

The Dama Dictionary Of Data Management Over 2000 Terms Defined For It And Business Professionals

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Data Governance John Ladley

2012-11-07 This book is for any manager or team leader that

has the green light to implement a data governance program. The problem of managing data continues to grow with issues surrounding cost of storage, exponential growth, as well as administrative, management and security concerns – the solution to being able to scale all of these issues up is data governance which provides better services to users and saves money. What you will find in this book is an overview of why data governance is needed, how to design, initiate, and execute a program and how to keep the program sustainable. With the provided framework and case studies you will be enabled and educated in launching your very own successful and money saving data governance program. Provides a complete overview of the data governance lifecycle, that can help you discern technology and staff needs Specifically aimed at managers who need to implement a data governance program at their company Includes case studies

to detail ‘do’s’ and ‘don’ts’ in real-world situations

Building the Unstructured Data Warehouse Bill Inmon

2011-01-01 Learn essential techniques from data warehouse legend Bill Inmon on how to build the reporting environment your business needs now! Answers for many valuable business questions hide in text. How well can your existing reporting environment extract the necessary text from email, spreadsheets, and documents, and put it in a useful format for analytics and reporting? Transforming the traditional data warehouse into an efficient unstructured data warehouse requires additional skills from the analyst, architect, designer, and developer. This book will prepare you to successfully implement an unstructured data warehouse and, through clear explanations, examples, and case studies, you will learn new techniques and tips to successfully obtain and analyze text. Master these ten objectives: • Build an unstructured data warehouse

using the 11-step approach • Integrate text and describe it in terms of homogeneity, relevance, medium, volume, and structure • Overcome challenges including blather, the Tower of Babel, and lack of natural relationships • Avoid the Data Junkyard and combat the “Spider’s Web” • Reuse techniques perfected in the traditional data warehouse and Data Warehouse 2.0, including iterative development • Apply essential techniques for textual Extract, Transform, and Load (ETL) such as phrase recognition, stop word filtering, and synonym replacement • Design the Document Inventory system and link unstructured text to structured data • Leverage indexes for efficient text analysis and taxonomies for useful external categorization • Manage large volumes of data using advanced techniques such as backward pointers • Evaluate technology choices suitable for unstructured data processing, such as data warehouse appliances The following outline briefly describes each chapter’s

content: • Chapter 1 defines unstructured data and explains why text is the main focus of this book. The sources for text, including documents, email, and spreadsheets, are described in terms of factors such as homogeneity, relevance, and structure. • Chapter 2 addresses the challenges one faces when managing unstructured data. These challenges include volume, blather, the Tower of Babel, spelling, and lack of natural relationships. Learn how to avoid a data junkyard, which occurs when unstructured data is not properly integrated into the data warehouse. This chapter emphasizes the importance of storing integrated unstructured data in a relational structure. We are cautioned on both the commonality and dangers associated with text based on paper. • Chapter 3 begins with a timeline of applications, highlighting their evolution over the decades. Eventually, powerful yet siloed applications created a “spider’s web” environment. This chapter

describes how data warehouses solved many problems, including the creation of corporate data, the ability to get out of the maintenance backlog conundrum, and greater data integrity and data accessibility. There were problems, however, with the data warehouse that were addressed in Data Warehouse 2.0 (DW 2.0), such as the inevitable data lifecycle. This chapter discusses the DW 2.0 architecture, which leads into the role of the unstructured data warehouse. The unstructured data warehouse is defined and benefits are given. There are several features of the conventional data warehouse that can be leveraged for the unstructured data warehouse, including ETL processing, textual integration, and iterative development. • Chapter 4 focuses on the heart of the unstructured data warehouse: Textual Extract, Transform, and Load (ETL). This chapter has separate sections on extracting text, transforming text, and loading text. The chapter emphasizes the issues

around source data. There are a wide variety of sources, and each of the sources has its own set of considerations. Extracting pointers are provided, such as reading documents only once and recognizing common and different file types. Transforming text requires addressing many considerations discussed in this chapter, including phrase recognition, stop word filtering, and synonym replacement. Loading text is the final step. There are important points to understand here, too, that are explained in this chapter, such as the importance of the thematic approach and knowing how to handle large volumes of data. Two ETL examples are provided, one on email and one on spreadsheets. • Chapter 5 describes the 11 steps required to develop the unstructured data warehouse. The methodology explained in this chapter is a combination of both traditional system development lifecycle and spiral approaches. • Chapter 6 describes how to inventory

documents for maximum analysis value, as well as link the unstructured text to structured data for even greater value. The Document Inventory is discussed, which is similar to a library card catalog used for organizing corporate documents. This chapter explores ways of linking unstructured text to structured data. The emphasis is on taking unstructured data and reducing it into a form of data that is structured. Related concepts to linking, such as probabilistic linkages and dynamic linkages, are discussed. • Chapter 7 goes through each of the different types of indexes necessary to make text analysis efficient. Indexes range from simple indexes, which are fast to create and are good if the analyst really knows what needs to be analyzed before the indexing process begins, to complex combined indexes, which can be made up of any and all of the other kinds of indexes. • Chapter 8 explains taxonomies and how they can be used within the unstructured data warehouse. Both simple

and complicated taxonomies are discussed. Techniques to help the reader leverage taxonomies, including using preferred taxonomies, external categorization, and cluster analysis are described. Real world problems are raised, including the possibilities of encountering hierarchies, multiple types, and recursion. The chapter ends with a discussion comparing a taxonomy with a data model. • Chapter 9 explains ways of coping with large amounts of unstructured data. Techniques such as keeping the unstructured data at its source and using backward pointers are discussed. The chapter explains why iterative development is so important. Ways of reducing the amount of data are presented, including screening and removing extraneous data, as well as parallelizing the workload. • Chapter 10 focuses on challenges and some technology choices that are suitable for unstructured data processing. The traditional data warehouse processing

technology is reviewed. In addition, the data warehouse appliance is discussed. • Chapters 11, 12, and 13 put all of the previously discussed techniques and approaches in context through three case studies: the Ablatz Medical Group, the Eastern Hills Oil Company, and the Amber Oil Company.

