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A Review on IOT based Smart and Secure Health Care System using Body Sensor Network

Mr. Akshay Deelip Shewale[1], Prof. Dr. Mrs. S. V. Sankpal

[1]Student, Department of Electronics & Telecommunication Engineering, DYPCET, Kolhapur, India.
[2]Professor, Electronics & Telecommunication Department, D. Y. Patil College of Engineering & Technology, Kolhapur, India

Abstract: Advances in ultimate technologies should be begun to the growth of the Internet of Things (IOT). During the new health care situation, the usage of IOT technologies makes the assistance of doctors and patients since they are utilized in various medical sections (such as real-time monitoring, patient data administration, and healthcare supervision). The body sensor network (BSN) technology is one of the central technologies of IOT developments in the healthcare system, wherever a patient can be observed using a group of small powered and lightweight wireless sensor nodes. Yet, the evolution of this new technology in healthcare applications externally thinking security makes patient privacy unprotected. highlight some essential protection provisions in BSN based modern healthcare system. Consequently, begin a secure IOT based healthcare system using BSN, which can efficiently fulfill those conditions.
Keywords: Remote monitoring, probable diseases, medical web, drug delivery, philological factor.

I. INTRODUCTION

Health care is one of the primary problems that the world faces irrespective of the case of a developed or developing country. The key issue in health care is that collecting all patient data stored in the electronic medical record then analysis and taking action on the patient. The new sensor is managing the health information and is established when the steady stream of fresh health data is collected at extraordinary rates. As the volume, velocity, and variety of health data that is collected and stored are dynamic, it is difficult to retrieve the data that is critical for analyzing. These data have to be compared to deciding by the physicians. Healthcare is mostly wireless this may result in various security threats to these systems. These are the security issues cloud poses serious problems to the wireless sensor devices. Data privacy is considered to be the most important issue in BSN, it is required to protect the data from disclosure To avoid all such hazardous and maintain regular health and ensure the privacy of data transmission this system proposes a smart and secure health care system. The main purpose of the work is to develop a smart and secure intelligent health care system for a proper health parameter management by signaling an alert message to the medical web server for an instant of taking actions. This process is aided by the automatic drug delivery system which is interfaced with raspberry-pi to check the status of patient health and sends this information to medical web server, An Android application is developed and linked to a web server to intimate the alerts from the medical web server and to perform the remote monitoring & controlling of the patient health.

II. LITERATURE SURVEY

A. Umar Albalawi, Shital Joshi

In 2018 Umar Albalawi presents "In this paper examines the application of IOT in the field of medicine. IOT in E-medicine can make use of developing technologies to give prompt method to the patient as well as monitors and holds track of health records for the good person. IOT then makes complex totals on these received data and can present health-related advice.

B. Jayeeta Saha, Arnab Kumar Saha

In 2018 jayeeta saha proposed "to the Internet of Things causes a revolution in modern technology, which makes our life easier and automated. Due to a busy schedule and casual lifestyle, the health danger is not an age-dependent factor in the recent area. Under these circumstances, the Internet of Things has provided a much easier solution for remote real-time health monitoring of patients from the hospital as well as home

C. Chanchal Raj, Chaman Jain, Wasim Arif

In 2017 Chanchal Raj presents " Social, technological and economical advancement needs enhanced healthcare system. The telemedicine healthcare system provides the provision of medical treatment from a remote distance. The telemedicine analysis and product development have started prodigious growth during the past decade primarily due to tremendous technological advancement in ICT and automation.

D.   M. H. Riaz, U. Rashid, M. Ali.

In 2017 Bhanudas Sandbhor, experimented on a sample database of patients' records. The body Network is tested and trained with 13 input variables such as Age, Blood Pressure, Angiography's report and the like. The managed network has been established for the examination of heart diseases. The training was carried out with the aid of the back propagation algorithm. Whenever unknown data was filled by the doctor, the system identified the anonymous data from correlations with the trained data and generated a list of probable diseases that the patient is vulnerable to. The success rate for imprecise inputs to retrieve the desired output is closest to 100%.

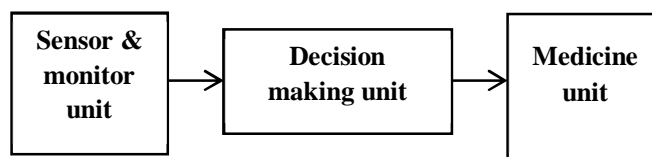## III.   BSN BASED HEALTH CARE SYSTEM

Fig1: Basic block BSN Based Health care system

Figure1 shows the basic diagram of health care process in which the specific sensors uses according their applications.

The system can determine the patient health by measuring the time to time with heart rate, temperature & Blood pressure sensor. The sensed data is secured for integrity & privacy by using security algorithm & sent to a remote server via a wireless link. The forecast of health parameter for the future and learning how to select the daily check up is based on historical data through electronic medical record base (EMR).If the abnormal health parameter are identified then required action will takes place through automatic drug delivery or calling emergency team. Quickly analyzed data forwarded to the emergency team for the next treatment, a medical record could help to learn and make the better selection of medicine

IV.   CONCLUSION

This is a review paper focuses on a Patient health care monitoring and how to increase drug delivery efficiency. Proposed IOT based smart health system a portable physiological monitoring method is performed, which container continuously observes each patient's heartbeat, blood pressure and different critical parameters in the hospital. We introduced a constant monitoring and key mechanism to monitor the patient's health and collect the patient data's in the server using Wi-Fi Module based wireless communication, we also introduced remote health care data recovery and intelligent storage methods.

The project is very necessary to get the treatment system extra advanced. In the designed method the improvement would be attaching more further sensors to the internet which includes various other health parameters and would be helpful for patient monitoring and drug delivery system.

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