

an area that tends to be a problem in embedded system design, symptoms that tend to indicate you need to make changes, the risks of not fixing problems in this area, and concrete ways to make your embedded system software better. Each of the 29 chapters is self-sufficient, permitting developers with a busy schedule to cherry-pick the best ideas to make their systems better right away. If you are relatively new to the area but have already learned the basics, this book will be an invaluable asset for taking your game to the next level. If you are experienced, this book provides a way to fill in any gaps. Once you have mastered this material, the book will serve as a source of reminders to make sure you haven't forgotten anything as you plan your next project. This is version 1.1 with some minor revisions from the 2010 hardcover edition. This is a paperback print-on-demand edition produced by Amazon.

An introduction to embedding systems for C and C++ programmers encompasses such topics as testing memory devices, writing and erasing Flash memory, verifying nonvolatile memory contents, and much more. Original. (Intermediate).

The software architecture of embedded computing systems is a depiction of the system as a set of structures that aids in the reasoning and understanding of how the system will behave. Software architecture acts as the blueprint for the system as well as the project developing it. The architecture is the primary framework of important embedded system qualities such as performance, modifiability, and security, none of which can be achieved without a unifying architectural vision. Architecture is an artifact for early analysis to ensure that a design approach will lead to an acceptable system. This chapter will discuss the details of these aspects of embedded software architectures.

Interested in developing embedded systems? Since they don't tolerate inefficiency, these systems require a disciplined approach to programming. This easy-to-read guide helps you cultivate a host of good development practices, based on classic software design patterns and new patterns unique to embedded programming. Learn how to build system architecture for processors, not operating systems, and discover specific techniques for dealing with hardware difficulties and manufacturing requirements. Written by an expert who's created embedded systems ranging from urban surveillance and DNA scanners to children's toys, this book is ideal for intermediate and experienced programmers, no matter what platform you use. Optimize your system to reduce cost and increase performance. Develop an architecture that makes your software robust in resource-constrained environments. Explore sensors, motors, and other I/O devices. Do more with less: reduce RAM consumption, code space, processor cycles, and power consumption. Learn how to update embedded code directly in the processor. Discover how to implement complex mathematics on small processors. Understand what interviewers look for when you apply for an embedded systems job. "Making Embedded Systems is the book for a C programmer who wants to enter the fun (and lucrative) world of embedded systems. It's very well written—entertaining, even—and filled with clear illustrations." —Jack Ganssle, author and embedded system expert.

Developing Efficient Objects for Embedded Systems

Building Reliable Applications with the 8051 Family of Microcontrollers
An Embedded Software Primer

Elements of Reusable Object-Oriented Software

Taking you to the limit in Concurrency, OOP, and the most advanced capabilities of C

Real-time Design Patterns

Methods, Practical Techniques, and Applications

Eager to develop embedded systems? These systems don't tolerate inefficiency, so you may need a more disciplined approach to programming. This easy-to-read book helps you cultivate a host of good development practices, based on classic software design patterns as well as new patterns unique to embedded programming. You not only learn system architecture, but also specific techniques for dealing with system constraints and manufacturing requirements. Written by an expert who's created embedded systems ranging from urban surveillance and DNA scanners to children's toys, Making Embedded Systems is ideal for intermediate and experienced programmers, no matter what platform you use. Develop an architecture that makes your software robust and maintainable. Understand how to make your code smaller, your processor seem faster, and your system use less power. Learn how to explore sensors, motors, communications, and other I/O devices. Explore tasks that are complicated on embedded systems, such as updating the software and using fixed point math to implement complex algorithms.

Embedded Systems Foundations of Cyber-Physical Systems

Real Time UML Workshop for Embedded Systems

Architecting High-Performance Embedded Systems

Embedded and Real Time System Development: A Software Engineering Perspective

Explore architectural concepts, pragmatic design patterns, and best practices to produce robust systems

Insights and Implementation

Introduction to Embedded Systems