Measuring Data Quality for Ongoing Improvement Laura Sebastian-Coleman 2012-12-31
The Data Quality Assessment Framework shows you how to measure and monitor data quality, ensuring quality over time. You'll start with general concepts of measurement and work your way through a detailed framework of more than three dozen measurement types related to five objective dimensions of quality: completeness, timeliness, consistency, validity, and integrity. Ongoing measurement, rather than one time activities will help your organization reach a new level of data quality. This plain-language approach to measuring data can be

understood by both business and IT and provides practical guidance on how to apply the DQAF within any organization enabling you to prioritize measurements and effectively report on results. Strategies for using data measurement to govern and improve the quality of data and guidelines for applying the framework within a data asset are included. You'll come away able to prioritize which measurement types to implement, knowing where to place them in a data flow and how frequently to measure. Common conceptual models for defining and storing of data quality results for purposes of trend analysis are also included as well as generic business requirements for ongoing measuring and monitoring including calculations and comparisons that make the measurements meaningful and help understand trends and detect anomalies. Demonstrates how to leverage a technology independent data quality measurement framework for your specific business priorities and data

quality challenges Enables discussions between business and IT with a non-technical vocabulary for data quality measurement Describes how to measure data quality on an ongoing basis with generic measurement types that can be applied to any situation

The DAMA Dictionary of Data Management, 1st Edition 2008 Mark Mosley 2008

New Knowledge in Information Systems and Technologies

Álvaro Rocha 2019-03-26 This book includes a selection of articles from The 2019 World Conference on Information Systems and Technologies (WorldCIST'19), held from April 16 to 19, at La Toja, Spain. WorldCIST is a global forum for researchers and practitioners to present and discuss recent results and innovations, current trends, professional experiences and challenges in modern information systems and technologies research, together with their technological development and applications. The book covers a number of topics, including A)

Information and Knowledge Management; B) Organizational Models and Information Systems; C) Software and Systems Modeling; D) Software Systems, Architectures, Applications and Tools; E) Multimedia Systems and Applications; F) Computer Networks, Mobility and Pervasive Systems; G) Intelligent and Decision Support Systems; H) Big Data Analytics and Applications; I) Human-Computer Interaction; J) Ethics, Computers & Security; K) Health Informatics; L) Information Technologies in Education; M) Information Technologies in Radiocommunications; and N) Technologies for Biomedical Applications.

HIMSS Dictionary of Healthcare Information Technology Terms, Acronyms and Organizations, Third Edition

HIMSS 2013 This resource includes an exhaustive list of acronyms and definitions used in health information technology and clinical informatics. It also includes a

listing of organizations and associations that have some relationship to healthcare informatics (including contact information, mission statements, and web addresses).

The Data Book Meredith Zozus 2017-07-12 The Data Book: Collection and Management of Research Data is the first practical book written for researchers and research team members covering how to collect and manage data for research. The book covers basic types of data and fundamentals of how data grow, move and change over time. Focusing on pre-publication data collection and handling, the text illustrates use of these key concepts to match data collection and management methods to a particular study, in essence, making good decisions about data. The first section of the book defines data, introduces fundamental types of data that bear on methodology to collect and manage them, and covers data management planning and research reproducibility. The

second section covers basic principles of and options for data collection and processing emphasizing error resistance and traceability. The third section focuses on managing the data collection and processing stages of research such that quality is consistent and ultimately capable of supporting conclusions drawn from data. The final section of the book covers principles of data security, sharing, and archival. This book will help graduate students and researchers systematically identify and implement appropriate data collection and handling methods.

DAMA-DMBOK Dama International 2017 Defining a set of guiding principles for data management and describing how these principles can be applied within data management functional areas; Providing a functional framework for the implementation of enterprise data management practices; including widely adopted practices, methods and techniques, functions, roles,

deliverables and metrics; Establishing a common vocabulary for data management concepts and serving as the basis for best practices for data management professionals. DAMA-DMBOK2 provides data management and IT professionals, executives, knowledge workers, educators, and researchers with a framework to manage their data and mature their information infrastructure, based on these principles: Data is an asset with unique properties; The value of data can be and should be expressed in economic terms; Managing data means managing the quality of data; It takes metadata to manage data; It takes planning to manage data; Data management is cross-functional and requires a range of skills and expertise; Data management requires an enterprise perspective; Data management must account for a range of perspectives; Data management is data lifecycle management; Different types of data have different lifecycle

requirements; Managing data includes managing risks associated with data; Data management requirements must drive information technology decisions; Effective data management requires leadership commitment.

Advances in Automation II

Andrey A. Radionov 2021-03-19

This book reports on innovative research and developments in automation. Spanning a wide range of disciplines, including communication engineering, power engineering, control engineering, instrumentation, signal processing and cybersecurity, it focuses on methods and findings aimed at improving the control and monitoring of industrial and manufacturing processes as well as safety. Based on the International Russian Automation Conference, held on September 6–12, 2020, in Sochi, Russia, the book provides academics and professionals with a timely overview of and extensive information on the state of the art in the field of automation and control systems, and

fosters new ideas and collaborations between groups in different countries.

ДАМА-ДМВОК. Свод знаний по управлению данными.

Коллектив авторов
2020-11-17 Главная задача книги – определить набор руководящих принципов и описать их применение в функциональных областях управления данными. Издание всесторонне описывает проблемы, возникающие в процессе управления данными, и предлагает способы их решения. В нем подробно описаны широко принятые практики, методы и приемы, функции, роли, результаты и метрики. «ДАМА-ДМВОК: Свод знаний по управлению данными. Второе издание» предоставляет специалистам по управлению данными, ИТ-специалистам, руководителям, преподавателям и исследователям обширный материал для совершенствования работы с информационными активами и корпоративными данными.

Connected, Intelligent, Automated Nicole Radziwill
2020-02-20 Quality 4.0 is for all industries, and this book is for anyone who wants to learn how Industry 4.0 and Quality 4.0 can help improve quality and performance in their team or company. This comprehensive guide is the culmination of 25 years of research and practice—exploring, implementing, and critically examining the quality and performance improvement aspects of what we now call Industry 4.0 technologies. Navigate the connected, intelligent, and automated ecosystems of infrastructure, people, objects, machines, and data. Sift through the noise around AI, AR, big data, blockchain, cybersecurity, and other rising technologies and emerging issues to find the signals for your organization. Discover the value proposition of Quality 4.0 and the leading role for Quality professionals to drive successful digital transformation initiatives. The changes ahead are powerful, exciting, and overwhelming—and we can draw on the lessons

from past work to mitigate the risks we face today. Connected, Intelligent, Automated provides you with the techniques, philosophies, and broad overall knowledge you need to understand Quality 4.0, and helps you leverage those things for the future success of your enterprise. Chapter 1: Quality 4.0 and the Fourth Industrial Revolution Chapter 2: Connected Ecosystems Chapter 3: Intelligent Agents and Machine Learning Chapter 4: Automation: From Manual Labor to Autonomy Chapter 5: Quality 4.0 Use Cases Across Industries Chapter 6: From Algorithms to Advanced Analytics Chapter 7: Delivering Value and Impact Through Data Science Chapter 8: Data Quality and Data Management Chapter 9: Software Applications & Data Platforms Chapter 10: Blockchain Chapter 11: Performance Excellence Chapter 12: Environment, Health, Safety, Quality (EHSQ) and Cybersecurity Chapter 13: Voice of the Customer (VoC) Chapter 14: Elements of a Quality 4.0 Strategy Chapter

