

Advanced Women Security System Using IOT Technology

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ABSTRACT: According to the reports of WHO, NCRB-social-government organization 35% of women all over the world are facing an abnormal health sufferings in public places such as railway, bus stands, foot paths etc. This paper describes about effective safety system for women. Here we introduce a prototype device which ensures the protection of women. This helps to identify, protect and call on resources to help the one out of abnormal situations. The system resembles a normal wearable device which when activated, tracks the place of the women and sends emergency alert in webpage with location and distance between women and missed place with default message. The proposed work shows a flexible and interoperable combination of a device and application that will accessorize and empower the citizens and serve as a multifunctional device.

I. INTRODUCTION TO EMBEDDED SYSTEM

An Embedded system is a special purpose computer controlled electro-mechanical system in which the computer is completely encapsulated by the device it controls. An embedded system has specific requirements and performs pre-defined tasks, unlike a general-purpose personal computer. An embedded system is a computer- controlled system.

The core of any embedded system is a microprocessor, programmed to perform a few tasks (often just one task). This is to be compared to other computer systems with general purpose hardware and externally loaded software loaded software. Embedded systems are often designed for mass production.

EXAMPLES OF EMBEDDED SYSTEMS

Automatic teller machines (ATMs)

Cellular telephones and telephones switches

Computer network equipment, including routers, timeservers and firewalls

Disk drives (floppy disk drives and hard disk drives)

Engine controllers and antilock brake controllers for automobiles

EXISTING SYSTEM:

India which sees itself as a promising super power and an economic hub can achieve its goal if and only if a large numbers of old peoples participate in the development process. The existing system propose an automated reliable security device which consist of the sensors embedded in a wearable dresses. They use low cost Bluetooth mobile LowEnergysignaling to enable micro-location services and to trigger actions within apps. A woman with a mobile phone only needs to pass by the Bluetooth signal to be tracked by an application.

DISADVANTAGES

Tracking was difficult

Not able to find exact location

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PROPOSED SYSTEM:

India which sees itself as a promising super power and an economic hub can achieve its goal if and only if a large numbers of women participate in the development process. It consist of sensors, GSM , GPS and PIC microcontroller with sensors tool which keep user under observation at all the time.. This Paper proposed a portable device as a watch which is automatically activated base on the pressure difference crosses over the threshold in unsafe situation. A GPS module track the location and sends the emergency messages to three emergency contacts every two minutes with updated location through GSM.

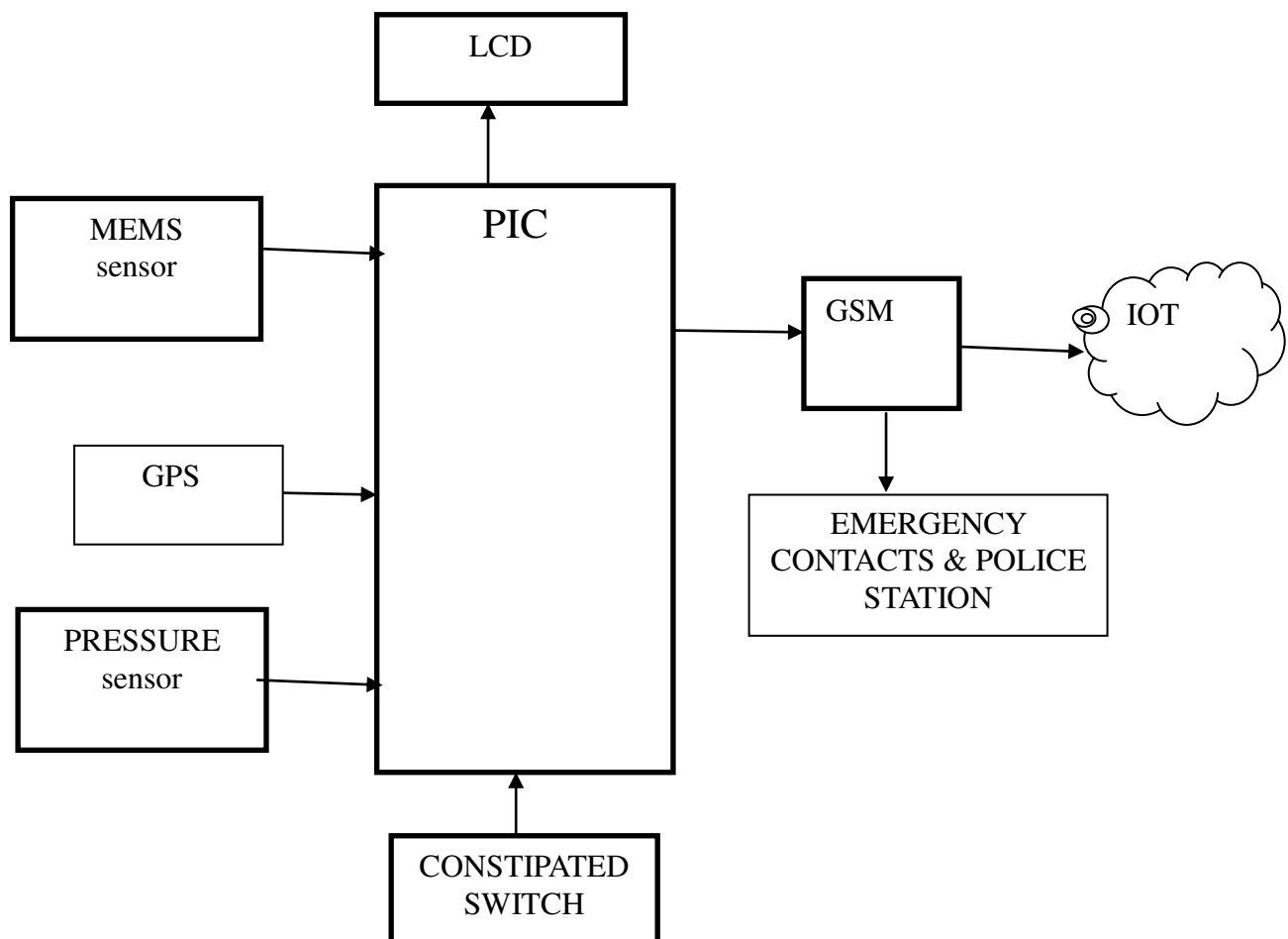
ADVANTAGES:

Provide high security
Easy tracking method
Avoid the risk of women missing.

APPLICATIONS:

Defense purpose
International Airport
Human Tracking

BLOCK DIAGRAM



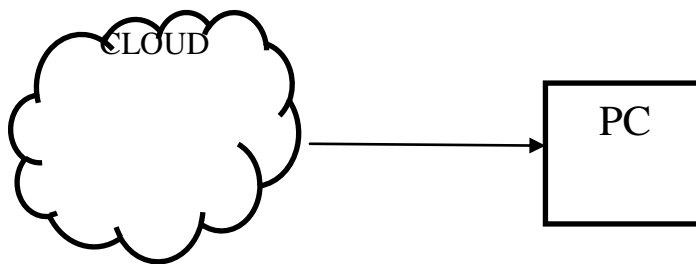
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MONITORING SECTION:



MODULES:

Interfacing sensors
Programming Microcontroller
Alert Message using GSM
Internet of Things (IOT)

INTERFACING SENSORS:

MEMS:

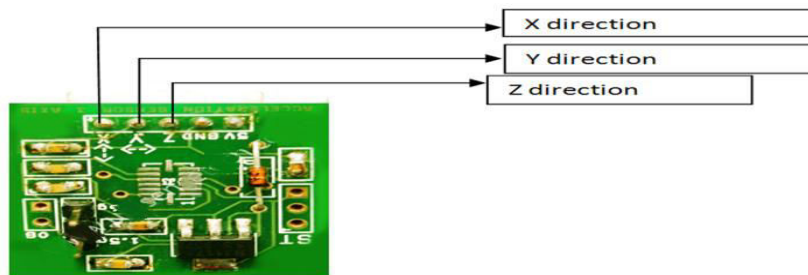


Figure 5.7 MEMS IC

Micro-Electro-Mechanical Systems, or MEMS, is a technology that in its most general form can be defined as miniaturized mechanical and electro-mechanical elements that are made using the techniques of microfabrication. MEMS is an electrostatic transducer used for harvesting and converting the energy of vibrations into electrical energy. MEMS allows complex electromechanical systems to be manufactured using batch fabrication techniques, decreasing the cost and increasing the reliability of these sensors and actuators to equal those of integrated circuits.

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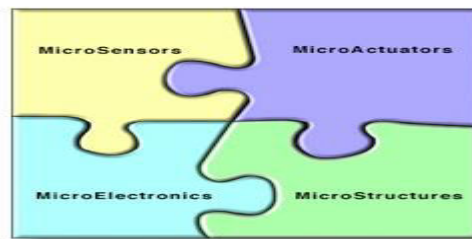


Figure 5.8 Components of MEMS

While the functional elements of MEMS are miniaturized structures, sensors, actuators, and microelectronics, the most notable and perhaps the most interesting elements are the microsensors and microactuators. Microsensors and microactuators are appropriately categorized as ‘transducers’, which are defined as devices that convert energy from one form to another. In the case of microsensors, the device typically converts a measured mechanical signal into an electrical signal.

PRESSURE SENSOR:

GENERAL DESCRIPTION

A pressure sensor is a device which senses pressure and converts into an analog electric signal whose magnitude depends upon the pressure applied. Pressure sensors can also be used to measure other variables such as fluid/gas flow, speed and altitude. They are also designed to measure in a dynamic mode for capturing very high speed changes in pressure.

FEATURES

- Operating voltage: 5v
- Output: analog(0-5v)
- 2.5% Maximum Error over 0° to 85°C
- Temperature Compensated from Over -40° to +125°C
- Thermoplastic (PPS) Surface Mount Package

APPLICATIONS

- Touch Screen Devices
- Bio Medical Instrumentation
- Aviation
- Marine Industry

HARDWARE REQUIREMENTS

MICROCONTROLLER

MEMS SENSOR

PRESSURE SENSOR

LCD

POWER SUPPLY

GSM

GPS

PC

CONSTIPATED SWITCH

SOFTWARE REQUIREMENTS:

EMBEDDED C

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MP LAB
APPLICATIONS
Short Message Service (SMS)
Internet
Incoming /outgoing calls

CONCLUSION:

In this research an intelligent and sophisticated Women safety is proposed. The paper shows that the system ensures complete women safety during public transport. And this proposed system gives self defence to the women.

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