

Advanced Data Warehouse Design From Conventional To Spatial And Temporal Applications

The LNCS Journal on Data Semantics is devoted to the presentation of notable work that, in one way or another, addresses research and development on issues related to data semantics. This volume constitutes a special issue on semantic data warehouses.

This book constitutes the refereed proceedings of the 14th International Conference on Data Warehousing and Knowledge Discovery, DaWaK 2012 held in Vienna, Austria, in September 2012. The 36 revised full papers presented were carefully reviewed and selected from 99 submissions. The papers are organized in topical sections on data warehouse design methodologies, ETL methodologies and tools, multidimensional data processing and management, data warehouse and OLAP extensions, data warehouse performance and optimization, data mining and knowledge discovery techniques, data mining and knowledge discovery applications, pattern mining, data stream mining, data warehouse confidentiality and security, and distributed paradigms and algorithms.

"Each chapter is... a practice run for the way we all ought to design our data marts and hence our data warehouses."-Ralph Kimball, from the Foreword. Let the experts show you how to customize data warehouse designs for real business needs in Data Warehouse Design Solutions. To effectively design a data warehouse, you have to understand its many business uses. This guidebook shows you how business managers in different corporate functions actually use data warehouses to make decisions. You'll get a rich set of data warehouse designs that flow from realistic business cases. Two top experts show you how to customize your data warehouse designs for real-life business needs including:

- * Sales and marketing
- * Production and inventory management
- * Budgeting and financial reporting
- * Quality control
- * Product delivery and fulfillment
- * Strategic business analysis

such as determining market share, rates of return on investment, and other key analytic ratios. CD-ROM includes All sample data warehouse designs with accompanying preformatted reports in HTML for specific business uses such as marketing, sales, and financial analysis.

This book constitutes the workshop proceedings of the 16th International Conference on Database Systems for Advanced Applications, DASFAA 2011, held in Hong Kong, China, in April 2011. The volume contains six workshops, each focusing on specific research issues that contribute to the main themes of the DASFAA conference: The First International Workshop on Graph-structured Data Bases (GDB 2011); the First International Workshop on Spatial Information Modeling, Management and Mining (SIM3 2011); the International Workshop on Flash-based Database Systems (FlashDB 2011); the Second International Workshop on Social Networks and Social Media Mining on the Web (SNSMW 2011); the First International Workshop on Data Management for Emerging Network Infrastructures (DaMEN 2011); and the Fourth International Workshop on Data Quality in Integration Systems (DQIS 2011).

Improvements in hospital management and emergency medical and critical care services require continual attention and dedication to ensure efficient and proper care for citizens. To support this endeavor, professionals rely more and more on the application of information systems and technologies to promote the overall quality of modern healthcare. Implementing effective technologies and strategies ensures proper quality and instruction for both the patient and medical practitioners. Hospital Management and Emergency Medicine: Breakthroughs in Research and Practice examines the latest scholarly material on emerging strategies and methods for delivering optimal emergency medical care and examines the latest technologies and tools that support the development of efficient emergency departments and hospital staff. While highlighting the challenges medical practitioners and healthcare professionals face when treating patients and striving to optimize their processes, the book shows how revolutionary technologies and methods are vastly improving how healthcare is implemented globally. Highlighting a range of topics such as overcrowding, decision support systems, and patient safety, this publication is an ideal reference source for hospital directors, hospital staff, emergency medical services, paramedics, medical administrators, managers and employees of health units, physicians, medical students, academicians, and researchers seeking current research on providing optimal care in emergency medicine.

The new edition of the classic bestseller that launched the data warehousing industry covers new approaches and technologies, many of which have been pioneered by Inmon himself. In addition to explaining the fundamentals of data warehouse systems, the book covers new topics such as methods for handling unstructured data in a data warehouse and storing data across multiple storage media. Discusses the pros and cons of relational versus multidimensional design and how to measure return on investment in planning data warehouse projects. Covers advanced topics, including data monitoring and testing. Although the book includes an extra 100 pages worth of valuable content, the price has actually been reduced from \$65 to \$55.

