iWCs COMPUTER CONCEPTS-WINDOWS©
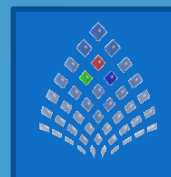
iWCs Course 1 - Computer Concepts

Understanding and configuring a computer, hardware, networks, operating system Windows © so to maximize both inputs and outputs.

FOREWORD

The average computer user only uses 30% of the full capability of a computer. Would you buy a Ferrari without an engine? Then why are you buying a computer which engine is not used?

The Goal of this course is to teach and access computer concepts and skills to that people can use computer technology and understand the full spectrum that a computer is capable of doing. There is no basic, intermediate or advanced level. This course is to teach a user what he/she must know and how to utilize it to obtain the full capability of a computer.

The entire spectrum of this course entails the following fields:

- Computer Concepts.
- MS Office Suite.
- Web Sites.
- Windows ® Programming and Web Site integration.
- Game Programming.

Outcome

- You will know the terminology used within the computer environment.
- You will know the hardware configuration of computers and how to select the correct computer and set up a computer to obtain the maximum capability from it.
- You will know the Operating System and all aspects regarding it to obtain the maximum capability and to prevent wasted data usage.
- You will know how to set up a network system.
- You will know how to set all computerized accessories and how to obtain maximum capability at the most cost effective method such as printer cartridge usage.
- You will be able to identify the most common errors related to computers and computer systems (networking, etc.) and how to fix it.
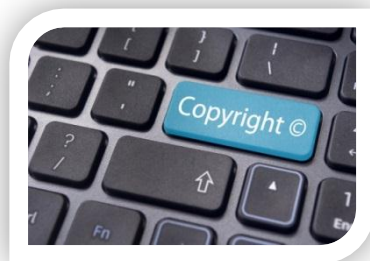
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Recognition to Bruce Williams for his part of endless queries and research that has taught me a great deal of what is now part of this Computer Training Suite. The best way to learn is to teach somebody else.

CONTENT

The following will be addressed within this booklet:

INTRODUCTION

Computing has become an integrated part of our lives. A computer is however greatly misunderstood and underestimated. The average user only uses maybe 30% of the full capabilities of a computer. The reason for this is that there is no suite course addressing this problem and addressing the full extent of the computer's entire spectrum.

To compare the average user is like having a Ferrari with a VW Beetle 1965 model … This is also affecting the user's pocket as the user is purchasing computerized equipment and paying a lot for the wrong equipment and incorrect settings even worsen the situation such as an incorrectly set printer costing a fortune in ink cartridges.

A computer was never developed for just the purpose to be used, it was meant to create something new, either for recreational or business purposes.

JUST REMEMBER; A COMPUTER IS A SYSTEM, not a machine!

COMPUTER

WHAT IS A COMPUTER?

A computer is an electronic device that you can use to store and process information.

- **Store**; what you do (work), you can save and retrieve again – digital, mail or printed.
- **Process**; the program (software) can process/evaluate/transform the information that you have entered.

A computer is used to:

- Process information.
- Communication/Network sharing data/Internet Websites – Social/Business
- Control systems (network/monitoring/etc.)
- Programming (to create something new).
- Gaming (play or create).
- Output (printer/AI evaluation).

Summary of users:

- Information Worker (entry of data).
- IT Professional (specialist in a specific direction – media specialist, graphics, etc.)
- Developer (programming of programs and games).

In short; a computer is used to run software that is meant to save time, effort, money and increase accuracy for recreational or business (money) purposes. **The "perfect" user is a member whom is able to use a computer and be able to extent the usage to the level of creating something new with a computer – as it was meant to be.** It is not that you should only know what you must know, it is that you should know everything that you should know to make your processing speed faster, more accurate and with less effort.

TYPES OF COMPUTERS:

You need to take the following in consideration:

The first aspect you need to know is that you must **only buy what you need**.
There is a reason why a computer was factory **installed with a specific Windows ®** version.

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Select the best model for your purpose as required (2018):

- **Personal Computer (PC) - Desktop/Tower Top Models (CPU only)**
  Right mouse click on MY COMPUTER

SNO	TYPE	AVE EXPECTED	ADVISED O/S	USAGE	REMARK
1	Desktop Celeron	Speed: 1.6 Ghz Hard drive: 160Gig RAM: 2GIG On board VGA Speakers Screen Keyboard Mouse DVD Rom/Ram	Windows XP ® Windows 7 ®	General Typing Basic Gaming Programming Networking	Avoid Win 10 Confirm Graph
2	Desktop Due Core/Quad Core	Speed: 1.6 Ghz – 2.4 Ghz Hard Drive: 500Gig Ram: 2Gig On board VGA Speakers Screen Keyboard Mouse DVD Ram	Windows 7 ® - 2Gig Ram Windows 10 ® - 4Gig Ram	General Typing Basic Gaming Programming Networking	Confirm Graph
3	I3	Speed: 3.0 Ghz + Hard Drive: 500Gig Ram: 4Gig On board VGA Speakers Screen Keyboard Mouse DVD Ram	Windows 10 ® 4Gig Ram	General Typing Intermediate Gaming Video production Programming Networking	Confirm Graph Confirm Generation
4	I5	Speed: 3.0 Ghz + Hard Drive: 500Gig Ram: 4Gig On board VGA Speakers Screen Keyboard Mouse DVD Ram	Windows 10 ® 4-8 Gig Ram	General Typing Gaming Programming Video Production Networking	Confirm Graph** Confirm Generation I5 Level processing therefore it is faster than I3 even thought GHZ is less – *does more with less*
5	I7	Speed: 3.0 Ghz + Hard Drive: 500Gig Ram: 4Gig On board VGA Speakers Screen Keyboard Mouse DVD Ram	Windows 10 ® 8 Gig Ram +	Gaming Machine Game Programming Video Production Networking	Confirm Graph** Confirm Generation I7 Level processing therefore it is faster than I5 even thought GHZ is less – *does more with less*

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- **Desktop/TowerTop Screen (VDU – Visual Display Unit)**

SNO	TYPE	AVE EXPECTED	REMARK
1	Square LCD 17", 19"	Resolution is 4:3 1240 x 968 Ensure Graphic Card	
2	16:9 LCD 17", 19"	Resolution is 16:9 1366 x 768 Ensure Graphic Card	

- **Mobile Models**
  Right mouse click on MY COMPUTER (Win 7) \ MY PC (Win 10)

SNO	TYPE	AVE EXPECTED	PREVIEW	USAGE	REMARK
1	Netbook	Processor Atom + Hard drive: 250Gig + RAM: 1GIG + VGA Port Wi-Fi/Bluetooth Mic/Earphone socket USB x 3 Network Adapter Web Cam 10" Screen		General Typing Networking	Confirm Processor Confirm RAM No DVD Drive Usage external Screen & Keyboard & Mouse Confirm VGA/HDMI No extended NumPad
2	Notebook	Processor Celeron + Hard drive: 250Gig + RAM: 2GIG + VGA Port/HDMI Wi-Fi/Bluetooth Mic/Earphone socket USB x 3 Network Adapter Web Cam 14" Screen DVD Ram		General Typing Networking Daily mobile usage. Gaming Programming	Confirm Processor Confirm RAM Use extended Screen & Mouse Confirm VGA/HDMI No extended NumPad

SNO	TYPE	AVE EXPECTED	ADVISED O/S	USAGE	REMARK
3	Laptop	Processor Celeron + Hard drive: 250Gig + RAM: 2GIG + VGA Port/HDMI Wi-Fi/Bluetooth Mic/Earphone socket USB x 3 Network Adapter Web Cam 15.6" Screen DVD Ram		General Typing Networking Daily mobile usage. Gaming Programming	Confirm Processor Confirm RAM Usage Mouse Confirm VGA/HDMI
4	Mini Computer	Processor Atom + Hard drive: 32Gig RAM: 1GIG + HDMI Port Wi-Fi/Bluetooth USB x 2		General Typing Networking Gaming	Confirm Processor Confirm RAM No DVD Drive Usage external Screen & Keyboard & Mouse (wireless) Software limited due to small size.
5	All-in-one	Processor Celeron + Hard drive: 250Gig + RAM: 2GIG + Wi-Fi/Bluetooth Mic/Earphone socket USB x 3 Network Adapter Web Cam DVD Ram		General Typing Networking Touch Screen Gaming	No CPU casing Touchscreen Wireless Mouse/Keyboard

DIFFERENCE BETWEEN TYPES OF COMPUTERS:

To understand the differences, you need to compare the advantages and disadvantages:

PC - Desktop/Tower Top

- Hardware upgrading is simple.
- Individual parts may become faulty.
- Cheaper than laptops.
- Faster and more stable.
- More ports and sockets.
- Able to upgrade O/S if you upgraded the hardware.
- If you only obtain a CPU, you need to still purchase a screen, mouse, keyboard.

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- No web-cam.
- No wireless adapter (Wi-Fi/Bluetooth).
- Not mobile and takes a lot of space and wiring.
- No battery backup.

Laptop and All-in-One

- Mobile.
- Battery backup; use **less power** than a desktop/tower top.
- Build in web-cam and extended dual screen capability.
- Build in wireless adapters; (Wi-Fi and Bluetooth).
- Virtually impossible to upgrade – hardware.
- Not advised to upgrade Operating System due to hardware upgrading not being possible.
- Lacks USB ports and sockets.
- If it breaks, the entire machine becomes useless.
- More expensive than desktops.
- FN Keys.

Mini Computer

- Mobile.
- Versatile.
- Build in wireless adapters.
- Small hard drive size.
- No real software updates and installations.
- Lack USB ports and sockets.
- More expensive than other machines.
- Always dependent on plug and play devices (screen, keyboard and mouse).
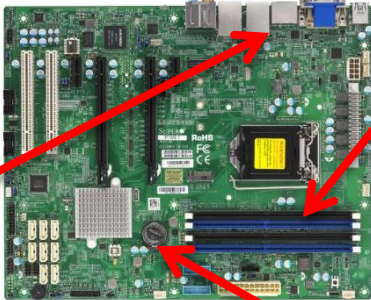
PARTS OF A COMPUTER (HARDWARE)

By principle all types of computers have the same parts however they differ in the sense of either being on-board or add-on:
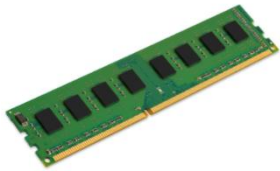
PC – Desktop/Table Top

A desktop consist out of the following parts with the following functions:

SNO	PART	PURPOSE	IMAGE	REMARK
1	Computer Casing with power supply -TowerTop -Desktop	This is the computer box and contains the all the working parts of the computer system. It contains only a power unit. The slots are present (USB, mic, etc) however no working parts.		When your power unit is broken, rather replace the entire CPU box than just the power unit as it is ½ the price.
2	Motherboard	This is a circuit board that holds all the different parts making up the computer system. It has an onboard VGA screen adapter, onboard sound, onboard network adapter.		Different motherboards have different slots for parts according to version dates (DDR1, DDR2, DDR3, etc.) You must have a driver CD for the onboard adapters. The battery is to update the system date when the power is off. Require drivers for the onboard devices.
3	Central Processing Unit	This is the brain of the computer (celeron, Due Core, I3, I5, etc)		Speed and capabilities. The correct drivers are required.

SNO	PART	PURPOSE	IMAGE	REMARK
3	Memory (RAM)	This will be used to load the resource required for processing of programs and data.		This determines and influences the **speed** of your processor. Plug & Play. Bit (0/1), Byte, Kb (1024bytes), Mb, Gb, Tb)
4	Hard Drive	Store all programs and data. The drive is named C:\ All programs are installed here as well. This is added to the motherboard. Speed and performance influenced when full.	 **Confirm RECYCLE BIN space usage and ensure maintenance on Hard Drive**.	If you add more drives, the others will be D:\ and E:\ drives (etc.) These hard drives will be the slave hard drives. You will need to re-install the O/S when you replace the main hard drive. You can simply unplug and plug in a new hard drive to replace the previous one.
5	Graphics	Determines the quality of your display.	VGA DVI HDMI 	You will require drivers for this to work – dual screen capability, refresh rate (FPS). HDMI is the best quality. You may purchase graphic cards to upgrade your system's graphic capability.
6	Sound	Enables sound to be played/recorded. Mic Speakers Earphones Surround sound speakers.		You will require drivers for this to work. Purchase a convertor/cable plug to play to an AUX radio system.

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SNO	PART	PURPOSE	IMAGE	REMARK
7	**Network**	Ethernet Port To connect to a network.	Ethernet Onboard: Wireless network adapter (USB): Bluetooth dongle:	Drivers are required for all (onboard and plug-ins) You may add a network card even though the onboard is more than sufficient (LAN). Wireless network adapters (USB) is available – LAN/Internet To establish a large network; network switch with multiple hub stations: Wired networks are much more stable and much faster. Wireless networks are easier to set up and extremely effective over a range.
8	**USB** (Universal Serial Bus)	To add accessories (input/output) Memory sticks Mouse Keyboard Printers Scanners	USB 1 (12 mbits/s): USB 2 (480 mbits/s): USB 3.0 & 3.1 (640 mbits/s):	USB3 is the fastest. USB1 does not support power support (USB2 and USB3 support external power). You need a USB bank to extent your USB ports: You need a USB3 device or cable to use the USB3 effectively.
9	**PS2**	Mouse and keyboard ports		Dis-continued.
10	**Drives**	Used to read (ROM) / write (RAM) from/to a CD/DVD CD RAM DVD ROM DVD RAM	Most software is only available on DISK (games/software)	You will require a writer program (NERO, etc.) to write to a disk. The speed is determined by the writer speed (x8, x16, x24 – DVD) (x52 CD) Use external drive (confirm speed).

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SNO	PART	PURPOSE	IMAGE	REMARK
11	Card reader (optional)	Read other card formats than memory stick. Memory card CF card. SD Card Sata Card		Only on selected models. External card readers are available (USB):
12	Power / switches	To switch the computer on.	Main switch (front) Power Unit Switch (rear) - optional 	A desktop requires power for: • Casing • Screen • Speakers
13	Keyboard	Input device No FN keys		USB/Wireless (battery)
14	Mouse	Input device		USB/Wireless (battery)
15	Screen	Output devices		VGA/DVI/HDMI 15" 17" 19" 20"

Laptop

A laptop consists out of the following parts with the following functions:

SNO	PART	PURPOSE	IMAGE	REMARK
1	Netbook	Mobile computer build specifically for networking purposes Mouse Touchpad Extended VGA Port HDMI Port (optional) Network adapter Wireless Network Bluetooth adapter USB Ports Build in speakers Web Cam Battery Small & Light Upgrade limitations FN Keys Cheap		No DVD/CD drive. Long battery power. Powerful network adapter. 10" Requires: • Extend Screen • Keyboard • Mouse • USB bank • HDD?
2	Laptop	Full computer system, but mobile. Expensive Upgrade limitations Mouse touchpad Extended VGA Port HDMI Port (optional) Network adapter Wireless Network Bluetooth adapter USB Ports Build in speakers Web Cam Battery Upgrade limitation		DVD Writer (x8) Average battery power 14" or 15.6" Requires: • Extend screen • Mouse • USB Bank • Memory • Numpad? Confirm graphic card. Confirm HDD size.
3	Network Switch/FN	Network switch (opt) Wi-Fi BlueTooth		
4	Touchpad	FN Off/On switch		Alternative: USB Mouse

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Peripherals/Accessories

These are equipment that is attached to a computer making it more useful and capable of more functions:

SNO	PART	PURPOSE	IMAGE	REMARK
1	Printers	To be able to print documents, images, photos, etc.	**Impact printers** • Daisy wheel/Ribbon **Non-impact printers** • Laser (speed, document quality, toner): • Ink Jet (cartridges, photo, borderless, quality): • Bottled (bottle, cost effective, speed, photo, borderless, quality): 	Drivers are required. USB Cable. **When purchasing a printer confirm:** • Purpose of printer • Colour? • Price of cartridges • DPI • Photo quality? • Service software • Borderless? • Back-Back? • Expiring cartridges? • Drum/Toner system? • Multi-resource capability (iron on paper, DVD, cardboard, linen paper). • Ensure availability of toner/ cartridges. • Refill cartridges – loses warranty)

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SNO	PART	PURPOSE	IMAGE	REMARK
2	**Scanners**	To scan a document for further editing/distribution. divided		Drivers are required. USB cable is required. Wireless option. Multiple page sorting. Scanning format: JPG & PDF. OCR Scanner: Word MFC (multi function machine – scan, copy, print, fax) – lower quality
3	**Bar Code Scanners**	To scan barcodes and QR scans for fast and accurate processing		**Wired** / Wireless *USB/PS2/Comm* Indoor/External scanner 1D or 2D.
4	**Web-Cams**	To communicate with (SKYPE) or use as interactive medium such as video/photo or motion detection capabilities. Include Mic/no mic		==Be careful of IP cameras, they are NOT web-cams==. Requires drivers. Wireless/Wired Quality: VGA or HD (speed and quality – low light and white balance) Software (motion detection/networking)
5	**Light Pen**	Interactive communication (input device)		IR (infrared) Receiver/Cam
6	**Presenter**	Input device for presentation and interactive communication (remote)		MS PowerPoint ® compatible (O/S Windows ®) Laser Pointer? WI-FI/Bluetooth
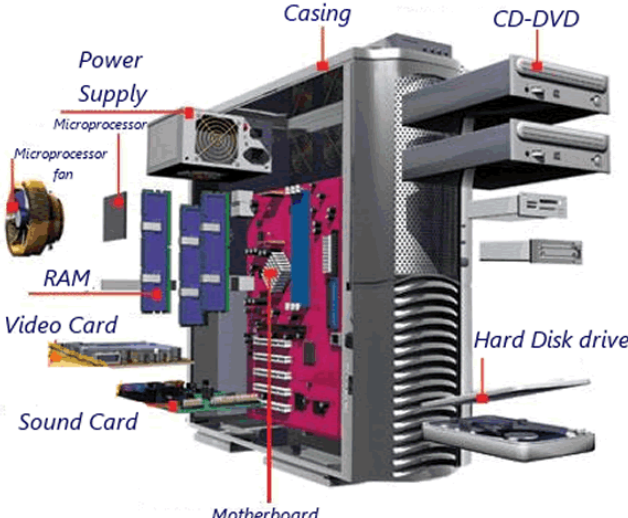
SNO	PART	PURPOSE	IMAGE	REMARK
7	Routers/ Network dongles	Establishing a network	**Switch (LAN)** **Dongle USB** (Internet – single device – slaves = slow) **Router** (LAN/Internet – hi speed and effective with limited devices, wireless and wired devices if capable)	Wireless (easy setup – mobile, range, WI-FI or Bluetooth) / Wired (faster and more reliable, do not exceed 100m of cables). Total HUB stations? Total wireless devices? Speed (download/upload – MB/s) You must have a server station if you share data for the LAN system. **Local Area Network (LAN) Wide Area Network (WAN) Internet**
8	**UPS Uninterrupted power supply**	Battery power for all machines (especially desktop)		Battery life type. Supporting plugs (total)

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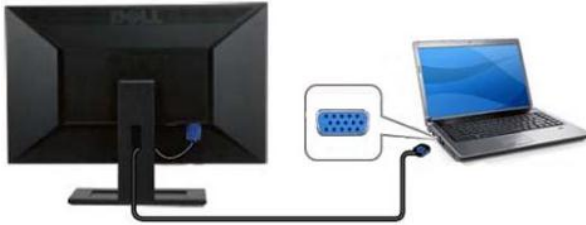
CONNECTING IT ALL TOGETHER (HARDWARE):

Desktop
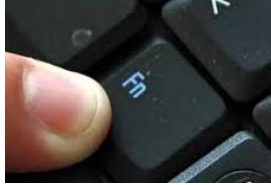
CPU CASING	
	Motherboard CPU Chip / Fan RAM Hard drive Onboard graphic/sound Optical Disk Drive Graphic Card Sound Card Network Card _(see video)_
VDU (visual display unit - SCREEN / TV / LCD projector)	
	VGA or **DVI** or **HDMI** **iWCs Quickies – Tools – Display:** • PC Only (splitter unit) • Duplicate (splitter unit) • Extended (splitter unit) • 2nd screen only (splitter unit) **Extension cable**
MOUSE & KEYBOARD	
	USB – use slow ports (USB 1 or 2) Wireless connection (ensure battery) PS2 Connection (convertor if no PS2 ports are available)
PRINTER	
	Install driver (1st time) Switch on printer and connect to USB Connect as wireless (WI-FI) Network printer
NETWORK	
Wireless Network Router (server) / WI-FI (slave) Ethernet Network/Switch Cellular USB Tethering Hotspot	Pending on Windows Version (XP, 7, 8/10)

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WEB CAM (External)	
USB connection (USB3 if possible)	Install drivers
SOUND SYSTEM	
Onboard	Pink: Mic Green: Earphones/speakers

Laptop

CPU CASING	
	Power Cable. Opening of screen (clip). Network Switch (on/off). Replace battery. Replace hard drive (re-install O/S and software) Memory Slots (1gig, 2gig, 4gig, 8gig, etc.)
SCREEN / TV / LCD projector	
	VGA or DVI or HDMI **FN Key / IWCS Quickies – Tools – Display:** • PC Only • Duplicate • Extended • 2nd screen only **Extension VGA cable**
USB HUB MOUSE & KEYBOARD	
	USB – use slow ports (USB 1 or 2) Wireless connection (ensure battery)
PRINTER	
	Install driver (1st time) Switch on printer and connect to USB Connect as wireless (WI-FI) Network printer
NETWORK	
Network Switch/FN Keys Ethernet Cable/Switch Onboard WI-FI/Bluetooth Router/Cellular USB tethering	

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FN KEYS FOR CONFIG AND SETUP	
Screen Control Touchpad on/off Sound Mute/Volume + - Webcam On/Off Media control >> > << || Brightness	

Device grouping:

Devices are grouped either as:

- Input:
  - Keyboard
  - Mouse
  - Barcode Scanner
  - Scanner
  - Network Adapter
  - Mic
  - Webcam
- Output:
  - Screen
  - Printer
  - Fax
  - Network Adapter
  - Speaker/earphones
  - LCD Projector
- Storage:
  - HDD.
  - CD Drive.
  - DVD Drive.
  - USB sticks (memory stick, memory card, etc.)
  - External Hard Drives.

