

Remote Wireless Patient Monitoring System

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Abstract : One of the medical devices we found when we visit a hospital care unit such device is 'patient monitoring system'. This device (patient monitoring system) informs doctors and nurses about the patient's physiological signals. However, this device (patient monitoring system) does not have a remote monitoring capability, which is necessitates constant onsite attendance by support personnel (doctors and nurses). Thus, we have developed a Remote Wireless Patient Monitoring System using some biomedical sensors and Android OS, which is a portable patient monitoring. This device(Remote Wireless Patient Monitoring System) monitors the biomedical signals of patients in real time and sends them to remote stations (doctors and nurse's android Smartphone and web) for display and with alerts when necessary. Wireless Patient Monitoring System different from conventional device (Patient Monitoring system) in two aspects: First its wireless communication capability allows physiological signals to be monitored remotely and second, it is portable so patients can move while there biomedical signals are being monitor. Wireless Patient Monitoring is also notable because of its implementation. We are integrated four sensors such as pulse oximeter (SPO2), thermometer, respiration, blood pressure (BP), heart rate and electrocardiogram (ECG) in this device (Wireless Patient Monitoring System) and Monitoring and communication applications are implemented on the Android OS using threads, which facilitate the stable and timely manipulation of signals and the appropriate sharing of resources. The biomedical data will be display on android smart phone as well as on web Using web server and database system we can share these physiological signals with remote place medical personnel's or with any where in the world medical personnel's. We verified that the multitasking implementation used in the system was suitable for patient monitoring and for other Healthcare applications.

Keywords : patient monitoring, wireless patient monitoring, bio-medical signals, physiological signals, embedded system, Android OS, healthcare, pulse oximeter (SPO2), thermometer, respiration, blood pressure (BP), heart rate, electrocardiogram (ECG)

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