Business intelligence (BI) tools are capable of working with healthcare data in an efficient manner to generate real-time information and knowledge relevant to the success of healthcare organizations. Further, BI tools benefit healthcare professionals making critical decisions within hospitals, clinics, and physicians' offices. Applying Business Intelligence to Clinical and Healthcare Organizations presents new solutions for data analysis within the healthcare sector in order to improve the quality of medical care and patient quality of life. Business intelligence models and techniques are explored and their benefits for the healthcare sector exposed in this timely research-based publication comprised of chapters written by professionals and researchers from around the world. Hospital administrators, healthcare professionals, biomedical engineers, informatics engineers, and students in graduate-level healthcare management programs will find this publication essential to their professional development and research needs.

The book describes advanced business analytics and shows how to apply them to many different professional areas of engineering and management. Each chapter of the book

is contributed by a different author and covers a different area of business analytics. The book connects the analytic principles with business practice and provides an interface between the main disciplines of engineering/technology and the organizational, administrative and planning abilities of management. It also refers to other disciplines such as economy, finance, marketing, behavioral economics and risk analysis. This book is of special interest to engineers, economists and researchers who are developing new advances in engineering management but also to practitioners working on this subject.

Foreword by Mark Stephen LaRow, Vice President of Products, MicroStrategy "A unique and authoritative book that blends recent research developments with industry-level practices for researchers, students, and industry practitioners." Il-Yeol Song, Professor, College of Information Science and Technology, Drexel University

The first comprehensive handbook on star schema design The Star Schema Handbook is a comprehensive guide to dimensional modeling covering both basic and advanced topics. Organized around technical concepts rather than business examples, this is the perfect resource for data warehouse designers or developers. The book is architecture-neutral, providing full coverage of the best practices for the design of star schema and OLAP cubes in any environment. You'll find numerous examples of designs drawn from real-world situations. The book covers schema capabilities, ETL loading, reporting, and more. The Star Schema Handbook is a complete reference for dimensional modeling and star schema design, whether you're new to the field or are seeking advanced information to help you address specific design challenges The book explores best practices for star schema design and OLAP cubes; it is architecture-neutral, providing guidance on best design practices for any environment Topics include schema capabilities, ETL loading, reporting, and much more This comprehensive guide covers both basic and advanced topics, making it the complete reference for all data warehouse designers.

The Data Vault was invented by Dan Linstedt at the U.S. Department of Defense, and the standard has been successfully applied to data warehousing projects at organizations of different sizes, from small to large-size corporations. Due to its simplified design, which is adapted from nature, the Data Vault 2.0 standard helps prevent typical data warehousing failures. "Building a Scalable Data Warehouse" covers everything one needs to know to create a scalable data warehouse end to end, including a presentation of the Data Vault modeling technique, which provides the foundations to create a technical data warehouse layer. The book discusses how to build the data warehouse incrementally using the agile Data Vault 2.0 methodology. In addition, readers will learn how to create the input layer (the stage layer) and the presentation layer (data mart) of the Data Vault 2.0 architecture including implementation best practices. Drawing upon years of practical experience and using numerous examples and an easy to understand framework, Dan Linstedt and Michael Olschimke discuss: How to load each layer using SQL Server Integration Services (SSIS), including automation of the Data Vault loading processes. Important data warehouse technologies and practices. Data Quality Services (DQS) and Master Data Services (MDS) in the context of the Data Vault architecture. Provides a complete introduction to data warehousing, applications, and the business context so readers can get-up and running fast Explains theoretical concepts and provides hands-on instruction on how to build and implement a data warehouse Demystifies data vault modeling with beginning, intermediate, and advanced techniques Discusses the advantages of the data vault approach over other techniques, also including the latest updates to Data Vault 2.0 and multiple improvements to Data Vault 1.0

"In this Agile Data Warehouse Design training course, expert author Michael Blaha will teach you how to model and design a data warehouse. This course is designed for users that are already familiar with data warehouses. You will start with a data warehouse overview, then jump into learning about data sources, such as customer order, customer account, and vendor procurement. From there, Michael teaches you about staging tables, basic data warehouse modeling, recurrent dimensions, and advanced dimension data warehouse modeling. This video tutorial also covers data warehouse design, data warehouse data, and end user access. Finally, you will learn about metadata management. Once you have completed this computer based training course, you will be fully capable of modeling and designing your own data warehouse."--Resource description page.

Recently, researchers have focused on challenging problems facing the development of data warehousing, knowledge discovery, and data mining applications.

