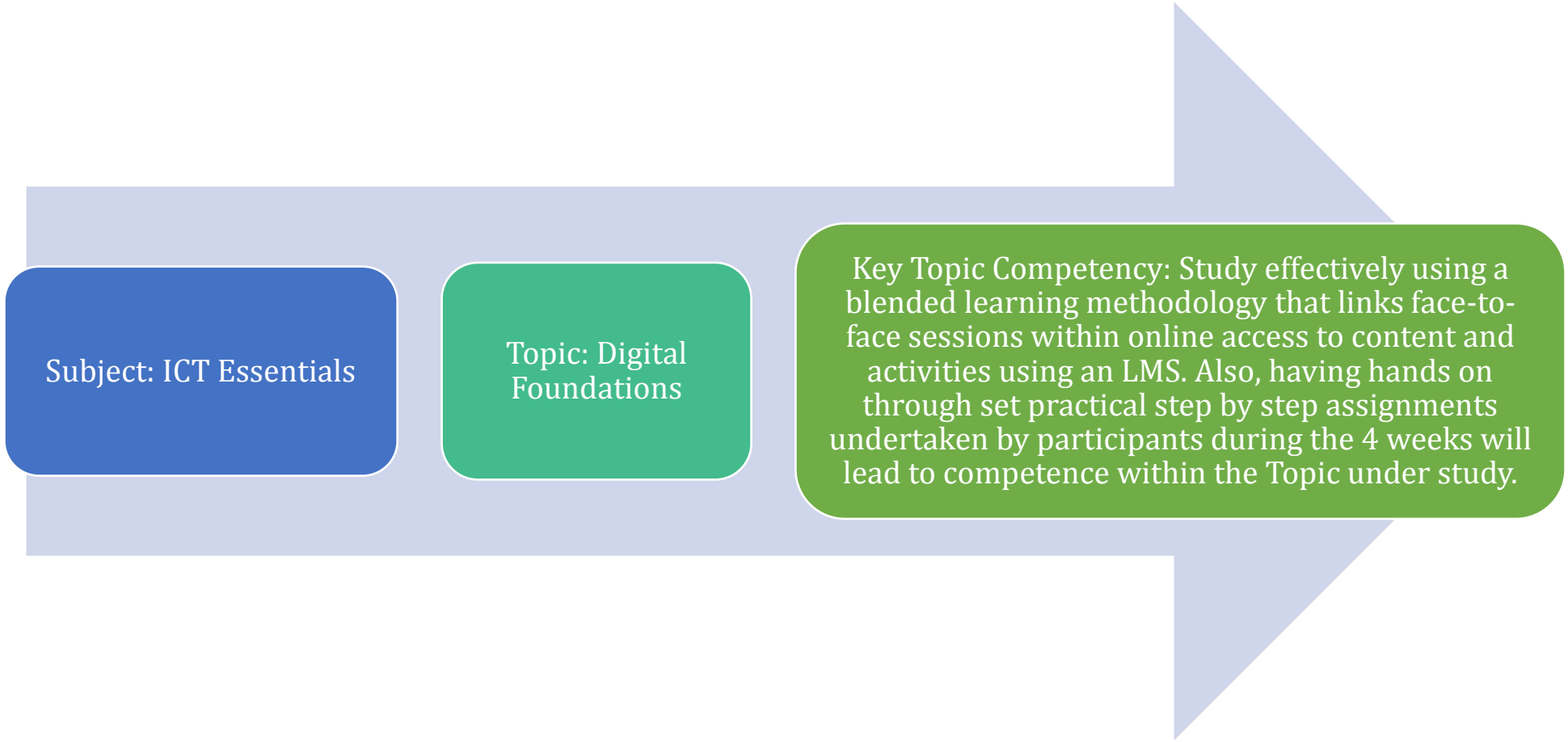
DIGITAL FOUNDATIONS

Eight Tech Consults
People. Innovation. Technology. Services

Delivery Model

The courses use blended learning methodology incorporating a five-day face-to-face workshop and online study options. The face-to-face will be offered for 4 hours per course on each specific day of the workshop. The testing of the participants will be undertaken after the online study has taken place over a period of time. It is estimated that approximately 4 weeks will be enough for the participants to acquire the required skills. 1 week for the face-to-face workshop and then 3 weeks of online study but with testing in the last week.

Overview Cont'd



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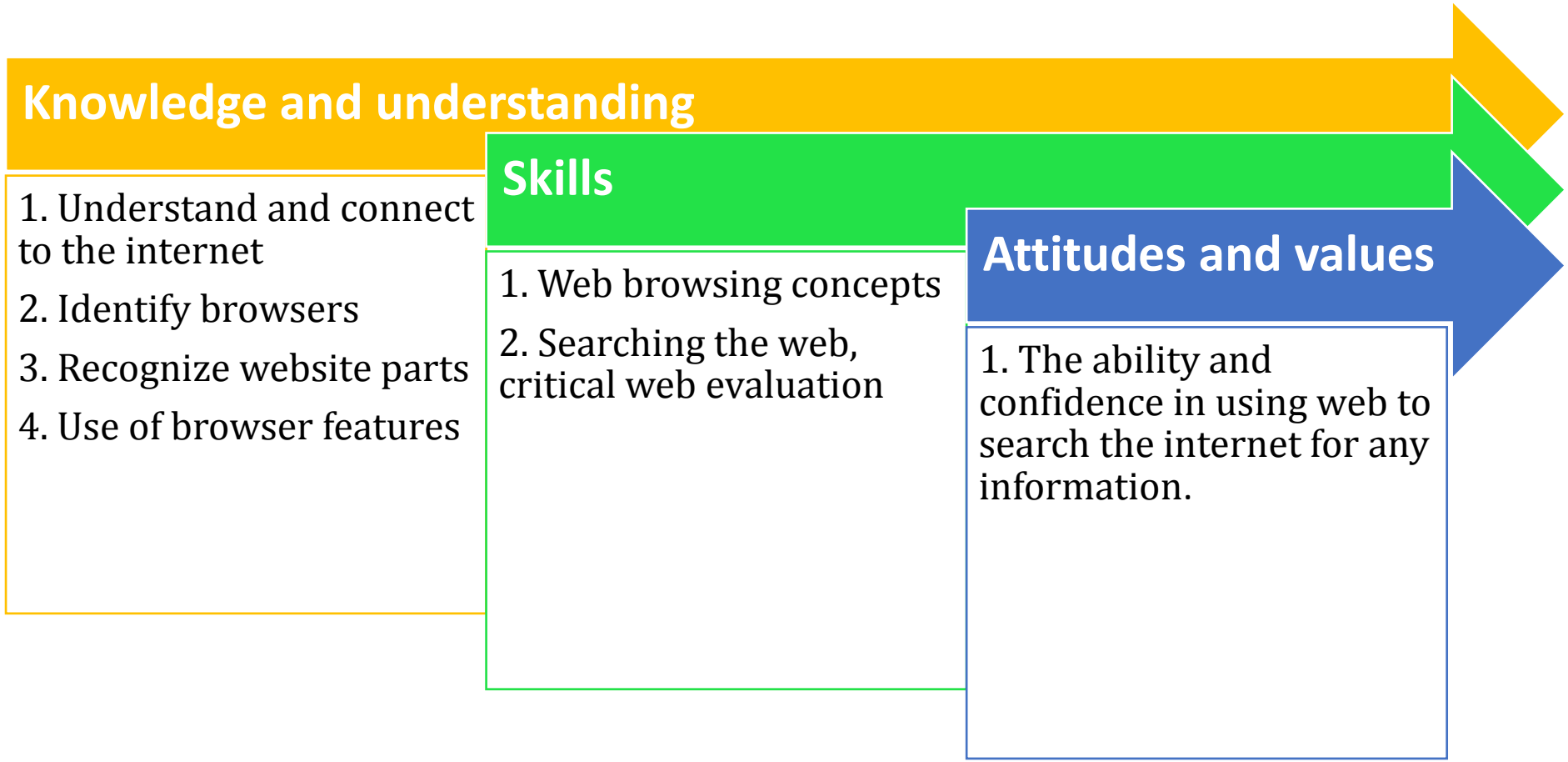
Learning Objectives



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Content and Learning Objectives

Content Summary Topics

- internet
- Exploring the Computer Basics
- Files and Directories
- All about the Human network
- Keep your self-connected
- Health and Green IT

Learning Activities

- the directory structure of Microsoft Windows and how to work with files and folders using a text edIdentify different types of computer systems, internal components, and peripherals.
- Understand it or.
- Understand computer networking, how to browse and search the Internet, and how to use email
- • Create and use various types of social media accounts, including Facebook, LinkedIn, and YouTube.
- • Identify common problems and implement simple solutions for hardware, software, and networks

Assessment Criteria & Materials required

Assessment Criteria:

- Participants shall use the search skills to find information from the Internet.
- Participants shall identify social media platforms and create accounts and run those accounts even after the course

Materials required:

- Smart phone | Tab
- Computer
- Internet access.
- Microsoft office Suite
- Chrome

Free resources

- https://www.ibm.com/cloud/learn/networking-a-complete-guide
- https://commotionwireless.net/docs/cck/networking/learn-networking-basics/
- https://courses.lumenlearning.com/zeliite115/chapter/reading-the-world-wide-web/
- https://techterms.com/definition/web_browser
- https://youtu.be/aQGJW5aVK0Q?t=3
- https://youtu.be/VN7IDVxoeCY?t=9

Facilitation Guide:

• The topic is conducted as face-to-face for 4 hours but uses the existing Learning Management System (LMS) to avail appropriate resources to the learners and also provide activities to be undertaken in a staggered manner across the entire period of training. The following will be the activities to be undertaken and timelines for their execution.

