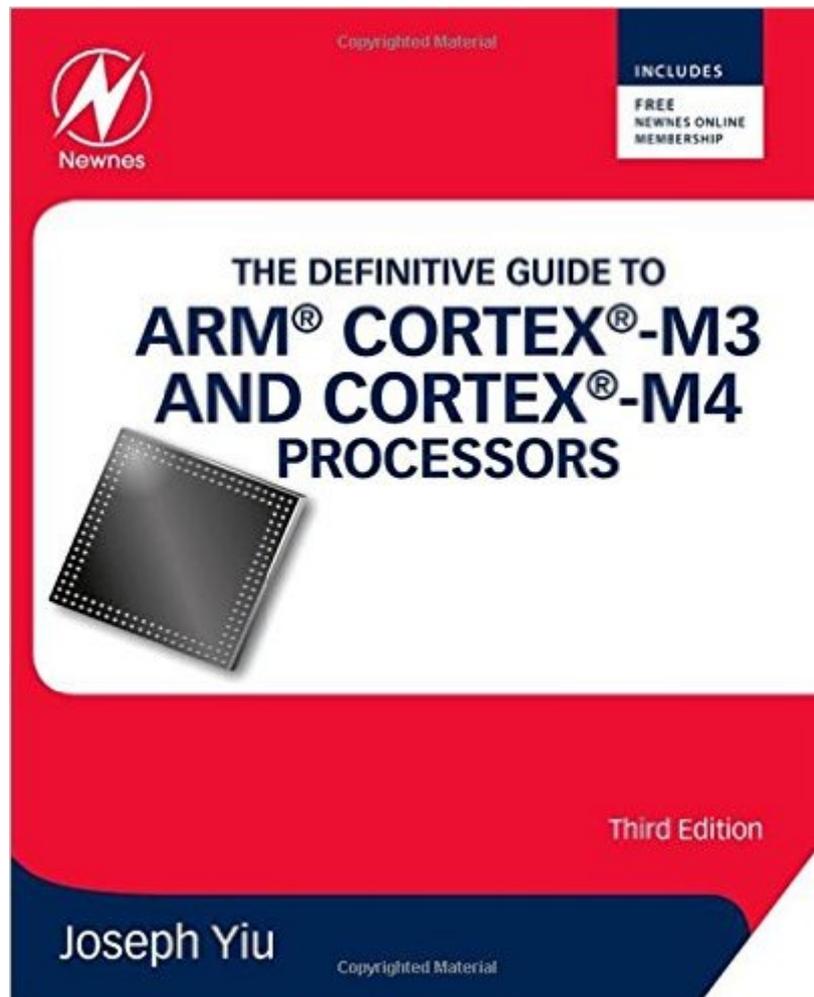The book was found

The Definitive Guide To ARM® Cortex®-M3 And Cortex®-M4 Processors, Third Edition

Synopsis

This new edition has been fully revised and updated to include extensive information on the ARM Cortex-M4 processor, providing a complete up-to-date guide to both Cortex-M3 and Cortex-M4 processors, and which enables migration from various processor architectures to the exciting world of the Cortex-M3 and M4. This book presents the background of the ARM architecture and outlines the features of the processors such as the instruction set, interrupt-handling and also demonstrates how to program and utilize the advanced features available such as the Memory Protection Unit (MPU). Chapters on getting started with IAR, Keil, gcc and CooCox CoIDE tools help beginners develop program codes.Â Coverage also includes the important areas of software development such as using the low power features, handling information input/output, mixed language projects with assembly and C, and other advanced topics.Two new chapters on DSP features and CMSIS-DSP software libraries, covering DSP fundamentals and how to write DSP software for the Cortex-M4 processor, including examples of using the CMSIS-DSP library, as well as useful information about the DSP capability of the Cortex-M4 processor A new chapter on the Cortex-M4 floating point unit and how to use it A new chapter on using embedded OS (based on CMSIS-RTOS), as well as details of processor features to support OS operations Various debugging techniques as well as a troubleshooting guide in the appendix topics on software porting from other architectures A full range of easy-to-understand examples, diagrams and quick reference appendices

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Customer Reviews

This is a monumental work. It covers everything from a high-level overview of the company (ARM) and how they do business (a fab-less IP company) to the low-level instructions offered by each of their microcontroller families (M0-M4).I was wondering how different this update would be to the 2nd edition. It is not just a cursory update with references changed to include the M4 (although there is some of that). There is a large amount of new material, including the new floating point and DSP instructions available on the Cortex M4. Lot's of other new material has been included.There is a great introduction about why ARM, and specifically the Cortex matter. It is *very* well-done and includes a huge set of diagrams.There is a lot to like:* Typeset well, clearly laid out* Interesting background (ARM, processors, differences between families)* Cortex M4 coverage* Good overview diagrams (such as a single page diagram showing the M0, M0+, M1, M3, and M4 instruction differences).* Breadth (high-level overviews, all the way down to very low-level processor details)* Sample code (how to utilize certain instructions to build an OS, for example)The code examples are especially surprising and welcome. A lot of effort was put into showing how certain features would be used: the SysTick timer, shadowed stack pointer, MPU, FPU, DSP, Sleep (WFE/WFI), etc. Actual C code is given (and explained), showing how to utilize each of these features (and others). C is used where possible, but mixed assembly is used where it makes sense. For example, on page 342 of the Context Switching example.This is an impressive work. But is there any room for improvement?

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