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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*

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. The previous couple of decades have witnessed a regular increase in life in many parts of the world leading to a sharp go up inside the variability of aged people. A recent report from world organization foretold that there will be 2 billion (22% of the world population) older people by 2050. To boot, analysis indicates that regarding eighty 9 of the aged people square measure apparently to live severally. However, medical analysis surveys found that concerning eightieth of the aged people older than sixty 5 suffers from a minimum of 1 chronic sickness inflicting many aged people to possess issue in taking care of themselves. Consequently, providing associate honest quality of life for aged people has become a major social challenge at that moment. The speedy increase of knowledge and communication technology is facultative innovative health care solutions and tools that show promise in addressing the aforementioned challenges. 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 LITERATURE SURVEY

1. A Secure IoT-based Modern Healthcare System Using Body Sensor Network

   Author: Prosanta Gope, Tzonelih Hwang

The body detector network (BSN) technology is one in every of the core technologies of IoT developments in tending system, wherever a patient may be monitored using a group of tiny-powered and light-weight wireless sensor nodes. However, development of this new technology in tending applications while not considering security makes patient

privacy vulnerable. Throughout this article, initially we have a tendency to highlight the major security needs in BSN based mostly stylish tending system. Afterwards, we have a tendency to propose a secure IoT based mostly healthcare system mistreatment BSN, known as BSN-Care, which can efficiently accomplish those needs.

2. Security Issues in Healthcare Applications Using Wireless Medical Sensor Networks: A Survey."

Author: P. Kumar, and H. Lee,

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). Current WMSN health care analysis trends concentrate on patient reliable communication, patient quality, and energy-efficient routing, as some examples. However, deploying new technologies in health care applications while not considering security makes patient privacy in danger. Moreover, the physiological knowledge of a private are extremely sensitive. 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 victimisation WMSNs. We highlight some common health care comes victimisation wireless medical sensing element networks, and discuss their security [2].

3. "Medical Monitoring Application for Wearable Computing"

Author: DEJAN RAKOVIC THOMOS MARTIN AND EMIL JOVANOV

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].

4. "Untracable Sensor Movement in Distributed IoT Infrastructure"

Author: Prosanta Gope, Tzonelih Hwang

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].

5. Transactional Confidentiality in Sensor Networks

Author: Samper Pai, Sergio Bermudez, and Stephen B. Wicker

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. in a very network, confidentiality requires the event of rules governing access to transactional knowledge (that is, the knowledge gathered through generation, transmission, and routing of information messages inside the network) and technical measures that enforce those rules and prevent adversary from violating them. 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].

6. Ubiquitous Monitoring Environment for Wearable and Implantable Sensors (UbiMon)"

Author: Jason W.P. Ng, Benny P.L. Lo, Oliver Wells, Morris Sloman, Nick Peters, Ara Darzi, Chris Toumazou, and Guang-Zhong Yang

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 victimisation wearable or implantable sensors for distributed mobile watching. A proposed system design, together with a initial expression prototype, is delineated [6].

III MATHEMATICAL MODEL

System Description:

Let S be the Whole system S= I, P, O

I-input

P-procedure

O-output

Where,

Input (I):

I= U

Where u is the user (no of users)

U= u1, u2,.....,un

u1, u2 no of users

I=P

Where P is physician

P=p1, p2... pn

p1, p2 no of physicians

Procedure (p):

P= SI, Du, P, U, ECG Sensor, BT sensor

Where,

SI= Set of Inputs

U=User (Patients)

P=Physician (Doctors)

Output (O):

O=Deliver Proper treatment with BSN healthcare

H/w is Hardware requirement.

H/W= Processor: Pentium 4, Speed 1.1GHZ, Hard Disk: 20GB (min), Key Board:

Standard

Windows Keyboard, Mouse: Two or Three Button Mouse, Monitor: SVGA,

Other: pulse rating and body temperature sensor, LCD

S/w is Software requirement.

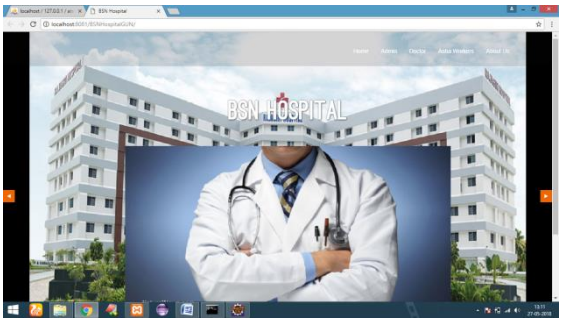
S/W= Operating System: Windows XP 07/08, Programming Language: Embedded C, VB

Failure= ECG machine or patient body is not responding to body, or patient not follows doctors instruction

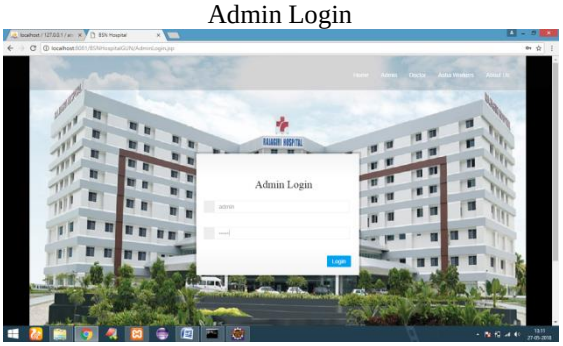
Success= Patient having recovery with proper treatment and follows doctors instruction

IV RESULT

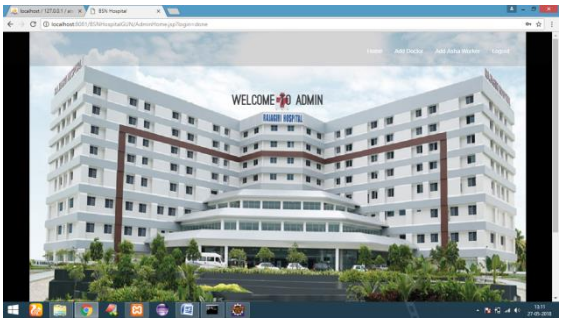
Home Screen



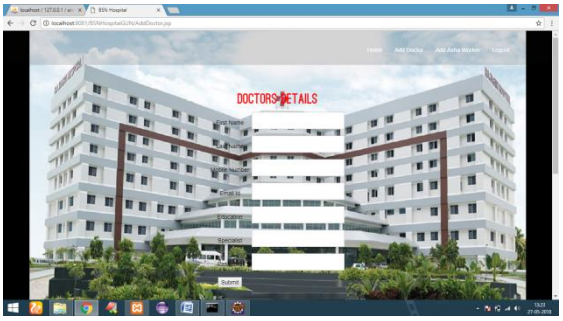
Admin Login



Admin Home



Add Doctor



Add Asha Worker

Patient Details

V CONCLUSION

In this Paper, initially we've got 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 favoured 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.

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