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SIGMOD RECORD

SIGMOD RECORD is a quarterly publication of the Special Interest Group on Management of Data (SIGMOD) of the Association for Computing Machinery (ACM).

We solicit contributions of articles, news, reports, book reviews, and letters. Conference announcements and calls for papers are published if relevant to the interests of the group. All contributions are to be sent to the editor for consideration for publication. Materials are not normally returned. Technical papers submitted to the RECORD should be relatively short (5-15 single space pages) and sent to the editor either in camera ready format or via electronic mail. Papers which are sent in camera ready form should be single spaced on 8.5 by 11 inch paper with at least 1 inch margins.

Opinions expressed in signed articles and letters are those of the writer and do not necessarily express the position of the ACM or SIGMOD. Unless otherwise stated, reports and technical papers in the RECORD are unrefereed working papers, and the author(s) should be contacted for reprint authorization. Contact the editor for information on the copyright status of all uncredited material.

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Editor's Notes

We have compiled eight technical articles for this issue of the SIGMOD RECORD. I am sure that there is something of interest to each of you. Also included in this issue are candid pictures from the recent SIGMOD and VLDB conferences. I would like to thank Fred Springsteel for taking these pictures and giving them to the newsletter. If any of you have pictures from database conferences, workshops, or other events that you feel would be of interest to the readers please let the editor know. I also want to thank Felix Saltor for composing a list of upcoming database conferences and workshops which I urge you to review for possible participation.

As you are probably aware, this is my last issue as editor of the SIGMOD RECORD. I would like to thank each of you who has contributed material for the newsletter. The current success of this publication is due to your interest and participation. I would also like to thank David DeWitt for his help and support over the last two years. Finally, I am forever indebted to Arie Segev for agreeing to take over the editorship. He has many excellent ideas for improving the status and success of the RECORD.

Maggie Eich
November 15, 1988
Chair's Message

The past 6 months have been an active period for the database community. The SIGMOD conference which was held in June in Chicago attracted almost 500 participants. Dina Bitton and Peter Scheuermann deserve our thanks for organizing an excellent conference. As the one who is constantly battling to keep SIGMOD financially solvent, the proceeds from the conference were a welcome relief. The VLDB conference, which SIGMOD co-sponsored along with IEEE and the VLDB foundation was also quite successful. While I had hoped that SIGMOD would receive a full 25% of the surplus generated by the conference, some last minute insurance details resulted in having to split the 25% fraction with ACM (15% to SIGMOD, 10% to ACM). Even after this reduction, SIGMOD should realize about a $9,000 surplus from the conference. Next year, the SIGMOD conference will be held in Portland, Oregon while VLDB is being held in Amsterdam. More details on the conferences can be found elsewhere in this Record.

The term of the current SIGMOD officers (myself, Paula Hawthorn, and Fred Maryanski) ends July 1. Since we have served four years, we felt that the time had come to turn over the reigns of power to somebody else. With a little arm twisting on my part, the following individuals have volunteered to run for the various positions that need to be filled. The candidates are: Randy Katz (UC Berkeley) and Won Kim (MCC) for the position of chair, Laura Haas (IBM Almaden) and Peter Lyngbaek (HP Labs) for the position of vice-chair, and Mike Carey (U. Wisconsin) and Roger King (U. Colorado) for the position of treasurer. All SIGMOD members will receive a ballot plus a position statement from each candidate during May of next year. This is an excellent slate of candidates and I am sure that SIGMOD will prosper under their leadership.

This newsletter marks another transition for our organization. As I announced in my last message, this SIGMOD Record is the last one for which Maggie Eich will act as editor. As you are all well aware, Maggie has done a great job of revitalizing the newsletter. I would hope that each of you would take the time to thank Maggie personally next time you see her at a conference or workshop. Helping Maggie with this issue and taking over as editor beginning with the March issue will be Arie Segev from Lawrence Berkeley Laboratory. Arie has a number of changes in mind for the newsletter which I am sure he will let you know about in the coming issues.

