Principles Of Multimedia Database Systems The Morgan Kaufmann Series In Data Management Systems

Understanding SQL's Stored ProceduresAdvanced Database SystemsDigital Compression for MultimediaSemantic ComputingAdvanced Principles for Improving Database Design, Systems Modeling, and Software DevelopmentOrganization of Multimedia ResourcesOn Object-Oriented Database SystemsMultimedia DatabasesPrinciples of Database Query Processing for Advanced ApplicationsObject-relational DBMSsFundamentals of Database SystemsMMDB 2003Multimedia Databases and Image CommunicationTransactional Information SystemsFundamentals of Database SystemsQuerying XMLMachine Learning Techniques for MultimediaFundamentals of Relational Database Management SystemsNew Challenges for Intelligent Information and Database SystemsSearching Multimedia Databases by ContentDatabase Systems for Next-Generation ApplicationsDatabase and Data Communication Network Systems, Three-Volume SetMultimedia Information SystemsMoving Objects DatabasesSpatial Data ManagementPrinciples of Data IntegrationAdvances in Web-Based LearningManaging and Mining Multimedia DatabasesPrinciples of Multimedia Database SystemsManaging Multimedia and Unstructured Data in the Oracle DatabasePrinciples of Visual Information RetrievalAdvances in Multimedia Information SystemsDatabase DirectionsMultimedia Database SystemsDatabasePrinciples of MultimediaDistributed Multimedia Database Technologies Supported by MPEG-7 and MPEG-21Multimedia Database SystemsUnderstanding Information Retrieval SystemsDeveloping Time-oriented Database Applications in SQL

Understanding SQL's Stored Procedures

This book is written in simple, easy to understand format with lots of screenshots and step-by-step explanations. If you are an Oracle database administrator, Museum curator, IT manager, Developer, Photographer, Intelligence team member, Warehouse or Software Architect then this book is for you. It covers the basics and then moves to advanced concepts. This will challenge and increase your knowledge enabling all those who read it to gain a greater understanding of multimedia and how all unstructured data is managed.

Advanced Database Systems

Spatial database management deals with the storage, indexing, and querying of data with spatial features, such as location and geometric extent. Many applications require the efficient management of spatial data, including Geographic Information Systems, Computer Aided Design, and Location Based Services. The goal of this book is to provide the reader with an overview of spatial data management technology, with an emphasis on indexing and search techniques. It first

introduces spatial data models and queries and discusses the main issues of extending a database system to support spatial data. It presents indexing approaches for spatial data, with a focus on the R-tree. Query evaluation and optimization techniques for the most popular spatial query types (selections, nearest neighbor search, and spatial joins) are portrayed for data in Euclidean spaces and spatial networks. The book concludes by demonstrating the ample application of spatial data management technology on a wide range of related application domains: management of spatio-temporal data and high-dimensional feature vectors, multi-criteria ranking, data mining and OLAP, privacy-preserving data publishing, and spatial keyword search. Table of Contents: Introduction / Spatial Data / Indexing / Spatial Query Evaluation / Spatial Networks / Applications of Spatial Data Management Technology

Digital Compression for Multimedia

A thorough presentation of query processing techniques in a broad range of database systems for advanced applications. Provides the most effective query processing techniques and ways to optimize the information retrieval process. Intended for database systems designers creating advanced applications.

Semantic Computing

How do you approach answering queries when your data is stored in multiple databases that were designed independently by different people? This is first comprehensive book on data integration and is written by three of the most respected experts in the field. This book provides an extensive introduction to the theory and concepts underlying today's data integration techniques, with detailed, instruction for their application using concrete examples throughout to explain the concepts. Data integration is the problem of answering queries that span multiple data sources (e.g., databases, web pages). Data integration problems surface in multiple contexts, including enterprise information integration, query processing on the Web, coordination between government agencies and collaboration between scientists. In some cases, data integration is the key bottleneck to making progress in a field. The authors provide a working knowledge of data integration concepts and techniques, giving you the tools you need to develop a complete and concise package of algorithms and applications. Offers a range of data integration solutions enabling you to focus on what is most relevant to the problem at hand Enables you to build your own algorithms and implement your own data integration applications

Advanced Principles for Improving Database Design, Systems Modeling, and Software Development

This book describes the theory, algorithms, and practical implementation techniques behind transaction processing in

information technology systems.

