

IoT For Health Care

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Abstract- *The Internet of Things (IoT) is a complete network or it is a framework in which multiple objects is embedded on electronic devices and sensors with a software application to for a network that can catch real time data. The Iot has a variety of application domains, Like smart cities, Agriculture, health care. will sense real time data and maintain it in to digital form to analyze data and provide the ideal action to improve efficiency, accuracy and improve economy than the existing systems. This paper gives the advances in -based health care technologie and the network architectures, and challenges in -based health care solutions. In this paper we have discussed architecture including advantages and challenges. This kind of IoT in health care will easy to use and also efficient than the manual or existing systems.*

I. INTRODUCTION

The Internet of Things (IoT) is a collection of network object called “Things” which are interconnected to each other through the network so that anyone anytime can access the data. The is a emerging trends of next-generation technologies. The health care systems works on real time data like taking pulse, blood pressure are the most flexible and challenging things for doctors so have potential to provide such data about patient to care taker. Now a days we have seen a there is Major interest in wearable sensors and today several devices are available for personal health care, fitness, and activity awareness. Technology is becoming more and more advanced so after few year the physical verification is done only after examining patients continuously for a week so we can use some wireless sensors to collect the data related to the health parameter. In this paper, the focus is particularly on the clinical area and also discussion on the availability of new technology for health care services and also challenges. the paper contains basic architecture and detail of IoT system with new technology also it contain challenges while implementation.

II. BACKGROUND

Proposed system require wireless network for remote monitoring The system actually contains wearable sensor on patient body and also the the communication devices to collect data. The physiological Sensors send the collected data at a server. The data is in the form of parameters like as blood pressure and body temperature, pulse rate, and respiration rate

through a Bluetooth connection . devices collects the data into files and stores it on a remote server for later use by clinic staff. Utilizing a similar cloud based medical data storage, a health monitoring system is presented in which medical staff can access the stored data online through content service application is already proposed. This system can be used to patients having major and serious problem. As it is related to health the major task is the data should be accurate and should generate alarm on abnormal condition. Now a days most of the people are using smart belts to track health record or exercise record so this also be a powerful system if a patient is wearing a wireless sensor and it will intimate the nearest hospital incase of any emergencies.

III. SYSTEM ARCHITECTURE

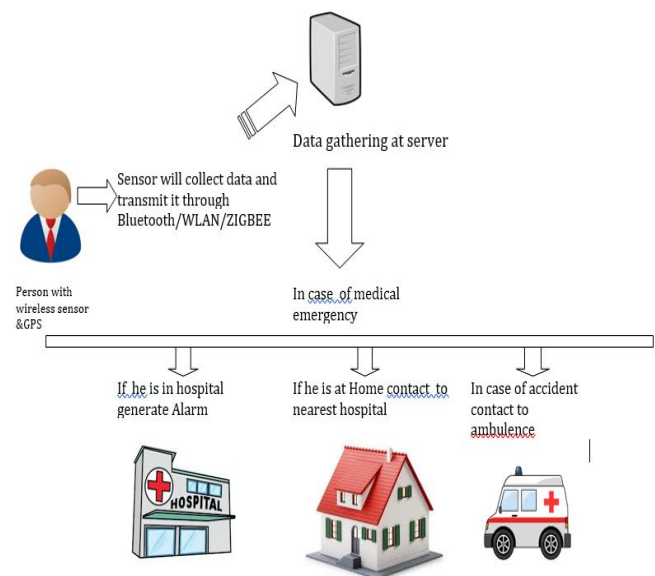


Figure shows the basic architecture of the proposed system the major components of the system are Data collection, Data Transmission, Data storage and Analysis Data Collection is performed by sensors that are present on patients body that measure physiological parameters such as ECG, skin temperature, respiratory rate, Blood pressure and Pulse The sensors connect to the network though an intermediate data aggregator or mobile or any other storage device. The data transmission components transfers recorded data of the patient to the data center and system is analyzing that data. Now a days small capacitors like zigbee, HomeRF, IRDA, SWAP or low powerful bluthooths are used to transmits the data depend on the area.

Through mobile phone's WiFi or mobile data connection the data collected through sensor will be transfer to the data collector at hospitals or at cloud. Sensors in the data collector phase forms an Internet of Things (IoT)-based architecture as every individual sensor's data can be accessed through the Internet via the collector as a a storage/processing device in vicinity of a mobile client and later on as a desktop computer which is directly accessible by the collector through WiFi network.

Advantages OFIoTIN Healthcare

- 1. Lower the Costs of health care:** When healthcare providers take advantage of the connectivity of the healthcare solutions, patient monitoring can be done on a real time basis, thus significantly cutting down on unnecessary visits by doctors. In particular, home care facilities that are advanced are guaranteed to cut down on hospital stays and re-admissions.
- 2. Improved Treatment:** Connectivity of health care solutions through cloud computing or other virtual infrastructure gives caregivers the ability to access real time information that enables them to make informed decisions as well as offer treatment that is evidence based. This ensures health care provision is timely and treatment outcomes are improved.
- 3. Improved Disease Management:** When patients are monitored on a continuous basis and health care providers are able to access real time data, diseases are treated before they get out of hand.
- 4. Reduced Errors:** Accurate collection of data, automated workflows combined with data driven decisions are an excellent way of cutting down on waste, reducing system costs and most importantly minimizing on errors.
- 5. Enhanced Patient Experience:** The connectivity of the health care system through the internet of things, places emphasis on the needs of the patient. That is, proactive treatments, improved accuracy when it comes to diagnosis, timely intervention by physicians and enhanced treatment outcomes result in accountable care that is highly trusted among patients.
- 6. Improve Management of Drugs:** Creation and management of drugs is a major expense in the healthcare organization. So, with IoT it is possible to manage the cost of processes and devices in much better way.

CHALLENGES IN IoT FOR HEALTH CARE:

- 1. Challenges of healthcare for implemetation :** IoT has the potential to improve patient outcomes, but a lack of Electronic Health Record integration and concerns about data security may prevent healthcare from fully adopting the technology.
- 2. Hospital management facing problem to manage medical devices :** Some time the networking people may face problem to keep the devices patched and updated, especially once they leave the hospital network.
- 3. Hospital management must recognize healthcare challenges:** Device management and activity monitoring are just two of the tasks hospital staff and Management need to be aware of when using the internet of things.
- 4. Don't forget cyber security when using IoT devices:** While the internet of things makes interoperability possible, users must focus on cyber security when using devices
- 5. Health information Management System Society:** The internet of things was on full display at HIMSS 2017, where presenters focused on the need to adopt a security-first mindset to secure devices and data.
- 6. Failure of any device :**In case of failure of any device can not be detected easily so it should be detect the failure devices to keep tract of patients record

IV. CONCLUSION

IoT is a very effective technology for health care. Health care having some time very Sevier issues with patients health just because of less information about patients previous history due to this problem can be resolve. The other issues like frequently monitoring record will be reduced and it will also generate alarms in case of emergency. The proposed system will help patients In case of accident, any other medical emergency at home or at hospital. Though it is a effective technique there are some issues as it is related to devices so if we can find the solution on this this will be a major success in health care industry.

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