

Call for Book Chapters

Ontology-based Applications for Enterprise Systems and Knowledge Management

Editors

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Introduction

Ontologies have been developed and investigated for some time in artificial intelligence to facilitate knowledge sharing and reuse. An ontology provides a common vocabulary of an area and defines, with different levels of formality, the meaning of the terms and the relationships between them. Domain knowledge can be structured, defined and organised using ontologies. Throughout the past decade, the notion of ontologies has influenced research in many application areas such as databases, intelligent information integration, information retrieval, electronic commerce, systems integration, knowledge representation, natural language processing, knowledge management, enterprise systems, systems analysis and design, and the web. This broadened interest in ontologies is based on the particular ability of an ontology to provide machine-processable semantics of information sources that can be communicated among agents as well as between software artifacts and humans.

Knowledge is a crucial asset for many organisations in order to maintain competitive advantage. Most IT/IS systems are developed to support organisational business and to manage knowledge-centred and knowledge-intensive tasks. With a special emphasis on Knowledge Management Systems (KMS) and Enterprise Systems (ES), this book will address how ontologies can assist us to solve problems that arise in these areas. To understand clearly the promising benefits of ontology-based applications, it will be useful to bring to attention some concrete and practical examples from those areas, not only to those who are interested in KMS and ES, but also to leverage the use of ontologies in other application areas.

To explicitly demonstrate the utility of ontology, this book will present a range of practical applications of ontological engineering in the two main chosen interest areas: Knowledge Management Systems and Enterprise Systems.

Objectives of the Book

This book will provide an opportunity for readers to clearly understand the notion of ontology engineering and the practical aspects of this approach in the domains of two interest areas: Knowledge Management Systems and Enterprise Systems. It aims to gather the recent advances and research findings of various topics in ontology use for these application areas.

In this book, we define KMS as any IT/IS system developed to support the KM process (e.g., knowledge creation, knowledge integration, knowledge storage and knowledge transfer). Managing knowledge itself is a knowledge-intensive activity. This book will show how ontologies can provide fruitful benefits in supporting the construction of KMS and also in capturing and managing knowledge for KMS.

An ES is a complex integrated software system, in which organisations make significant investment to gain expected benefits. The ability to manage ES-related knowledge is considered one of the main critical success factors for determining the success of an ES. Ontologies are a prominent tool for structuring, sharing and facilitating the knowledge of a certain area. With respect to the ES lifecycle, this book will aim to provide guidance for the use of ontologies for managing ES-related knowledge.

Chapters and studies which couple the ontology-based techniques and theories with specific problems from KMS and ES are cordially invited. Survey articles that emphasise the research and application of ontology engineering in these areas are greatly welcome.

Recommended Topics

Recommended topics include (but are not limited to):

- Ontology Engineering
 - Ontology Languages: OWL, RDF, UML, etc.
 - Ontology Tools
 - Ontology Methodologies
 - Ontology Analysis, Design and Implementation
 - Ontology Learning
 - Ontology Merging
 - Ontology Alignment
 - Ontology Evolution
 - Ontology Versioning
 - Ontology Mapping
 - Ontology Types: Foundational Ontologies, Domain Ontologies, Task Ontologies, Application Ontologies
 - Ontology Evaluation and Selection
 - Ontological Foundation for Conceptual Modelling
 - Ontology Management
- Ontology for Knowledge Management System
 - Ontology-Based Expertise Management Systems
 - Ontology for Knowledge-Based Knowledge Management
 - Ontology for Knowledge Integration
 - Ontology-Based Organisational Memory System
 - Ontology-Driven Skill Management System

- Ontology for Group Memory System
- Ontology for Lesson Learned System
- Managing Explicit and Implicit Knowledge: The Role of Ontologies
- Ontology for Knowledge Creation and Acquisition
- Ontology for Knowledge Sharing and Transfer
- Ontology-Based Personal Knowledge Management System
- Ontology for Knowledge-Based System
- Ontology for Knowledge Storage and Representation
- Ontology for Question-Answering System
- Ontology for Community of Practice
- Ontology for Enterprise System
 - Ontology for Enterprise System Maintenance
 - Ontology for Enterprise System Measurement
 - Ontology for Enterprise System Evolution
 - Ontology for Enterprise System Implementation
 - Ontology for Enterprise System Configuration Management
 - Ontology for Enterprise System Integration
 - Ontology for Enterprise System Usage
 - Ontology for Enterprise System Testing
 - Ontology for Enterprise System Tools and Methods
 - Ontology for Enterprise System Methodologies
 - Ontology for Enterprise System Management
 - Ontology for Enterprise System Success
 - Ontology for Enterprise System Security and Control

Target Audience

The primary target audience for the book are researchers, scholars, postgraduate students and practitioners who are studying and working on ontology-based applications, primarily in the areas of Knowledge Management Systems and Enterprise Systems. The book will provide reviews of the cutting-edge ontology-driven technologies and insights from these areas. It will allow readers to explore highly efficient ontology-driven technologies for KMS and ES in particular, and for other related research areas.

In addition, the book will be a valuable companion and reference for postgraduate and senior undergraduate students undertaking courses in information and knowledge management, database, enterprise system, software engineering and information retrieval. The book will be organised in self-contained chapters to provide optimal reading flexibility. The reader is assumed to have previous knowledge of at least one of the two application areas.

Organisation

With a special focus on an ontology-based approach for the areas of KMS and ES, the editors will organise the book into two distinct parts. The first part will provide an overview of the common aspects of ontological engineering such as ontology definitions, methods, methodologies, tools and languages and some other issues in ontology learning, ontology alignment and merging, ontology evaluation and ontology implementation.

- **March 15, 2012:** Final Deadline

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