Smart Healthcare Technologies

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Abstract— Health care may be a wirelessly act system of apps and devices that connects patients and health suppliers to diagnose, monitor and store. it's accustomed solve several un healthiness is sue like chronic un healthiness and plenty . health care is truly sensible as a result of due to the devices connected to patients bracelets, watches and a lot of it's doable to gather knowledge on the health standing of patients to require care of them, even remotely, and stop essential things The progress of developing and implementing may be a major issue during this sector. Several of those devices contain sensors that senses the motion in our body and square measure connected to net that provide info of health and helps in reducing strain on health care systems, and might provide folks higher management over their own health at all times. In these paper numerous unhealthiness that square measure inbound square measure been resolved by new technologies and might get updated on daily.

Keywords: Pulse Sensors Perhaps, Respiratory Rate Sensors, Body temperature sensors, eHealth, mHealth, Internet of Things (IoT), Intelligent Systems

I. INTRODUCTION

The smart health care device widely identified in healthcare field. Now all hospital is used a smart IoT-based machines to enhance the quality of facility and it help doctors to get easy access to data which is analysis of health of patients. It is also painless and patient can easily trace health on daily basis and can take precaution. Device are connected to sensor, actuator that is embedded in these device which collected data and send to doctors .Smart healthcare can effectively reduce the cost and risk of medical , improve the utilization of medical resources . Patients can self monitoring their condition through apps and a health information platform. Smart care Technologies that are being worn for real-time health-care monitoring. This devices required with in medical sensors are present in the ICUs now-a-days. the doctor couldn't be alerted in time when there is an emergency, 24 hours of monitoring. there might be sharing the data and information with the specialist doctors and the concerned family members and relatives

II. HEALTHCARE TECHNOLOGIES

The smart heath care is new field for research and it have a large impact in healthcare field smart healthcare system can be classified based on the sensors or actuators, computing devices, service platforms data storage elements and networking component In this research we are mainly explaining about IoT in healthcare. Several IoT-based device are discussed

A. Internet of Things:

Internet of things also known as internet of ever things concept first became popular in the year 1990, through the auto-id centre at and related market-analysis publications.

The concept was based on computing. It is an emerging topic for all sectors such as mainly in health care significance. Data is being captured and stored in the cloud. Data analytic capabilities are being done using machine learning technique to transform the way we work, live, and play. Projection for the impact of IoT on the internet and economy are impressive.

B. Internet of Things Healthcare:

Physical Things

+

Internet

+

Sensors & Controller

+

Healthcare

The mixture of physical things, sensor and actuator, internet and healthcare is totally a internet of things healthcare.

III. WEARABLE HEALTHCARE SYSTEMS

Wearable healthcare devices are important and are increasingly helping a lot of people to better analysis their health such as their fitness level for self-health tracking. The technology is reducing electronics devices and also helps adaptable wearables which is changing the world. Here we are going discussed about different types of wearable devices which are implemented in health sector to improve the health of people.

A. Pulse Oximetry Sensors:

Pulse oximetry is a test used to measure the oxygen level of the blood in human body. It is used for testing the pule rate of a person. It also called as name heartbeat sensor or heart rate sensor. The working of this sensor can be done by connecting it from the fingertip or human ear to Arduino board. So that heart rate can be easily calculated. . It is normally used by anyone who ho how to use it not only by specialist. It can used by students, artists, athletes, makers and gamer

B. Respiratory Rate Sensors:

The respiratory rate in humans is measured by counting the number of breaths for one minute It provides an excellent data before and after work that we have done. It combines our relative pressure with a respiration belt. These sensors measures the change in pressures that occurs when we done work.

C. Body Temperature Sensors:

The respiratory rate in humans is measured by counting the number of breaths for one minute It provides an excellent data before and after work that we have done. It combines our relative pressure with a respiration belt. These sensors measures the change in pressures that occurs when we done work problem. Body temperature i of various type such as

the connectivity manufactures ntc (negative thermal coefficient) thermistor, thermopile, and digital temperature which gives accuracy, packaging and performance condition

D. mHealth:

mHealth stands for "mobile health Mobile health is based on mobile devices. Mobile health is thus a clear subject of electronic health The use of mobile computing and The security risks communication technologies in health care and public health called mHealth. Mobile health is a rapidly expanding field in the digital health sector providing healthcare support, delivery and intervention via mobile technologies such as smartphones, tablets . m-Health is the use of mobile wireless technologies for health. Mobile apps can promote medical education and awareness, communication between patients and medical providers, and notifications to support chronic disease management

E. eHealth:

e-Health is defined by the world health organization the use for information and communications technologies in healthcare. patient treatment, research and monitoring of diseases and public health to support of health and health-related fields

F. Smart Healthcare Network:

The network that provides a dedicated connection for health and healthcare, using technologies such as Wi-Fi or Pol

G. Smart Healthcare Cloud:-

The system responsible for coordinating public and hospital health services, able to connect patients and doctors for the transmission of data and information;

H. Smart Clinic Collaboration:

The interaction process that facilitates the diagnosis of a seriously ill patient.

I. Remote Health Monitoring:

Remote health monitoring could be used to monitor non-critical patient sat home rather than in hospital, reducing strain on hospital resources such as doctors and beds

IV. FINDINGS AND RECOMMENDATIONS

Upon completion of this survey of existing technologies, we have been learned several lesson. In this section we are giving summary of these lesson and recommendations for future work that will improve IoT-based devices in health care.

A. Recommendations for Future Works:

Healthcare has most of its use in IoT other than any sector. The mixture of IoT and health care have many benefits such as health condition monitoring, self-care, finding new methods for disease prevention and control examination. Stats show that installation of almost 16 million healthcare IoT base devices will be seen by the year 2020.healthcare system can be cheaper and efficient in future due to IoT. It helps creation of more customizes and patient-oriented equipment. Also it helps patients to get a better access to data and personalized care.

V. CONCLUSION

Here, we have decided about a smart healthcare unique model for future based healthcare systems in the features where doctor can examine patient from anywhere and anytime. In the Emergency scenario to send emergency mail or message to the patient. The IoT based health monitoring systems can monitor the patients in real-time The mixture of IoT and health care have many benefits such as health condition monitoring, self-care, finding new methods for disease prevention and control the smart health-care system can be classified based on the sensors or actuators, computing devices, data storage elements, and networking components.it can be based on the services, medical devices, technologies used, applications, system management, and end users The drawback of using Technology is that it introduces security risks, and we should improve security in cloud. In IoT-base health care the wearable device is proffered due to security reason the wearable device is proffered due to security reason

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