

Charter and Scope

Transactions on Database Systems (TODS)

The *ACM Transactions on Database Systems* (TODS) publishes original archival papers in the area of databases and closely related disciplines. The majority of the papers that have appeared in TODS address the logical and technical foundation of data management.

The international editorial board is composed of recognized experts in the various subareas of this field, all with a commitment to maintain TODS as the premier publication in this active field. Papers can be submitted directly to any of the editors. The editorial board maintains contact with ACM's Special Interest Group on Management and Organization of Data (SIGMOD), as well as with other societies, to encourage submittal of advanced and original papers. When appropriate, concise results may be submitted as technical notes; technical comments on earlier publications are welcome as well.

The existence of TODS has helped to define the field of database research. It encompasses the development, formalization, and validation of abstractions and models to describe database applications and the design and implementation methods for organizing and processing data on computer hardware.

TODS welcomes papers on a full range of subjects in the field of database research. They include, but are not limited to, data modeling, database language design, theoretical foundations of database languages, automatic query optimization and processing, access methods for storing and retrieving data, security and authorization, transaction management, concurrency control, backup and recovery, database performance tuning, and so forth.

TODS encourages papers that explore the above subjects in the context of large distributed networks of computers, parallel or multiprocessing computers, or new data devices (including data storage devices, data capture devices, and data presentation devices). TODS also encourages papers that describe emerging data-intensive applications that cannot be satisfied by the current database technology.

TODS welcomes papers that both lay theoretical foundations for database management and those that provide new insights into the design and implementation of large-scale database management systems, database application development tools, database access interface tools, and database connectivity tools for heterogeneous database systems. TODS also accepts papers that describe user and database administration experiences and issues in large-scale real-world database installations.

In terms of the *ACM Computing Reviews* (January 1995) classification, the primary area of TODS is all of area H (Information Systems), with a strong focus on subarea H2 (Database Management). Articles in subarea H4 (Information Systems Applications) would be appropriate only if there were a strong scientific basis in database technology.

Database systems may employ Specialized Languages (D.3.2) and unique Datatypes and Structures (D.3.3). Effective information retrieval and management require inferential power, and important advances are being made in this area. Topics Deduction and Theorem Proving (I.2.3), Knowledge Representation Formalisms and Methods (I.2.4), Learning (I.2.6), and Problem Solving, Control Methods, and Search (I.2.8) are all relevant when they are applied to large collections of data.

Since files provide a foundation for databases, the topic of Files (E.5) is covered as well, and many papers expand on operating system concerns, Storage Management (D.4.3), Reliability (D.4.5), Security and Protection (D.4.6), Organization and Design (D.4.7), and Performance (D.4.8). TODS publishes papers dealing with hardware systems for databases, but avoids those about specific devices, so that the topic Storage Hardware (B.3.2) is covered only in part.

TODS, however, does not publish surveys on purely descriptive material on database management systems or applications that employ database management systems. Evaluations of new concepts and their implementation, presented so that the results provide a foundation for further work, are of course encouraged, since feedback from practice is an essential aspect of the scientific paradigm.

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