

Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications)

By Seppo Sippu, Eljas Soisalon-Soininen

Donwload Read Online

Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) By Seppo Sippu, Eljas Soisalon-Soininen

Transactions are a concept related to the logical database as seen from the perspective of database application programmers: a transaction is a sequence of database actions that is to be executed as an atomic unit of work. The processing of transactions on databases is a well- established area with many of its foundations having already been laid in the late 1970s and early 1980s.

The unique feature of this textbook is that it bridges the gap between the theory of transactions on the logical database and the implementation of the related actions on the underlying physical database. The authors relate the logical database, which is composed of a dynamically changing set of data items with unique keys, and the underlying physical database with a set of fixed-size data and index pages on disk. Their treatment of transaction processing builds on the “do-redo-undo” recovery paradigm, and all methods and algorithms presented are carefully designed to be compatible with this paradigm as well as with write-ahead logging, steal-and-no-force buffering, and fine-grained concurrency control.

Chapters 1 to 6 address the basics needed to fully appreciate transaction processing on a centralized database system within the context of our transaction model, covering topics like ACID properties, database integrity, buffering, rollbacks, isolation, and the interplay of logical locks and physical latches. Chapters 7 and 8 present advanced features including deadlock-free algorithms for reading, inserting and deleting tuples, while the remaining chapters cover additional advanced topics extending on the preceding foundational chapters, including multi-granular locking, bulk actions, versioning, distributed updates, and write-intensive transactions.

This book is primarily intended as a text for advanced undergraduate or graduate courses on database management in general or transaction processing in particular.

Download Transaction Processing: Management of the Logical ...pdf

Read Online Transaction Processing: Management of the Logica ...pdf

Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications)

By Seppo Sippu, Eljas Soisalon-Soininen

Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) By Seppo Sippu, Eljas Soisalon-Soininen

Transactions are a concept related to the logical database as seen from the perspective of database application programmers: a transaction is a sequence of database actions that is to be executed as an atomic unit of work. The processing of transactions on databases is a well- established area with many of its foundations having already been laid in the late 1970s and early 1980s.

The unique feature of this textbook is that it bridges the gap between the theory of transactions on the logical database and the implementation of the related actions on the underlying physical database. The authors relate the logical database, which is composed of a dynamically changing set of data items with unique keys, and the underlying physical database with a set of fixed-size data and index pages on disk. Their treatment of transaction processing builds on the “do-redo-undo” recovery paradigm, and all methods and algorithms presented are carefully designed to be compatible with this paradigm as well as with write-ahead logging, steal-and-no-force buffering, and fine-grained concurrency control.

Chapters 1 to 6 address the basics needed to fully appreciate transaction processing on a centralized database system within the context of our transaction model, covering topics like ACID properties, database integrity, buffering, rollbacks, isolation, and the interplay of logical locks and physical latches. Chapters 7 and 8 present advanced features including deadlock-free algorithms for reading, inserting and deleting tuples, while the remaining chapters cover additional advanced topics extending on the preceding foundational chapters, including multi-granular locking, bulk actions, versioning, distributed updates, and write-intensive transactions.

This book is primarily intended as a text for advanced undergraduate or graduate courses on database management in general or transaction processing in particular.

Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) By Seppo Sippu, Eljas Soisalon-Soininen Bibliography

- Sales Rank: #2904631 in Books
- Published on: 2015-01-28
- Original language: English
- Number of items: 1
- Dimensions: 9.21" h x .94" w x 6.14" l, .0 pounds
- Binding: Hardcover
- 392 pages

Download Transaction Processing: Management of the Logical ...pdf

Read Online Transaction Processing: Management of the Logica ...pdf

Download and Read Free Online Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) By Seppo Sippu, Eljas Soisalon-Soininen

Editorial Review

From the Back Cover

Transactions are a concept related to the logical database as seen from the perspective of database application programmers: a transaction is a sequence of database actions that is to be executed as an atomic unit of work. The processing of transactions on databases is a well- established area with many of its foundations having already been laid in the late 1970s and early 1980s.

The unique feature of this textbook is that it bridges the gap between the theory of transactions on the logical database and the implementation of the related actions on the underlying physical database. The authors relate the logical database, which is composed of a dynamically changing set of data items with unique keys, and the underlying physical database with a set of fixed-size data and index pages on disk. Their treatment of transaction processing builds on the “do-redo-undo” recovery paradigm, and all methods and algorithms presented are carefully designed to be compatible with this paradigm as well as with write-ahead logging, steal-and-no-force buffering, and fine-grained concurrency control.