A cutting-edge response to Ralph Kimball's challenge to the data warehouse community that answers some tough questions about the effectiveness of the relational approach to data warehousing Written by one of the best-known exponents of the Bill Inmon approach to data warehousing Addresses head-on the tough issues raised by Kimball and explains how to choose the best modeling technique for solving common data warehouse design problems Weighs the pros and cons of relational vs. dimensional modeling techniques Focuses on tough modeling problems, including creating and maintaining keys and modeling calendars, hierarchies, transactions, and data quality

The first comparative review of the state of the art and best current practice in data warehousing. It covers source and data integration, multidimensional aggregation, query optimisation, update propagation, metadata management, quality assessment, and design optimisation. Also, based on results of the European DWQ project, it offers a conceptual framework by which the architecture and quality of data warehousing efforts can be assessed and improved using enriched metadata management combined with advanced techniques from databases, business modelling, and artificial intelligence. An excellent introduction to the issues of quality and metadata usage for researchers and database professionals in academia and industry. XXXXXXXX Neuer Text This book presents the first comparative review of the state-of-the-art and the best current practices of data warehouses. It covers source and data integration, multidimensional aggregation, query optimization, metadata management, quality assessment, and design optimization. A conceptual framework is presented by which the architecture and quality of a data warehouse can be assessed and improved using enriched metadata management combined with advanced techniques from databases, business modeling, and artificial intelligence.

Agile Data Warehouse Design is a step-by-step guide for capturing data warehousing/business intelligence (DW/BI) requirements and turning them into high performance dimensional models in the most direct way: by modelstorming (data modeling] brainstorming) with BI stakeholders. This book describes BEAM, an agile approach to dimensional modeling, for improving communication between data warehouse designers, BI stakeholders and the whole DW/BI development team. BEAM provides tools and techniques that will encourage DW/BI designers and developers to move away from their keyboards and entity relationship based tools and model interactively with their colleagues. The result is everyone thinks dimensionally from the outset! Developers understand how to efficiently implement dimensional modeling solutions. Business stakeholders feel ownership of the data warehouse they have created, and can already imagine how they will use it to answer their business questions. Within this book, you will learn: Agile dimensional modeling using Business Event Analysis & Modeling (BEAM) Modelstorming: data modeling that is quicker, more inclusive, more productive, and frankly more fun! Telling dimensional data stories using the 7Ws (who, what, when, where, how many, why and how) Modeling by example not abstraction; using data story themes, not crow's feet, to describe detail Storyboarding the data warehouse to discover conformed dimensions and plan iterative development Visual modeling: sketching timelines, charts and grids to model complex process measurement - simply Agile design documentation: enhancing star schemas with BEAM dimensional shorthand notation Solving difficult DW/BI performance and usability problems with proven dimensional design patterns LawrenceCorr is a data warehouse designer and educator. As Principal of DecisionOne Consulting, he helps clients to review and simplify their data warehouse designs, and advises vendors on visual data modeling

techniques. He regularly teaches agile dimensional modeling courses worldwide and has taught dimensional DW/BI skills to thousands of students. Jim Stagnitto is a data warehouse and master data management architect specializing in the healthcare, financial services, and information service industries. He is the founder of the data warehousing and data mining consulting firm Llumino.

"This book provides a wide compendium of references to topics in the field of the databases systems and applications"--Provided by publisher.

With this textbook, Vaisman and Zimányi deliver excellent coverage of data warehousing and business intelligence technologies ranging from the most basic principles to recent findings and applications. To this end, their work is structured into three parts. Part I describes "Fundamental Concepts" including multi-dimensional models; conceptual and logical data warehouse design and MDX and SQL/OLAP. Subsequently, Part II details "Implementation and Deployment," which includes physical data warehouse design; data extraction, transformation, and loading (ETL) and data analytics. Lastly, Part III covers "Advanced Topics" such as spatial data warehouses; trajectory data warehouses; semantic technologies in data warehouses and novel technologies like Map Reduce, column-store databases and in-memory databases. As a key characteristic of the book, most of the topics are presented and illustrated using application tools. Specifically, a case study based on the well-known Northwind database illustrates how the concepts presented in the book can be implemented using Microsoft Analysis Services and Pentaho Business Analytics. All chapters are summarized using review questions and exercises to support comprehensive student learning. Supplemental material to assist instructors using this book as a course text is available at <http://cs.ulb.ac.be/DWSDIbook/>, including electronic versions of the figures, solutions to all exercises, and a set of slides accompanying each chapter. Overall, students, practitioners and researchers alike will find this book the most comprehensive reference work on data warehouses, with key topics described in a clear and educational style.

