# GPS AND GSM BASED HUMAN HEALTH MONITORING SYSTEM

**A PROJECT REPORT**

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

**BACHELOR OF TECHNOLOGY**
Electrical Engineering

**SUBMITTED TO**

**UNIVERSITY OF MANAGMENT AND TECHNOLOGY LAHORE**

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October 2013


**UNIVERSITY OF MANAGMENT AND TECHNOLOGY LAHORE**

# ACKNOWLEDGEMENT

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# CERTIFICATE

We hereby certify that the work which is being presented in the BS Project Report entitled **"GPS and GSM Based Human Health Monitoring System",** in partial fulfilment of the requirements for the award of the **Bachelor of Technology in Electrical Engineering** and submitted to the Department of School of Engineering of University of Management and Technology Lahore is an authentic record of our own work carried out during a period from **October 2012 to October 2013**( **$7^{th}$ /$8^{th}$ semester**) under the supervision of **Faran Awais Butt(Lecturer), SEN Department**.

The matter presented in this Project Report has not been submitted by us for the award of any other degree elsewhere.

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Junaid Liaqat (091420-103)
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This is to certify that the above statement made by the students is correct to the best of my knowledge.

## Signature of Supervisor

**Date:** **Faran Awais Butt (Lecturer)**

# ABSTRACT

In this era technology is running with time it completely occupied the life style of human beings. It is being used everywhere in our daily life to fulfil our needs. We are making use of different sensors for different applications and sometimes we may even use same sensors differently for different applications. We can not only increase the speed of life but also increase security with good ideas by making use of latest technology. In this project we are employing technology to sense serious health problems so that efficient medical services can be provided to the patient in appropriate time.

Some severe diseases for example heart failure needs close and continual monitoring procedure after diagnosis, in order to prevent mortality or further damage to the mentioned diseases or disorders. Monitoring of these patients, usually, occur at hospitals or healthcare centres. However, the patients are often too early released, due to need of hospital bed for another patient on the waiting list, who needs to be hospitalized immediately. As population increases and demand for services increases, the ability to maintain the quality and availability of care is achieved by this project.

This project aims in sending alert messages in emergency times e.g. when a person is alone in home or travelling, if he got heart attack then alerting messages will be send to the mobile phone. The message consists of location of that person also. Here we get the alerting message from the GSM modem (SMS Message) and the location of that person can be traced with the help of GPS. The GPS stands for Global positioning system. This GPS receiver is capable of identifying the location in which it was present in the form of latitude and longitudes.

We used heartbeat sensor made by combination of LED and LDR for measuring heart beat. Depending upon the rate of circulation of blood per second the heart beat rate per minute is calculated. Temperature sensor is used to give temperature of that person also. This device consists of a microcontroller which takes the input from the heart beat sensor and temperature sensor and calculates the heart rate and temperature of patient. The micro controller also takes the responsibility to send message through GSM modem and track location through GPS.

# INDEX

**LIST OF CONTENTS** **PAGE NO**


1. Introduction.....7
   1.1 Objective.....7

2. Hardware Analysis.....9

   2.1 Power supply.....9
      2.1.1 Transformer.....10
      2.1.2 Rectifier.....10
      2.1.3 Voltage Regulator.....11
      2.1.4 Light Emitting Diode.....11

   2.2 Microcontroller.....12
      2.2.1 Introduction..... 12
      2.2.2 High-Performance RISC CPU.....12
      2.2.3 Special Microcontroller Features.....12
      2.2.4 Peripheral Features..... 13
      2.2.5 Analogue Comparator module.....13
      2.2.6 Applications.....16
      2.2.7 Clock / instruction cycle.....17
      2.2.8 Clock generator – oscillator.....20
      2.2.9 Ports.....20

   2.3 GSM MODEM/MOBILE.....25
      2.3.1 GSM History.....25
      2.3.2 Services provided by GSM.....26
      2.3.3 GSM Architecture.....26
      2.3.4 GSM Specifications.....33
      2.3.5 GSM User Services.....39
      2.3.6 GSM Security and Encryption.....42
      2.3.7 AT Commands.....46

   2.4 GPS.....49
      2.4.1 History.....49
      2.4.2 Components of GPS.....49
      2.4.3 Working and Operation.....51

   2.5 Heartbeat Sensor.....54
   2.6 Temperature Sensor.....57

3 Coding .....59

4 Future scope.....64

5 Conclusion.....65

6 References.....66

## List of Figures Page No

FIGURE 1.1 Block diagram of GPS and GSM based human health monitoring system.....8

