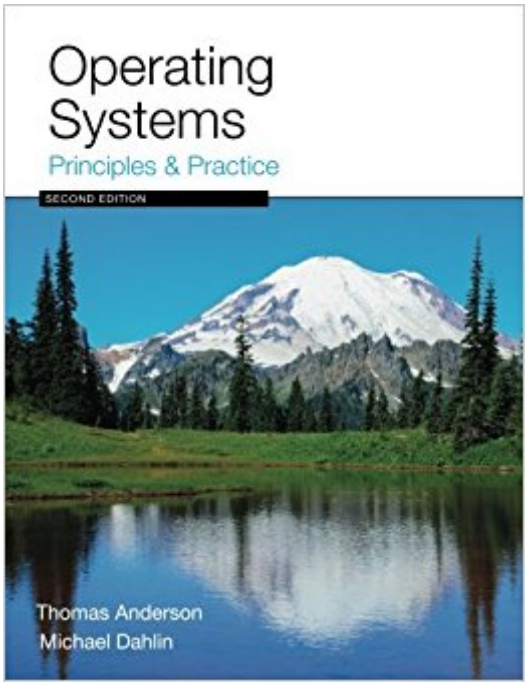
Operating Systems: Principles And Practice



Synopsis

Over the past two decades, there has been a huge amount of innovation in both the principles and practice of operating systems Over the same period, the core ideas in a modern operating system - protection, concurrency, virtualization, resource allocation, and reliable storage - have become widely applied throughout computer science. Whether you get a job at Facebook, Google, Microsoft, or any other leading-edge technology company, it is impossible to build resilient, secure, and flexible computer systems without the ability to apply operating systems concepts in a variety of settings. This book examines the both the principles and practice of modern operating systems, taking important, high-level concepts all the way down to the level of working code. Because operating systems concepts are among the most difficult in computer science, this top to bottom approach is the only way to really understand and master this important material.

Book Information

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Customer Reviews

Thomas Anderson is the Robert E. Dinning Professor of Computer Science and Engineering at the University of Washington, where he has been teaching computer science since 1997. Professor Anderson has been widely recognized for his work, receiving the Diane S. McEntyre Award for Excellence in Teaching, the USENIX Lifetime Achievement Award, the IEEE Koji Kobayashi Computers and Communications Award, the ACM SIGOPS Mark Weiser Award, the USENIX Software Tools User Group Award, the IEEE Communications Society William R. Bennett Prize, the NSF Presidential Faculty Fellowship, and the Alfred P. Sloan Research Fellowship. He is an ACM

Fellow. He has served as program co-chair of the ACM SIGCOMM Conference and program chair of the ACM Symposium on Operating Systems Principles (SOSP). In 2003, he helped co-found the USENIX/ACM Symposium on Networked Systems Design and Implementation (NSDI). Professor Anderson’s research interests span all aspects of building practical, robust, and efficient computer systems, including operating systems, distributed systems, computer networks, multiprocessors, and computer security. Over his career, he has authored or co-authored over one hundred peer-reviewed papers; eighteen of his papers have won best paper awards. Michael Dahlin is a Principal Engineer at Google. Prior to that, from 1996 to 2014, he was a Professor of Computer Science at the University of Texas in Austin, where he taught operating systems and other subjects as and where he was awarded the College of Natural Sciences Teaching Excellence Award. Professor Dahlin’s research interests include Internet- and large-scale services, fault tolerance, security, operating systems, distributed systems, and storage systems. Professor Dahlin’s work has been widely recognized. Over his career, he has authored over seventy peer reviewed papers; ten of which have won best paper awards. He is both an ACM Fellow and an IEEE Fellow, and he has received an Alfred P. Sloan Research Fellowship and an NSF CAREER award. He has served as the program chair of the ACM Symposium on Operating Systems Principles (SOSP), co-chair of the USENIX/ACM Symposium on Networked Systems Design and Implementation (NSDI), and co-chair of the International World Wide Web conference (WWW).

This is more of a "breadth" than a "depth" book. It covers many of the basic concepts you’d need to know, say, for studying for an OS exam.Unlike many other books in this category, this book uses mostly contemporary examples. This is hugely important for students who simply can’t relate to the 80’s.If I had two wishes for this book, it would be:i) A chapter (or a section) on cache coherenceii) Better print please. Many of the pages have a tilted print and it’s somewhat distracting.

This is a wonderful series of books that gave me another viewpoint on this subject. I found it more concise and a different viewpoint from the books the universities most often use.

This is a great book for you if you are an undergraduate cs major student or someone who does not have much background knowledge in OS. This book explain things in very approachable way such that concepts can easily be understood (even the virtual memory part!).The only downside of this book is that it does not cover topics in depth. If you are a graduate student researching in OS, you probably need other books instead of this one.

Great book.

I used this book for my undergraduate OS course. I also switched back and forth between this book and Tanenbaum’s Modern Operating Systems (3rd ed). That helped me get a sense of what this book did well, and where it might have fallen a bit short.PROS:- This book is relatively deep, technically. I found it had more specifics on implementation than Tanenbaum’s book.- It has a lot of asides that are good at giving broader context for the material. For example, in explaining a scheduling algorithm, it might spend a couple paragraphs examining possible use of the scheduling algorithm outside of operating systems.CONS:- Not always clear. Sometimes I felt caught up in the minutiae and missed the forest for the trees. Even after re-reading some passages multiple times, I wasn’t quite sure I was "getting it." This is where I would swap textbooks and read Tanenbaum’s coverage of the same topic.- Missing some material covered in Tanenbaum. Modern Operating Systems has several chapters dedicated to topics which aren’t as thoroughly covered in Anderson’s textbook. Some of the topics lacking include: multimedia OSs, OS design, and security.All in all, I think this is an alright textbook, but not a great one. It might be better as a reference or as a supplement. I’m glad I had it, but if I could only have one OS book, I’d stick with Tanenbaum’s.

Great book, covers lots of important topics (general OS principles, virtual memory, scheduling, shared resource allocation/lock implementation/deadlock, file systems, threads/processes, unix abstractions, I/O). When the lectures were unclear, I could always fall back on this book, find exactly what I was confused about, and figure out what I needed to know. That’s the sign of great writing, and a great textbook. Also, helped me ace a job interview.

Good content ... A lil more analogies wud have made it better

Great text. Love operating systems. My favorite section was on the thread library!!

to the Operating Room (Pocket Guide to Operating Room) Instrumentation for the Operating Room: A Photographic Manual (Instrumentation for the Operating Rooom, 5th ed) Operating Systems: Internals and Design Principles (8th Edition) Operating Systems: Internals and Design Principles (9th Edition) Computer Forensics: Investigating File and Operating Systems, Wireless Networks, and Storage (CHFI), 2nd Edition (Computer Hacking Forensic Investigator) Guide to Parallel Operating Systems with Windows 10 and Linux Guide to Operating Systems Modern Operating Systems (4th Edition) Understanding Operating Systems Survey of Operating Systems, 5e Modern Operating Systems (3rd Edition) Chestnut's Obstetric Anesthesia: Principles and Practice: Expert Consult - Online and Print, 5e (Chestnut, Chestnut's Obstetric Anesthesia: Principles and Practice) Principles And Practice of Mechanical Ventilation, Third Edition (Tobin, Principles and Practice of Mechanical Ventilation) Principles and Practice of Psychiatric Nursing, 10e (Principles and Practice of Psychiatric Nursing (Stuart)) ASTNA Patient Transport: Principles and Practice, 4e (Air & Surface Patient Transport: Principles and Practice)