Organization of Multimedia Resources

The book consists of 35 extended chapters which have been based on selected submissions to the poster session organized during the 3rd Asian Conference on Intelligent Information and Database Systems (20-22 April 2011 in Daegu, Korea). The book is organized into four parts, which are information retrieval and management, data mining and computational intelligence, service composition and user-centered approach, and intelligent management and e-business, respectively. All chapters in the book discuss theoretical and practical issues related to integration of artificial intelligence and database technologies in order to develop various intelligent information systems in many different domains. Such combination of artificial intelligence and database technologies has been regarded as one of the important interdisciplinary subfields of modern computer science, due to the sustainable development of networked information systems. Especially, service-oriented architecture and global multimedia systems used on a number of different purpose call for these developments. The book will be of interest to postgraduate students, professors and practitioners in the areas of artificial intelligence and database systems to modern information environments. The editors hope that readers of this volume can find many inspiring ideas and influential practical examples and use them in their future work.

On Object-Oriented Database Systems

In order to be effective for their users, information retrieval (IR) systems should be adapted to the specific needs of particular environments. The huge and growing array of types of information retrieval systems in use today is on display in Understanding Information Retrieval Systems: Management, Types, and Standards, which addresses over 20 typ

Multimedia Databases

Multimedia Information Systems brings together in one place important contributions and up-to-date research results in this fast moving area. Multimedia Information Systems serves as an excellent reference, providing insight into some of the most challenging research issues in the field.

Principles of Database Query Processing for Advanced Applications

There is now so much data on the Web that managing it with conventional tools is becoming almost impossible. To manage this data, provide interoperability and warehousing between multiple data sources and systems, and extract information

from the databases and warehouses, various tools are being developed. In fact, developments in multimedia database management have exploded during the past decade. To date, however, there has been little information available on providing a complete set of services for multimedia databases, including their management, mining, and integration on the Web for electronic enterprises. Managing and Mining Multimedia Databases fills that gap. Focusing on managing and mining multimedia databases for electronic commerce and business, it explores database management system techniques for text, image, audio, and video databases. It addresses the issues and challenges of mining multimedia databases to extract information, and discusses the directions and challenges related to integrating multimedia databases for the Web, particularly for e-business. This book provides a comprehensive overview of multimedia data management and mining technologies, from the underlying concepts, architectures, and data models for multimedia database systems to the technologies that support multimedia data management on the Web, privacy issues, and emerging standards, prototypes, and products. Designed for technical managers, executives, and technologists, it offers your only opportunity to learn about both multimedia data management and multimedia data mining within a single book.

Object-relational DBMSs

Until recently, databases contained easily indexed numbers and text. Today, in the age of powerful, graphically based computers, and the world wide web, databases are likely to contain a much greater variety of data forms, including images, sound, video clips, and even handwritten documents. When multimedia databases are the norm, traditional methods of working with databases no longer apply. How do you query a video library, or an image database containing x-rays, or sounds in an audio database? Principles of Multimedia Database Systems explains how to work with these new multimedia data forms. It is the first comprehensive treatment of the skills and techniques required to build, maintain, and query multimedia databases. This book presents the mix of techniques necessary for working with multimedia databases, including synthetic solutions for the design and deployment of multimedia database systems. Because rapid technological developments are constantly changing the landscape of multimedia databases, the book teaches basic theoretical principles applicable to any database. * Covers the major issues of multimedia database design, with a strong focus on distributed multimedia databases. * Discusses important topics including how to organize the vast data types, storage and retrieval, and creation and delivery of multimedia presentations. * Organized around the lively scenario of a crime-fighting database that evolves as new concepts are introduced. * Includes numerous exercises and suggestions for programming projects. * Additional materials on the web include updates, on-line supplements, and links to downloadable software.

