

Internet of Things (IoT): IoT in Healthcare

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IoT has now ensured the hospitals the track of objects, tools and whereabouts of all the medical tools and patient's information. IoT has been really useful to keep tracks of all the patients previous life information, hence ensuring safety with life. The prime goal of this research paper is to make people understand the vitals and use of radio frequency identification, Internet Of Things in medical life. This enables us to keep tabs on patient's important medical reports. IoT hence has many positive and important aspect in medicine.

2. Current Application

➤ Airfinder:

Airfinder is a real-time location system for hospitals and other enterprises. It can be installed in minutes at any scale and uses symphony links technology to track supplies in an operating room or throughout an entire hospital or facility. Real-time location systems (RTLS) was very extortionate previously. Airfinder is hence a low cost and efficient solution for high cost and maintenance.

➤ Philip's medication dispensing service :

One of Philips' most successful IoT applications is their medication dispensing service. It was mainly designed for senior citizens who often tends to overlook or forget their medicines. This device is like a remainder for the patients, it alerts them when the time for taking the medicines arrives . The device is synced to the user's phone line, so messages are tracked if the person misses a dose, if it's time to refill the medication, or if the power goes out, preventing the device from working.

ABSTRACT

IoT is a modest way to elevate our production and yield with the help of internet. We can supervise and control and communicate with the help of internet. Internet-Of-Things imagines a future physical and digital entities are to be linked by proper information and communication technologies which will sanction new class of applications and services. In this survey we will ensure a survey of applications and research difficulties for Internet-Of-Things in Healthcare.

1. INTRODUCTION

The complications arising in health issues are due to recklessness in keeping the records of the respective patient. Hence it has become mandatory to keep patient's record to ensure their safety. The ICT ensures us the availability of all the records during the emergency hour. With the ever increasing technology, there has been vast changes in medical world. A vast and multilayered infrastructure of ubiquitous computing technologies and applications is emerging. A vast and multilayered infrastructure of ubiquitous computing technologies and applications is emerging. With the ever increasing uses of laptops, mobiles, sensors, Bluetooth, frequency sensing device, we have built a bond amid internet and humans. The IoT has now engulfed a vast region of our work, like it has built a link between humans, medicines, self governing wheelchairs and many more. IoT has now really helped the hospitals as well as the patients.

➤ Ingestible:

The medical science has now approved and accepted the use of ingestible cameras and internet connected sensors. Proteus Digital Health has now invented a pill size cameras that ensures that patients are consuming medicines as prescribed by their physicians.

➤ Healthcare Charting:

Ever wondered why the majority of your yearly checkup involves watching the doctor do paperwork? The healthcare charting is a hard manual as well as labor work which requires either doctors or nurses trying to accumulate all the important documents and information. Augmedix claims that it nearly takes 3 days to arrange the documents and information. Augmedix hence uses Google glass which helps the doctors to record their patients name by voice call system which saves the name and data of the patient, using a HIPAA-certified encrypted network. The technology's purpose is to save doctors an average 15 hours per week.

➤ TCS IoT-med-

IOT-med provides an environment where patient's vital information gets transmitted by medical devices via gateway on secure cloud based platform where stored, aggregated and analyzed. It helps people to store millions of patients perform and analysis in real time; ultimately providing evidence based medical system

➤ IMedBox-

The intelligent medicine box (imedbox) is considered a healthcare gateway with an array of various required

sensors and interfaces of multiple wireless standards. Many sensors and devices are wireless hence easy to use. They connect patients to medical environment. IOT cloud i.e., HetNet ensures clinical diagnosis and other analyzes.

➤ **Moodables-**

The area of mood-enhancing wearables, or “moodables” is still nascent, but Thync makes a head-mounted wearable that transmits low-intensity currents to the brain in order to elevate mood. Other wearables makers like the still-stealthy Halo Neuroscience use akin techniques for “improving brain performance in the healthy and impaired.”

3. Future Application

➤ **NHS diabetes self-care project-**

About a year ago, NHS England began exploring ways in which the internet of things and other remote analysis tools could help diabetes patients manage their illnesses and formed an association often companies to find solution for managing diabetes for those of diabetic patients. Thus, this association is working to lead the project ahead.

➤ **Smart Beds-**

Some hospitals have begun implementing "smart beds" that can detect when they are occupied and when a patient is attempting to get up. It adjusts itself so that the patient can be at ease without the help of nurses.

➤ **The new OR:**

Quality care driven by data-Many patients with increasingly complex medical histories, but now there is a twist. Today's healthcare environment is elevating from evidence-based medicine to data-driven. New insights are emerging as data reveals trends that were never seen before. These insights provide new ways to improve care. Anesthesia solution that covers the full range of preoperative care and connects into your existing systems the way you work. It must work for your oldest to your youngest patients, for high to low acuity, and in all your surgical procedures. And it must provide quality.