15: Playbook for Transformation
Data Resource Understanding Michael H. Brackett 2015-01-01 Are you struggling to understand the data you need to support your business activities? Are you frustrated over data that don't answer your questions or provide the wrong answers to your questions? Are you worried that your organization is not adequately supporting its citizens or customers? Are you concerned over civil or criminal liability for the quality and use of your data? If the answer to any of these questions is Yes, then you need to read Data Resource Understanding to help you and everyone in your organization thoroughly understand the data they need to support the business activities. Most public and private sector organizations have no formal method for thoroughly understanding the data needed to support their business activities. They seldom have a method that begins with the organization's perception of the business world and continues through a

formal Data Resource Development Cycle to produce a high quality, thoroughly understood data resource that fully supports the organization's current and future business information demand. Data Resource Data provided the complete detailed data resource model for understanding and managing data as a critical resource of the organization. Data Resource Understanding is the companion book to Data Resource Data. It provides a detailed explanation of how to thoroughly understand an organization's data resource and to document that understanding with Data Resource Data. Together they provide an organization with the foundation for properly managing their data as a critical resource. Like Data Resource Simplicity, Data Resource Integration, Data Resource Design, and Data Resource Data, Michael Brackett draws on over half a century of data management experience, in a wide variety of different public and private

sector organizations, to understand and document an organization's data resource. He leverages theories, concepts, principles, and techniques from many different and varied disciplines, such as human dynamics, mathematics, physics, chemistry, philosophy, and biology, and applies them to the process of formally documenting an organization's data resource.

[On the Move to Meaningful Internet Systems: OTM 2019](#)

[Workshops](#) Christophe

Debruyne 2020-02-12 This

volume constitutes the refereed proceedings of the

Confederated International

International Workshop on

Enterprise Integration,

Interoperability and Networking

(EI2N), Fact Based Modeling (

FBM), Industry Case Studies

Program (ICSP), International

Workshop on Methods,

Evaluation, Tools and

Applications for the Creation

and Consumption of Structured

Data for the e-Society

(Meta4eS) and, 1st

International Workshop on

Security via Information

Analytics and Applications (SIAnA 2019) held as part of OTM 2018 in October 2019 in Rhodes, Greece. As the three main conferences and the associated workshops all share the distributed aspects of modern computing systems, they experience the application pull created by the Internet and by the so-called Semantic Web, in particular developments of Big Data, increased importance of security issues, and the globalization of mobile-based technologies.

The Analytical Puzzle David Haertzen 2012-07-01 Do you enjoy completing puzzles? Perhaps one of the most challenging (yet rewarding) puzzles is delivering a successful data warehouse suitable for data mining and analytics. The Analytical Puzzle describes an unbiased, practical, and comprehensive approach to building a data warehouse which will lead to an increased level of business intelligence within your organization. New technologies continuously impact this approach and therefore this

book explains how to leverage big data, cloud computing, data warehouse appliances, data mining, predictive analytics, data visualization and mobile devices. Here are the main objectives for each of the book's 19 chapters:

- Chapter 1: Develop a foundational knowledge of data warehousing, business intelligence and analytics
- Chapter 2: Build the business case needed to sell your data warehousing project, and then produce a project plan that avoids common pitfalls
- Chapter 3: Elicit and organize business intelligence and data warehousing business requirements
- Chapter 4: Specify the technical architecture of the data warehousing system, including software and infrastructure components, technology stack, and non-functional requirements. Gain an understanding of cloud based data warehousing and data warehouse appliances
- Chapter 5: Learn about data attributes including metrics and key performance indicators

(KPIs), the raw material of data warehousing and business intelligence • Chapter 6: Learn about data modeling and how to apply design patterns for each part of the data warehouse • Chapter 7: Speak the dimensional modeling language of measures, dimensions, facts, cubes, stars, and snowflakes • Chapter 8: Organize a successful data governance program. Learn how to manage metadata for your data warehousing and business intelligence project • Chapter 9: Identify useful data sources and implement a data quality program • Chapter 10: Use database technology for your data warehousing project, and understand the impact of data warehouse appliances, big data, in memory databases, columnar databases and OnLine Analytical Processing (OLAP) • Chapter 11: Apply data integration and understand the role data mapping, data cleansing, data transformation, and loading data play in a successful data warehouse • Chapter 12: Use the business intelligence (BI)

operations of slice, dice, drill down, roll up, and pivot to analyze and present data • Chapter 13: Learn about descriptive and predictive statistics, and calculate mean, median, mode, variance and standard deviation • Chapter 14: Harness analytical methods such as regression analysis, data mining, and statistics to make profitable decisions and anticipate the future • Chapter 15: Appreciate the components and design patterns that compose a successful analytic application • Chapter 16: Gain an understanding of the uses and benefits of scorecards and dashboards including support of mobile device users • Chapter 17: Gain insight into applications of business intelligence that could profit your organization, including risk management, finance, marketing, government, healthcare, science and sports • Chapter 18: Perform customer analytics to better understand and segment your customers • Chapter 19: Test, roll out, and sustain the data warehouse

Data Modeling for the Business

Steve Hoberman 2009-04-01
Did you ever try getting Businesspeople and IT to agree on the project scope for a new application? Or try getting Marketing and Sales to agree on the target audience? Or try bringing new team members up to speed on the hundreds of tables in your data warehouse — without them dozing off? Whether you are a businessperson or an IT professional, you can be the hero in each of these and hundreds of other scenarios by building a High-Level Data Model. The High-Level Data Model is a simplified view of our complex environment. It can be a powerful communication tool of the key concepts within our application development projects, business intelligence and master data management programs, and all enterprise and industry initiatives. Learn about the High-Level Data Model and master the techniques for building one, including a comprehensive ten-step approach and hands-on exercises to help you practice topics on your own. In this

book, we review data modeling basics and explain why the core concepts stored in a high-level data model can have significant business impact on an organization. We explain the technical notation used for a data model and walk through some simple examples of building a high-level data model. We also describe how data models relate to other key initiatives you may have heard of or may be implementing in your organization. This book contains best practices for implementing a high-level data model, along with some easy-to-use templates and guidelines for a step-by-step approach. Each step will be illustrated using many examples based on actual projects we have worked on. Names have been changed to protect the innocent, but the pain points and lessons have been preserved. One example spans an entire chapter and will allow you to practice building a high-level data model from beginning to end, and then compare your results to ours. Building a high-level data model following the ten step

approach you'll read about is a great way to ensure you will retain the new skills you learn in this book. As is the case in many disciplines, using the right tool for the right job is critical to the overall success of your high-level data model implementation. To help you in your tool selection process, there are several chapters dedicated to discussing what to look for in a high-level data modeling tool and a framework for choosing a data modeling tool, in general. This book concludes with a real-world case study that shows how an international energy company successfully used a high-level data model to streamline their information management practices and increase communication throughout the organization—between both businesspeople and IT. Data modeling is one of the under-exploited, and potentially very valuable, business capabilities that are often hidden away in an organization's Information Technology department. *Data Modeling for the Business* highlights both the resulting

