

Generic Model Management - Why We Need It and How to Get There

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Abstract

The size, complexity, and diversity of today's databases demand more attention toward searching, interpreting and managing them. These activities arise in databases for classical data processing, packaged applications, E-commerce, data warehousing, groupware, Internet documents, and data mining. Performing these activities well require richer machine processing of descriptions of that data, that is, of models and other meta-data. Despite 30 years of research on database support for modeling, applications and tools that manipulate discrete models

remain complicated and hard to build. To improve this situation by an order of magnitude, a much higher level application programming interface is needed. We present a vision for such an interface - a generic framework in which models and mappings are first-class objects supported by high level algebraic operations. We describe tractable steps to validate the approach and to produce useful results soon as well as many hard problems that a full realization of the vision must ultimately solve.