

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.

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