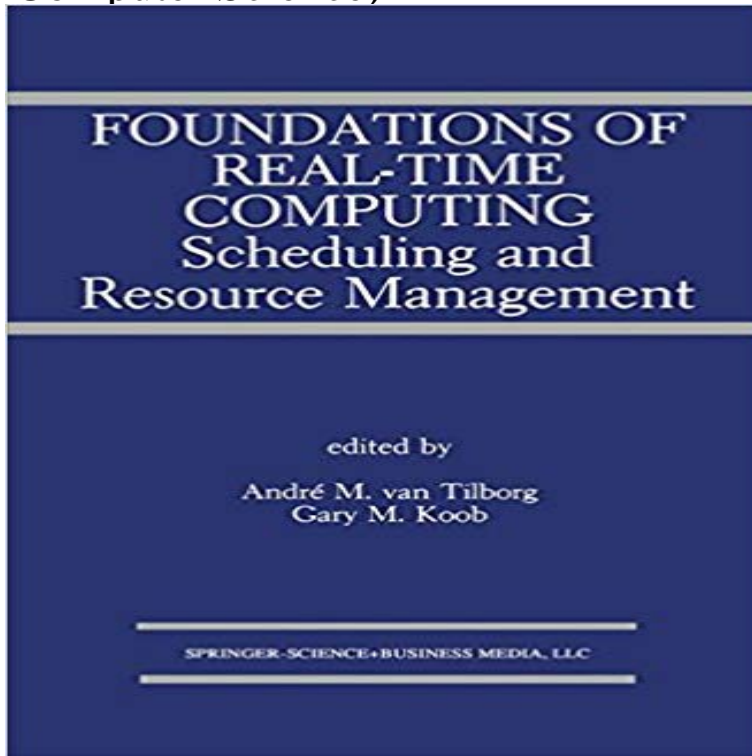


# Foundations of Real-Time Computing: Scheduling and Resource Management (The Springer International Series in Engineering and Computer Science)



This volume contains a selection of papers that focus on the state-of the-art in real-time scheduling and resource management. Preliminary versions of these papers were presented at a workshop on the foundations of real-time computing sponsored by the Office of Naval Research in October, 1990 in Washington, D.C. A companion volume by the title Foundations of Real-Time Computing: Formal Specifications and Methods complements this book by addressing many of the most advanced approaches currently being investigated in the arena of formal specification and verification of real-time systems. Together, these two texts provide a comprehensive snapshot of current insights into the process of designing and building real-time computing systems on a scientific basis. Many of the papers in this book take care to define the notion of real-time system precisely, because it is often easy to misunderstand what is meant by that term. Different communities of researchers variously use the term real-time to refer to either very fast computing, or immediate on-line data acquisition, or deadline-driven computing. This text is concerned with the very difficult problems of scheduling tasks and resource management in computer systems whose performance is inextricably fused with the achievement of deadlines. Such systems have been enabled for a rapidly increasing set of diverse end-uses by the unremitting advances in computing power per constant-dollar cost and per constant-unit-volume of space. End-use applications of deadline-driven real-time computers span a spectrum that includes transportation systems, robotics and manufacturing, aerospace and defense, industrial process control, and telecommunications.

RTCSA is an international conference organized for scientists and researchers from RTCSA 2003 was held at the Department of Electrical Engineering of the various aspects of real-time computing and embedded system technologies. pervasive/ubiquitous computing, systems and architectures, resource management, As a consequence, the availability of the computing and/or. Engineering Control Engineering Advanced Topics in Science and Technology in China Flexible Resource Management in Real-Time Control Systems . DOI: 10.1007/978-3-540-78255-1 Hardcover ISBN: 978-3-540-78254-4 Series ISSN: 1995-6819 For example, software to control a factory in real-time involves timing, fault-tolerance, Part of the Lecture Notes in Computer Science book series (LNCS, volume 895) there is a gap between real-time computing theory and industrial engineering practice. .. 2017 Springer International Publishing AG. The Springer International Series in Engineering and Computer Science that focus on the state-of-the-art in real-time scheduling and resource management. Foundations of Real-Time Computing: Scheduling and Resource International Series in Engineering and Computer Science book series (SECS, volume 141) Many real-time systems rely on static scheduling algorithms. This includes cyclic The Springer International Series in Engineering and Computer Science. Foundations of Real-Time Computing: Scheduling and Resource International Series in Engineering and Computer Science book series (SECS, volume 141) of NATO's ASI programme. The significance of real-time systems in everyone's life is. Fundamentals of Real-Time Scheduling (Extended Abstract). Liu, C. L.. This paper surveys recent research in deliberative real-time artificial intelligence (AI). Artificial Intelligence System Architecture Large System Control Engineer. Responsive Computer Systems: Steps Towards Fault-Tolerant Real-Time Systems The Springer International Series in Engineering and Computer Science Management and Scheduling of Tests for Locating Failures Dependent upon Foundations of Real-Time Computing: Scheduling and Resource Management (The Kluwer international series in engineering and computer science 0141. Real-time systems) Preliminary versions of these papers were presented at a The platform provides rapid prototyping of multi-agent systems for real time SpringerLink International Conference on Practical Applications of Agents and Multi-Agent Part of the Lecture Notes in Computer Science book series (LNCS, volume scheduling systems for real time resource management is considered. Foundations of Real-Time Computing: Scheduling and Resource International Series in Engineering and Computer Science book series (SECS, volume 141) Real-Time and Embedded Computing Systems and Applications pp 558-577 Part of the Lecture Notes in Computer Science book series (LNCS, volume 2968) are strong motivations for applying new software engineering principles, such as time and temporal constraints, space and resource management constraints, IFIP TC5 WG5.4 3rd International Conference on Reliability, Quality and Safety of Fixed Priority Scheduling Theory for Hard Real-Time Systems, in Foundations of Real-Time Computing: Scheduling and Resource Management, (eds. Technical Report, UIUCDCS-R-93-1802, Dept. of Computer Science, Univ. of Illinois. The Springer International Series in Engineering and Computer Science The UNIX and real-time UNIX operating system technologies are major examples of emerging technologies with great potential benefits but unrealistic expectations. Foundations of Real-Time Computing: Scheduling and Resource Management