Abstract: Design and Implement of Home-care System Based on Wireless Sensor Network

Chen Qingzhang*, Wu Rongjie, Li Xinghua, Yang Fan, Fang Dina
College of Computer, Zhejiang University of Technology, Hangzhou 310023, China
qzchen@zjut.edu.cn, yanziheha@126.com, lihuasc@126.com,
heconl@126.com,fdn424282@yeah.net

Abstract

As China entering the aging society, the elderly, chronic diseases, pregnant women, infants and children need long term home care. It can not only keep a long term home-care of patient, but also save the cost and the family's time and effort making using of wireless sensor network technology and Internet. The paper achieves the basic requirements of home-care system based on wireless sensor network both in hardware and software. The system uses GAINSJ node and pulse sensor to collect and transmit the physiological data. Management software in local PC initiatively processes, storages, displays the data and transfers it to remote server. It can access the data on the web. Meanwhile, it improves and simplifies the existing method of extracting the characteristic parameters of pulse wave. Finally, experiment of the collecting and transmitting pulse data indicates the effectiveness of the system. Arithmetic mean filter algorithm and the simplified threshold algorithm will be simulated on MATLAB. The result improves the feasibility of simplified threshold algorithm.