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Abstract

The development of the healthcare systems, by combining E-health, I-health and GSM-health together, recently became the focus of attention of researchers. In this research, will develop our research that practically designed in the name of "Real Time Portable Health Care PP, GSR, BG, EMG with Alarm System Based on WSN" to assist in the development of the health situation in the hospitals. The system develops by supporting GSM and Internet together in the wireless sensor network (WSN) under ZigBee protocol and by supporting the printing of medical reports. Where the implemented system measures the biomedical data utilizing a group of biomedical sensors, which are patient position sensor (PPS), galvanic skin response sensor (GSR), blood glucose sensor (BGS) and electromyography sensor (EMG). The System monitors the sleep position and skin conductance (indicator to patient's calm) of the patients in real time with alarm for each abnormal case in the base station (BS) and lobbies, and sends SMS alarm to doctor's phone, and it follows-up patient's glucose rate and diagnosis the patient's electromyography status. Moreover, it sends the glucose data to doctor's phone and uploads it to the special web site by using the GSM and Internet technologies. In addition, it introduces a printed hard copy medical report. Moreover,

the system stores the patient information and his health data in order to use it for any archiving process or statistical study. In the achievement system, three nodes are considered according to the facilities available but it stays monitor / diagnosis for an open node number. The system is implemented practically and applied for some persons under supervision of the specialist physicians, and the results obtained are very satisfied and present a great service to human care. All obtained results are presented in this paper.

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Index Terms

Computer Science

Information Systems

Keywords

E-health I-health GSM-health WSN ZigBee PPS GSR BGS EMG.