

WSN Based Healthcare Monitoring System using GSM and ARM7

Mr. Borhade G.L.¹, Mr. Sahane S.T.², Mrs. Dighe Y. N.³, Mrs. Kanawade M. V.⁴,
Mr. Gaikwad S.V.⁵, Mr. Hire J. N.⁶

Prof. Dept. of Electronics and Telecommunication Engineering^{1,2,3,4,5}

Prof. Dept. of Mechatronics Engineering⁶

Amrutvahini Polytechnic, Sangamner, India

Abstract: *The research paper, presents a Wireless Sensor Network (WSN) for monitoring a patient's physiological conditions continuously using gsm. In this Project we are 4 group members are made to do test. Person A was in the age group of 1-10 years. Person B was in the age group of 11-30 years and person C was in the age group of 31-80 years. Physiological conditions of these 3 groups of persons were monitored using physiological sensor. The output of physiological sensor has to be transmitted via gsm and the same has to be sent to the remote wireless monitor for acquiring the observed patient's physiological signal. The remote wireless monitor is constructed of gsm and Personal Computer (PC). The measured signal has to be sent to the PC, which can be data collection. is basically deals with measurement of the body temperature, ECG pattern simulated BP and heartbeat rate of patients and displays the figure on LCD display. We are going to three clamped type sensors out of which two are placed on wrist of the hand and one is placed on any leg. Differential voltage from sensor is in mV range which is converted into volts by instrumentation amplifier designed for gain of 1000. The amplified signal is applied to low pass filter for faithful nature of ECG whose cut-off frequency is decided to be 150Hz.*

Keywords: ARM7, GSM, LCD Display, LM35, ECG Sensor.

REFERENCES

- [1]. Jijesh J.J, Shivashankar "A survey on Wireless Body Sensor Network routing protocol classification" 2017 11th International Conference on Intelligent Systems and Control (ISCO), 5-6 Jan. 2017.
- [2]. M. A. Kumar and Y.R, "Sekhar Android Based Health Care Monitoring System," 2nd International Conference on Innovations in Information Embedded and Communication Systems, ICIIECS, IEEE, 2016.
- [3]. Minh Pham, Yehenu Mengistu, Ha Manh Do and Weihua Sheng "Cloud-based Smart Home Environment (CoSHE) for Home Healthcare" 2016 IEEE International Conference on Automation Science and Engineering (CASE) Fort Worth, TX, USA, August 21- 24, 2016.
- [4]. M.-k. Suh, C.-A. Chen, J. Woodbridge, M. K. Tu, J. I. Kim, A. Nahapetian, L. S. Evangelista, and M. Sarrafzadeh, "A remote Patient monitoring system for congestive heart failure," Journal of medical systems, vol. 35, no. 5, pp. 1165-1179, 2011.
- [5]. Rasha Talal Hameed, Omar Abdulwahabe Mohamad, Nicolae Țăpuș "Health Monitoring System Based on Wearable Sensors and Cloud Platform" 2016 20th International Conference on System Theory, Control and Computing (ICSTCC), October 13-15, Sinaia, Romania, IEEE 2016.
- [6]. Penna, Mahaveer, et al. "Reconfiguring CPLD to perform operations based on sequence detection condition." Recent Trends in Electronics, Information & Communication Technology (RTEICT), IEEE International Conference on. IEEE, 2016.
- [7]. S Santosh Kumar, S. H. Bharathi and M. Archana, "Non-negative matrix based optimization scheme for blind source separation in automatic speech recognition system", Proceedings of 2016 International Conference on Communication and Electronics Systems (ICCES), ISBN:978-1-5090-1066-0, DOI:10.1109/CESYS.2016.7889860, pp. 1-6, 2016

- [8]. Shivashankar, P Rajendra Prasad, S Santosh Kumar and K N Sunil Kumar, “An efficient routing algorithm based on ant colony optimization for VANETs”, Proceedings of IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT), ISBN: 978-1- 5090-0774-5,
- [9]. Shivashankar, Ravi Gatti, P Rajendra Prasad P, S Santosh Kumar and K N Sunil Kumar “Improvement of speed in data collection rate in tree based wireless sensor network”, Proceedings of IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT), ISBN: 978-1-5090-0774-5, DOI:10.1109/RTEICT.2016.7807918, pp. 720 – 723, 2016