

HEALTH MONITORING SYSTEM BASED ON GSM

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Abstract - The idea of this project expands upon the incorporation of wireless communications into medicinal applications to revolutionize personal health care. The goal of our venture is to build a wireless heart beat monitoring framework utilizing GSM Technology, which could conceivably be a fundamental piece of individual healthcare apparatuses. As its name infers this is a system, having characteristic of sending SMS to both the doctor & patients relative in event of an emergency, henceforth the system can be utilized at clinics, hospitals and in addition at home.

Key Words: AT89C51 Microcontroller, GSM, Heart Beat Sensor, Temperature Sensor.

1. INTRODUCTION

Consistent observing of the human's body parameters for example, temperature, heartbeat rate, voltage and so forth is a troublesome task. Likewise in intensive care units it is important to screen constantly the patient's health parameters and keep their record. There is plausibility of human mistakes. There are a few shortcomings in existing framework. As of now there are number of health checking systems accessible for the ICU patients which can be utilized just when the patient is on bed. This has wiring complexities. Such systems create troublesome where the distance amongst System and PC is more. The accessible systems are colossal in size. General monitoring of a patient isn't possible once he/she is released from hospitals. These systems can't be utilized at singular level. Consequently to remove human mistakes and to diminish excessive burden of constantly checking patient's health from doctors head, we are proposing health checking framework utilizing GSM. The goal of health monitoring system is to have quantitative evaluation of essential Physiological factors of patients amid critical conditions. This system is utilized for estimating consistently automatically the values of the patient's vital physiological parameters, for example, body temperature and pulse rate.

2. HARDWARE DESIGN

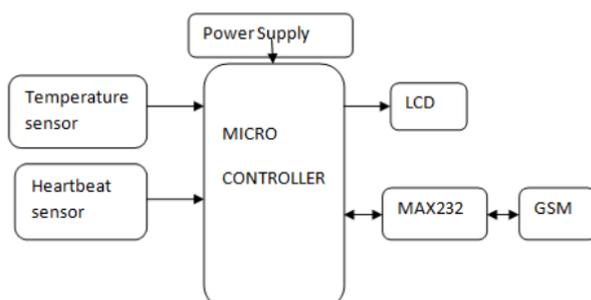


Fig: BLOCK DIAGRAM OF THE PROJECT

2.1 8051 MICROCONTROLLER

8051 microcontroller comprises of 40 pins, in those pins 32 pins are I/O pins and remaining 8 pins are unique function pins. In 8051 RESET pin is utilized for reset or refresh the program and crystal oscillator is utilized for producing the pulses using 11.0592 MHz frequency.

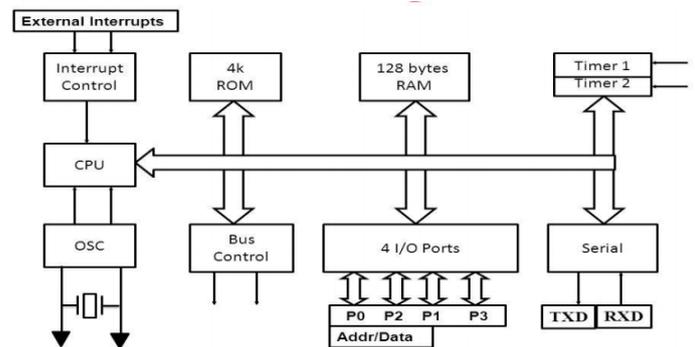


Fig: 8051 block diagram

2.2 GSM MODEM

A GSM modem is a specific one kind of modulator-demodulator in which a SIM card is acknowledged and we can operate over a subscription to the mobile operator. GSM module is utilized for the information to a GSM required framework. In numerous nations, it is utilized as architecture for mobile communication. GSM module comprises of a GSM modem and we have RS-232, USB alongside a power supply circuit for PC. GSM modem imparts over the mobile network when associated with a PC. GSM modems are additionally used to send and receive SMS messages. A GSM can be effectively interfaced with the microcontroller system and uses serial communication for data exchange.



Fig. GSM MODEM

6. CONCLUSIONS

The objective of the project is to diminish the hospitalization & assistance cost. Health checking application is essentially proposed to give alerts to medical health checking staff for the patients when required.

The device can be improved in certain areas as listed below:

- A graphical LCD can be used to display a graph of the change of heartbeat rate over time.
- Sound can be added to the device so that a sound is output each time a pulse is received.
- Serial output can be attached to the device so that the heart rates can be sent to a PC for further online or offline analysis.
- Health monitoring system, which we have proposed can be incorporated into a compact unit as small as a mobile phone or a wrist watch. This will help the patients to effortlessly carry this gadget with them wherever they go. The VLSI advances will enormously come convenient in such regard.

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