

Preface

This volume contains the proceedings of EKAW 2000 (12th International Conference on Knowledge Engineering and Knowledge Management), held in Juan-les-Pins, on 2–6 October. Previously, EKAW was the European Knowledge Acquisition Workshop. In 1997, it had evolved towards the European Workshop on Knowledge Acquisition, Modeling and Management. Since 2000, EKAW has become an open conference, focusing on knowledge engineering and knowledge management. It aims at gathering researchers working in any area concerning methods, techniques and tools for the construction and the exploitation of knowledge-intensive systems and for knowledge management. EKAW 2000 attracted numerous submissions of papers, from all over the world.

Research in knowledge engineering tries to offer some answers to the following questions:

- How to build knowledge-intensive systems, such as expert systems, knowledge-based systems, or knowledge management systems? In the past years, strong advances in knowledge engineering consisted of methodologies and tools for supporting knowledge acquisition from human experts and for supporting knowledge-level modeling of knowledge-based systems. In the last years, there was a strong emphasis on ontologies and problem-solving methods, with the aim of enhancing knowledge reusability. Knowledge engineering can also benefit from machine learning techniques that can be helpful for automatic building of a knowledge base (for example, automatic knowledge acquisition from textual sources of information).
- How to evaluate knowledge-intensive systems, with both qualitative and quantitative measures, according to various criteria (user-centered criteria, quantitative criteria, etc.)?
- How to make knowledge-intensive systems evolve? Cooperation with the stakeholders involved and machine learning are examples of approaches helpful for evolution and refinement of a knowledge base.

We have noticed the following current trends in knowledge engineering:

- There is a growing importance for knowledge management as a privileged application of knowledge engineering methodologies and techniques. Knowledge management aims at capturing and representing individual or collective knowledge in organizations or communities, in order to enhance knowledge access, sharing and reuse. Therefore knowledge management is a privileged potential application of knowledge engineering. But other communities (such as Computer Supported Cooperative Work (CSCW)) have been involved in knowledge management for years – even before the knowledge engineering community. The need for a multidisciplinary approach and other techniques stemming from these other communities is recognized more and more. Such

communities emphasize the cooperative and organizational approaches for knowledge management.

- The exploitation of texts and documents either as sources from which a knowledge base can be built, or as way of materializing organizational memory led to a growing significance of knowledge acquisition from texts or text mining. This is possible thanks to the recent advances in natural language processing techniques, and thanks to cooperation between knowledge engineering and linguistics communities.
- There is a growing influence of the Web, both as a fabulous source of knowledge and as a fabulous means of knowledge diffusion. It enables a convergence with the research of other communities (e.g. database community, information retrieval community, and text mining), which try to contribute to the semantic Web. The Web also raises new problems that are challenging to the knowledge engineering community.
- Ontology engineering continues to play an essential role in research on knowledge engineering, as confirmed by the papers published in these proceedings. They aim at answering the following questions: What methodology should be used for building an ontology? In particular, how can it exploit knowledge acquisition from texts with the support of natural language processing tools? How can ontologies be specified and exchanged (in particular, through the Web)? Since standards are important, how can we compare the languages proposed by the knowledge engineering community for modeling and formalizing knowledge with respect to the existing recommendations of W3C for the semantic Web, such as resource description framework (RDF) and RDF Schema? How can we reuse existing ontologies? What influence does reuse have on ontology life cycle? How can we integrate several ontologies, possibly cooperatively?
- Cross-fertilization between knowledge engineering and other disciplines such as software engineering, linguistics, CSCW, and machine learning, is not new but continues to be promising.

These are the main trends of research in knowledge engineering, as they appear in the papers accepted at EKAW 2000. These papers are gathered into the following topics:

- Knowledge modeling languages and tools,
- Ontologies,
- Knowledge acquisition from texts,
- Machine learning,
- Knowledge management and e-commerce,
- Validation, evaluation, certification,
- Problem-solving methods,
- Knowledge representation and
- Methodologies.

The main lesson about these current trends in knowledge engineering is the confirmation of the need to remain open to other communities, to new technologies or to new kinds of applications.

Acknowledgements

We deeply thank the members of the program committee and the additional reviewers that gave their time to make thorough and constructive reviews of the papers. We also thank Monique Simonetti very much for her remarkable organization. We are grateful to the Conseil Régional Provence Alpes Côte d’Azur for its financial support, to INRIA for its significant organizational support and to the other sponsors of EKAW 2000 (AAAI, AFIA, GRACQ, IIA, MLNET and Club CRIN Ingénierie du Traitement de l’Information).

