

<<嵌入式系统体系结构编程与设计>>

图书基本信息

书名：<<嵌入式系统体系结构编程与设计>>

13位ISBN编号：9787302102977

10位ISBN编号：730210297X

出版时间：2005-2

出版时间：清华大学出版社

作者：卡马尔

页数：619

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

<<嵌入式系统体系结构编程与设计>>

内容概要

本书是关于嵌入式系统开发与设计的一部最新力作，介绍了嵌入式系统的硬件、操作系统、开发过程以及编程。

全书系统地阐述了嵌入式系统的基本概念、处理器处存储器、设备与总线、设备驱动与中断服务，基本的C与C++、编程模型、软件工程的思想、进程间通信与同步、实时操作系统以及软硬件协同设计

。附录中包含了CISC与RISC指令集特征，并详细阐述了几种高性能的嵌入式处理器、微控制器、数字信号处理器以及总线和设备。

本书提供了大量案例，这对读者的实践开发具有非常好的指导意义。

本书适合于嵌入式系统的软硬件开发人员，以及接受嵌入式系统课程教育的本科生和研究生。

<<嵌入式系统体系结构编程与设计>>

书籍目录

Acknowledgements 1. Introduction to Embedded Systems 1.1 An Embedded System 1.2 Processor in the System 1.3 Other Hardware Units 1.4 Software Embedded into a System 1.5 Exemplary Embedded Systems 1.6 Embedded System-On-Chip (SOC) and in VLSI Circuit Summary List of Keywords and their Definitions Review Questions Practice Exercises 2. Processor and Memory Organisation 2.1 Structural Units in a Processor 2.2 Processor Selection for an Embedded System 2.3 Memory Devices 2.4 Memory Selection for an Embedded System 2.5 Allocation of Memory to Program Segments and Blocks and Memory Map of a System 2.6 Direct Memory Access 2.7 Interfacing Processor, Memories and I/O Devices Summary List of Keywords and their Definitions Review Questions Practice Exercises 3. Devices and Buses for Device Networks 3.1 I/O Devices 3.2 Timer and Counting Devices 3.3 Serial Communication Using the 'I2C', 'CAN' and Advanced I/O Buses between the Networked Multiple Devices 3.4 Host System or Computer Parallel Communication between the Networked I/O Multiple Devices Using the ISA, PCI, PCI-X and Advanced Buses Summary List of Keywords and their Definitions Review Questions Practice Exercises 4. Device Drivers and Interrupts Servicing Mechanism 4.1 Device Drivers 4.2 Parallel Port Device Drivers in a System 4.3 Serial Port Device Drivers in a System 4.4 Device Drivers for Internal Programmable Timing Devices 4.5 Interrupt Servicing (Handling) Mechanism 4.6 Context and the Periods for Context-Switching, Deadline and Interrupt Latency Summary List of Keywords and their Definitions Review Questions Practice Exercises 5. Programming Concepts and Embedded Programming in C and C++ 5.1 Software Programming in Assembly Language (ALP) and in High Level Language 'C' 5.2 'C' Program Elements: Header and Source Files and Preprocessor Directives 5.3 Program Elements: Macros and Functions 5.4 Program Elements: Data Types, Data Structures, Modifiers, Statements, Loops and Pointers 5.5 Queues 5.6 Stacks 5.7 Lists and Ordered Lists 5.8 Embedded Programming in C++ 5.9 Embedded Programming in Java 5.10 'C' Program Compiler and Cross-Compiler 5.11 Source Code Engineering Tools for Embedded C/C++ 5.12 Optimisation of Memory Needs Summary List of Keywords and their Definitions Review Questions Practice Exercises 6. Program Modeling Concepts in Single and Multiprocessor Systems Software-Development Process 6.1 Modeling Processes for Software Analysis Before Software Implementation 6.2 Programming Models for Event Controlled or Response Time Constrained Real Time Programs 6.3 Modeling of Multiprocessor Systems Summary List of Keywords and their Definitions Review Questions Practice Exercises 7. Software Engineering Practices 8. Inter-Process Communication and Synchronisation 9. Real Time Operating Systems 10. Real Time Operating System Programming Tools: Micro C/OS-II and VxWorks 11. Case Studies of Programming with RTOS 12. Hardware-Software Co-design in an Embedded System Appendix A. CISC and RISC Processor Architectures and an Exemplary Instruction Set Appendix B. Embedded System High-performance Processors Appendix C. Embedded System 8/16/32 Bit Microcontrollers and an Overview of their Architecture Appendix D. Embedded Digital Signal Processors Appendix E. New Innovative Processors for Embedded Systems Appendix G. Devices in Embedded Systems Appendix H. Important Topics in Embedded Systems Architecture, Programming and Design

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>