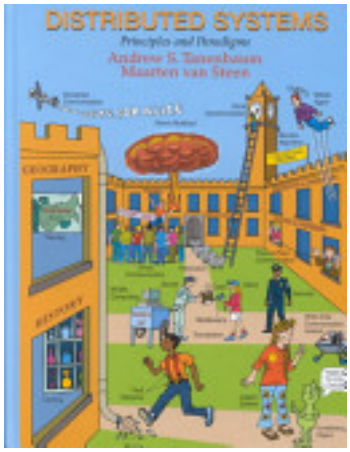

Distributed systems: principles and paradigms, Andrew S. Tanenbaum, Maarten van Steen, Prentice Hall, 2002, 0130888931, 9780130888938, 803 pages. The authoritative introduction to the principles of distributed systems.-- By legendary networking and operating systems expert Andrew S. Tanenbaum.-- Easy to follow: organized around seven key principles of distributed systems.-- Includes extensive real-world examples.Today, virtually every computing system is part of a distributed system, or soon will be. Programmers, developers, and engineers need to understand the principles and paradigms underlying distributed systems -- and the real-world application of these principles. Now, Andrew S. Tanenbaum -- one of the world's most well-respected experts on networking and operating systems -- presents a complete introduction to distributed principles and paradigms. Joined by colleague Martin van Steen, Tanenbaum identifies the seven key principles of distributed systems, and presents extensive examples of each. Distributed Systems: Principles and Paradigms presents in-depth coverage of every key aspect of distributed systems: communications, processes, naming, synchronization, consistency and replication, fault tolerance, and security. Each principle is introduced in its own chapter; subsequent chapters demonstrate real-world implementations of these principles in object-based systems, document-based systems, file-based systems, and coordination-based systems. Since each case study is organized around the authors' seven key principles, readers will find it exceptionally easy to compare the systems under consideration..

Design, performance and scalability of the distributed enterprise systems , Janusz S. Kowalik, Jan 1, 2001, Computers, 139 pages. Enterprise systems supporting business processes in large companies and organizations, are critical for their business survival, and expensive to build and run. This book ....

Distributed Operating Systems , Andrew S. Tanenbaum, Sep 1, 1995, , 606 pages. As distributed computer systems become more pervasive, so does the need for understanding how their operating systems are designed and implemented. Andrew S. Tanenbaums ....

Distributed Computing Principles and Applications, Mei-Ling L. Liu, 2004, Computers, 428 pages. Distributed Computing provides an introduction to the core concepts and principles of distributed programming techniques. It takes a "how-to" approach where students learn by ....

Proceedings of the ... USENIX Technical Conference , , 2000, Computers, 350 pages. .

The essence of distributed systems , Joel M. Crichlow, 2000, Computers, 182 pages. This text is intended to provide a concise introduction to Distributed systems as a first course or alternatively as a useful reference on an Operating systems or Networking ....

Distributed Systems , Crichlow, , , . .

Distributed computing a practical synthesis of networks, client-server systems, distributed

applications, and open systems, Amjad Umar, 1993, Computers, 736 pages. This book explores both the technical and management aspects of distributed computing focusing on interrelationships, interfaces, and integration. Comprehensive in scope, this ....

Fun With a Pencil , Andrew Loomis, Apr 2, 2013, , 120 pages. Andrew Loomis (1892-1959) is revered amongst artists - including comics superstar Alex Ross - for his mastery of drawing. His first book, Fun With a Pencil, published in 1939 ....

Distributed systems methods and tools for specification : an advanced course, Mack W. Alford, Technische UniversitÐ“Â¤t MÐ“Ñ˜nchen. Institut fÐ“Ñ˜r Informatik, 1985, Computers, 573 pages. .

Large-scale Distributed Computing and Applications Models and Trends, , 2010, Business & Economics, 261 pages. Many applications follow the distributed computing paradigm, in which parts of the application are executed on different network-interconnected computers. The extension of ....

Concurrent systems , Jean Bacon, Jan 1, 2002, Computers, 726 pages. Concurrency is at the heart of many topics within computer science and is the focus of this book from Jean Bacon. The successful straightfoward approach, coupled with new ....

Understanding DCE , Ward Rosenberry, David Kenney, Gerry Fisher, Jun 15, 1992, Computers, 238 pages. An overview describing the problems that DCE tries to solve and its general approach to solving them. This book provides a practical, gentle lead-in for people who are new to ....

Advanced Concepts In Operating Systems , Singhal, Aug 1, 2001, Operating systems (Computers), 522 pages. .

