

COMPUTER NETWORKS AND INTERNET NETWORK

A group of computers that are interconnected and can communicate to each other. (A central computer on the system will often store and maintain the programs and data.) Other computer will access the central computer when required.

There are two main kinds of network, according to the area it covers:-

LAN (Local Area Network) is the network that is limited to a specific area, usually an office, and can not extend beyond the boundaries of a single building.

WAN (Wide Area Network) is any network that crosses regional or national boundaries. Internet is a specific type of WAN.

We have other types of networks such as

MAN(Metropolitan Area Network) is any network that covers a larger area than LAN but not to reach WAN. Usually it covers an administrative Area such as a Province, a Region or a City.

WLAN(Wireless Local Area Network) is a network that is connected Locally but without any wire connections. We have

What is an Internet?

In simple words, Internet is a huge number of computers that are connected to each other throughout the world. These computers are situated in many different countries.

Internet can also be defined as World wide network of computer making information available to everyone.

Also Internet can be defined as An International network of cooperating, interconnected Multiprotocol networks, that support collaboration among thousands of organization.

These Computers are connected through

1. Telephone lines-telephone lines internet signals from one place to another and the signals are translated by modems.
2. Cables in the ground-the use of optical cables which are laid in the ground then they connect different devices. optical cables transmit signals with a speed of light.($3 \times 10^8 \text{m/s}$)
3. Satellite in space-satellite dishes capture signals from satellites in space and transmits them to their required destinations.

Modem

- **A modem** is used to translate information transferred through telephone lines or cable and from satellite dishes.
- The term stands for **modulate and demodulate** which changes the signal from **digital**, which computers use, to **analog**, which telephones use and then back again.
- A high speed connection also requires a modem but because the information is transferred digitally it isn't required to change the signal from digital to analog but is used to create the connection between your computer and the computer you are connecting with.

PROTOCOL

Set of rules that determine how data are exchanged between different computers.

DEVELOPMENT OF INTERNET

Internet evolved from a US Department of defense project called ARPANET (Advanced Research Project Agency Network) in 1969. The main reason was to exchange information between researchers in this project.

Browsers and World Wide Web were introduced early in 1990's (an example of a browser is Internet explorer, Mozilla firefox, safari, Netscape Navigator, Opera etc.)

The development of Browsers and the World Wide Web in the early 1990's turned the internet into a user friendly environment and it soon began to attract commercial interest. Since 1995, the internet has become more accessible to the home computer users and it is increasing in popularity all the time.

INTERNET SERVICES

- i) World Wide Web
- ii) E-mail
- iii) Instant
Messaging
- v) Video
conferencing

i) **World Wide Web(website)**

is a system of interlinked hypertext documents accessed via the Internet. With a web browser, one can view web pages that may contain text, images, videos, and other multimedia and navigate between them via hyperlinks.

ADDRESSES OR UNIFORM RESOURCE LOCATORS (URLs)

These are addresses of website that you are visiting .The URL or address is often shown beginning with *http*; this stands for *Hypertext transfer protocol* which is assumed, so it is not necessary to type it, i.e. <http://www.esb.co.tz>

The URL/address is usually made up of the following parts;

- i) WWW (World Wide Web)
- ii) Some letters or characters which indicate the organization e.g. www.udom.ac.tz
- iii) Some letters which describe the type of the organization eg. www.udsm.ac.tz(ac stands for academic)
www.ucc.co.tz(co and com stands for commercial Organization
www.elct.org, www.mwakasege.org (org stands for non profit - making organization)
- iv) Some letters which describes the country e.g. www.bbc.co.uk

NOTE: The parts are separated by full stops and never include space.

Browser

A Browser is a program that allows a person to view pages over the Internet and to navigate/move from one page to another by the use of links found in the webpages

Examples of browsers are such as: Internet Explorer ,Mozilla firefox, Opera,Safari,Netscape Navigator etc.

Any Browser will have the following basic features to allow the person to view the pages successfully.

BACK BUTTON

By clicking on it you will be able to go back one or more steps.

GO BUTTON

When you want to visit a website, type the address in the address bar and click GO button.

STOP BUTTON

If you have typed a website and decide to cancel it before opening, click on stop button then type a new address.

REFRESH BUTTON

When a part of the website you are looking for does not appear on the screen may be due to connection problem click on Refresh button to re-load a page.

Link

This can be a text or a picture which allows you to go to another page of the same website or a different website.

Colors/captions show the link. When you place a cursor on the link, it changes to a hand. When you click on the link, you will be able to go to another part.

SEARCH ENGINES

Is a means of searching for information that can be found on the internet. For example when accessing a search engine you might specify that you want to search for information about 'Polar Bears' then search engine would return all the URLs (addresses) it knows about it.

