GSM BASED AUTOMATIC EMERGENCY CARE

The design of portable low cost systems for remote monitoring of patients with chronic diseases is one of the most important fields in telemedicine and telecare. Using Bluetooth communication technology, which can be added to some medical equipment, may enhance the efficiency of patient monitoring. In this paper a low cost, secure portable system with wireless transmission is presented to monitor vital parameters such as heart rate, O2 level ...etc. Transmitted data is archived and visualized both on a mobile phone and on a central server.
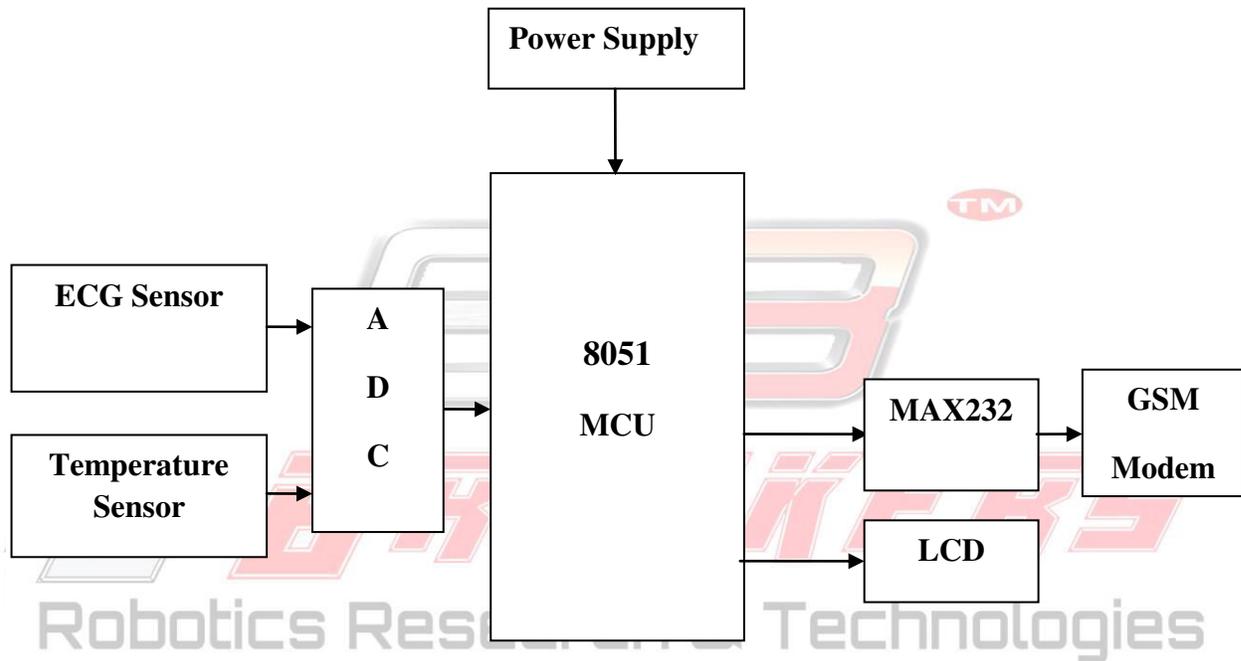
Existing System:

Patients who are at risk require that their cardiac health to be monitored frequently whether they are indoors or outdoors. Doctors have to go around knowing the recovery status of the patients which is time consumption.

Proposed system:

The acquisition module and wireless transmission modules are used in this system. The device used in the acquisition module is responsible for acquiring ECG and temperature, through the use of specific leads attached to the patient during the session. The ADC circuit is used to convert the sensor analog voltage into digital form then it fed to 8051 microcontroller. If the abnormal occur in the sensor value the microcontroller send the message to doctor about patient detail with specified condition of abnormality using GSM technology. Hence this will helpful to doctor to identify the patient problem and resolve it.

Block Diagram:

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                        ┌─────────────────┐
                        │  Power Supply   │
                        └─────────────────┘
                                 │
                                 ▼
┌──────────────┐        ┌───┐   ┌─────────┐
│  ECG Sensor  │───────▶│ A │   │         │
└──────────────┘        │ D │──▶│  8051   │         ┌─────────┐   ┌─────────┐
                        │ C │   │   MCU   │────────▶│ MAX232  │──▶│   GSM   │
┌──────────────┐        │   │   │         │         └─────────┘   │  Modem  │
│ Temperature  │───────▶│   │   │         │                       └─────────┘
│   Sensor     │        └───┘   │         │         ┌─────────┐
└──────────────┘                │         │────────▶│   LCD   │
                                └─────────┘         └─────────┘
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Hardware Requirements:

- ➢ 8051 Microcontroller
- ➢ GSM Module
- ➢ ECG Sensor
- ➢ LCD
- ➢ Temperature Sensor

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Software Requirements:

- Embedded C
- Keil Compiler

Advantages:

- Low cost and reliable
- Easy to use.

Application:

- It is used in telemedicine and telecare.

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