David DeWitt
November 8, 1988
New Editor’s Notes

In the last three years SIGMOD RECORD has become a popular publication in the database area, containing research articles, news, book reviews and more. In the last Chicago SIGMOD conference, a leading database researcher stated that he enjoys reading the RECORD more than some of the established database journals. I find this comment as evidence of the improved quality and relevance of the RECORD. There is no doubt that Maggie Eich deserves the credit for the current shape and quality of the RECORD, and we all thank her.

I intend to follow the main editorial policies and format as were stated by Maggie in the March 1986 issue of the RECORD; some important changes, however, are described later on. The objective and scope of the RECORD are summarized by the inside cover statement “We solicit contributions of articles, news, reports, book reviews, and letters”. Any additional items of interest to the RECORD readership are welcome. I also encourage student and industry submissions. Technical papers should summarize on-going research, new results, prototypes, and experience with advanced products or techniques. All technical papers will be reviewed to maintain the quality of this publication.

The major changes to the RECORD are the introduction of associate editors and new rules regarding format and page limit. The volume of submissions to the RECORD has increased substantially, and is expected to further increase in the future. This has led to the need of an expanded editorial structure. I would like to take this opportunity and thank the following individuals for their willingness to serve as associate editors:

Marguerite Murphy, San Francisco State Univ. and Lawrence Berkeley Laboratory
Timos Sellis, Univ. of Maryland
Amit Sheth, Unisys Corp
Fred Springsteel, Univ. of Missouri

Given the substantial volume of submission and the page limit per issue, the following new rules have been adopted. Technical papers submitted to the RECORD should be sent to the editor and must not exceed 6 pages; they have to follow a format similar to that of the SIGMOD conference proceedings: single-space, double-column, camera-ready on 8.5 by 11 inch paper with at least 1 inch margins, and no page numbers (a page number should be written with pencil on the back of each page). These rules will apply to papers submitted after the distribution of this issue, and manuscripts not following the prescribed format will be returned to their authors. Exceptions to the page limit will be made for special issues, reports, and some surveys. You should contact the editor regarding an exception prior to submitting the article.
Finally, the objective of this publication is to serve the membership of SIGMOD, and I welcome all comments and suggestions.

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Computer Science Research Department, Lawrence Berkeley Lab.  
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Berkeley, CA 94720  
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HALLWAY CONFERENCE caught D. Maier (L. - Oregon Graduate Center) Program Committee co-chair for SIGMOD '89 addressing (from L-to-R) R. Agrawal (Bell Labs), D. DeWitt (SIGMOD Chair - Wisconsin), and H. Boral (Program co-chair for SIGMOD '88 - MCC).

AFTER-DINNER ENJOYMENTS: L-to-R, F. Springsteel (Missouri), S. Gadia (Iowa State) and S. Jajodia (George Mason) obviously benefitted from speaker Dennis Tischritzis "experiences" which was followed by a classical jazz band.
AFTER: "Saint Silicon" sells the last of 50 books. He was the dinner speaker for 600 people at VLDB.

BEFORE: The cocktail hour magician entertains Bob Zara and Dave Maier (one of the "Laguna Beach Boys") before the VLDB Banquet on the Queen Mary.
UPCOMING DATABASE CONFERENCES/WORKSHOPS

Compiled by Felix Salter
Facultat d'Informatica de Barcelona
Universitat Politecnica de Catalunya

1989

January, 3-6 Kailua-Kona, Hawaii
Database Formalisms, Software and Systems (in HICSS-22)
Univ. Hawaii (IE3-CS, ACM, PRIISM)

February, 7-9 Los Angeles, Ca
5th International Conference on Data Engineering (DE-5)
IEEE-CS TC on Data Engineering

March, 29-31 (Oct 10) Philadelphia, Pa
8th Symposium on Principles of Database Systems (PODS)
ACM SIGACT-SIGMOD-SIGART

April, 3-7 Tokyo (J)
Working Conference on Visual Database Systems
IFIP TC2 WG 2.6 (IPSJ, Univ Tokyo)

April, 10-12 (Sept 30) Seoul (K)
Int. Symposium on Database Systems for Advanced Applications
KISS, IPSJ

May 31-June 2 (Dec 9) Portland, Or
Int. Conference on Management of Data
ACM SIGMOD

June 4-7 (Jan 13) Oregon coast
2nd Int. Workshop on Database Programming Languages
June 19-21 (Nov 1) Deauville (F)
6th Int. Workshop on Database Machines (IWDM'89)
MASI (IE3/CS, AFCET, INRIA, EEC, CNRS, Bull, cnet)

