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Using human area networking to enhance Internet of Things and human organ analysis

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ABSTRACT

Internet of Things is a technology that refers to connect anything with internet based on stipulated protocols to produce information using sensing devices, to transfer data which in turn results in better tracking, positioning, monitoring, administration and extraction of optimal usage form All Things around us. In this paper, we use the Redtacton technology to overcome the security and external signal dependency of INTERNET OF THINGS and make it as a more personalized one wherein it's used for medical application using genetic algorithmic sequences (organ cycle, chakras stimulation).

Keywords— Internet of things, Redtacton device, Genetic algorithm, Organ cycle sequence, Chakras simulation, Human area networking

1. INTRODUCTION

Internet of Things [1] is a technology that stormed the world with a bang with a variety of applications. It was earlier developed in the 1999's beginning wherein its proposal was made by a member of RFID community, but this proposal lacked many index factors and came under critical technology implementation difficulties at that earlier time, but due to the development in the area of signal process, networking and production of wide range of sensory equipment the paper concept of Internet of Things have become realistic and possible. Internet of Things describes a world in which both the physical and virtual worlds are combined and the optimal utilization of even small bit of Information received in any form is utilized. Internet of Things has evolved into a lot network of devices of all sizes, shapes and variety's, turning each and everything around us to be smart, in order to achieve smart recognition, positioning, tracing, safety, personalized control, monitoring, and administration. Internet of Things have loads of sensors that process the data, store data, and transfer them, all these processes occur on a larger network base which is dependent on external WAN networks for their signaling, and propose imminent threat for hacking.

Redtacton [2] technology is a new area where it uses the weak electric signals from human surface areas for the generation of a network that results in both the transfer and processing of data. The redtacton device is stimulated by the gestures of

human beings by touching, walking and even through clothes and shoes this device can be triggered. This device results in the 1.2MB/s. It can penetrate through all mediums and it has no loose ends. The major key factor of the device is that the bandwidth does not deteriorate even in duplexed condition and also supports simultaneous access.

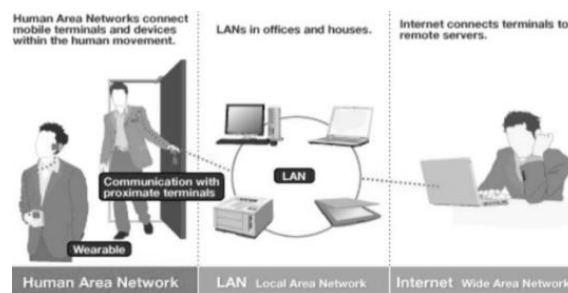


Fig. 1: Explaining about human area networking

The genetic algorithm is based upon the normal sequential events that occur in nature generally. These sequences are made up into codes that are used in solving the real-time application. The organ cycle follows a certain sequence which is coded up and used for analyzing the activities of the inner body organs respectively.

2. LITERATURE SURVEY

Internet of Things is a system where it connects various devices and results in the transferring of data and analyses for knowing more about the working of a system. Imagine a system where each and every machine can translate and produce useful data and information which leads to smarter machines and devices. This is the driving factor behind the Internet of Things. The architecture of Internet of Things devices are found generally to be consisting of layers such as

- Smart device/Sensor layer:** This layer impacts the device and its functionality respectively. Varieties of sensors that can monitor all physical activities from a simple Human area networking handshake to particles causing pollution are found. The individuality of a device is based upon its sensor layer.
- Network/communication layer:** consist of the technologies that comprise the network sharers and address capability devices and latency issue solvers like LTE's.

(c) **Application layer:** This layer determines the output and groundwork of the Internet of Things devices.

Some of the infield application of the Internet of Things devices is: The cow tracking project in Enssex use data collected from the sensors to monitor their tracking, health conditions and more, the fuel fibit concepts of the Nike international are basically based upon the Internet of Things devices generally. On structural aspect Internet of Things has been found to connect all the things around it but the basics feature that calls notice is the ground application of the Internet of Things devices, it has basically larger application than any technology in recent times.