damage to business value, and the opportunities to make things better. As an easy-to follow and comprehensive guide on the 'why' and 'how' of data modeling, it also reminds us that a successful strategy for exploiting IT depends at least as much on the information as the technology. Chris Potts, Corporate IT Strategist and Author of *frulTion: Creating the Ultimate Corporate Strategy for Information Technology* One of the most critical systems issues is aligning business with IT and fulfilling business needs using data models. The authors of *Data Modeling for the Business* do a masterful job at simply and clearly describing the art of using data models to communicate with business representatives and meet business needs. The book provides many valuable tools, analogies, and step-by-step methods for effective data modeling and is an important contribution in bridging the much needed connection between data modeling and realizing business requirements. Len Silverston,

author of The Data Model Resource Book series
Data Modeling Made Simple with CA ERwin Data Modeler r8
Donna Burbank 2011-08-01
Data Modeling Made Simple with CA ERwin Data Modeler r8 will provide the business or IT professional with a practical working knowledge of data modeling concepts and best practices, and how to apply these principles with CA ERwin Data Modeler r8. You'll build many CA ERwin data models along the way, mastering first the fundamentals and later in the book the more advanced features of CA ERwin Data Modeler. This book combines real-world experience and best practices with down to earth advice, humor, and even cartoons to help you master the following ten objectives: 1. Understand the basics of data modeling and relational theory, and how to apply these skills using CA ERwin Data Modeler 2. Read a data model of any size and complexity with the same confidence as reading a book 3. Understand the difference between conceptual, logical,

and physical models, and how to effectively build these models using CA ERwin's Data Modelers Design Layer Architecture 4. Apply techniques to turn a logical data model into an efficient physical design and vice-versa through forward and reverse engineering, for both 'top down' and bottom-up design 5. Learn how to create reusable domains, naming standards, UDPs, and model templates in CA ERwin Data Modeler to reduce modeling time, improve data quality, and increase enterprise consistency 6. Share data model information with various audiences using model formatting and layout techniques, reporting, and metadata exchange 7. Use the new workspace customization features in CA ERwin Data Modeler r8 to create a workflow suited to your own individual needs 8. Leverage the new Bulk Editing features in CA ERwin Data Modeler r8 for mass metadata updates, as well as import/export with Microsoft Excel 9. Compare and merge model changes using CA ERwin

Data Modelers Complete
Compare features 10. Optimize the organization and layout of your data models through the use of Subject Areas, Diagrams, Display Themes, and more
Section I provides an overview of data modeling: what it is, and why it is needed. The basic features of CA ERwin Data Modeler are introduced with a simple, easy-to-follow example. Section II introduces the basic building blocks of a data model, including entities, relationships, keys, and more. How-to examples using CA ERwin Data Modeler are provided for each of these building blocks, as well as 'real world' scenarios for context. Section III covers the creation of reusable standards, and their importance in the organization. From standard data modeling constructs such as domains to CA ERwin-specific features such as UDPs, this section covers step-by-step examples of how to create these standards in CA ERwin Data Modeling, from creation, to template building, to sharing standards with end users through reporting and queries.

Section IV discusses conceptual, logical, and physical data models, and provides a comprehensive case study using CA ERwin Data Modeler to show the interrelationships between these models using CA ERwin's Design Layer Architecture. Real world examples are provided from requirements gathering, to working with business sponsors, to the hands-on nitty-gritty details of building conceptual, logical, and physical data models with CA ERwin Data Modeler r8. From the Foreword by Tom Bilcze, President, CA Technologies Modeling Global User Community: Data Modeling Made Simple with CA ERwin Data Modeler r8 is an excellent resource for the ERwin community. The data modeling community is a diverse collection of data professionals with many perspectives of data modeling and different levels of skill and experience. Steve Hoberman and Donna Burbank guide newbie modelers through the basics of data modeling and CA ERwin r8. Through the

liberal use of illustrations, the inexperienced data modeler is graphically walked through the components of data models and how to create them in CA ERwin r8. As an experienced data modeler, Steve and Donna give me a handbook for effectively using the new and enhanced features of this release to bring my art form to life. The book delves into advanced modeling topics and techniques by continuing the liberal use of illustrations. It speaks to the importance of a defined data modeling architecture with soundly modeled data to assist the enterprise in understanding of the value of data. It guides me in applying the finishing touches to my data designs. [Advancing Strategic Science](#) National Research Council 2012-09-26 Science is increasingly driven by data, and spatial data underpin the science directions laid out in the 2007 U.S. Geological Survey (USGS) Science Strategy. A robust framework of spatial data, metadata, tools, and a user community that is interactively connected to use

spatial data in an efficient and flexible way--known as a spatial data infrastructure (SDI)--must be available for scientists and managers to find, use, and share spatial data both within and beyond the USGS. Over the last decade, the USGS has conducted breakthrough research that has overcome some of the challenges associated with implementing a large SDI. Advancing Strategic Science: A Spatial Data Infrastructure Roadmap for the U.S. Geological Survey is intended to ground those efforts by providing a practical roadmap to full implementation of an SDI to enable the USGS to conduct strategic science.

Executing Data Quality

Projects Danette McGilvray 2021-05-27 Executing Data Quality Projects, Second Edition presents a structured yet flexible approach for creating, improving, sustaining and managing the quality of data and information within any organization. Studies show that data quality problems are costing businesses billions of dollars each year, with poor

data linked to waste and inefficiency, damaged credibility among customers and suppliers, and an organizational inability to make sound decisions. Help is here! This book describes a proven Ten Step approach that combines a conceptual framework for understanding information quality with techniques, tools, and instructions for practically putting the approach to work – with the end result of high-quality trusted data and information, so critical to today’s data-dependent organizations. The Ten Steps approach applies to all types of data and all types of organizations – for-profit in any industry, non-profit, government, education, healthcare, science, research, and medicine. This book includes numerous templates, detailed examples, and practical advice for executing every step. At the same time, readers are advised on how to select relevant steps and apply them in different ways to best address the many situations

they will face. The layout allows for quick reference with an easy-to-use format highlighting key concepts and definitions, important checkpoints, communication activities, best practices, and warnings. The experience of actual clients and users of the Ten Steps provide real examples of outputs for the steps plus highlighted, sidebar case studies called Ten Steps in Action. This book uses projects as the vehicle for data quality work and the word broadly to include: 1) focused data quality improvement projects, such as improving data used in supply chain management, 2) data quality activities in other projects such as building new applications and migrating data from legacy systems, integrating data because of mergers and acquisitions, or untangling data due to organizational breakups, and 3) ad hoc use of data quality steps, techniques, or activities in the course of daily work. The Ten Steps approach can also be used to enrich an organization’s standard SDLC (whether sequential or Agile) and it