ADVANTAGES AND DISADVANTAGES OF COMPUTERS

Advantages:

- Computers help us work fast and effective.
- No more duplication of information.
- Time efficient.
- Data can be stored (local, LAN and WAN).
- Secure.
- Transactions – payments, etc.

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- AI guides us and rectifies the human errors.
- Reduces productivity and efficiency.
- Reduces human and resource power.

Disadvantages:

- Power dependent.
- Most users are illiterate regarding most systems.
- Computers are not standard.
- Software compatibility issues.
- Training and replacement of hardware/software – the better trained a member is, the less he/she requires to be restricted by hardware and software requirements.
- Speed is determined by individual's capabilities and knowledge (especially keyboard functions).

BOOT UP PROCESS

Summary of computer actions:

All computers have the following capability:

- Input (devices).
- Processing (only capable bmo software – when you buy a computer, NO software is installed – only trial versions).
- Output.

A computer will go through specific processes to boot up:

- Ensure no CD/DVD or memory stick when you switch on.
- BIOS setup within the first 7 seconds (F2 pending on the make).
  - o Boot up Process
  - o General Configuration
- POST – Power on Self-Test (confirm hardware and O/S)
- Load operating system / boot-up disk (new O/S).
- Load STARTUP programs.
- Start Run-Time programs.
- Network connections.
- Await orders or scheduled tasks (according to run-time programs).

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Problems during boot-up:

- No power (confirms power or power unit).
- Unauthorized disk/memory stick with boot-up program – remove.
- Blue screen boot-up (ERR CODE - BIOS – motherboard) – replace motherboard – electrical short)
- Missing hardware – connect all.
- Black screen (test external screen or other cable).
- Missing O/S (activate copy or illegal copy – install a legal O/S and register it).
- Faulty O/S (virus, corrupt, core files were deleted – test for virus or reinstall O/S).
- Missing Network (ensure connection, data and connection).

DEVICES

MOUSE (external or touchpad)

A mouse is a small device that you can use to move, select and open items on your computer screen.

The mouse has the following fixed functions:

- Motion laser (underneath) – as you move the mouse, it will move the mouse pointer on the screen – the mouse pointer will alter pending on the action allowed by the object where it is hovering.
- Left mouse click (single or double click): This will select (usually double click) the object where the mouse pointer is hovering.
- Right mouse click (single click): This will call options related to the object where the mouse pointer is hovering.
- Scroll button: This will scroll down the focused Window (vertical scroll bars) or make use of the function as programmed for that related object. It also acts as the 3rd mouse button click (graphical programs, games, etc.)
- Mouse settings: See IWCS Quickies or Window's Control Panel.

KEYBOARD (extended NUM PAD keys panel)

The keyboard is an input device that you can use to type commands or text into a computer. Different keyboards (make and models) have different key layouts. The NUMPAD is optional with laptops (10" and 14" don't have).

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The standard keyboard has the following layout:

Function keys (F1-F12). These keys have unique functions related to the opened program in use (F1 usually is the HELP key).
These keys are used to enter letters and numbers.
- These are the punctuation marks.
- These keys are the command keys (insert, delete and backspace). The **insert** key will toggle between inserting new text or overwriting the current text.
- The ENTER key is to confirm a prompt (question) or go the next line (word processor)
- These keys are used to direct the cursor or to play games with (in most cases the **W ASD** keys are also used as gaming keys).   The **HOME** and **END** key is used in conjunction with/without **CTRL** to quickly move the cursor. The **PAGE DN** and **PAGE UP** key is used to scroll a page height on a word processor or as programmed for the specific program.
- **NUMLOCK** keys. These keys are a set of numbers and mathematical function keys simulating a calculator. NUMLOCK must be on to use these keys or it will act as direction keys. Take note of the following:
  - Divide **/**
  - Multiply *****
  - Equal – **ENTER** key
- Special keys:
  - **Space bar**.
  - **TAB** – spaces forward / spaces backward (SHIFT)
  - **ESC** – exit a certain function
  - **FN** (laptops) – work with specially marked blue keys.
    - Screen control
    - Touchpad control
    - Brightness
    - Sound control
    - Media control
    - Plane mode on/off
    - Blanked screen on/off.
    - Camera on/off
  - **|** symbol – used with programming

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- o **CAPS LOCK** on/off
- o **SHIFT** key (upper or lower case)
- o **CTRL** – activate special functions
- o **ALT** – shortcut keys
- o **CTRL** & **PRT SC** – screen copy
- o **CTRL** & **A –** select all
- o **Ctrl** & **C – copy**
- o **Ctrl** & **V - paste**
- o **SCROLL LOCK** on/off – use direction keys for screen movement/cursor movement.
- o **~** key – used for 1st entry for file listing.
- o **WINDOWS** key (shortcut key to Windows Menu Bar).

- • **Touch typing (QWERT)**. Note the F and J keys have bumps. This is the index position. The thumbs rest on the spacebar.
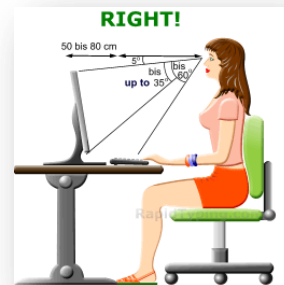
JOYSTICK

A joystick is a controller panel plugged into the computer via USB. It is mostly used for gaming however it may be used for special programs such as graphical programs.

The joystick has direction keys and fire buttons (up to 2- 8). No special drivers are required however you will need to set the joystick to each game module.

ADDITIONAL SCREEN/LCD PROJECTOR

You may add a second screen (especially easily with a LAPTOP) to a computer to improve productivity. You will require a screen splitter with a desktop computer. To add use the FN keys or use of IWCS Quickies to access the Screen Panel.   You may select any of the following options:

- • PC Only
- • Duplicate
- • *Extend*

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- Screen only (No PC)

This is the most effective method of increasing productivity and having a multi-function program capability during presentations (continue work/notes with main screen and presentation with second screen). Ensure the correct **resolution**.

You may swap the screens (left/right). If your laptop is not able to detect the second screen, then you have the incorrect drivers installed for your VIDEO.

Ensure with LCD projectors, that you first connect and switch on the LCD Projector before you switch on the computer (especially LAPTOPS). Use the **FN** keys to select the LCD projector and setting the correct screen method (extend, duplicate, screen only). Always confirm the correct port (VGA, HDMI). The **remote you get with the LCD projector** is only to control the LCD projector, and not the presentation – you will require a presenter to control the presentation.

TROUBLESHOOTING KEYBOARD, MOUSE, JOYSTICK & SCREEN

- Check USB Port.
- Check any lights.
- Check drivers (if applicable).
- Confirm if game/application can use a joystick.
- Confirm screen is plugged in correctly (power and input – VGA, etc.)
- Check VGA, DMI or HDMI cable for screen.
- Confirm drivers for screen (VGA, etc.)
- Confirm which screen setting is correctly set.

PRINTER/SCANNER/BARCODE SCANNER

Before purchasing a printer/scanner **ensure the reason and type of printer required best for that reason.** Remember to confirm the following:

- Laser/Ink Jet/impact printer.
- Cost of toner/cartridges.
- Service package with printer?
- Types of media to be printed?
- Expiring cartridges?
- Quality required?
- Back to Back and borderless?
- Drum?

Ensure the following with all printers:

- Install drivers.

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- Setup printer as default printer (Control Panel/IWCS Quickies)
- Ensure draft and A4 paper size as default.
- Ensure to print a page a week at least.
- Service printer at least once a month (software service).
- Ensure not to store cartridges/toner in warm or wet area.
- Remember if you purchase a Brother for instance, the drum unit is separate (new HP models as well)
- Ensure that network printer has correct drivers pending the Windows Version (windows will auto download drivers from the server computer, if the Windows Version is different, then the downloaded drivers will not work correctly even though it has been reported; correctly installed).

SCANNER

A scanner is a device (fixed table top or mobile) that is used to scan documents as a digital copy. Take note of the following related to a scanner:

- Install driver.
- Scan directly to a computer or mobile device (memory stick, etc.)
- You need to indicate AS what you are scanning:
    - Image (JPEG)
    - PDF
    - OCR (optional – pending software)
- PDF can be converted to a MS Word document using PDF convertor (cost or internet upload/download – security?)

BARCODE SCANNER

This has become an essential device for all computer users, especially data capturers, market retail, asset controllers and programmers.

This device will read a barcode (1D or 2D) and convert it as text to the computer (focus screen/cell/field). It ends the input with a **HARD ENTER** key (bleep sound ENTER).

Barcodes are created with barcode or QR creators - See IWCS Quickies.

PS2 scanners needs to be set to factory settings (see model booklet for configuration). USB scanners don't need to be set.

WEBCAM

WEBCAM has also become an integrated equipment piece with any database or security related program. You can mainly use it to communicate (SKYPE ®), security applications or even as an interactive smart board system. Remember to confirm the following:

- Install the driver.
- Image quality (VGA, HD, 4K).
- Frames per Second (FPS).
- External or internal (laptops).
- With or without a microphone (build in).
- Software support.
- IP or Webcam are two different cameras and should not be confused.
- Ensure to select the correct camera with multiple installed cameras.

OPERATING SYSTEM (O/S) –SOFTWARE

What is it?

In addition to hardware, a computer needs software to function. Software sends instructions to the hardware to perform the required tasks.

The O/S therefore has the following tasks:

- It controls and manages the hardware (plug-&-play: most accessories require its own software drivers to work however as the O/S is not able to detect all – alternatively you may install/upgrade drivers from the Internet).
- The O/S is a graphical user interface (GUI) that allows you to access and configure the hardware and accessories as required (configuration).
- The O/S is a menu program to all the programs (software) installed.
- The O/S allows you to access the drives, folders and files on a computer (computer resources = hardware support plugged-in).
- Establishing and securing networks – authorization (when you establish the level of permission per networking user = printer usage, internet usage, read or write to files ability).

A computer therefore is not able to work without an O/S. Take note that when you purchase a computer there MUST be an O/S installed already. The O/S that we will present during this course is Windows 7 ® and Windows 10 ®.

To confirm which O/S you have currently installed:

- **IWCS Quickies:** **TOOLS – WINDOWS – VERSION** or
- **Right mouse** click on **MY PC** (Win 10) or **MY COMPUTER** (Win 7).
- Confirm the System Type:

System type:	64-bit Operating System, x64-based processor

Other O/S (platforms)

You will also find the following O/S:

- Macintosh (Apple ®)
- Linux (open source operating system – machine language, servers, cameras, etc.)
- Android ® (mobile devices)

Activation?

Firstly you need to know that the Windows ® O/S is not for free. It is included in the price of your computer. You will have the following Window O/S condition:

- New computer with Windows O/S installed – must still be activated (use key code on Window ® original sticker (bottom/side of computer).
- You get different versions:
    - XP (not supported anymore even though still used)
    - Version 7 Starter (new computer – basic functions – 32bit for portable netbooks)
    - Version 7 Home Basic (new computer – 64 bit, multiple functions, no 3D glass GUI, more network features,
    - Version 7 Home Premium (consumers complete for home use – commercial, added features, especially graphically, DVD recording)
    - Version 7 Professional (small business – commercial – more network functions)
    - Version 7 Enterprise (large business with WAN – security, encryption and more networking features)
    - Version 7 Ultimate (complete package with added network features)
    - Version 8 (replaced by version 10)
    - Version 10 Home (basic PC version) – 32bit
    - Version 10 Pro (touch features and multi devices – workplace, 64bit, commercial)
    - Version 10 Enterprise (added management features - cloud, 64bit, commercial)
    - Version 10 Education (optimized for schools. 64bit, commercial

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- o Version 10 IOT Core (robotic engineering, smart sensor,64bit, commercial)
- The versions differ in available software and network capabilities.
- Biggest difference with Windows 10: no more Ad-Hoc networking requires internet group – data is not compulsory; just requires a network router.
- Some games will not work with certain Windows Versions (Open GL and Direct X).
- Some printers and other accessories such as webcams will not work with Windows 10 and might require different drivers to be downloaded.
- An illegal copy may cause throttling and limited functions.
- Do not ever upgrade to a higher level Windows unless you upgrade the hardware as well.
- Windows does NOT include any other software (MS Office, etc.) You will still need to pay for either the package or activation of trial versions.
- Once you receive and activated the Windows, you MUST CREATE A SYSTEM RESTORE POINT.
- If you wish to reinstall your Windows due to a virus, faulty O/S, etc. then:

  - o Option 1:
    - Ensure all data and drivers are stored elsewhere (disks or mobile drives).
    - Insert Disk and ensure boot-up is set to optical disk drive.
    - Format computer (NTFS, not FAT32).
    - Install Windows.
    - Install system drivers.
    - Re-install all software.
    - Transfer data back to respective drives.
    - Activate Windows again.

  - o Option 2:
    - Ensure all data and drivers are stored elsewhere (disks or mobile drives).
    - Load System Restore Point.
    - Select the respective restore point per date.
    - Re-install software and drivers applicable.
    - Transfer data back to respective drives.

  - o Option 3:
    - Ensure all data and drivers are stored elsewhere (disks or mobile drives).
    - Use the reset button (Lenovo) or install backup system.
    - This will clear the machine and re-install it according to factory settings (drivers are pre-installed here).

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- Re-install software and drivers applicable.
- Transfer data back to respective drives.

LAYOUT & FUNCTIONS

Just remember the primary function of Windows ®: It is to control the hardware and software on your computer. Forget about all other programs (word processing, presentation, educational, games, video and music players, etc.)   Focus only on the Windows ® O/S.

Use the computer mouse pointer to hover to and select a function.

GENERAL LAYOUT OF THE DESKTOP

Each Windows version (7 & 10) differs, not so much in the appearance (excluding TABLET view), but in respect of:

- Applications available.
- Taskbar/notification bar and Tray bar.
- Automated functions.
- Network functions.
- Compatibility with previous applications.

WINDOWS 7 ®

Log On Screen

You will be required to log on with your unique ID should the computer have a log on ID.   If you are to purchase a computer and the owner is not aware of the password, it is probably a stolen machine.

Desktop layout

The following will appear for you to work from:

- **Windows Start Button with Application List**
- **Desktop area**
- **Task Bar**
- **Tray Bar (click ^ button and then select custom to indicate which icons to display)**
- **Gadget Pane**
- **Network Indicator**
- **Volume Indicator**
- **Date/Time indicator**

Battery Indicator (laptops)

To add Gadgets to the pane, right mouse click on the desktop and select **GADGET**
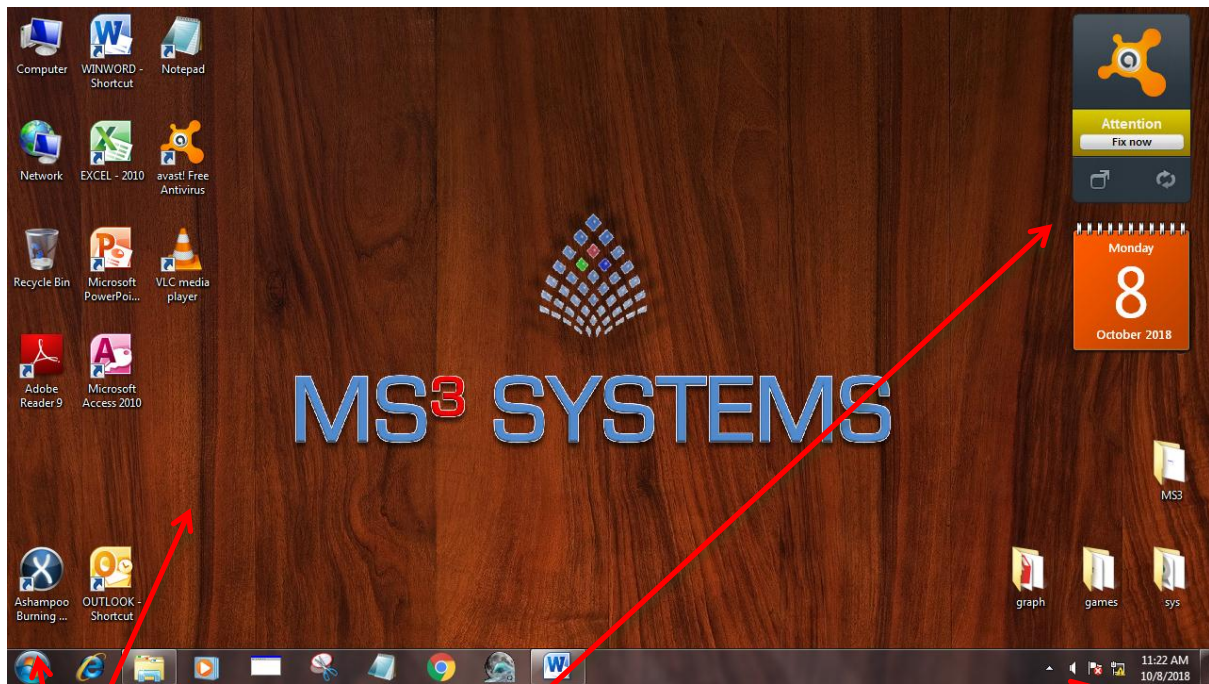
WINDOWS 10 ®

Log On Screen

You will be required to log on with your unique ID should the computer have a log on ID. If you are to purchase a computer and the owner is not aware of the password, it is probably a stolen machine.

Classic Mode (await program execution)
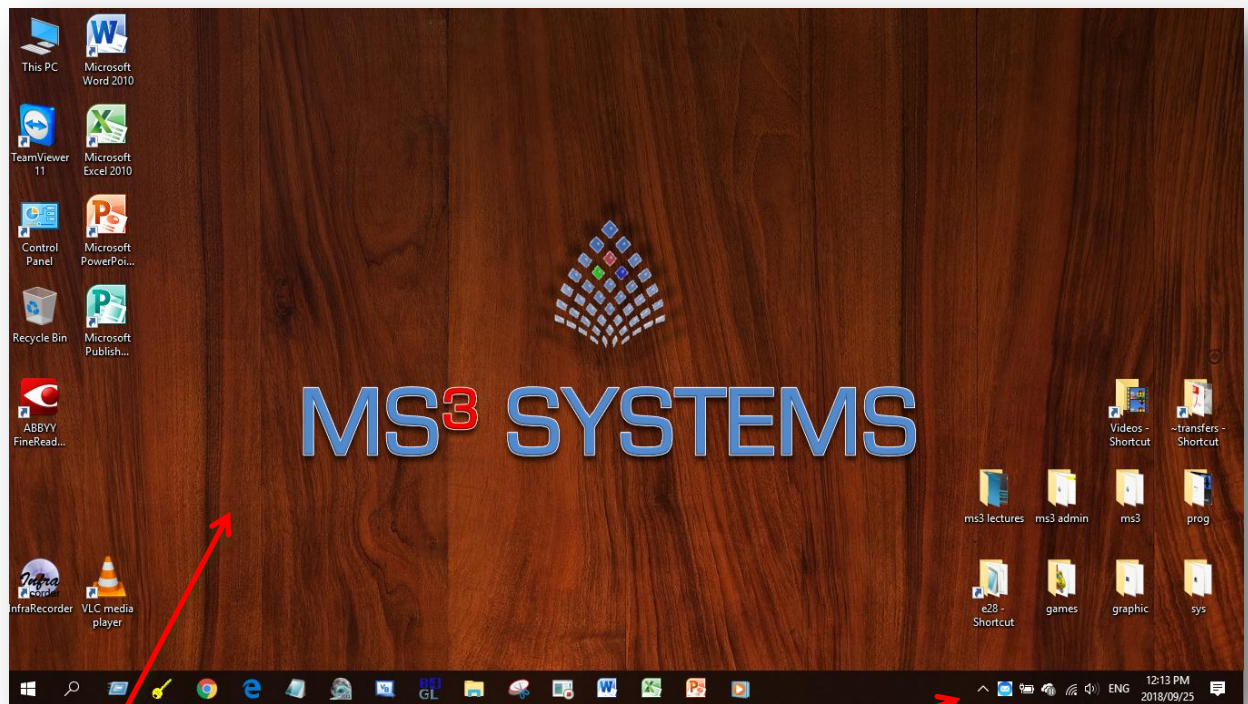
- **Windows Start Button with Application List**
- **Desktop area**
- **TaskBar**
- **Tray Bar**
- **Notification bar**
- **Network Indicator**
- **Volume Indicator (if no sound indicator – no speaker/earphones/driver)**
- **Date/Time indicator**
- **Battery Indicator (laptops)**

Tablet Mode (touch screen devices - live active mode with running applications and data)

- **Windows Start Button with Application List**
- **Desktop area**
- **Tray Bar**
- **Notification bar**
- **Network Indicator**
- **Volume Indicator**
- **Date/Time indicator**
- **Battery Indicator (laptops)**
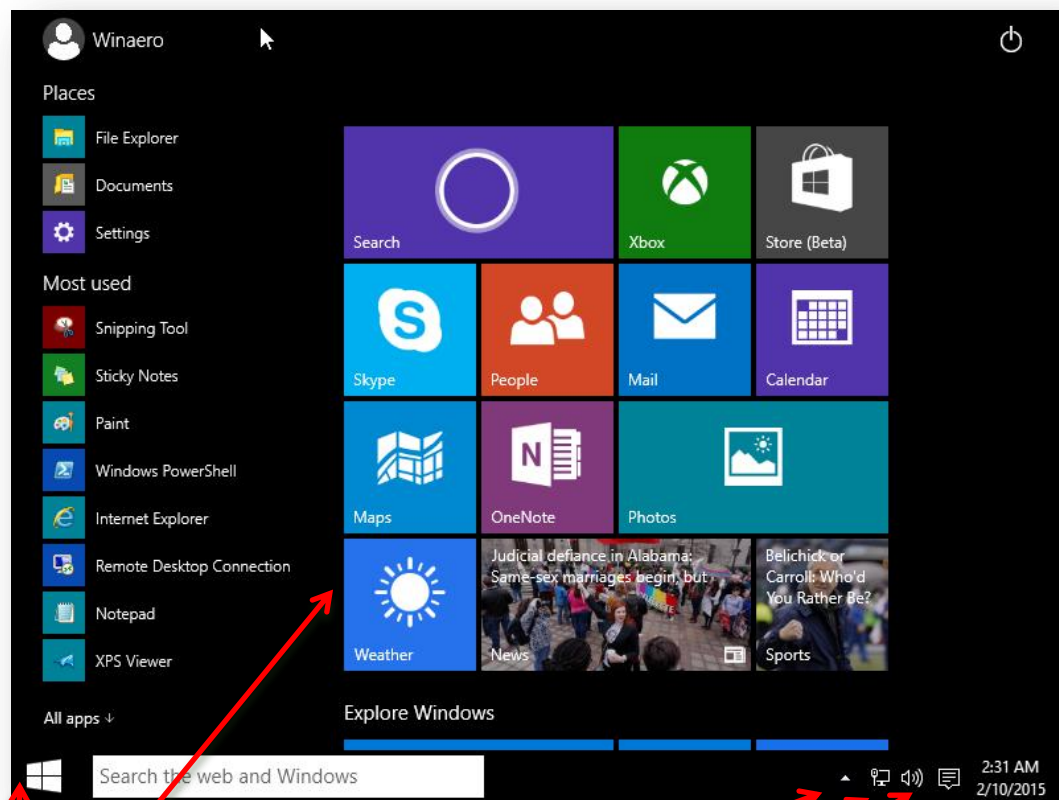
To enable TABLET view:

- WINDOWS button and A.
- Switch on TABLET MODE.

