

MODULE 4 PLANNING A TELECENTRE

UNIT 3 PLANNING FOR EQUIPMENT AND SYSTEMS

Structure of the Unit

- 3.0 Learning Outcomes
- 3.1 Introduction
- 3.2 Hardware
- 3.3 Software
- 3.4 Internet Connectivity
- 3.5 Electrical Power
- 3.6 The Internet
- 3.7 E- Mail
- 3.8 Summing Up
- 3.9 Check Your Progress: Model Answers
- 3.10 Assignments
- 3.11 Glossary and Definitions
- 3.12 Reference and Further reading

3.0 LEARNING OUTCOMES

At the end of this unit, you should be able to:

- Identify and select hardware for your telecentre
- Identify and select software for your telecentre
- Make wise choices about connectivity for your telecentre
- Understand the various uses of Internet
- Understand and be able to use e-Mail and related messaging systems

3.1 INTRODUCTION

You are now ready to begin to plan to equip your telecentre. This includes hardware, software and issues related to the use of these for you and your clients.

A computer consists of hardware and software. Hardware refers to the actual parts that make up the computer:

- hard drive
- monitor and screen,
- keyboard, mouse, etc

Software refers to the programmes saved in the computer's memory that allow you to compose letters, organise a budget, create brochures, log on to the Internet and process a particular software application etc.

As this is a technical area, it would be good for you to locate someone in your community who can help you to choose hardware and software for the telecentre. And, as a businessperson you will need to be cautious in the investment you make.

MODULE 4 PLANNING A TELECENTRE

The technology you choose should be based on the kinds of services you will provide. New technologies make new services possible and these may have relevance for the information and services you offer at the telecentre. And, there is a cost to every technology. So, care is necessary.

Low-cost devices are often promoted as the answer to the digital divide. However, the real challenge for you - as the telecentre Operator or Manager - is to choose technology effectively, rather than the technology itself. Low cost ICTs solve only part of the problems, but are not the whole solution. And, if they do not contribute effectively to the goals of your telecentre, they are no solution at all.

Besides knowing about software and hardware, you will also need to know about connectivity – or how to connect to the Internet. Once you are connected and using the net, there are certain protocols or etiquette that must be followed.

3.2 HARDWARE

Hardware is a general term that refers to the [physical](#) objects of a [technology](#). It may also mean the physical [components](#) of a [computer system](#), in the form of [computer hardware](#).

Historically, hardware meant the metal parts and fittings that were used to make wooden products stronger, more functional, longer lasting and easier to fabricate or assemble.

In most countries, 'hardware stores' typically sell equipment such as [keys](#), [locks](#), [hinges](#), [latches](#), [corners](#), [handles](#), [wire](#), chains, [plumbing](#) supplies, [tools](#), [utensils](#), [cutlery](#) and [machine](#) parts, especially when they are made of [metal](#).

In this curriculum 'hardware' refers to computers and the equipment that is connected to them, for example - printers, scanners, modems, camera, video equipment, etc.

3.2.1 Computers



Monitor and Computer

The computer is the basic equipment that connects you and telecentre users to the service providing applications as well as to the Internet. And these applications, in turn, connect to relatives, friends and colleagues far away.

The computer is a powerful electronic tool that will also assist you in the day-to-day management of the telecentre. It keeps track of your finances and your daily administrative tasks – such as writing letters or grants proposals, and developing pamphlets and flyers to advertise the telecentres' services in the local community, can be quite simple with the use of a computer.

It serves as a filing system. In many ways, we can do away with the days of paper in files in folders, collecting dust and decaying with age. All documents – receipts, bills, land deeds, passports and photographs - can be scanned and saved in the computer.

As a telecentre Operator or Manager, you may decide to provide computer and **Internet** access to the members of your community. This will be a major income generation project for you.

