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A SECURE HEALTH CARE TECHNOLOGY BASED ON BSN CARE

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ABSTRACT- *Advances in data and communication technologies have diode to the coming out of net of Things (IoT). Within the latest thing health care atmosphere, the usage of IoT technologies brings convenience of physicians and patients since they're applied to varied medical areas (such as period observation, patient data management, and tending management). The body detector network (BSN) technology is one in every of the core technologies of IoT developments in attention system, where a patient area unit usually monitored employing a collection of small powered and lightweight wireless device nodes. However, development of this new technology in attention applications whereas not considering security makes patient privacy weak. Throughout this text, at first we have a tendency to tend to focus on the most important security desires in BSN based smart attention system. After, we have a tendency to tend to propose a secure IoT based tending system pattern BSN, called BSN-Care, which may with efficiency accomplish those desires.*

Keywords: *Data Privacy, Android, IOT, Security, BSN, Classification, ECG*

NOMENCLATURE TABLE

Sr. No.	Short Form	Description
1	IoT	Internet of Things
2	GPS	Global Positioning System
3	BSN	Body Sensor Network
4	SE	Self Encryption
5	API	Application Program Interface
6	SQL	Structural Query Language
7	RFID	Radio Frequency Identification
8	SDK	Software Development Kit
9	LPU	Local Processing Unit
10	ECG	Electrocardiograms

I. INTRODUCTION

Internet of Things (IoT) has become one of the foremost powerful communication paradigms of the 21th century. Inside the IoT atmosphere, all objects in our everyday of living become a vicinity of the online because of their communication and computing capabilities (including little controllers, transceivers for digital communication). IoT extends the construct of the online and makes it loads of enveloping. IoT permits not to be faulted interactions among different types of devices like medical detector, observance cameras, home appliances so on. Because of that reason IoT has become loads of productive in several areas like health care system. In health care system, IoT involves many sorts of low value sensors (wearable, implanted, and environment) that modification aged people to consider stylish medical health care services anywhere, any time. Besides, it to boot greatly improves aged peoples quality of life. The body detector network (BSN) technology is one of the leading very important technologies used in IoT-based stylish health care system. It's basically a crowd of low-power and lightweight wireless detector nodes that square measure comfortable monitor the frame functions and around atmosphere. Since BSN nodes square measure familiar collect responsive (life-critical) information and will operate in hostile environments, consequently, they have strict security mechanisms to prevent malicious interaction with the system. Consequently, providing associate honest quality of life for aged people has become a major social challenge at that moment. Initial we have a tendency to tend to deal with the various security desires in BSN primarily based trendy health care system. Then, we have a leaning to tend to propose a secure IoT primarily based health care system unfair treatment BSN, referred to as BSN-Care, which could guarantee to with efficiency accomplish those desires.

II. RELATED WORK

Healthcare applications are attention about as promising fields for wireless sensing element networks, wherever patients will be monitored unfair treatment wireless medical sensing element networks (WMSNs). Therefore, security may be a preponderant demand of health care applications, especially within the case of patient privacy, if the patient has AN uncomfortable illness. This paper discusses the safety and privacy problems in health care application victimization WMSNs. We highlight some common health care comes victimization wireless medical sensing element networks, and discuss their security.

In this paper we discuss system design issues, present a survey and sensors and introduce two taxonomies of medical monitoring applications for wearable computing [3].

In this paper we tend to concentrate on the privacy of the device movement during a distributed IoT infrastructure. During this regard, initially we tend to propose a distributed IoT system design. Then, we tend to style a light-weight anonymous authentication theme, which may guarantee numerous security problems associated with privacy of the device node like obscurity, untraceability, replay attacks, DoS attacks, etc. so as to style the light-weight authentication framework for IoT, we are going to use the light-weight crypto logic primitives just like the hash perform and bitwise exclusive-OR, wherever these crypto logic primitives cause less machine overhead and fairly a lot of less execution time as compared to different crypto logic primitives like uneven encryption/decryption, modulo operation etc [4].

The association for Standardization (ISO) defines confidentiality because the assurance that information is accessible solely to those approved to own access. Confidentiality is provided through policies and practices that make sure that info flows solely to approve people. flows solely to approve people. In several cases, conserving network confidentiality could be a beginning in conserving the privacy of a detector network's users and deployers, and, where individual's are gift within the network area, their privacy and safety further [5].

Body device network (BSN) is associate degree helpful technology for providing present attention watching. Even with the technological developments of sensing and watching devices, problems associated with system integration, sensor efficiency, low-power device interface electronic equipment design, wireless links and signal process area unit major technical challenges. The aim of this paper is to address problems associated with victimization wearable or implantable sensors for distributed mobile watching. A proposed system design, together with a initial expression prototype, is delineated.

III. EXISTING SYSTEM

The last few decades have witnessed a delicate increase in life in many parts of the world leading to a quick rise among the vary of previous of us. A recent report from alignment predicted that there will be a try of billion (22% of the world population) older of us by 2050. In addition, analysis indicates that concerning eighty nine of the aged of us square measure probably to live severally. However, medical analysis surveys found that concerning eightieth of the aged of us older than sixty 5 suffers from a minimum of 1 chronic health problem inflicting many aged of us to possess issue in taking care of themselves. Consequently, providing associate degree honest quality of life for aged of us has become a big social challenge at that moment. The speedy proliferation of information and communication technologies is facultative innovative health care solutions and tools. In existing system security issues were a heavy disadvantage. Thanks to this lack of security, some patient's necessary data lost. It finally ends up within the weakness of the patient's privacy. To beat this disadvantage, some projected techniques square measure handled to require care of the data security.