IBM® InfoSphere® Warehouse is the IBM flagship data warehouse platform for departmental data marts and enterprise data warehouses. It offers leading architecture, performance, backup, and recovery tools that help improve efficiency and reduce time to market through increased understanding of current data assets, while simplifying the daily operations of managing complex warehouse deployments. InfoSphere Warehouse Advanced Enterprise Edition delivers an enhanced set of database performance, management, and design tools. These tools assist companies in maintaining and increasing value from their warehouses, while helping to reduce the total cost of maintaining these complex environments. In this IBM Redbooks® publication we explain how you can build a business intelligence system with InfoSphere Warehouse Advanced Enterprise to manage and support daily business operations for an enterprise, to generate more income with lower cost. We describe the foundation of the business analytics, the Data Warehouse features and functions, and the solutions that can deliver immediate analytics solutions and help you drive better business outcomes. We show you how to use the advanced analytics of InfoSphere Warehouse Advanced Enterprise Edition and integrated tools for data modeling, mining, text analytics, and identifying and meeting the data latency requirements. We describe how the performance and storage optimization features can make building and managing a large data warehouse more affordable, and how they can help significantly reduce the cost of ownership. We also cover data lifecycle management and the key features of IBM Cognos® Business Intelligence. This book is intended for data warehouse professionals who are interested in gaining in-depth knowledge about the operational business intelligence solution for a data warehouse that the IBM InfoSphere Warehouse Advanced Enterprise Edition offers.

Three books by the bestselling authors on Data Warehousing! The most authoritative guides from the inventor of the technique all for a value price. The Data Warehouse Toolkit, 3rd Edition (9781118530801) Ralph Kimball invented a data warehousing technique called "dimensional modeling" and popularized it in his first Wiley book, The Data Warehouse Toolkit. Since this book was first published in 1996, dimensional modeling has become the most widely accepted technique for data warehouse design. Over the past 10 years, Kimball has improved on his earlier techniques and created many new ones. In this 3rd edition, he will provide a comprehensive collection of all of these techniques, from basic to advanced. The Data Warehouse Lifecycle Toolkit, 2nd Edition (9780470149775) Complete coverage of best practices from data warehouse project inception through on-going program management. Updates industry best practices to be in sync with current recommendations of Kimball Group. Streamlines the lifecycle methodology to be more efficient and user-friendly The Data Warehouse ETL Toolkit (9780764567575) shows data warehouse developers how to effectively manage the ETL (Extract, Transform, Load) phase of the data warehouse development lifecycle. The authors show developers the best methods for extracting data from scattered sources throughout the enterprise, removing obsolete, redundant, and inaccurate data, transforming the remaining data into correctly formatted data structures, and then physically loading them into the data warehouse. This book provides complete coverage of proven, time-saving ETL techniques. It begins with a quick overview of ETL fundamentals and the role of the ETL development team. It then quickly moves into an overview of the ETL data structures, both relational and dimensional. The authors show how to build useful dimensional structures, providing practical examples of beginning through advanced techniques.

This book constitutes the thoroughly refereed post-proceedings of the Fifth International School and Symposium on Advanced Distributed Systems, ISSADS 2005, held in Guadalajara, Mexico in January 2005. The 50 revised full papers presented were carefully reviewed and selected from over 100 submissions. The papers are organized in topical sections on database systems, distributed and parallel algorithms, real-time distributed systems, cooperative information systems, fault tolerance, information retrieval, modeling and simulation, wireless networks and mobile computing, artificial life and multi agent systems.

The data warehousing bible updated for the new millennium Updated and expanded to reflect the many technological advances occurring since the previous edition, this latest edition of the data warehousing "bible" provides a comprehensive introduction to building data marts, operational data stores, the Corporate Information Factory, exploration warehouses, and Web-enabled warehouses. Written by the father of the data warehouse concept, the book also reviews the unique requirements for supporting e-business and explores various ways in which the traditional data warehouse can be integrated with new technologies to provide enhanced customer service, sales, and support-both online and offline-including near-line data storage techniques.