Activities

Activity 1 (1 hr):	Activity 2 (30 Minutes):	Activity 3 (1 hr):
• **Identify different types of computer systems, internal components** • All participants will be required to observe the different types of computers and their components. The trainers should be able to support the participants during the training where need arises. At the end of the session all participants must able to.	• **Understand the directory structure of Microsoft Windows** • All learners will be required to understand how a computer running windows operating systems organizes Data and file system in its logical cabinets. Examples shall be drawn from the physical cabinet scenario to explain the meaning and relevance of computer drives. i.e “C”, “D”, Ë”, and any peripheral parts and how the work	• **Understand computer networking, how to browse** • In this activity, learners will have an introduction to Networking, learn how computer networks work, the architecture used to design networks and how to keep them secure with the basics. Examples shall be drawn from the surrounding Network samples to critically bring out the aspect.

Activity 4 (1hr):

- **Create and use various types of social media accounts**
- A practical session on how to create and different social media accounts will be done and learners will experience the use of these accounts. This will further help them understand which accounts really matter in business, and personal life and how they can transform their lives while keeping a lasting digital print

Activity 5 (30 minutes):

- **Identify common problems and implement simple solutions for hardware, software, and networks**
- Learners will learn the only game changer to business and from the IT point of view. They will learn the steps of identifying a problem, the steps to solve the problem and with a diverse use base to support with varying IT experience. The Activity will introduce them to a number of help desk systems and their overall goal

Activity 6 (1hr):

- **Web-Based Information**
- In this activity, it basically concentrates on “Search “, Learners will be able to define the term search engine, carry out search using a key word phrase, refine search using advanced search features like: Exact phrase, date, media type, search web-based encyclopaedia, dictionary

And lastly

Activity 7 (1hr):

Critical Evaluation

Learners will be introduced to the understanding the importance of critically evaluating online information; understand the purpose of different sites like: information, entertainment opinion, sales.

They will be taken into the process of outlining the factors that determine the creditability of a website like: author, referencing, up-to-date content and also Recognise the appropriateness of online information for a particular audience

Unit 1: Computer Basics

- A computer is more than just another household appliance. The vast amount of information and possibilities can be overwhelming. But you can accomplish a lot with a computer, and using one can be a good experience. Let's walk through getting started with your first computer
- Usually due to existence of May computer types, turning on a computer may vary from computer to computer, therefore asking for help is paramount.

1.1 Turning on a computer

- The very first step is to turn on the computer. Make sure all the cables are plugged in correctly, and locate the power button. It's in a different place on every computer, but it will have the universal power button symbol

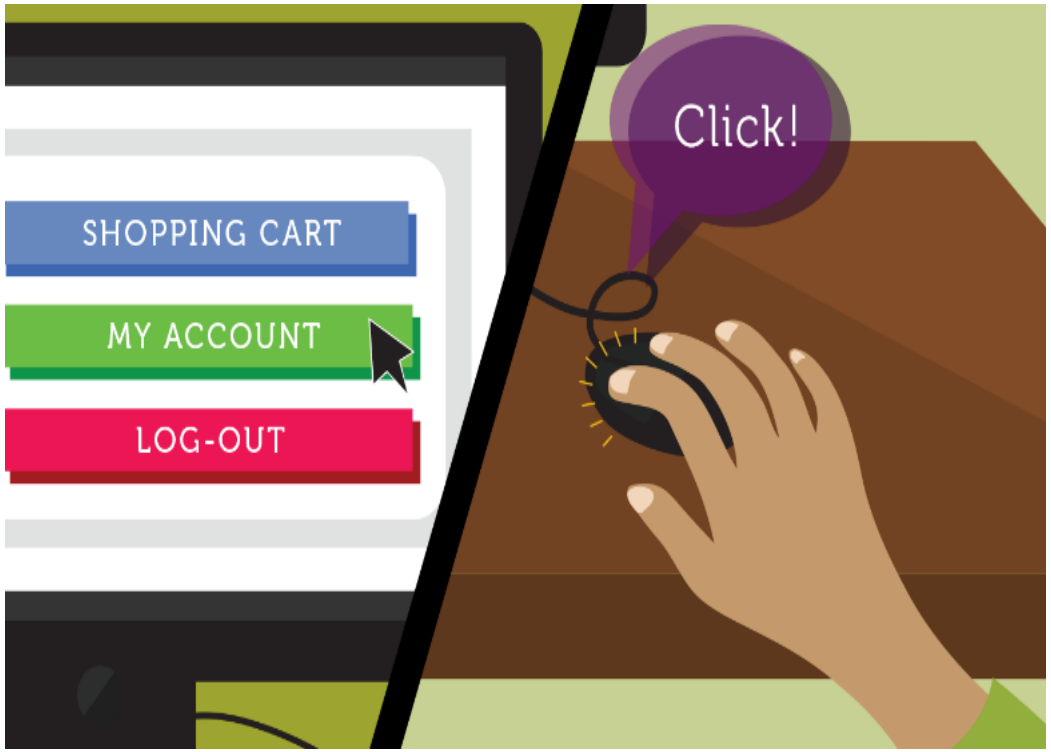
- Once turned on, your computer takes time before it's ready to use. You may see a few different displays flash on the screen. This process is called booting up, and it can take anywhere from 15 seconds to several minutes

- Once the computer has booted up, it may be ready to use, or it may require you to log in. This means identifying yourself by typing your username or selecting your profile, then typing your password. If you've never logged in to your computer before, you may need to create an account.

1.2 The Keyboard and mouse

- The main interaction between we always have with a computer is mainly by using the keyboard and mouse, or a track pad on laptops.
- Learning to use these devices is essential to learning to use a computer. Most people find it comfortable to place the keyboard on the desk directly in front of them and the mouse to one side of the keyboard.

Mouse

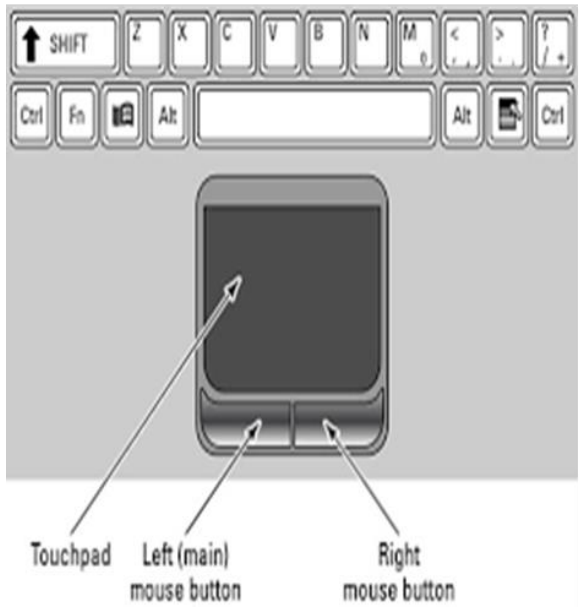


- The Mouse controls the pointer on the screen. Whenever you move the mouse across the desk, the pointer will move in a similar manner.

- A mouse usually has two buttons, which are referred to as left button and right button. You will often interact with the computer by moving the mouse pointer over something on the computer screen, then clicking one of the buttons.

Track Pad

On the other hand, laptops, you can use the **track pad**, located below the keyboard, instead of a mouse. Simply drag your finger across the **track pad** to move the **pointer** on the screen. Some track pads do not have buttons, so you'll either press or tap the track pad to click.



The Keyboard

• . The keyboard allows you to type letters, numbers, and words into the computer. Whenever you see a flashing vertical line—called the cursor—you can start typing.