June 21-23 (Oct 31) Paris (F)
3rd Int. Conference on Foundations of Data Organization and Algorithms (FODO)
INRIA

June 25-28 (Dec 14) Cambridge, Ma
12th Int. Conference on R&D in Information Retrieval (SIGIR'89)
ACM SIGIR (AICA-GLIR, BCS-IRSG, GI, INRIA)

August, 22-25 (Jan 16) Amsterdam (NL)
15th International Conference on Very Large Data Bases (VLDB)
VLDB Endowment

Dec 4-6 (May 1) Kyoto (J)
Int. Conf. on Deductive and Object-Oriented Databases (DOOD89)
IPSJ, ASTEM RI (ACM, IE3, IEICE, JSAI, JS3T)

1990

August, 24-27 (Feb 15) Beijing (PRC)
16th Int. Conference on Very Large Data Bases (VLDB)
VLDB Endowment
AREAS ADDRESSED

- Acquiring and managing knowledge and data in developing and using information systems
- Strategies for efficiently capturing and storing new knowledge and data
- System modeling, design, access, security and integrity control mechanisms
- Structures in centralized and distributed information systems providing increased intelligence and ease of use through multiple interface devices
- Methods to prolong the useful life of knowledge and data and its graceful degradation

AREAS RECEIVING REGULAR COVERAGE

- AI techniques and expert systems
- Knowledge and data engineering tools and techniques
- System architectures
- Algorithms and applications
- System integration and modeling
- Query, design, and implementation languages
- Integrity, security, and fault tolerance
- Parallel and Distributed Processing

GUIDELINES FOR SUBMITTING PAPERS AND PROPOSALS ON SPECIAL ISSUES

(1) For invited papers and proposals for special issues, send 6 copies to:
C.V. Ramamoorthy, Editor-in-Chief
Computer Science Division
University of California, Berkeley
Berkeley, CA 94720
(415) 642-4751, (415) 642-1898
ram@ernie.berkeley.edu

(2) For all other submissions, send 6 copies of manuscript, complete with illustrations, abstract, and index terms, to:
Benjamin W. Wah, Associate Editor-in-Chief
Coordinated Science Laboratory
University of Illinois at Urbana-Champaign
1101 West Springfield Avenue
Urbana, IL 61801
(217) 333-3516, (217) 244-7175
wah%aquinas@uxc.cso.uiuc.edu

IEEE copyright transfer form and general guidelines for submissions can be found in the January 1988 issue of IEEE TRANSACTIONS ON SOFTWARE ENGINEERING.
Preliminary Call for Papers

8th International Conference on Entity-Relationship Approach

October 18-20, 1989

Toronto, Canada

Conference Chairman: James P. Fry, University of Michigan
Program Committee Chairman: Frederick H. Lochovsky, University of Toronto
Steering Committee Chairman: Peter P. Chen, Louisiana State University

The Entity-Relationship Approach is the basis for many Database Design and System Development Methodologies. ER Conferences bring together practitioners and researchers to share new developments and issues related to the use of the ER Approach. The conference consists of presented papers addressing the theory and practice of the ER Approach as well as invited papers, tutorials, panel sessions, and demonstrations.

Major Topics:

Database Development
- ER Database Management Systems
- design methodologies for special purpose applications
- expert systems for database design

Extensions to the ER Model
- knowledge representation
- CAC/CAM and engineering systems

Data Driven Approach to Information System Development
- user interfaces
- ER diagrams as a communication vehicle
- experiments

Submission of Papers:

Papers are solicited on the above topics or on any other topic relevant to the ER Approach. Five copies of completed papers must be received by the program committee chairman by April 15, 1989. Papers must be written in English and may not exceed 25 double spaced pages. Selected papers will be published in Data and Knowledge Engineering (North-Holland).