This book presents the first comparative review of the state of the art and the best current practices of data warehouses. It covers source and data integration, multidimensional aggregation, query optimization, metadata management, quality assessment, and design optimization. A conceptual framework is presented by which the architecture and quality of a data warehouse can be assessed and improved using enriched metadata management combined with advanced techniques from databases, business modeling, and artificial intelligence.

Geared to IT professionals eager to get into the all-important field of data warehousing, this book explores all topics needed by those who design and implement data warehouses. Readers will learn about planning requirements, architecture, infrastructure, data preparation, information delivery, implementation, and maintenance. They'll also find a wealth of industry examples garnered from the author's 25 years of experience in designing and implementing databases and data warehouse applications for major corporations. Market: IT Professionals, Consultants.

Environmental information and systems play a major role in environmental decision making. As such, it is vital to understand the impact that they have on different aspects of sustainable environmental management, as well as to understand the opportunity they might present for further improvement. Environmental Information Systems: Concepts, Methodologies, Tools, and Applications is an innovative reference source containing the latest research on the use of information systems to track and organize environmental data for use in an overall environmental management system. Highlighting a range of topics such as environmental analysis, remote sensing, and geographic information science, this multi-volume book is designed for engineers,

data scientists, practitioners, academicians, and researchers interested in all aspects of environmental information systems.

Data mapping in a data warehouse is the process of creating a link between two distinct data models' (source and target) tables/attributes. Data mapping is required at many stages of DW life-cycle to help save processor overhead; every stage has its own unique requirements and challenges. Therefore, many data warehouse professionals want to learn data mapping in order to move from an ETL (extract, transform, and load data between databases) developer to a data modeler role. Data Mapping for Data Warehouse Design provides basic and advanced knowledge about business intelligence and data warehouse concepts including real life scenarios that apply the standard techniques to projects across various domains. After reading this book, readers will understand the importance of data mapping across the data warehouse life cycle. Covers all stages of data warehousing and the role of data mapping in each Includes a data mapping strategy and techniques that can be applied to many situations Based on the author's years of real-world experience designing solutions

This textbook covers all central activities of data warehousing and analytics, including transformation, preparation, aggregation, integration, and analysis. It discusses the full spectrum of the journey of data from operational/transactional databases, to data warehouses and data analytics; as well as the role that data warehousing plays in the data processing lifecycle. It also explains in detail how data warehouses may be used by data engines, such as BI tools and analytics algorithms to produce reports, dashboards, patterns, and other useful information and knowledge. The book is divided into six parts: "Part I – Star Schema" describes the foundation of data warehouse design. "Part II – Snowflake and Bridge Tables" then expands the concept of a simple star schema by introducing the concept of hierarchy, bridge tables, as well as the use of bridge tables in temporal data warehousing. "Part III – Advanced Dimensions" elaborates various dimension models, namely determinant dimensions, junk dimensions, dimension keys, and one-attribute dimensions, which all enrich the semantics of the star schema. "Part IV – Multi-Fact and Multi-Input" introduces multi-fact star schemas, where the star schema has multi-fact entities. A multi-fact can also be created by slicing one fact into multi-facts, which is discussed next. Eventually the creation of a star schema is introduced where an operational database is used as input to the transformation process and consists of multiple operational databases. "Part V – Data Warehousing Granularity and Evolution" first introduces the concept of aggregation levels in a star schema constellation. It then focuses on the lowest-level star schema, including how to design a star schema and why it is needed in data warehousing, before moving on to methods for adding and removing dimensions. The remaining two chapters present more advanced concepts in data warehousing granularity and introduce the concept of active data warehousing. "Part VI – OLAP, Business Intelligence, and Data Analytics" thoroughly explains OLAP – online analytical processing, and describes two important activities in the data warehousing process, namely pre-data warehousing and post-data warehousing. The final chapter focuses on data analytics, which consists of a suite of methods for data analysis suitable for data warehousing. This textbook approaches data warehousing from the case study angle. Each chapter presents one or more case studies to thoroughly explain the concepts and has different levels of difficulty, hence learning is incremental. In addition, every chapter has also a section on further readings which give pointers and references to research papers related to the chapter. All these features make the book ideally suited for either introductory courses on data warehousing and data analytics, or even for self-studies by professionals. The book is accompanied by a web page that includes all the used datasets and codes as well as slides and solutions to exercises.