The major choices for computers are between **PC-based desktops** and **laptops**. PC-based computers cost less and are more common, which makes inter-connection and maintenance easier. Laptops consume less power than desktops, but are more expensive, less hardy and more difficult to adapt with additional hardware. Choices will be made depending on the total cost, cost of operation, reliability, performance and usability of the system.

3.2.2 Peripherals

Peripherals are the external hardware devices that are not part of the basic computer system.

An important peripheral, which is frequently used in the telecentres, is a **digital camera**. Experiences have revealed that the digital photography is an application which very well in demand in rural areas. New digital technologies are making digital still and video photography more affordable, easier to handle, and very competitive with professional formats in terms of quality.

Digital video has promising potential within a range of developmental activities, and its convergence with internet-based technologies widens its potential impact. Other peripherals you can invest in:

Printers for hard copy
Modems for Internet access
Photocopier
CD-writer
Scanner
Overhead projector
Laminating equipment
CD-ROM

Currently, there is a very useful peripheral available in the market which is called **multi-functional printer unit**. This equipment is a combination of printer, fax machine, photocopier and a scanner. Although as a single unit it appears to be costly, if you take combined cost of all these four equipment then it becomes cheaper. However, using such a unit concurrently for multi-tasking would be a skilled job and you should obtain special training to operate this unit simultaneously for all the tasks it can perform, when attach to a computer.

A **CD-ROM** is a type of optical disk capable of storing large amounts of data. (CDROM stands for Compact Disc – Read Only Memory.)

It can be a useful source of information for a telecentre. Some helpful software programs can be found on CD-ROM. In addition, large collections of specialised information such as that related to health, agriculture and education are available on CDs. Some encyclopaedic collections are also on CD.

The large repositories of information in medicine and public health are ideal for storage on CD-ROMs. Databases, textbooks, bibliographies, tutorials, and images can be easily stored and retrieved. CD-ROMs are strong; they can withstand adverse weather conditions and can be used repeatedly without being damaged.

There are several advantages of CD-ROMs:

- they can provide easy access to large databases of information
- they are easy to search
- they are fast to use
- they are not easily damaged
- they can be used on any computer with a CD-ROM drive
- they are easily available
- they are available in multimedia, i.e., they can contain sound, visuals and movement

The disadvantage of CD-ROMs is that data may not be completely up-to-date, and newer versions or subscriptions to CD-ROMs can be expensive to acquire. CD-ROMs are stamped (recorded/burned) by the vendor, and, once stamped they cannot be erased and filled with new data.

To use or 'read' a CD, you need a CD-ROM player. Most computers today come equipped with a special drive for reading a CD-ROM. All CD-ROMs conform to a standard size and format, so you can load any type of CD-ROM into any CD-ROM player. In addition, CD-ROM players are capable of playing audio CDs, which share the same technology.

Pen Drives /USB drives



A Pen drive

Pen drives which are usually fitted in the USB port available in a desktop or a laptop computer (therefore they are called USB drives also) are very convenient to carry and these small peripherals need no drives for installation in basic computer equipment. You can put them in your pocket and very conveniently move data from one computer to another.

External hard drives

Most computers have a built in hard drive which allow you to store programmes and data. However, if you need more capacity, you can use an external hard drive, which connects to a computer. External drives can store backups as computers and software fail and having a backup prevents loss or corruption of data. It is very important to do backups of copies of your software and data.

Check Your Progress 1

Note:

- a) Please use the space below each question for your answer
- b) Compare your answer with the one given at the end of this Unit

1. In 25 or so words, describe

a. Hardware

b. Software

2. Name 3 peripherals

- i. _____
- ii. _____
- iii. _____

MODULE 4 PLANNING A TELECENTRE

The choice of software for your telecentre will be between proprietary Windows-based software or Free and Open Source (FOSS).

The choice of software will also depend on the choice of the computer. All computers need an operating system, virus protection and office software. Standard software is available for text and spreadsheet editing as well as Internet browsing.