The APP ICONS and TASKBAR are hidden. TILES instead of ICONS are displayed – only if you have pinned it to the TABLET VIEW. Tablet view will use a great deal of data and is not advised if you are using metered data.

TO ADD A TILE TO THE TABLET VIEW

> Find folder/file using Windows Explorer or application from the START APPLICATION LIST.
> Right Mouse Click on it.
> Select PIN TO START

TO REMOVE A TILE FROM TABLET VIEW:

- Select each Tablet Icon (right mouse Click).
- UNPIN FROM START
- You may UNINSTALL an entire program from here as well.
- Remove from Tablet View (if available).
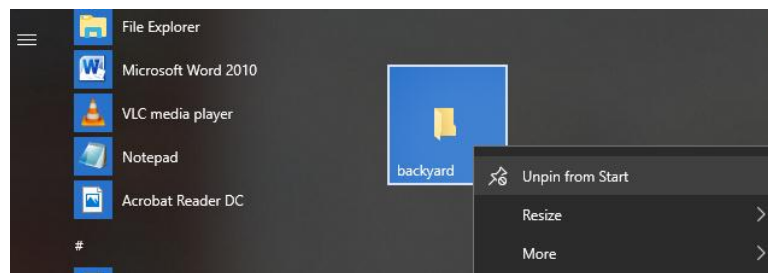
EXTENDING TABLET VIEW (PHYSICAL SIZE)

Place mouse cursor on border area of Tablet View or Application List view until you see an enlargement arrow (mouse cursor). Now drag and drop to the desired size.

Take note of the following EXPLORER VIEW functions with Windows 10 – Open MY PC and then click on the VIEW TAB. Note the File Extensions and Hidden Files. CHECK them if required.
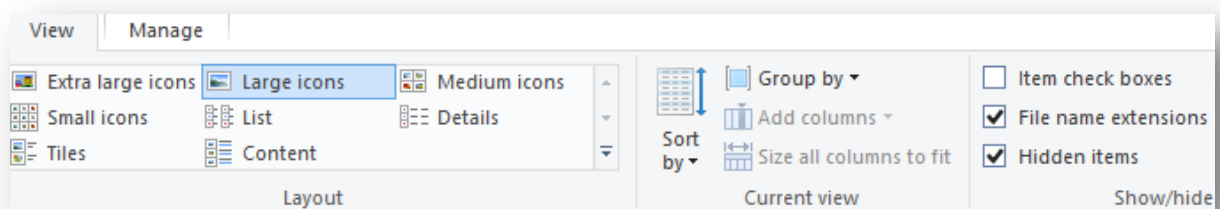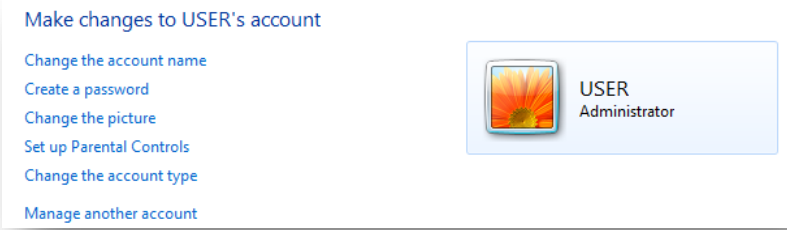
WORKING WITH WINDOWS 7

Win Start Button/Start Bar

- Press the **WINDOWS** keyboard button or **ONSCREEN** button

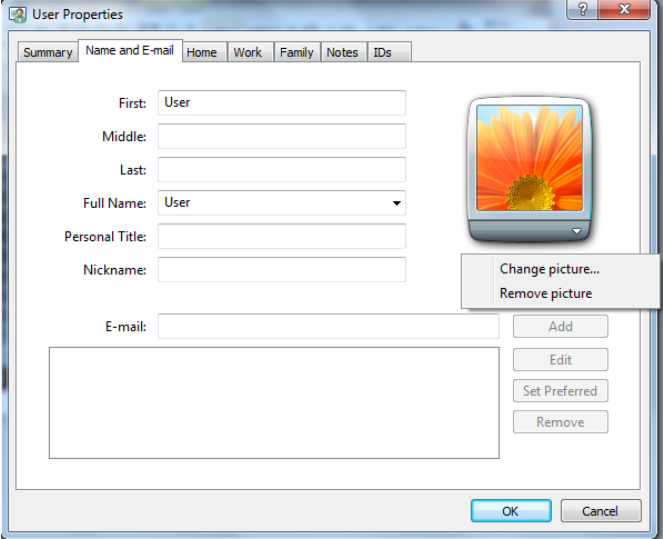|	Main applications and most used applications list in left side of navigation pane. The > entails multiple projects/ documents within that application. View all the installed applications. User Settings Document Folder Image Folder Music Folder Settings (Control Panel, Devices & Printers, Application/association function) Shut Down/Reboot/Log Off Search for application or document or folder or file. Right mouse click to remove any entry.
	All programs **List all the installed programs.** You may **scroll down** to view more. **Startup** is the last phase of the boot process (load and run the following programs) Simply click an application to run it. To remove an entry**, right mouse** click it and select **DELETE**. You may also send any application to the desktop – **right mouse** click and then **send to desktop.**

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Double click the USER you wish to edit.

USER

Select **USER** on **WIN BAR**.

Select **Contacts**

Alter personal account settings (not for log on). You may add more contacts as well.

USER: CHANGE ACCOUNT SETTINGS

Edit your account:

With change the account type you may activate the member as an ADMINISTRATOR or not.

Select ADD OR REMOVE USERS from CONTROL PANEL or select from the USER IMAGE on the WINDOWS BR.

Select the USER applicable to EDIT

Adding a new USER.

Power Options

- Log Off
- Sleep
- Shut Down
- Reboot

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CONTROL PANEL

System & Security	
Prevent unauthorized software from sending information from your computer and from entering your computer.	**Windows Firewall**
Confirm memory and entire Windows system on the computer.	**System Information**
Update your version of Windows (Data)	**Windows Update**
Clear the computer from unused and resource files/applications.	**Free Disk Space**
Appearance & Display • Change theme. • Change background • Change resolution and display settings for multiple screens.	**Display Setting** - Select screen 1/2 (if applicable) - Swap multi screens (drag & drop). - Change brightness - Night Light - Resolution - Orientation - Multiple display setting - Duplicate/extend/only

Hardware & Sound
• **Devices & Printers**
  Right mouse click to activate as DEFAULT printer
  Right mouse click to call preferences
  Right mouse click to call printer properties
• **Sound Settings**
	Sound Setting
	- Speaker selection
	- Input (mic) selection
	- Volume

Hardware & Sound	**Power & Sleep** - Screen power off mode (time) - Sleep power off mode (time)
Programs • **Uninstall an application.** • **Turn Windows Features on/off**	Media Application (turn off)
Network & Internet (to be discussed later on in detail)	

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Personalization - Set desktop image - Set colours - Set Fonts - Set Lock Screen (startup) - Taskbar (visibility)	
Apps & Features	
	Apps & Features
Accepting new installations (programs)	**Set to WARN ME**
List of all installed applications	**Select – MOVE or UNINSTALL**
	Default Apps
Email Maps Music Player Photo Viewer Video Player Web Browser	**Click and identify the default program to run with association of file (extension)** **Only applicable if software was installed – refresh as you install new software.** **Associate applications by file type.**
Set which application will start with the Boot-Up process and be visible in the TRAY Bar. Hover above the right greyed block to view desktop only.	**StartUp**
Clock, Language & Region	
	Date & Time - Set date & Time
	Region & Language - Set country & language
Ease of Access	
Display	Enlarge screen content
Cursor & Pointer	Alter size and color of cursor & Pointer
Magnifier	Use the magnifier function to enlarge the area where the mouse is hovering (presentations)
Narrator	Switch on and set narrator to read content on desktop
Speech	Switch on voice recognition and dictation (type when speaking)

Default Program association

All programs will automatically call a document\file according to its file extension (.bas, .xls,

.doc, .pdf). This is called association. It is however not the program, but the extension that is being associated. To call this function, from the Windows Bar:

- Set according to program.
- Set according to extension.
- Set auto play functions (auto.inf) – when disk is loaded.
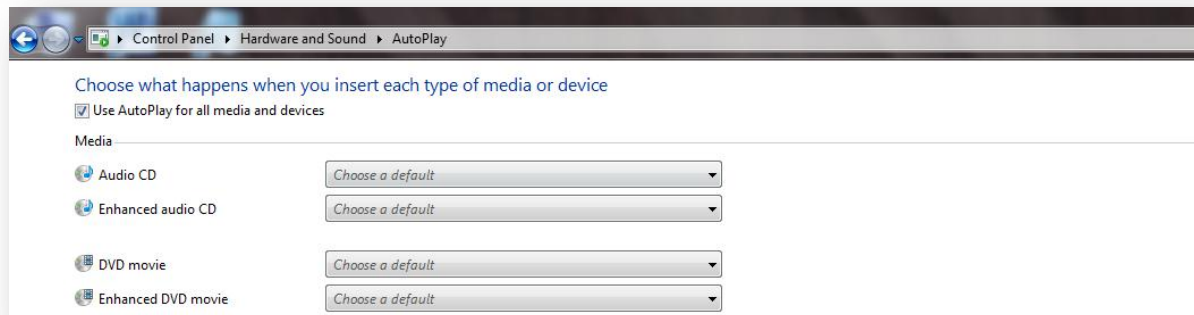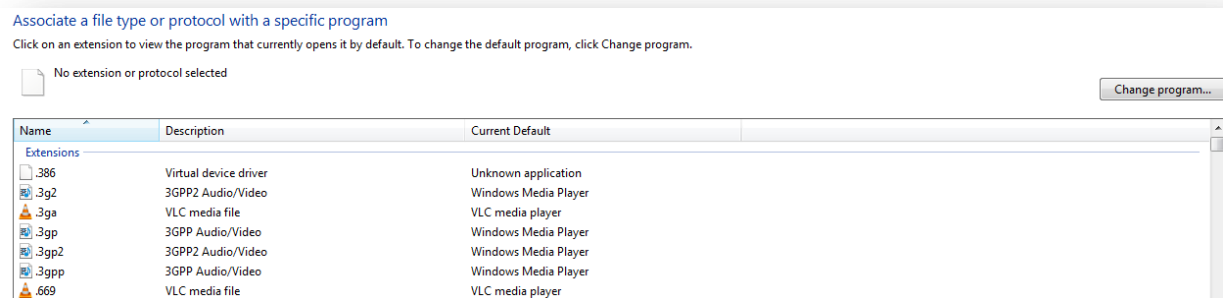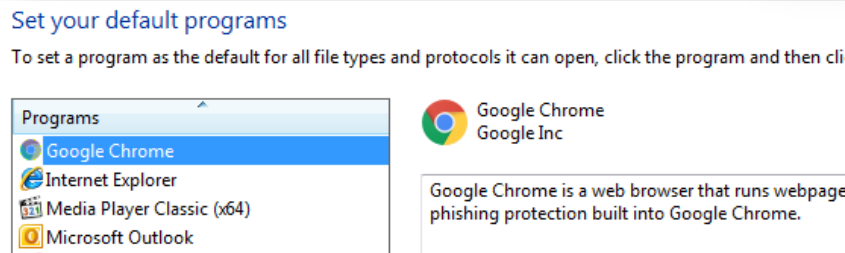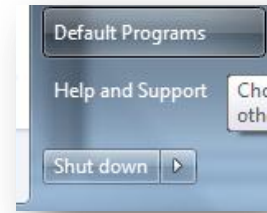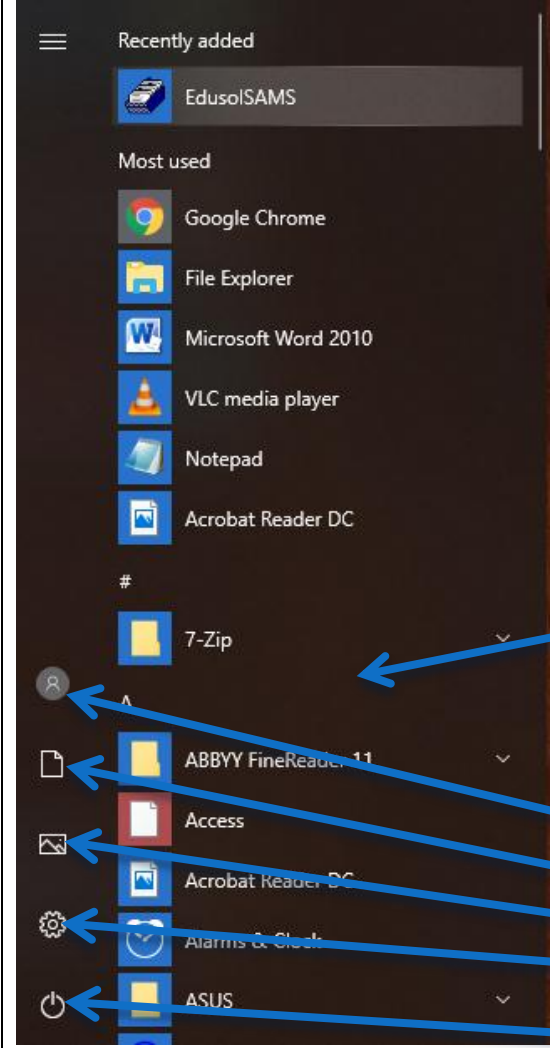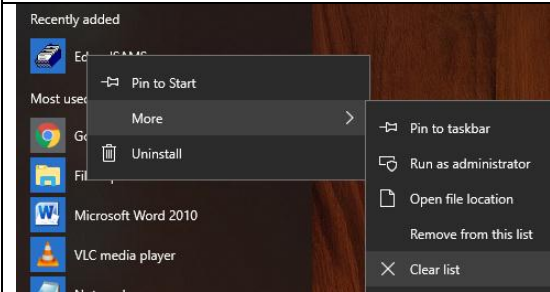
WORKING WITH WINDOWS 10:
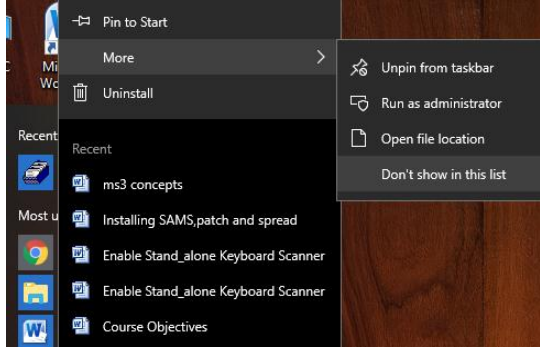
Win Start Button/Start Bar

- Press the **WINDOWS** keyboard button or **ONSCREEN** button

	Recently added software (programs added recently). Vertical scroll bar of entire WINDOWS BAR (scroll mouse wheel up or down) **Most Used programs** **All applications (grouped alphabetically)** More options within this application User Settings Document Folder Image Folder Settings (Control Panel) Shut Down/Log Off/Reboot
	Remove or clear list from recently added • Right mouse click on any entry. • Uninstall capability (remove program) • PIN to taskbar • Run as ADMINISTRATOR (compatibility) • Open FILE LOCATION • Remove from list (selected only) • CLEAR LIST (clear entire recent list)

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Pin to Start More Uninstall Recent ms3 concepts Installing SAMS,patch and spread Enable Stand_alone Keyboard Scanner Enable Stand_alone Keyboard Scanner Course Objectives Unpin from taskbar Run as administrator Open file location Don't show in this list	**Most Used Programs** - **Left mouse click opens program** - **Right mouse click to view options** Uninstall Unpin Don't show on List **Display recent docs (saved projects)** *Remember each program has unique and custom settings\options.*
Change account settings Lock Sign out ASP.NET Machine Account Guest 7-Zip A	**User Settings (current user):** Change Account Settings Lock the account (requires password to unlock the system) Sign Out and sign in as different User.
USER: CHANGE ACCOUNT SETTINGS (Administrator) Your Info (photo) Sign-in Options (password)	**Adding More Users:** - Family & Other People - Add someone else to this PC - Enter USER NAME and password. **Removing an User:** - Select a user. - Click the Remove button.
ABBYY FineReader 11 Sleep Shut down Restart ASUS	**Power Options** - Sleep - Shut Down - Reboot

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SETTINGS PAGE

System Display, sound, notifications, power	**Devices** Bluetooth, printers, mouse	**Phone** Link your Android, iPhone	**Network & Internet** Wi-Fi, airplane mode, VPN	**Personalization** Background, lock screen, colors
Apps Uninstall, defaults, optional features	**Accounts** Your accounts, email, sync, work, family	**Time & Language** Speech, region, date	**Gaming** Game bar, DVR, broadcasting, Game Mode	**Ease of Access** Narrator, magnifier, high contrast
Privacy Location, camera	**Update & Security** Windows Update, recovery, backup	**Search** Language, permissions, history		

Call the settings page (we will only review some of the functions as there are more effective control panel functions at other function screens.

System

Display Select and rearrange displays Select a display below to change its settings. Some settings are applied to all displays. [1] [2] Identify Detect Brightness and color Change brightness	**Display Setting** - Select screen 1/2 (if appl) - Swap multi screens (drag & drop). - Change brightness - Night Light - Resolution - Orientation - Multiple display setting - Duplicate/extend/only
Sound Choose your output device Speakers (Realtek High Definition... ▽) Some apps are using custom output settings. You can personalize these in app volume and device preferences below. Device properties Volume 🔊 ————●———— 56	**Sound Setting** - Speaker selection - Input (mic) selection - Volume
	Notification & Action - Indicate which application may give notifications (notification field – bottom right)
	Power & Sleep - Screen power off mode (time) - Sleep power off mode (time)
Storage Local storage 🪟 This PC (C:) - 465 GB [231 GB used 234 GB free] **Click on drive to see what is taking most space.**	**Storage** - Set auto space saver - Free space now (remove unwanted and unused files such as temporary files) - Alter where content is saved automatically (drive)

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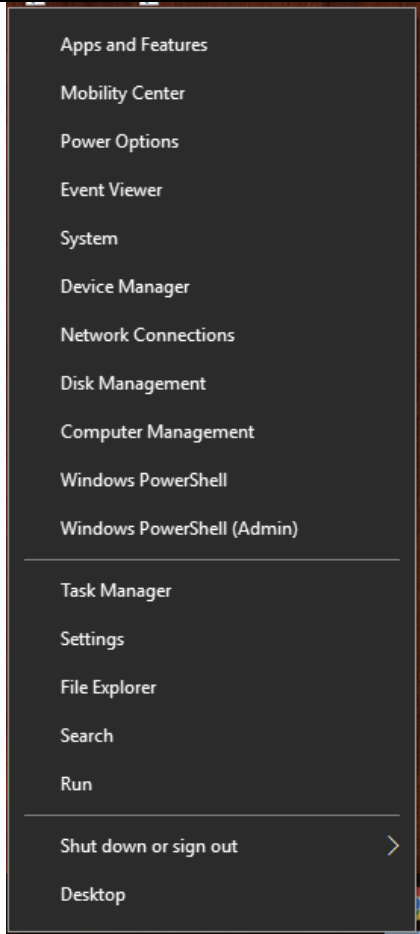|	
	Tablet Mode settings - Set tablet mode according to hardware (touch screen) - Hide taskbar in tablet mode.
	Multitasking - Snap (auto resize of window application to alignment of screen) - Virtual Desktop settings
	Remote Desktop (not all Windows 10 Versions)
	About - Indicate protection status per application. - Device specifications - Rename PC (for network purposes)
<mark>Devices</mark>	
	Bluetooth - Switch blue on and make system discoverable.
	Printers & Scanners - Select printer. - Open Queue - Manage printer (printer properties – sharing network & maintenance, preference – a4, draft, from last page) - Remove device.
	Mouse/Touchpad - Swap left/right mouse click. - Set mouse sensitivity.
	Typing - Set auto spell check and fix. - Set language
	AutoPlay - Set per removable drive - Memory card setting - Cellular connection setting
<mark>Network & Internet</mark> (to be discussed later on in detail)	

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Personalization - Set desktop image - Set colours - Set Fonts - Set Lock Screen (startup) - Taskbar (visibility) - Set which notification icons are visible/not.	
Apps & Features	
	Apps & Features
Accepting new installations (programs)	**Set to WARN ME**
List of all installed applications	**Select – MOVE or UNINSTALL**
	Default Apps
Email Maps Music Player Photo Viewer Video Player Web Browser	**Click and identify the default program to run with association of file (extension)** **Only applicable if software was installed – refresh as you install new software.** **Associate applications by file type.**
Set which application will start with the Boot Up process and be visible in the TRAY Bar	**Start Up**
Time & Language	
	Date & Time - Set date & Time
	Region & Language - Set country & language
	Speech - Set build in speech - Set microphone input capability (voice recognition)
Ease of Access	
Display	Enlarge screen content
Cursor & Pointer	Alter size and colour of cursor & Pointer
Magnifier	Use the magnifier function to enlarge the area where the mouse is hovering (presentations)
Narrator	Switch on and set narrator to read content on desktop
Speech	Switch on voice recognition and dictation (type when speaking)
Privacy	
Location (auto on)	Set to ON

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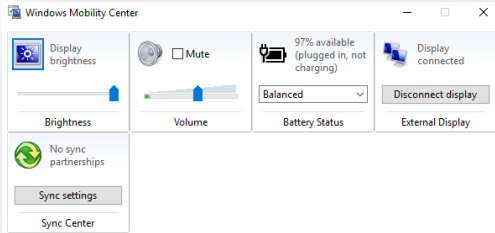| Use web cam with programs	Set to ON
Use microphone with programs	Set to ON
Update & Security	
Update	**Set active update timings (metered)** Download updates & install View update history **Advanced functions (set update on/off)**

Windows Power Start

To call this function you need to press the WINDOWS key and X (simultaneously). This will call a different Start Bar with the main Windows functions.