Fundamentals of Database Systems

Presents the state of the technology and points to future directions for semantic computing Semantic computing, a rapidly

evolving interdisciplinary field, seeks to structure, design, and manipulate computer content to better satisfy the needs and intentions of users and create a more meaningful user experience. This remarkable contributed work examines the art, engineering, technology, and applications of the field. Moreover, it brings together researchers from such disciplines as natural language processing, software engineering, multimedia semantics, semantic Web, signal processing, and pattern recognition in order to provide a single source that presents the state of the technology and points to new breakthroughs on the horizon. Semantic Computing begins with an introduction that explores the concepts, technology, applications, and future of semantic computing. Next, the book is divided into four parts: Part One: Semantic Analysis Part Two: Semantic Languages and Integration Part Three: Semantic Applications Part Four: Semantic Programming and Interface As readers progress through the book, they,ll learn not only the underlying science, but also the fundamental technological building blocks of semantic computing. Moreover, they,ll discover a variety of cross-disciplinary solutions to current computing and communication problems. Throughout the book, references to the primary literature enable further investigation of each individual topic. Semantic Computing is ideal for industrial managers, researchers, and engineers seeking to design the next generation of computing systems in order to better meet user needs. It is also recommended as a textbook for senior undergraduate and graduate-level semantic computing courses.

MMDB 2003

The author explains how to extend the principles of cataloguing, classification and indexing in this guidance book for the creation of multimedia databases. Practical exercises help readers in their own applications and projects.

Multimedia Databases and Image Communication

Presenting a complete guide to SQL/PSM (Persistent Stored Modules), this book explores the basic concepts and then presents the entire PSM standard in a way designed for "real world" use. It teaches application developers to use new SQL extensions that allow complex operations to be performed on the server in client-server environments. This, in turn, improves system performance and saves time.

Transactional Information Systems

Fundamentals of Database Systems

"Digital Compression for Multimedia" captures in a single reference the current standards for speech, audio, video, image,

fax and file compression. It is intended for engineers and computer scientists designing and implementing compression techniques, system integrators, technical managers, and researchers. The essential ideas and motivation behind the various compression methods are presented and insight is provided into the evolution of the standards.

Querying XML

Machine Learning Techniques for Multimedia

Searching Multimedia Databases by Content bridges the gap between the database and signal processing communities by providing the necessary background information for the reader and presenting it along with the intuition and mechanics of the best existing tools in each area. The first half of Searching Multimedia Databases by Content reviews the most successful database access methods, in increasing complexity, reaching up to spatial access methods and text retrieval. In all cases, the emphasis is on practical approaches that have been incorporated in commercial systems, or that seem very promising. The second half of the book uses the above access methods to achieve fast searching in a database of signals. A general methodology is presented, which suggests extracting a few good features from each multimedia object, thus mapping objects into points in a metric space. Finally, the book concludes by presenting some recent successful applications of the methodology on time series and color images. Searching Multimedia Databases by Content is targeted towards researchers and developers of multimedia systems. The book can also serve as a textbook for a graduate course on multimedia searching, covering both access methods as well as the basics of signal processing.

Fundamentals of Relational Database Management Systems

Discover why object-relational technology is ideal for supporting a broad spectrum of data types and application areas, from financial services to multimedia data. In this completely revised and updated edition, database experts Michael Stonebraker and Paul Brown explore the object-relational paradigm and examine the most recent developments in the field. Specifically written for database application programmers, database analysts, and IT managers, this book includes detailed information on how to classify DBMS applications, where object-relational DBMSs fit in the database world, and what mechanisms are required to support such an engine. * Offers completely updated and expanded information" new and revised material discusses both the latest technology and the latest products. * Presents a simple matrix for classifying and evaluating DBMSs so that you can make informed judgments about object-relational systems. * Includes examples, tables, and tests to help you judge the quality and optimization of systems now on the market.

New Challenges for Intelligent Information and Database Systems

"This book presents cutting-edge research and analysis of the most recent advancements in the fields of database systems and software development"--Provided by publisher.

Searching Multimedia Databases by Content

First uniform treatment of moving objects databases, the technology that supports GPS and RFID data analysis.