Proprietary software solutions are comparatively expensive and require regular purchases of upgrades. They are however, easy to maintain since more people use them and can often help with routine problems.

FOSS software costs less and it exists for most computing requirements. However, it is not as well known as the leading proprietary software systems. So dealing with problems can mean time consuming waits which can eventually mean lost productivity and revenues.

Choice between proprietary and free software will depend on your **budget** and the level of technical support available as well as the needs of your users. You may consult a specialist for selection of your most suitable software. You may have to procure various software applications in addition to the software for the operating system.

Software applications that may be most suited for the telecentre include word processing, presentation programmes, contact and email management, and spreadsheets. Some are briefly discussed below.

1. Word processing applications

These programmes are useful for writing letters, manuals and texts. They are based on the principles of traditional typewriter and are word-based. Recent programmes also allow you to import graphics into your text. Common applications include Word, WordPerfect and Works.

Word processing applications are useful for **developing materials** needed for your training sessions, for recording and compiling your needs assessment data (refer to the Block on needs assessment), and for recording your centre's marketing strategies and growth plans.

2. Spreadsheets

These programmes are useful for **administrative functions** necessary in determining the financial sustainability of the Telecentre, such as bookkeeping, detailing a budget, and keeping track of fundraising activities. They can also perform mathematical functions so that calculations used for accounting purposes become simple. The most common programme is Excel.

3. Publishing and presentation

These programmes may be useful for the **training and marketing functions** of the telecentre. They are helpful in producing flyers, brochures and pamphlets that can be used to advertise the telecentre and its services, as well as provide services for clients in the community. Some publishing programs include PhotoShop, Publisher, PrintShop and PowerPoint.

Check Your Progress 2

Note:

- a) Please use the space below each question for your answer
- b) Compare your answer with the one given at the end of this Unit

1. List 3 kinds of applications most suitable for telecentres

- i. _____
- ii. _____
- iii. _____

3.4 INTERNET CONNECTIVITY

Internet access is a crucial factor for your telecentre.

The various technological solutions for connecting to the Internet follow a similar pattern; the telecentre connects to an Internet Service Provider (ISP) that has a high-speed connection to the Internet. What already exists often determines the options, which are usually limited in the remote rural areas. Let us look at various technologies available for Internet connectivity to your telecentre.

Telephony

Just plain landlines are still very relevant for rural access. Adequate technical skills are required for ensuring and maintaining a robust connectivity infrastructure. Where telephone lines are available these are generally the cheapest and most reliable means of providing Internet connectivity as well as telephone and fax connections. In some areas digital telephone exchanges allow for a Digital Subscriber Line (DSL), which is a faster, permanent telephone line connection to the internet.

Internet technologies offer new options to provide cheaper and more flexible services (e.g., internet telephony). For areas without landline telephones, and for distances up to 20km, terrestrial wireless systems can provide a means of connection to the nearest Internet point-of-presence (POP).

Satellite

For more remote locations, devoid of landline telephone connections, satellite may be the best alternative. Fixed satellite for either interactive or receive-only communications is known as VSAT (Very Small Aperture Terminal). It is increasingly the system of choice for remote access. However, licensing arrangements remain a barrier in many countries and the hardware is expensive. Bandwidth cost is also very high compared to bandwidth cost for terrestrial infrastructure.

Connection to a satellite network requires a small satellite dish to send and receive data, a coaxial cable between the satellite and Telecentre and a computer and satellite modem connected to the Telecentre computer network.

Mobile phones



A mobile phone

Increasingly, mobile phones are in use for access to the Internet and other services. Many mobile operators offer data cards, which can be convenient. Often mobile phones are the only type of connectivity in smaller towns with no fixed lines. This could be a real life option for you and the telecentre especially that many mobile-based content are increasingly being made available in the market. In Bangladesh, there are many success stories of using mobile-based content in rural areas, providing useful citizen-centric services at remote places where conventional wire-based connectivity infrastructure is not available.

