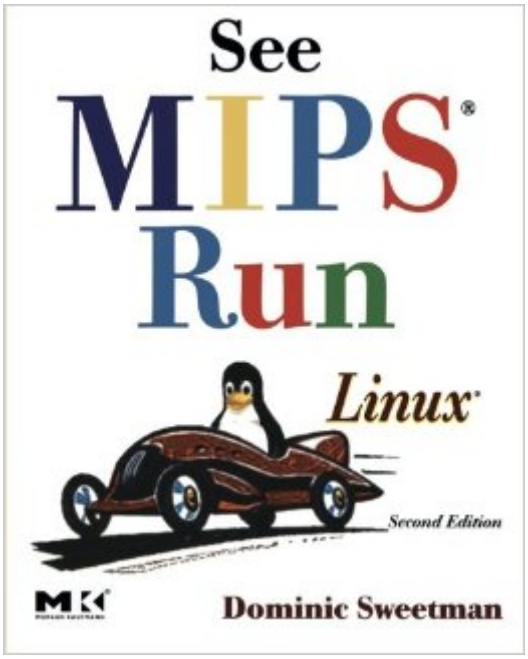
See MIPS Run, Second Edition (The Morgan Kaufmann Series In Computer Architecture And Design)



Synopsis

This second edition is not only a thorough update of the first edition, it is also a marriage of the best-known RISC architecture--MIPS--with the best-known open-source OS--Linux. The first part of the book begins with MIPS design principles and then describes the MIPS instruction set and programmersâ ™ resources. It uses the MIPS32 standard as a baseline (the 1st edition used the R3000) from which to compare all other versions of the architecture and assumes that MIPS64 is the main option. The second part is a significant change from the first edition. It provides concrete examples of operating system low level code, by using Linux as the example operating system. It describes how Linux is built on the foundations the MIPS hardware provides and summarizes the Linux application environment, describing the libraries, kernel device-drivers and CPU-specific code. It then digs deep into application code and library support, protection and memory management, interrupts in the Linux kernel and multiprocessor Linux. Sweetman has revised his best-selling MIPS bible for MIPS programmers, embedded systems designers, developers and programmers, who need an in-depth understanding of the MIPS architecture and specific guidance for writing software for MIPS-based systems, which are increasingly Linux-based. * Completely new material offers the best explanation available on how Linux runs on real hardware. * Provides a complete, updated and easy-to-use guide to the MIPS instruction set using the MIPS32 standard as the baseline architecture with the MIPS64 as the main option.* Retains the same engaging writing style that made the first edition so readable, reflecting the authors 20+ years experience in designing systems based on the MIPS architecture.

Book Information

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Customer Reviews

I’m just getting started on a project involving embedded MIPS systems, and this book has been very helpful in easing my way into this new world. Very well written, and it assumes the right level of knowledge. Not so basic that it explains every concept of architecture design, but not so advanced that it requires any previous experience.I highly recommend this for getting your feet wet with MIPS programming.

As a developer of a MIPS softcore (YARI, an FPGA implementation), I find this book to be an excellent reference and highly readable. While it doesn’t cover 100% of the intricate details, it comes remarkable close.Since the long and intricate history of the many many revisions of the MIPS architecture can be hard to follow, I was very excited to find a comprehensible account of this and many of the reasons why.The writing style is engaging and light - remarkable for a topic that easily comes out dry.

This is a great book and a must have if you are developing any low level code for a mips based processor. I have been working on a mips based project for the last 4 months and feel this book was very beneficial in getting up to speed. The book is organized well with in depth practical details on how things work.

Great book! Lots of details on what MIPS processor families are what and how specifically they are used by Linux. A must have for people running Linux on MIPS.

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