These calls for the network portability and efficient processing of data as well as safety, security and portability, transmission speed the areas that determine its stay in the market for a longer period of time respectively. The above mentioned featured are found to be lagging in the Internet of Things, and its application layers also.

Table 1: Explaining the security required in the internet of things at each layer

Internet of Things Layers	Security Required
Application	<ul style="list-style-type: none"> • Privacy protection and management • Authentication • Application specified encryption, cryptography.
Service modules	<ul style="list-style-type: none"> • Protected data management handling. • Secure computation. • In network data computation.
Network layer	<ul style="list-style-type: none"> • Secure sensor and cloud interaction. • Communication connectivity security.
Smart object/sensor	<ul style="list-style-type: none"> • Access control to nodes. • Data formatting and structures. • Trust anchors and attestations.

The Internet of Things uses wireless networks for transferring of the required data like short-range wireless such as:

- (a) Bluetooth mesh networking;
- (b) Light-Fidelity (Li-Fi);
- (c) Near-field communication;
- (d) QR codes and barcodes;
- (e) RFID;
- (f) ZigBee respectively.

Due to these, the end to end connection is a concept of zero creditability and hence the device are prone to hackers' territorial aspects.

The larger area coverage of the Internet of Things is a key factor of the technology itself but this WAN network covering results as both the crown and the technology respectively under various surveys conducted on the ground basis. The interconnectivity, interoperability feature of the Internet of Things is one of the driving factors that determine quicker data assembling eg: The pollution control projects use the various Internet of Things devices and loads of data from various sensors are assembled and results in the production of a single system protocol respectively.

3. PROBLEMS WITH THE EXISTING SYSTEM

The key challenges and the implications that the Internet of Things faces is of the following respectively:

- (a) **Privacy and Security:** As the Internet of Things has become the future of Internet-based protocols, partially mission – the critical system has resulted in the need to address trust and security function to a larger extent, providing secure exchange of information from the Internet of Things devices and consumers of their information. The following table shows various privacy and security-related areas in the Internet of Things
- (b) **Cost and usability:** The Internet of Things combines all the physical objects via the internet, hence their cost of maintenance is very high, the sensory objects and external network service providers demand a large sum of money respectively.
- (c) **Interoperability:** The core aspect of interconnectivity is that all devices connected must be able to speak the same language. Different industries provide various standard scales to support their operations. Since the existence of heterogeneity of devices involved requires a high level of interoperability from the Internet of Things devices.
- (d) **Data management:** Data management is an important aspect when an enormous amount of devices are interconnected and constantly exchange a large volume of data continuously, thus the process involved in the handling of these data becomes critical and demands greater attention.
- (e) **Energy issues:** Communication is the most energy consuming operation on the Internet of Things devices, this call for a method to optimize the maximum usage of energy involved.

4. PROPOSED SYSTEM

The Redtacton technology with the embedded genetic algorithm sequencing has various advantages on adding these features with the Internet of Things system the setbacks found in the INTERNET OF THINGS architecture are overcome. The Redtacton technology is Human Area Networking and the Internet of Things is LAN area by interconnectivity of these networking systems the drawbacks, of the Internet of Things can be enhanced and equipped to meet the various needs and variety of applications.

- The Redtacton device has its own network providing ability and the end nodes are in the closed format since the signal is generated by the user itself it and this makes it more secure. Unlike the Wi-Fi and ZigBee, the IP address generated cannot be hacked by external sources unless the user permits no multiple accesses to the Internet of Things devices can be found.
- Redtacton makes the Internet of Things to be a more personalized one since there is the much active participation of the user. The user takes full control over the devices.
- The Redtacton provides its own networking system, thus it eliminates the secondary network service providers.
- Since the secondary network providers are eliminated the high cost paid to the service providers are reduced to a larger extent, and the workload of the sensory device is reduced to a much larger extent
- The Internet of Things processes a large volume of data since many devices send data continuously these results in data collision and data missing. The redtacton codes of genetic algorithm sequence the data collected from the Internet of Things devices.
- The communication process is the most energy consuming layer of any device, this results in larger amount of energy consumption, but redtacton uses only the weak electric signals as their energy source and no energy is wasted here, only the unused energy is used.

