1. Record Nr. UNINA9910153068903321

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Titolo	The AVR microcontroller and embedded systems : using Assembly and C. / / Muhammad Ali Mazidi, Sarmad Naimi, Sepehr Naimi
Pubbl/distr/stampa	Harlow, England : , : Pearson Education, Limited, , [2014] ©2014
ISBN	1-322-83115-7 1-292-05433-6
Edizione	[Pearson new international edition.]
Descrizione fisica	1 online resource (744 pages) : illustrations, tables
Collana	Always Learning
Disciplina	004.16
Soggetti	Sistemes incrustats (Informàtica) Atmel AVR (Microcontrolador) Assembly languages (Electronic computers) Embedded computer systems Atmel AVR microcontroller
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Cover -- Table of Contents -- 1. Introduction to Computing -- 2. The AVR Microcontroller: History and Features -- 3. AVR Architecture and Assembly Language Programming -- 4. Branch, Call, and Time Delay Loop -- 5. AVR I/O Port Programming -- 6. Arithmetic, Logic Instructions, and Programs -- 7. AVR Advanced Assembly Language Programming -- 8. AVR Programming in C -- 9. AVR Hardware Connection, Hex File, and Flash Loaders -- 10. AVR Timer Programming in Assembly and C -- 11. AVR Interrupt Programming in Assembly and C -- 12. AVR Serial Port Programming in Assembly and C -- 13. LCD and Keyboard Interfacing -- 14. ADC, DAC, and Sensor Interfacing -- 15. Relay, Optoisolator, and Stepper Motor Interfacing with AVR -- 16. Input Capture and Wave Generation in AVR -- 17. PWM Programming and DC Motor Control in AVR -- 18. SPI Protocol and MAX7221 Display Interfacing -- 19. I2C Protocol and DS1307 RTC Interfacing -- Appendix: AVR Instructions Explained -- Appendix: Data Sheets -- Index -- 2.
Sommario/riassunto	For courses in Embedded System Design, Microcontroller's Software

	and Hardware, Microprocessor Interfacing, Microprocessor Assembly Language Programming, Peripheral Interfacing, Senior Project Design, Embedded System programming with C. The AVR Microcontroller and Embedded Systems: Using Assembly and C features a step-by-step approach in covering both Assembly and C language programming of the AVR family of Microcontrollers. It offers a systematic approach in programming and interfacing of the AVR with LCD, keyboard, ADC, DAC, Sensors, Serial Ports, Timers, DC and Stepper Motors, Opto-isolators, and RTC. Both Assembly and C languages are used in all the peripherals programming. In the first 6 chapters, Assembly language is used to cover the AVR architecture and starting with chapter 7, both Assembly and C languages are used to show the peripherals programming and interfacing. .

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Record Nr.	UNINA9910872458503321
Titolo	Engineering of Computer Based Systems, 10th Annual IEEE International Conference on Temporal Logic, 4th International Conference On
Pubbl/distr/stampa	[Place of publication not identified], : IEEE Computer Society Press, 2003
Descrizione fisica	1 online resource
Disciplina	620/.001/171
Soggetti	Systems engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Sommario/riassunto	Trust is easier to destroy than create, hence, trust in overly applied automation may erode following accidents. This paper looks at the crash of a revolutionary supersonic fighter that resulted from over-reliance on protection technology. The protection system has been automated to the extent that it was impossible for the pilot to regain control and convince the system that there was a problem. Complete trust in the safety of the system has thus been translated into a new

kind of computer-assisted error, where in the interest of safety the only possible exit strategy is outlawed by the system leading to the potential (or in this case, the actual) destruction of the system it was meant to protect. Overall, trust appears to be an emergent function that takes in safety issues affecting the entire system as well as the relationship between the product, client and developer and the trade-offs that underpin decisions. Operators, working as part of a system, abrogate some of their responsibility by implicitly or explicitly passing on control to computerised systems. While operators function as an integral part of systems, their trust in the ability and safety of the system plays a key role in the ensuing success or failure.