

Performance Evaluation of Health Monitoring Network for Elderly Patient in Home

Muneer Bani Yassein, Mohammad Hamdan, Hisham A. shehadeh

Health care is very expensive for some countries that suffer from increase in population. In the last decade, health monitoring at home comes to solve this problem especially for elderly people. There are many types of wireless IEEE 802.15.4 sensors that are used for monitoring the health status for patients at home such as ECG sensor, blood pressure sensor, heart sensor and temperature sensor. From previous works in this field, there are some works deal with star topology and other works deal with mesh topology to monitor patients' health status in home environment. In this paper, we present the wireless sensor networks for health monitoring at home using star and mesh topologies. We compare between them by changing the distance between sensor nodes and coordinator node to determine the best network for monitoring patients' health status in home. The constructed system is used to monitor the electrocardiogram health status especially for elderly, Alzheimer's patients and physically disabled people. The results show an improvement for star topology over mesh topology in total packets received and is equal to 64%, 21.4% for energy consumption and 21.2% for average of end to end delay when the distance between sensors nodes and coordinator node equal 6 meters.

Yassein, Muneer Bani, Hamdan, Mohammad, **shehadeh, Hisham A.**, Performance Evaluation of Health Monitoring Network for Elderly Patient in Home, Asian Journal of Mathematics and Computer Research.