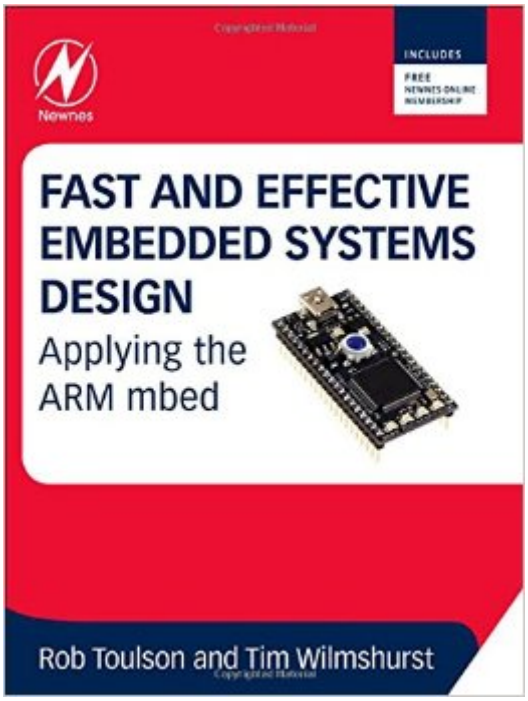
Fast And Effective Embedded Systems Design: Applying The ARM Mbed



Synopsis

Fast and Effective Embedded Systems Design is a fast-moving introduction to embedded system design, applying the innovative ARM mbed and its web-based development environment. Each chapter introduces a major topic in embedded systems, and proceeds as a series of practical experiments, adopting a "learning through doing" strategy. Minimal background knowledge is needed. C/C++ programming is applied, with a step-by-step approach which allows the novice to get coding quickly. Once the basics are covered, the book progresses to some "hot" embedded issues - intelligent instrumentation, networked systems, closed loop control, and digital signal processing. Written by two experts in the field, this book reflects on the experimental results, develops and matches theory to practice, evaluates the strengths and weaknesses of the technology or technique introduced, and considers applications and the wider context. Numerous exercises and end of chapter questions are included.A hands-on introduction to the field of embedded systems, with a focus on fast prototypingKey embedded system concepts covered through simple and effective experimentation Amazing breadth of coverage, from simple digital i/o, to advanced networking and control Applies the most accessible tools available in the embedded world Supported by mbed and book web sites, containing FAQs and all code examples Deep insights into ARM technology, and aspects of microcontroller architecture Instructor support available, including power point slides, and solutions to questions and exercises

Book Information

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Customer Reviews

This book is meant for a high-school student who wants to build some interesting and cool projects. If you are experienced in C programming and want to start learning about embedded systems and ARM, I don't think this is a good book. It assumes you know absolutely nothing about C. It explains 'in detail' concepts such as a=a+1 is equivalent to a++. For every code example or project it uses the mbed library, which basically does everything for you. There is only one chapter at the end of the book where the author doesn't use the mded library, and flashes an LED by accessing the controller GPIOs. That was to me the only chapter I learned something from. But I was hoping to learn something else than flashing an LED. The projects in the book are really easy to implement and they work great. But from my point of view you learn nothing from them, because everything is done under the hood in the mbed library.If you want to work on fun projects without caring about the theory and details behind, this is a good book. But if you want to learn ARM or embedded programming, you may want to try with other books such as Valvano's books on ARM Cortex microcontrollers (those books do not use the mbed libraries and are much more advanced).

The reviews of this book which complained about it being too basic made me hesitant to purchase, but I'm really glad that i picked this one up. This is a broad overview of the MBED platform and its capabilities. While it does not dive terribly deep, it does do a respectable job of covering the platform. I've got many years of experience with many different microcontroller platforms (including AVR, PIC, PSoC, MSP430, STM, ColdFire, and 8051) and still got a lot out of this text. I find the claim that this is high-school level material to be patently false. Don't expect low-level coverage of the ARM platform - there are other resources that dive deep in that regard - but IMHO this is an respectable overview of the platform's capabilities, especially within the context of the MBED framework.

At this point I have only looked through the book, but I believe it will do as advertisedAnd speed up prototyping your design.It is a good way to change over to the ARM cortex 3 processor. You will need other booksWith more detail on how the chip works.

Although I have done some programming in other languages, I had no background in C. This book makes it easy to create embedded systems from the ground up. To work the many examples and exercises in the book, I acquired the mbed - LPC1768 Development Board from . Also, because I wanted Bluetooth communication, to which the book devotes a few pages, I bought the Roving

Networks RN42 module (RN42XVP-I/RM) at Mouser. This book really makes it easy for beginners to get projects running by supplying the needed code at each step. Moreover, you don’t need to copy code from the pages, much of it is available for download on the web. Code for later chapters that hadn’t been put on the author’s website yet was provided to me by one of the authors a day after my email request. The facility to contact the authors with questions was a surprise and is a decided plus. I enjoyed the clear writing style and the fact that the authors teach embedded design and programming starting at basics.

Written with good examples and specifics of how this fits into the design/build process. written to be understandable by newbies- if your familiar with other IDE’s and looking for the deep nuts and bolts of mbed as far as you can go, this isn’t for you.will be a good reference to fall back on. good book

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