Database Systems for Next-Generation Applications

The database field has experienced a rapid and incessant growth since the development of relational databases. The progress in database systems and applications has produced a diverse landscape of specialized technology areas that have often become the exclusive domain of research specialists. Examples include active databases, temporal databases, object-oriented databases, deductive databases, imprecise reasoning and queries, and multimedia information systems. This book provides a systematic introduction to and an in-depth treatment of these advanced database areas. It supplies practitioners and researchers with authoritative coverage of recent technological advances that are shaping the future of commercial database systems and intelligent information systems. Advanced Database Systems was written by a team of six leading specialists who have made significant contributions to the development of the technology areas covered in the book. Benefiting from the authors' long experience teaching graduate and professional courses, this book is designed to provide a gradual introduction to advanced research topics and includes many examples and exercises to support its use for individual study, desk reference, and graduate classroom teaching.

Database and Data Communication Network Systems, Three-Volume Set

There is a huge growth in multimedia databases and the influence is spreading far and wide. Existing and future practitioners working in web technology, e-commerce, media-on demand, surveillance systems, GIS and telemedicine as well as traditional database management systems will need to know much more about the workings of multi media databases. And this is the book they will need as it will answer all their questions.

Multimedia Information Systems

This book provides comprehensive coverage of fundamentals of database management system. It contains a detailed

description on Relational Database Management System Concepts. There are a variety of solved examples and review questions with solutions. This book is for those who require a better understanding of relational data modeling, its purpose, its nature, and the standards used in creating relational data model.

Moving Objects Databases

Object-oriented database systems have been approached with mainly two major intentions in mind, namely to better support new application areas including CAD/CAM, office automation, knowledge engineering, and to overcome the `impendance mismatch' between data models and programming languages. This volume gives a comprehensive overwiew of developments in this flourishing area of current database research. Data model and language aspects, interface and database design issues, architectural and implementation questions are covered. Although based on a series of workshops, the contents of this book has been carefully edited to reflect the current state of international research in object oriented database design and implementation.

Spatial Data Management

This book constitutes the refereed proceedings of the First International Conference on Web-Based Learning, ICWL 2002, held in Hong Kong, China in August 2002. The 34 revised full papers presented together with an invited keynote paper were carefully reviewed and selected from 75 submissions. The papers are organized in topical sections on system modeling and architectures, distance learning systems engineering, collaborative systems, experiences in distance learning, databases and data mining, and multimedia.

Principles of Data Integration

Database and Data Communication Network Systems examines the utilization of the Internet and Local Area/Wide Area Networks in all areas of human endeavor. This three-volume set covers, among other topics, database systems, data compression, database architecture, data acquisition, asynchronous transfer mode (ATM) and the practical application of these technologies. The international collection of contributors was culled from exhaustive research of over 100,000 related archival and technical journals. This reference will be indispensable to engineering and computer science libraries, research libraries, and telecommunications, networking, and computer companies. It covers a diverse array of topics, including: * Techniques in emerging database system architectures * Techniques and applications in data mining * Object-oriented database systems * Data acquisition on the WWW during heavy client/server traffic periods * Information exploration on the WWW * Education and training in multimedia database systems * Data structure techniques in rapid prototyping and

manufacturing * Wireless ATM in data networks for mobile systems * Applications in corporate finance * Scientific data visualization * Data compression and information retrieval * Techniques in medical systems, intensive care units

Advances in Web-Based Learning

Processing multimedia content has emerged as a key area for the application of machine learning techniques, where the objectives are to provide insight into the domain from which the data is drawn, and to organize that data and improve the performance of the processes manipulating it. Arising from the EU MUSCLE network, this multidisciplinary book provides a comprehensive coverage of the most important machine learning techniques used and their application in this domain.

Managing and Mining Multimedia Databases

With the rapid growth in the use of computers to manipulate, process, and reason about multimedia data, the problem of how to store and retrieve such data is becoming increasingly important. Thus, although the field of multimedia database systems is only about 5 years old, it is rapidly becoming a focus for much excitement and research effort. Multimedia database systems are intended to provide unified frameworks for requesting and integrating information in a wide variety of formats, such as audio and video data, document data, and image data. Such data often have special storage requirements that are closely coupled to the various kinds of devices that are used for recording and presenting the data, and for each form of data there are often multiple representations and multiple standards - all of which make the database integration task quite complex. Some of the problems include: - what a multimedia database query means - what kinds of languages to use for posing queries - how to develop compilers for such languages - how to develop indexing structures for storing media on ancillary devices - data compression techniques - how to present and author presentations based on user queries. Although approaches are being developed for a number of these problems, they have often been ad hoc in nature, and there is a need to provide a princi pled theoretical foundation.

