IoT Based Health Monitoring System

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Scarcity of the medical resources likes hospital spaces and the availability of doctors has become a serious problem for patients in our country. IoT is a concept that is revolutionizing the current world which can be utilized to find a solution to this problem. IoT plays a key role in many industries in the present world. Its uses can be seen in agricultural, industrial, medical, and many other fields. An IoT device having the functionality to replace doctor or medical personnel will be a solution. A device which will be able to monitor patients who don't need and emergency treatment, by keeping them at home and alert them and doctors in case of an emergency for the patient is a remarkable solution for this problem A system having the capability to read the vitals of the patient using sensors and analysis the data and monitor the patient, alerts patient and doctors in case of emergency and keeps a record of the vital measurements for the future analysis is developed. Using the ECG sensor, pulse rate sensor and temperature sensor the pulse rate, ECG, and body temperature will be measured and will be compared against the reference values and if the deviation is above the tolerated level it will immediately provide an alert. Here the node MCU will function as the main communication hub, while Arduino mega will get the readings from the sensors and transmit it to node MCU module. The sensors used in this prototype are available in the local market, with an affordable price range. MYSQL is used as a database management tool. A visualization interface for the stored data is also integrated, which will make the doctors work easy for the analysis of the patient's current health conditions. IoT is used as the basic backbone for the gathering and storage of the sensor data.

Keywords: IoT, Health care, Patient monitoring