

# Intelligent Medical Information Retrieval System using IOT

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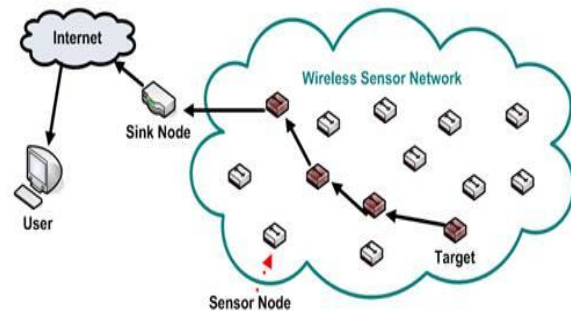
**Abstract - Wireless communication is among technologies biggest contribution to mankind. It is enhanced to convey the information quickly to the consumers. In the modern health care environment, the usage of internet of things (IoT) with global system for mobile communication (GSM) bring convenience of physicians and patients. The body sensor networks are one of the core technologies of IoT developments in health care system. IoT and GSM based monitoring system is proposed for continuous monitoring of patient's health condition using sensors. This focus on the measurement and monitoring of various biological parameters using web server and android application. Fingerprint can monitor the patient condition on his/past data**

## 1.INTRODUCTION

A wireless sensor network (WSN) is a computer network consisting of spatially distributed autonomous devices using sensors to cooperatively monitor physical or environmental conditions, such as temperature, sound, vibration, pressure, motion or pollutants, at different locations. The development of wireless sensor networks was originally motivated by military applications such as battlefield surveillance. However, wireless sensor networks are now used in many civilian application areas, including environment and habitat monitoring, healthcare applications, home automation, and traffic control.

In addition to one or more sensors, each node in a sensor network is typically equipped with a radio transceiver or other wireless communications device, a small microcontroller, and an energy source, usually a battery. The size a single sensor node can vary from shoebox-sized nodes down to devices the size of grain of dust. The cost of sensor nodes is similarly variable, ranging from hundreds of dollars to a few cents, depending on the size of the sensor network and the

complexity required of individual sensor nodes. Size and cost constraints on sensor nodes result in corresponding constraints on resources such as energy, memory, computational speed, and bandwidth. In computer science, wireless sensor networks are an active research area with numerous workshops and conferences arranged each year.



## 2.MATERIALS AND METHODS

### 1. METHODOLOGY

A heart rate monitor is a personal monitoring device that allows one to measure his or her heart rate in real time or record the heart rate for later study. It is largely used by performers of various types of physical exercise.

Heartbeat sensor is designed to give digital output of heat beat when a finger is placed on it. When the heartbeat detector is working, the beat LED flashes in unison with each heartbeat. This digital output can be connected to microcontroller directly to measure the BeatsperMinute (BPM)rate.

(Liquid Crystal Display) screen is an electronic display module and find a wide range of applications. A 16x2 LCD display is very basic module and is very commonly used in various devices and circuits. These



like initializing it, clearing its screen, setting the cursor position, controlling display etc. The data register stores the data to be displayed on the LCD.

### 2.6 FINGERPRINT SENSOR.

The fingerprint sensor is one kind of sensor which is used in a fingerprint detection device. These devices are mainly inbuilt in the fingerprint detection module and it is used for computer safety. The main features of this device mainly include accuracy, better performance, robustness Based on exclusive fingerprint biometric technology

### 3. IMPLEMENTATION

The interfacing of devices to the Arduino microcontroller. In this the system collects patient's information with the help of sensors. In this design we are monitoring Blood pressure, heart beat and DHT 11 module electrically connected to the system and physically to be worn by the uses On the press of button, the sensor senses the pressure in systolic and diastolic along with the heart beat and sends it to the Arduino. The Temperature sensor senses the temperature of its ambience, so when this sensor is in close proximity of the user it reports the users' body temperature. An LCD is used to display these parameters. If system detects any abrupt changes in patient heartbeat or blood pressure, the system automatically alerts the user and the doctor about the patient's status over IoT and also shows details of heartbeat, temperature, humidity and blood pressure of patient live over the internet. The doctor can get access to these vital parameters pertaining to the patients' health over the Things peak web interface from anywhere over the world.

Thus, IOT based patient health tracking system effectively uses internet to monitor patient health status and save lives on time. In this way IOT based Patient Monitoring System is an enhanced system that helps in monitoring patients without any manual intervention. The inputs to the Arduino are values from the sensor readings. The Raspberry Pi and the Arduino are serially

### 4.CONCLUSION

We found that even though most of the popular BSN based research projects acknowledge the issue of the

security, but they fail to embed strong security services that could be preserve patient privacy. Finally, we proposed a secure IoT based healthcare system using BSN, called BSN-Care, which can efficiently accomplish various security requirements of the BSN based healthcare system. All the sensor which is connected in the body is used to collect the abnormal symptoms of the human body and then it is collected back to the doctors through the IOT technology.

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