Principles of Multimedia Database Systems

"The chapter on object-relational database should be a great selling point for the book. No one else has the coverage on object relational that this chapter has; for example, the other new texts emphasize the purely object model. I think that the approach here is much more practical." --Betty Salzberg, Northeastern University "The coverage of this book is wonderful, especially the cutting-edge of object-relational systems . . . [and] this is the only text I have seen that is not by Jeffrey Ullman that treats the theoretical material appropriately. The chapter on dependencies and relational design is excellent. Examples abound, the explanations are crisp and clear, and the appropriate concepts are discussed. I cannot wait to use it."

--Bill Grosky, Wayne State University "This book makes an excellent text for anyone just approaching database systems. It's both an accessible refresher for those of us who have not been paying careful attention to developments in this area and a useful reference for designers and implementers who need just-in-time education." --Jim Gray, Microsoft Research "This book is excellent!" --Mike Hartstein, Oracle Corporation, Senior Director of Oracle8i Product Management This second edition relies on the same successful approach that distinguished the first: it covers the principles of database theory with unmatched thoroughness, and it rigorously links theory to the real world of database programming and administration. A careful discussion of SQL standards and a multitude of examples drawn from actual databases-Oracle, DB2, and Informix-complements the authors' concept-oriented instruction, allowing you to develop product-specific understanding and to learn the important differences between the SQL dialects that will enable you to write portable applications. New Features Focuses extensively on the object-relational model that is rapidly gaining acceptance and revolutionizing the database industry. Collection types and UDF's are thoroughly covered. Introduces new relational features of SQL taken from the latest versions of today's most popular database products, Oracle, DB2, and Informix. Offers thorough coverage of the SQL-99 standard, including additions designed to help you take full advantage of the object-relational model. Provides expanded programming examples intended to improve your understanding of transaction processing and error handling. Explains clearly the principles of logical database design, including those relating to the E-R model and normalization, with a number of new illustrations and examples. Presents the latest indexing and query processing techniques, such as bitmap indexing, and shows how to use them to achieve significant performance improvements.

Managing Multimedia and Unstructured Data in the Oracle Database

Whether you're a database designer, programmer, analyst, or manager, you've probably encountered some of the challenges-and experienced some of the frustrations-associated with time-varying data. Where do you turn to fix the problem and see that it doesn't happen again? In Developing Time-Oriented Database Applications in SQL, a leading SQL researcher teaches you effective techniques for designing and building database applications that must integrate past and current data. Written to meet a pervasive, enduring need, this book will be indispensible if you happen to be part of the flurry of activity leading up to Y2K. The enclosed CD-ROM contains all of the code fragments-implemented for Oracle8 Server, IBM DB2 Universal Database, Microsoft SQL Server, and other systems-and evaluation copies of the programs discussed in the book. * Offers incisive advice on recording temporal data using SQL data types, defining appropriate integrity constraints, updating temporal tables, and querying temporal tables with interactive and embedded SQL. * Provides case studies detailing real-world problems and solutions in areas such as event data, state-based data, partitioned data, and audit logs. * Contains over 400 code fragments with detailed explanations.

Principles of Visual Information Retrieval

XML has become the lingua franca for representing business data, for exchanging information between business partners and applications, and for adding structure– and sometimes meaning—to text-based documents. XML offers some special challenges and opportunities in the area of search: querying XML can produce very precise, fine-grained results, if you know how to express and execute those queries. For software developers and systems architects: this book teaches the most useful approaches to querying XML documents and repositories. This book will also help managers and project leaders grasp how “querying XML fits into the larger context of querying and XML. Querying XML provides a comprehensive background from fundamental concepts (What is XML?) to data models (the Infoset, PSVI, XQuery Data Model), to APIs (querying XML from SQL or Java) and more. * Presents the concepts clearly, and demonstrates them with illustrations and examples; offers a thorough mastery of the subject area in a single book. * Provides comprehensive coverage of XML query languages, and the concepts needed to understand them completely (such as the XQuery Data Model). * Shows how to query XML documents and data using: XPath (the XML Path Language); XQuery, soon to be the new W3C Recommendation for querying XML; XQuery's companion XQueryX; and SQL, featuring the SQL/XML * Includes an extensive set of XQuery, XPath, SQL, Java, and other examples, with links to downloadable code and data samples.

