

# Call for Book Chapters

## *Ontology-based Applications for Enterprise Systems and Knowledge Management*

### ***Editors***

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### ***Call for Chapters***

Full chapter due: **October 31, 2011**

### ***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.

Further, to serve the purposes of this book, the state-of-the-art in KMS and ES will be briefly defined and explained in this part.

The second part of the book will describe the recent use of ontologies for KMS and provide practical examples of ontology from the area of ES. By presenting examples of the concrete and advanced use of ontologies in KMS and ES, this book will be of benefit to researchers in both academia and industry who are interested in applying ontologies in these areas.

### ***Overall Objective***

The overall objective of this book is primarily to meet the need for high-quality, research-oriented publications on the continuing developments and trends in ontology-based applications affecting application areas, particularly Knowledge Management Systems and Enterprise Systems. With this book, the targeted audience will have an updated overview of the very recent advances in ontological engineering. The book also aims to provide an overview of the theoretical and practical findings that the application of ontological approaches has brought to the study of KMS and ES.

### ***Scholarly Value, Potential Contribution/Impact and Purpose***

Those who work in emerging areas such as KMS and ES continuously seek opportunities to employ new methods and tools. They are often faced with the need to solve problems that arise as a result of extremely knowledge-intensive tasks. Ontologies are identified as a prominent tool for this purpose. By providing the recent and advanced use of ontologies in KMS and ES, this book will benefit KMS and ES researchers in both academia and industry. In the book, they will share and discover the prominent advantages offered by ontology-driven applications for KMS and ES.

In light of the promising solutions offered by ontology-driven applications, it is expected that showcasing concrete and practical examples from the areas of KMS and ES will be very useful, not only to those who are academically and professionally interested in these fields, but also to leverage the use of ontologies in other application domains.

### ***Submission Procedure***

Full chapters are expected to be submitted by **October 31, 2011**. All submitted chapters will be reviewed on a double-blind review basis. Contributors may also be requested to serve as reviewers for this project.

### ***Publisher***

This book is scheduled to be published by IGI Global (formerly Idea Group Inc.), publisher of the “Information Science Reference” (formerly Idea Group Reference), “Medical Information Science Reference,” “Business Science Reference,” and “Engineering Science Reference” imprints. For additional information regarding the publisher, please visit [www.igi-global.com](http://www.igi-global.com). This publication is scheduled to be released in **2012**.

### ***Important Dates***

- **October 31, 2011:** Full Chapter Submission
- **December 15, 2011:** Review Results Returned
- **February 10, 2012:** Final Chapter Submission

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

### ***Editorial Advisory Board Members***

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### ***Inquiries and Submissions***

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