complements general improvement methodologies such as six sigma or lean. No two data quality projects are the same but the flexible nature of the Ten Steps means the methodology can be applied to all. The new Second Edition highlights topics such as artificial intelligence and machine learning, Internet of Things, security and privacy, analytics, legal and regulatory requirements, data science, big data, data lakes, and cloud computing, among others, to show their dependence on data and information and why data quality is more relevant and critical now than ever before. Includes concrete instructions, numerous templates, and practical advice for executing every step of The Ten Steps approach Contains real examples from around the world, gleaned from the author's consulting practice and from those who implemented based on her training courses and the earlier edition of the book Allows for quick reference with an easy-to-use format highlighting key concepts and

definitions, important checkpoints, communication activities, and best practices A companion Web site includes links to numerous data quality resources, including many of the templates featured in the text, quick summaries of key ideas from the Ten Steps methodology, and other tools and information that are available online

Quality Management for IT Services: Perspectives on Business and Process Performance

Praeg, Claus-Peter 2010-09-30 "This book gives both scientists and practical experts an insight into the many different facets of IT service quality management"-- Provided by publisher.

The DAMA Guide to the Data Management Body of Knowledge

Susan Earley 2010-01-01 Written by over 120 data management practitioners, this is the most impressive compilation of data management principals and best practices, ever assembled. It provides data management and IT professionals, executives, knowledge workers,

educators, and researchers with a framework to manage their data and mature their information infrastructure. The equivalent of the PMBOK or the BABOK, the DAMA-DMBOK provides information on: Data Governance; Data Architecture Management; Data Development; Database Operations Management; Data Security Management; Reference & Master Data Management; Data Warehousing & Business Intelligence Management; Document & Content Management; Meta Data Management; Data Quality Management; Professional Development. As an authoritative introduction to data management, the goals of the DAMA-DMBOK Guide are: To build consensus for a generally applicable view of data management functions; To provide standard definitions for commonly used data management functions, deliverables, roles, and other terminology; To document guiding principles for data management; To present a

vendor-neutral overview to commonly accepted good practices, widely adopted methods and techniques, and significant alternative approaches; To clarify the scope and boundaries of data management; To act as a reference which guides readers to additional resources for further understanding.

Building Capacity in Institutional Research and Decision Support in Higher Education

Karen L. Webber
2018-01-31 This book examines the relevant roles, skills and knowledge needed to build the institutional research capacity across the higher education sector globally. The information contained herein will inform IR practitioners, senior level institution officials, and higher education scholars. With a focus on building the capacity of the IR profession, this book's primary audiences include senior leaders who wish to introduce or strengthen their understanding for effective decision support and staff members who are currently in decision support units and

those who wish to serve in this capacity. However, this book also offers detail on the decision support function to higher education scholars who seek to better address how data can inform policy and planning in higher education. Through a broad discussion about the roles and skills of the practitioners, this book will also enumerate the ways in which decision support practitioners can be valued contributors in shaping the future decisions and direction of specific institutions and higher education broadly.

[The DAMA Guide to the Data Management Body of Knowledge](#) DAMA International 2009-04 This is the definitive introduction to the field of data management. Use this guide to build consensus, introduce standard definitions, and identify guiding principles for data management functions, roles, and deliverables. DAMA-DMBOK references the DAMA Dictionary of Data Management. Under the umbrella and support of the non-profit association DAMA

International, the DAMA International Foundation is a 501 c (6) not-for-profit entity, whose mission is to foster the advancement of the data management profession and community through education and research. By purchasing this indispensable piece of knowledge you will continue to support the data management community.

[Navigating the Labyrinth](#) Laura Sebastian-Coleman 2018-05-09 An Executive Guide to Data Management

[Demystifying Big Data and Machine Learning for Healthcare](#) Prashant Natarajan 2017-02-15 Healthcare transformation requires us to continually look at new and better ways to manage insights – both within and outside the organization today.

Increasingly, the ability to glean and operationalize new insights efficiently as a byproduct of an organization's day-to-day operations is becoming vital to hospitals and health systems ability to survive and prosper. One of the long-standing challenges in healthcare

informatics has been the ability to deal with the sheer variety and volume of disparate healthcare data and the increasing need to derive veracity and value out of it. Demystifying Big Data and Machine Learning for Healthcare investigates how healthcare organizations can leverage this tapestry of big data to discover new business value, use cases, and knowledge as well as how big data can be woven into pre-existing business intelligence and analytics efforts. This book focuses on teaching you how to: Develop skills needed to identify and demolish big-data myths Become an expert in separating hype from reality Understand the V's that matter in healthcare and why Harmonize the 4 C's across little and big data Choose data fidelity over data quality Learn how to apply the NRF Framework Master applied machine learning for healthcare Conduct a guided tour of learning algorithms Recognize and be prepared for the future of artificial intelligence in

healthcare via best practices, feedback loops, and contextually intelligent agents (CIAs) The variety of data in healthcare spans multiple business workflows, formats (structured, un-, and semi-structured), integration at point of care/need, and integration with existing knowledge. In order to deal with these realities, the authors propose new approaches to creating a knowledge-driven learning organization-based on new and existing strategies, methods and technologies. This book will address the long-standing challenges in healthcare informatics and provide pragmatic recommendations on how to deal with them.

IT Capability Maturity Framework™ (IT-CMF™) 2nd edition Martin Curley
2016-06-15 Business organizations, both public and private, are constantly challenged to innovate and generate real value. CIOs are uniquely well-positioned to seize this opportunity and adopt the role of business transformation partner, helping

their organizations to grow and prosper with innovative, IT-enabled products, services and processes. To succeed in this, however, the IT function needs to manage an array of inter-related and inter-dependent disciplines focused on the generation of business value. In response to this need, the Innovation Value Institute, a cross-industry international consortium, developed the IT Capability Maturity Framework™ (IT-CMF™). This second edition of the IT Capability Maturity Framework™ (IT-CMF™) is a comprehensive suite of tried and tested practices, organizational assessment approaches, and improvement roadmaps covering key IT capabilities needed to optimize value and innovation in the IT function and the wider organization. It enables organizations to devise more robust strategies, make better-informed decisions, and perform more effectively, efficiently and consistently. IT-CMF is: An integrated management toolkit covering

36 key capability management disciplines, with organizational maturity profiles, assessment methods, and improvement roadmaps for each. A coherent set of concepts and principles, expressed in business language, that can be used to guide discussions on setting goals and evaluating performance. A unifying (or umbrella) framework that complements other, domain-specific frameworks already in use in the organization, helping to resolve conflicts between them, and filling gaps in their coverage. Industry/sector and vendor independent. IT-CMF can be used in any organizational context to guide performance improvement. A rigorously developed approach, underpinned by the principles of Open Innovation and guided by the Design Science Research methodology, synthesizing leading academic research with industry practitioner expertise

Data Resource Data Michael Brackett 2014-08-01 Are you struggling to gain a thorough understanding of your organization's data resource?

