

SMART STRETCHER FOR MEASURING VITAL SIGNS OF UNCONSCIOUS PERSONS

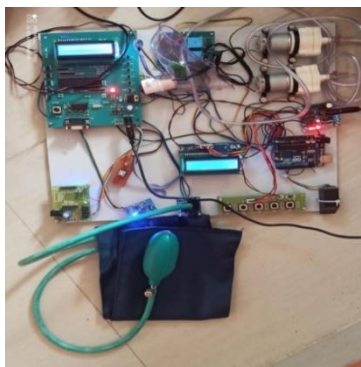
Bhuvanesh G¹, Jacob Novan Nelson A², Abishek M³, Ms.B.Thyla⁴

Email ID: bhuvaneshgopalakrishnan@gmail.com,
nelsonjacob637@gmail.com,
mabishek211@gmail.com.
thyla@kcgcollege.com

Abstract

The implementation of health monitoring technology in the stretcher can help to improve the quality of health management in India. Health is one of the global challenges for humanity especially in the countries with overpopulation. The main idea here is to provide a smart system that measures the vital signs of the unconscious person so that the health care professionals can monitor the person. PIC micro controller is the device used for information processing which collectively obtains the respiratory rate, heartbeat, temperature, and the blood pressure rate of the patient which is directly updated to the hospital server via IOT. This further updates the biometric details of the patient to the police station about the accident. This system is developed by using affordable technology and merging different functions to offer a proper solution. The aim of the system is to save many human lives by preparing intense care unit in hospital, as their physical parameters are updated to the hospital before their arrival to the hospital[1-6]

A



B



C



Fig.1. Final prototype: A. Ventilator with Relay: B. Ventilator with Relay :C

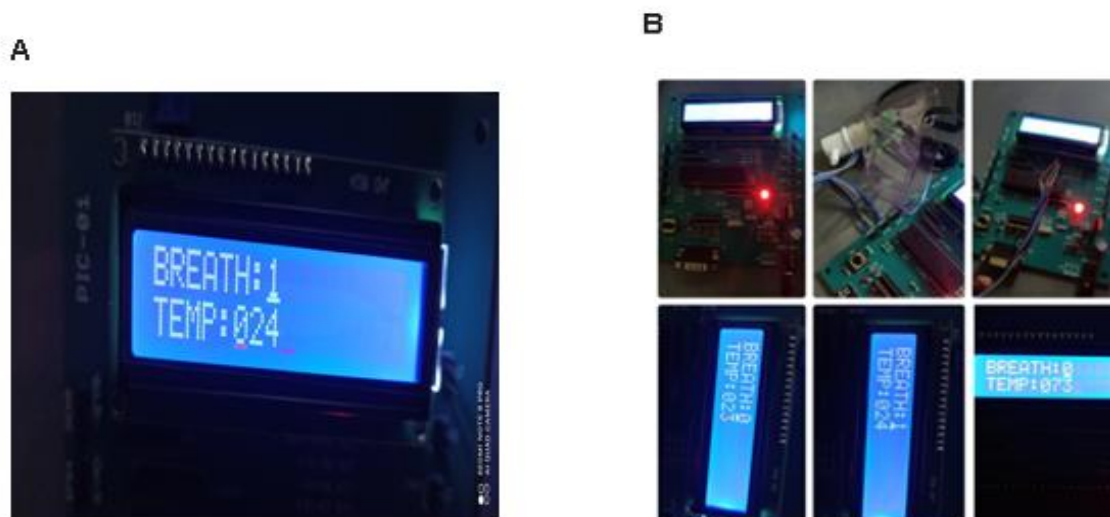


Fig.2. Output of respiratory & Temperature sensor: A. PIC microcontroller and LCD: B

References

- [1] Yang Gao, Varun V. Soman, Jack P. Lambardi, Pravakar P, "Heart monitor using flexible capacitive ECG-Electrodes". IEEE transaction on instrumentation and measurement, Vol: X, No: X, October 2019. <https://ieeexplore.ieee.org/document/8882340>
- [2] Wilmer Callel, Manuel Eduardo Flores Moran, "Design of smart stretcher and vital signs monitoring system for reduced-mobility patients". 2018 13th Iberian Conference on Information Systems and Technologies (CISTI). <https://ieeexplore.ieee.org/document/8399223>
- [3] Guanqun Zhang, Amber C. Cottrell, Isaac C. Henry and Devin B. McCombie, "Assessment of pre-ejection period in ambulatory subjects using seism cardiogram in a wearable blood pressure monitor" 2016 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC). <https://pubmed.ncbi.nlm.nih.gov/28269030/>
- [4] Floriano De Rango, Domenico Barletta, "Energy aware communication between smart IOT monitoring devices". 2016 International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS). <https://ieeexplore.ieee.org/document/7570517>
- [5] Darwin Alulema, Mireya Zapata, "An IOT-based remote monitoring system for electrical power consumption via web-application" 2018 International Conference on Information Systems and Computer Science (INCISCOS). <https://ieeexplore.ieee.org/abstract/document/8564527>
- [6] Z. Sheng, C. Mahapatra, C. Zhu, and V. C. M. Leung, "Recent Advances in Industrial Wireless Sensor Networks Toward Efficient Management in IoT", IEEE Access, vol.3, pp. 622-637, 2015 <https://www.semanticscholar.org/paper/Recent-Advances-in-Industrial-Wireless-Sensor-in-Sheng-Mahapatra/8ecd950e2553117f43c550d2e47d45c1febadb32>