Advances in Multimedia Information Systems

This is a revision of the market leading book for providing the fundamental concepts of database management systems. - Clear explaination of theory and design topics- Broad coverage of models and real systems- Excellent examples with up-to-date introduction to modern technologies- Revised to include more SQL, more UML, and XML and the Internet

Database Directions

This book constitutes the refereed proceedings of the Second International Workshop on Multimedia Databases and Image Communication, MDIC 2001, held in Amalfi, Italy, in September 2001. The 16 revised full papers presented together with two invited papers were carefully reviewed and selected for inclusion in the book. The papers are organised in topical sections on image and visual computing applications, multimedia technology, image and visual information querying and browsing, and video indexing and communication.

Multimedia Database Systems

This text introduces the basic concepts and techniques in VIR. In doing so, it develops a foundation for further research and study. Divided into two parts, the first part describes the fundamental principles. A chapter is devoted to each of the main features of VIR, such as colour, texture and shape-based search. There is coverage of search techniques for time-based

image sequences or videos, and an overview of how to combine all the basic features described and integrate them into the search process. The second part looks at advanced topics such as multimedia query. This book is essential reading for researchers in VIR, and final-year undergraduate and postgraduate students on courses such as Multimedia Information Retrieval, Multimedia Databases, and others.

Database

This volume is the first in a series which aims to contribute to the wider dissemination of the results of research and development in database systems for non-traditional applications and non-traditional machine organizations. It contains updated versions of selected papers from the First International Symposium on Database Systems for Advanced Applications. Contents:A Framework for the Parallel Evaluation of Recursive Queries in Deductive Databases (R-P Qi & W Bibel)Realization of Composite Relationship Views Utilizing Regular Expressions (H-Y Xu & Y Kambayashi)Seamless Interconnection in Federated Database Systems (D Fang & D McLeod)Case-Based Evolutionary World Model for Electronic Secretaries (K Kanasaki & T L Kunii)Design and Implementation of a Visual Query Language for Historical Databases (E Oomoto & K Tanaka)Intersection Operations in a Multi-Layered Spatial Data Model (D W Embley & G Nagy)Partial Match Retrieval Using Multiple-Key Hashing with Multiple File Copies (K Ramamohanarao et al.)Overview of Functional Disk System (M Kitsuregawa et al.)and other papers Readership: Computer scientists and engineers.

Principles of Multimedia

Distributed Multimedia Database Technologies Supported by MPEG-7 and MPEG-21

Multimedia Database Systems: Design and Implementation Strategies is a compendium of the state-of-the-art research and development work pertaining to the problems and issues in the design and development of multimedia database systems. The chapters in the book are developed from presentations given at previous meetings of the International Workshop on Multi-Media Data Base Management Systems (IW-MMDBMS), and address the following issues: development of adequate multimedia database models, design of multimedia database query and retrieval languages, design of indexing and organization techniques, development of efficient and reliable storage models, development of efficient and dependable retrieval and delivery strategies, and development of flexible, adaptive, and reliable presentation techniques.

Multimedia Database Systems

While solving numerous database management problems, relational database systems are generally limited to centralized systems supporting only structured data. Now, Database Directions introduces database management technologies and techniques that take readers beyond the limitations of today's relational database management systems.

Understanding Information Retrieval Systems

A multimedia system needs a mechanism to communicate with its environment, the Internet, clients, and applications. MPEG-7 provides a standard metadata format for global communication, but lacks the framework to let the various players in a system interact. MPEG-21 closes this gap by establishing an infrastructure for a distributed multimedia frame

Developing Time-oriented Database Applications in SQL