Objects and Views*

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Abstract

Object-oriented databases have been introduced primarily to ease the development of database applications. However, the difficulties encountered when, for instance, trying to restructure data or integrate databases demonstrate that the models being used still lack flexibility. We claim that the natural way to overcome these shortcomings is to introduce a sophisticated view mechanism. This paper presents such a mechanism, one that allows a programmer to restructure the class hierarchy and modify the behavior and structure of objects. The mechanism allows a programmer to specify attribute values implicitly, rather than storing them. It also allows him to introduce new classes into the class hierarchy. These *virtual classes* are populated by selecting existing objects from other classes and by creating new objects. Fixing the identify of new objects during database updates introduces subtle issues into view design. Our presentation, mostly informal, leans on a number of illustrative examples meant to emphasize the simplicity of our mechanism.

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This paper is available at the following URL:
ftp://db.toronto.edu/pub/bonner/papers/views/long.ps.gz

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