Assignment-2

By 1)Jashwanth Reddy(201030068)

2)Krishna Chaitanya(201001091)

Our assignment is about communication systems.

Attributes of communication system:

1)Input signal: This can be of the text,audio,stationary or moving image.

2)Directionality:

Two way system is one which receives and transmits signal. One way signal is one which either receives or transmits signals.

3)Timing :

This is about timing of signals or concurrence or coincidence of receiving and transmitting signals.

This may include face to face interaction,radio,TV etc.. whereas email or SMS or MMS are non-simulataneous meaning message creation and presentation processes are separate and that the message was made available in some storage medium.

4)Transmission mode:

This implies communication can be wired or wireless.

Many CITs use combinations of both wired and wireless, including broadcast and cable television,radio and cordless and cellular telephones.

Fibre optic – data transferred through pulses of light. Extremely fast

5)Analog discrete/digital signal:

Digital data are easy to process and access.So in many stages analog data are converted to digital mode and vice-versa.

6)Number of Access points:

Communication mode may be one-one or one-many or many-one.

So the access points differ in various communication modes.

For example, it is now possible to hold audio conference calls among hundreds of people.

Yet experience indicates that conference calls with more than eight to ten people generate confusion over turn-taking, and larger conference calls prove quite unwieldy for group discussion.

7)Types of connection:

There are three basic types of connections: switched, networked, and broadcast.

Switched:

In chat box both sender and receiver should be online to communicate with each other.

Networked:

e-mail, pass information from one node in a network to another, but the sender and receiver's terminal devices are typically never connected to each other.

Broadcasting:

Broadcaster simply broadcasts the signal to be received and receiver receives only if it is switched

on(Ex: T.V).

8)Bandwidth:

Electromagnetic spectrum is appropriately divided by the government and sold to companies.The share may vary from few Kilohz to Megahzs.

Narrowband spectrum is allocated for telephone calls and broadband refers to cable television conduit.

9)Storage:

This also has been important attribute of communication and information technologies.

content in the storage may be Preserved ,Retrieved,Searched or Modified.

10)User interface:

User interface design or user interface engineering is the design of computers, appliances, machines, mobile communication devices, software applications, and websites with the focus on the user's experience and interaction. The goal of user interface design is to make the user's interaction as simple and efficient as possible, in terms of accomplishing user goals—what is often called user-centered design.

Some non-functional attributes of the communication systems are

1)Protocols:

A protocol is a set of rules which governs the transfer of data between sender and receiver.

This determines the security of network system.

Examples of protocols are: token ring, CSMA/CD(Carrier Sense Multiple Access/Collision Detection), X.25, TCP/IP.

2)Error checking:

In information theory and coding theory with applications in computer science and telecommunication, error detection and correction or error control are techniques that enable reliable delivery of digital data over unreliable communication channels. Many communication channels are subject to channel noise, and thus errors may be introduced during transmission from the source to a receiver. Error detection techniques allow detecting such errors, while error correction enables reconstruction of the original data.

3)Transmission speed:

This depends on Bandwidth:The amount of data which can be transmitted on a medium over a fixed amount of time (second). It is measured on Bits per Second or Baud rate.

Bits per second: A measure of transmission speed. The number of bits (0 0r 1) which can be transmitted in a second

Baud rate:: Is a measure of how fast a change of state occurs (i.e. a change from 0 to 1).

Characteristics of communication systems:

A communication system has 5 main components. All of which function together to create a helpful and create an operational system that properly communicates.

A Data Source: This where the data is originally made or sent from. An example of this could be a networked computer.

The Data Source then sends the data to the Transmitter: This is where the data is encoded into a form useful for the transmission medium to send.

The Transmitter sends the data along the Transmission Medium to a

Receiver: There the data will be decoded from the form that it was sent in. This will enable the Destination to read the data in the correct format.

The Destination: This is where the data finally completes it's trip and arrives. The destination is simply the place where the data was directed to at the start of the Communication System.