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Strategies for Real-Time ...

"It gives serious practitioners a method to tackle their most challenging real-time projects."
—*CASE Outlook*

". . . a great step toward formalizing real-time system design. . . . will serve equally well as a tutorial introduction to these methods or as a reference. . . . The writing is clear and precise."
—*IEEE Software*

". . . easily accessible to readers with some experience of developing large systems, explaining where the methods come from and what they aim to achieve. It provides detailed descriptions of each activity's end-product . . . followed by a good explanation of how to carry it out. Highly recommended."
—*Computer Weekly*

"The act of writing a Foreword is a kind of endorsement. . . . In this case, I can be considerably more positive than that. I can tell you that I learned valuable new techniques from Hatley and Pirbhai, and that I apply them regularly on real-world real-time applications."
—**Tom DeMarco**, *from the foreword*

About the Authors

Derek J. Hatley is president of System Strategies, an international consulting and training firm based in Jenison, Michigan. He formerly was a Staff Engineer at Smiths Industries, Avionic Systems Division, where he was responsible for systems and software development techniques.
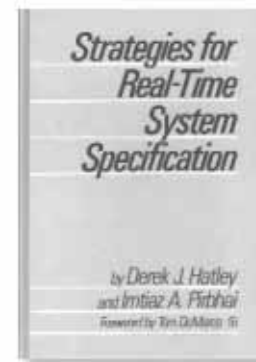
Imtiaz A. Pirbhai was responsible for the development of structured methods standards and procedures at the Boeing Commercial Aircraft Co. At the time of his death in August of 1992, he had begun work on *Process for System Architecture and Requirements Engineering*, coauthored with Hatley and Peter Hruschka and now available from Dorset House.

Strategies for Real-Time System Specification

by Derek J. Hatley *and*
Imtiaz A. Pirbhai
foreword by Tom DeMarco

Integrated, Widely Implemented Techniques for System and Software Developers

Here is a casebook, a practical reference, and an indispensable guide for creating a systematic, formal methodology for large, real-time, software-based systems.

The book introduces the widely implemented Hatley/Pirbhai methods, a major extension of the DeMarco analysis method describing how external events control the system's operating behavior. The techniques are used in major avionics and electronics companies worldwide, and are automated by most major CASE tools.

Large software-based systems, especially those for real-time applications, require multi-mode operation, direct interaction with a rapidly changing physical environment, and fast response times. In the past, the development of such systems was prone to massive cost and schedule overruns, and to inadequate performance and reliability. *Strategies for Real-Time System Specification* addresses these problems by integrating a finite-state machine structure into classical analysis methods.

The book contains nearly 200 diagrams, many of which illustrate the requirements specification of a flight management system for a major avionics developer.

" . . . a marvel of clarity and organization. . . . What sets this book apart is its readability. . . . Flip the book open to any page and you'll find a paragraph that, standing on its own, tells you something new in words you can understand about the topic of the chapter at hand. The book holds its focus. . . . Highly recommended."
—**P.J. Plauger**
Embedded Systems Programming