FIGURE 2.1 Power supply.....9

FIGURE 2.2.1 Block diagram of PIC16F877A.....14

FIGURE 2.2.2 Harvard vs. von Neuman Architecture.....15

FIGURE 2.2.3 Pin diagram of PIC16F877A.....18

FIGURE 2.3.1 GSM Network.....27

FIGURE 2.3.2 Mobile station sim port.....46

FIGURE 2.4.1 Global Positioning network.....52

FIGURE 2.5.1 Heartbeat Sensor.....55

FIGURE 2.5.2 Circuit Diagram of heartbeat with signal conditioning circuit.....55

FIGURE 2.5.3 Schematic diagram.....56

# 1. Introduction

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## 1.1 Objective

- Monitoring of health status of patient using heartbeat sensor and temperature sensor
- Location of patient can be traced using GPS
- Sends alerts in the form of SMS messages to specified persons or ambulance

## 1.1. BLOCK DIAGRAM

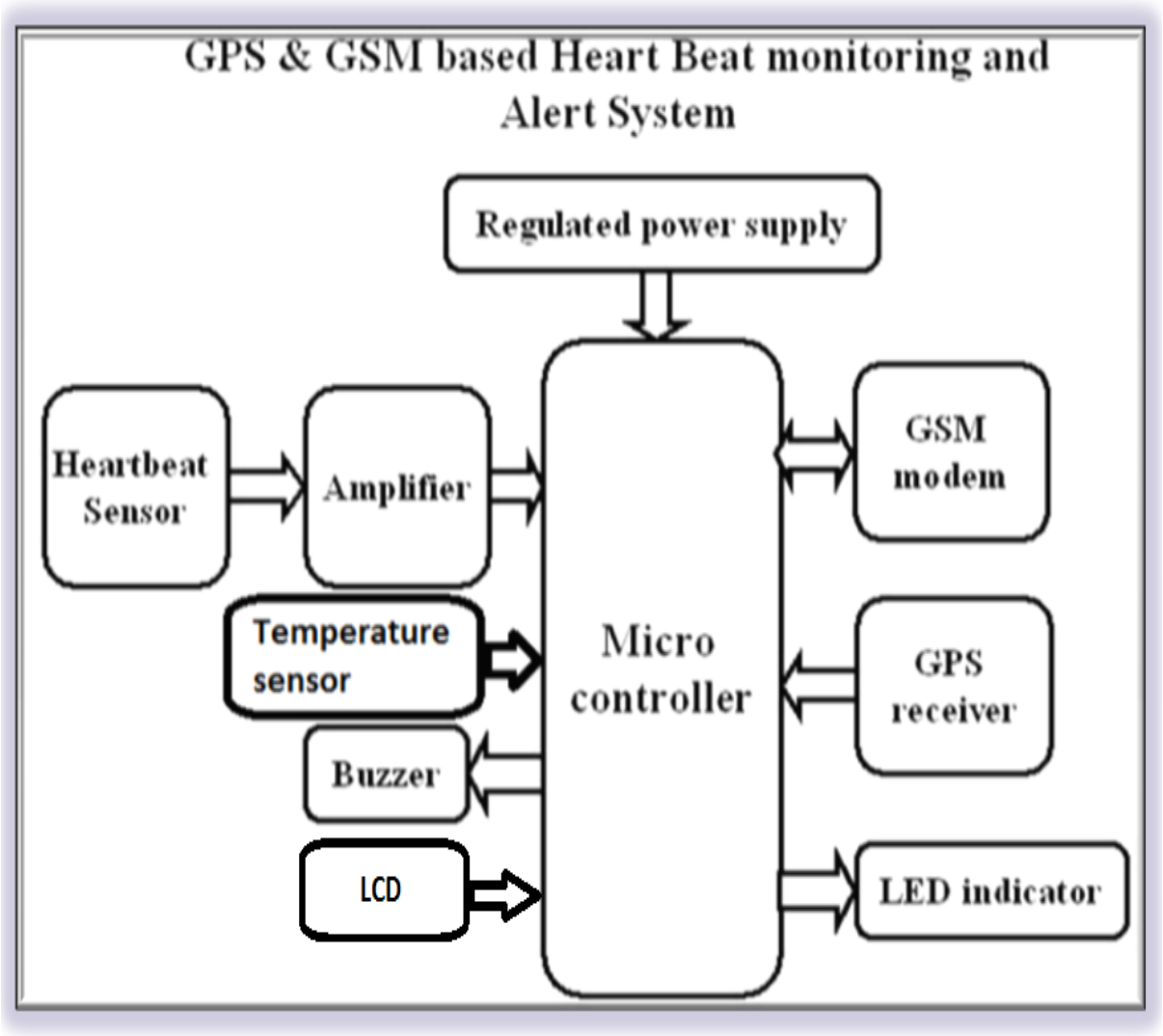


Fig 1.1 GPS and GSM based Human Health Monitoring System