• It is further described as the primary input device of the computer electric typewriter, a keyboard is composed of buttons used to create letters, numbers, and symbols, and perform additional functions. The following sections of the typical keyboard and the several types of key boards

Smart Keyboard

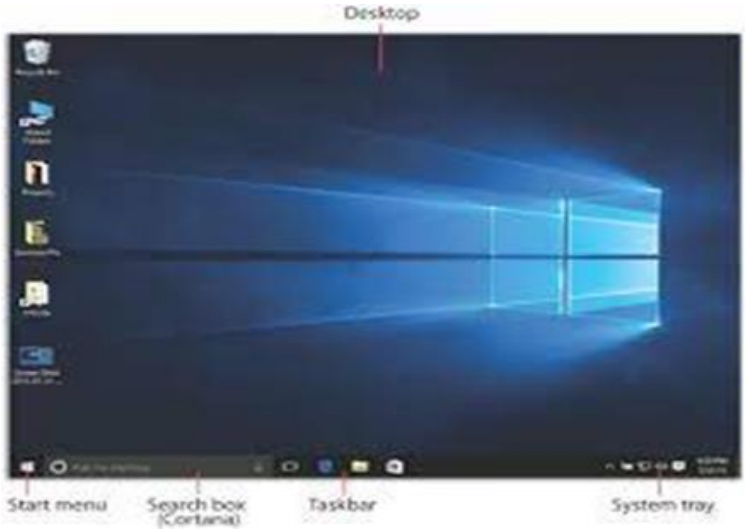
- Today's smartphones and tablets do not come with a physical keyboard, although one may be purchased as an optional peripheral add-on. These devices utilize a thumb keyboard or on-screen keyboard to type messages and enter text into various fields.

1.3 Using a Computer

- While using a computer, the main screen you'll start from is the desktop. This is sort of like a main menu or a table of contents. From here, you can access the programs and features you need to use your computer.

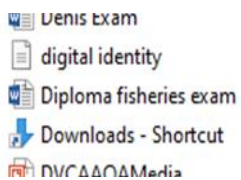
The Icons

- Icons are used to represent the different files, applications, and commands on your computer. An icon is a small image that's intended to give you an idea at a glance of what it represents, like a logo. Double-clicking an icon on the desktop will open that application or file.



- An Icon is a symbol or image that represents files, applications, shortcuts, or devices. Your computer desktop displays a range of different icons.

Icons

Files	
Folders	
Applications	
Printers	

Drivers	
Short cut	
Recycle in	

1.4 Software and Licensing

Software

- The programs used to operate computers and related devices and to carry out tasks are known generally as software. Software can be considered to be the set of instructions that makes the computer work. For instance, when you type in words via the keyboard, software is responsible for displaying the correct letters, in the correct place on the screen.

Categories of software include:

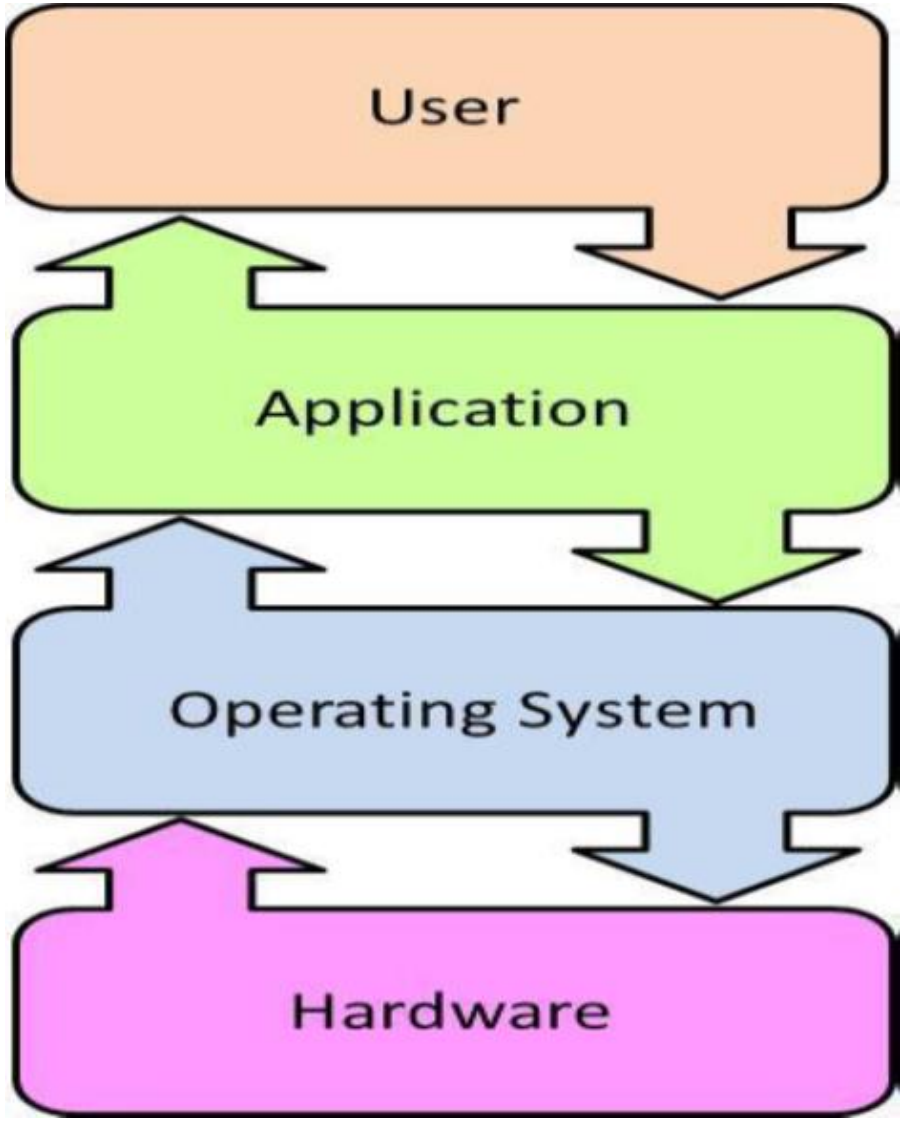
1. Operating software
2. Applications

Categories of software

Operating Systems: These systems, and their related utilities, enable the computer to function. An example of an operating system is Microsoft Windows 7

Applications: This software carries out specific tasks for users. An example of an application is a word processing tool such as Microsoft Word or a web browser such as Google Chrome.

The diagram on the right shows how the operating system software and application software are layered on a typical desktop computer. The arrows indicate information flow.



Operating System

The computer's operating system manages its memory, processes, and all of its software and hardware.

For example, most of the time there are many different programs running at the same time on a computer, and they all need access to the CPU, memory, and storage. The operating system ensures each program gets what it needs by coordinating activities.

Common practice is that most people use the operating system that comes preloaded with their computer, but it is possible to upgrade or even change operating systems. The three most common operating systems for personal computers are:

- Microsoft windows
- Apple
- Linux

Operating System cont'd

Modern operating systems use a graphical user interface (GUI), which lets you interact with the computer by, for example, using a mouse to click on icons, buttons, and menus.

On the other hand, mobile devices such as smartphones or tablets are different from desktop and laptop computers, so they usually run operating systems that are designed specifically for mobile devices.

Examples of mobile operating systems include:

- Apple iOS
- Google Android

In general, operating systems for mobile devices are not as fully featured as those made for desktop and laptop computers, and they are not able to run all of the same software. However, you can still do a lot of things with them, like watch movies, browse the Web, manage your calendar, and play games.

Common Examples of Applications

Office productivity

- An application is a type of software that allows you to perform specific tasks.
- Numerous desktop applications exist, and they fall into many different categories.

Communication

- These include word processing and spreadsheet applications, such as those contained in Microsoft Office, iWork, or Open Office application suites.

Social networking

- These include e-mail applications, such as Microsoft Outlook, and messaging / voice applications such as Skype or Viber.