Are you finding that your data resource has become quite disparate through lack of understanding? Are you having difficulty developing meaningful meta-data about your data resource, or understanding the meta-data that have been developed? Do you agonize over finding a way to document your data resource that is thorough, understandable, and readily available? If the answer to any of these questions is Yes, then you need to read *Data Resource Data* to help you understand your organization's data resource. Most public and private sector organizations do not have a formal process for thoroughly documenting the entire data resource at their disposal, in any meaningful manner, that is readily available to everyone in the organization. Most do not even have a formal design for that documentation. The much abused, misused, misspelled, undefined, and incomplete meta-data are not providing a denotative understanding of the organization's data resource, without which a high

quality data resource cannot be developed. *Data Resource Data* provides the complete detailed data resource model for understanding and managing data as a critical resource of the organization. The model presents formal data resource data as a replacement for the relatively ineffective meta-data. It provides an excellent example of a formal data resource model, compared to a traditional data model, that can be easily implemented by any organization. The use of data resource data ensures a thorough understanding of an organization's data resource and the development of a high quality comparable data resource. Like *Data Resource Simplicity*, *Data Resource Integration*, and *Data Resource Design*, Michael Brackett draws on five decades of data management experience, in a wide variety of different public and private sector organizations, to understand and document an organization's data resource. He leverages theories, concepts, principles, and techniques from many

different and varied disciplines, such as human dynamics, mathematics, physics, chemistry, philosophy, and biology, and applies them to the process of formally documenting an organization's data resource.

Agile Data Warehousing for the Enterprise Ralph Hughes

2015-09-19 Building upon his earlier book that detailed agile data warehousing programming techniques for the Scrum master, Ralph's latest work illustrates the agile interpretations of the remaining software engineering disciplines: Requirements management benefits from streamlined templates that not only define projects quickly, but ensure nothing essential is overlooked. Data engineering receives two new "hyper modeling" techniques, yielding data warehouses that can be easily adapted when requirements change without having to invest in ruinously expensive data-conversion programs. Quality assurance advances with not only a stereoscopic top-down and

bottom-up planning method, but also the incorporation of the latest in automated test engines. Use this step-by-step guide to deepen your own application development skills through self-study, show your teammates the world's fastest and most reliable techniques for creating business intelligence systems, or ensure that the IT department working for you is building your next decision support system the right way. Learn how to quickly define scope and architecture before programming starts Includes techniques of process and data engineering that enable iterative and incremental delivery Demonstrates how to plan and execute quality assurance plans and includes a guide to continuous integration and automated regression testing Presents program management strategies for coordinating multiple agile data mart projects so that over time an enterprise data warehouse emerges Use the provided 120-day road map to establish a robust, agile data warehousing

program

**Business Metadata:
Capturing Enterprise**

Knowledge W.H. Inmon
2010-07-28 Business Metadata:
Capturing Enterprise
Knowledge is the first book that helps businesses capture corporate (human) knowledge and unstructured data, and offer solutions for codifying it for use in IT and management. Written by Bill Inmon, one of the fathers of the data warehouse and well-known author, the book is filled with war stories, examples, and cases from current projects. It includes a complete metadata acquisition methodology and project plan to guide readers every step of the way, and sample unstructured metadata for use in self-testing and developing skills. This book is recommended for IT professionals, including those in consulting, working on systems that will deliver better knowledge management capability. This includes people in these positions: data architects, data analysts, SOA architects, metadata analysts,

repository (metadata data warehouse) managers as well as vendors that have a metadata component as part of their systems or tools. First book that helps businesses capture corporate (human) knowledge and unstructured data, and offer solutions for codifying it for use in IT and management Written by Bill Inmon, one of the fathers of the data warehouse and well-known author, and filled with war stories, examples, and cases from current projects Very practical, includes a complete metadata acquisition methodology and project plan to guide readers every step of the way Includes sample unstructured metadata for use in self-testing and developing skills

[Making Enterprise Information Management \(EIM\) Work for Business](#) John Ladley

2010-07-03 Making Enterprise Information Management (EIM) Work for Business: A Guide to Understanding Information as an Asset provides a comprehensive discussion of EIM. It endeavors to explain

information asset management and place it into a pragmatic, focused, and relevant light. The book is organized into two parts. Part 1 provides the material required to sell, understand, and validate the EIM program. It explains concepts such as treating Information, Data, and Content as true assets; information management maturity; and how EIM affects organizations. It also reviews the basic process that builds and maintains an EIM program, including two case studies that provide a birds-eye view of the products of the EIM program. Part 2 deals with the methods and artifacts necessary to maintain EIM and have the business manage information. Along with overviews of Information Asset concepts and the EIM process, it discusses how to initiate an EIM program and the necessary building blocks to manage the changes to managed data and content. Organizes information modularly, so you can delve directly into the topics that you need to understand Based in

reality with practical case studies and a focus on getting the job done, even when confronted with tight budgets, resistant stakeholders, and security and compliance issues Includes applicatory templates, examples, and advice for executing every step of an EIM program

Entwicklung einer Methode zur Stammdatenintegration

Alexander Schmidt 2010 Die Möglichkeit von Unternehmen, flexibel auf veränderte Kunden- und Geschäftsanforderungen reagieren zu können, hängt entscheidend von ihrer Fähigkeit ab, applikations- und geschäftsprozessübergreifend genutzte Stammdaten konsistent und fehlerfrei zur Verfügung zu stellen. Die dezentralen Organisationsstrukturen global agierender Unternehmen führten in der Vergangenheit jedoch dazu, dass Stammdaten in isoliert voneinander entwickelten Applikationen redundant gehalten wurden. Die Beseitigung der Redundanz bedingt die Notwendigkeit, Stammdaten zu integrieren. Die

vorliegende Arbeit entwickelt eine Methode zur Integration von Stammdaten in global agierenden Unternehmen. Durch die Definition eines Vorgehensmodelles mit konkreten Techniken zur Erarbeitung von Ergebnissen, gibt die Methode Datenarchitekten und Stammdatenverantwortlichen eine Handlungsanleitung für die systematische Zusammenführung heterogener Stammdatenbestände. Inhaltliche Schwerpunkte der Methode liegen auf dem Metadatenmanagement, der Integration von Metadaten in Datenmodellen und Architekturmustern zur konsistenten Speicherung und Verteilung von Stammdaten. Die Arbeit nutzt drei Fallstudien, um Anforderungen an die Methode abzuleiten. Die Anwendung der vorgeschlagenen Methode in zwei Aktionsforschungsprojekten zeigt die Anwendbarkeit in der Unternehmenspraxis und dient der Nutzenbewertung der Methode. The possibility of

companies to flexibly respond to changing customer and business requirements, essentially depends on their ability to provide consistent and error-free master data across applications and business processes. The decentralized organizational structure of companies acting globally, however, lead to master data being held redundantly in multiple isolated applications. Eliminating this redundancy necessitates the integration of master data. The thesis therefore develops a method for the company-wide integration of master data. By defining a procedure model with corresponding techniques the method guides data architects and master data managers to systematically integrate heterogeneous master data. Thematically, the main topics of the method comprise metadata management, the integration of metadata in data models and architecture patterns for consistent storage and distribution of master data. The thesis makes use of three case

studies to derive requirements on the method development, while two action research projects show applicability of the proposed method and serve evaluation of its benefit.