Virtually every computing system today is part of a distributed system. Programmers, developers, and engineers need to understand the underlying principles and paradigms as well as the real-world application of those principles. Now, internationally renowned expert Andrew S. Tanenbaum – with colleague Martin van Steen – presents a complete introduction that identifies the seven key principles of distributed systems, with extensive examples of each. Adds a completely new chapter on architecture to address the principle of organizing distributed systems. Provides extensive new material on peer-to-peer systems, grid computing and Web services, virtualization, and application-level multicasting. Updates material on clock synchronization, data-centric consistency, object-based distributed systems, and file systems and Web systems coordination. For all developers, software engineers, and architects who need an in-depth understanding of distributed systems.

Andrew Tanenbaum and Maarten van Steen cover the principles, advanced concepts, and technologies of distributed systems in detail, including: communication, replication, fault tolerance, and security. Intended for use in a senior/graduate level distributed systems course or by professionals, this text systematically shows how distributed systems are designed and implemented in real systems. Written in the superb writing style of other Tanenbaum books, the material also features unique accessibility and a wide variety of real-world examples and case studies, such as NFS v4, CORBA, DCOM, Jini, and the World Wide Web.

Andrew S. Tanenbaum has a B.S. Degree from M.I.T. and a Ph.D. from the University of California at Berkeley. He is currently a Professor of Computer Science at the Vrije Universiteit in Amsterdam, The Netherlands, where he heads the Computer Systems Group. He is also Dean of the Advanced School for Computing and Imaging, an interuniversity graduate school doing research on advanced parallel, distributed, and imaging systems. Nevertheless, he is trying very hard to avoid turning into a

bureaucrat.

In the past, he has done research on compilers, operating systems, networking, and local-area distributed systems. His current research focuses primarily on the design of wide-area distributed systems that scale to a billion users. These research projects have led to five books and over 85 referred papers in journals and conference proceedings.

Prof. Tanenbaum has also produced a considerable volume of software. He was the principal architect of the Amsterdam Compiler Kit, a widely-used toolkit for writing portable compilers, as well as of MINIX, a small UNIX clone intended for use in student programming labs. Together with his Ph.D. students and programmers, he helped design the Amoeba distributed operating system, a high-performance microkernel-based distributed operating system. The MINIX and Amoeba systems are now available for free via the Internet.

Prof. Tanenbaum is a Fellow of the ACM, a Fellow of the IEEE, a member of the Royal Netherlands Academy of Arts and Sciences, winner of the 1994 ACM Karl V. Karlstrom Outstanding Educator Award, and winner of the 1997 ACM/SIGCSE Award for Outstanding Contributions to Computer Science Education. He is also listed in Who’s Who in the World.

Maarten van Steen is a professor at the Vrije Universiteit, Amsterdam where he teaches operating systems, computer networks, and distributed systems. He has also given various highly successful courses on computer systems related subjects to ICT professionals from industry and governmental organizations.

Prof. van Steen studied Applied Mathematics at Twente University and received a Ph.D. from Leiden University in Computer Science. After his graduate studies he went to work for an industrial research laboratory where he eventually became head of a group concentrating on programming support for parallel applications.

His current research concentrates on large-scale distributed systems. Part of his research focusses on Web-based systems, in particular adaptive distribution and replication in (collaborative) content distribution networks. Another subject of extensive research is fully decentralized (gossip based) peer-to-peer systems for wired as well as wireless ad hoc networks.

I enjoyed and learned a lot from both of Tanenbaum's OS textbooks, but this is really awful. On the one hand, the descriptions of things such as RPC are so abstract that I can't see how anyone could be expected to understand what a real RPC system would look like; on the other hand, there's not nearly enough effort made to give a picture of how the systems discussed fit into the broader context of computer science, or relate to each other.

If you buy this book expecting to learn how to do some web, rmi, corba or any other kind of distributed systems development then don't buy this one. This book is now a good source of theorical material, I'm currently using this book because of the theorical material but often I have to complement the information with other books like "Distributed Systems: Concepts and Design (4th Edition)" (by: Coulouris) which has more indepth RMI practices and is also a good information source.

While I am not a specialist in all topics described in this book, I found it to be imprecise and, occasionally, downright wrong or misleading in parts where I had specific knowledge to the contrary. Many times language would appear to be made purposefully ambiguous, as if the author did not quite know what he is talking about. This type of ambiguity may be fine in general literature, but a presumably scientific textbook talking about logical and structured discipline should not be so written.

If you're expecting a "how-to" manual on writing distributed systems, this isn't it. It has an excellent coverage of some fundamental principles - I used it as a text book for a distributed systems course and found it very useful. The course and this book changed the way I think about system

architecture. Some readers may find the material dry - it is, but in the end it's rewarding. It helps to have an exam at the end to drive you through this book. To the reviewer who said that it doesn't mention what's wrong with distributed objects or NFS, you'll find that it gives you the tools to see past the glossy hype of whatever the latest fad is (distributed objects, web services, or whatever else) and ask serious questions about how it handles failure, security, replication, etc.

