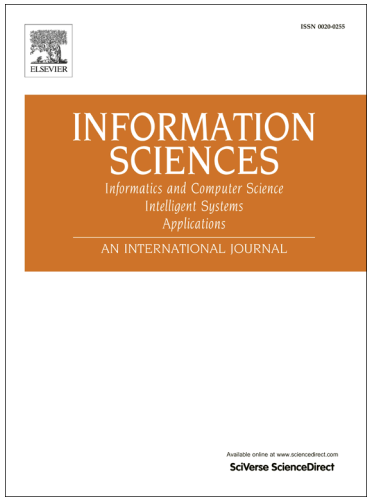

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Yena Kim, SuKyoung Lee

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Energy-Efficient Wireless Hospital Sensor Networking for Remote Patient Monitoring

Yena Kim*, SuKyoung Lee*

Yonsei University, Dept. of Computer Science, Soedaemun-gu, Shinchon-dong 134, 137-779 Seoul, Republic of Korea

Abstract

Hospitalized patients are often attached by numerous cables to medical monitoring equipment, which obstructs their mobility. Wireless patient monitoring technology can thus facilitate patient mobility and and increase their autonomy. A body area network (BAN) is a base technology used for wireless patient monitoring which consists of a set of wearable medical sensor nodes (SNs) placed in, on, or around a patient's body. BANs form an integrated large-scale wireless hospital sensor network (WHSN), for which we utilize a smartphone as a master node (MN) due to its more advanced computing capabilities and connectivity as compared with other mobile devices. Since smartphones are battery-powered, however, the MN requires efficient power utilization. Large-scale WHSNs, in which different types of medical data are generated, demand smartphone MNs that are able to handle various medical data and utilize cellular network resources, due to their limited bandwidth. In this paper, we present a scheme that maximizes the lifetime of

*Corresponding authors.

Email addresses: yenakim@yonsei.ac.kr (Yena Kim), sklee@yonsei.ac.kr (SuKyoung Lee)