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Titolo	Designing Mobile Robot Interfaces with 16-Bit Microchip Microcontrollers // Ahmet Bindal
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ISBN	3-031-27841-0
Edizione	[First edition.]
Descrizione fisica	1 online resource (XII, 352 p. 293 illus., 53 illus. in color.)
Disciplina	005.3
Soggetti	Application program interfaces (Computer software) Microcontrollers - Programming Mobile robots - Design and construction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Processor Configuration -- I/O Ports -- Serial Port -- External Memories -- Data Converters -- Sensors -- Output Devices And Pulse Width Modulation (PWM) -- Pulling it all together: How To Build Robotic Systems.
Sommario/riassunto	This textbook provides semester-length coverage of the basics of embedded programming to develop robotics-related projects. The author avoids the typical, theoretical approach of teaching students to develop embedded software using formal methods, to emphasize practical and fun projects. Every project detail is explained, including the overall system architecture, working principles of each peripheral device, program development to integrate each peripheral to the system, how to configure the processor, functionality check, operating system, and even developing front-end electronics for some sensors which do not have digital interface. Provides semester-length textbook, covering embedded programming for robotics applications; Explains the complete system design of an autonomous robot identifying the needed peripherals; Demonstrates software development to interface each peripheral with the microcontroller.