

Preface

ER 2003, the 22nd International Conference on Conceptual Modeling in Chicago, Illinois, hosted four workshops on emerging and maturing aspects of conceptual modeling. While the entity-relationship approach is used to address data (base) modeling, the increasingly connected information infrastructure demands answers that can handle complexity and can develop models about systems that are maintainable. We received seven excellent proposals for workshops to be held at ER 2003, out of which we selected the following four based on peer reviews:

- Conceptual Modeling Approaches for E-Business (eCOMO 2003) brought together researchers and practitioners interested in conceptual modeling techniques for e-business.
- The International Workshop on Conceptual Modeling Quality (IWCMQ 2003) concentrated on approaches to quality assurance in the modeling process.
- The International Bi-Conference Workshop on Agent-Oriented Information Systems (AOIS 2003) was devoted to investigating the agent paradigm for information systems development.
- Finally, the International Workshop on XML Schema and Data Management (XSDM 2003) addressed the impact of XML on topics like data integration, change management, and the Semantic Web.

All four workshops highlighted relatively new viewpoints on conceptual modeling. Conceptual modeling as such has been greatly influenced and shaped by the entity-relationship model of Peter Chen. However, new developments like object-orientation and the World-Wide Web require adaptations and new techniques. No longer can developers assume that they can completely understand or model the information system. The new developments create challenges in various directions; some of these were discussed in detail in the four ER 2003 workshops:

E-Business and E-Commerce. The rise of the Internet has created new opportunities for defining and enacting business relations between partners. The question is how information systems can help in finding business partners, creating new services, and enacting those new services. Any lack of information about some business partners or their products and services needs to be compensated for using some kind of trust-building institution or mechanism. Moreover, services for e-business are not necessarily linked tightly together, as used to be the case for information systems developed for single enterprises. Can a service be modeled independently from the provider of the service who is selected at run time? Last but not least, one has to take into account different business (process) models, business contracts, and their monitoring. Hence, the field of e-business stresses the need for comprehensive modeling and analysis techniques.

Model Quality. Conceptual models are products of modeling processes undertaken by a group of human experts. Industrial quality management has shifted

from quality tests at the end of the production process to quality assurance over all product development steps, including the early stages of requirements analysis. The same idea is being applied to improving or at least assessing the quality of conceptual models and the related modeling processes that create them. The more that such models are abstracted from the final implementation, the more difficult it appears to be to assess and control their quality. What constitutes an error in a model? Can we distinguish useful parts of a conceptual model from not so useful parts? Certainly, a team of modelers who are aware of the quality of their products has better opportunities to improve than a team of modelers who are not assessing quality aspects at all. Still, the questions are: what aspects to measure, with which methods, and how frequently?

Agent Orientation. Object-orientation is a programming and modeling paradigm that aims at encapsulation (hiding internal details) and re-use (of code and models). While this paradigm is still successful and valid, the lack of information about some components of an information system makes it less applicable to loosely coupled system, like Web services or complex factories that are under constant evolution. Agent orientation provides a promising approach to deal with the increased complexity by including a flavor of autonomy into the components of an agent-oriented system: the co-operating agents have goals and they govern over multiple possible strategies to achieve their goals. The challenge from a conceptual modeling perspective is to represent agent systems in a way that makes them subject to analysis. Suitable languages from agent communication, goal representation, etc., are still under development.

XML Data and Schema. The last, but not least, topic covered by the ER 2003 workshops is XML. XML was, after the revolutionary rise of the Internet, in particular the World-Wide Web, an attempt to bring some order into the Web by tagging data elements with labels that indicate their interpretation (or schema). In a way, it is the global representation of interoperable data and perhaps processes. But does XML solve the problems of data/schema integration or does it just shift the problem to a new (yet uniform) syntax? XML databases are already on the market, including XML-based query languages. So, what parts of the traditional data modeling theory can be translated for the XML case?