Media

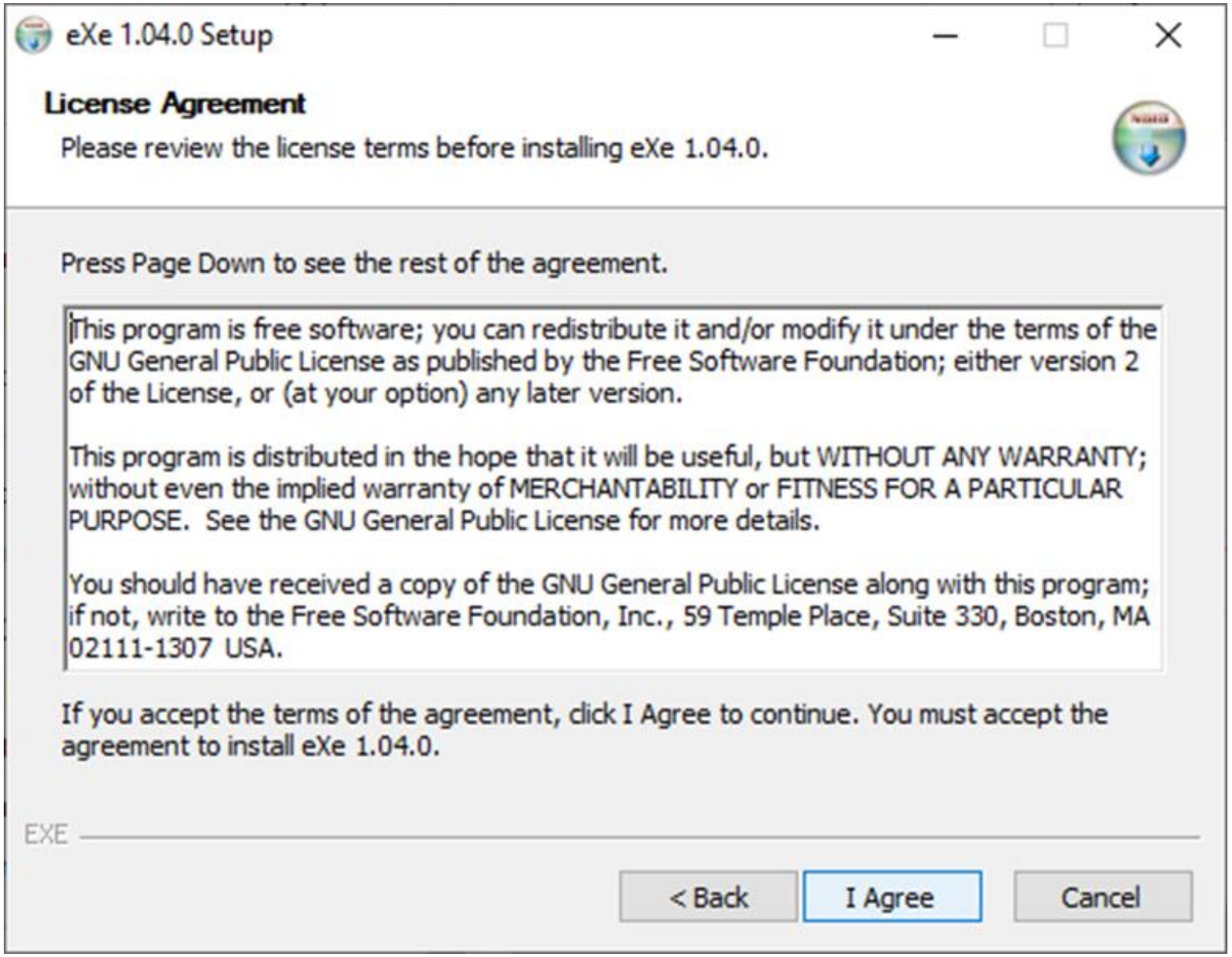
- These include mobile applications and websites that allow users to connect and exchange status updates and comments. Examples of these are Facebook, Twitter, and LinkedIn.

DESSIGN

- These include tools that allow media to be viewed or listened to, such as Windows Media Player or iTunes.

End-User License Agreement (EULA)

- When you acquire software, you are often required to complete an end-user license agreement (EULA). This is a contract between you and, usually, the owner of the software, setting out the conditions of use. The EULA details how you can and cannot use the software – for example, a EULA for proprietary software usually prevents the user from sharing the software with anyone else.
- EULAs are often presented electronically, during the installation procedure. The user can choose to accept or reject the agreement, but the installation of the software is conditional to the user clicking "accept".


eXe 1.04.0 Setup
License Agreement
Please review the license terms before installing eXe 1.04.0.
Press Page Down to see the rest of the agreement.
This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.
This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.
You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA.
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install eXe 1.04.0.
EXE
< Back
I Agree
Cancel

Types of Software Licenses

There are a variety of different types of software licenses, with different characteristics and conditions:

Proprietary	• Proprietary software, or closed source software, is computer software licensed by the copyright holder with the intent that the licensee (the user) is given the right to use the software under certain conditions, and restricted from other uses, such as modification and sharing.
Open source	• This type of license makes the source code and design of the software available to anyone who wants to enhance or develop it. It is important not to confuse open source software with free software.
Trial Version	• Trial version refers to a version of the software that is only usable for a certain period of time before it has to be purchased.

Types of Software Licenses cont'd

Shareware

- This is where software is initially made available free of charge to users. Software functionality may be limited, with additional features becoming available only after payment.

Freeware

- This is software which can be copied or downloaded for free. It is often fully functional. Examples may include software developed by organisations such as universities, where the aim was not to profit from the software. Freeware and shareware should not be confused.

Using Windows

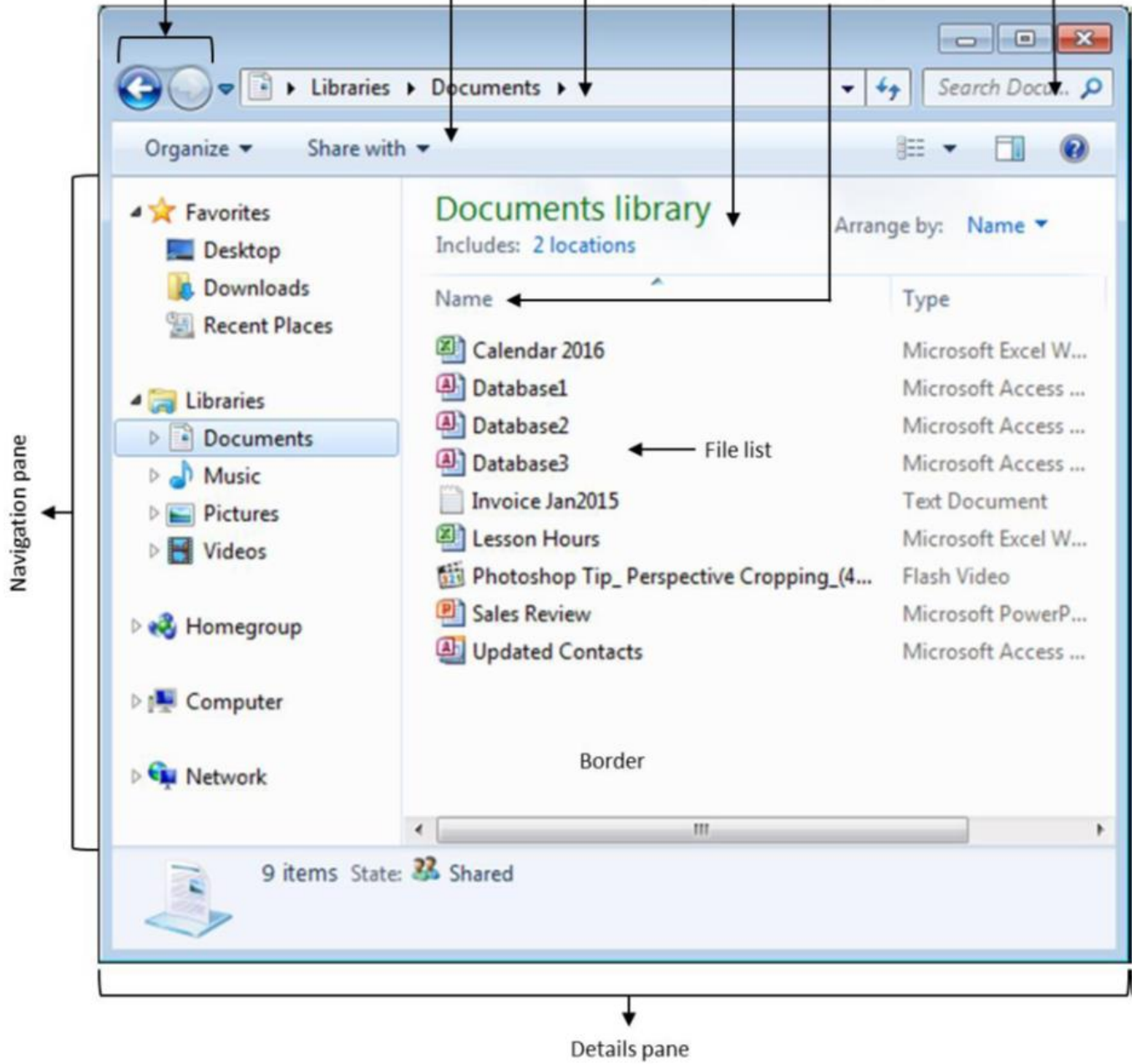
You will now learn about the basics of using a Windows computer, including how to use the desktop, how to open different files and applications, and how to move and resize windows. The information in this lesson applies specifically to Microsoft Windows 7.

Different Parts of a Window

A program, file, or folder, when opened, appears on the screen in a box or frame called a window.

For example, when you open a folder or library, you see it in a window. Different parts of the window contain tools that you can use to move around Windows or work with files and folders.

Here is a typical folder window and each of its parts:



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1.5.1 Manipulating Windows

To open a window: Simply double-click on the icon. For example, to open a word processing file, double-click the Word icon.

