

SUB THEME-3: RECENT DEVELOPMENTS IN THE DOMAIN OF INFORMATION TECHNOLOGY
HUMAN VITAL PARAMETERS ACQUISITION SYSTEM USING INTERNET OF THINGS

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Field of Invention

This invention relates to a method for health monitoring systems. To be more specific, this invention pertains to iot based vital parameters monitoring system.

Background of Invention

Nowadays, most elderly individuals suffer from at least one disease, and health awareness is on the rise. Taking care of those patients in the hospital can be stressful. Patients can engage the Body Sensor Network to detect irregularities in their bodies, which can help them avoid and get rid of the dangerous circumstances and receive timely treatment. As a result, For patients and clinicians, the IoT Based Health Care System for the Elderly is the cheapest healthcare gadget based on the IoT platform. It can be used to measure body factors such as ECG, temperature, moisture, and heartbeat. It also identifies the patient’s physical state and location. And sensors are connected to the human body via a well-managed wireless network. The Internet of Things (IoT) refers to a collection of goods equipped with sensors, processing capabilities, programming, and other transformations that are linked to and exchange data with various types of devices and frameworks via the Internet or other comparable organizations. This profession has progressed as a result of a combination of advancements, including the ubiquitous PC, equipment sensors, astounding integrated frameworks, and artificial intelligence (AI). A large number of people are dying as a result of cardiovascular failure these days. When there is no blood flow, a heart attack happens. It is hard to save the lives of countless individuals due to delays in heart disease treatment. In US 10433726 B2 , sensing nodes joined to a patient's body, sensing vital characteristics, employing wireless transmission circuitry transmitting sensed data by a short-range network, and a local gateway having wireless circuitry receiving transmitted data from the vitals sensors, software (SW) executing on a processor from a non-transitory medium, the SW processing the transmitted data received, and transmission circuitry transmitting processed data over a long-range network.

Summary of Invention

The acoustic signal conveys countless health information of different body parts; especially the heart sound signal that accomplishes crucial information of the heart. Understanding of acoustic sound based on listening needs not only professional practice but also the wealth of experiences. The primary aim of this work is focused on the implementation of a heart sound signal acquisition system targeting IoT implementation. Also in this system a body temperature and other sensors for vital parameters monitoring is also embedded. Provision is given for adding other sensors. Additionally power constraint is solved using solar/rechargeable batteries along with the ac adapter. The data acquired is processed with the help of arduino uno and it is passed through the IOT interface.

Brief Description of the Drawings

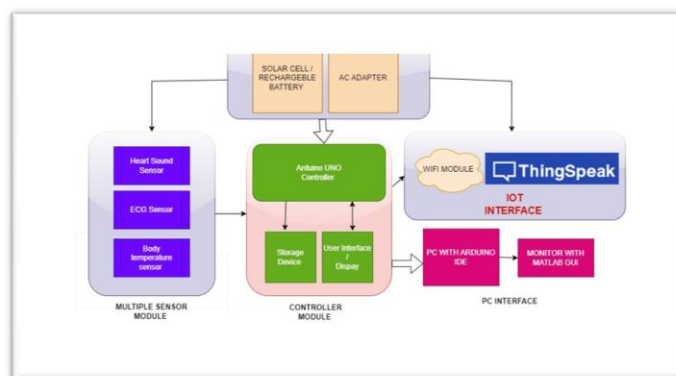


Fig. 1 discloses the overall block diagram of the vital data acquisition system.

Detailed Description of the Invention

The present invention is designed considering the elderly and patients with home care after some surgery to monitor the vital parameters such as pulse rate, temperature and other parameters using sensors. Constantly monitoring the health parameters like heartbeat, pulse, blood pressure could be very hard nowadays. It requires a separate manpower to monitor. If in case the individual is careless or engaged in one-of-a-kind work or tiredness they are able to monitor. So there is more possibility for some sort of issues.

A Multi- Sensor Module (101) deals with the direct listening of the heart sound signal and generates the heart sound analog signal for the controller. Additionally the sensor module consists of temperature sensor for monitoring the temperature and the information will be sent to the controller. Arduino UNO Controller module (102) works as the brain of system that controls system UI in TFT LCD module, stores acquired signal in SD card, sends the data over Wi-Fi, process the heart sound data for basic analysis and most importantly controls the PC interfacing related communications. An iot interface module for processing the data and sending data into cloud (104) is used. Power unit (105) uses both renewable and non-renewable energy sources such as rechargeable batteries and solar cells along with the ac adapter to power up the entire system. PC Interfacing (103) with matlab gui is introduced to perform the in-depth analysis of the acquired heart sound signal.

We Claim

1. An iot based vital parameters data acquisition system (100) comprising of a multi-sensor module (101) a arduino controller(102) pc interface with gui(103) iot interface (104) power unit(105)
2. An iot based vital parameters data acquisition system (100) consists of a multisensor module (101) in which various vital parameters monitoring sensors shall be added.
3. An iot based vital parameters data acquisition system (100) consists of a iot interface (104) in which the data will be transferred from the controller to thingspeak using wifi module