

Use of wireless technology in media



In recent years wireless technology has changed the concept of data transmission which has made the system easier. This transformation was started by Marconi in 1896 with his invention of the radio telegraph which was the first official step of wireless communication in Media. Previously wireless transmission was generally addressed as RF (Radio Frequency) transmission. However, there are some other forms of technology such as infrared sensor of TV remote control now linked with wireless technology. In the last half of the 19th century wireless transmission was one of the main research topics of scientists. As a result, many kinds of wireless data transmission has been invented such as Bluetooth, WiFi and Satellite communication. A new form of technology that has been introduced recently called MIMO (Multiple input/multiple output) which have increased number of antennas for sending and receiving wireless signals which works through SDMA technique. At present, most of the broadcasting sector which are electronic and print media uses the most updated 4G and 5G networks that have been created by the small steps of the past. This essay will investigate how wireless technology has made a tremendous contribution to supporting media in the broadcasting and live telecasting information to the masses.

At present, Wireless system are classified in four different categories depending on their area of coverage. Wireless LAN is the primary stage it cover a small area and provide high speed data transmission. Most of WLAN cover 0.9, 2.4, 5.8 GHz these are the primary unlicensed ISM bands and only 5 GHz is the Unlicensed National Information Infrastructure (UNII) band (Seymour & Shaheen , 2011) . In recent time, WLAN system is available in everywhere because of its high speed internet access and easy installation

process. The new system has introduced higher data rates and capacity than the previous old system which is based on IEEE802. 11 a standard. It follows IEEE 802. 11 a standard and 5 GHz UNII band based Orthogonal Frequency Division Multiplexing (OFDM) modulation technique. As a result, Wireless LAN which is mostly known as Wifi system is now the main source of using internet for home and office users.

Another stage is Wide area wireless data services which is used to distribute wireless data for covering a large area and especially for the users who frequently change their position from one place to another place. A base station is required in these systems to control the distribution of data of a particular region. Base station need to be connected with a wired source. The low-power WAN (LPWANs) is another big step in WWAN which is mostly used for IOT based applications. The LPWANs primary factors are energy efficient, low data rates (20 Kbps) based design and have a long communication range. For the availability and low maintenance cost IOT based devices are now being used in many places such as electronic monitoring system, vehicle tracking, Natural Gas monitoring.

Broadband wireless access established connection between fixed input points to multiple output terminals for ensuring continuous speed data access to the customer. It has made the internet distribution system easily accessible to all customers. (Nuaymi, 2007)In the year of 1970, Cellular concept comes from Bell Labs which was a new era of communication technology. In that time people first introduced with the concept of a large covering area using a fixed frequency bandwidth. It was also introduced Global system for Mobile Communication (GSM) which was specially used for <https://assignbuster.com/use-of-wireless-technology-in-media/>

voice transmission and low speed data transmission system. GSM is the father of modern 4G, 3G, EDGE and GPRS system. However, the 3G system which is based on TDMA is a concept of enhance data rates of EDGE system. So, GPRS (1G), EDGE (2G), 3G, 4G, 5G are the different generation of GSM based system. When GSM first introduced it was only able to send voice and SMS but at present in 4G/5G system it is sending or receiving Voice, video and maintaining high speed data communication. Nowadays, three main categories of end to end networking system are core, metropolitan and access network (Abdollahi, Al-Raweshidy and Owens). In these three category everyone is dependent one another. Optical routers, switches, mux and de-mux are the function of core network which is used to provide triple play service of metropolitan area network. In his system uplink and downlink is controlled by the access network.

Commercial communication satellite system plays another most important part in wireless technology which is the main hub of wireless TV broadcasting system all over the world. LEO and ICO which are abbreviated as Low Earth Orbit and Intermediate Circular Orbit they both are providing coverage of global mobile satellite. (Evans, 2002) In 1962, the communication satellite ACT was passed by U. S congress for the establishment of a single global communication system. The first communication satellite name was early bird which was able to provide service of 240 voice call and television signal. That might be the first time of using satellite in media. Nowadays, every TV channels have collaboration with particular satellites to broadcast their program globally. After few years regional domestic satellite was established to support huge traffic of voice

calls. However, it was surprisingly started to provide television connection. Later Direct Broadcast service (DBS) was started practice to provide more enhanced image and audio processing service to the users of Television. Another important use of satellite is establishing connection with economic organization (bank), School, colleges, hospital, Super shop. This connection is installed under a system called very small aperture terminal (VSAT). Satellite communication system also used in maritime sector and they have special satellite system for their operations at L-band. For the blessing of satellite networking system it is possible to communicate with international space station and the control of satellite itself.

In the term broadcasting refers to the information visually by using any media of communication. In wireless communication TV, Mobile Phone, Computer act as a media of Visualization and satellite, WLAN act as a media of transportation of information from the base station. According to Doohee & Kwangjin(2016) In Wireless communication, Broadcasting depends on scalability to process the queries (regarding, e. g., news, sports game results, or weather) that can be requested by an unspecified number of clients within the communication area of a server (Doohee & Kwangjin, 2016). Scalability indicates a server to transfer query results bit by bit to the customer server.

Satellite TV broadcasting is a system of delivering news or others program to receiver television by using a communication satellite system. In this system, a particular satellite that is orbiting in the Earth directly connects to the viewer's antenna. Satellite channels transmit their program in two different ways called Live TV broadcasting and recorded content telecasting. Live TV <https://assignbuster.com/use-of-wireless-technology-in-media/>

broadcasting could be classified in three steps Firstly, Picking up the feed from the source and sending it using a streaming server. Secondly, Streaming server has to send the feed to the server for transcoding process. Thirdly, The TS transfers the HLS to the streaming server which sends the media across the Internet to different devices. Nowadays, Live TV broadcasting is very popular to show sports around the world and others worldwide popular program. Another TV program method is recoded content telecasting which is used to show some content that is produced before telecasting. Both of the methods follow the same rules of telecasting from base station to satellite and satellite to feeder. To show several TV channel through a single satellite transponder a Direct-To-Home (DTH) service is necessary. Normally, A DTH system can allow 100 or more channel through a single satellite. However, the quality of received signal depends on the receiver characteristic. Generally, a receiver follows some steps. At first, a good system controller is necessary who will do QPSK demodulation, error correction, multiplexing and decoding perfectly (Noda, Yamamoto and Adachi, 1996). Moreover, satellite TV broadcasting is important part of wireless communication to show both informative and entertainment related context.

At present, Print Media has mostly converted to electronic media. All the newspaper published their news by their website and social media pages. Facebook and online news sites are more popular than printed newspaper because of their availability and low subscription cost. Internet is thought to be the sixth human rights in present world. So other types of recreational and news media are in front of a big threat. Newspapers who have made

their online sites are continuing their publication with popularity. 4G and 5G wireless communication system has made the social and online sites more active to publish and stream the information to masses. People are getting all types of information regarding media, news and sports with their finger strips. Journalists are also opening blogs to represent their own work. Online streaming sites are taking place of TV channel. This is the blessing of high speed data transmission system. 3G systems were 10 times faster than 2G system. Now 4G systems are also 10 times faster than previous 3G systems (Shafi, Ogose & Hattori, 2002). Nowadays, it is difficult to find out any home or organization without wireless internet (Wifi) connection.

In conclusion, Broadcasting and live telecasting information to the mass people wireless technology play a very important role.

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