To collapse/expand/restore/close window: You will see the same three buttons in the upper-right corner of almost every window. These buttons allow you to:

Minimize: Click here to hide the window. The window will be minimised to the taskbar. You can then click the icon for that window on the taskbar to make it reappear

Maximize button will be temporarily replaced by the Restore button. Just click it to return the window to its original size.

Close: Click here to close the window.

To move a window: To move a window, point to its title bar with the mouse pointer. While holding the left mouse button, drag the window to the location that you want.

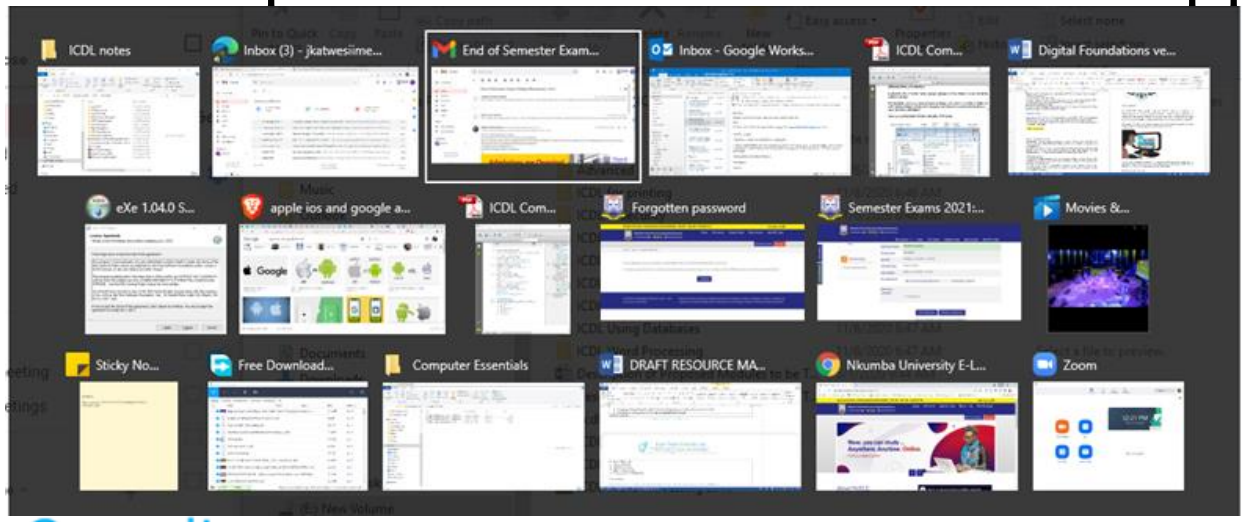
Switching between Open Windows

If you have more than one program or document open at a time, you can easily switch between the open windows using either of these two methods:

Using the Taskbar

Each open window will have corresponding button on the taskbar. Click on the appropriate taskbar button to switch to the open window. The window becomes the active window.

You can point to window's taskbar button to identify the window. A thumbnail-sized preview of the window will appear.



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Using Alt+Tab

- Press the Alt and the Tab keys at the same time to switch to the previous window. You can also cycle through open windows and the desktop by holding down Alt and pressing Tab repeatedly. Release the Alt key to show the selected window.

Unit 2: All about the internet and exploring the Human network

- The Internet is an increasingly important part of everyday life for people around the world. But if you've never used the Internet before, all of this new information might feel a bit confusing at first.
- Throughout this tutorial, we'll try to answer some basic questions you may have about the Internet and how it's used. When you're done, you'll have a good understanding of how the Internet works, how to connect to the Internet, and how to browse the Web

2.1 What is the Internet

The Internet is a global network of billions of computers and other electronic devices. With the Internet, it's possible to access almost any information, communicate with anyone else in the world, and do much more.

You can do all of this by connecting a computer to the Internet, which is also called going online. When someone says a computer is online, it's just another way of saying it's connected to the Internet.

2.2 What is the Web?

- The World Wide Web—usually called the Web for short—is a collection of different websites you can access through the Internet. A website is made up of related text, images, and other resources. Websites can resemble other forms of media—like newspaper articles or television programs—or they can be interactive in a way that's unique to computers.
- The purpose of a website can be almost anything: a news platform, an advertisement, an online library, a forum for sharing images, or an educational site like us!
- Once you are connected to the Internet, you can access and view websites using a type of application called a web browser. Just keep in mind that the web browser itself is not the Internet; it only displays websites that are stored on the Internet.

2.3 How does the Internet work?

- At this point you may be wondering, how does the Internet work? The exact answer is pretty complicated and would take a while to explain. Instead, let's look at some of the most important things you should know.

- It's important to realize that the Internet is a global network of physical cables, which can include copper telephone wires, TV cables, and fiber optic cables. Even wireless connections like Wi-Fi and 3G/4G rely on these physical cables to access the Internet.

- When you visit a website, your computer sends a request over these wires to a server. A server is where websites are stored, and it works a lot like your computer's hard drive. Once the request arrives, the server retrieves the website and sends the correct data back to your computer. What's amazing is that this all happens in just a few seconds!

Other things you can do on the Internet.

One of the best features of the Internet is the ability to communicate almost instantly with anyone in the world. Email is one of the oldest and most universal ways to communicate and share information on the Internet, and billions of people use it. Social media allows people to connect in a variety of ways and build communities online.

There are many other things you can do on the Internet. There are thousands of ways to keep up with news or shop for anything online. You can pay your bills, manage your bank accounts, meet new people, watch TV, or learn new skills. You can learn or do almost anything online

2.4 What can one do online?

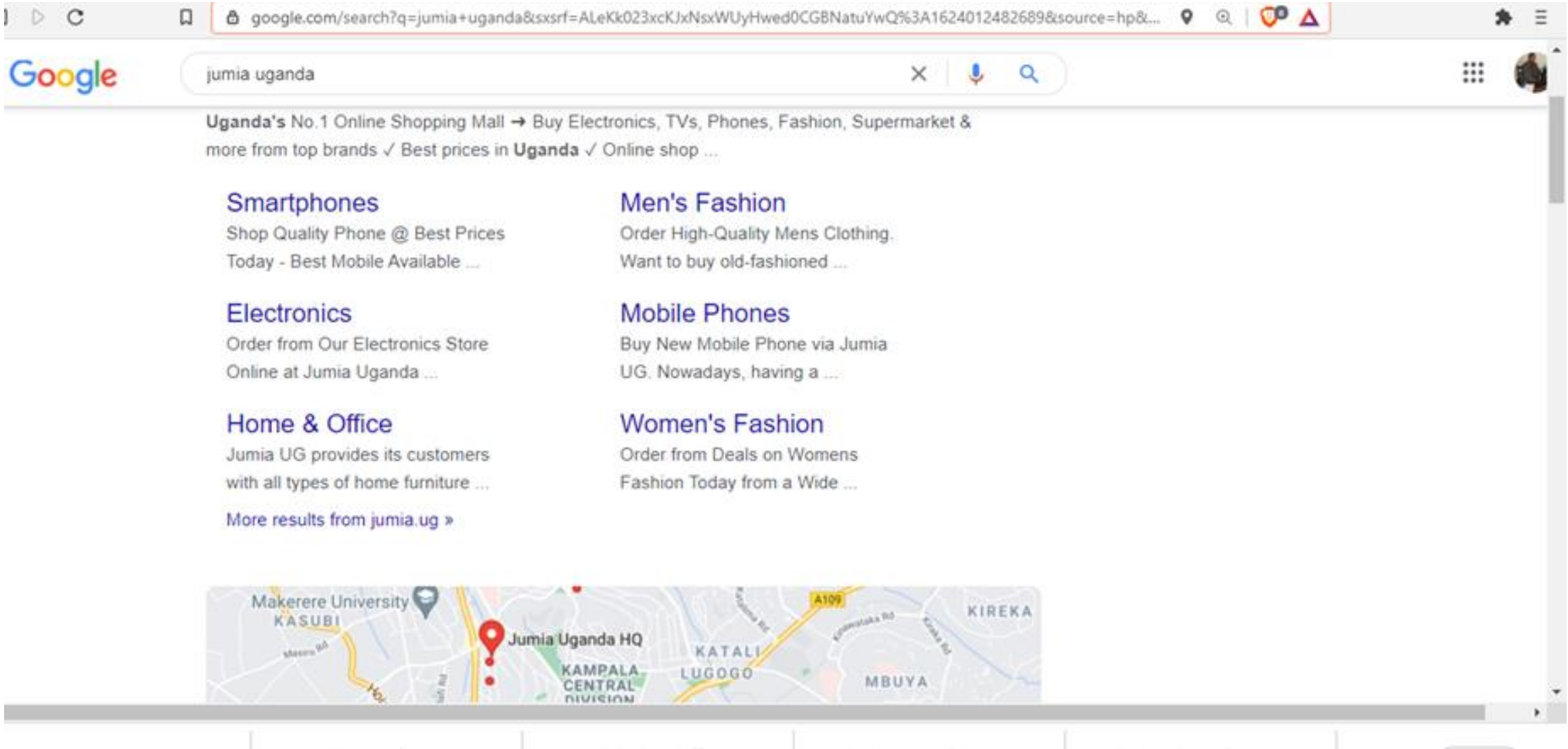
Keep your self-connected Introduction

Here’s almost no limit to what you can do online. The Internet makes it possible to quickly find information, communicate with people around the world, manage your finances, shop from home, listen to music, watch videos, and much, much more. Let's take a look at some of the ways the Internet is most commonly used today.

