

An In-home Medication Management Solution Based on Intelligent Packaging and Ubiquitous Sensing

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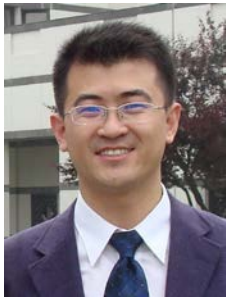
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(Pt9)Abstract—A healthcare solution for medication noncompliance problem would help to save \$177 billion annually in the United States. In addition, an in-home healthcare station (IHHS) is needed to meet the rapidly increasing demands for daily monitoring with on-site diagnosis and prognosis. In this paper, an intelligent medication management system is proposed based on intelligent package and ubiquitous sensing technologies. Preventive medication management is enabled by an intelligent package sealed by Controlled Delamination Material (CDM) and controlled by RFID link. Various vital parameters are collected by wearable biomedical sensors through the short range wireless link. Onsite diagnosis and prognosis based on these health parameters are supported by the scalable architecture. Additionally, friendly human-machine interface is emphasized to make it convenient for the elderly or disabled patients. A prototype system including the hardware, embedded software, user interface, database and some intelligent packages is implemented to verify the concepts.

(Pt9)Keyword—In-Home Healthcare Station; Medication Noncompliance; Wireless Sensor Network; Controlled Delamination Material; Radio Frequency Identification



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