

## Performance-Based Quality Evaluation of Database Conceptual Schemas

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**Abstract :** Performance-based quality evaluation of database conceptual schemas is an important aspect of database design process. It is evident that different conceptual schemas provide different logical schemas and performance of user applications strongly depends on logical and physical database structures. This work presents the entire process of performance-based quality evaluation of conceptual schemas. First, we show format. Then, the paper proposes a new specification of object algebra for representation of conceptual level database applications. Transformation of conceptual schemas and expression of object algebra into implementation schema and implementation in a particular database system allows for precise estimation of the processing costs of database applications and as a consequence for precise evaluation of performance-based quality of conceptual schemas. Then we describe an experiment as a proof of concept for the evaluation procedure presented in the paper.

**Keywords :** conceptual schema, implementation schema, logical schema, object algebra, performance evaluation, query processing

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