Wireless technology

WiFi is another wireless technology for the provision of low cost access services. Internet Service Providers are already using WiFi ‘hotspots’ extensively to provide public access to the Internet, mostly in cities.

WiMAX

This technology enables the delivery of wireless broadband access, as an alternative to cable and DSL. In areas without pre-existing physical cable or telephone networks, WiMAX may be a viable alternative for broadband access that has not previously been economically available.

While equipping the telecentre, keep in mind:

- The services you will provide and needs of the community
- Choose cost effective technologies wherever possible, unless they will affect negatively your business
- Select connectivity solutions based on what is available locally
- Consider FOSS
- Ensure reliable electrical power supplies
- Select peripheral devices, which would help in generating revenue

Check Your Progress 3

Note:

- a) Please use the space below each question for your answer
- b) Compare your answer with the one given at the end of this Unit

a. List 3 methods that ensure good Internet connectivity

- i _____
- ii _____
- iii _____

3.5 ELECTRICAL POWER

ICT equipment and systems depend on electrical power. However, power may be unreliable or even unavailable via the national electricity grid in many locations across the country and in your area.

While public electricity supply is generally a not very expensive source of power, it may not be available or reliable especially in rural areas, where your telecentre is located. You may need to establish your own reliable source of electricity to avoid power interruptions.

Backup power

This could be in the form of a **generator, a battery powered inverter and/or solar generated power.**

Solar electricity requires solar panels, which are expensive to purchase but have very low running costs. Wind or water power is an alternative to consider in locations with high wind or water energy. A back-up generator will ensure continued operation in the event of main power supply failure.

When using alternative sources of power, you can minimise the power requirements of the equipment. For example, a laptop computer consumes much less power than a desktop computer. While laptops are more expensive, a solar power set can usually provide power for twice as many laptops compared to desktops.

You can protect your computer and modem from damage caused by electrical surges over telephone lines, which may occur during rainy seasons or storms, by using a surge protector or an un-interruptible power supply (UPS) that includes surge protection.

3.6 THE INTERNET

The Internet, often called "the Net," is a worldwide system of computer networks most commonly used for communication and information access. In telecentres, the Internet has a central role.

There are many Internet services and applications that allow for the exchange of information between individuals and organisations. These include **E-mail, the World Wide Web (WWW), Chat Rooms, Mailing Lists, Newsgroups and others.** Many people use the terms "Internet" and "World Wide Web" interchangeably, but the WWW is actually just one part of the Internet.

The Internet is useful for you as telecentre Operator and Manager for a number of reasons:

- It increases access to information and web-based applications and services to improve telecentre business and ensures its long-term presence in the community.
- It creates more **opportunities** for cooperation and communication between people and experts across greater distances.
- It increases **access** to more information for the local community and improve the local standard of living. For example, you may be able to locate information quickly about ways to reduce mosquito-related diseases in the community by contacting experts in different parts of India and across the world.
- It can increase **efficiency**, e.g., the Internet can increase the rate at which you or local officials can communicate with colleagues and gather information necessary for community projects. Work can therefore be completed more readily.

Internet connectivity and choosing an ISP

Most often, users connect to the Internet through an organisation or company called an Internet Service Provider (ISP) that has a direct connection to the Internet. The two most common types of Internet connections that ISPs offer are real-time or store-and forward.

Real-time Internet Connection

If you have a real-time Internet connection, your ISP connects you to the Internet using normal or specialised telephone lines. This type of connection permits easy access to all of the Internet tools for accessing information and communicating with others. Nowadays, it takes barely a few minutes to set up your computer to access the internet, if you have the requisite hardware and an account with an ISP. Often all required information is available on a CD provided by the ISP.

Store-and-Forward Connection

Store-and-forward technology allows users to exchange e-mail using normal telephone lines. If you are using a store-and-forward system, you compose your messages and store them on your own computer until you are ready to connect to your ISP using a modem. By connecting to your ISP, you trigger an exchange of messages. Your outgoing messages are transferred to your ISP and from there to the Internet.

