

1. Record Nr.	UNINA9910464195003321
Autore	Dawoud Shenouda Dawoud
Titolo	Digital system design : use of microcontroller // Dawoud Shenouda Dawoud, R. Peplow, University of Kwa-Zulu, Natal
Pubbl/distr/stampa	Aalborg, Denmark : , : River Publishers, , [2010] ©2010
ISBN	87-93102-29-1
Descrizione fisica	1 online resource (570 p.)
Collana	River Publishers series in signal, image & speech processing ; ; volume 2
Altri autori (Persone)	PeplowR
Soggetti	Microcontrollers Digital integrated circuits Microprocessors Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	""Cover""; ""Contents""; ""List of Abbreviations""; ""1 Processor Design Metrics""; ""1.1 Introduction""; ""1.2 Common Design Metrics""; ""1.3 Performance Design Metrics""; ""1.3.1 Characteristics of a Good Performance Metric""; ""1.3.2 Some Popular Performance Metrics""; ""1.3.3 Analysing Algorithms""; ""1.4 Economic Design Metrics""; ""1.4.1 Time-to-Market""; ""1.4.2 Design Economics""; ""1.5 Power Design Metrics""; ""1.5.1 Reducing Power Consumption""; ""1.6 System Effectiveness Metrics""; ""1.6.1 Reliability, Maintainability and Availability Metrics""; ""1.7 Summary of the Chapter"" ""1.8 Review Questions""""2 A System Approach to Digital System Design""; ""2.1 Introduction""; ""2.2 System Design Flow""; ""2.2.1 Requirement Analysis""; ""2.2.2 Specifications""; ""2.2.3 Functional Design: System Architecture""; ""2.2.4 Hardware Overview""; ""2.2.5 Software Overview""; ""2.2.6 Target System and Solution""; ""2.3 Technologies Involved in the Design Process""; ""2.4 Design Technology""; ""2.4.1 Design Partitioning""; ""2.4.2 Use of Multiple Views (Multiple Description Domains): The Y-Chart"" ""2.4.3 Use of Structured Design: Functional Block-Structured Top-Down Design (Structural Hierarchy)""""2.4.4 Design Procedure Based on

Top-Down Approach"; ""2.4.5 Programmable Digital Systems Design Using Block Structured Design"; ""2.5 IC-Technology; Implementation Technology"; ""2.5.1 Programmable Logic Device (PLD)"; ""2.6 Processor Technology"; ""2.6.1 Use of General-Purpose Processor (GPP)"; ""2.6.2 Single-Purpose Processor"; ""2.6.3 Application Specific Processor (e.g. Use of Microcontroller and DSP)"; ""2.6.4 Summary of IC Technology and Processor Technology""  
""2.7 Summary of the Chapter""""2.8 Review Questions"; ""3 Introduction to Microprocessors and Microcontrollers"; ""3.1 Introduction"; ""3.1.1 Processor Architecture and Microarchitecture"; ""3.2 The Microprocessor"; ""3.2.1 General-Purpose Registers"; ""3.2.2 Arithmetic and Logic Unit (ALU)"; ""3.2.3 Control Unit"; ""3.2.4 I/O Control Section (Bus Interface Unit)"; ""3.2.5 Internal Buses"; ""3.2.6 System Clocks"; ""3.2.7 Basic Microprocessor Organization"; ""3.3 Microcontrollers"; ""3.3.1 Microcontroller Internal Structure""  
""3.4 Microprocessor-Based and Microcontroller-Based Systems""""3.4.1 Microprocessor-based and Microcontroller-based Digital Systems Design Using Top-Down Technique"; ""3.5 Practical Microcontrollers"; ""3.5.1 AVR ATmega8515 Microcontroller"; ""3.5.2 Intel 8051 Microcontroller"; ""3.6 Summary of the Chapter"; ""3.7 Review Questions"; ""4 Instructions And Instruction Set"; ""4.1 Introduction"; ""4.2 Instruction Format"; ""4.2.1 Expressing Numbers"; ""4.2.2 Basic Instruction Cycle; Execution Path of an Instruction"; ""4.2.3 Clock Cycle and Instruction Cycle"; ""4.2.4 Labels""  
""4.3 Describing the Instruction Cycle: Use of Register Transfer Language (RTL)""

---