Important Dates:

Papers due: April 15, 1989
Notification of acceptance: June 20, 1989
Camera ready copies due: August 15, 1989

All requests and submissions related to the program should be sent to the program committee chairman:
Professor Frederick H. Lochovsky
Computer Science Department
University of Toronto
Stanford Fleming Building
10 King’s College Circle
Toronto, Ontario M5S 1A4, CANADA
tel: (416) 978-7441
fax: (416) 978-4765
e-mail: fred@csri.toronto.edu (Arpa)
CALL FOR PAPERS

15-th INTERNATIONAL CONFERENCE ON
VERY LARGE DATABASES

AUGUST 22-25 1989
AMSTERDAM (THE NETHERLANDS)

VLDB conferences are a forum for identifying and encouraging research, development and novel applications of database management systems and techniques. The fifteenth VLDB Conference will bring together researchers, developers and users of database management systems from academia and industry to share information and explore new ideas.

Original papers of up to 5000 words in length are invited on topics including but not limited to those listed below.

- Logic, deductive and temporal databases
- Dependency theory and integrity enforcement
- Object-oriented databases and extensible databases
- Engineering design and multi-media databases
- Query languages and query optimization
- Storage management and database machines
- Distributed databases

All submitted papers will be read and carefully evaluated by the Program Committee. To submit papers, send five (5) copies of the double-spaced manuscript, including keywords, in English to one of the Program Co-Chairs by JANUARI 16, 1989. Proposals for panel session should be sent to P.M.G Apers by March 16, 1989.

Peter M.G. Apers
University of Twente
Computer Science Department
P.O. Box 217
7500 AE Enschede, The Netherlands
Computer mail to: apers@utrcul.nl.uucp

Gio Wiederhold
Stanford University
Department of Computer Science
Stanford, CA 94305-2085, USA
Computer mail to: wiederhold@sumex.stanford.edu

IMPORTANT DATES:
January 16, 1989 Submission deadline
March 16, 1989 Panel session deadline
April 24, 1989 Notification of acceptance
May 29, 1989 Camera ready copies deadline

The 1989 VLDB Conference will be held in the RAI International Congress Centre in Amsterdam. The RAI is ideally located for easy access by both public and private transport. It has its own bus and tram station for direct access to the city centre and its own train station with a direct line to Schiphol International Airport which is only ten minutes away. Amsterdam itself has much to offer visitors. Its combination of old world charm and dynamic modern lifestyle is unique.

For further information contact:

VLDB Congress Secretariat
Ms. Barbara de Jong
RAI Organisatie Bureau Amsterdam b.v.
Europaplein 12
1078 GZ Amsterdam
Tel. Int. +31 (0)20-5491212
Telefax. Int. +31 (0)20-464469

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Call for Exhibitors

User Interfaces to Database Systems

The 1989 ACM SIGMOD Conference will include exhibits on the theme of user interfaces to database systems. Work from the commercial and the academic communities is solicited. Those interested in exhibiting their system should contact the appropriate exhibition co-chairperson.

Exhibition Program Co-chairpersons:

**academic co-chair**
Len Shapiro  
Dept. of Computer Science  
Portland State University  
P. O. Box 751  
Portland, OR 97207  
csnet-relay: len@pdx.edu

**commercial co-chair**
Denise Ecklund  
Mentor Graphics Corp.  
8500 SW Creekside Place  
Beaverton, OR 97005-7191  
csnet-relay: denisee@pdx.mentor.com
Workshop on Database Query Optimization

May 30, 1989
in Portland, Oregon.

This one-day workshop immediately preceding the 1989 ACM-SIGMOD conference will provide an intensive exchange of concepts and ideas through focused technical discussions on topics in database query optimization and evaluation among optimization researchers, developers, and implementors.

Major topics and subtopics include

Rule-based optimization:
- rule languages, rule interpretation vs. compilation,
- experimental validation,
- query transformation (e.g., of nested queries),
- plan transformation, and plan specification.

Search techniques:
- representation of alternative plans during optimization,
- multi-query/common sub-expression analysis,
- pruning of search trees (dominance relationships),
- optimization heuristics, parallel search, and optimizer validation.

Selectivity estimation and cost functions:
- skewed distributions, correlated attributes, reliability of estimates,
- complex and cascaded joins, transitive closure,
- complex objects, nested relations,
- dynamic optimization at run-time,
- sampling, extensible estimation schemes.