Ethical Data and Information Management Katherine O'Keefe 2018-05-03 Information and how we manage, process and govern it is becoming increasingly important as organizations ride the wave of the big data revolution. Ethical Data and Information Management offers a practical guide for people in organizations who are tasked with implementing information management projects. It sets out, in a clear and structured way, the fundamentals of ethics, and provides practical and pragmatic methods for organizations to embed ethical principles and practices into their management and governance of information. Written by global experts in the field, Ethical Data and Information Management is an important book addressing a topic high on the information management agenda. Key

coverage includes how to build ethical checks and balances into data governance decision making; using quality management methods to assess and evaluate the ethical nature of processing during design; change methods to communicate ethical values; how to avoid common problems that affect ethical action; and how to make the business case for ethical behaviours.

Information Technology in Organisations and Societies

Zach W. Y. Lee 2021-06-11 Information Technology in Organisations and Societies: Multidisciplinary Perspectives from AI to Technostress consolidates studies on key issues and phenomena concerning the positive and negative aspects of IT use as well as prescribing future research avenues in related research.

Data Quality Rupa Mahanti 2019-03-18 □This is not the kind of book that you□ll read one time and be done with. So scan it quickly the first time through to get an idea of its breadth. Then dig in on one

topic of special importance to your work. Finally, use it as a reference to guide your next steps, learn details, and broaden your perspective. □ from the foreword by Thomas C. Redman, Ph.D., □the Data Doc□ Good data is a source of myriad opportunities, while bad data is a tremendous burden. Companies that manage their data effectively are able to achieve a competitive advantage in the marketplace, while bad data, like cancer, can weaken and kill an organization. In this comprehensive book, Rupa Mahanti provides guidance on the different aspects of data quality with the aim to be able to improve data quality. Specifically, the book addresses: -Causes of bad data quality, bad data quality impacts, and importance of data quality to justify the case for data quality-Butterfly effect of data quality-A detailed description of data quality dimensions and their measurement-Data quality strategy approach-Six Sigma - DMAIC approach to data

quality-Data quality management techniques-Data quality in relation to data initiatives like data migration, MDM, data governance, etc.- Data quality myths, challenges, and critical success factorsStudents, academicians, professionals, and researchers can all use the content in this book to further their knowledge and get guidance on their own specific projects. It balances technical details (for example, SQL statements, relational database components, data quality dimensions measurements) and higher-level qualitative discussions (cost of data quality, data quality strategy, data quality maturity, the case made for data quality, and so on) with case studies, illustrations, and real-world examples throughout.

Building an Effective Security Program for Distributed Energy Resources and Systems

Mariana Hentea 2021-04-06
Building an Effective Security Program for Distributed Energy Resources and Systems Build a

critical and effective security program for DERs Building an Effective Security Program for Distributed Energy Resources and Systems requires a unified approach to establishing a critical security program for DER systems and Smart Grid applications. The methodology provided integrates systems security engineering principles, techniques, standards, and best practices. This publication introduces engineers on the design, implementation, and maintenance of a security program for distributed energy resources (DERs), smart grid, and industrial control systems. It provides security professionals with understanding the specific requirements of industrial control systems and real-time constrained applications for power systems. This book: Describes the cybersecurity needs for DERs and power grid as critical infrastructure Introduces the information security principles to assess and manage the security and privacy risks of the emerging Smart Grid technologies

Outlines the functions of the security program as well as the scope and differences between traditional IT system security requirements and those required for industrial control systems such as SCADA systems Offers a full array of resources— cybersecurity concepts, frameworks, and emerging trends Security Professionals and Engineers can use Building an Effective Security Program for Distributed Energy Resources and Systems as a reliable resource that is dedicated to the essential topic of security for distributed energy resources and power grids. They will find standards, guidelines, and recommendations from standards organizations, such as ISO, IEC, NIST, IEEE, ENISA, ISA, ISACA, and ISF, conveniently included for reference within chapters. *Corporate Data Quality* Boris Otto 2015-10-12 Daten sind die strategische Ressource des 21. Jahrhunderts. Es findet kein Geschäftsprozess, keine Kommunikation zwischen Geschäftspartnern, keine

Wertschöpfung statt, ohne dass die involvierten Personen, Maschinen und IT-Systeme Daten nutzen, erzeugen oder verändern. Trends wie die Digitalisierung, Industrie 4.0 und Social Media tragen ebenfalls dazu bei, dass Datenmanagement zu einer Kernkompetenz für erfolgreiche Unternehmen dieser Zeit geworden ist. Damit Daten ihren ganzen Wert entfalten können, müssen sie stets in angemessener Qualität zur Verfügung stehen. Dies gilt besonders für Stammdaten, die zentralen Geschäftsobjekte eines Unternehmens. Dieses Buch zeigt einen ganzheitlichen Ansatz zum qualitätsbewussten Management von Stammdaten auf und richtet sich damit sowohl an Praktiker als auch an die Wissenschaft. Das „Framework für Stammdatenqualitätsmanagement“ wurde im Rahmen des „Competence Center Corporate Data Quality“ der Universität St. Gallen seit dem Jahr 2006 gemeinsam mit Unternehmen aus unterschiedlichen Industrien in zahlreichen

praktischen Anwendungen entwickelt und verbessert. Neben den theoretischen Grundlagen räumt das Buch der praktischen Sicht mit 10 Fallstudien großen Raum ein, die erfolgreich durchgeführte Datenqualitätsprojekte praxisnah aufbereiten. Schließlich führt das Buch noch Methoden und Werkzeuge für das Datenqualitätsmanagement auf, die (Stamm-)datenmanager bei Projekten im eigenen betrieblichen Umfeld unterstützen können.

