Design a wearable device for blood oxygen concentration and temporal heart beat rate

Abstract

The wireless network technology is increasingly important in healthcare as a result of the aging population and the tendency to acquire chronic disease such as heart attack, high blood pressure amongst the elderly. A wireless sensor network system that has the capability to monitor physiological sign such as SpO2 (Saturation of Arterial Oxygen) and heart beat rate in real-time from the human's body is highlighted in this study. This research is to design a prototype sensor network hardware, which consists of microcontroller PIC18F series and transceiver unit. The sensor is corporate into a wearable body sensor network which is small in size and easy to use. The sensor allows a non invasive, real time method to provide information regarding the health of the body. This enables a more efficient and economical means for managing the health care of the population.