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Application of Wireless Sensor Networks to Healthcare Promotion

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Sažetak

Born on military applications, wireless sensor networks (WSNs) application grew on the promise of environment sensing and data processing capability at low cost. These networks can hold hundreds or even thousands of smart sensing nodes with processing and sensing capabilities and even integrated power through a dedicated battery. This paper surveys on the application of wireless sensor networks to healthcare promotion, namely with the use of biosensor technology applied to body sensor networks. On a wireless body sensor network, a person wears biosensors to gather data, while doing their daily activities. Currently, engineers and medical staff are cooperating on finding new ways to properly gather meaningful data on-site and achieve a convenient way to process these data for research and on-site medical decision. New challenges that such approach brings are also considered. Moreover, it is shown that wireless sensor networks provide the technology to built wireless sensing and create a convenient infrastructure for multiple data gathering in healthcare applications. Together with real successful examples, we demonstrate the great usefulness of wireless sensor networks in healthcare promotion. The paper concludes with some guidelines for future work.

Ključne riječi

[Wireless Sensor Networks \(WSNs\)](#); [Healthcare](#); [Body Sensor Networks \(BSNs\)](#); [m-Health](#); [Biofeedback](#); [Smart Biosensor](#)

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Srce

Wireless sensor network (WSN) technologies are considered one of the key research areas in computer science and the healthcare application industries for improving the quality of life. The purpose of this paper is to provide a snapshot of current developments and future direction of research on wearable and implantable body area network systems for continuous monitoring of patients. This paper explains the important role of body sensor networks in medicine to minimize the need for caregivers and help the chronically ill and elderly people live an independent life, besides providing people with... Wearable and Implantable Wireless Sensor Network Solutions for Healthcare Monitoring. by Ashraf Darwish 1,* and Aboul Ella Hassanien 2. 1. Healthcare applications: WSN based technologies such as Ambient Assisted Living and Body Sensor Networks provide dozens of solutions to healthcare's biggest challenges such as an aging population and rising healthcare costs. Body sensor networks can be used to monitor physiological data of patients The Body sensor networks can provide interfaces for disabled, integrated patient monitoring. This wireless sensors form wireless body sensor network (WBSN). Node of each WSN composed of health care sensors and RF transceiver which send data to back end sever. Sensors can choose in the range of WSNs, while RF transceiver is implemented as a coordinator which manages WSN other than forwards data. The sensing data of each patient are stored in back-end server with each having its own ID. This paper provides a clearly comprehensive study of security research in healthcare application using WSNs. This paper presents the design, deployment, and evaluation of a wireless pulse-oximetry monitoring system in a

hospital unit. The study presented in this paper involves real patients monitored in a clinical setting. Generally, Wireless Sensor Network devices are immensely slight in terms of computation, power and communication. In this review, we describe detailed discussions of WSN security mechanisms and privacy issues from the demanding perspective of e-healthcare systems and viable techniques for these issues. In this review, we present few perspective applications in the healthcare background and describe the security challenges in WSNs. It has created new domain of WBANs and Wireless Sensor Networks healthcare applications is increasing array of location tags and wearable vital sign sensors. In real-time mode it is continuously trace both healthcare personnel (physiological and behavioural studies) and patient status location.