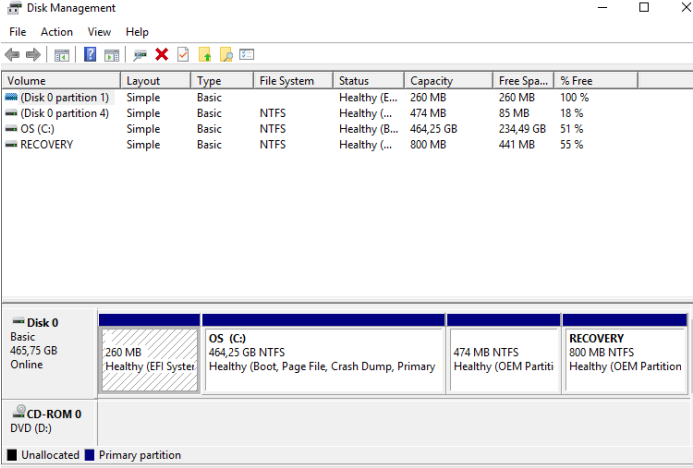|	
Apps and Features Mobility Center Power Options Event Viewer System Device Manager Network Connections Disk Management Computer Management Windows PowerShell Windows PowerShell (Admin) Task Manager Settings File Explorer Search Run Shut down or sign out Desktop	**NEW FUNCTIONS** (note f): **Mobility Center** (main output functions) **System** (shortcut to ABOUT – system summary) **Device Manager** (to be discussed later on) **Network Connections** (to be discussed in detail during the Network chapter) **Disk Management**

Device Manager

The Device Manager is used by the O/S to view and control the hardware attached to the computer (all plug-ins). This function is extremely important to confirm and fix any hardware that is not working correctly.
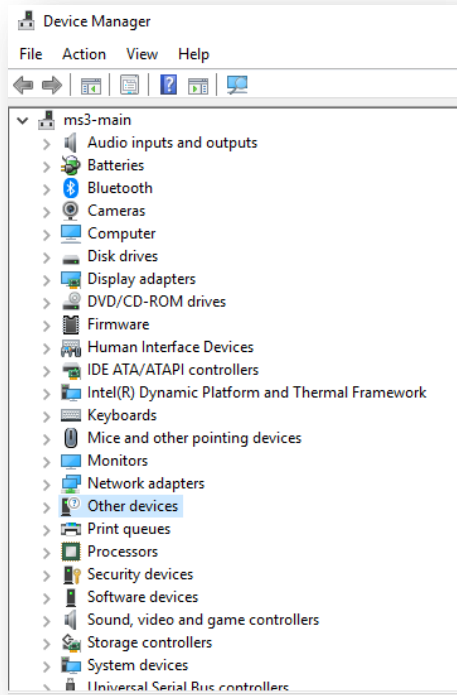
To **REFRESH** the list; **ACTION** – **refresh**.

What you are looking for is any **?** or **!** displayed with a heading.

To fix this:

- Select the heading >
- Select the device   marked by the ? or !

- Right Mouse click   and select UPDATE DRIVER.
- Select SEARCH   AUTO FOR UPDATE   – you will need to be   connected to the   Internet.

Search Bar

The search bar is to enable the user to search for an application\program or document related file. This is an object/item that is not visible within the Windows Start Bar.

Simply click the magnifying glass (next to the Window Button). Enter the object/item you wish to look for. As you type, possible search results will be displayed. When you see the possible search result:

- Click it to open the application/document.
- Drag it to the desktop/taskbar or pin to the Windows Start Bar so not to search for it again.

Control Panel

The Control Panel is similar to the SETTINGS function; however it is more focused on user control than Windows Control/Config. Control Panel with not be visible with Windows 10 as the SETTINGS button is the primary controller. To access Control Panel:

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- Open search function.
- Enter CONTROL PANEL.
- When found, drag to the desktop.
- Click to open.

		System & Security
		Review your computer's status.
		Change User Account Control

Printers & Devices

Right Mouse click to vie
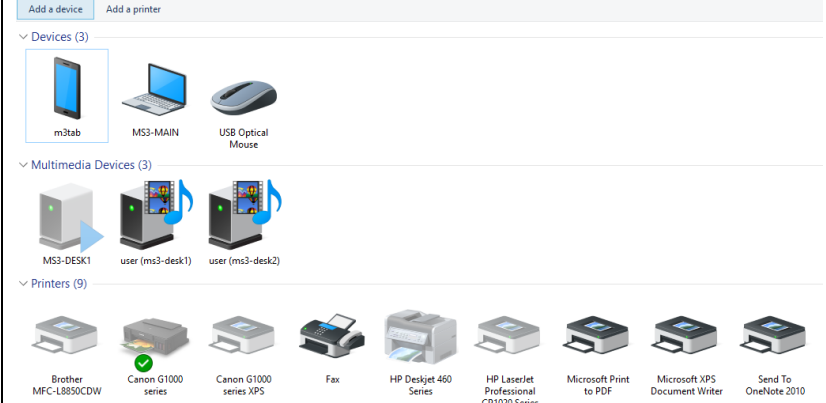options on printers:
- Properties (share)
- Preference
- Default

DESKTOP

The desktop area is referring to the O/S's GUI – Graphical User Interface. The desktop
area's Start Button has been addressed. The other fields of the desktop are:

- **Taskbar**
  - The current active programs.
  - Drag & drop applications into Task Bar as short-cuts.
- **Notification\Tray bar**
  - Monitoring software displaying information and notifications.
  - Software actively running in background.
- **Actual Desktop Area**.
  - Shortcut Icons for application\programs.
  - Folders used to group short-cuts.
  - Actual documents, etc. stored on the desktop as a location.

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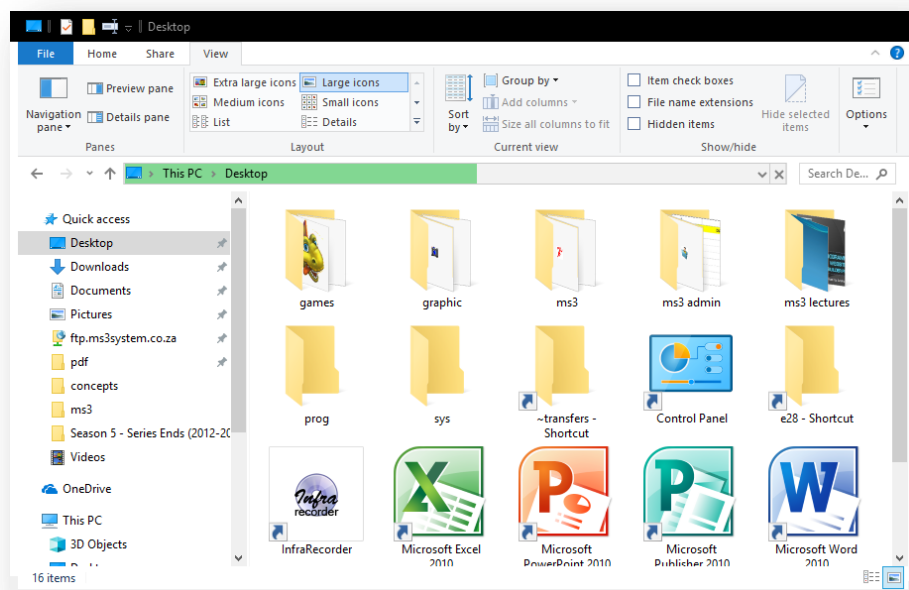
Desktop Control

The user may add short-cuts to the desktop to quickly and easily access most used programs or documents\etc. Any changes to the desktop (added\removal\positioning is stored permanently when the computer is being shut-down).

Adding an application\program to the desktop.

- Open the Windows Bar.
- Drag and Drop (as a link) the application to the desktop area.
- Remember that you may also open Windows Explorer whereby you may drag and drop any folder or file to the desktop.

Adding a folder to group content on the desktop
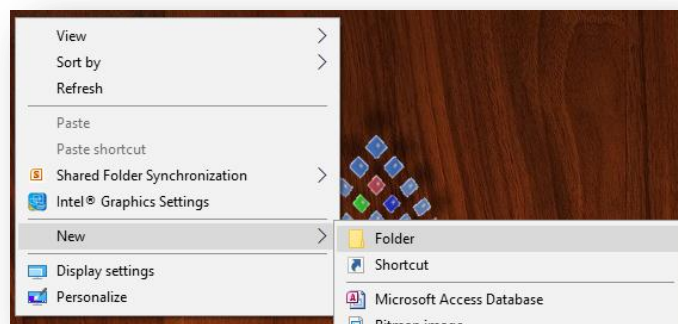
- Right mouse click on Desktop Area.
- Select FOLDER and enter name of FOLDER
- Move to the correct position.
  (Notice the *Display* and *Personalize* short-cuts on the option menu)

Alter appearance of content on the desktop Icons

-
- **Sorting** - Right mouse click and select the desired **view** …

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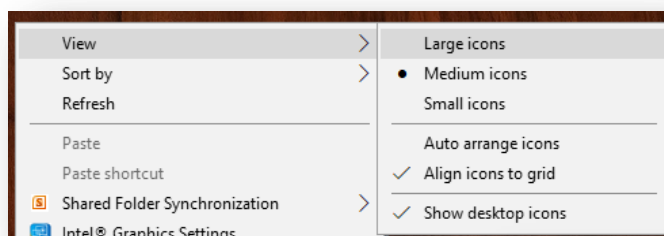
- **Altering Icon for folder**
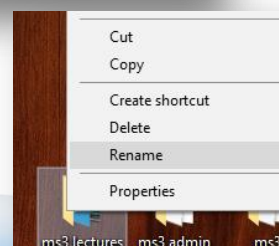
o   Right mouse click on Folder applicable.

o   You may **RENAME** the folder from here.

o   Select **PROPERTIES** for more functions:
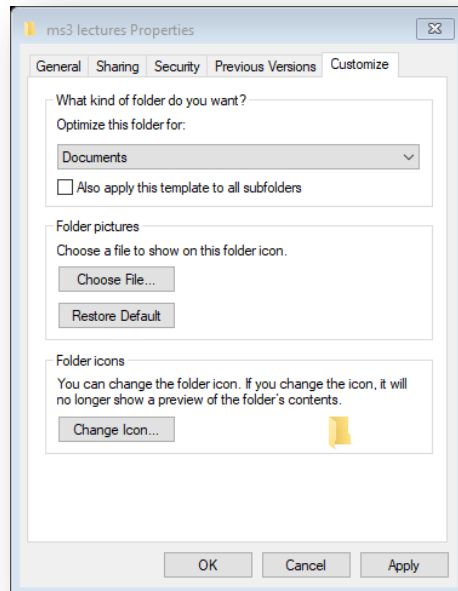
- **Share** network.
- **Customize** – alter ICON (ICO file format).

WINDOWS EXPLORER

Layout

Click THIS PC or Explorer Folder (taskbar)
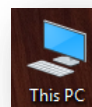
THIS PC will open the system level (parent explore page – main functions) while Explorer Folder displays the frequently used folders and files (pure explorer functions).

Windows File Structure:

Hard Drive (C:\)	DVD Drive/USB Drives	Network Drives
• C:\ • System Folders • Windows • Prog Files • Recycle Bin • Desktop • Downloads • User: • Docs • Pics • Videos • Music • Folders • Apps/Games • Docs (all formats)	• DVD/CD: • Read (progs/games/drivers) • Write (docs/backups - as an USB) • USB devices • External Harddrive (semi permanent/ backups) • Memory Cards (cameras) • Memory Stick (transport of data, NON permenanent storage)	• Cloud • FTP Drive • Web Drive • Common Drive (T:) • System Drive (Z:)

Figure 1: THIS PC mode (notice drives & other ribbon functions) - Taskbar Explorer is active.

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The desktop is divided into three parts (panes):

- Navigation pane (left side) – Drives and Folder main entry.
- Entry pane (right side) – list of files according to the selected Drive & Folder on the navigation pane.
-
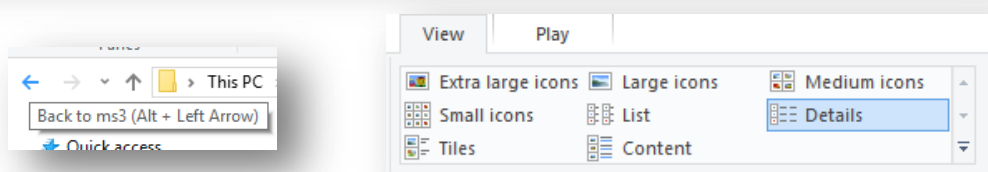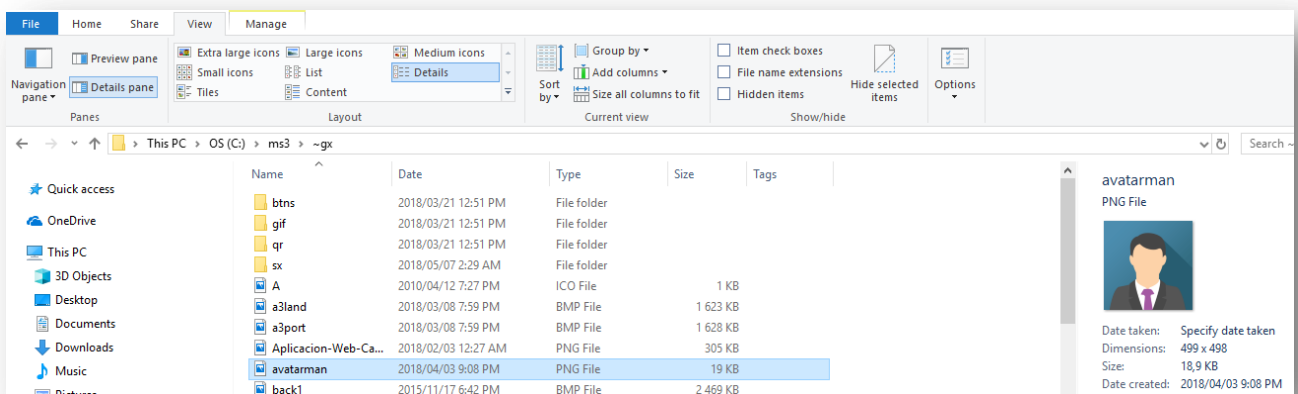
If you wish to increase/decrease the icon size or view the content properties, click on the VIEW tab (ribbon bar) and select the desired size of the icons:

Drives

Drives are the fixed/mobile drives. They are identified by an assigned letter. The following are standard assigned drives:

- C:\   Main hard drive.
- D:\   Slave hard drive (if applicable).
- E:\   DVD/CD drive (if applicable).
- F:\   USB memory stick.
  - To safely remove the memory stick:
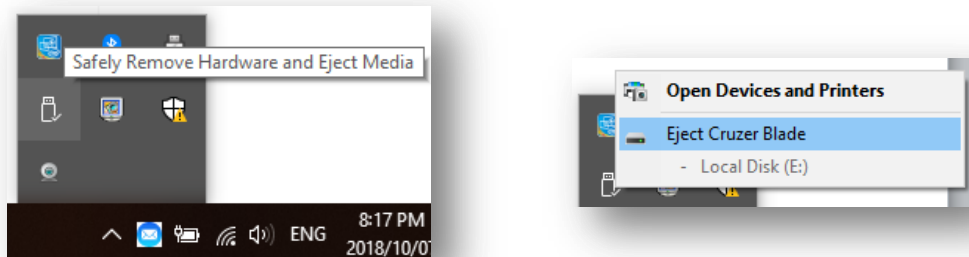
Figure 3: Right Mouse Click to view options – Select EJECT (Win 10) or SAFELY REMOVE (Win 7)

- G:\   USB memory stick.
- H:\   USB memory stick.
- T:\   Network drive (assigned).
- Z:\   Network System drive.

DVD drive is only visible on the list (right) if a disk is present.

The programs are stored on the (C:\PROGRAM FILES)

The O/S is stored at C:\WINDOWS

Do not ever delete/remove or alter any of the folders or files located there (abovementioned).

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To view the status of a drive; right mouse click on the desired drive. Select **PROPERTIES**. It is important that the drive is in NTFS format (larger than 4gig files per file).

You may clean (**DISK CLEANUP**) the disk from any unused sectors to save space (more free space).

You may also **share** the entire drive if required. You may also share the DVD drive with other computers on the network. Right mouse click and click on **SHARE** – **Advanced Sharing** – name the shared drive for identification (limited members to be indicated that may use at the same time to prevent overflow of usage).

Formatting of a disk

To format a disk is to clear that disk of all content permanently. You should only format a C:\ hard drive using a new installation of a O/S. To format a memory stick;

- Right mouse click on mobile device's drive.
- Select FORMAT.
- Ensure NTFS format – you may alter the name of the mobile device.
- Quick Format is a less secure method (information can be retrieved again using software such as RESCUVA.

Folders

Folders are an ICON to store a group of applications/documents/etc.

Functions related iro Folders:

Create a new folder

To create a new folder, click the NEW FOLDER

Properties of a folder (size, amount of files, etc.)

Right mouse click the folder and select PROPERTIES. You will now be able to view the size and size as contained by content of the folder and amount of files.

Read only/Hidden

Select from the Property Option the Read-Only function if required (you may not save or alter the

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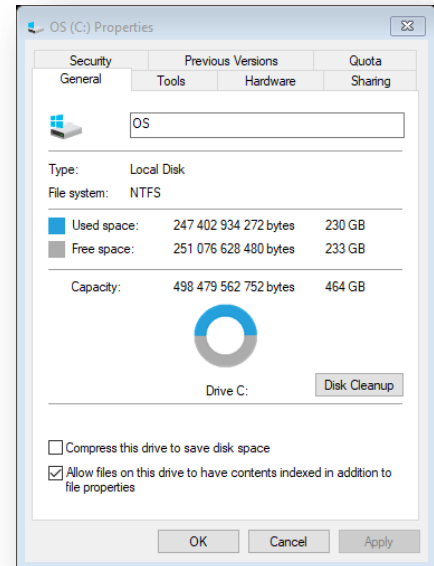
content within that folder). The **HIDE** function will hide the folder from users to be able to be seen.

Delete a folder

Select folder and press **DEL** key or right mouse click and select **DELETE** (make sure you wish to delete the folder and all its content). When you delete the folder, it will be moved to the recycle bin unless the total size is larger than what the recycle bin is allowed to contain.

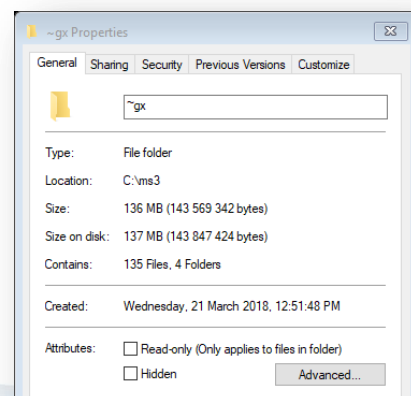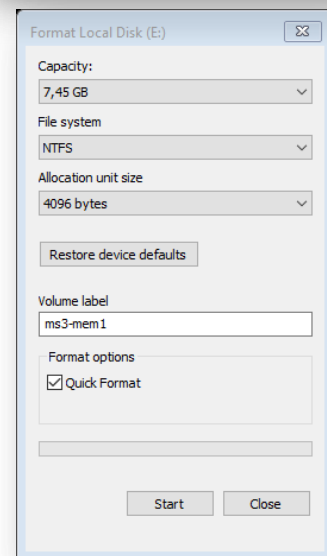## Copy/Cut a folder

- COPY (copy to the Windows Clipboard):
    o Select the folder and **right mouse** click – select **COPY**.
    o or Select the folder and press the **CTRL** and **C** keys simultaneously.
- CUT (copy to the Windows Clipboard and delete original after Pasting)
    o Select the folder and right mouse click – select **CUT**.

