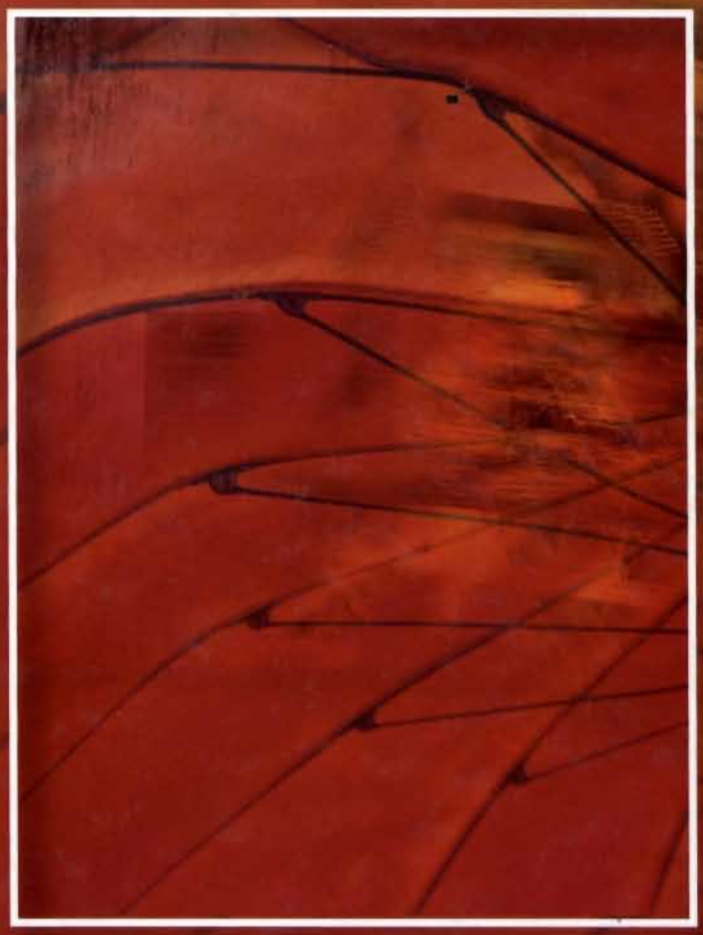
EMBEDDED SYSTEMS

A Contemporary Design Tool



JAMES K. PECKOL

Embedded Systems
A Contemporary Design Tool

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Embedded Systems Design!

From operating our cars, to controlling the elevators we ride, to doing our laundry or cooking our dinner, the special computers we call embedded systems are quietly and unobtrusively doing their jobs. Embedded systems give us the ability to put increasingly large amounts of capability into ever-smaller devices. *Embedded Systems: A Contemporary Design Tool* introduces you to the theoretical hardware and software foundations of these systems and shows you how to apply embedded systems concepts to design practical applications that solve real-world challenges.

Taking the user's problem and needs as your starting point, you'll delve into each of the key theoretical and practical aspects to consider when designing an application. Author James Peckol walks you through the formal hardware and software development process, covering:

- How to break the problem down into major functional blocks;
- Planning the digital and software architecture of the system;
- Designing the physical world interface to external analog and digital signals;
- Debugging and testing throughout the development cycle;
- Improving performance.

Stressing the importance of safety and reliability in the design and development of embedded systems and providing a balanced treatment of both the hardware and software aspects, *Embedded Systems* gives you the right tools for developing safe, reliable, and robust solutions in a wide range of applications.

James K. Peckol is Senior Lecturer in the Department of Electrical Engineering at the University of Washington - Seattle, where he has twice been named Teacher of the Year. He is also the founder of Oxford Consulting, Ltd., a product design and development consulting firm.

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