

ABSTRACT

Health monitoring systems have rapidly evolved during the past two decades and have the potential to change the way health care is currently delivered. Although smart health monitoring systems automate patient monitoring tasks and, thereby improve the patient workflow management, their efficiency in clinical settings is still debatable. This paper presents a review of smart health monitoring systems and an overview of their design and modeling. Furthermore, a critical analysis of the efficiency, clinical acceptability, strategies and recommendations on improving current health monitoring systems will be presented. The main aim is to review current state of the art monitoring systems and to perform extensive and an in-depth analysis of the findings in the area of smart health monitoring systems.

The design is made suitable for human health monitoring of individuals, families and communities and plays an important role in the prevention and monitoring of physiological parameters such as body temperature, blood pressure, and heart rate.

This paper designs a microcontroller-based intelligent monitoring system for human health parameters, including a human health data acquisition module, a central controller, an alarm module, a power supply module, and a storage module. It mainly monitors the body's temperature, the blood pressure, heart rate and blood oxygen saturation. The 51 microcontroller STC89C52RC is used as the main microcontroller, and the selected sensor types are temperature sensor (DS18B20), blood pressure sensor (MSP20), and heart rate also blood oxygen saturation sensor (MAX30102). It realizes real-time monitoring of various parameters of human health, and can provide personalized health advice and early warning for people

Keywords : 51 microcontroller STC89C52RC; sensor; modular monitoring; Keil C51 and proteus co-simulation