Confidential Data Transmission using Red Tacton

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ABSTRACT - "RED TACTON" is a new technology used for transmitting data. It uses the surface of Human body or any medium like operators and dielectrics to transfer data .It is a different specialized approach as it does not use Electromagnetic swells or infrared technology to transfer data. It transfers data by using the weak electric field of the body. It further secure way of communication than other wired and wireless mode of transmission like Bluetooth, Wi-Fi etc. as it works on the principle of Point-to-Point network. It is a IEEE 802.3 Half Duplex communication with a transmission rate of 10Mbps.

Keywords—Red-Tacton, Half-Duplex communication, IEEE 802.3

I.INTRODUCTION

Data Transmission plays a vital part in the moment's world. Today we can transfer data from one to another or group through Wi-Fi, Bluetooth and infra-red technologies. But it is not a secure mode of transmission for transferring confidential data.Also the communication in congested spaces, the collision of data packets occurs which creates a problem for the members to communicate and the signals can be interdicted easily.Therefore, at 1996 IBM proposed a system of intra-body communication for faster and secure way of transmission data.The proposed model provides a secure and simple communication system that consists of wearable devices, hence transmits the data to the master device in real time.The devices start its action by simple touching, holding or any means of physical contact even through human clothes and shoes.

II.LITERATURE SURVEY

Dushyant Chauhan, Department of Computer Science and Engineering, Sanskriti University, Uttar Pradesh, India, has published a paper entitled as "Redtacton: A Smarter Network" (2019).This paper exhibits model of a mortal zone for the advancements that implements correspondence by ideas for "reaching". Red tacton technology works in transmitting the signals through mobile terminals.Such similar terminals are implanted in the environment. In order to overcome the weak radio signals and transmit data at a faster pace efficiently, this network is introduced in the field of communication technology.

Batchu Naga Sai Aakarshit 1, Batchu Veekshan Sree Sesha Sai 2, K.Jaideep Sai 3 ,B.Tech student (Department of ECE), SRM University., Kattankulathur, Chennai1 , B.Tech student (Department of ECE), Amrita School of Engineering., Bangalore2 , B.Tech student (ITCE Dept.), SRM UNIVERSITY., Kattankulathur, Chennai3 have published a paper entitled "Red Tacton Human Area Networking Technology".This paper describes a model of human area networking that enables communication by contacting, a technology called as Red Tacton.When very weak radio signals are used for the communication, data speeds are reduced by packet collision and also, security risk from unwanted signal interception is another problem. Technology for solving such problems includes the use of the person's body as a signal path for communication. Here, the surface of the human body acts as a transmission medium supporting half duplex communication at 10 Mbit/s. A transmission path is formed automatically when a person or an object comes into contact with a device and communication between mobile terminals begins.

Reena Antil is presently pursuing master's degree program in computer engineering in BPSMV, Khanpur kalan, Haryana (India) has published a paper entitled "Red Tacton: A review". In this paper an overview of recent exploration into body coupled communications is given. It is a new private area network technology which uses weak electric fields on the surface of the human body, as a safe data transmission path. RedTacton involves initiating communication with a touch that could affect a wide range of conduct in response. It does not depend on electromagnetic or a light wave to transmit data.Using a new super-sensitive photonic electric field sensor, it can achieve half-duplex communication over the human body. In this paper they consider red taxon, different applications, its working principle and future development of red tacton.