This book constitutes the refereed proceedings of the 16th International Conference on Data Warehousing and Knowledge Discovery, DaWaK 2014 held in Munich, Germany, September 2014, in conjunction with DEXA 2014. The 34 revised full papers and 8 short papers presented were carefully reviewed and selected from 109 submissions. The papers are organized in topical sections on modeling and ETL; ontology-based data warehouses; advanced data warehouses and OLAP; uncertainty; preferences and recommendation; query performance and HPC; cube & OLAP; optimization; classification; social networks and recommendation systems; knowledge data discovery; industrial applications; mining and processing data stream; mining and similarity.

Although the effort to involve women in engineering has risen in recent years with the creation of new initiatives and the promotion of inclusion in technical disciplines, the active participation of women in engineering professions is continuously lower than expected. While the need for engineers appears to be constantly increasing, women still do not fill most of this role and have a long way to go to even reach an equal split in the field. This gender gap has a significant impact how women in the STEM fields are perceived as well as their experiences in their education and careers. When it comes to Latin American women in IT, their contribution to science can go unnoticed, their participation levels in these fields are very low, and they often occupy lower-level positions than their male counterparts. These issues need to be discussed, and the experiences of women who work in the field must be shared. Latin American Women and Research Contributions to the IT Field highlights the important role of Latin American women in IT by collecting and disseminating their frontier-research contributions in order to provide more visibility and inspire greater participation of Latin American women within the major field of computer science. With chapters contributed by female authors from eight Latin American and Caribbean countries, the book provides a deep analysis of these women's trajectory paths to high quality theoretical and applied relevant research in computer science and IT. While highlighting areas such as inclusivity and STEM education, along with advancements and achievements in topics that include nonverbal interaction in virtual reality, fuzzy logic applications in education, and ant colony optimization, this book is ideal for professionals, academics, students, and researchers working in the fields of information technologies and computer science as well as those interested in gender and women's studies.

Updated new edition of Ralph Kimball's groundbreaking book on dimensional modeling for data warehousing and business intelligence! The first edition of Ralph Kimball's The Data Warehouse Toolkit introduced the industry to dimensional modeling, and now his books are considered the most authoritative guides in this space. This new third edition is a complete library of updated dimensional modeling techniques, the most comprehensive collection ever. It covers new and enhanced star schema dimensional modeling patterns, adds two new chapters on ETL techniques, includes new and expanded business matrices for 12 case studies, and more. Authored by Ralph Kimball and Margy Ross, known worldwide as educators, consultants, and influential thought leaders in data warehousing and business intelligence Begins with fundamental design recommendations and progresses through increasingly complex scenarios Presents unique modeling techniques for business applications such as inventory management, procurement, invoicing, accounting, customer relationship management, big data analytics, and more

Draws real-world case studies from a variety of industries, including retail sales, financial services, telecommunications, education, health care, insurance, e-commerce, and more. Design dimensional databases that are easy to understand and provide fast query response with *The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling*, 3rd Edition.

Data warehousing and online analysis technologies have shown their effectiveness in managing and analyzing a large amount of disparate data, attracting much attention from numerous research communities. *Data Warehousing Design and Advanced Engineering Applications: Methods for Complex Construction* covers the complete process of analyzing data to extract, transform, load, and manage the essential components of a data warehousing system. A defining collection of field discoveries, this advanced title provides significant industry solutions for those involved in this distinct research community.

"This book provides insight into the latest findings concerning data warehousing, data mining, and their applications in everyday human activities"--Provided by publisher.

This book constitutes the proceedings of the 27th International Conference on Advanced Information Systems Engineering, CAiSE 2015, held in Stockholm, Sweden, in June 2015. The 31 papers presented in this volume were carefully reviewed and selected from 236 submissions. They were organized in topical sections named: social and collaborative computing; business process modeling and languages; high volume and complex information management; requirements elicitation and management; enterprise data management; model conceptualisation and evolution; process mining, monitoring and predicting; intra- and inter-organizational process engineering; process compliance and alignment; enterprise IT integration and management; and service science and computing. The book also contains the abstracts of 3 keynote speeches and 5 tutorials, presented at the conference.

