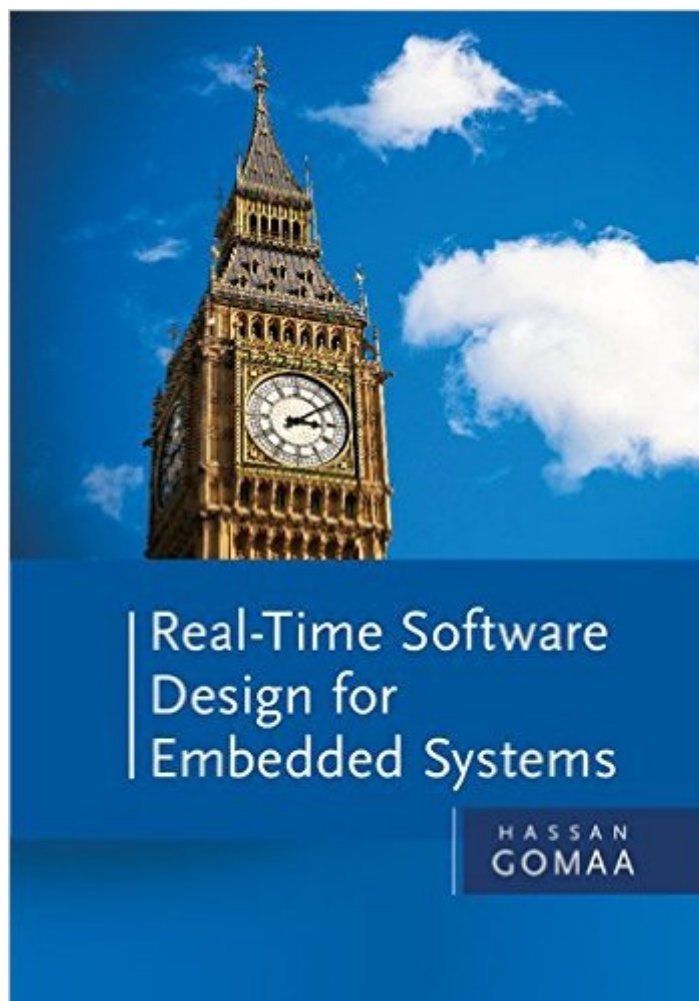# Real-Time Software Design For Embedded Systems

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.

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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.

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