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RESEARCH ARTICLE

Remote Patient Tracking and Monitoring System

Mohammed Baqer M. Kamel[1], Loay E. George[2]

[1]College of Science, University of Baghdad, Iraq

[2]College of Science, University of Baghdad, Iraq

Abstract— The increasing number of patients needing continuous care is an encumbrance for medical staff. Today patient monitoring system along with wireless medical devices is used to monitor the patients, but still the patients have to stay inside coverage area of wireless devices. In this paper a remote patient tracking and monitoring (RPTM) system is proposed. The system monitors patient's vital signs via wireless medical sensors. The medical sensor sends the data to an Android based mobile device, which, in turn, periodically sends the patient health data to the server. The proposed system allows the patients to change their position freely; it tracks them using the collected GPS data from the mobile device and directs them to medical care team at any health emergency case. Also, the server informs the patient's doctor about his patient's status and position. A dedicated simple compression method is used to reduce the GPS data size, which is periodically collected. The proposed system components communicate with each other through a third party and there is no direct access between them. The transmitted data is encrypted by P2P key using AES. The doctors can do query about their patients using a dedicated Android based application. Also, they can query using an established web server.

Keywords— patient monitoring; Android; GPS

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