

The VLDB Journal

The International Journal on Very Large Data Bases

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Very
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SCOPE AND PURPOSE

The Journal is a quarterly publication of the VLDB Endowment. As a database systems journal it is dedicated to the international publication of scholarly contributions to the advancement of information system architectures, the impact of emerging technologies on information systems, and the development of novel applications. It presents significant advances in the design, implementation, and evaluation of systems for databases and for other information collections. Its scope ranges from the development of special-purpose hardware, the design of innovative software approaches, integrated system architectures, the design analysis and performance evaluation of systems to new techniques for presenting and capturing information.

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Foreword

Following the reorganization of the Publication Board of this Journal in 1994, the members of the Board made an important decision to direct the Journal to become a more system-oriented journal. As a part of the effort to achieve this goal, the editors-in-chief have solicited papers from authors who have recently presented and published system-oriented papers in several leading database conferences. The authors were asked to extend their conference papers to include material which was not in the conference versions due to space limitations and/or new results which were achieved since the conference publications. The revised and extended papers were submitted and reviewed by a number of reviewers following the regular review process of the Journal.

As a result of the above effort, this issue includes the following four extended articles, which were originally presented at the ACM SIGMOD International Conference on Management of Data held in Minneapolis, Minnesota, May 1994.

1. Sleepers and Workaholics: Caching Strategies in Mobile Environments
Daniel Barbará and Tomasz Imielinski
2. AlphaSort: A Cache-Sensitive Parallel External Sort
Chris Nyberg, Tom Barclay, Zarka Cvetanovic, Jim Gray, Dave Lomet
3. QuickStore: A High Performance Mapped Object Store
Seth J. White and David J. DeWitt
4. Estimating Page Fetches for Index Scans with Finite LRU Buffers
Arun Swami and K. Bernhard Schiefer

These articles were solicited from the best of system-oriented papers recommended to me by the Program Chairman of the SIGMOD conference, Prof. Rick Snodgrass, based on the review results of the conference versions. I would like to thank Prof. Snodgrass for his kind assistance and cooperation. I would also like to thank the authors for their contributions.

This issue also contains the following two articles which have been submitted and reviewed as regular Journal articles:

1. On Historical Queries Along Multiple Lines of Time Evolution
Gad M. Landau, Jeanette P. Schmidt, and Vassilis J. Tsotras
2. On the Power of Languages for the Manipulation of Complex Objects
Serge. Abiteboul and Catriel Beeri

Stanley Y. W. Su
Editor-in-Chief

VLDB Journal to be published electronically

Starting January 1, 1996, The VLDB Journal will have a new publisher: Springer-Verlag. The primary reason for the change is the wish of the VLDB Endowment Board to have an electronic publishing outlet for the journal. Springer-Verlag is one of the leading publishers in the area of electronic publishing, and has an extensive network of marketing offices all over the world. The agreement with Springer-Verlag grants the VLDB Endowment control over selecting and appointing the editorial board, as well as control of the content and the future directions of the journal.

We would like to express our deep gratitude to the publisher of the journal since its inception, The Boxwood Press. Dr. Ralph Buchsbaum and his staff have been very dedicated, flexible to our needs, and provided excellent publishing quality and services. They guided the publication board through the complex process of setting up a new journal, and accommodated any needs we had. We attribute a great deal of the success of the journal to them.

Arie Shoshani, Chair of the Publication Board
Peter Apers, Jim Gray, Hans Schek, Stanley Su, Editors-in-Chief

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