

# HUMAN AREA NETWORKING

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***Abstract:- : It's been decades since we are making use of services such as Local Area Networking (LAN), Wide Area Networking (WAN), Near Field Communication (NFC), Bluetooth etc. However, these have various fundamental technical limitations which constrain their usage.***

***In this paper we have made an attempt to study the growth and outreach of emerging service Human Area Networking (HAN). With help of this technology, information can be accessed whenever and wherever we want. This technology uses surface of human body as medium for communication appliances. It makes use of point-to-point network also known as piconet.***

***This uses electric field naturally induced on the surface of human body which normally dissipates into the earth. Transceiver used in this technology is insulated, so it makes impossible to flow current into person's body, which promotes human safety. The name of the technology used in Human Area Networking (HAN) is Red Tacton. It provides relatively faster communication (10Mbps) than Bluetooth (3Mbps) and the transmission path can be established by simply touching transceiver by any body part.***

***With the help of this technology lot of time and energy will be saved along with that data transfer will more secure and with less loss of data.***

## 1. INTRODUCTION

In day today life we are integrated together due to communication equipment's, till today we are only well know about sort of communications equipment's like LAN, WAN, etc. but with the requirements of today's world now the technology is being which is future of communication means where information can be accessible whenever and wherever needed at our finger tips.

As we look towards the channel of transmission we are think about through wires, optics, wireless, even in vacuum .we choose these channel of medium because these are having certain nature that supports or say make synchronism between communication path In this paper we prposed about a new kind of channel medium which is much faster and also safer than other means of channels, It is a human body that we are thinking about .as we know human body is very good conductor of electricity it means it provide a perfect path for electricity through body.

About past research of HAN there is Technology they called as RedTacton. which was introduced by Nippon telegraph and Telephone Corporation (NTT's) that uses the human body surface is a high speed and safe network transmission path. RedTacton is a Break-through technology that enables reliable high-speed HAN for the first time. In the past, infrared Communications (IrDA), Bluetooth, radio frequency ID systems (RFID), and other technologies have been Proposed to solve the "last meter" connectivity problem.

## Specifications:

- 1)Human touch: Human movements can be the used as for on and off , rotations of the equipments, Starting and stopping etc.
- 2)Multidisciplinary: In addition to the human body other conductors, mediums can be used at time to get multilevel output.
- 3)Broadband & Duplex interactive communication: It is possible at a maximum speed of 10Mbps. This is because the transmission path is on the surface of the body; transmission speed does not deteriorate in congested areas Where many people can communicate at the same time.

## Working:

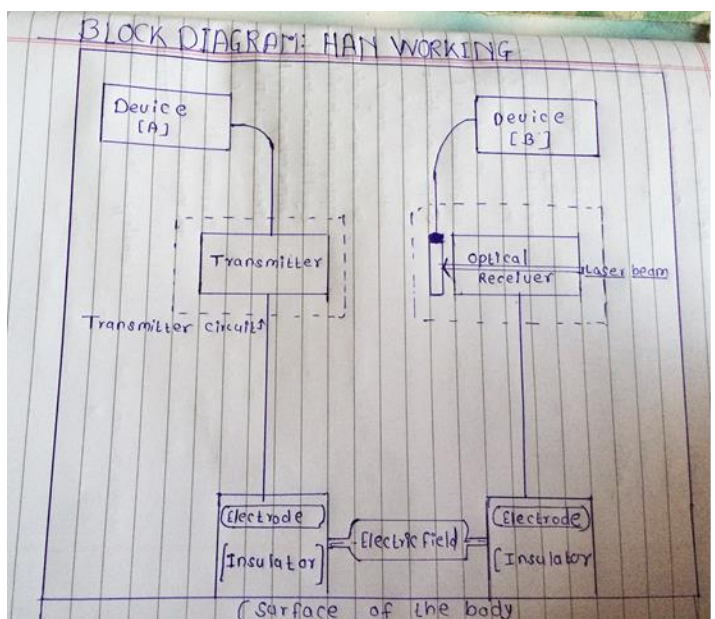
This technology has unique way of looking towards carrying of data path. In general we depend upon electromagnetic waves or light waves to carry data instead of that we use weak electric fields on surface of human body as transmission path.

1)In this one transmitter is required to induces a weak electric field on human surface body

2)Also one receiver sensor tht sense changes in the weak electric field on the surface of human body transmitted by transmitter.

3)with the use of laser it detects changes in the optical properties of an crystal using laser and converts the result to an electrical signal in a optical receiver circuit.

Block diagram of action of working:



## **How communication takes place:**

The naturally occurring electric field induced on the surface of the human body dissipates into the earth

Hence, this electric field is weak and not stable.

The photonic electric field sensor developed by NTT enables weak electric fields to be measured by detecting changes in the optical properties of an electro-optic crystal with a laser beam.

## **Human safety:**

Transceiver used in this technology is insulated, so it makes impossible to flow current into person's body, which promotes human safety.

## **Applications:**

A] Transferring contents of one pen drive to another without plugging into computer or laptop.

B] Sharing highly confidential/important documents just by shaking hands.

## **Advantages:**

1)Fast communication can be made within any points on the body at any time.

2)Output range is not sufficient in case of broadcast system like broadband, router can be made more longer with this networking.

3)overflow of networks due to multiusers is restricted.

4)Advanced than other technology

5)User-friendly and easier to adapt.

## **Disadvantages:**

i.) It has no compelling applications that aren't already available.

ii.) It is very costly

## **CONCLUSION:**

This technology definitely stands out with perfection, when transfer of data is fast, feasible and more importantly reliable. So, in few years from now everything is going to fall under this super technology.

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