Examples of search engines:

- 1) *www.google.com*
- 2) *www.yahoo.com*
- 3) *www.altavista.com*
- 4) www.cycons.com
- 5) *www.mamma.com*

COPYING/GETTING INFORMATION FROM THE WEBSITE

- Highlight/select the text
- Right click on the text
- select copy
- open e.g. Microsoft word program
- Right click then paste
- Save it.

These websites can be used for different purposes depending on what they were developed for. For example it may be a commercial website where people can buy and sell different products and services(electronic commerce) or it may be for learning purposes where people learn different subjects from there and find different materials about certain subjects or it may be an organizational or company website where people get information about that organization and its services, and it may also be a personal website where a particular person puts his/her information and all about the person.

What is a Blog???

Electronic mail, commonly known as **email** or **e-mail**, is a method of exchanging digital messages from an author to one or more recipients. Modern email operates across the Internet or other computer networks. Some early email systems required that the author and the recipient both be online at the same time, in common with instant messaging. Today's email systems are based on a store-and-forward model. Email servers accept, forward, deliver and store messages. Neither the users nor their computers are required to be online simultaneously; they need connect only briefly, typically to an email server, for as long as it takes to send or receive messages.

Email is a messaging system which can be used to transmit text messages and file attachments, attachments can be word processing documents, graphics, video and sound.

E-mail address

E-mail addresses are made up of certain components that help to route it to the proper recipient, just like postal address on the envelope. E.g. jsmith@utoronto.ca

- i) *jsmith* is the user name
- ii) *@ is at sign* which serves as a divider between e-mail sections.
- iii) *utoronto.ca* is the domain name which is the name of the user's email system or location

READING AND SENDING E-MAILS

a) READING MAILS

- In the address bar, type e.g. www.yahoo.com, www.google.com
- Click on mail button/link
- Type your e-mail address and password.
- Click sign in(if you already have an account)
- Click on check mails/inbox
- Click on the Subject of the new received mail

Remember to sign out after reading your messages

If you don't have an account click on signup/register then fill the form and follow instructions to create your account. Remember to keep your password a secret and never give it to anyone.

b) SENDING

After signing in with your correct email address and password

Click on compose/new email message

-Type recipients e-mail address, subject and then type the message

-Click Send

TIPS.

- When sending an e-mail observe the following;

TO: Enter the address of the recipient

CC: To copy to other people, enter the address of the recipients separated by a comma

BCC: The recipient entered here will not be seen by other recipient

SUBJECT: Enter the subject matter of your message, then enter the message in the body.

SENDING AN E-MAIL WITH ATTACHMENTS

- Compose a message as usual
 - Click on attach file
 - Click on browse
 - Select the location e.g. C: drive, A: drive or from a folder.
 - Select the file
 - Click open /attach files
 - Continue to message.
 - Click send
- *Remember to sign out after sending or receiving mails.

Downloading attachments (attached files)

Login as usual

- Select the mail which contains the attachments
- Click on the subject e.g. Examination results
- Click on Download file name e.g. Examination results
- Click on Download attachments
- Click open if you want to read the attached file or click on save if you want to save the attached file

Using email for business

Email is a powerful, low-cost communications tool that businesses are using to market their goods, provide better customer service and work more efficiently.

Marketing by email

Email can provide a cost-effective way of **marketing**. Customers can be targeted cheaply and instantly and, unlike other forms of marketing, emails can be easily and quickly forwarded to colleagues or friends. Encouraging the recipients of marketing emails to forward them on is known as **viral marketing**.

Improving customer service

Email can be used to improve customer service. Encouraging customers to contact you by email can benefit both parties - they do not have to hang on the phone or make contact in working hours and you do not have to respond immediately, which can free up staff from answering the phone.

Communication with shareholders

Companies can send information to shareholders using email and other kinds of electronic communication, although they have to send information on paper if shareholders ask for it.

Instant Messaging (IM) is a form of real-time direct text-based chatting communication between two or more people using personal computers or other devices. The user's text is conveyed over a network. More advanced instant messaging software clients also allow enhanced modes of communication, such as live voice or video calling. What is required before chatting is to have user name and password

Videoconferencing is a set of telecommunication technologies which allow two or more locations to interact via two-way video and audio transmissions simultaneously.

Social Websites/Networks

There are websites called social websites where people can share their views as well as exchange ideas.

examples of these social networks are Face book, Twiter, Marafiki.com, hi5, etc

Joining in these social network you need to sign up by giving your email address and choosing a user name and password which you will be using for logging in.

After logging in you can find your friends and upload your pictures..