Transfer a folder (be careful of not copying the shortcut link .lnk – confirm afterwards the size of the files – .lnk files are 1 kb in size)

- Paste
    o After you copied a folder, find and open the respective destination drive and if applicable folder location – **right mouse** click and click **PASTE**.
    o or press the **CTRL** and **V** keys simultaneously.
- Cut/Paste
    o Instead of **COPY** you had to select **CUT**.
    o Find and open the respective destination drive and folder (if applicable).
    o **Right mouse** click and click on **PASTE** (this will now MOVE the entire folder towards the destination location and delete the original).
- Send to …
    o Select folder.
    o **Right mouse click**.
    o Select **SEND TO** … (mobile drive, etc.)
    o Select the desired destination (Bluetooth is devices such as Bluetooth dongles plugged into a computer and even cellular phones).
- Drag & Drop multi-screen.
    o Open (**MY PC**) the folder and align to the left screen.
    o Open a new (**MY PC**) the destination location (drive and folder) and align to the right screen.
    o **Drag and drop** the folder from left (origin) to the right (destination).
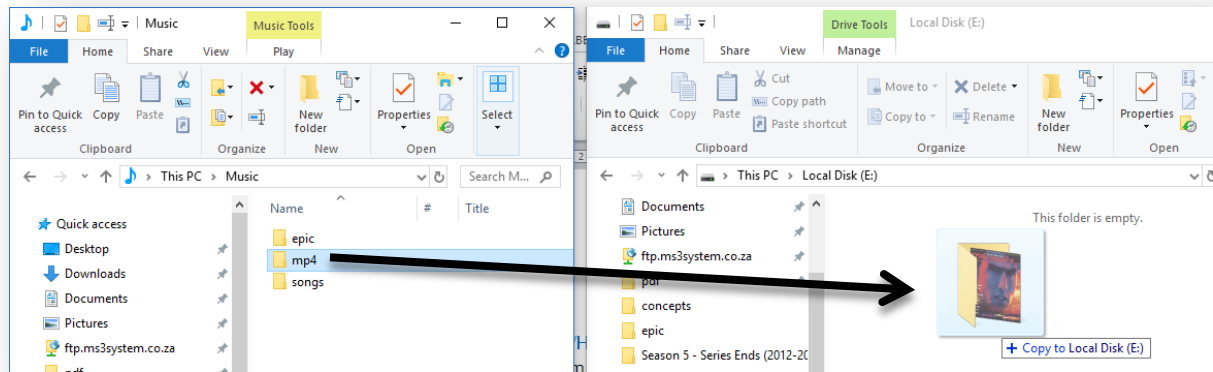
Files

Files are the individual files required by the program/application/system or user (documents). **The layout of a file is as follows:**

Drive:\folder**Filename . Extension**

Files have the following META data:

- Name
- Extension
- Date created
- Last date modified
- Last accessed date
- Time created
- Size (NTFS required for larger than 4gig files)

All files are associated with a Windows program so if you double click on a file (within Win Explorer) it should open with the correct program. To select files you may:

- Left mouse click the <u>individual</u> file.
- To select files in a <u>sequence</u>:
  - Hold in the **SHIFT** button during the entire process.
  - **Left mouse** click - select the first (starting file).
  - Scroll to the last file (bottom last one).
  - **Left mouse** click again (remember **SHIFT** is still held down).
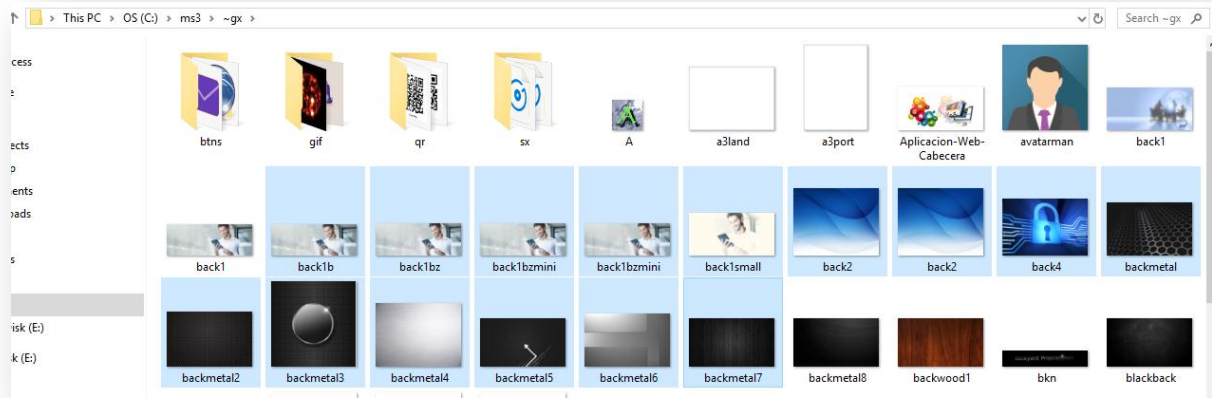
- Select <u>multiple files individually</u>:
    - o Hold in **CTRL** during the entire process.
    - o Select each file individually (**left mouse** click)
    - o To <u>de-select</u> an unwanted file, click it again using the **left mouse** click.
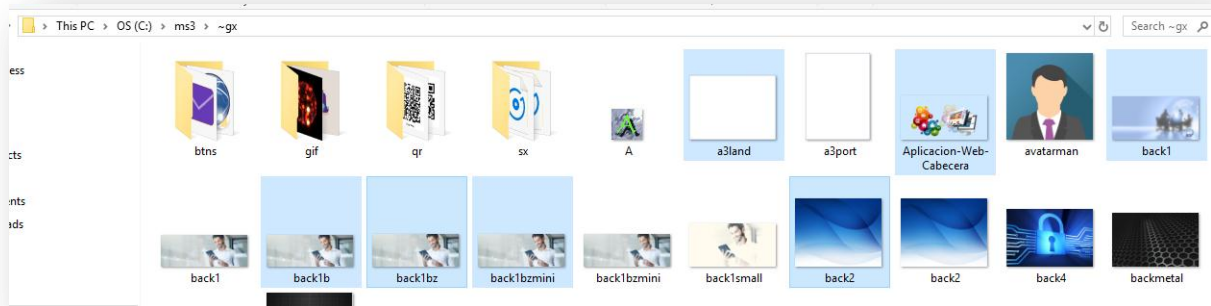
- Select all files within the selected folder: Hold in **CTRL** and press **A**.

To open multiple selected files with the associated program; release the SHIFT or CTRL key and press the ENTER key.

When you right mouse click on any of the selected files, the action selected (copy, send to ...) will be applicable to all the selected files.

Files are created according to their nature of task (executional, resource, supporting or data) and by which program they were created (BMP, DOC, XLS).

You will find the following main type of files.

System Files

System files are files required by the computer to run a program. Files such as EXE, COM, BAT, DLL, SYS, RES. Do not ever delete or alter these files in any manner. 99% of all program will install using the SETUP.EXE or INSTALL.EXE files. Internet downloaded install

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files could have a **MSI** suffix. To run these files (not associated, but stand-alone files), simply double click the file.

Should you run a program and it does not work due to incompatibility; then change the properties of the program:

- **Right Mouse** click on the program's short-cut icon.
- Select **PROPERTIES.**
- Select the **COMPATIBILITY** tab.
- Set to the **possible Windows Version** and **check the checkbox for RUN AS ADMINISTRATOR.**
- Click **OK.**
- **Re-run** program.
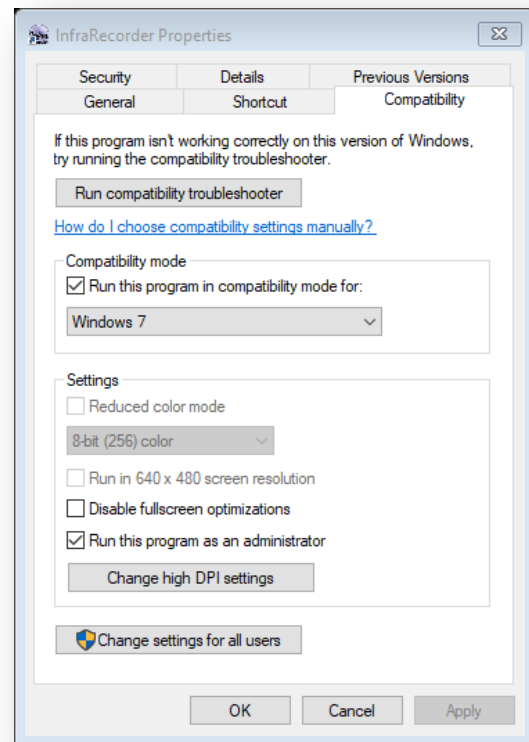
Whenever a program crashes or hangs, press **CTRL ALT** and **DEL** keys simultaneously to call the **TASK MANAGER PROGRAM.**

- Find the program not responding.
- Right mouse click on it.
- END TASK
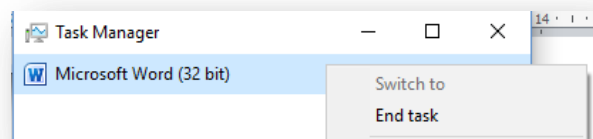
Doc related files

Document related files are data files that were created when the user stores his/her information as entered. So in other words they were created using a word processor type program such as Notepad (TXT), WORD (DOC), EXCEL (XLS), Programming language (BAS), PowerPoint (PPT). These files are associated so when you double click them, they will open with the associated program (double click file).

Image Files

These files are related to images and may be included in Word Processor files, games and graphic editors. The main type of files you may find:

GIF Animated	Animated files (low resolution and 16 colours only). Average file size.
PNG files	Transparent background. Small in file size.
JPG	Photo files. Average file size.
BMP	Most commonly used graphic format. Large file size.
3dx	3D image files
ICO	Icon files (High Resolution or 16bit 766kb icons)
CUR	Mouse cursor files

These files will open (double click) with the associated graphic editor program.

Video Files

These files are video file to be used to watch videos.

AVI	Large video files. Very commonly used for any player/editor. 720 x 568
MPG	Commonly used for compilation of DVDs and small in size. High Resolution. 1240 x 720
WMV	Windows related video files used for internet. Small file size. From 320x200 +
MP4	New format of video files. HD resolution. Small file size. 1240x720 – 1920x800
VOB	DVD video files (VOB, VOB1, VOB2, VOB3, etc.)

Music/Sound Files

These files are used to play music (requires media player or other music related software) or within games. Sound files are also referred to as FX used by games and videos.

WAV	Standard sound file used for FX and game sounds.
MP3	Standard music files. You may edit the ID tags to assist in the sorting of the files.
CDA	Cd music (need to download them). Take note

To copy a CD you need to RIP the CD. Standard Windows Media Player is capable of doing just that.

- Insert the CD into the DVD\CD Drive.
- Open ASHampoo and select from **MUSIC – RIP AUDIO CD**.
- On completion you may rewrite the songs as MP3; **MUSIC – create MP3 CD.**
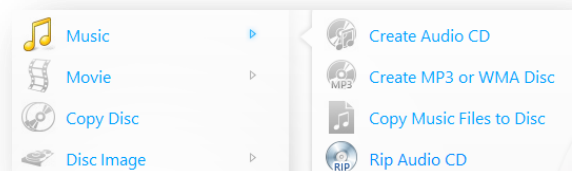
Standard Windows Media Player is also capable of ripping an audio CD to your hard drive

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– Insert CD, play with Windows Media Player and select RIP CD – select the songs and start the RIP process.

ZIP Files

Whenever you wish to compile a lot of folders and/or files as 1 file (to send via E-Mail or easy distribution), you need to compress the folders/files as a compressed file.

You get many types of compression software. The most commonly file formats are:

ZIP	Standard Windows Compression
RAR	RAR Compression software – requires special software such as PZIP or RAR.

To ZIP (Windows ZIP compression):

- (Recommended) Copy all the folders and files to a new folder (name the folder the project you wish to create).
- Right mouse click on this **new folder** and select **send to**...
- Select **COMPRESSED (zipped)** folder.
- A compressed folder will now be created. It is MUCH smaller in file size and is now capable of being sent via E-Mail or transported digitally (memory stick) or even published on a website for download – take note that free email can only send **25MB** email and NO **EXE** or **COM** files.
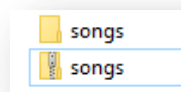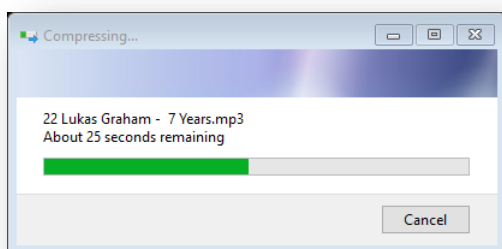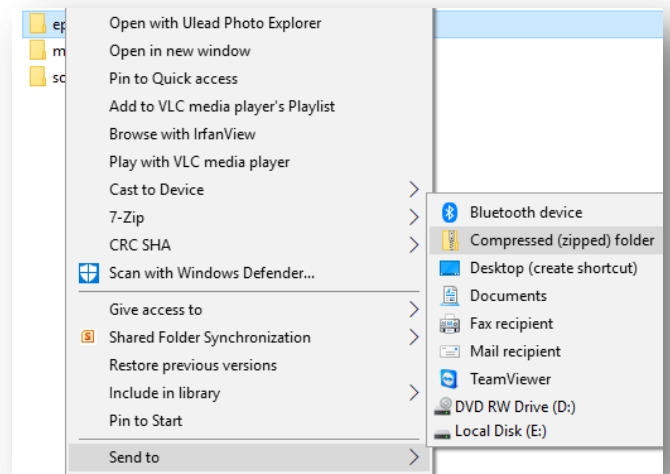
To UNZIP:

- Right mouse click on the ZIPPED folder (ensure original folder is not present).
- Right mouse click on the zipped folder and select **EXTRACT ALL...**

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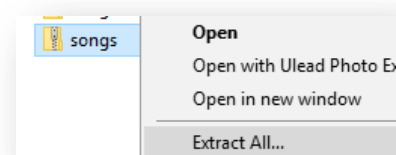
- Indicate the location where the folder must be extracted to <**BROWSE**>
- Remember to delete the ZIPPED folder if you require no more use for it.

ISO File

An ISO file is a single file when you copy a DVD (movie, game, etc.) or CD (music, game, etc.) With **Windows 7**, you need a DVD writer program such as NERO or AShampoo recorder to copy this file to a DVD (up to 4.2Gig) or CD (less 700MB) to be able to un-compress the ISO file to use it. **Windows 10** creates a virtual disk from the ISO file as if it was a DVD/CD drive. You are therefore able to view the content of the ISO file.

To create an ISO file:
- **Insert disk** (DVD or CD)
- Open **DVD/CD Recording program** (NERO, DVD Burner, **AShampoo**)
- Select DISK Image (AShampoo – it will differ using other software)
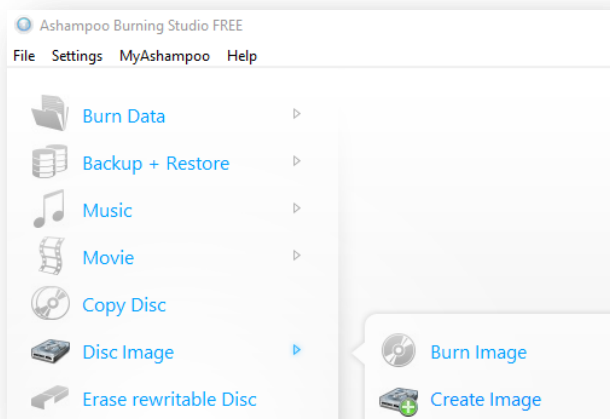
- After disk confirmation is done, click **NEXT**.
- Enter destination location for **IMAGE FILE** - select **ISO** Format – click **NEXT**.
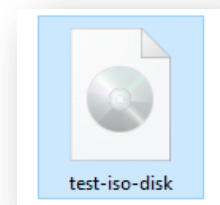
To rewrite the ISO to a disk (DVD/CD):
- **Insert blank disk** (DVD or CD – pending on ISO file size).
- Open **ASHAMPOO.**
- Select BURN IMAGE.
- Select image file (ISO) and click **WRITE** to disk.

Reading ISO as a virtual drive (Windows 10)
- **Double click** the ISO file.
- Run the SETUP/INSTALL file to execute virtual disk.

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Temporary Files

Temporary files are completed installation files and files created from backups/mirror files/printer files and resource files required by software to execute. They serve no more purpose except to take up some space. These files may be cleared every week or month at least (TMP files).

Temporary Disk (DVD/CD) files

You may write data to a DVD/CD disk directly by either coping it onto an inserted blank disk\current disk (with open session) or by SEND TO … DISK DRIVE. This however does not mean that the data is actually on the disk. The disk must still be finalized to have the data stored on it (write data to disk). This will then create temporary files on the disk waiting to be burned to the disk. To complete the process either click **FINALIZE DISK** or **WRITE TEMP FILES TO DISK**. With Windows 10; right mouse click on the blank white space below the last temporary file and select **BURN TO DISK**.
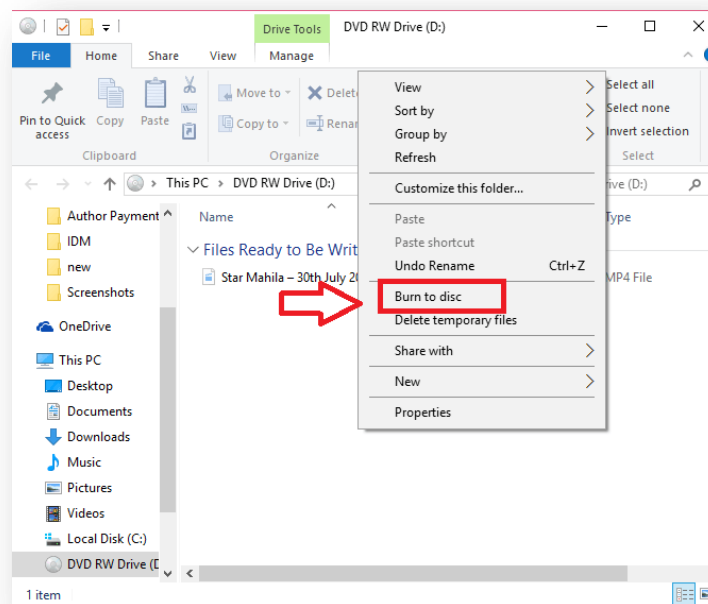
To confirm if a disk has data written on:

Since Windows 7 a disk may be used as a USB memory stick (over and over), however I would advise you not to do that unless it is a RW disk. When you buy blank disks, you may select any of the following:

- CD +R (once off CD 700MB high speed) x52 - *recommended*
- CD –R (once off CD 700MB) x16
- CD-RW (rewritable CD 700MB) x16
- DVD +R (once off DVD 4.2gig high speed) x24 - *recommended*

- DVD –R (once off DVD 4.2gig) x16
- DVD-RW (rewriteable DVD – 4.2gig slow speed) x8

DVDs and CDs are very safe media to store backups.

Network files
Network files are files used by internet and networks to establish and create a network. Files such as Cookie Files (internet related), XML (internet database), SQL files, HTML (web pages). You will find these files mostly on FTP and WEB DISK, however they will be present should you download any website or website pages.

The COOKIE files are actually temporary files that enable the Internet Browser to call your pages faster.

Searching for files according to type or name
You probably wish to find a file or program somewhere on your computer. Even if you have a well-structured filing system (folders – please take care of NOT SAVING DOCS onto your C:\ drive), you will at some stage look for a specific document
or even program:

- At the search bar either type in the name or part of the name of the document – as you type the search results will be displayed.
- You may also search according to the **suffix** – you must use the wildcard ***.** To indicate **ALL FILES** with suffix as indicated after the **.** for instance ***.png** will search for all **PNG** files.
- You may also **search for programs** in the same manner – remember programs have the ***.exe** suffix.

Please see the **SETTINGS** *button and* **FILTER** *(top right of search results) for further detailed filtering options.*
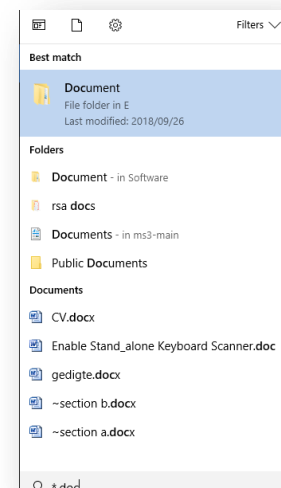
- Simply select the desired result when you see it (double click to open).

Crucial Folders
Crucial folders are those folders that are of great importance to both the user and O/S. Take note of the following folders:

- User Documents\
- User Music\
- User Images\
- User Videos\

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- Downloads\
- C:\Windows\
- C:\Windows\System32\
- C:\Windows\Fonts\ (right click font, INSTALL FONT)
- C:\Program Files\ (all newly installed software)
- Temporary Directory\ (see IWCS Quickies)
- Desktop Directory\ (see IWCS Quickies)
- Recent Directory\ (see IWCS Quickies)
- Printers\ (see IWCS Quickies)
- Internet History\ (see IWCS Quickies)
- Internet Cookie\ (see IWCS Quickies)
- One-Drive\ (Cloud – Windows 10)
- Mapped Network drives\

DRIVERS

Drivers are required for hardware to work – be it onboard motherboard hardware or accessories added to the computer (printers, scanners, etc.) Without these drivers, the equipment simply will not work or will only be able to do basic. No GENERIC drivers (even for the display) will be able to work as it supposed to.

