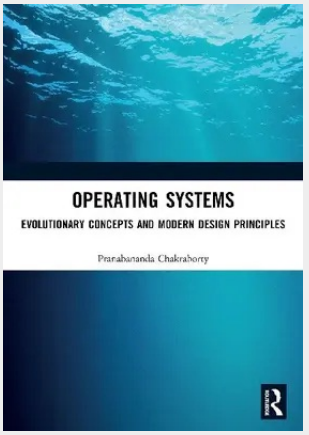
Chakraborty

# Operating Systems

Evolutionary Concepts and Modern Design Principles




This text demystifies the subject of operating systems by using a simple step-by-step approach, from fundamentals to modern concepts of traditional uniprocessor operating systems, in addition to advanced operating systems on various multiple-processor platforms and also real-time operating systems (RTOSs). While giving insight into the generic operating systems of today, its primary objective is to integrate concepts, techniques, and case studies into cohesive chapters that provide a reasonable balance between theoretical design issues and practical implementation details. It addresses most of the issues that need to be resolved in the design and development of continuously evolving, rich, diversified modern operating systems and describes successful implementation approaches in the form of abstract models and algorithms. This book is primarily intended for use in undergraduate courses in any discipline and also for a substantial portion of postgraduate courses that include the subject of operating systems. It can also be used for self-study. Key Features • Exhaustive discussions on traditional uniprocessor-based generic operating systems with figures, tables, and also real-life implementations of Windows, UNIX, Linux, and to some extent Sun Solaris. • Separate chapter on security and protection: a grand challenge in the domain of today's operating systems, describing many different issues, including implementation in modern operating systems like UNIX, Linux, and Windows. • Separate chapter on advanced operating systems detailing major design issues and salient features of multiple-processor-based operating systems, including distributed operating systems. Cluster architecture; a low-cost base substitute for true distributed systems is explained including its classification, merits, and drawbacks. • Separate chapter on real-time operating systems containing fundamental topics, useful concepts, and major issues, as well as a few different types of real-life implementations. • Online Support Material is provided to negotiate acute page constraint which is exclusively a part and parcel of the text delivered in this book containing the chapter-wise/topic-wise detail explanation with representative figures of many important areas for the completeness of the narratives.

This text demystifies the subject by using a simple and step-by-step approach, from fundamentals to modern concepts of traditional uniprocessor operating systems, in addition to advanced operating systems on various multiple-processor platforms and also real-time operating systems (RTOSs).

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