Health monitoring and emergency report system

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ABSTRACT

This thesis studies a portable health monitoring and emergency report system. The proposed system consists of two parts which are bio-signal monitoring functions and communication functions. The bio-signal monitoring functions includes ECG (Electrocardiogram, ECG) and SPO2 (Oxygen saturation) measurement devices which are combined with ZigBee transceiver. The communication part includes mobile devices (netbooks), ZigBee modules and satellite positioning system (Global Positioning System, GPS) devices, which are connected via different network protocols. The purpose of the proposed system is to set up a machine-to-machine (Machine to Machine, M2M) environment, where if the patient who needs to be cared has abnormal status, the doctor and the relatives can immediately know the location of the patient and receive the bio-signal data. Therefore, the doctor can realize the situation of the patient and prepares the possible treatment before the patient arrives at the hospital. In this study, we have finished designing the prototype of the proposed portable health monitoring and emergency report system. The prototype give a demonstration of the possibilities to send the abnormal alarms to the persons who register in a server and transmit the biomedical information and GPS coordinates to whom care the patient.

Keywords : M2M、WSN、BSN、GPS、ZIGBEE、ECG

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