Drivers (CD) will be supplied with the hardware, however it is not always compatible with your version or setup of your O/S. It is also possible that you have a Netbook that simply don't have a DVD/CD drive. To avoid this problem, you may:

- Plug in the hardware (USB, etc.) and wait for the **auto-install** process. You will be prompted that an unknown device was found and no drivers were detected. Select SEARCH VIA INTERNET.
- Use the internet to download the drivers via **Device Manager (***search bar: Device Manager* **or WINDOWS BUTTON and X)**. Find the device on Device Manager and right click it. **UPDATE** drivers.
- Open **CONTROL PANEL – DEVICES** – and when you see the device (it will have an yellow exclamation character on it (indicates unknown device), right mouse click, select **properties** and **UPDATE DRIVERS**.
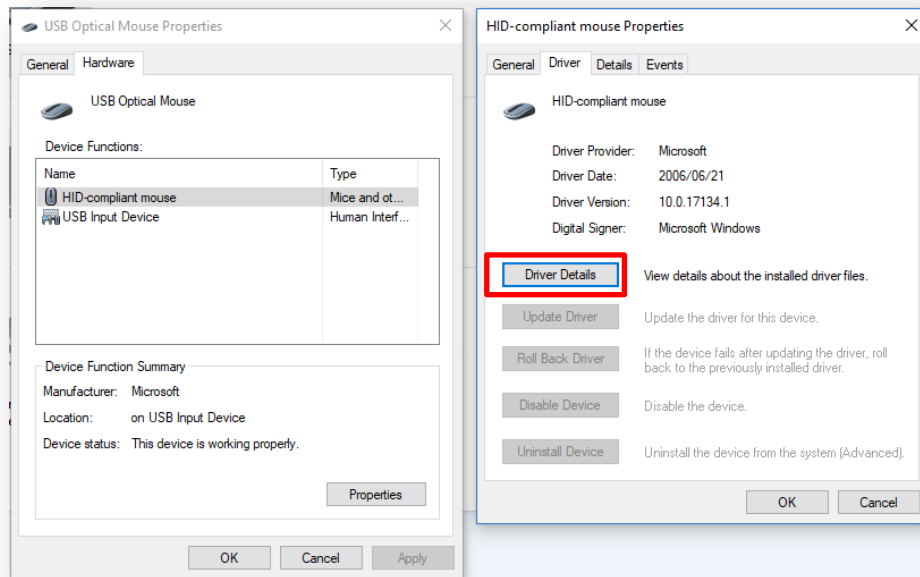
IWCS QUICKIES © (tools and explorer functions)

IWCSQuickies © is written to have easy access to the most required functions any user may have. Regarding the O/S, the following are available:

- Advice on purchasing a Laptop & Printer
- E-Mailing System (from desktop)
- Chat system (LAN)
- Windows Filing System:
  - o IWCS Explorer
    - System layout.
    - Shortcut views to crucial folders.
    - Advanced search system (find according to minimum size, date, etc.)
    - Windows Bar editor.
    - Windows Startup Editor.
    - Immediate opening by association.
    - Edit dates (creation, access and modification).
  - o IWCS FTP Explorer
    - Direct access to FTP server.
    - Folder add/delete.
    - Upload of files.
    - Download of files.
   - Preview according to association.

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- o Backups
  - ▪ Identify folders for backup
  - ▪ Backup to backup folder with date/time stamp.
- • Tools:
  - o Control Panel
  - o Display settings
  - o Screen Saver settings
  - o Printers
  - o Scanners & Cameras settings
  - o Mouse settings
  - o Multi-Media settings
  - o Power settings
  - o Time/Date settings
  - o System Config
  - o Alter Default Printer
- • Sound:
  - o Sound Recorder
  - o MP3 Tags

MASTER SETTINGS

Whether you just purchased a new computer or second hand you must set the computer to achieve the maximum capabilities and according to your own capabilities. Ensure the following settings are set (in this sequence):

- • Always activate Windows ®
- • System **Date/Time** is correct.
- • **Applications** – uninstall all unwanted software.
- • **List all TRIAL version software** – if possible remove them.
- • **Right mouse** click **recycle bin** and set size of files – remember this takes up space.
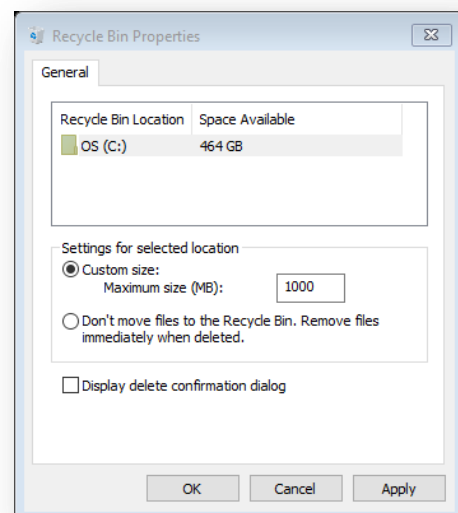
- Ensure hard drive is not full or almost full – you need a minimum of at least 8 Gig free – **CLEAN THE HARD DRIVE**.
- Set your location of saving documents to a drive other than C:\ (if possible).
- Open **Screen Saver** (IWCS Quickies) and set screen saver mode.
- Open **Power Options** (IWCS Quickies) and set Power Options.
- Open the **Application Association** (Control Panel) and associate the most commonly used program.
- Open **Device Manager** – ensure all **drivers** are identified correctly and installed.
- Set the **WINDOWS UPDATE** according to your data package. If you have limited data, ensure the following:
  - Type in **WINDOWS UPDATE** in the Search Bar and select **WINDOWS UPDATE SETTINGS** – Select **ADVANCED SETTINGS** and set to **OFF**.
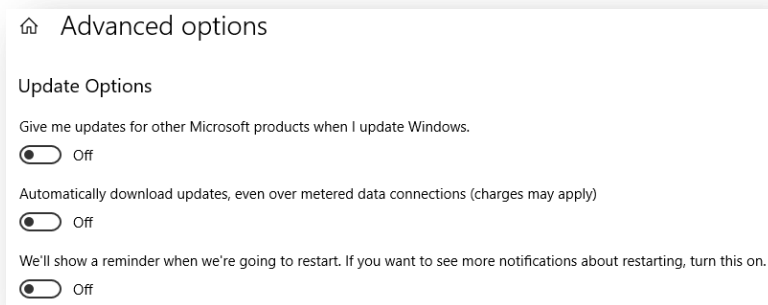
  - Type in **SERVICES.MSC** on the Search Bar and find WINDOWS UPDATE – **right mouse** click and select **PROPERTIES** - set to **MANUAL** or **DISABLED**.
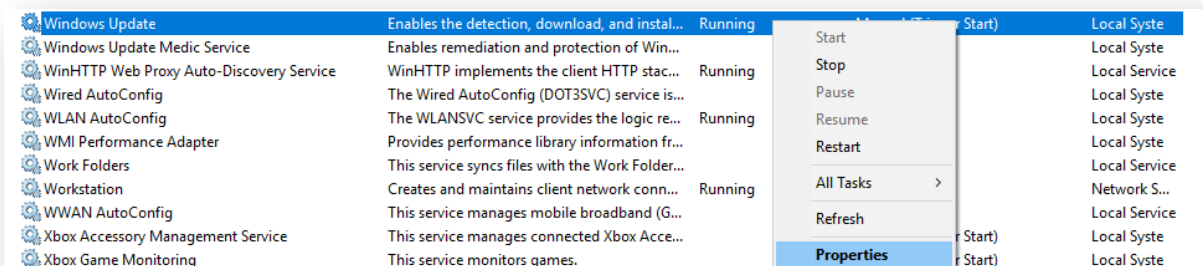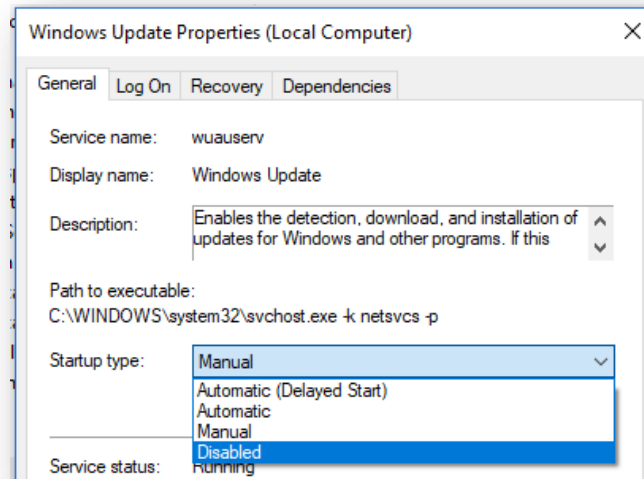
- o Select **SETTINGS – NETWORK & INTERNET – WI-FI – MANAGE KNOWN NETWORKS** – find your router/dongle – **SELECT IT** – select **PROPERTIES** – ensure **METERED** is switched **ON**.

- o Ensure to NOT ACCEPT updates when installing any drivers or software.
- Ensure Anti-Virus is installed and updated – run FULL SCAN.
- Restart computer.

Restore Point & Recovery Disk

After you have set all the Master Settings, you must create a RESTORE POINT and if possible create a **Recovery Drive/Disk**. Should your computer become corrupted or attacked by malicious code, you may run this to fix your computer or reload it according to the last RECOVERY DISK (as new). If you don't have this, then you will lose your O/S and all software with it. LENOVO machines have an auto recovery disk function which works

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amazingly. Every computer (unless formatted) should have a recovery disk, but only if it was created or activated.

RESTORE POINT ACTIVATION:

- Type in **create restore point** within the Search Bar.
- Select **CREATE**.
- Enter a name for the restore point (something unique) and click **CREATE**.

RECALLING A RESTORE POINT WHEN NEEDED

- Type in **RESTORE POINT** in the Search Bar.
- Select the **SYSTEM RESTORE** button.
- Select the restore point that you created.
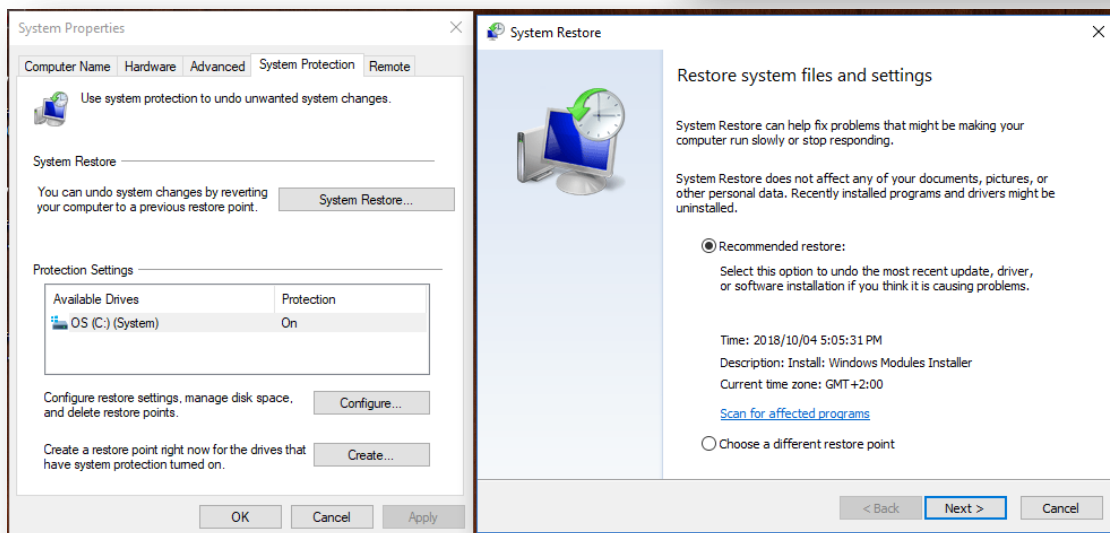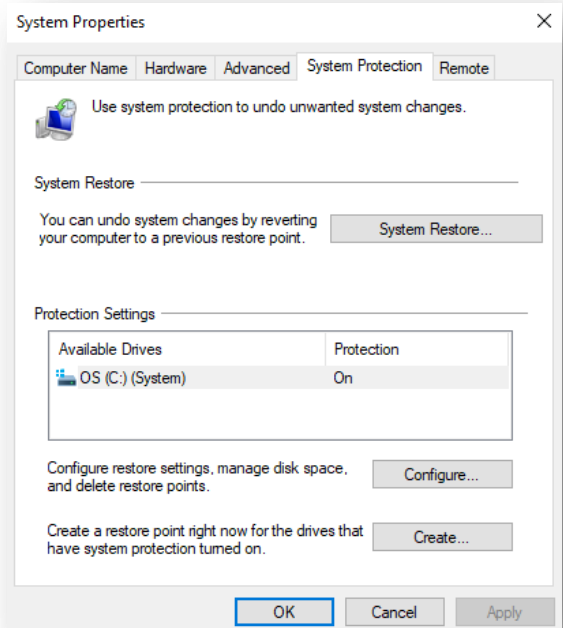
CREATE A RECOVERY DISK

- Enter **CREATE RECOVERY DRIVE** in the Search Bar.

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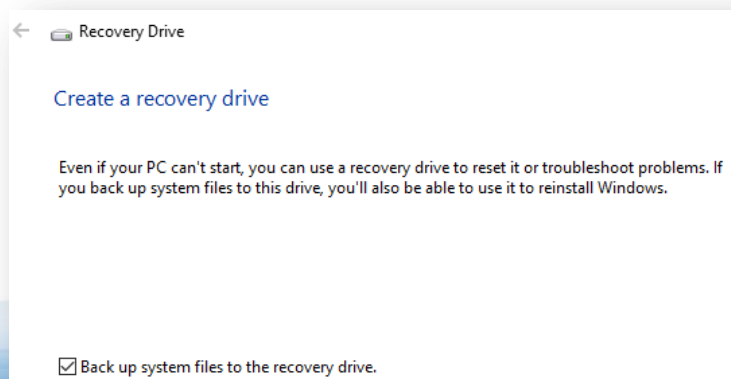
- Click the NEXT button and complete process.

CALL RECOVERY DRIVE/DISK

- Type in **RECOVERY** in the Search Bar.
- You have two options (WARNING : You will lose everything as it is now – backup all data files)
  - o Either RESET PC (if recovery drive is available)
  - o Reload recovery disk/drive as you created.

Recovery

Reset this PC

If your PC isn't running well, resetting it might help. This lets you choose to keep your personal files or remove them, and then reinstalls Windows.
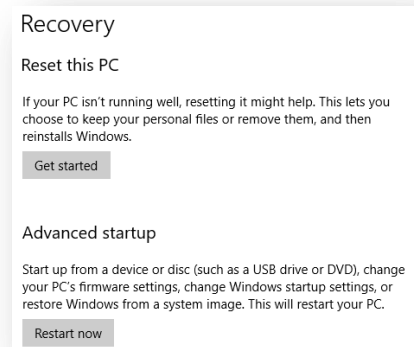
Get started

Advanced startup

Start up from a device or disc (such as a USB drive or DVD), change your PC's firmware settings, change Windows startup settings, or restore Windows from a system image. This will restart your PC.

Restart now

SOFTWARE

When you buy a new computer, understand one thing: THERE IS NO SOFTWARE!!! It is all trial versions that will expire in 2 weeks and then you cannot use it anymore.

Two main type of Software:

- Operating System
- Applications/programs

Application Software outputs:

- Documents
- Spread sheets
- Database
- Communication (email, networking, WWW)

Take note of the following types of software:

- Complete Version (all included)
- Shareware (limited function/time limit, ads, trial to be shared – pay for activation)
- Freeware (free, but with copy right and ads)
- Trial Version (limited time use and SPAM)
- Cracked/Ripped software (usually illegal software with cracked codes – SPAM/Viruses)

WINDOWS O/S SOFTWARE

Windows O/S does however have software pending on your version. The following software is standard with any Windows version:

- Windows Explorer
- Internet Explorer (IE)
- Notepad (**review**)
- Calculator (**review**)
- Calendar (**review**)
- Paint (**review**)
- Paint 3D (Win 10) & 3D Builder (Win 10) (**review**)
- Snipping Tool & Sticky Notes (**review**)
- DVD Maker (Win 7 Pro) - (**review**)
- CyberLink PowerProducer (Win 10 – share ware version)
- Windows Media Player (**review**) & Windows Media Encoder (Win 7 – **review**)
- XPS Printer (Win 10) (**review**)
- Windows Defender (Win 10) (**review**)
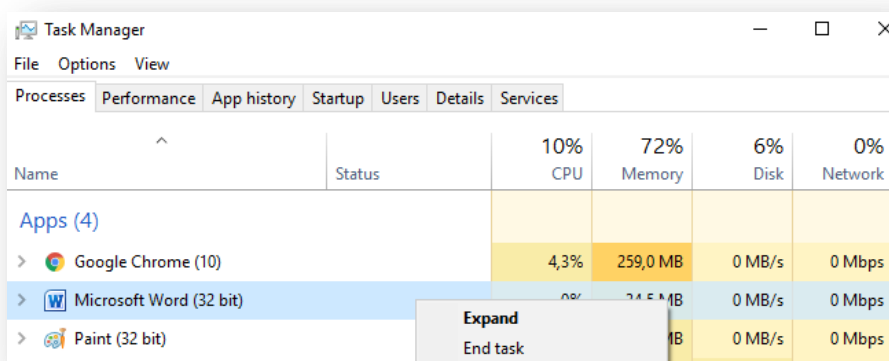- Task Manager (**CTRL ALT** and **DEL**) – stop any hanging or crashed application.

Figure 4: Right Mouse click on the APP or PROCESS then select END TASK.

BASIC PRINCIPLES OF WINDOW SOFTWARE

What makes an Operating System unique is the unique method that all programs related to that O/S are programmed. They all work by the same principles. It is said that the limit of programmers are their imagination, true, but even they must work within the set rules and regulations. Even though a lot of people say that Windows 10 works completely different than Windows 7, it still has the basic principles and rules that apply to Windows. The main difference is the RIBBON (new menu system) and Tablet View (desktop

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interface). The rest remain the same.

Here are the basic rules and regulations to all Window Programs:
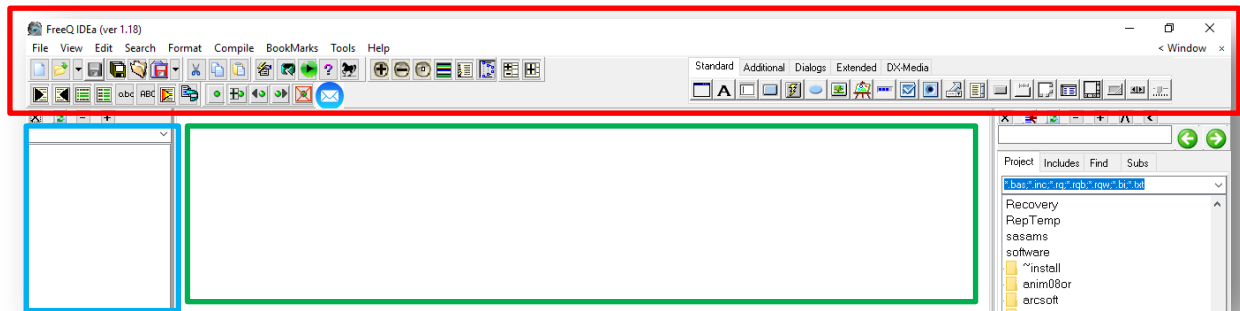
- **HEADER FIELD**
    - o Program ICON.
    - o Program Name and version.
    - o Minimize button.
    - o Maximize button.
    - o Close button.
- **MENU FIELD (press ALT key for short-cut ID)**
    - o File functions
        - ▪ New project.
        - ▪ Open.
        - ▪ Recent.
        - ▪ Save / Save As.
        - ▪ Close Project.
        - ▪ Options.
        - ▪ Exit.
    - o Edit functions
        - ▪ Select.
        - ▪ Copy/Cut.
        - ▪ Insert\Delete.
        - ▪ Paste.
        - ▪ Search\Replace.
        - ▪ Spell Check.
        - ▪ Undo/Redo.
    - o View
        - ▪ Zoom.
        - ▪ Layout.
        - ▪ Page layout.

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- o About functions
  - About program.
  - Contact details.
  - Update.
- o Short-Cut Keys (keyboard input) and Mouse Actions.
  - ALT & A.
  - SHIFT and END.
  - SHIFT and HOME.
  - ALT & menu hot character.
  - Double mouse click.
  - Right mouse click.
  - Mouse scroll wheel.
- Desktop Panel.
- Navigation Panel.
- Scroll bar (vertical & horizontal) on the editor.
- Multiple Windows (Taskbar control)

The new additions to all new programs:
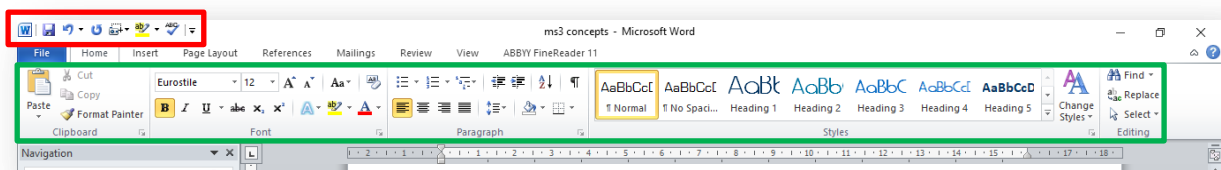
- The RIBBON field is a graphical, auto associated (to the task – for instance graphics) field. It will display all possible tasks. It has been in use since Windows 8 ® and MS Office 2007 ®.
- Quick Access bar – how to add (MS Paint, Wordpad)
- **Styles Method and Editor.**

ADDING SOFTWARE

You must at some stage install software to be able to enhance your computer's capabilities. There are the following three methods of installing software:

- **Purchased – you will insert a DVD/CD** and install it (remember to confirm compatibility related to your Windows Version and System's capabilities).
  - o Insert the DISK.
  - o Run SETUP.COM or INSTALL.COM (auto run should run the program itself).
  - o If the INCORRECT WINDOWS VERSION prompt is displayed, you will be

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required to download the compatible version from Internet (printers).

- **Downloaded from Internet**. The setup file will be downloaded (usually small in size). You will then RUN this file (from the destination DOWNLOAD folder) that will again download more files (differ in size) that will auto install the program – confirm the Windows Version and System's capabilities.
- **From mobile device**. Simply run the SETUP or INSTALL file. Otherwise run the application (.EXE) by double clicking on the actual programs file (**name.EXE**).
- **Ripped Version**. Install the program as normal. On completion exit the program (if it is in RUN mode). Open the README.TXT file and do the required alterations.

<mark>Remember to alter the compatibility mode (Windows Version) if needed</mark> - right mouse click on application icon and select PROPERTIES – COMPATIBILITY MODE.

UPDATING SOFTWARE

Software will require updatement (including Windows). BE VERY CAREFUL however as software updates usually require hardware updates or Windows Version updates as well. If you updated your software (usually via Internet – ABOUT – UPDATE) and the program does not work anymore, it is probably due to Window Version classes or hardware failures.