Finding information online

With billions of websites online today, there is a lot of information on the Internet. Search engines make this information easier to find. All you have to do is type one or more keywords, and the search engine will look for relevant websites.

For example, let's say you're looking for a new pair of shoes. You could use a search engine to learn about different types of shoes, get directions to a nearby shoe store, or even find out where to buy them online!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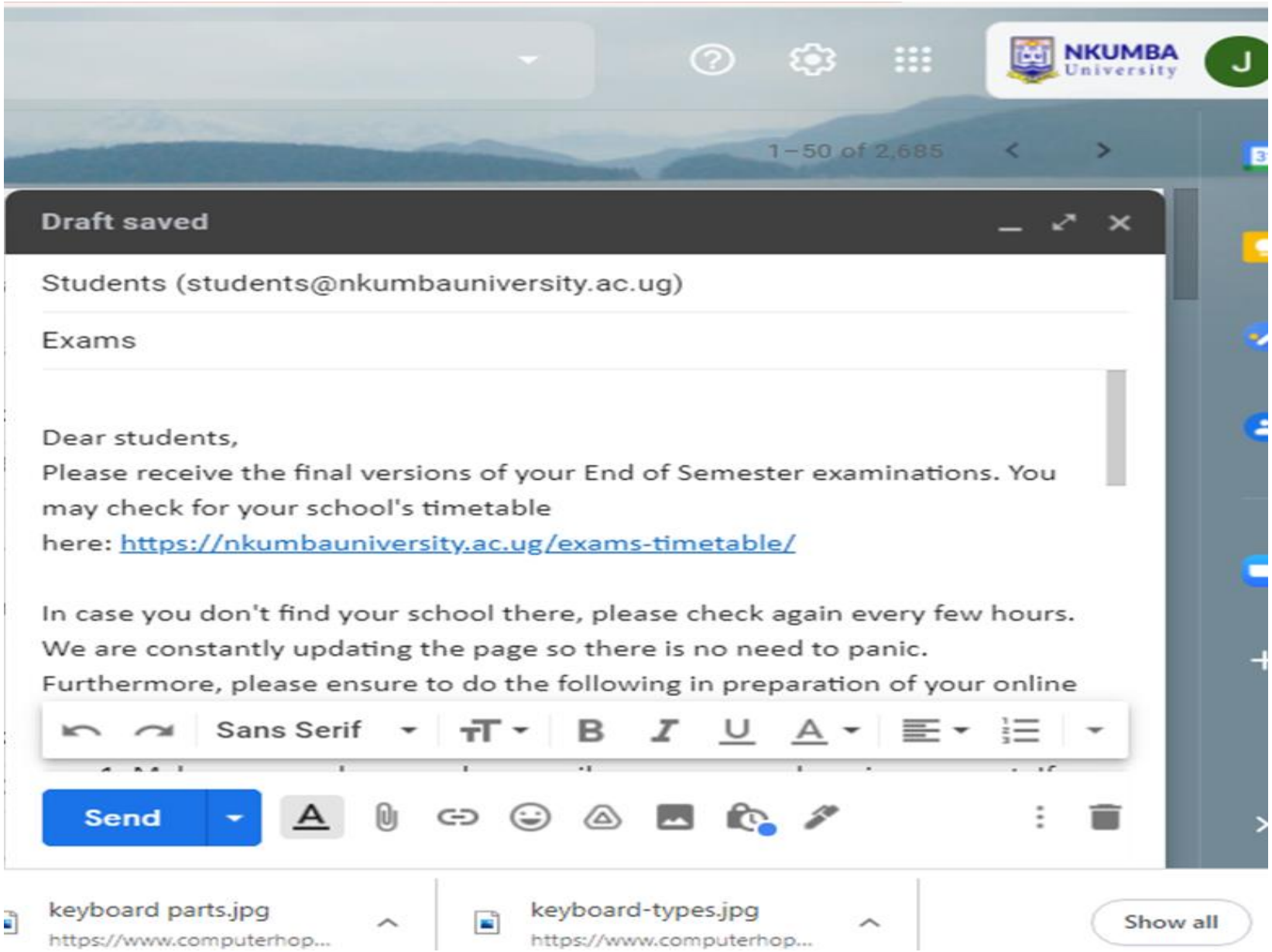
Google
jumia uganda
Uganda's No.1 Online Shopping Mall → Buy Electronics, TVs, Phones, Fashion, Supermarket & more from top brands ✓ Best prices in Uganda ✓ Online shop ...
Smartphones
Shop Quality Phone @ Best Prices Today - Best Mobile Available ...
Men's Fashion
Order High-Quality Mens Clothing. Want to buy old-fashioned ...
Electronics
Order from Our Electronics Store Online at Jumia Uganda ...
Mobile Phones
Buy New Mobile Phone via Jumia UG. Nowadays, having a ...
Home & Office
Jumia UG provides its customers with all types of home furniture ...
Women's Fashion
Order from Deals on Womens Fashion Today from a Wide ...
More results from jumia.ug »
Makerere University
KASUBI
Jumia Uganda HQ
KAMPALA CENTRAL DIVISION
KATALI
LUGOGO
A109
KIREKA
MBUYA

2.4 Email

Short for electronic mail, email is a way to send and receive messages across the Internet. Almost everyone who uses the Internet has their own email account, usually called an email address. This is because you'll need an email address to do just about anything online, from online banking to creating a Facebook account.



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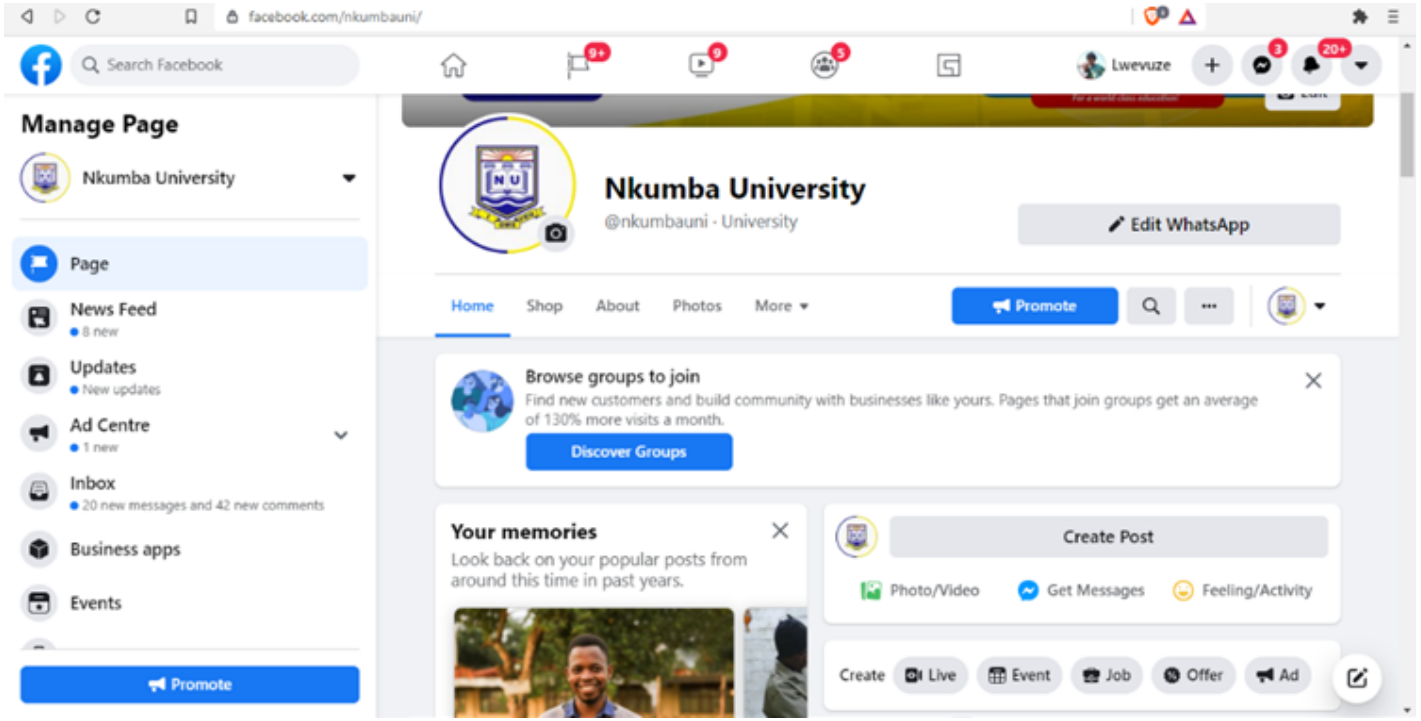
2.5 Social networking

Social networking websites are another way to connect and share with your family and friends online. Rather than sharing with just a few people over email, social networks make it easier to connect and share with many people at the same time. Facebook is the world's largest social networking site, with more than 1 billion users worldwide.