The development of business intelligence has enhanced the visualization of data to inform and facilitate business management and strategizing. By implementing effective data-driven techniques, this allows for advanced reporting tools to cater to company-specific issues and challenges. *The Handbook of Research on Advanced Data Mining Techniques and Applications for Business Intelligence* is a key resource on the latest advancements in business applications and the use of mining software solutions to achieve optimal decision-making and risk management results. Highlighting innovative studies on data warehousing, business activity monitoring, and text mining, this publication is an ideal reference source for research scholars, management faculty, and practitioners.

This exceptional work provides readers with an introduction to the state-of-the-art research on data warehouse design, with many references to more detailed sources. It offers a clear and a concise presentation of the major concepts and results in the subject area. Malinowski and Zimányi explain conventional data warehouse design in detail, and additionally address two innovative domains recently introduced to extend the capabilities of data warehouse systems: namely, the management of spatial and temporal information.

Advanced Data Warehouse Design From Conventional to Spatial and Temporal Applications Springer Science & Business Media

Ralph Kimball invented a data warehousing technique called "dimensional modelling" and popularised it in his first Wiley bestseller *The Data Warehouse Toolkit*. Since then dimensional modelling has become the most widely accepted technique for data warehouse design. Since the first edition, Kimball has improved on his earlier techniques and created many new ones. In this second edition, he provides a comprehensive collection of all of them, from basic to advanced, and strategies for optimising data warehouse design for common business applications. He includes examples for retail sales, inventory management, procurement, orders and invoices, customer relationship management, accounting, financial services, telecommunication and utilities, health care, insurance and more. He also presents unique modelling techniques for e-commerce and shows strategies for optimising performance. A companion Web site provides updates on dimensional modelling techniques, links to related sites and source code where appropriate.

This book contains the collection of full papers accepted at the 11th International Conference on Enterprise Information Systems (ICEIS 2009), organized by the Institute for Systems and Technologies of Information Control and Communication (INSTICC) in cooperation with the Association for Advancement of Artificial Intelligence (AAAI) and ACM SIGMIS (SIG on Management Information Systems), and technically co-sponsored by the Japanese IEICE SWIM (SIG on Software Enterprise Modeling) and the Workflow Management Coalition (WfMC). ICEIS 2009 was held in Milan, Italy. This conference has grown to become a major point of contact between research scientists, engineers and practitioners in the area of business applications of information systems. This year, five simultaneous tracks were held, covering different aspects related to enterprise computing, including: "Databases and Information Systems Integration," "Artificial Intelligence and Decision Support Systems," "Information Systems Analysis and Specification," "Software Agents and Internet Computing" and "Human-Computer Interaction". All tracks describe research work that is often oriented toward real-world applications and highlight the benefits of information systems and technology for industry and services, thus making a bridge between academia and enterprise. ICEIS 2009 received 644 paper submissions from 70 countries in all continents; 81 papers were published and presented as full papers, i.e., completed research work (8 pages/30-minute oral presentation). Additional papers accepted at ICEIS, including short papers and posters, were published in the regular conference proceedings.

This two volume set LNCS 7825 and LNCS 7826 constitutes the refereed proceedings of the 18th International Conference on Database Systems for Advanced Applications, DASFAA 2013, held in Wuhan, China, in April 2013. The 51 revised full papers and 10 short papers presented together with 2 invited keynote talks, 1 invited paper, 3 industrial papers, 9 demo presentations, 4 tutorials and 1 panel paper were carefully reviewed and selected from a total of 227 submissions. The topics covered in part 1 are social networks; query processing; nearest neighbor search; index; query analysis; XML data management; privacy protection; and uncertain data management; and in part 2: graph data management; physical design; knowledge management; temporal data management; social networks; query processing; data mining; applications; and database applications.

The MicroStrategy Advanced Data Warehousing course explains data modeling design challenges and solutions when implementing a MicroStrategy project. The course assumes prerequisite knowledge of *MicroStrategy Desktop: Reporting Essentials*, *MicroStrategy Architect: Project Design Essentials*, and *MicroStrategy Architect: Advanced Project Design*. You will learn how to model complex hierarchies and attribute relationships, implement role attributes and versioning, use logical views, and optimize query performance.

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