The ER 2003 workshops addressed these issues and created a forum for fruitful discussions. The fact that three of the four workshops have already a long history shows that such discussions are long-term, and convincing answers will only appear after some time.

We thank our colleagues in the ER 2003 organization committee for their support. In particular, we thank the organizing chairs of the four workshops who came up with the ideas and imagination that made the workshop program at ER 2003 possible. Last but not least, our special thanks go to the paper authors and the reviewers who created the content of this volume and ensured its high quality.

ER 2003 Workshop Organization

General

ER 2003 Workshops Chairs	Manfred A. Jeusfeld Tilburg University, The Netherlands Óscar Pastor Politechnical University of Valencia, Spain
--------------------------	---

eCOMO 2003 Organization

Heinrich C. Mayr	University of Klagenfurt, Austria
Willem-Jan van den Heuvel	Tilburg University, The Netherlands
Christian Kop	University of Klagenfurt, Austria

IWCMQ 2003 Organization

Jim Nelson	Ohio State University, USA
Geert Poels	Ghent University, Belgium
Marcela Genero	Universidad de Castilla, Spain
Mario Piattini	Universidad de Castilla, Spain

AOIS 2003 Organization

Paolo Giorgini	University of Trento, Italy
Brian Henderson-Sellers	University of Technology, Sydney, Australia

XSDM 2003 Organization

Sanjay Madria	University of Missouri-Rolla, USA
---------------	-----------------------------------

eCOMO 2003 Program Committee

Fahim Akhter	Zayed University, United Arab Emirates
Boldur Barbat	Lucian Blaga University, Sibiu, Romania
Boualem Benatallah	University of New South Wales, Sydney, Australia
Anthony Bloesch	Microsoft Corporation, USA
Antonio di Leva	University of Torino, Italy
Vadim A. Ermolayev	Zaporozhye State University, Ukraine
Marcela Genero	University of Castilla-La Mancha, Ciudad Real, Spain
Martin Glinz	University of Zurich, Switzerland
József Györkös	University of Maribor, Slovenia
Bill Karakostas	City University, London, UK
Roland Kaschek	Massey University, New Zealand
Stephen Liddle	Brigham Young University, USA
Zakaria Maamar	Zayed University, United Arab Emirates
Norbert Mikula	Intel Labs, Hillsboro, USA
Óscar Pastor	University of Valencia, Spain
Barbara Pernici	Politecnico di Milano, Italy
Matti Rossi	Helsinki School of Economics, Finland
Michael Schrefl	University of Linz, Austria
Daniel Schwabe	PUC-Rio, Brazil
Il-Yeol Song	Drexel University, Philadelphia, USA
Bernhard Thalheim	BTU, Cottbus, Germany
Jos van Hillegersberg	Erasmus University, Rotterdam, The Netherlands
Ron Weber	University of Queensland, Australia
Carson Woo	UBC, Vancouver, Canada
Jian Yang	Tilburg University, The Netherlands

IWCMQ 2003 Program Committee

Deb Armstrong	University of Arkansas, USA
Sjaak Brinkkemper	Baan, The Netherlands
Giovanni Cantone	University of Rome, Italy
Guido Dedene	Katholieke Universiteit Leuven, Belgium
Brian Henderson-Sellers	University of Technology, Sydney, Australia
Paul Johannesson	Stockholm University, Sweden
Barbara Kitchenham	Keele University, UK
John Krogstie	Sintef, Norway
Heinrich Mayr	University of Klagenfurt, Austria
Daniel Moody	Norwegian University of Science and Technology, Norway
Jim Nelson	Ohio State University, USA
Jeff Parsons	Memorial University of Newfoundland, Canada
Óscar Pastor	University of Valencia, Spain
Gustavo Rossi	National University of La Plata, Argentina
Houari Sahraoui	Université de Montreal, Canada
Reinhard Schuette	University of Essen, Germany
Keng Siau	University of Nebraska-Lincoln, USA
Guttorm Sindre	Norwegian University of Science and Technology, Trondheim, Norway
Monique Snoeck	Katholieke Universiteit Leuven, Belgium
Bernhard Thalheim	Brandenburg University of Technology at Cottbus, Germany

