With the Internet of Things (IoT) becoming a reality, power-efficient techniques are crucial to achieve sufficient battery lifetimes. Whereas current medical IoT devices typically acquire data with a constant quality, we propose an architecture that dynamically adjusts the data quality adaptively based on the current medical condition of the subject being monitored. Since transmission and processing make up a large fraction of the energy consumption, the reduction of the link traffic and processing effort caused by such an adjustment results in a decreased energy consumption of the devices. For example, if anomalies in the monitored data are detected, the monitoring is performed with an increased granularity and more exhaustive processing. Further, not all data generated by the medical sensors needs to be transmitted during all times. Only if certain events are detected, the transmission of the complete data needs to be activated. In this paper, we present a novel approach for body-worn medical IoT devices. In particular, a generic, distributed architecture
for the power-management of the whole system, which is based on dynamically switching services, is presented. We show that such an architecture can reduce the energy-consumption of medical sensors by up to 80% in real-world measurements.

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