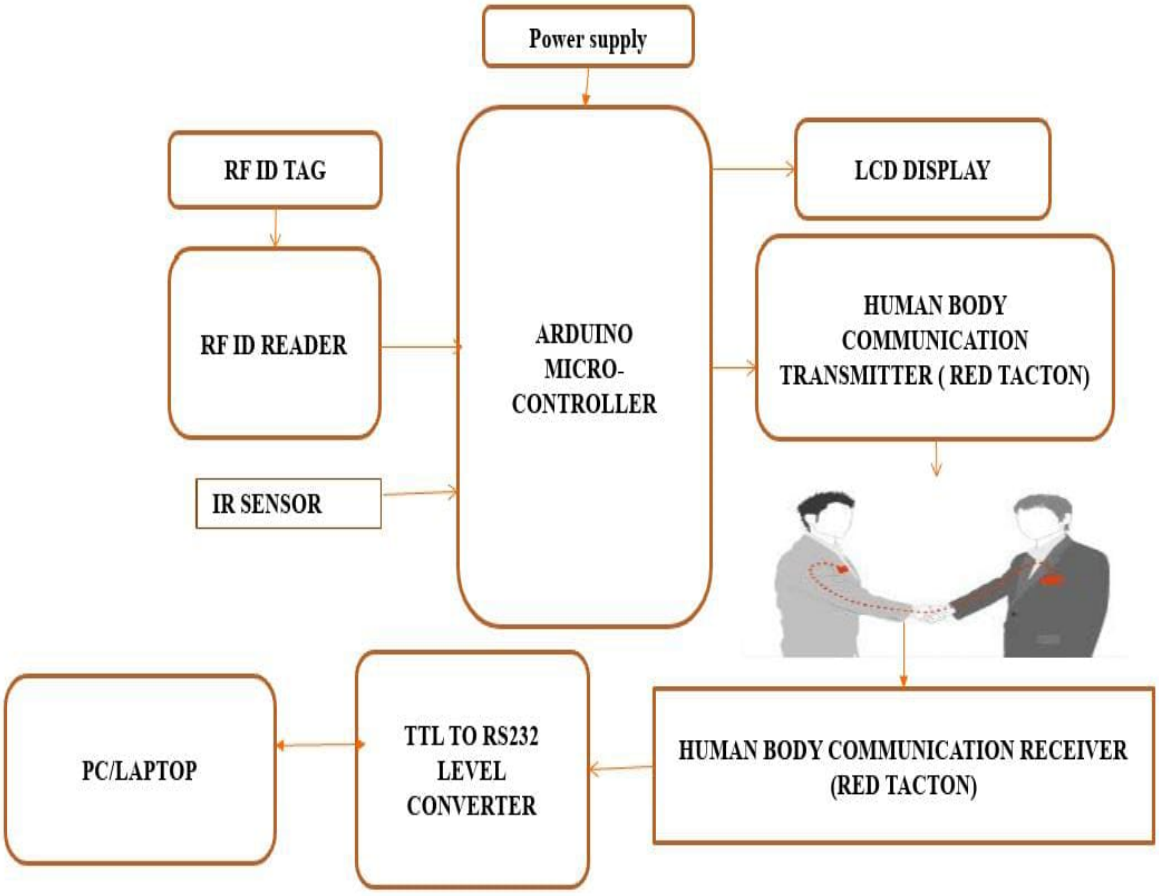
Red tacton works on the principle of optical properties of an electro-optic crystal, which can vary according to the changes of a weak electric field.

But in all these technologies, if a person with a Red tacton receiver setup comes in contact with the transmitting person, the data will be transmitted. In order to improve its security the existing system is enhanced to the following proposed method.

III.PROPOSED SOLUTION

This project presents a new concept of communication method called Human Area Communication. Human body is used as a medium of transmission of data.The use of this technology in the spy agent system eliminates the complexity of existing technologies that involves cables, wires for transmission of data.

BLOCK DIAGRAM



The Arduino microcontroller is connected to the red tacton transmitter and this transmitter set up will be with the person who is transferring the message.There should be another person with the red tacton receiver setup who will be receiving the message.

When this person gives a handshake to the receiving person, the information will be exchanged.But in this system along with the Red tacton transceiver setup, a RF ID tag and a RF ID detector is used so that only the person with the ID tag can only receive the msg.

Even if the receiver gives a handshake to the transmitter, the msg will be transmitted only when the receiver shows the ID tag to the RF ID reader which is with the transmitting person. The ID tag will be processed by the RF ID reader and it conforms if the receiving person is the same as the original receiver. Thus, the message can be received by the receiver and through serial communication it can be viewed in our personal computer. It can be designed as a human wearable device for real time applications.

IV. PROPOSED METHOD WORKFLOW

STEP 1: The transmitter and receiver with the Red-tacton setup come in physical contact with each other and a connection is established between them through the physical contact.

STEP 2: The receiver shows the RF ID tag to the RF ID reader which is with the transmitter and the receiving person is ensured.

STEP 3: After authentication of the receiving person, the red tacton transmitter setup becomes ready to transmit the message.

STEP 4: Once the transmitting person interrupts the IR sensor, the message will be received by the receiver.

STEP 5: Thus, the data can be viewed in the receiver's personal computer through serial communication.

V.CONCLUSION

It can be used in all areas of application where one to one service is involved. It can be used by secret agents where information security is demanded. This technology overcomes the limitations of Bluetooth and other technologies, thus can be used as a replacement in near future. It can also bring an end to the use of cables for data exchange. As it uses the human body as a medium of transmission, data cannot be hacked by anyone. Thus, it provides confidential and faster data transmission.

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