ABSTRACT

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PROTOTYPE OF HEART RATE AND BODY TEMPERATURE TELEMONITORING TOOLS BASED ON THE INTERNET OF THINGS

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(xii + 71 + *Attachments*)

At this time the Heart health monitoring system in hospitals is still carried out conventionally, namely by visiting patients, but this conventional method has drawbacks if the number of personnel and medical facilities at the hospital is limited and as is known, patients must receive maximum care by hospital nurses so that their health is well controlled. To detect the patient's own health, it can be seen through three parameters, namely heart rate, oxygen levels and body temperature. In order to meet these needs, a patient health monitoring system that is integrated by the internet can be carried out so that patients can monitor their health data regularly. This can be done by designing a prototype of heart and body temperature telemonitoring tool based on the internet of things (IoT) based on the three parameters mentioned by utilizing a web server as a display of the results of research data conducted by patients. Looking at the parameters that are the benchmarks for health monitoring, the study uses the MAX30100 sensor which is used to detect heart rate and oxygen levels, while the body temperature parameter uses the DS18B20 sensor, to support research, you can also add a DHT11 sensor to monitor room temperature and humidity. In order for data collection to produce accurate results, a relaxed position of the patient is needed and also the stability of the wifi network so that monitoring is not hampered. By creating this system, it is hoped that it will make it easier for nurses to monitor patients in a more time-efficient and modern way. This test was carried out to 10 different respondents by looking at age and gender categories. In the heart rate test conducted on 10 respondents had an error percentage of 3.13%, oxygen saturation testing of 1.55%, body temperature of 2.68%, room temperature had an error percentage of 2.25%, and room humidity of 3.11%.

Bibliography (2014 – 2024)