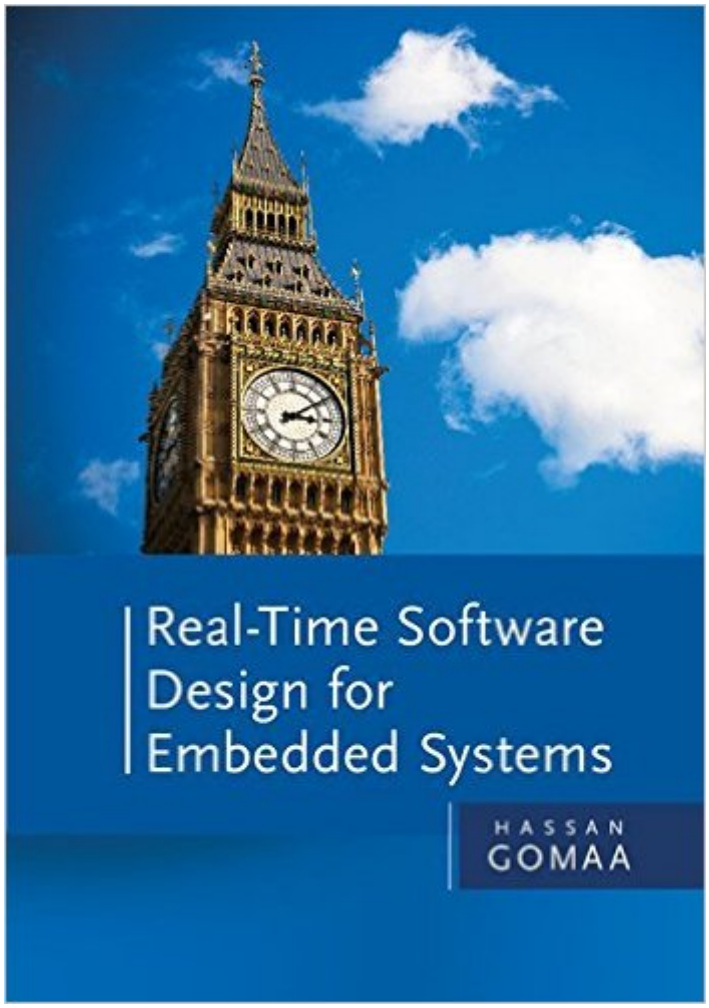
Real-Time Software Design For Embedded Systems



Synopsis

This tutorial reference takes the reader from use cases to complete architectures for real-time embedded systems using SysML, UML, and MARTE and shows how to apply the COMET/RTE design method to real-world problems. The author covers key topics such as architectural patterns for distributed and hierarchical real-time control and other real-time software architectures, performance analysis of real-time designs using real-time scheduling, and timing analysis on single and multiple processor systems. Complete case studies illustrating design issues include a light rail control system, a microwave oven control system, and an automated highway toll system. Organized as an introduction followed by several self-contained chapters, the book is perfect for experienced software engineers wanting a quick reference at each stage of the analysis, design, and development of large-scale real-time embedded systems, as well as for advanced undergraduate or graduate courses in software engineering, computer engineering, and software design.

Book Information

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Customer Reviews

Software design for the real-time embedded systems domain has nearly become a lost art. Hassan Gomaa’s text is a welcome presence and a must-read for any software engineer / computer scientist working on industrial real-time and embedded systems. This is truly one of the few modern and practical texts on the subject.

This book is a very fluid book to read on analysis and architectural design fot real-time embedded systems building on Dr. Gomaa's other books on software design and advanced design for software product lines.

DSP Software Development Techniques for Embedded and Real-Time Systems (Embedded Technology) Real-time Operating Systems (The engineering of real-time embedded systems Book 1) Memory Controllers for Real-Time Embedded Systems: Predictable and Composable Real-Time Systems: 2 Real-Time Software Design for Embedded Systems Real Time Systems and Programming Languages: Ada 95, Real-Time Java and Real-Time C/POSIX (3rd Edition) Design Patterns for Embedded Systems in C: An Embedded Software Engineering Toolkit Real-Time UML Workshop for Embedded Systems, Second Edition (Embedded Technology) Linux for Embedded and Real-time Applications, Third Edition (Embedded Technology) Linux for Embedded and Real-time Applications (Embedded Technology) Linux for Embedded and Real-time Applications, Second Edition (Embedded Technology) Embedded Systems: Real-Time Operating Systems for Arm Cortex M Microcontrollers Real Estate: Learn to Succeed the First Time: Real Estate Basics, Home Buying, Real Estate Investment & House Flipping (Real Estate income, investing, Rental Property) Embedded Systems Security: Practical Methods for Safe and Secure Software and Systems Development Making Embedded Systems: Design Patterns for Great Software Embedded Systems: Real-Time Interfacing to ArmÂ® CortexTM-M Microcontrollers DSP for Embedded and Real-Time Systems Real-Time Concepts for Embedded Systems Real-Time Embedded Components and Systems with Linux and RTOS (Engineering) Real-Time Embedded Components And Systems: With Linux and RTOS Embedded Linux Primer: A Practical Real-World Approach (Prentice Hall Open Source Software Development Series)