# [IoT based Health Monitoring System using Arduino](https://www.pantechsolutions.net/iot-connected-healthcare-applications)

**ABSTRACT:**

This paper introduces a wireless health monitoring system that can monitor a human 24x7. This system consists of a number of the part. Controlling and data processing is done through the Arduino Uno board, all the sensors are connected to Arduino UNO. Through this system, we can measure ECG, heartbeat, BP, and spo2. Through sensors, it is possible to measure all these values. Here all the sensors are powered using a solar power system. All these analog sensors can be connected to Arduino through any of the six analog pins. These values are then used for detecting any critical situation. In the case of a critical situation, an alert can be given as a message. Also, it is possible to monitor the person’s health from any location in the world through the Thingspeak cloud. Data from sensors is uploaded to the Thingspeak periodically without any interruption if the internet is available. Here ESP8266 wifi module is used for connecting Arduino to the internet

**INTRODUCTION:**

Health is the most important part of any human’s life without health it is useless to any treasure of life. Most humans live a busy life in which going to a doctor for weekly or even monthly checkup is an impossible task. Without monitoring your health it is not possible to whether you are a healthy or sick person. This problem leads to the design of a product which monitors your health every day without going to a doctor. In this paper, a system is designed as a prototype for monitoring alerting based on the health of a person. This system is fully automated little or no human help is needed. Any doctor can monitor this person from anywhere through the internet.

**HARDWARE REQUIRED**

* Arduino Uno
* ECG SENSOR
* Heartbeat Sensor
* BP sensor

**SOFTWARE REQUIRED**

* Arduino IDE

**EXISTING SYSTEM:**

* Diagnosing with the help of a doctor
* Conventional devices that can only measure a particular parameter
* Devices that have to be connected invasively to get measurements
* No automated system exists
* Smart watches are expensive and not specifically for healthcare

**PROPOSED SYSTEM:**

* In this project, a system for 24x7 human health monitoring is designed and implemented
* In this system, the Arduino Uno board is used for collecting and processing all data
* Different sensors are used for measuring different parameters
* All this data is uploaded to thingspeak for remote analysis
* An ESP8266 module is used for connecting to the internet
* A solar power system is provided for powering all the sensors

## ****BLOCK DIAGRAM:****

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**BLOCK DIAGRAM DESCRIPTION:**

* Arduino Uno is the controller board which is a heart-whole system
* All the different analog sensors are connected to Arduino through analog pins
* Here the ESP8266 WiFi module connects the whole system to a WiFi network
* Data from sensors are uploaded to the cloud

## ****CIRCUIT DIAGRAM:****

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## ****CONCLUSION:****

This system is very effective in monitoring a person’s health continuously because it is fully automated. It can be tested very easily with any person. This system is a very good example of remote health monitoring