Having said that, there were glaring grammatical errors, especially towards the end (the chapter on Distributed File Systems). I am surprised that it got past the editors. Also I had to re read some sections several times before I understood them (like the part about reliable group communication). It's still better than going through individual papers, but a more readable revised edition wouldn't hurt.

Everyone is entitled to their opinion; and some of the more negative remarks on this book are without warrant. The book starts as an exposition into distributed computing and branches into a comprehensive 'overview' of both theory and technical implementations. If you're looking for a book that is specific to one particular region of distributed technology this isn't it. If you've a computer science background you should appreciate the work Tannenbaum and Steen put into this book. It's a great book for academia and reference by information technology professionals who desire to understand the fundamentals of distributed computing. But as some comments have alluded, this is book is but the beginning. As a final note, the material is well referenced so you can branch of into the published works of others as needed.

I used this book for an online graduate class in which the instructor deferred all teaching, exercises, exams, and grading to the textbook. This is bad enough, but add to it that this textbook is a terrible read and a royal pain in the rear to reference and it's a miracle that I managed to eek out an A. I say miracle, but I really mean countless hours of research, sweat, and tears.

First, the reading is terribly wordy yet still amazingly vague. I read pages and pages of text which revealed precious little usable information. Then I'd read a barrage of facts condensed into a few heavy, indecipherable sentences that don't paint any sort of clear picture. There are a few attempts at humor sprinkled in which result in a head slap and a strong desire to throw the book directly into the garbage.

Second, the book is terribly organized. I'll give the authors the benefit of the doubt that organizing this book must be hard because every aspect depends on something else. The chapter layout (in a table of contents sense) is actually appropriate. However, the organization of information in each chapter is worse than terrible. There's a brief intro, but not really a overview of what they are going to discuss. It will then jump from point to point and back again and then to an unrelated point and then to a tangent and then back to the original point. Once you realize you've totally lost the thread they begin a new topic or a loosely-related case study. Trying to find any specific information (like, say, for an exercise question) is a lesson in futility. You never know where a speck of needed information will turn up, if at all.

Third, the exercises are ridiculous. They are poorly-worded, vague, and subjective. You will spend large amounts of time trying to determine what a question is really asking. As far as answering the questions, maybe 1 in 10 covers material substantially covered in the book. 2 in 10 cover some extension of what is contained in the book that you might piece together with critical thinking skills. 6 in 10 are wild tangents that may be mentioned in the chapter text but without any substantial treatment what-so-ever. Sometimes it might be covered in another chapter (previous or future chapters), but most of the time it requires extensive web research followed by a wild guess. The last 10% relate to a random sentence inserted into a seemingly random paragraph somewhere in the chapter.

Fictitious example: "Cows: Cows can be brown or black-and-white spotted. Cows have 8 stomachs. Cows are stinky. My sister has cows and she says they make lousy pets!" ... 30 pages later ... "Dogs: Dogs are mammals. Dogs like people. Dogs are primarily carnivores (unlike cows, who eat grass). Dogs are neat-o!" Question: "What might one typically find in a bovine's digestive tract?"

Now assume you've never heard of a cow or a dog. You'd look up bovine and determine that it's a cow. OK, let me go read about cows in the text. Well, it says they have 8 stomachs, that might be relevant. Let me search the internet, it says stomach acid, bile, feces, intestines, stomachs, throat, etc. Wait, there's something mentioned in the dog section about cows, is that relevant? Hmm, let me throw all of this into some giant abomination of an answer. Oops, I missed points because I didn't think about all the bacteria in the colon. I'll try harder next time.

3) don't skim the chapter looking for relevant information - actually read the entire 80-130 page chapter. While doing so, write down all the bold words and definitions because they are not collected for you at the end of the chapter. Also, answer any questions you can along the way. If something sounds relevant to the question, but doesn't answer it, then note the page and keep reading. It just might surface again later. Don't let any sentence go unread, no matter how irrelevant the paragraph sounds, because it just might be the one you need.

5) do some critical thinking and then make a bunch of wild guesses to finish your assigned exercises. Make sure to cover every possible interpretation of the question. Explain both sides of the argument even if they only ask for one side. Pray for partial credit or that your instructor doesn't care enough to actually read your answers.

I gave this book 2 stars because it really does contain a lot of material and concepts regarding Distributed Systems. I gave it only 2 stars because it is painful to extract this information and get it into any sort of useful representation in your head. It is worthless as a reference and it fails as a textbook. If you have to use it in class, I feel bad for you. If you have to use it in class and your instructor is worthless, then I would recommend dropping the class. If you can't, then may God have mercy on your soul.

Very few textbooks today explore distributed systems in a manner appropriate for university students. In this unique text, esteemed authors Tanenbaum and van Steen provide full coverage of the field in a systematic way that can be readily used for teaching. No other text examines the underlying principles – and their applications to a wide variety of practical distributed systems – with this level of depth and clarity.