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## Book Description

This first-of-its-kind resource offers you an in-depth understanding of wireless sensor networks from a systems perspective. The book describes and categorizes the technological trends, leading applications, state-of-the-art platform developments, future trends, and challenges of sensor networks. You find critical coverage of network protocols and mechanisms for node localization, time synchronization, media access control, topology creation and management, routing, transport, storage, security and fault tolerance, energy conservation and harvesting, and node deployment in large-scale sensor networks.

What's more, this practical reference addresses middleware issues for sensor network applications and focuses on important application domains, showing you how specific applications influence the architectural design of networked systems. Contributions from leading international researchers and nearly 70 illustrations support key topics throughout the book.

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## About the Author

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MEMS mechanical sensors.â€” (Artech House MEMS library) 1. Microelectricalmechanical systemsâ€”Design and construction I. Beeby, Stephen 621.3â€”81. 2. Transducers. ISBN 1-58053-536-4.Â Both the sensor and the actuator could be MEMS devices in their own right. For the purpose of this book, MEMS is an appropriate term as it specifically relates to mechanical (micro) devices and also includes wider areas such as chemical sensors, microoptical systems, and microanalysis systems. There is also a wide variety of usage of terms such as transducer, sensor, actua-tor, and detector. For the purpose of this text, we choose to adopt the definition pro-posed by Brignell and White [3], where sensors and actuators are two subsets of transducers. Operating Systems for Wireless Sensor Networks: A Survey. Muhammad Omer Farooq and Thomas Kunz \*. Department of Systems and Computer Engineering, Carleton University Ottawa, Canada. \* Author to whom correspondence should be addressed. Sensors 2011, 11(6), 5900-5930; <https://doi.org/10.3390/s110605900>.Â Keywords: Wireless Sensor Network (WSN); Operating Systems (OS); embedded operating system; Real-Time Operating System (RTOS) Wireless Sensor Network (WSN); Operating Systems (OS); embedded operating system; Real-Time Operating System (RTOS). This is an open access article distributed under the Creative Commons Attribution License (CC BY 3.0). Share & Cite This Article. MDPI and ACS Style. Wireless sensor networks are one of the first realworld examples of pervasive computing -- small, smart, and cheap sensing and computing systems that can monitor and control with unsurpassed efficiency and accuracy. The range of applications of this groundbreaking technology is mind-boggling, from habitat and health monitoring to defense systems and precision agriculture.Â This first-of-its-kind resource offers professionals an in-depth understanding of wireless sensor networks from a systems perspective. Including contributions from leading international researchers, the book describes and categorizes the technological trends, leading applications, state-of-the-art platform developments, future trends, and challenges of sensor networks.