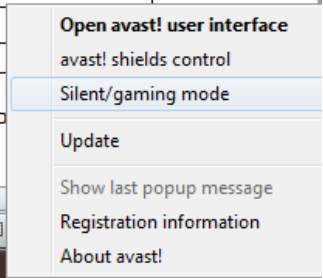Whenever you update software, open the software and confirm all settings and configurations.
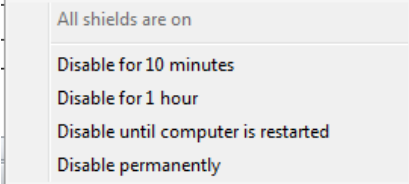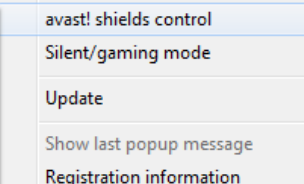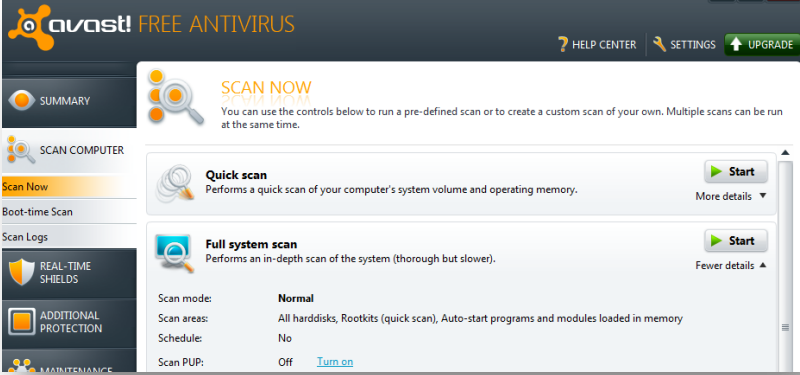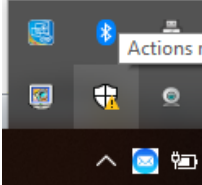
ESSENTIAL SOFTWARE

A computer is only as good as the software that is installed on it (LEGAL SOFTWARE). You must have the following software installed to start using a computer:
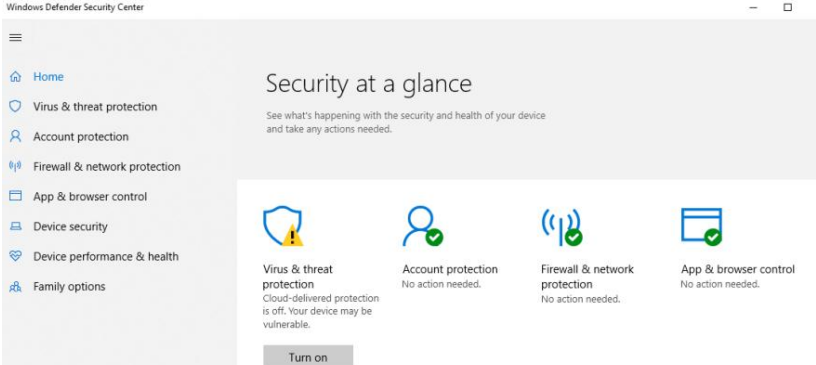
- Net Framework 4 (Windows 7 upgrade – some programs and games will not work without it)
- MS Office ® (2010) – **review** main programs (Word, Excel, PowerPoint, Outlook)
- PDF Viewer/Editor (PDF files) - **review**
- Chrome ® (website browser)
- PZIP ® (compression) - **review**
- DVD\CD burner ®
- VLC Player ® (video and music player and VIDEO downloader)
- <u>Anti-Virus</u> – **review Win Defender ® & Avast ® (scan, quick scan, quarantine, update, scan via MS Explorer)**
    - o Only 1 anti-virus is allowed (they will clash)
    - o Update the database.
    - o Ensure that you enable SILENT MODE during gaming.
    - o Do weekly scans (full scans).

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o Recommended AVAST Free Version (minimum influence on processor and running applications).

Avast (Free Version)	
Explanation symbol indicates an error (out-dated database, unregistered, etc.)	Application ICON – **right mouse** click to view options.
	Silent Mode on = gaming mode
	Temporary Disable the virus scanner.
	Open User Interface to scan.
Windows Defender	
	Application ICON – **right mouse** click on it to view options.

Run quick scan Check for protection updates View notification options View security dashboard		• Run a scan (quick scan) • Update virus-definitions • View any messages (notification) • View Security interface\ desk top (dashboard)
Windows Defender Security Center ≡ ⌂ Home ♡ Virus & threat protection ⌂ Account protection ⌖ Firewall & network protection ▭ App & browser control ▯ Device security ♡ Device performance & health ⌂ Family options **Security at a glance** See what's happening with the security and health of your device and take any actions needed. Virus & threat protection — Cloud-delivered protection is off. Your device may be vulnerable. — Turn on Account protection — No action needed. Firewall & network protection — No action needed. App & browser control — No action needed.		• Virus and threat protection (full scan) • Firewalls - on • App & Browser (warn only)

- Skype ® (communication) – SKYPE address - **review**
- IWCS Quickies ® & IWCS JCOM ® & IWCS BACKUPS (backup data) - **review**
- IWCS Networker ®
- Fonts (internet download & install) - **review**
- Printer (hardware – original drivers and software) & WebCam (hardware) – **review canon software and camera software**

NETWORKS

A network is when users (two or more) **share data** (this data can either be a game or database). A network also enables you to share accessories such as printers and other hardware. Therefore a group of computers and associated devices (printers) that are linked together to facilitate sharing information is called a network.

For all networks there is **one server computer** (where the database is found – a game server or database folder/files) and a group of **workstation computers (slave computers)**. The actual server computer is also a slave to the database location. Client request services and server fulfills services.

The communication channel is the path or link that connects computers and peripheral devices to each other. **There are two methods**:

- Wired method (cables).

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- Wireless method (WI-FI or Bluetooth) – *WAP Wireless Access Point*

A network is capable according to its linked capability:

- <u>LAN</u> – devices within a limited area, such as home or within the business (not external to other locations such as homes or other sites located in other cities/provinces or even countries.
- <u>WAN</u> – a network that connects devices in geographically separated areas for instance between the business and the member's home or other country even. Today's cellular applications made this even more possible – you will however require a master server or FTP address/Web Disk (shared).
- <u>Internet Only (stand-alone)</u>

Components:

- Data (actual digital information)
- Client/Peer
- Server
- Network adapter (used to gain access to network and access to other devices on the network)
- HUB/Switch (connecting internally)
- Router (internet)
- Media (cable/wireless)
- Transport Protocol (language – same)
- Bandwidth (<u>speed</u>: bits Mbps; bytes MBps 1 byte = x 8 bits)

INTERNET/INTRANET

The internet is a worldwide collection of public networks (secured and unsecured) that are linked to each other for information exchange. It started as a communication medium between the government and educational departments in the US.

Services provided by <u>INTERNET</u>:

- Email
- File Transfer between Internet Users (FTP/Web Disk/Cloud) – sharing information.
- WWW (formatted documents stored on servers around the world to be used as for purchasing/business/advertising/social media/etc.) World Wide Web.

<u>INTRANET</u>: A network communication system as found with INTERNET however limited to the internal use within the network system of a specific industry. It will display information only to the members within that specific industry according to their access rights.

Setting up Internet (stand-alone)

Router:

- Switch on the router (model will determine how many users – standard up to 10 users\dongle – 1 user only) – ensure you have DATA!!!
- Enable WI-FI – if this is a desktop; install the onboard software and **connect via the software.**

Desktop connection (no Wi-Fi):

o Run the installation after inserting the dongle/router (via USB).

o Open the program via the Desktop Icon.

o Click the CONNECT button.

o Notice the options to view status and IP addresses of connected devices.
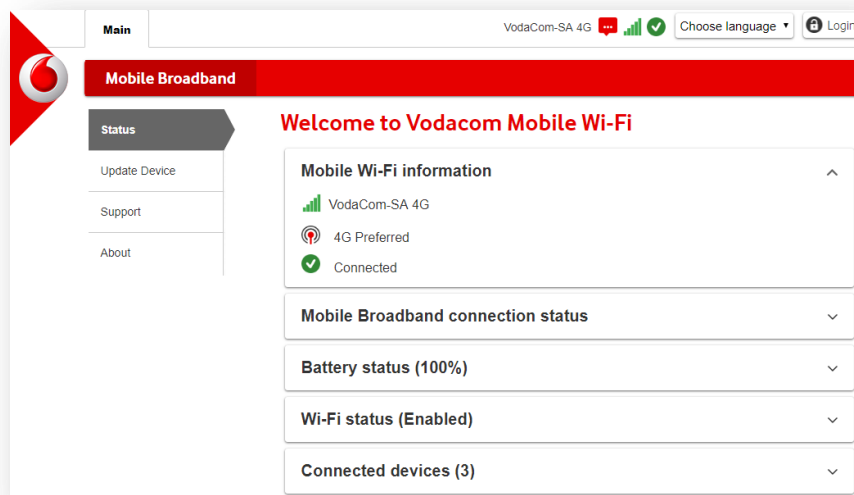
Figure 5: Every service provider (cellular service provider) divers.

- **WI-FI continue** … Look for possible networks founded in Tray Bar. If no network was found ensure your computer's WI-FI is on and discoverable (**FN** key or via **Control Panel** – search for **TURN WIRELESS DEVICES ON OR OFF)** and ensure devices are on (WI-FI and Bluetooth).
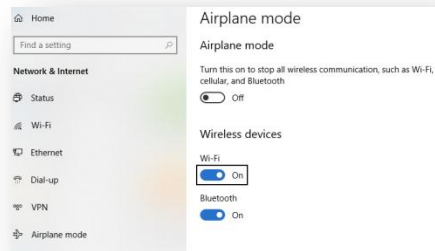
- Click on Network ICON and connect to the WI-FI and select CONNECT – enter password as requested. You should have received a Password Card or the password should be written at the bottom of the router.
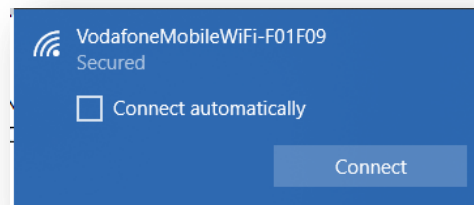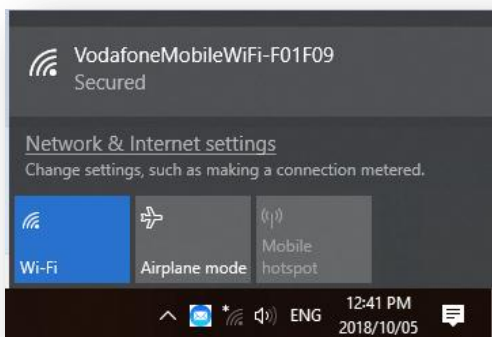
- If you check the CONNECT AUTOMATICALLY checkbox, then the computer will connect automatically if it is in range of the WI-FI router.
- You will notice the WI-FI indicator ICON (actual signal strength)
- If there is an exclamation mark on the WI-FI ICON indicator, then it means you have a network connection, but no internet (usually no data).

To view data usage – CONTROL PANEL – NETWORK & INTERNET – DATA USAGE (to view data usage per application, select VIEW USAGE PER APP.

USB tethering:
With this method, you will **use your phone as a router**:

- Plug phone into computer (via USB).
- Switch on MOBILE DATA (ensure you have data)
- Go to phone SETTINGS – MOBILE HOTSPOT & TETHERING (if not listed then click on MORE...)
  - Activate the HOTSPOT with a password if it is multiple computers.
  - Activate the USB Tethering.

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- o Ensure network is connected with TRAY ICON and internet is on (no exclamation).
- The phone is charged via the USB cable.

BROWSING INTERNET & WEBSITES

Once you have an internet connection established, you may surf the internet using an INTERNET browser – I advise you to use GOOGLE CHROME as it is the most versatile and most capable (reads all and newly updated coding languages used to create pages).

Take note of the following functions:

- Open the Web Browser (Google Chrome).
- You will require a GMAIL account to personalize your Browser Desktop (bookmarks and auto completion according to history).
- <u>With Google will you be able to</u>:

  - o Access your GMAIL email account.
  - o Look for information on the WWW.
  - o Able to create and work with a calendar.
  - o Work with Google Maps.
  - o Work with Google Word, Excel and PowerPoint ®
  - o Bookmark your favorite sites.
  - o Open multiple Windows.
  - o Visit history (previous visits).

- <u>General Layout</u>:
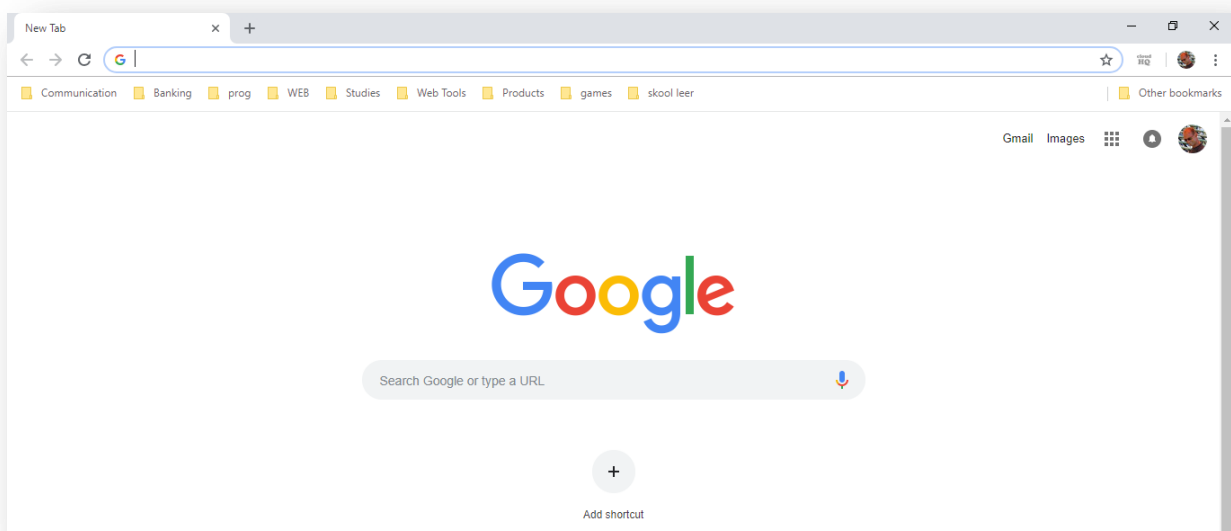
Click on the X (tab controller) to close that browser page.

Click on the + to add more browser pages.

The previous and next action ← → (undo and redo)

Refresh arrow button or simply press F5.
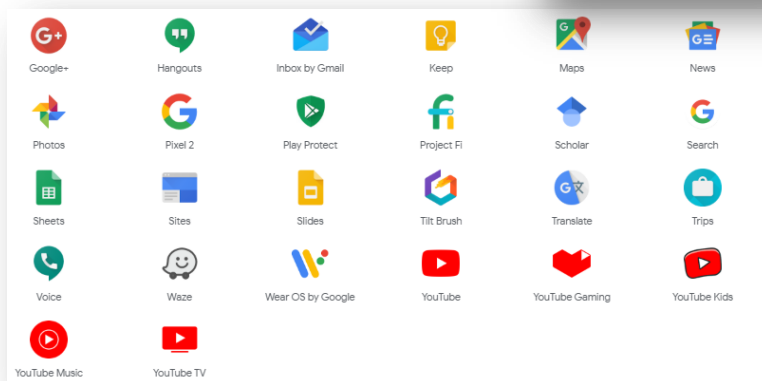
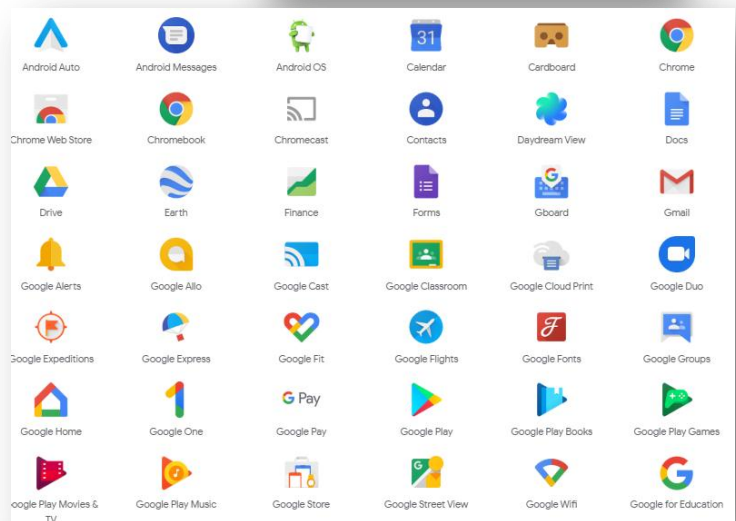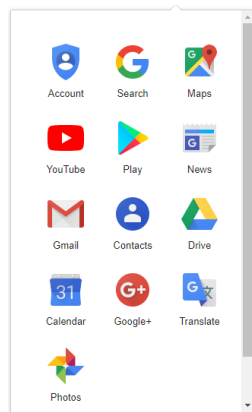Search bar (enter search bar … use –heading to exclude)

Add to bookmarks **star**.

You may move the bookmarks folders and content by dragging and dropping them.

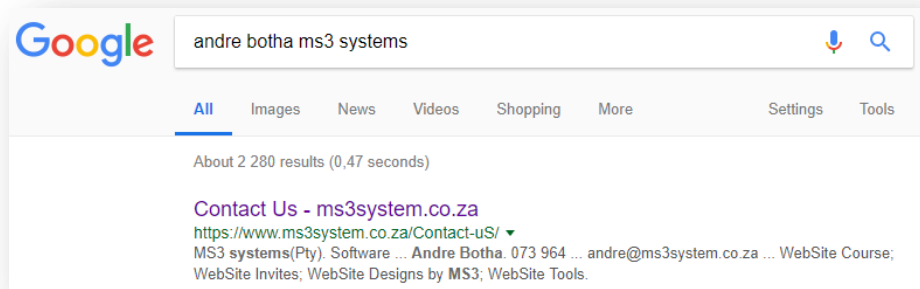Current Signed in Google member with Google functions.

Additional Google Functions (if logged in):

Enter a website name or search for a website (enter description).

- Select the WEBSITE (correct one).
- Once open, you may create a bookmark of it (favorite).
- Click the **STAR** and indicate in which bookmark you wish to record it. You may alter the **NAME** of the website to make reading it easier.
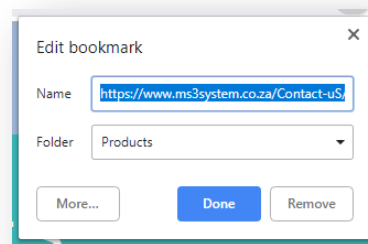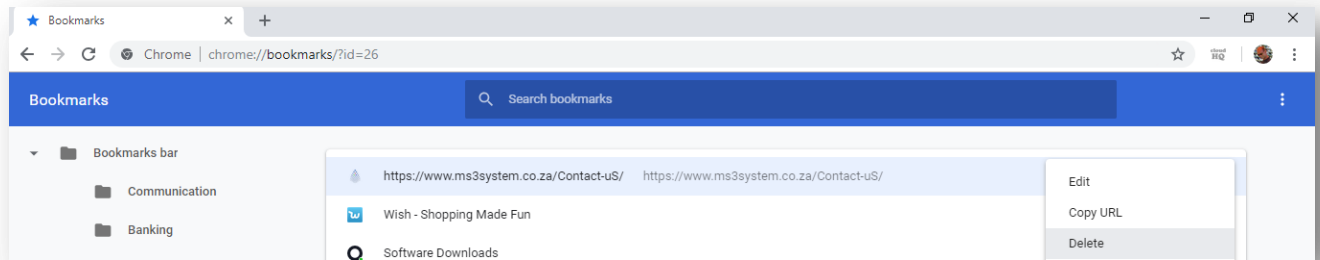

- In future simply select the website from the bookmark:
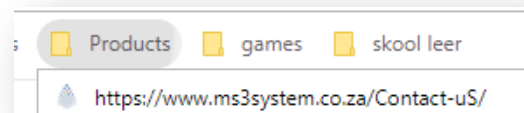
- You may drag and drop a bookmark from one bookmark folder to another.
- To create more bookmark folders, simply **right mouse click** on the **bookmark bar** and select **ADD FOLDER** – BOOKMARK MANAGER will edit the entire bookmark:

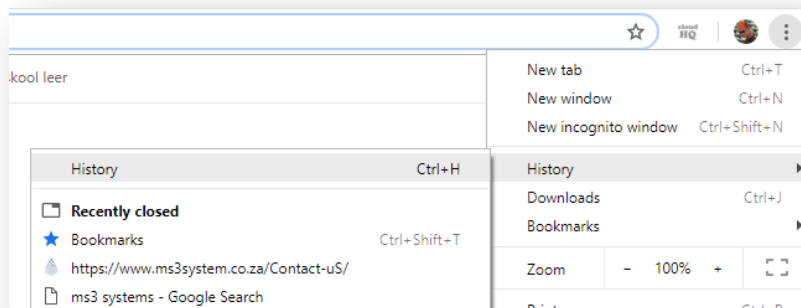- You may view your history file (sites visited by you), by selecting the dotted hamburger ICON.

- To clear the history.
- You also need to clear (each one) the BROWSER history:

Be Aware of:

- Spam downloads (programs downloading the actual program).
- Advertisement links.
- Warnings by Anti-Virus software (**keep/discard**).
- Payments (use PAYFAST or PAYPAL).
- 3rd Party Online Registrations and Trial Version download (spam).
- RANKING (result order) does not represent credibility – refer to sites that you can trust – compare sites with each other.
- When confirming factual information, don't ask and answer your question within the search query – it will then only display those pages and it will appear to be correct (**average size of a fish is 12cm**) – (**average size of a fish**)
- E-Commerce (internet banking/payment) – only use SECURE payment methods (PAYPAL, PAYFAST, Cash On Delivery - COD)

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Advanced Google Search Techniques

How a search actually works:

Spiders (software search capability) search the Google Index – spiders following index lists linked to the index pages according to the search terms, then link them to their links and their links …


Ranking is the quality, essential information, ads (spam) influences on the page.

How to enter key words (search criteria):

How do you choose effective words to form the search result?

