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### **Reference of the doctoral thesis**

**"XML Data in (Object-) Relational Databases" by RNDr. I. Mlýkova**

Berlin, 23.08.2007

XML is the most important format for data exchange for several years. Therefore, a huge amount of XML documents exists, but the effective management of these documents in databases makes considerable difficulties. The submitted thesis is devoted to exactly this actual and important problem.

The author begins with an exposé of the state of the art in this special field. Existing mapping strategies are explained in a concise and clear manner. Differences, advantages and disadvantages of all common mapping strategies are elaborated carefully (see e.g. part 3.4. summary). So, the further parts of thesis can be built up on a sound theoretical basis. A discussion of open problems follows logical conclusive to this introduction. The author does not restrict herself on theoretical positions, but she takes into account changes in real applications, too (see e.g. changes in queries). In addition to that, hypothetical special cases are omitted because of the own results of analysing real world data, basing on comprehensive statistical evaluations of existing XML documents in different fields of science and technology. By this means, the author succeeds in confining to the real important cases. This is essential for the implementation of the proposed methods and their applicability (see e.g. recursive elements)!

The proposed enhancing of adaptive methods for processing XML data in data bases can be referred undoubtedly as a new and important scientific result. The thesis gives a sound and helpful basis for further implementations of databases with improved abilities in managing XML documents.

The whole work shows a very systematic and well structured disposition, enabling the reader to follow the author's chain of thought despite the high scientific claim.

Appearance and stylistic expression are very good. The only (minor) point of criticism: A list of abbreviations would have been helpful during reading the paper.

My result: A very good scientific treatise, which proves the author's ability for creative scientific work. It is highly recommended for acceptance as doctoral thesis.