Equipment for Internet connectivity

There are two basic pieces of equipment that you will need to send and receive electronic messages on the Internet: **a computer and a modem.**

A modem is a device that connects a computer and a telephone line and permits the computer to transfer and receive data between itself and other computers through normal telephone line. In areas where telephone services do not exist or are unreliable, satellite or radio transmission can be used to provide the connection. However, a satellite connection is an expensive option.

Software for Internet connectivity

In order to send and receive messages through Internet, you will need communications software on your computer that will help you connect to your ISP provider. This software will be on a computer or a CD-ROM. Your communications provider will usually provide you with the necessary software or direct you where to find it when you establish your account.

Assessing and comparing ISPs

Here are the key items to investigate when you are choosing a prospective ISP:

- **Equipment costs:** How much does a modem cost? Do I have to pay for telephone line installation?
- **Modem speed:** What is the speed of the modem connection? What modem speed should I purchase 14.4, 28.8, 33.3 or 56.6 kbps (kilobits per second) (The higher the number, the faster the connection.)
- **Software:** Will the ISP provide start-up software? How would I load the software?
- **Service costs:** Will the ISP charge me monthly, annually or by hour? How many e-mail accounts will you give me? How much web space will you give me without charge? How much does extra web space cost?
- **Telephone charges:** Do I pay telephone bills separately from the ISP connection time?
- **Service support:** How can I contact the ISP if I have a problem with my Internet connection?
- **Experience and reputation for good service:** What has been the experience of other clients with this ISP? How reliable are the people who work at the ISP about computers?
- **Length of time in business:** How long has this ISP existed?

If possible, ask your friends and colleagues what their experience has been with various ISPs.

E-mail (electronic mail) is the most basic of the electronic communication tools, allowing individuals to send and receive messages electronically.

E-mail messages are usually in plain text. However, e-mail software also allows you to retrieve information from automated computer programs, such as banking databases, and send and receive graphics and audio files.

A **file** is a collection of electronic records or documents. E-mail can take the form of person-to-person exchanges, or can be distributed to large groups of individuals simultaneously through mailing lists and discussion groups. There are a number of advantages to using e-mail over other forms of communication. With e-mail you can:

- Get rapid responses to your questions;
- Send messages to one or more persons simultaneously;
- Communicate relatively inexpensively;
- Exchange messages when it is convenient without regard to difference in time zones;
- Communicate directly with individuals, allowing relations to develop more rapidly, and letting people share information more freely;
- Save the time and resources involved in printing and postal mailing;
- Store information on your computer for future reference or use;
- Participate in e-mail discussion groups.

Main E-mail functions

E-mail accounts are easy to set up. Most ISP's offer free e-mail service along with your connection. You can also subscribe to "web mail." Web mail refers to free e-mail service on the Internet. However, regardless of the e-mail service provider you choose, you will always have access to the following basic functions or options with e-mail.

Understanding E-mail addresses

E-mail addresses are like postal addresses. While the postal service uses an address to determine where to send a letter, the Internet decides where to send an e-mail message based on an e-mail address.

E-mail addresses contain a user name, a host and/or domain name, and a code indicating either a top-level domain or country name. Take, for example, the following address: user@yourisp.org.in

User name

This is the part to the left of the @ sign. It is a name you select, or gets selected for them by a service provider or an email administrator. Often user names are a combination of a person's first and/or last names, such as mgandhi, lolagonsalves, oscarwilde. Usually, e-mail software does not distinguish between capital and small (lower case) letters.

@: This serves as a divider between e-mail sections. It is pronounced as "at" and can be typed in by pressing the "Shift" key and the "Number 2" key simultaneously on most computer keyboards. On some computers, a different combination of keys may be necessary to print @.

