

# Call For Book Chapter Proposal

## Object-Oriented Data Modeling and Conceptual Design: Instance-Level Approaches

Proposal Submission Deadline: **March 29, 2009 (extended)**  
Full Chapter Submission Deadline: **May 15, 2009**

### Editors:

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## INTRODUCTION

Instance-level modeling and testing is a new approach in the area of object-oriented data modeling and conceptual design. This approach is based on working with individual object instances containing real data in a similar way to how queries are submitted to databases. During the development of information systems, it is important to be able to validate, verify, simulate and refine the conceptual model before the final software implementation, by using real data values. This new approach is very significant as it provides a mechanism by which this can be achieved. Outcomes of this exciting and innovative methodology are not only related to application programming, but also to pure object database technology together with business engineering, where instance-level models can constitute a refinement of the business process design.

Experience in using instance-level approaches is essential for prototyping, information systems analysis verification, business and workflow process design, and database development as well as for special information systems like GIS, MIS and knowledge-based systems. This crucial development in the area of object-oriented data modeling and conceptual design builds upon and adapts a number of existing prominent methods, essential tools and techniques from the areas of modern computer programming, system analysis, modeling, simulation, verification, validation and testing.

This approach could also well be developed to form the education basis for an "objects-first" approach in software engineering courses, where students would model the system as a set of interconnected data objects and immediately be able to see the results of their work without the need to build any final software application for these objects.

The instance-level approach differs from "more classical" class diagram first approaches. Instance-level data modeling is based on certain theoretical backgrounds of computer science and the object-oriented paradigm together with the industrial standards of UML, object-oriented programming languages and databases.

### Objective of the Book

The aim of this book is to improve the process of requirement analysis in information systems development. Readers will find methods and techniques for model verification and validation before the whole system is built.

This area is important since domain experts have essential knowledge of the data structures and their behavior used in the systems developed but don't have sufficient programming knowledge to build systems themselves. Readers of this book will not need to be skilled programmers to benefit from it. The book will also introduce the data modeling capabilities of modern object-oriented programming languages and modeling tools.

## Target Audience

The target audience of this book will be composed of professionals and researchers working in the fields of information systems development and object-oriented data modeling. Moreover, the book will provide insights and support practitioners concerned with the development of programs using the object-oriented data modeling approach.

## Suggested Topics

We encourage potential authors to suggest topics that fall under the scope of this book as described above. Purposefully, we leave this list short to motivate innovative topics proposed by potential contributors. Recommended topics include, but are not limited to, the following:

- Object-oriented Data modeling
- Conceptual Modeling
- Instance-level approaches in data modeling
- Object-oriented paradigm
- UML application in data modeling
- UML potential and challenges of data modeling
- Data-driven simulation
- Business process modeling using object-oriented paradigm
- Business process simulation using object-oriented paradigm
- Requirement engineering
- Prototyping, object-oriented development environments
- Object-oriented languages, databases, etc.

## SUBMISSION PROCEDURE

Authors are invited to submit a 1-2 page (approx 500-800 words) chapter proposal on or before February 28, 2009. The proposal should contain: the chapter title, 3-5 keywords, and a detailed description of the proposed chapter. Since only a selected number of authors will be invited to submit their full chapter, it is important that your chapter proposal provide sufficient content for the reviewers to favorably judge your chapter. Authors of accepted proposals will be notified by March 5, 2009 about the stats of their proposals and sent chapter guidelines. Full chapters are expected to be submitted by May 15, 2009. All submitted chapters will be reviewed on a double-blind review basis. Contributors may also be requested to serve as reviewers for this project.

### Important Dates

Chapter Proposal Submission: **March 29, 2009 (extended)**  
Proposal Acceptance: \_\_\_\_\_ April 5, 2009  
Full chapter Submission: \_\_\_\_\_ May 15, 2009  
Review Results Returned: \_\_\_\_\_ June 30, 2009  
Revised Chapter Submission: \_\_\_\_\_ July 30, 2009 (if applicable)  
Final Acceptance Notifications: \_\_\_\_\_ August 15, 2009 (if applicable)  
Submission of Final Chapters: \_\_\_\_\_ August 30, 2009 (if applicable)

Inquiries and submissions can be forwarded electronically (Word document) to all three authors in one email:

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## **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," and "IGI Publishing" imprints. For additional information regarding the publisher, please visit [www.igi-global.com](http://www.igi-global.com). This publication is anticipated to be released in 2010.

## **SPONSOR**

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