AOIS 2003 Program Committee

B. Blake	Georgetown University, Washington, DC, USA
P. Bresciani	ITC-IRST, Italy
H.-D. Burkhard	Humboldt Univ., Germany
L. Cernuzzi	Universidad Católica Nuestra Señora de la Asunción, Paraguay
L. Cysneiros	York University, Toronto, Canada
F. Dignum	Univ. of Utrecht, The Netherlands
B. Espinasse	Domaine Universitaire de Saint-Jérôme, France
I.A. Ferguson	B2B Machines, USA
T. Finin	UMBC, USA
A. Gal	Technion, Israel Institute of Technology, Israel
U. Garimella	Andra Pradesh Govt., MSIT, India
A.K. Ghose	Univ. of Wollongong, Australia
G. Karakoulas	CIBC and Univ. Toronto, Canada
K. Karlapalem	Indian Inst. of Information Technology, India
L. Kendall	Monash University, Australia
D. Kinny	University of Melbourne
S. Kirn	Techn. Univ. Ilmenau, Germany
M. Kolp	Université catholique de Louvain, Belgium
N. Jennings	Southampton University, UK
G. Lakemeyer	RWTH Aachen, Germany
Y. Lespérance	York University, Canada
D.E. O'Leary	Univ. of Southern California, USA
F. Lin	Hong Kong Univ. of Science and Technology, Hong Kong
J.P. Mueller	Siemens, Germany
J. Odell	James Odell Associates, USA
O.F. Rana	Cardiff University, UK
M. Schroeder	City University London, UK
N. Szirbik	Technische Universiteit Eindhoven, The Netherlands
F. Zambonelli	University of Modena and Reggio Emilia, Italy
C. Woo	Univ. British Columbia, Canada
Y. Ye	IBM T.J. Watson Research Center, USA
B. Yu	North Carolina State University, USA

XSDM2003 Program Committee

Elisa Bertino	Università di Milano, Italy
Bharat Bhargava	Purdue University, USA
Sourav Bhowmick	Nanyang Technological University, Singapore
Tiziana Catarci	Università degli Studi di Roma “La Sapienza,” Italy
Qiming Chen	Commerce One, USA
Chakravarthy Sharma	University of Texas, Arlington, USA
Kajal Claypool	University of Massachusetts, Lowell, USA
Ee-Peng Lim	Nanyang Technological University, Singapore
David W. Embley	Brigham Young University, USA
Alberto H.F. Laender	UFMG, Brazil
Le Gruenwald	University of Oklahoma, USA
Mengchi Liu	Carleton University, Canada
Qing Li	City University of Hong Kong, China
Mukesh Mohania	IBM Research Lab, India
Wee-Keong Ng	Nanyang Technological University, Singapore
Stefano Paraboschi	University of Bergamo, Italy
Giuseppe Psaila	University of Bergamo, Italy
Elke A. Rundensteiner	Worcester Polytechnic Institute, USA
Kian-Lee Tan	National University of Singapore, Singapore
Katsumi Tanaka	Kyoto University, Japan
Christelle Vangenot	EPFL, Switzerland
Osmar R. Zaiane	University of Alberta, Canada
Xiaofang Zhou	University of Queensland, Australia

External Referees

Gajanan Chinchwadkar	Muhammed Al-Muhammed
Farshad Fotouhi	
Lars Olsen	

Conceptual Modeling for Novel Application Domains
ER 2003 Workshops ECOMO, IWCMQ, AOIS, and XSDM,
Chicago, IL, USA, October 13, 2003, Proceedings
Jeusfeld, M.A.; Pastor, Ó. (Eds.)
2003, XVI, 414 p., Softcover
ISBN: 978-3-540-20257-8