5. APPLIED APPLICATION OF INTERNET OF THINGS AND REDTACTON IN HEALTH CARE

The redtacton device allows the transfer of information with a single touch and gesture.

This factor of the redtacton makes the Internet of Things devices that are connected to them to transfer data without following any secondary protocols.

The device connected to the user's body works under the basis of the electric signals that are generated inside them, a sensor sequenced with organ cycle algorithm of (12*2) sequence whereby 12 organs [3] work sequentially for 2 hours. On working on a particular organ, an amount of electric current is generated. Any minor variations in the generation and the flow of the electric current is detected and transferred to a person PDA's for the creation of a report of a patient's conditions. These are transferred to the health care facility, doctor and then the diagnosis occurs. The mishappening due to depletion of bandwidth in rural areas make it difficult for the Internet of Things to transfer information on WAN spectrum in these areas the Human area networking greatly helps in transferring of the information that is stored in the devices.

Redtacton plays a major role in third world countries health care. Due to its self-network providing feature and cost effective, these devices could be widely used.

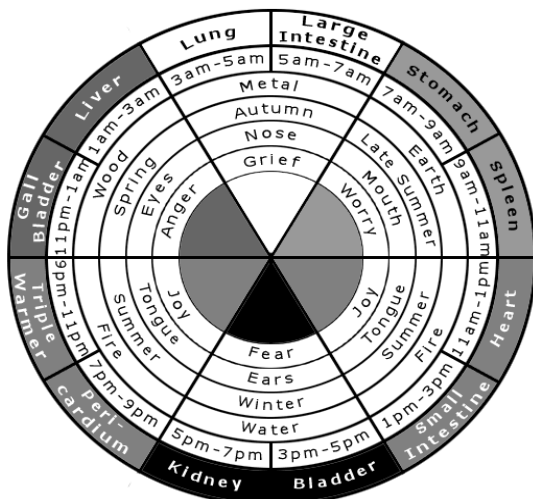


Fig. 2: Explaining about the organ cycle

6. PSYCHOLOGICAL ASPECT

The growing disease in recent times is "depression" nearly half of the world is affected by it since it is based on the mind and the internal happenings it is difficult to detect this condition.

The chakra [4] simulation is an ancient Indian psychological concept where it declares if all the 7 chakras in a person are working properly a person's both body and mind are in a steady state. Aura photography gives a pictorial view of the radiation from these chakras, by which a person's state of mind can be found. The source of these chakras is magnetic by nature, whenever an electric field is present this atomizes the presence of magnetic fields. The Redtacton device working on the electric field indirectly shows the magnetic state and which in turn leads to the findings of a person's mind state respectively.

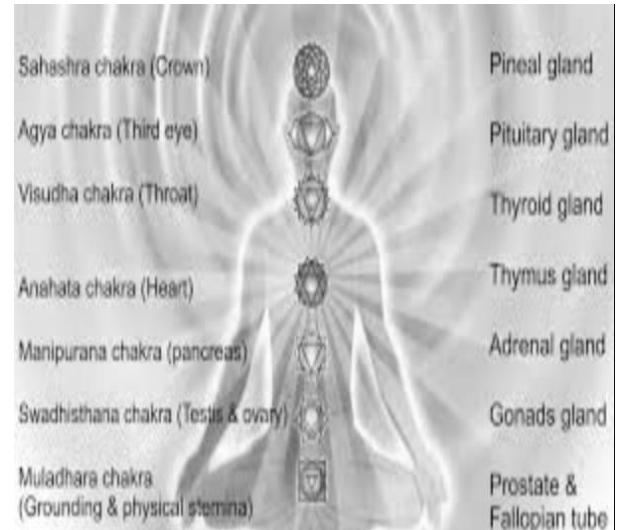


Fig. 3: Showing 7 chakras and organs related to each chakra

7. FUTURE IMPLEMENTATION

Using Redtacton device DNA structures can be understood in an easier method and it can be used to cure genetic disorder diseases, and it can also be used for animal communication, telepathy area networking, telekinesis, and so on.

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