2.6 Online media

There are many sites that allow you to watch videos and listen to music. For example, you can watch millions of videos on YouTube or listen to Internet radio on Pandora. Other services, like Netflix and Hulu, allow you to watch movies and TV shows. And if have a set-top streaming box, you can even watch them directly on your television instead of a computer screen

2.7 Everyday tasks

You can also use the Internet to complete many everyday tasks and errands. For example, you can manage your bank account, pay your bills, and shop for just about anything. The main advantage here is convenience. Rather than going from place to place, you can do all of these tasks at home!

2.8 Types of Internet service

The type of Internet service you choose will largely depend on which Internet service providers (ISPs) serve your area, along with the types of service they offer. Here are some common types of Internet service.

Dial-up: This is generally the slowest type of Internet connection, and you should probably avoid it unless it is the only service available in your area. Dial-up Internet uses your phone line, so unless you have multiple phone lines you will not be able to use your landline and the Internet at the same time.

DSL: DSL service uses a broadband connection, which makes it much faster than dial-up. DSL connects to the Internet via a phone line but does not require you to have a landline at home. And unlike dial-up, you'll be able to use the Internet and your phone line at the same time.

Cable: Cable service connects to the Internet via cable TV, although you do not necessarily need to have cable TV in order to get it. It uses a broadband connection and can be faster than both dial-up and DSL service; however, it is only available where cable TV is available.

State lite: A satellite connection uses broadband but does not require cable or phone lines; it connects to the Internet through satellites orbiting the Earth. As a result, it can be used almost anywhere in the world, but the connection may be affected by weather patterns. Satellite connections are also usually slower than DSL or cable.

3G and 4G: 3G and 4G service is most commonly used with mobile phones, and it connects wirelessly through your ISP's network. However, these types of connections aren't always as fast as DSL or cable. They will also limit the amount of data you can use each month, which isn't the case with most broadband plans.

Tools and Settings

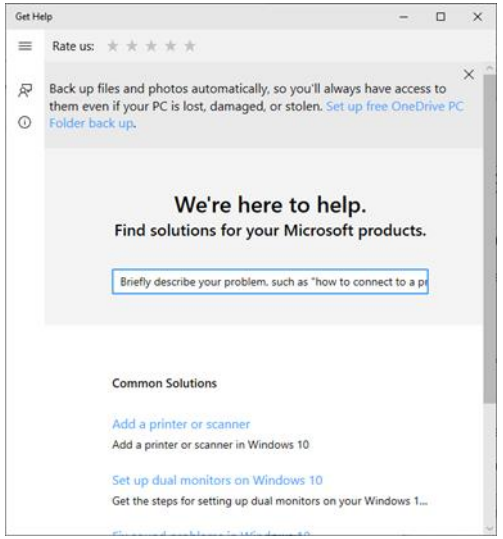
- Using Help Functions

The built-in help system for Windows is called Windows Help and Support. You can use the help system to get the following:

- Answers to common questions
- Suggestions for troubleshooting
- Instructions for carrying out tasks.

To open Windows Help and Support:

1. Click the Start button.
2. Click Help and Support.



Viewing Computer System Information

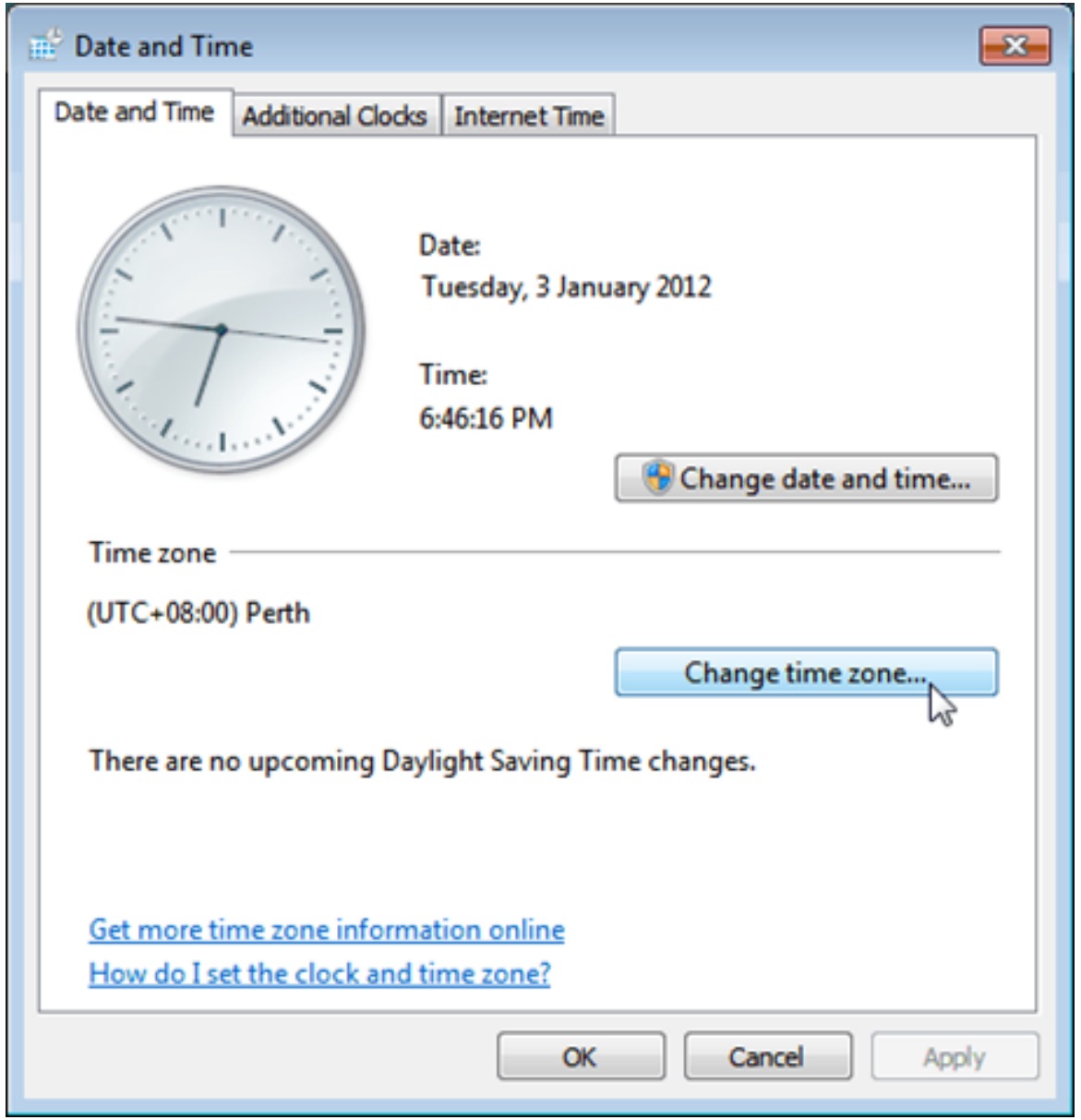
- You can see important information about your computer by opening System in Control Panel. This shows basic hardware information, such as your computer's name.
- 1. Click the Start button.
- 2. Right-click Computer.
- 3. Click Properties

Changing Desktop Configuration Settings

You can change a range of different settings associated with Windows, including the date and time, volume, desktop background, and screen resolution.

To set the date and time:

1. Click the Start button.
2. Click Control Panel.
3. Click Clock, Language, and Region.
4. Click Date and Time.
5. Click the Date and Time tab, and then click Change date and time



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To adjust volume settings:

Most speakers come with built-in volume control. You can also control the overall sound level of your computer using Windows.

1. Click the Speakers button in the notification area of the taskbar.
2. Click and drag the slider up or down to adjust the speaker volume

Connecting and Disconnecting a Device

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When you connect a device, such as a digital camera, to your computer, a driver – a small programme – may be needed to allow the device to interact with the computer.

