ACM-SIGMOD 1979
International Conference on Management of Data

May 30–June 1

The 57 Park Plaza Hotel
Boston, Massachusetts

Proceedings

Edited by:
Philip A. Bernstein

TABLE OF CONTENTS

SESSION: Database System Implementation
Murray Edelberg, Chairman

Performance Analysis of a Relational Data Base Management System 1
P. Hawthorn, M. Stonebraker

Query Execution in DIRECT. 13
D. J. DeWitt

Access Path Selection in a Relational Database Management System 23
P. Griffiths Selinger, M. M. Astrahan, D. D. Chamberlin, R. A. Lorie, T. G. Price

SESSION: B-Trees
Ronald Fagin, Chairman

Multi-Table Search for B-Tree Files 35
D. Lomet

Compact B-Trees 43
A. L. Rosenberg, L. Snyder

SESSION: User Interfaces
C. J. Date, Chairman

FQL--A Functional Query Language 52
P. Buneman, R. E. Frankel

The Functional Data Model and the Data Language DAPLEX (Abstract Only) 53
D. Shipman

The Data Management Facilities of PLAIN . . 60
A. I. Wasserman

Data Abstractions, Views and Updates in RIGEL 71
L. A. Rowe, K. A. Shoens

SESSION: Performance Issues
S. Bing Yao, Chairman

Performance Analysis of Three Related Assignment Problems 82
C. T. Yu, K. Lam, M. K. Siu, M. Ozsoyoglu

A Heuristic Approach to Attribute Partitioning 93
M. Hammer, B. Niamir

Evaluation of Transmission Requirements in Distributed Database Access 102
G. Pelagatti, F. A. Schreiber

Cost and Performance Analysis of Semantic Integrity Validation Methods 109
D. Z. Badal, G. J. Popek

SESSION: Database Concurrency Control
David B. Shipman, Chairman

An Optimality Theory of Concurrency Control for Databases 116
H. T. Kung, C. H. Papadimitriou

The Complexity of Testing Predicate Locks 127
H. B. Hunt, D. J. Rosenkrantz

Queueing Network Models for Concurrent Transaction Processing in a Database System 134
K. B. Irani, H. Lin

SESSION: Database Dependency Theory
A. V. Aho, Chairman

Synthesizing Independent Database Schemas..143
J. Biskup, U. Dayal, P. A. Bernstein

Testing Implications of Data Dependencies (Abstract Only) 152
D. Maier, A. Mendelzon, Y. Sagiv

Normal Forms and Relational Database Operators 153
R. Fagin

SESSION: Database Semantics I
Beatrice Yormark, Chairwoman

Extending the Data Base Relational Model (Abstract Only) 161
E. F. Codd

Null Values in Data Base Management: A Denotaional Semantics Approach . . .162
Y. Vassiliou

Improving Semantic Specification in a Relational Database 170
E. Sciore

SESSION: Database Semantics II
John M. Smith, Chairman

Design of Relational Views Over Network Schemas 179
C. Zaniolo

Data Model Integration Using the Structural Model 191
R. El-Masri, G. Wiederhold