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.

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