ABSTRACT

Elderly is a period depict by limited movement function in the body. These limitations are marked by a decrease in intellectual and physical abilities such as the emergence of indications of disease that begin to interfere with activities in the elderly. This causes the elderly to tend to depend on others such as asking for help from others in carrying out their activities, including taking medication. Elderly with multiple comorbidities have a higher risk of non-adherence because receiving more than one type of drug is more prone to miss treatment hours. Therefore, the elderly need reminders and a place to store drugs to maintain drug quality. Drugs must maintain air quality, temperature and humidity to reduce and prevent the risk of drug degradation that can damage drug quality and safety. Therefore, this study designed a system to make it easier for the elderly as a reminder of the treatment schedule as well as a drug storage area that can maintain drug quality by monitoring the temperature and humidity quality of the Medical box through Thingspeak . The quality of the Medical box adapts ISO 17025 to measure the standardization of quality assurance in the system used because medical devices require measurement standards to maintain the quality of the equipment. The results show that the system can work properly according to the command with an alarm notification on the cellphone when the clock shows the time to take medicine, based on the DHT 22 sensor test which is accurate in measuring temperature and humidity with ISO 17025 standards, measurement quality test with a bias value of 0.318% and 99.7% truth value, Medical box equipment acceptance limit with 83% precision. Based on the network QoS test according to THIPON, the network quality is categorized as very good for throughput 5241 Kbps, packet loss 0%, delay 136.5 ms in the very good category because the standard value is <150 ms while the Jitter value of 21.28 is in the good category.

Keyword: Elderly People, Medical box, ISO17025, QoS.