Theme Articles

4 Muse: A Multimedia Filing System
Simon Gibbs, Dennis Tsichritzis, Akis Fitas, Dimitri Konstantas, and Yiannis Yeorgaroudakis

New technology is changing the way we store documents. This experimental system features flexible document retrieval, a distributed architecture, and the capacity to store many very large documents.

16 A New Method for Fast Data Searches with Keys
Witold Litwin and David B. Lomet

Bounded disorder uses hashing and tree indexing to speed key-associative access to data. It supports range searches and is robust, coping well with arbitrary key distributions.

25 The Tedium Development Environment for Information Systems
Bruce I. Blum

This adaptable, flexible environment offers insights on how to enhance software productivity and maintainability.

35 Role of a Historian in a Database Management System
Leonard J. Bass

Traditionally, a database manager tracks only transactions — an insufficient way to maintain a complete history. This multilevel system tracks three history levels: character, transaction, and global action.

Special Features

41 Reusability Framework, Assessment, and Directions
Ted Biggerstaff and Charles Richter

Reusability remains a puzzle despite its promise. Why? The authors discuss some answers and possibilities.

50 Reusability: The Case for Object-Oriented Design
Bertrand Meyer

Simply being more organized will not make the reuse problem go away. The issues are technical, not managerial. The answers lie in object-oriented design.

Departments

3 Editor-in-Chief’s Message: Logging Off

70 Software Standards: Requirements Writing Know-How • Standards Bulletin

74 Software Reviews: Lightspeed Pascal

79 New Product Reviews: Ada/Ed-C • PAC Micro • EVA/480 • Ultrascan • Generic CADD • PCVMS • Project Workbench • Laserware • First Class • Q-DOS II • 1D1r+ • Resume Management Systems • Mind Mirror

85 New Products

89 Product Highlights

Advertisement/Product Index, p. 104

Reader Service Card, p. 104A

90 Soft News: Software Copyright Lawsuits • Technology Trade Proposal • Supercomputer Access • SDI Boycott

96 Calendar

98 Book Reviews: Advanced Unix Programming • The Logical Basis for Programming: Deductive Reasoning • Managing Software Development • Learning with Personal Computers • Designing Integrated Systems for the Office Environment • Systematic Software Development Using VDM

103 Software Letters: Ada • Standards • Reviews

Subscription Form, pp. 104, 104A

Change of Address Form, p. 104