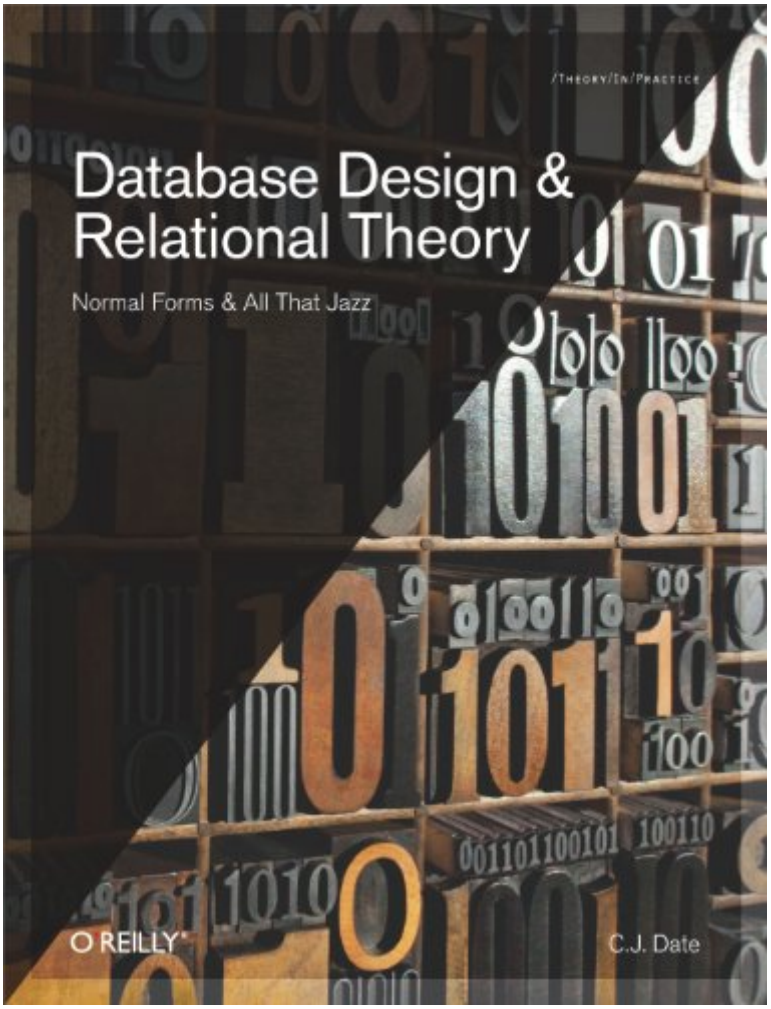
Database Design And Relational Theory: Normal Forms And All That Jazz (Theory In Practice)



Synopsis

What makes this book different from others on database design? Many resources on design practice do little to explain the underlying theory, and books on design theory are aimed primarily at theoreticians. In this book, renowned expert Chris Date bridges the gap by introducing design theory in ways practitioners can understandâ ”drawing on lessons learned over four decades of experience to demonstrate why proper database design is so critical in the first place.Every chapter includes a set of exercises that show how to apply the theoretical ideas in practice, provide additional information, or ask you to prove some simple theoretical result. If youâ ™re a database professional familiar with the relational model, and have more than a passing interest in database design, this book is for you.Questions this book answers include:Why is Heathâ ™s Theorem so important?What is The Principle of Orthogonal Design?What makes some JDs reducible and others irreducible?Why does dependency preservation matter?Should data redundancy always be avoided? Can it be?Databases often stay in production for decades, and careful design is critical for avoiding subtle errors and processing problems over time. If theyâ ™re badly designed, the negative impacts can be incredibly widespread. This gentle introduction shows you how to use important theoretical results to create good database designs.

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Customer Reviews

You ought to know who Chris Date is. Return with me now to those thrilling days of yesteryear (the late 1970's, early 1980's) when RDBMS has just been created by Dr. E. F. Codd. The problem was that Dr. Codd was a mathematician whose earlier work was with self-reproducing cellular automata. He wrote and thought like a mathematician, not a programmer. His notation was abstract and mathematical. He used standard set operators for Union, Intersect, Set Difference, membership and so forth. Projections (SELECT in SQL) was shown with a letter pi (Ãƒ Â) with subscript parameters, the selection (FROM in SQL) was shown with a letter sigma (Ã) with subscript parameters and he invented the butterfly or bow ties for joins. In short, nobody could read it unless they were a math major. We did a lot of work with this notation and if you like curling up with a glass of sherry and a warm calculus book, the best mathematical book on RDBMS is still Theory of Relational Databases by David Maier (Mar 1983, ISBN: 978-0914894421).But the real problem was not that the early papers were academic. When the first SQL products came out, RDBMS was like pre-teen sex. Everyone claimed that they knew what it was and that they were good at it. Yeah. Right. Chris Date and Dr. Codd formed a consultancy to educate the world. Dr. Codd was the brains and the big name; Chris Date was the "Great Explainer" who wrote magazine articles and gave lectures. People could understand Chris Date! His INTRODUCTION TO DATABASES was a standard college textbook in the early days of RDBMS. His collections of columns in DBMS and DATABASE PROGRAMMING & DESIGN should be part of any RDBMS library.Date has since written a lot of books on databases for many different publishers.

C. J. Date is an independent author, lecturer, researcher, and consultant specializing in relational database theory. My introduction to his work came while I studied the Php/SQL course series online via the O'Reilly School of Technology. I received a copy of Database in Depth: Relational Theory for Practitioners, ISBN 0-596-10012-4, to accompany the online coursework. A couple of chapters into Database Design and Relational Theory I stopped and read again the aforementioned Database In Depth as a refresher.Database Design and Relational Theory: Normal Forms and All That Jazz is about the logical design of a database as it relates to the relational data model. It's about the theory of the relational model and the accompanying algebra. These concepts are separated from physical

design as physical design relates to how a particular logical design will map to actual physical storage.The book is written for an audience accustomed to the terminology and concepts of the relational model. Definitions are introduced moving from the informal to the formal. Throughout the book the discussion involves relations, relvars, tuples, functional dependencies, join dependencies and various algebraic operators. If all this seems foreign, then I would suggest another text to be read as prerequisite to this book. Admittedly, I do not have a background in computer science or mathematics. I found the material difficult at times but not overly so. I think that after reading this book I have a much better grasp on normalization when it comes to creating my own database.I would recommend this book to those readers with a desire to learn about relational design theory. It is product agnostic with mentions of SQL limited to instances where SQL breaks from the relational model.

Database Management System Coincidences, Chaos, and All That Math Jazz: Making Light of Weighty Ideas