Windows usually does this automatically when you connect a new device, but some devices require that you install the drivers manually. In such cases, the device manufacturer usually includes a software disc and instructions on installing the driver before plugging in the device

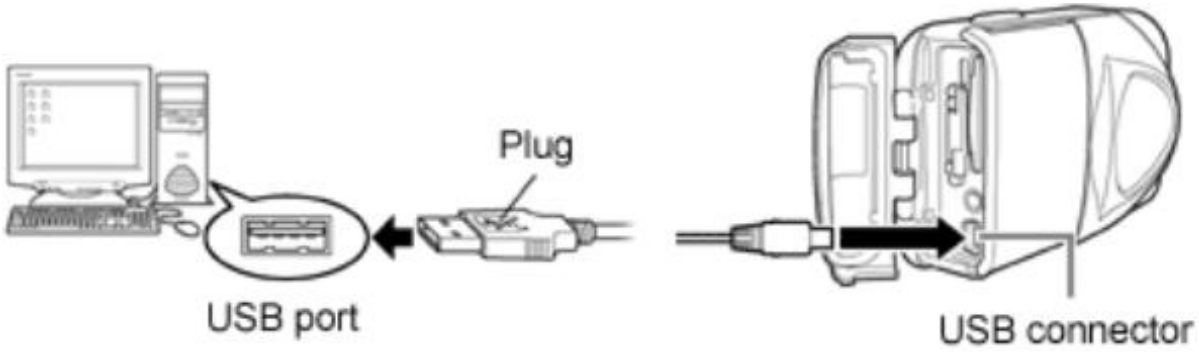
Connect a USB flash drive

Plug in the USB flash drive into the USB port.

If Windows can find and install the device driver automatically, you will be notified that the device is ready to use.

Connect to a digital camera

- Attach appropriate end of cable to the camera and the other end to the USB port.



- Most cameras, once plugged in, will automatically be recognised by your computer. If this does not occur, you will need to install the software included with the camera.

Unit 3: Health and Green IT

Ensuring User Well-Being While Using a Computer

It is important to adjust the environment in which you use your computer so that it best supports your health and well-being. Your environment should have adequate lighting. It is also important to vary tasks and take regular short breaks away from the computer to perform gentle stretching and eye exercises.

Correct adjustment of furniture and equipment will aid you in maintaining correct posture and body alignment. Correct posture will, in turn, ensure an even distribution of workload on the body and will help minimise fatigue.

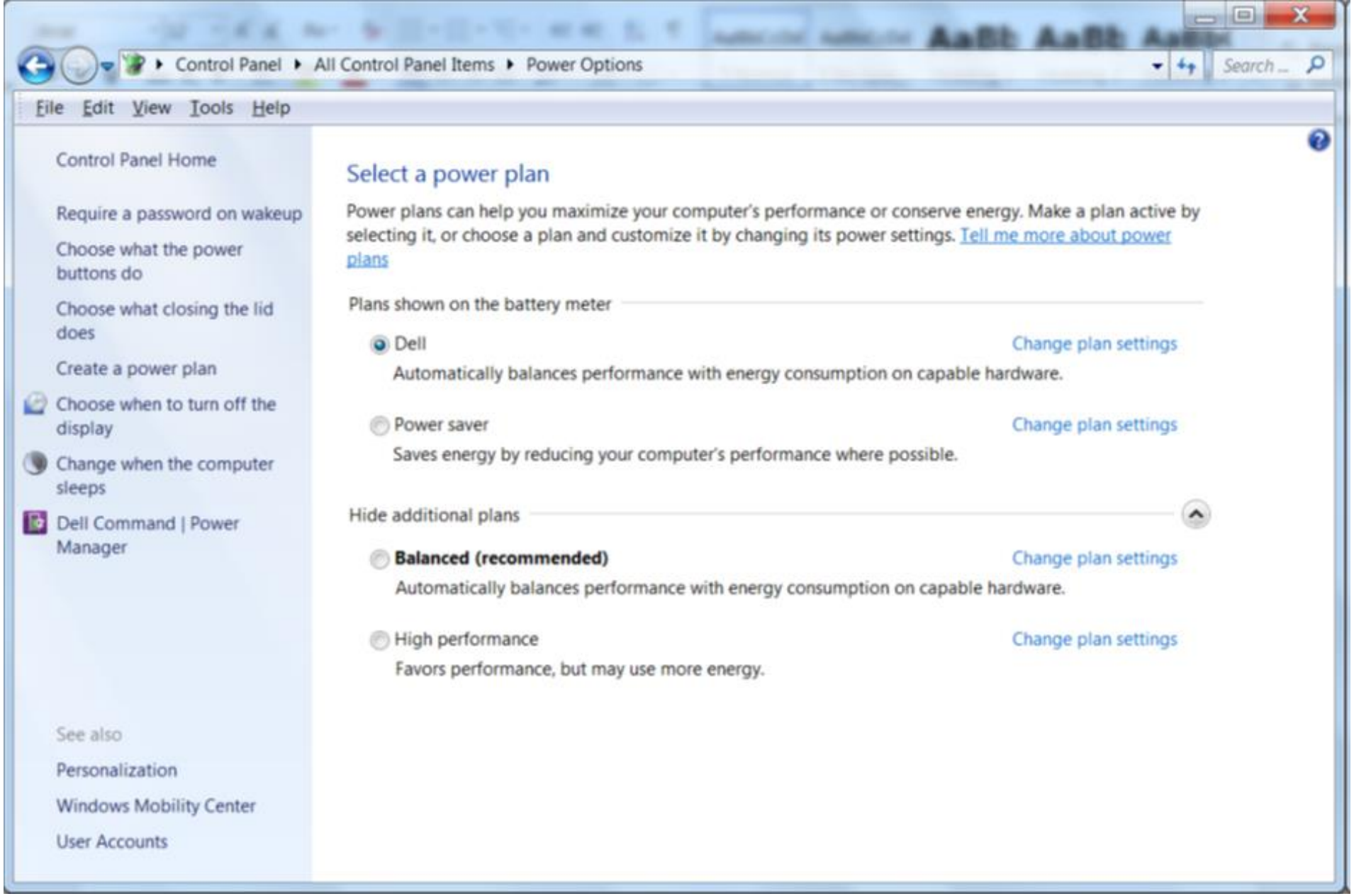
Recognizing Computer and Device Energy Saving Practices

People are becoming increasingly concerned about the impact of our modern lifestyle on the environment. When you are using technology, you can help to reduce this impact.

Your computer or device may have energy-saving features built into its settings. Sleep modes and power management features are useful tools that reduce unnecessary energy use.

To maximize your energy savings, set your computer to go into sleep mode or to fully shut down once it has been idle for a period. Of course, you should also remember to turn off your computer when you are not using it!

Power mode options also allow you to save energy. If you run your computer in low-power mode, you conserve energy, keep the temperature of your equipment down, and extend its lifespan. Similarly, reducing the brightness of your display will also reduce the energy it consumes


Control Panel ▸ All Control Panel Items ▸ Power Options
Search ...
File Edit View Tools Help
Control Panel Home
Require a password on wakeup
Choose what the power buttons do
Choose what closing the lid does
Create a power plan
Choose when to turn off the display
Change when the computer sleeps
Dell Command | Power Manager
See also
Personalization
Windows Mobility Center
User Accounts
Select a power plan
Power plans can help you maximize your computer's performance or conserve energy. Make a plan active by selecting it, or choose a plan and customize it by changing its power settings. Tell me more about power plans
Plans shown on the battery meter
Dell
Change plan settings
Automatically balances performance with energy consumption on capable hardware.
Power saver
Change plan settings
Saves energy by reducing your computer's performance where possible.
Hide additional plans
Balanced (recommended)
Change plan settings
Automatically balances performance with energy consumption on capable hardware.
High performance
Change plan settings
Favors performance, but may use more energy.

Health and Green IT Cont'd

Recycling

Many of the components or consumables that we use when working with technology can be recycled.

Computer and devices

Many of the components that make up computers and devices can be effectively recycled.

When you are ready to get rid of your old computer or device, you have a variety of choices:

- Find your closest recycling center that handles computers or devices.
- Explore options such as re-selling, trading in, or exchanging your device.

Batteries

Laptops or mobile devices can be recharged many times, but after a while consumers may want, or need, to buy a new battery. Old batteries must be recycled properly, because they contain chemicals that may harm the environment if they leak.

Printer cartridges

It is a good idea to reuse your inkjet and toner cartridges, as this reduces unnecessary demand for new plastic cartridges. There are a variety of options available for refilling cartridges, and this may also be cheaper than buying a new cartridge.

Paper

Do not print unless you absolutely need to. Read your documents on the screen, and share them with others electronically. If you have to print, consider printing on the back of old paper. If the paper can no longer be used put it into a recycling bin.

References

- https://study.com/academy/lesson/what-is-a-computer-keyboard-parts-layout-functions.html#:~:text=A%20computer%20keyboard%20is%20an,as%20keys%20for%20specific%20functions.
- The Human Network: How Your Social Position Determines Your Power, Beliefs, and Behaviour
- https://quizlet.com/356307563/station-4-exploring-the-human-network-flash-cards/
- https://www.ciscopress.com/articles/article.asp?p=2164577&seqNum=4
- https://www.nytimes.com/2019/03/25/business/dealbook/human-network-social-immobility.html