Host and/or domain

The part of an e-mail address immediately to the right of the @ symbol refers to the name of the server or ISP where the mail is to be sent.

High level domain

The high level domain designates a type of institution. For example, ".org" is an organisation and ".edu" is an educational institution.

Country code

A country code designates the country of origin. In the example, 'in' is India and 'uk' in United Kingdom (Not all email addresses have a country code.)

E-mail etiquette

Just like any other communication (face-to-face, through letters or phone calls) there is etiquette (protocol or good manners) when communicating via email. Internet has made it possible to communicate all across the world cutting the geographical and cultural barrier. The following are some points to be noted.

It is therefore necessary to discuss in detail on the e-mail etiquette.

- a. Length of message:** Keep sentences and paragraphs short and to the point.
- b. Responding to a message:** When responding to a message, retain the original subject heading so recipient can follow the theme of a discussion unless you are changing the subject from the incoming message.
- c. Subject title:** Always include an applicable subject title for the message. This enables recipients to locate the message quickly in their inbox.
- d. Capitalising:** Avoid capitalising or putting messages in UPPER CASE since this is generally considered to be the Internet equivalent of SHOUTING!
- e. Contact information:** Include your name at the bottom of messages as well as your other contact information (name of company (if any), your designation (director, manager and operator), address, phone number, etc).
- f. Cultural sensitivity:** Think about the recipient - do not assume they will understand your reference to TV, sports, pop culture, or current events in your country. Always explain something which is culturally specific or sensitive.
- g. Message forwarding:** Think before you forward a message, and what you forward, especially if it has photos or graphics - as the more text and graphics there are in a message, the longer it takes to download. The longer the recipient has to stay connected to their ISP, the greater the telephone and ISP charges — particularly in developing countries like India. Delete the body of the original text in your replies, unless it is necessary. Remember any message you send to anyone can be forwarded to someone else without your permission and with editing also.
- h. Creating a message:** Think carefully before creating a message. Focus on what you want to say, then how you want to say it and finally, review it before you send it. If it doesn't read or feel right, leave it in the draft box and come back to it later.
- i. Tone of messages:** Send messages that you would like to receive. If you feel that you would be offended or hurt by the message you are sending, don't send it. If you have received a message that upsets you, wait 24 hours to send a reply. Then you will be calmer and can send a more considered response.
- j. Style of messages:** Do not use sarcasm, rudeness or complex humour. Without face-to-face communication, your joke may be viewed as criticism.

- k. Timeliness:** If you need to respond to a message and don't have the time, just send a short note acknowledge receipt of it and say when you can respond to the message.

Mailing lists

Mailing lists are one way to communicate with large groups of people. They have various names such as: lists, mailing lists, electronic lists, Internet mailing lists, listservs, discussion groups and conferences.

Mailing lists are electronic mechanisms through which a large number of people can receive or exchange information. There are several types:

- One-way mailing lists for the distribution of newsletters and bulletins.
- Two-way mailing lists for discussion of specific topics among subscribers. Often these are public lists and open to anyone.
- Private mailing lists are small and open to invited participants only.

Many organisations and individuals run mailing lists on a broad range of topics. You and those who use the Telecentre can search the site to find topics which relate to your areas of interest.

Check Your Progress 4

Note:

- a) Please use the space below each question for your answer
- b) Compare your answer with the one given at the end of this Unit

1. Describe the Internet (in 25 words or less)

2. Name 3 Internet services or applications

i. _____

ii. _____

iii. _____

3. List 3 email etiquettes

i. _____

ii. _____

iii. _____

3.8 SUMMING UP

In this Unit, you have learned about equipping your telecentre with a focus on hardware, software, computers and connectivity. The main points are:

- Appropriate hardware and software are essential to the success of your telecentre
- Invest in low cost but effective equipment
- Software can be very useful in your day to day operations of the telecentre as well as for your clients
- Investments in hardware, software and peripherals for your telecentre must enable sustainability for your telecentre
- Internet connectivity is essential for an effective telecentre
- Internet communication has a language and culture – which has to be learned and understood
- Internet communications has some dos and don'ts

Check Your Progress: Model Answers

CYP 1

1. Hardware refers to the actual parts that make up the computer: the hard drive, the monitor and screen, the keyboard, mouse, etc. Other than these items, equipment such as a printer, scanner, modem etc are also part of hardware.

