesch C.
Evolutionary Method Engineering – A Case Study in Meta Modeling ......................... 85

Vrandečić D., Völker J., Haase P., Tran T., Cimiano P.
A Metamodel for Annotations of Ontology Elements in OWL DL.............................. 109

Weller J., Esswein W.
Consequences of Meta-Model Modifications within Model Configuration Management ................................................................. 125

Bock C.
Meta-Modeling and Meta-CASE Tools – A Silver Bullet for Model-Driven HMI Development? ........................................................................................................... 141

Gulden J.
Meta-modeling using Space ......................................................................................... 157