



*Republic of Iraq  
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## **IoT-powered health monitoring system**

*A Project*

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# *Abstract*

A health monitoring system is an extension of a hospital medical system where a patient's vital body state can be monitored remotely. Traditionally the detection systems were only found in hospitals and were characterized by huge and complex circuitry which required high power consumption. Continuous advances in the semiconductor technology industry have led to sensors and microcontrollers that are smaller in size, faster in operation, low in power consumption and affordable in cost. This has further seen development in the remote monitoring of vital life signs of patients especially the elderly. The remote health monitoring system can be applied in the following scenarios:

1. A patient is known to have a medical condition with unstable regulatory body system. This is in cases where a new drug is being introduced to a patient.
  2. A patient is prone to heart attacks or may have suffered one before. The vitals may be monitored to predict and alert in advance any indication of the body status.
  3. Critical body organ situation.
  4. The situation leading to the development of a risky life-threatening condition. This is for people at an advanced age and maybe having failing health conditions.
  5. Athletes during training. To know which training regimes will produce better results.
- Health has prime importance in our day-to-day life. Sound health is necessary to do the daily work properly. This research aims at developing a system which gives body temperature and heart rate using LM35 and pulse sensor

respectively. These sensors are interfaced with controller Arduino no board .Wireless data transmission done by Arduino through wifi module. ESP8266 is used for wireless data transmission on IoT platform i.e. Thing speak. Data visualization is done on Thing speak. So that record of data can be stored over period of time. This data stored on web server so that it can seen to who logged.

- Old age patients and children with heart problem should be periodically monitored.
- And their loved ones or consulted Doctors need to be informed about their health status from time to time.
- This proposed system uses sensors that allow to detect heart rate of person using temperature as well as heart beat sensor, to keep track of patient's health, even if the person is at home.