# Data Transfer Through Human Body

**Pratiksha Fate[1], Swati Khomane[2], Puja Malshikare[3], Prof. S. P. Borate[4,]**
[1, 2, 3] Dept of E&TC Engineering
[4]Professor, Dept of E&TC Engineering
[1, 2, 3, 4] SVPM Collage of engineering,
Pune University, India

***Abstract-*** *We all are familiar with communication mediums like LAN, WAN, MAN etc. This paper describes about new communication media which is Human Area Network (HAN). Red Tacton is the new technology which uses human body for transfer of data. The exchange of information and sharing of resources becomes more easy because of HAN. Red Tacton technology mainly uses the electric field, which is generated by human body. This technology supports the IEEE 802.3 standard for transmission of data. This technology supports the half duplex communication. It is user friendly and fast.*

***Keywords***- Human Body, Electric Field, Red Tacton, ARM 7, HAN.

## I. INTRODUCTION

The concept of Human Area network technology was firstly introduced by IBM in 1996, but in this network some limitations are there that is the data rate is low. After some years in 2005 Nippon Telegraph and telephone corporation in Tokyo was removed the previous limitation and made improve in data rate. This communication mechanism was later evaluated and reported by several research groups around the word. We are familiar to the communications medias like LAN (local area network), VAN (virtual area network),MAN (metropolitan area network), WAN (wireless area network).

This proposed system describes the model of Human area network technology that mainly enables the communication by touch. Here we can simply transfers a data by just touching the destination body.

### INFORMATION ABOUT THE SYSTEM

The main purpose of this system is to use the human body as a communication media for transmitting data between two devices.

When we transmit the message from one device to human body then we receive the transmitted information on another device.

## II. LITURATURE REVIEW

The first system was made in 2007,in this system sensor was placed on human body and by using this sensor communication between two devices was done."Body Sensor Network"pharse firstly define by the Professor Guang-Zhong Yang.

It is used for shortest distance communication.

Send the data to sensor by using blutooth and then sensor receive the data. After the body sensor network many methods are described related to the analysis of human body characteristics. Every human body have resistance, by using this characteristics of human body data transmission is possible. When data transmission is start that time electromagnetic field is generated and that's why human body act as a communication medium.

currently human area network interest is more because of it is possible for medical application .Han will use in monitoring mechanism ,for example monitoring patients without using daily activity and no need of bulky devices with cable .Scholarly literature on human area network is done by M patel and Jianfeng Wang from Philips Research in North America.

NTT also develop this technology for commercial application. Another interesting research has been done by Ruoyu Xu and other from Hong kong university.

## III. PROPOSED SYSTEM

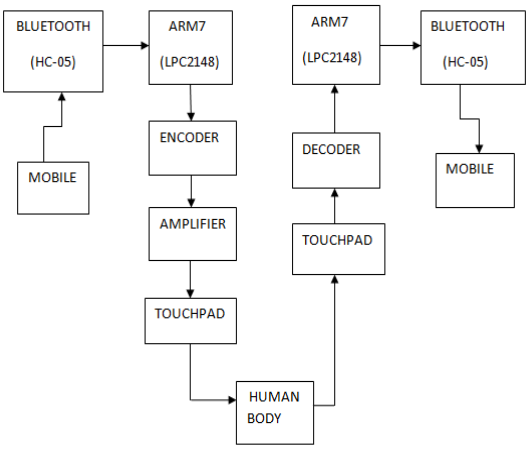


Fig:- Block Diagram

Here we can see there are two sections TX and RX having the same circuitry. At the both side mobile is used for transmitting and receiving the data. The transmitter side mobile send the data on Bluetooth HC-05 modem. The HC-05 modem receives the Bluetooth signals sends from mobile and again it send to ARM7 processor. Also there is a LM358 amplifier ICs it used at both side for to amplify and regulate the data. After the data processing data is send to the copper pad.

Simillarly same circuitry is used at the receiver side, when person touches copper pad on the both side that time electric field is generated in human body and data transmission is start. At that time close loop is created and data flow from transmitter to receiver. Simply by touching or making 2 or 3 person in chain then HAN network is creates.

1) Mobile Device

Mobile device is used for develop the android application. So using that android application the communication between two devices can be happening. Now a day android operating system is used in large scale so this system is chosen here. And android operating system is easy to handle and any one can understand this operating system also which provide graphical user interfaces inbuilt when user writing code or designing any application. Mobile is interfaces with the Bluetooth modem for communicate with other device

2) HC-05 modem

HC-05 is a Bluetooth modem used for reciving information from the different devices .It having rolling Network(RN)42 and it is class 2 device. It is a intermediate devices having range 50-60 feet and used for short distance. Also power consumption is reduced. Its operating frequency range is 2.46 GHz. It operating on 3.3v it supports multiple Bluetooth profiles like a SPP and HID.

3) ARM7

Everyone know processor is a heart of any system. It is used for design the system because it represents generation of ARM Processor design. has some advantages like tiny size and low power consumption. Including all this feature of processor we use ARM7.ARM7 is a 32 bit microprocessor & it also contain ISP or IAP. This processor is responsible for control and monitoring all the interfaces devices which are connected in the system. Main purpose of processor is using different interfaces we transfer data from one unit to another unit. The LPC 2148 ARM-7 IC is used here. It is based on principle Reduced instruction set computer (RISC). This IC programmed to BT Modem and copper pad. For programming we use the keil embedded C software.

4) LM358

It is an operational amplifier used for amplify the strength of signal. when we receive the signal at the touch pad that time strength of signal get reduce because of this amplifier is required.

5) COPPER PAD

Copper pad is like a square block of Copper it act as a conductor, by using copper pad data is enter into the human body.

## VI. ADVANTAGES

1. Reduces the time requirement for the transmittance of data from one device to other device as it takes less time for synchronization.
2. Maximize the data transmittance rate.
3. The initial costing is very low for the implementation of the circuit.

## V. APPLICATION

1) Medical Application
2) Easy print.
3) Easy transfer of data
4) An alarm
5) Advertising panel
6) Military Application
   In gun.we

## VI. CONCLUSION

- This system is based on Human Area Networking which helps to communicate via human body.
- It is the simplest way to send a data using the signal processing techniques.
- The basic need of the project is providing security.
- Using the technique demonstrated we can have secure, Low power consuming and device independent

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