➤ **Philip's EcareCompanion:**

The EcareCompanion application serves as the patient portal, driving patient engagement and self-management. The personalized application is supported by a tablet through which a patient can answer all the query regarding their health. Its ability to connect with medical devices, such as a home scale, oximeter, blood pressure meter and medicine dispenser, enables a deeper insight into one's health. The application ensures that the patients are informed about their well intake of medicines on time.

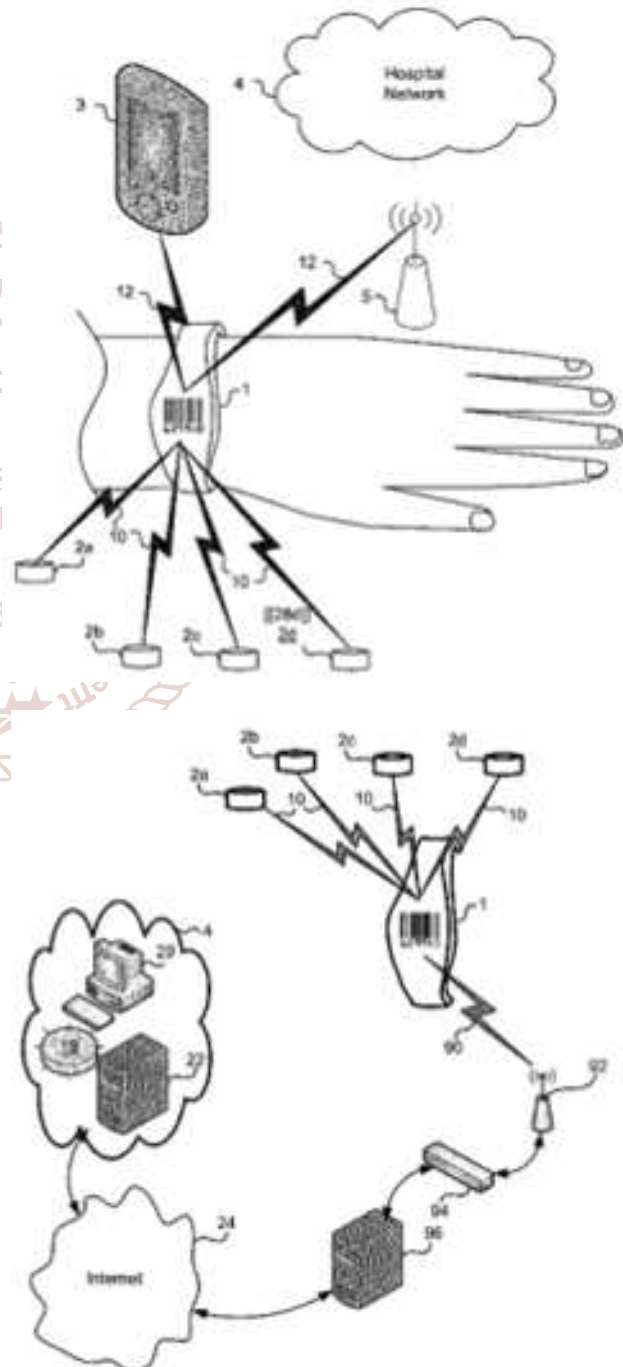
➤ **Telemedicine-**

Telemedicine is certainly getting smarter and mature by gaining more traction that is widespread. As we are more connected than before, virtual doctor's appointments sound like a practical solution. One of the advantage of telemedicine is its immense use in life threatening situation. For example, a drug dispensing solution with audio video conferencing capabilities. If a person around you suddenly encounters an allergic reaction at a public place and requires a doctor prescribed medication. A drug dispensing solution, which can anchor you to a doctor through video-conferencing for remote diagnosis and drug prescription.

4. Personal Research

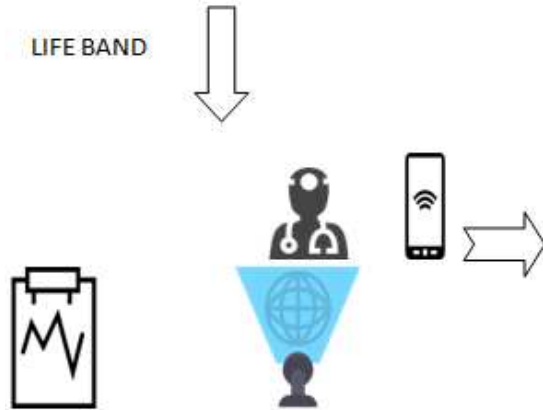
The proposed device is a life band which locates patient location, current history, patient report, and report the data to doctor wherever the patient will be. The device will be connected to RFID reader which will pull the data and display the data to the doctor in hologram view. These devices are not only used by doctors but also hospital staff. They are also talking a thermometer which tells about temperature just pressing a button on it.

We will ensure in future that there comes a band that can keep track of health by just placing on wrists. This health bands monitors our sleep patterns, heartbeats and blood pressures. The band will keep track of calories hence keeping our health under control.



5. Conclusion

IoT is cloud based computing to store and read the data or process machine to machine communication by the means of connectivity called as "internet". The amount of data is only used to keep the health in check and for long life.



IoT Integration Hologramic View of Report Pulls the Data

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