

Call for Chapter Proposals

You are invited to propose papers for a book on: Transformation of Knowledge, Information and Data: Theory and applications.

Scope

Data today is in motion, going from one location to another. It is more and more moving between systems, persons, departments, and organizations. This is essential, as it indicates that data is actually used rather than just stored. In order to emphasize the actual use of data, we may also speak of information or knowledge. When data is in motion, there is not only a change of place or position. Other aspects are changing as well. Consider the following examples.

The data "format" may change when it is transferred between systems. This includes changes in data structure, data model, data schema, data types, et cetera. Also, the "interpretation" of data may vary when it is passed on from one person to another. Changes in interpretation are part of data semantics rather than data structure. The "level of detail" may change in the exchange of data between departments or organizations, e.g. going from coworkers to managers or from local authorities to the central government. In this context we often see changes in level of detail, by the application of abstraction, aggregation, generalization, and specialization. Moreover, the "systems development phase" of data models may vary. This is particularly the case when implementation-independent data models are mapped to implementation-oriented models (e.g. semantic data models are mapped to operational database specifications).

These examples illustrate just a few possibilities of changes in data. Numerous other applications exist and everybody uses them all the time. Most applications are of vital importance for the intelligent functioning of systems, persons, departments, and organizations.

In this book, the fundamental treatment of moving data, with changing format, interpretation, level of detail, development phase, et cetera, is based on the concept of "transformation". The terms conversion, mutation, modification, evolution, or revision, may be used in specific contexts, but the central concept is "transformation".

Topics

- Formal transformation theory
- Properties of transformations
- Structure transformation
- Specific transformation theory (e.g. ER, XML, UML)
- Transformations in brokers
- Data schema transformation
- Transformation as a base for optimization
- Rewrite rules
- Graph transformation
- Evolving information systems
- Genetic algorithms using data transformations
- Versioning
- Data conversion
- Conversion of data types
- Model equivalence via transformations
- Transformation in data warehouses
- Knowledge transformation in organizations
- Changes in organizational structures
- Applications of transformations
- Case studies
- Automated transformation tools

Other related topics may be proposed as well. The book will be published by IDEA GROUP PUBLISHING, Hershey, Pennsylvania, USA.

Important Dates

April 15, 2003: submission of proposals
April 30, 2003: notification of acceptance
July 31, 2003: first version of chapters
October 31, 2003: revised chapters
January 15, 2004: final version of chapters

Submission Guidelines

You are invited to submit a proposal of 2-4 pages describing the focus of your paper. The proposal should also give the tentative organization of the paper (section titles with section summaries).

Papers should be original and should not be submitted for publication or published elsewhere.

Electronic submissions are required. Please e-mail your proposal or questions to P. van Bommel, Dept. of Computer Science, University of Nijmegen, The Netherlands, pvb@cs.kun.nl with subject IGP-PROPOSAL.