IV. DISADVANTAGES

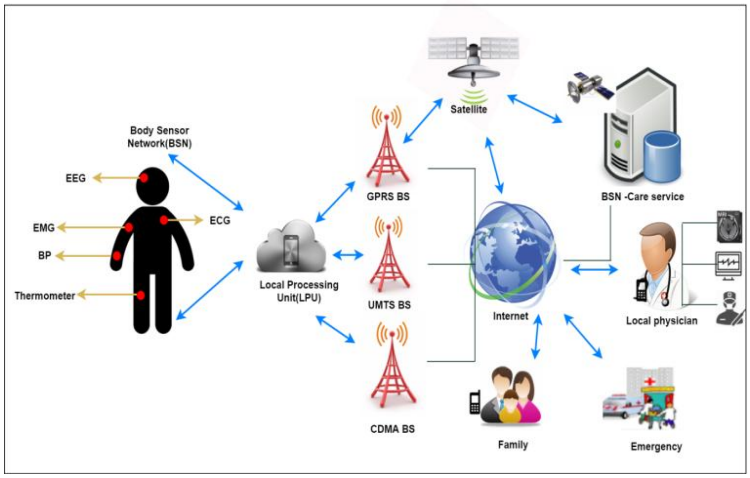
1. System security issues
2. Digital Divide among Patients
3. Lack of Information Control
4. Safety and privacy

V. PROPOSED SYSTEM

The body device network (BSN) technology is one in every of the core technologies of IoT developments in care system, wherever a patient are often monitored employing a assortment of tiny-powered and light-weight wireless device nodes. However, development of this new technology in care applications while not considering security makes patient privacy vulnerable. Here initially we tend to highlight the key security needs in BSN based mostly trendy care system. After, we tend to propose a secure IoT based mostly care system victimisation BSN, referred to as BSN-Care, which may expeditiously

accomplish those needs. We tend to gift a listing of security parameters that area unit needed to be self-addressed in any IoT based mostly care system victimisation BSN. We tend to gift our BSN-Care system and after, we tend to conjointly therefore show the way to enforce security in our BSN-Care model to realize all the imperative security properties.

VI. System Architecture



VII. Algorithm

- **S/w (Control Algorithm)**

  Step 1: In cloud we customize the GUI as per our requirement and will plot the data.

  Step 2: Which is received over the cloud from hardware unit.

  Step 3: This process is implemented through unique functions.

- **H/w(Sensors + Dedicated device for displaying data)**
  - Pulse Sensor
  - Body Temperature Sensor
- **Step 4:** Pulse sensor sense the human live pulse and shows the pulse reading an LCD Screen, the unit for the same is BPM (Bits per minutes).
- **Step 5:** Also it sends the data cover the cloud using API key.
- **Step 6:** API key is generated by the cloud service provider.
- **Step 7:** This steps is also continue for the temperature sensor.

VIII. ADVANTAGES

1. Decreased Cost
2. Improved Outcomes of Treatment
3. Improved Disease Management
4. Reduced Error
5. Enhanced Patient Experience
6. Enhanced Management of Drugs

IX. PURPOSE

- Security is one of the most imperative aspects of any system.
- Various security threats to these systems. So implement key security requirements in IoT based healthcare system using BSN.

X. SCOPE

1. IoT based devices is mostly used now a days
2. Provide solution without extra hardware requirement
3. To develop an Android application that is cost efficient
4. To efficiently use of resources
5. To make system easy to handle and accurate

XI. CONCLUSION AND FUTURE SCOPE

In this Paper, initially we've explain the protection and therefore the privacy problems in health care applications exploitation body device network (BSN). Afterward, we tend to found that even supposing most of the favored BSN primarily based analysis comes acknowledge the problem of the protection, however they fail to introduce robust security services that would be preserve patient privacy. Finally, we tend to projected a secure IoT primarily based health care system operation BSN, referred to as BSN-Care, which may expeditiously achieve various security needs of the BSN primarily based health care system.

XII. CONTRIBUTION

- Family members having notification about patient Health day by day.
- And also doctor having notification about patient health like (Patient is normal or not any other changes occurred after treatment is also regularly check using smart devices).
- Patient Information Security and Patient Healthcare are smartly managed.
- IoT is most popular now a days so here satellite is available that maintain all record regarding to healthcare appliances.

XIII. **References**.

1. Prosanta Gope, Tzonelih Hwang "*BSN-Care: A Secure IoT-based Modern Healthcare System Using Body Sensor Network*" – 2015
2. P. Kumar, and H. Lee, "*Security Issues in Healthcare Applications Using Wireless Medical Sensor Networks: A Survey*." Sensors (Basel, Switzerland) 12.1 (2012): pp. 55–91.
3. DEJAN RAKOVIC THOMOS MARTIN AND EMIL JOVANOV "*Medical Monitoring Application for Wearable Computing*" Jul – 2003.
4. Prosanta Gope, Tzonelih Hwang "*Untracable Sensor Movement in Distributed IoT Infrastructure*" -2015.
5. Samper Pai, Sergio Bermudez, and Stephen B. Wicker "*Transactional Confidentiality in Sensor Networks*" Jul/Aug 2008.
6. Jason W.P. Ng, Benny P.L. Lo, Oliver Wells, Morris Sloman, Nick Peters, Ara Darzi, Chris Toumazou, and Guang-Zhong Yang "*Ubiquitous Monitoring Environment for Wearable and Implantable Sensors (UbiMon*)" – 2010.