Chapters 1 to 6 address the basics needed to fully appreciate transaction processing on a centralized database system within the context of our transaction model, covering topics like ACID properties, database integrity, buffering, rollbacks, isolation, and the interplay of logical locks and physical latches. Chapters 7 and 8 present advanced features including deadlock-free algorithms for reading, inserting and deleting tuples, while the remaining chapters cover additional advanced topics extending on the preceding foundational chapters, including multi-granular locking, bulk actions, versioning, distributed updates, and write-intensive transactions.

This book is primarily intended as a text for advanced undergraduate or graduate courses on database management in general or transaction processing in particular.

About the Author

Seppo Sippu is Professor (Emeritus) of Computer Science at the University of Helsinki, and Eljas Soisalon-Soininen is Professor of Computer Science and Engineering at the Aalto University School of Science. They started their co-work already in the 1970s on the area of compiler construction and parsing. This work culminated in the two-volume book "Parsing Theory" published by Springer 1988 and 1990.

Already in the 1980s they gradually moved to data structures and algorithms, and also to databases and indexing, partly inspired by the visit of Dr. Soisalon-Soininen at the University of Karlsruhe as a Humboldt grantee. One important topic in the most recent work has been incorporating index operations into database transactions allowing uniform treatment of them both. Sippu and Soisalon-Soininen have published many articles in peer-reviewed conferences and journals, such as Journal of the ACM, ACM Transactions on Database Systems, The VLDB Journal, and IEEE Transactions on Knowledge and Data Engineering.

Users Review

From reader reviews:

Sammy McManus:

The book Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) can give more knowledge and information about everything you want. So just why must we leave the good thing like a book Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications)? A number of you have a different opinion about e-book. But one aim which book can give many data for us. It is absolutely suitable. Right now, try to closer with your book. Knowledge or details that you take for that, you may give for each other; you could share all of these. Book Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) has simple shape but you know: it has great and large function for you. You can appear the enormous world by wide open and read a reserve. So it is very wonderful.

Kenneth Flowers:

A lot of people always spent their free time to vacation or perhaps go to the outside with them household or their friend. Do you realize? Many a lot of people spent they will free time just watching TV, or even playing video games all day long. In order to try to find a new activity here is look different you can read the book. It is really fun to suit your needs. If you enjoy the book that you read you can spent 24 hours a day to reading a e-book. The book Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) it doesn't matter what good to read. There are a lot of those who recommended this book. These people were enjoying reading this book. When you did not have enough space to create this book you can buy the e-book. You can m0ore very easily to read this book out of your smart phone. The price is not to cover but this book has high quality.

John Kirk:

Why? Because this Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) is an unordinary book that the inside of the book waiting for you to snap the idea but latter it will distress you with the secret the idea inside. Reading this book alongside it was fantastic author who else write the book in such amazing way makes the content inside of easier to understand, entertaining approach but still convey the meaning totally. So , it is good for you because of not hesitating having this anymore or you going to regret it. This amazing book will give you a lot of advantages than the other book have such as help improving your proficiency and your critical thinking way. So , still want to hesitate having that book? If I ended up you I will go to the book store hurriedly.

Sylvia Medina:

Some people said that they feel fed up when they reading a book. They are directly felt the item when they get a half parts of the book. You can choose the actual book Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) to make

your current reading is interesting. Your own skill of reading expertise is developing when you like reading. Try to choose very simple book to make you enjoy to read it and mingle the feeling about book and studying especially. It is to be 1st opinion for you to like to open a book and learn it. Beside that the publication Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) can to be a newly purchased friend when you're truly feel alone and confuse with the information must you're doing of the time.

Download and Read Online Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) By Seppo Sippu, Eljas Soisalon-Soininen #TB52QAS1LIO

Read Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) By Seppo Sippu, Eljas Soisalon-Soininen for online ebook

Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) By Seppo Sippu, Eljas Soisalon-Soininen Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) By Seppo Sippu, Eljas Soisalon-Soininen books to read online.

Online Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) By Seppo Sippu, Eljas Soisalon-Soininen ebook PDF download

Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) By Seppo Sippu, Eljas Soisalon-Soininen Doc

Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) By Seppo Sippu, Eljas Soisalon-Soininen Mobipocket

Transaction Processing: Management of the Logical Database and its Underlying Physical Structure (Data-Centric Systems and Applications) By Seppo Sippu, Eljas Soisalon-Soininen EPub