

# Object Database Morphology

François Bancilhon

O<sub>2</sub> Technology  
7 Rue du Parc de Clagny, 78035 Versailles Cedex  
France

## Abstract

Object-oriented data bases (OODBS) have been on the market for about 5 years now. The products have been quickly maturing. Production applications are being deployed in various areas: CAD, software engineering, geographic information systems, financial systems, medical information systems, telecommunications (network administration) and multimedia.

The manifesto [Atkinson *et al.* 89] was written in 89 when the arguments about object databases were still very confusing and when the need for a number of simple and clear rules was obvious. It played a reasonable role: as pedagogical tool, it allowed to teach, present and explain most of the important concepts. As a marketing tool it has been used by most vendors to claim compliance and present their product.

I have personally used it as teaching tool and found it adequate up to a point. It is a good tool for people who have to understand the concepts. It is not a good tool for people who want to understand what a system look like and how it is structured. I have noticed that when I reach the point were I present the functional architecture of a system, the audience has a problem matching the actual 14 concepts with the architecture of the system.

Numerous questions arise, such as what happens to the DDL, what role is played by the query language, how do the system relate to C++, where should the methods be stored, etc. The goal of this presentation is to solve some of this confusion, it is thus purely pedagogical and contains no hard results. I try to classify the various elements of the data model and show in what sense classical data models have to be extended to fit the object oriented database paradigm. I present a generic object database architec-

ture and show where the Object Definition Language and the Object Query Language fit. I distinguish between the use of internal and external languages for writing methods and applications and show how the mapping with the data model can be done.

## References

- [Atkinson *et al.* 89] M. Atkinson, F. Bancilhon, D. DeWitt, K. Dittrich, D. Maier and S. Zdonick, "The Object-Oriented Database System Manifesto", *Proceedings DOOD 89, Kyoto*, December 1989.

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