2. Software refers to the programmes saved in the computer's memory that allow you to compose letters, organise a budget, create brochures, log on to the Internet, process a particular software application etc.

Three peripherals

1. Printers used for making hard copies
2. Modems for Internet access
3. CD-ROM

CYP 2

Three kinds of applications most suitable for telecentres

1. Word processing applications
2. Spreadsheets
3. Power point Presentation

CYP 3

Three methods that ensure good Internet connectivity

1. Telephony
2. Satellite
3. Wireless technology

CYP 4

The Internet, often called "the Net" is a worldwide system of computer networks most commonly used for communication and information access. Many people use the terms "Internet" and "World Wide Web" interchangeably, but the WWW is actually just one part of the Internet.

Five of e-mail etiquettes

1. Short length of message
2. Keeping a proper subject title
3. Giving contact information
4. Always explaining culturally-specific or sensitive part of the message
5. Keeping good and well-meaning tone of the message

3.9 DEFINITIONS

1. DSL

DSL is the short form of Digital Subscriber Lines (used to be meant Loop, earlier to 2007). It is a family of technologies that provides digital data transmission over the wires of a local telephone network. It can transmit data on the telephone line at the same time when the telephone line is also working. The technology is commonly used for Internet connections over telephone wires, by using modems.

2. FOSS

FOSS, the short form of Free and Open Source Software, is the software, which is liberally licensed to allow the users to study, change and improve the design of the software, by making the source code available to the users. These facilities are not generally available with proprietary software where source codes are not made available to users.

3. Modem

Modem name comes from the expression modulator-demodulator. It is a device that modulates an analog signal to code it with digital information and also demodulates such digital signal, to get the original transmitted signal information. Modems are classified according to their ability to send digital data (bits) per second i.e. bits / second.

4. PoP

PoP, that is Point-of-Presence, is used to define an access point to the Internet, and used for many purposes in a telecommunication network. Sometimes it is the meeting point for many network point-to-point circuits.

5. WiFi

The term Wi-Fi is generally used to mean 'Wireless Fidelity', compared to the established expression for audio-recording term 'Hi-Fi' (High Fidelity). It is actually a family of standard-based wireless technologies, which provides for wireless-based connectivity between point-to-point (PTP) and point-to-multipoint (PTMP). This technology is widely used by telecom service providers for providing wireless-based Internet connections. By using data-card in a desktop or in a laptop computer one can establish Internet connectivity through this technology.

6. WiMax

WiMax stands for Worldwide Interoperability for Microwave Access. This is a telecommunication technology, which provides high-speed data transmission from point-to-multipoint, as an effective alternative to cable and DSL. It is expected that after wide range of deployment of WiMax technology, high-speed broadband access will be possible for last mile of the communication network.

3.10 ASSIGNMENT

Make a presentation of your ideal telecentre in which you choose:

1. The hardware
2. The software
3. The ISP
4. A printer/scanner/copier
5. A digital still/video camera
6. Other items you think fit

Do a costing of these items and make a budget for this equipment. Add anything else you will need to have an up and running telecentre.

The presentation could be

1. A 5-7 minute cassette or CD audio recording
2. A video tape (5 minutes)
3. A written essay (1000 words)
4. A drawing
5. A poem
6. A photos essay (with about 10 photos and text)

3.11 GLOSSARY AND REFERENCES

1. Roger Harris. *A Framework for Designing Telecentres*. Roger Harris Associates. Hong Kong. March 2007.
2. www.wikipedia.org