Execution techniques:
- optimization objectives,
- optimization for parallel execution,
- join methods, recursive joins, aggregate functions, other operations,
- partitioning, nested relations,
- physical DB organization, clustering, complex objects,
- and distributed DBs (heterogeneous servers and networks).

Participation is limited to 40 people, to be invited on the basis of an extended abstract of work in progress or a description and justification of the hardest and most important research topics in database query optimization (2-5 pages). Accepted contributions will be distributed to participants. Please submit contributions to Goetz Graefe at the address below by April 1, 1989.

For more information contact

Goetz Graefe, Oregon Graduate Center – CSE Dept.,
19600 NW. von Neumann Drive, Beaverton, Oregon 97006-1999;
CSNet graefe@cse.ogc.edu, phone 503-690-1156.

The workshop is organized by Oregon Database Forum (ODBF), sponsored by Oregon Center for Advanced Technology Education (OCATE).
for the first annual

**FORTH APPLICATIONS SYMPOSIUM**
on **REAL TIME SOFTWARE ENGINEERING**

**FOUR SEASONS HOTEL • Austin, TX • Feb. 17-19, 1989**

The objective of this symposium is to share, discuss and disseminate recent research on and production of real time (software and hardware) computer applications. Attendees will hear presentations from industry experts on many topics, including:

- Interrupt Driven Systems
- Programming Environments
- Multitasking / Multiuser Systems
- Parallel Processing
- Fault Tolerant Systems
- Forth Engines and Software
- Specialized Architectures
- Microcontroller Applications
- Industrial Systems
- Computer Networks
- Biomedical Engineering
- Robotics & Machine Intelligence

Papers for oral and poster presentations are requested from computer professionals and other interested parties. Facilities will be available for scientific and technical demonstrations. Pre-publication proceedings will be made available to the participants at the symposium. Vendors of software and/or hardware may request exhibit space. Authors should submit an abstract of 250 words or less, typed, double spaced by the deadline below. Contributed papers should be previously unpublished work. You are not required to present a paper to attend the symposium.

Please send abstracts and requests for symposium information to:

Dr. Paul Frenger or Mr. Rick Hoselton
Technology Information Center, Inc.
2900 Wilcrest Drive #400
Houston, TX 77042
Telephone: (713) 952-1060

**TIMETABLE:**

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Sponsored by the ACM Special Interest Group on Forth

For ACM SIGForth membership information, refer to the above address.
CALL FOR PAPERS

Workshop on Algorithms and Data Structures

August 16-18, 1989

Carleton University
Ottawa, Canada

The Workshop, which continues the 1988 Scandinavian Workshop on Algorithm Theory, is intended as a forum for researchers in the area of design and analysis of algorithms and data structures.

We invite submissions of papers presenting original research on algorithms and data structures in all areas, including combinatorics, computational geometry, databases, graphics, parallel and distributed computing. Contributors are invited to send 4 copies of a full paper (not exceeding 12 pages) to

Workshop on Algorithms and Data Structures
School of Computer Science
Carleton University
Ottawa, Canada K1S 5B6
tel.: (613) 564-7545, e-mail: workshop@carleton.bitnet

Submissions must arrive before March 15, 1989. Authors will be notified of acceptance or rejection by April 30, 1989. Proceedings will be published, possibly in the Springer Verlag series Lecture Notes in Computer Science. The final versions of accepted papers must arrive in camera-ready form before May 25, 1989, to ensure the availability of the proceedings at the conference.

Invited Speakers:
Michael Atallah (Purdue), Luc Devroye (McGill), Herbert Edelsbrunner (Urbana Champaign), Gaston Gonnet (Waterloo), Jan van Leeuwen (Utrecht), Chee Yap (Courant Institute).

Program Committee:
Selim Akl (Queen's), Frank Dehne (Carleton), Greg Fredrickson (Purdue), David Kirkpatrick (UBC), Andrzej Lingas (Linköping), Kurt Mehlhorn (U. des Saarlandes), Ian Munro (Waterloo), Jörg-Rüdiger Sack (Carleton), Nicola Santoro (Carleton), Esko Ukkonen (Helsinki), Jorge Urrutia (Ottawa), Derick Wood (Waterloo).

Organizing Committee:
Frank Fiala, John Oommen, Ekow Otoo (Carleton), Robert Probert (Ottawa).