August 2000

Rose Dieng
Olivier Corby

Conference Chairs

Rose Dieng	INRIA Sophia Antipolis
Olivier Corby	INRIA Sophia Antipolis

Program Committee

Stuart Aitken	University of Glasgow (UK)
Hans Akkermans	Free University Amsterdam (The Netherlands)
Nathalie Aussenac-Gilles	IRIT-CNRS Toulouse (France)
Richard Benjamins	University of Amsterdam (The Netherlands)
Brigitte Biébow	Université Paris-Nord (France)
Jeff Bradshaw	Boeing (USA)
Frances Brazier	Free University of Amsterdam (The Netherlands)
Joost Breuker	University of Amsterdam (The Netherlands)
Paul Compton	University of New South Wales (Australia)
John Domingue	Open University (UK)
Dieter Fensel	Free University of Amsterdam (The Netherlands)
Jean-Gabriel Ganascia	LIP6-University Paris VI (France)
Yolanda Gil	ISI, University of Southern California (USA)
Asunción Gómez Pérez	Universidad Politécnica de Madrid (Spain)
Nicola Guarino	National Research Council (Italy)
Udo Hahn	University of Freiburg (Germany)
Knut Hinkelmann	Insiders (Germany)
Rob Kremer	University of Calgary (Canada)
Franck Maurer	University of Calgary (Canada)
Riichiro Mizoguchi	Osaka University (Japan)
Martin Molina	Technical University of Madrid (Spain)
Hiroshi Motoda	Osaka University (Japan)
Enrico Motta	Open University (UK)
Mark Musen	Stanford University (USA)
Kieron O'Hara	University of Nottingham (UK)
Enric Plaza I Cervera	Spanish Scientific Research Council, CSIC (Spain)
Ulrich Reimer	Swiss Life (Switzerland)
Chantal Reynaud	University of Nanterre & University of Paris-Sud (France)
François Rousselot	LIIA-ENSAIS, University of Strasbourg (France)
Marie-Christine Rousset	University of Paris-Sud (France)
Franz Schmalhofer	DFKI, Kaiserslautern (Germany)
Guus Schreiber	University of Amsterdam (The Netherlands)
Nigel Shadbolt	University of Southampton (UK)
Derek Sleeman	University of Aberdeen (UK)
Rudi Studer	University of Karlsruhe (Germany)
Jan Treur	Free University Amsterdam (The Netherlands)
Mike Uschold	Boeing (USA)
Andre Valente	FasTV (USA)

Frank Van Harmelen	Free University of Amsterdam (The Netherlands)
Gertjan Van Heijst	Kenniscentrum CIBIT (The Netherlands)
Thomas Wetter	University of Heidelberg (Germany)

Steering Committee

Nathalie Aussenac-Gilles	IRIT-CNRS Toulouse (France)
Richard Benjamins	University of Amsterdam (The Netherlands)
Joost Breuker	University of Amsterdam (The Netherlands)
B. Chandrasekaran	Ohio State University (USA)
Dieter Fensel	Free University of Amsterdam (The Netherlands)
Brian Gaines	University of Calgary (Canada)
Riichiro Mizoguchi	Osaka University (Japan)
Enrico Motta	Open University (UK)
Mark Musen	Stanford University (USA)
Nigel Shadbolt	University of Southampton (UK)
Rudi Studer	University of Karlsruhe (Germany)
Frank Van Harmelen	Free University Amsterdam (The Netherlands)

Additional Referees

Jean-Paul Barthès	Zhisheng Huang	Carla Simone
Ghassan Beydoun	Catholijn Jonker	Gerd Stumme
Jim Blythe	Gilles Kassel	York Sure
Didier Bourigault	Jihie Kim	Jennifer Tennison
Monica Crubézy	Nada Matta	Leon Van der Torre
Mehdi Dastani	Tim Menzies	Yannick Toussaint
John Debenham	Amedeo Napoli	Niek J.E. Wijngaards
Jérôme Euzenat	Claire Nedellec	Manuel Zacklad
Yolanda Gil	Borys Omelayenko	
Adil Hameed	Frank Puppe	
Ian Horrocks	Hans-Peter Schnurr	

Organizing Committee

Olivier Corby	INRIA, Sophia Antipolis
Rose Dieng	INRIA, Sophia Antipolis
Monique Simonetti	INRIA, Sophia Antipolis

Sponsoring Institutions

INRIA, Conseil Régional Provence Alpes Côte d'Azur, AAAI, AFIA, Club CRIN
Ingénierie du Traitement de l'Information, GRACQ, IIIA, MLNET

Knowledge Engineering and Knowledge Management.
Methods, Models, and Tools

12th International Conference, EKAW 2000,

Juan-les-Pins, France, October 2-6, 2000 Proceedings

Dieng, R.; Corby, O. (Eds.)

2000, XIV, 462 p., Softcover

ISBN: 978-3-540-41119-2