The DAMA Dictionary of Data Management Susan Earley 2011 A glossary of over 2,000 terms which provides a common data management vocabulary for IT and Business professionals, and is a companion to the DAMA Data Management Body of Knowledge (DAMA-DMBOK). This glossary is a physical book – it also comes in electronic format as a CD-ROM (see ISBN 9781935504115). Topics include: • Analytics & Data Mining • Architecture • Artificial Intelligence • Business Analysis • DAMA & Professional

Development • Databases & Database Design • Database Administration • Data Governance & Stewardship • Data Management • Data Modeling • Data Movement & Integration • Data Quality Management • Data Security Management • Data Warehousing & Business Intelligence • Document, Record & Content Management • Finance & Accounting • Geospatial Data • Knowledge Management • Marketing & Customer Relationship Management • Meta Data Management • Multi-dimensional & OLAP • Normalization • Object-Orientation • Parallel Database Processing • Planning • Process Management • Project Management • Reference & Master Data Management • Semantic Modeling • Software Development • Standards Organizations • Structured Query Language (SQL) • XML Development

Data Modeling Made Simple with ER/Studio Data Architect

Steve Hoberman
2015-11-06 Build a working

knowledge of data modeling concepts and best practices, along with how to apply these principles with ER/Studio. This second edition includes numerous updates and new sections including an overview of ER/Studio's support for agile development, as well as a description of some of ER/Studio's newer features for NoSQL, such as MongoDB's containment structure.

Meeting the Challenges of Data Quality Management

Laura Sebastian-Coleman
2022-01-25 Meeting the Challenges of Data Quality Management outlines the foundational concepts of data quality management and its challenges. The book enables data management professionals to help their organizations get more value from data by addressing the five challenges of data quality management: the meaning challenge (recognizing how data represents reality), the process/quality challenge (creating high-quality data by design), the people challenge (building data literacy), the

technical challenge (enabling organizational data to be accessed and used, as well as protected), and the accountability challenge (ensuring organizational leadership treats data as an asset). Organizations that fail to meet these challenges get less value from their data than organizations that address them directly. The book describes core data quality management capabilities and introduces new and experienced DQ practitioners to practical techniques for getting value from activities such as data profiling, DQ monitoring and DQ reporting. It extends these ideas to the management of data quality within big data environments. This book will appeal to data quality and data management professionals, especially those involved with data governance, across a wide range of industries, as well as academic and government organizations. Readership extends to people higher up the organizational ladder (chief data officers, data strategists, analytics leaders) and in

different parts of the organization (finance professionals, operations managers, IT leaders) who want to leverage their data and their organizational capabilities (people, processes, technology) to drive value and gain competitive advantage. This will be a key reference for graduate students in computer science programs which normally have a limited focus on the data itself and where data quality management is an often-overlooked aspect of data management courses. Describes the importance of high-quality data to organizations wanting to leverage their data and, more generally, to people living in today's digitally interconnected world Explores the five challenges in relation to organizational data, including "Big Data," and proposes approaches to meeting them Clarifies how to apply the core capabilities required for an effective data quality management program (data standards definition, data quality assessment, monitoring

and reporting, issue management, and improvement) as both stand-alone processes and as integral components of projects and operations Provides Data Quality practitioners with ways to communicate consistently with stakeholders

Health Information Governance in a Digital Environment E.J.S. Hovenga 2013-09-12 Delivering the desired benefits from using information technology in healthcare requires a high degree of data standardization, effective governance and semantic interoperability between systems in the health industry. Corporate chief executive officers (CEOs) and company boards need to be more aware of their governance responsibility. This publication explains these concepts to assist the reader to collaboratively work with others to meet these challenges. With contributions from internationally distinguished authors, this book is a valuable cutting edge resource for anyone working in or for the health industry today and

especially for: • Policy and decision makers, • Healthcare professionals, • Health information managers, • Health informaticians and • ICT professionals about: • Data governance. • Semantic interoperability • IT in health care • Information security governance The book is suitable for use as a basic text or reference supporting professional, undergraduate and postgraduate curricula preparing students for practice as health or IT professionals working in today's healthcare system.

Data Modeling for MongoDB

Steve Hoberman 2014-06-01

Congratulations! You completed the MongoDB application within the given tight timeframe and there is a party to celebrate your application's release into production. Although people are congratulating you at the celebration, you are feeling some uneasiness inside. To complete the project on time required making a lot of assumptions about the data, such as what terms meant and how calculations are derived. In

addition, the poor documentation about the application will be of limited use to the support team, and not investigating all of the inherent rules in the data may eventually lead to poorly-performing structures in the not-so-distant future. Now, what if you had a time machine and could go back and read this book. You would learn that even NoSQL databases like MongoDB require some level of data modeling. Data modeling is the process of learning about the data, and regardless of technology, this process must be performed for a successful application. You would learn the value of conceptual, logical, and physical data modeling and how each stage increases our knowledge of the data and reduces assumptions and poor design decisions. Read this book to learn how to do data modeling for MongoDB applications, and accomplish these five objectives: Understand how data modeling contributes to the process of learning about the data, and is, therefore, a required technique,

even when the resulting database is not relational. That is, NoSQL does not mean NoDataModeling! Know how NoSQL databases differ from traditional relational databases, and where MongoDB fits. Explore each MongoDB object and comprehend how each compares to their data modeling and traditional relational database counterparts, and learn the basics of adding, querying, updating, and deleting data in MongoDB. Practice a streamlined, template-driven approach to performing conceptual, logical, and physical data modeling. Recognize that data modeling does not always have to lead to traditional data models! Distinguish top-down from bottom-up development approaches and complete a top-down case study which ties all of the modeling techniques together. This book is written for anyone who is working with, or will be working with MongoDB, including business analysts, data modelers, database administrators,

developers, project managers, and data scientists. There are three sections: In Section I, Getting Started, we will reveal the power of data modeling and the tight connections to data models that exist when designing any type of database (Chapter 1), compare NoSQL with traditional relational databases and where MongoDB fits (Chapter 2), explore each MongoDB object and comprehend how each compares to their data modeling and traditional relational database counterparts (Chapter 3), and explain the basics of adding, querying, updating, and deleting data in MongoDB (Chapter 4). In Section II, Levels of Granularity, we cover Conceptual Data Modeling (Chapter 5), Logical Data Modeling (Chapter 6), and Physical Data Modeling (Chapter 7). Notice the “ing” at

the end of each of these chapters. We focus on the process of building each of these models, which is where we gain essential business knowledge. In Section III, Case Study, we will explain both top down and bottom up development approaches and go through a top down case study where we start with business requirements and end with the MongoDB database. This case study will tie together all of the techniques in the previous seven chapters. Nike Senior Data Architect Ryan Smith wrote the foreword. Key points are included at the end of each chapter as a way to reinforce concepts. In addition, this book is loaded with hands-on exercises, along with their answers provided in Appendix A. Appendix B contains all of the book’s references and Appendix C contains a glossary of the terms used throughout the text.