

Android Based Home Automation

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ABSTRACT

A lecture on wireless communication about controlling of home automation intended specifically for those who used smart phones and personal computers is proposed in this paper. Home automation is an best example for wireless communication. Nowadays the digital devices in our home are increased and for controlling these devices we use android application. Using these application the devices are monitor and control by multiple users. The important information which does not appear in textbooks are presented to the students. A wireless communication is not new. They evolving many years especially in mobile communications. The term wireless was introduced in 19th century. Wireless communication is becoming an ever growing part of human lives day by day. Every month new services and products are introduced by wireless communication. However the advances that have been made both mobile and wi-fi systems. More and more devices that rely on internet. That's why the wireless communication grown day by day. Comparing the evolution paths of the various mobile systems it will be found that the trend has largely been one of migrating from analogue to digital.

1. INTRODUCTION

Almost every field of institution, companies, government sectors there is requirement of wireless communication which has increased the usage of internet. It has the greatest demand for increasing of smart homes where our all home devices are control by the mobile phones by an microcontroller and which is connected through the interface of bluetooth, wifi, etc., Wireless communication is referred as the transfer of information or data between two or more devices without any medium. It was initially used for the radio transmitting and receiving technology. It is known as wireless telegraphy at that time, until the another word radio replaced it. It is one of the most wanted medium of transmission. The information and datum are transferred by wireless communication without the use of wires. These communication use radio waves [1-12]. In this type of internet it propagates the signal through the space. A high-level consideration of representative of current mobile and WI-FI systems then will be used to argue their performances differences are largely a reflection of different regulatory constraints. In other communication technologies the light beams travel through the transmission lines such as fiber optic or dielectric pipes. Ultrasonic short range communication involves the transmission and receiving of the sound. Electromagnetic Induction has short range communication and power. This has been used in biomedical situations such as pacemakers, as well as for short-range tags.

2. EXISTING SYSTEM

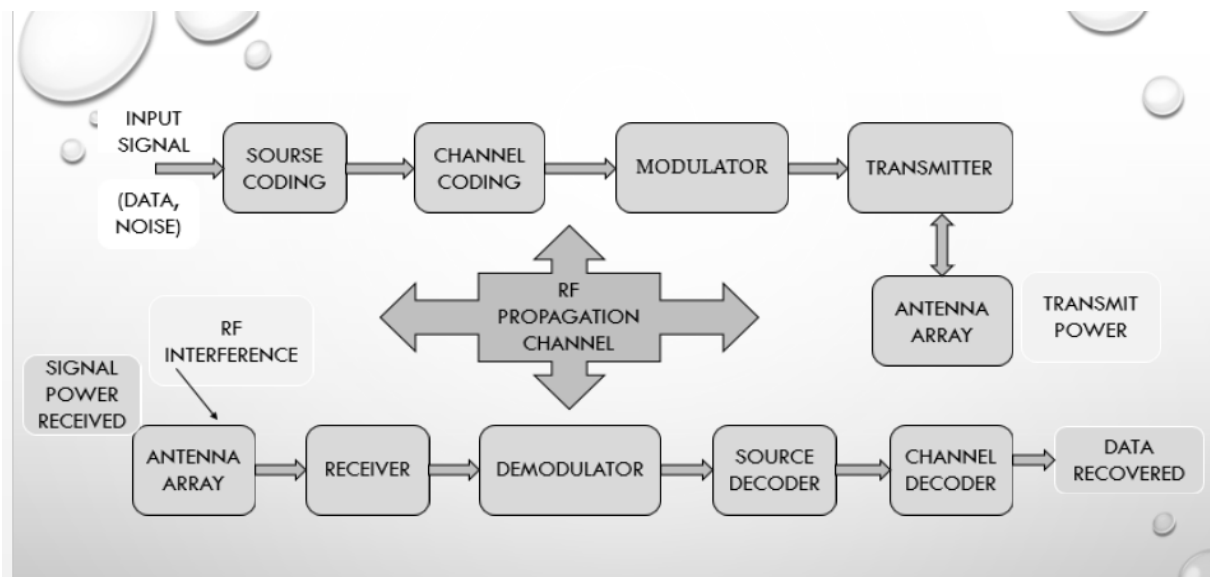
Wireless communication can transfer the information or power without using an electrical conductor between any two or more points. The satellite communication is the system which uses the satellites for this mode of communication [13]. It uses satellite instead of radio signals. The most powerful satellite is the portable satellite phones and moderns which has the broadcasting ability which is higher than the cellular devices. It also have high range of communication and also it is most expensive in the cost than in the counterparts. The low power communication system is the Wi-Fi communication. It is used by many electronic devices. It is most often used in

many homes. It has the long range of communication system. It is secured with the password, as it uses the password method for the security purposes. So that this type of communication is only used by the accessed person and not by the other users. It has many advantages like ease of integration and convenience, mobility and expandability.

3. PROPOSED SYSTEM

Wireless communication has many components like adapters, repeater etc., The wireless adapter is the hardware device which installs within the computer. It enables the wireless connectivity [14-36]. If a system is not provided with the wireless adapter then it is not able to connect with the router to connect with the internet. These adapters are built inside the motherboard so that it can withstand alone in order to have the wireless capability to a computer. The incoming internet sends the data in the format of radio frequency signals to the other wireless devices which is very nearer to the router. The wireless router sets the network is called as the Wireless Local Area Network (WLAN). It provides with the devices with the built-in security in order to affect from the malicious data such as viruses. The information is transferred between two methods by using the effective data transmission method called microwave. The satellite method transfers the data through the wireless media of the microwave. In the satellite method, the data signals are received and send back to the satellite in the range of 11GHz to 14 GHz with the speed of the 1Mbps to 10Mbps.

3.1. The Block Diagram For Wireless Communication Network



4. RESULT AND DISCUSSION

The example for the wireless communication is the home automation control using arduino. In this expo, we use arduino kit and Bluetooth module to control the home appliances. In this arduino kit is used. By the help of the program connect the arduino board. The basic parts of the project is an Android smartphone, a Bluetooth

transceiver, and an Arduino. Bluetooth transmitter is used only for the short range. For longer range of communication Wi-Fi transmitter is used.

The remote controlled LED is connected with the Bluetooth module. An mobile app is downloaded which is connected with the module by wireless communication system. When the condition like led on is given then the led turns on and vice versa. Based on this, the process is carried out. This module is only for short range of communication. For high voltage devices use relay module for automation.



5. CONCLUSION

This paper provides a overview of the fundamental wireless. The wireless communication will gradually improve its communication level. In future it eliminates the drawbacks and improves their speed. In upcoming years the speed of the internet and the features of the new devices and services are like efficiency. Now, there is no 5g devices and 5g internet connections. But manufacture like Samsung, HTC and Panasonic are experimenting under this new services. No one know what will be the advanced features in upcoming 5g devices. The advantage of 4g devices has the most amazing speed. The 4g users get the advanced task such as video calls, conference and chat.

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