

DESIGN AND SIMULATION OF PORTABLE TELEMEDICINE SYSTEM FOR HIGH RISK CARDIAC PATIENTS USING GSM

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ABSTRACT

The aim of this project is to design a portable cardiac telemedicine system to aid the patients to regain their independence and return to an active work schedule. This project demonstrates a technique to measure the heart rate by sensing the change in blood volume in a finger artery while the heart is pumping the blood. It consists of an infrared LED that transmits an IR signal through the fingertip of the subject, a part of which is reflected by the blood cells. The reflected signal is detected by a photo diode sensor. The changing blood volume with heartbeat results in a train of pulses at the output of the photo diode, the magnitude of which is too small to be detected directly by a microcontroller. The sensor is placed on the finger tip of the patient that continuously acquires the pulse rate from the high risk cardiac patient who can move around anywhere. It transmits the pulse rate to the patients GSM which sends the message to the doctor's mobile during after a certain time interval. And immediately aid can be given to the patient.