**BODY MOTION INFORMATION COLLECTION**

**AIM:**

The main aim of this project is to monitor the motion of the body and to calibrate the temperature values of the patient.

**PURPOSE:**

The purpose of this project is to monitor the patient vital signs like temperature and body motion information and to inform the concerned doctor whenever there is a change in the health using wireless communication.

**PATIENT SECTION:**

**MICRO CONTROLLER**

**AT89S52**

**POWER SUPPLY**

**LCD DISPLAY**

**(16 X 2 LINES)**

**HT12E ENCODER**

**MEMS**

**TEMPERATURE**

**SENSOR**

**RF TX**

**ADC080 8**

**MONITORING SECTION:**

**MICRO CONTROLLER**

**AT89S52**

**POWER SUPPLY**

**LCD DISPLAY**

**(16 X 2 LINES)**

**HT12D DECODER**

**RF RX**

**BUZZER**

**MAX 232**

**PC**

**Power Supply:**

**STEP DOWN**

**TRANSFORMER**

**BRIDGE**

**RECTIFIER**

**FILTER**

**CIRCUIT**

**REGULATOR SECTION**

**DESCRIPTION:**

Any human body motion, from its beginning to the end, the acceleration of every part of the mobile limbs or other parts of human body is keeping changing. If certain motion is repeated, then its acceleration changing regularity is also very also very close. Therefore if a three-axis acceleration sensor is put on some typical point of measured limbs or other body parts, then the three acceleration components X\_Y\_Z of that typical point in the motion process can be collected accurately. Then by mathematical calculation about the acceleration components information such as the motional track and dynamic process about that point will be gotten. From comprehensive analysis of the data gathered about several typical points detailed information about the measured human body motions is obtained so that motion information is digitalized.

In this project we have two sections, patient and monitoring section. In patient section we have MEMS and temperature sensor. These sensors are attached to the body of the patient. MEMS are used to sense the movements of the body and temperature sensor will calibrate the temperature of the patient. These sensors will continuously sense the values and are displayed on LCD. We use ADC converter to convert analog sensor values to digital values and are given to microcontroller.

A threshold value for the temperature is set initially. When the temperature increases beyond the threshold value, the data is transmitted to the monitoring section. MEMS produce the orientation directions of movement of the person, the person which direction his moving either x direction or y direction that direction will be taken and given to the micro controller. And a buzzer will be on in the monitoring section to indicate the emergency or abnormal condition. The sensor values of the patient from patient section to monitor section are transmitted by using RF transmitter.

At the monitor section RF Receiver receives this data and that data is given to microcontroller. The received data is displayed on the PC by using serial communication from microcontroller. When the temperature values exceeds from its threshold level then monitor section buzzer will on automatically.

**HARDWARE COMPONENTS:**

1. Micro controller (AT89S52)
2. Power supply
3. Temperature
4. MEMS
5. Encoder & Decoder
6. RF TX & RF RX
7. LCD
8. MAX 232
9. PC
10. Buzzer
11. ADC0808

**SOFTWARE TOOLS:**

* Keil u-Vision
* Embedded ‘C’
* Express PCB

**APPLICATIONS:**

1. Used in Medical applications

**RESULT:**

Hence from this project we implemented a system which monitors the patient vital signs and parameters and intimate to the doctor’s section.