ABSTRACT

Patient monitoring system in hospitals is generally still done conventionally by visiting the patient's room. It is the drive that the amount of energy and medical facilities is limited to the number of patients who can take a lot of time and can endanger patients requiring quick handling priorities. Patients who are in critical condition are generally monitored by measuring their respiratory rate. The purpose of this research is to provide real-time remote monitoring with a notification on Gmail from patient respiration to prevent critical condition of the patient. The contribution of this research is to detect respiration using a ceramic piezoelectric sensor. In order for measurements to produce accurate results necessary relaxed positioning of the patient and the accuracy of positioning of the piezoelectric sensors. This research designed the tool to detect breathing by placing the piezoelectric sensor of an OEM ceramic on the abdomen part of the patient, the result of the sensor is then sent to the Internet through ESP32 and displayed in the application ThingSpeak. Based on the results the measurements were obtained an average error value of 0.4 for respiration parameters. The results of this research can be implemented on similar monitoring devices systems to improve the ease of monitoring.

Keywords: Monitoring, Respiration, Ceramic Piezoelectric Sensor, ESP32, ThingSpeak