- Think of what are you looking for.
- Think of the words that WILL appear on the page.
- Use words that the author would use for instance medical terms (broken arm and not busted arm).
- Don't use sentences – use key words.
    - What is the old city of Johannesburg called?
    - Old city of Johannesburg.
- Search according to all countries or your country only (tools):
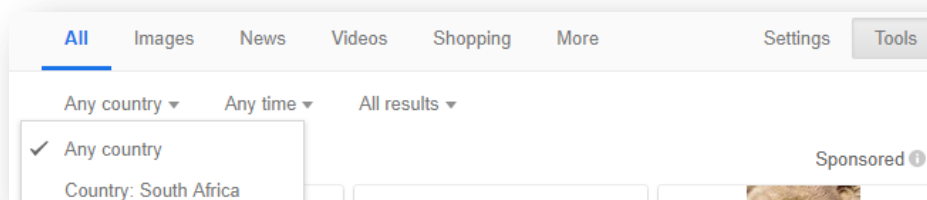
- Scan the founded results for the correct result - Wikipedia is most factual site.
- <u>Word order matters</u>:
    - Every word matters.
    - For instance; **WHO** compared to **A WHO**
    - Capitalization does not matter at all.
   - Google cannot include special characters **© ®** - use the word

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- o Characters that does matter is **+ # $** (c++ c# $100)
        - o Confirm spellchecker as you type (Brittteny Spears) – see auto possible results.
    - Finding text on a Web Page (current open Web Page):
        - o Press CTRL & F
        - o Enter the text to search for on the search edit box.
        - o Press ENTER to continue search on the page (if first result is not the correct one)
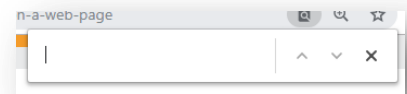
Summary find on a SERP (Search Engine Result Page)

Right hand pane will indicate summary factual information on the query.
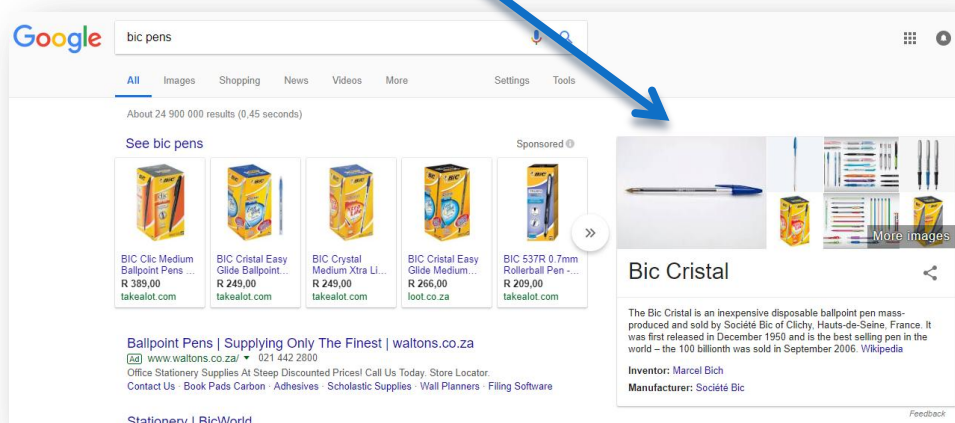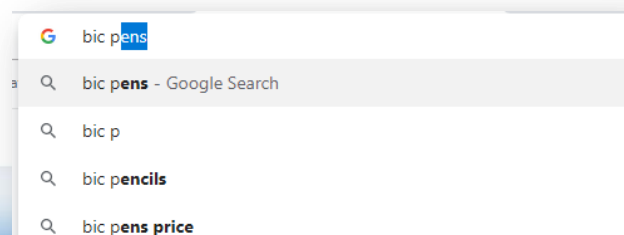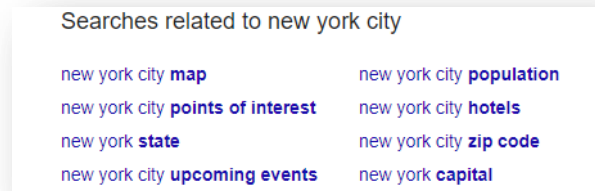
Layout of SERP:

Suggestions while typing (search as you type method):

As you type, suggestions will be made by Google. When you see the specific result you require, simply click that.
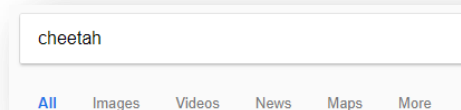
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Related suggestions:

At the bottom of each result entry page you will find the related suggestions – this is what other people used to find information.

Searches related to new york city

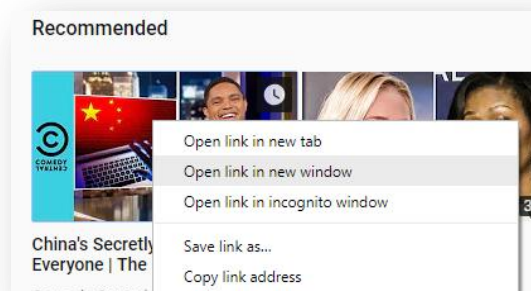|	
new york city **map**	new york city **population**
new york city **points of interest**	new york city **hotels**
new york **state**	new york city **zip code**
new york city **upcoming events**	new york **capital**

Summary grouping:

This is the media format that you could group the results within. Enter your query and see the media formats available. When you click on for instance IMAGES, more media formats will be made available.

cheetah

All   Images   Videos   News   Maps   More

Open result options:

Right mouse click on the result to see how you may open the required result.

Recommended

Open link in new tab
Open link in new window
Open link in incognito window

Save link as...
Copy link address

China's Secretly
Everyone | The

Use BOOKS ADVANCE SEARCH to find a book or content of a book:

- https://books.google.com/advanced_book_search

Google Street View to verify place

- Stonehenge, England
  - o   Satellite View
  - o   Drag Orange Man Icon onto Blue street view dotted areas.

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Define meaning:

If you wish to know the meaning of a word, use the word **DEFINE** within your search. For instance **DEFINE CONCEPTS**. It will also give you a sound play of what the word sounds like (see speaker button). Also use the translation (translate to other languages).

Operators:

Operators are special character that you add to your query to indicate specific tasks related to the results (advanced filtering)

- **SITE:** tesla coil site:stanford.edu
  - o Restrict results only from Stanford University.
  - o Tesla coil site:**.gov**
    - ▪ Restricted to government sites only
  - o Tesla coil **–site:.gov**
    - ▪ Don't show Government sites.
- **FILETYPE:** filetype:pdf tesla coil
  - o Will search results in PDF file only
- **FILETYPE:KML** filetype:kml lewis and clark
  - o Will search KML google map track records (right mouse click – download link)
- **(minus character)** - michelangelo –artist
  - o This will search for tesla coil, but exclude any result that contains artist.
  - o No space after minus sign.
- **"…" –** "when venus the goddess of beauty"
  - o Use double quotes to search for result with specifically those words as indicated.
- **OR –** "tesla coil" OR "Jacobs ladder"
  - o Search specifically for OR the other description – the OR must be in capital letters.
- **Conversion** (press **ENTER** when formula is done)
  - o 200m in yards
  - o 100f in c
  - o Time in china
  - o Population in china
  - o Weather in china
  - o $20 in rands
  - o (24*100)/2
  - o translate hallo to English

Filter according to website update time (from TOOLS):
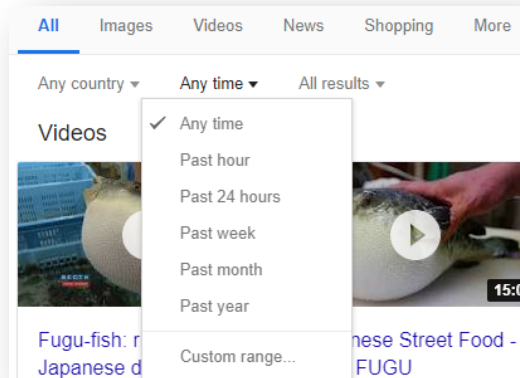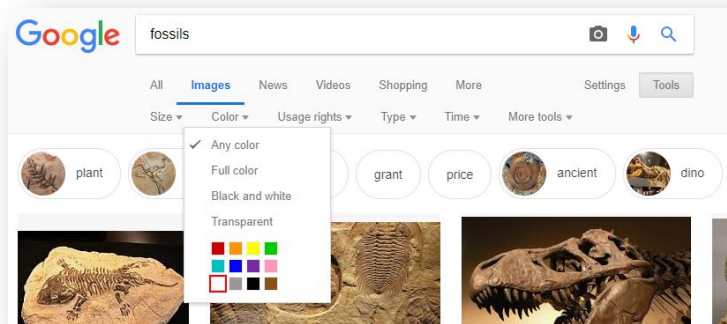

Figure 7: You need to type the query first to obtain TOOLS button [CUSTOM RANGE will specific FROM TILL date]

Filter Image search by colour/black & white:

Select the colour pattern to be displayed the most.

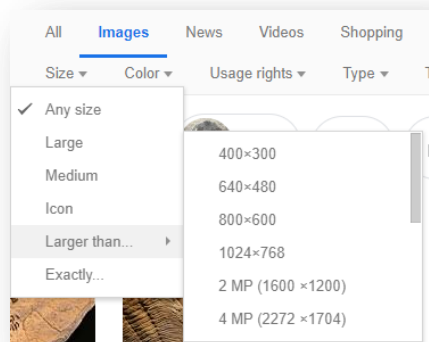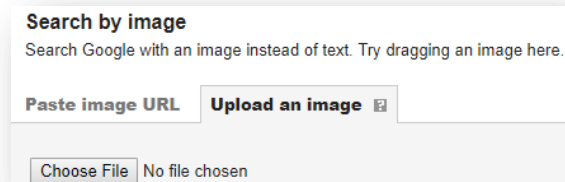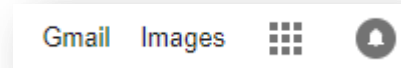Take note of copyright ® images (watermark). Search by image size:

Figure 8: Image size matters when you wish to print and present them (PowerPoint)
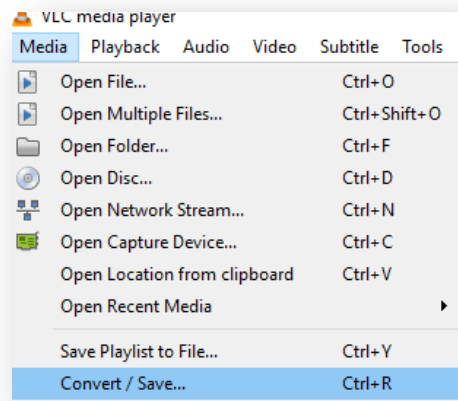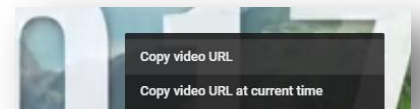
Photo Confirmation Search

- Click on the **IMAGES** option
- Click the **Camera** or **drag and drop an image**.
  - Select the **UPLOAD AN IMAGE**

Search by image
Search Google with an image instead of text. Try dragging an image here.

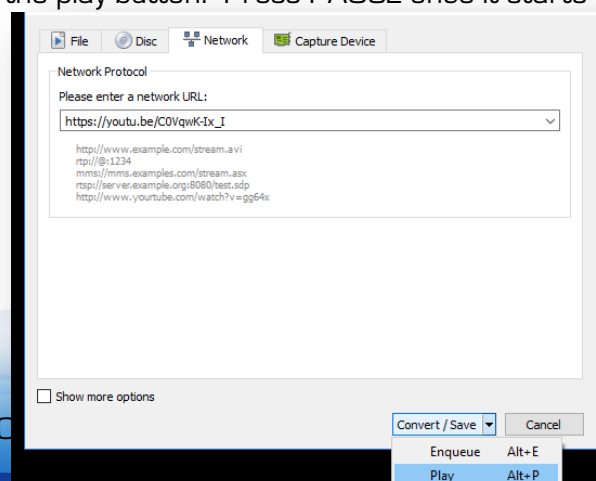Paste image URL | **Upload an image** 🗔

Choose File | No file chosen

  - Find the image on your computer and upload it.
- Google will now search for the original photo so to identify the person/place/etc (Facebook Verification – fake IDs).
- **You may also take a photo with your camera (white background) and drag & drop it to confirm what is on the photo.**

## Download a YOUTUBE video: (using VLC player)

- Open YOUTUBE video.
- Right mouse click on video and select **COPY VIDEO URL**
- Open VLC Player and select MEDIA – SAVE&CONVERT

Copy video URL
Copy video URL at current time

VLC media player

Media | Playback | Audio | Video | Subtitle | Tools

	Open File...	Ctrl+O
	Open Multiple Files...	Ctrl+Shift+O
	Open Folder...	Ctrl+F
	Open Disc...	Ctrl+D
	Open Network Stream...	Ctrl+N
	Open Capture Device...	Ctrl+C
	Open Location from clipboard	Ctrl+V
	Open Recent Media	▶
	Save Playlist to File...	Ctrl+Y
	Convert / Save...	Ctrl+R

- **PASTE** the copied VIDEO URL (**CTRL & V**) and select on the pull down list (CONVERT/SAVE) the play button. Press PAUSE once it starts to play.

File | Disc | Network | Capture Device

Network Protocol

Please enter a network URL:

https://youtu.be/C0VqwK-Ix_I

http://www.example.com/stream.avi
rtp://@:1234
mms://mms.examples.com/stream.asx
rtsp://server.example.org:8080/test.sdp
http://www.youtube.com/watch?v=gg64x

☐ Show more options

Convert / Save | Cancel

| Enqueue | Alt+E |
| Play | Alt+P |

- Now click on TOOLS and select **CODEC INFORMATION**.
- At the bottom LOCATION – right mouse click on the entry and SELECT ALL.
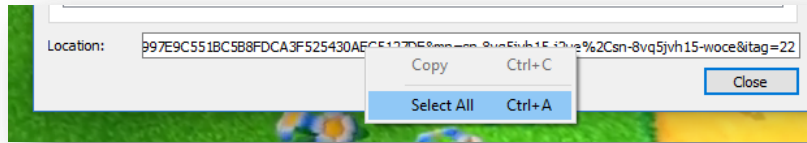
- Now right mouse click again and copy the entire selected entry.
- **CLOSE VLC** Player.
- Open GOOGLE CHROME browser again and open a NEW TAB.
- Press **CTRL** & **V** to paste the selected entry into the URL address and press **ENTER**.
- Click on the **MORE OPTIONS** icon.
- The **DOWNLOAD** button will appear – **click it**.
- Your video is now downloaded to your DOWNLOAD folder.
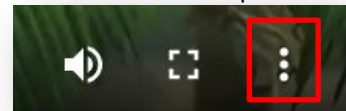
FTP/WEB DISK

A FTP/WEB DISK is an Internet based disk drive for you to store information (shared with whoever has the password). The reason to have a FTP\WEB DISK is to share information or access secured information anywhere, anytime and as shared users.

You need to have the following to use such a disk:

- Internet Connection.
- A FTP location (Website) – Service Providers such as IWCSSystem.Co.Za
- Log on Procedure:
    - o   FTP Address.
   - o   FTP User Name.
    - o   FTP Password.

To open the drive you will be required to log on via **Windows Explorer** (a Explorer short-cut drive may be added to your navigation list) or **IWCSQUICKIES – Windows Filing System – IWCSFTP Manager.**
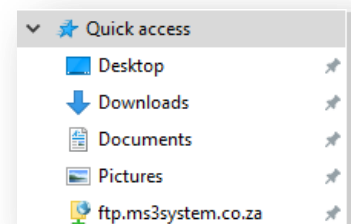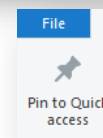
Steps to log on (via Windows Explorer):

- Enter FTP address in search bar and press ENTER.
- Enter User Name and Password.
- If the correct credentials were entered it will open a new Explorer Window for the FTP location. To add a folder; right mouse click on the entry pane and select NEW FOLDER.

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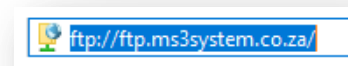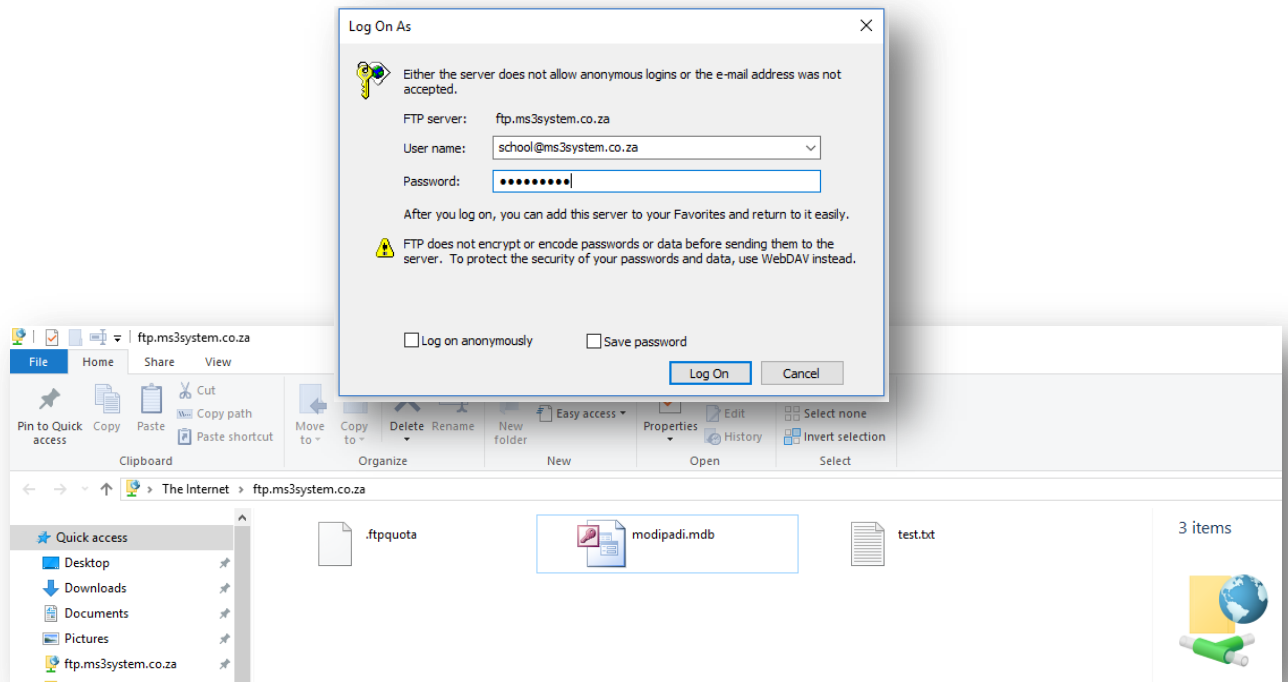
- Add to the Navigation List (once only).

How to remove a FTP User from the FTP list:

- Press **WINDOWS BUTTON** and **R**.
- Type in **REGEDIT** and press **ENTER**.
- Find address:
    - HKEY_CURRENT_USER
    - SOFTWARE
    - MICROSOFT
    - FTP
    - ACCOUNTS
    - (account FTP address)
        - **Right Mouse** click on the account you wish to delete.

Steps to log on (via IWCSQUICKIES):

- Open the program (IWCSQUICKIES – Windows Filing System – IWCSFTP Manager)
- Ensure correct credentials.
    - FTP Server
    - FTP User
    - FTP Password
- Click REFRESH HERE to refresh the screen or load new credentials.
- Enter the NEW FOLDER name and press ENTER to create it.
- The Green Dot entries are folders and the Red Dot entries are files.
- To enter a folder, left mouse click once only.

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- Click the .. entry (top of list) to return one folder level back.
- You will receive an option list (keys to be pressed) when you select a file.

🔴 .lastlogin		10/02/2018	12:48:00	N
🔴 .pearrc		12/16/2015	02:00:00	N

REFRESH HERE ... Last Action: Selected File: .lastlogin   ENTER download / BKS delete / ESC Upload

E-MAIL

The purpose of an email is to send a message (digital) with attachments to another user any time and any place. To send an e-mail you will require an email address from an ISP (Internet Service Provider – free or commercial) and an Internet Connection. You will receive an Email address that consist out of your user name and domain name (andre@iWCssystem.co.za) The Domain is related to the ISP.

Free mail addresses are usually long with characters as you name probably are already taken by many other users.   The shorter and less complicated your email address, the better and if you are a business representative, it is best to use their domain to advertise them. Furthermore free email is usually throttled to 25 MB per mail (attachment) and limited to the supporting formats (EXE, COM, BAT, etc.)

Emailing can also be done using a social media platform such as SKYPE whereby you can do live video streaming (with or without microphone – pending on your hardware support).

Setting up. You may choose any of the following E-Mail service providers:

- GMAIL (Google)
- YAHOO (Yahoo)
- LIVE/HOTMAIL (Microsoft Edge)
- Commercial E-Mail (unique business email address)
- 3rd Party Commercial E-Mail (name.IWCSSYSTEM.co.za)

Free E-Mail:
- Call the service provider website (Google.Com, Yahoo.Com, Outlook.Live.Com)
- Enter the E-Mailing services.
- Select New E-Mail address
- Enter personal information (16+)
- Enter credentials (username & password – usually very long and not what you want – unique name).
- Enter the E-Mailing Page (log on page) – (Create a bookmark favorite).

## Commercial E-Mail (see IWCS Web Course)
- Obtain a business e-mail address.
- Obtain a unique name (what you want).

- Much more features with this mailing service.
- Able to import into your custom programs (IWCS Win Programming Course).

Sending Mail/Receiving Mail:

- Log in to your E-Mail Account.
- The top header will indicate (number) any new mail. New mail is in white and already read mail is in light grey.
- The navigation pane will indicate different filing fields. Simply click to view the entries.
- To delete a mail; drag and drop into the TRASH navigation file.
- To view an incoming mail, select from the inbox entry list and use REPLY to return a message.
- The **DRAFT** navigation file is composed emails (new) that was not send.
- To compile a new mail for somebody, click the **COMPOSE** button and enter the fields (address – multiple; subject; message; attachments – no EXE or larger than 25MB per entry).
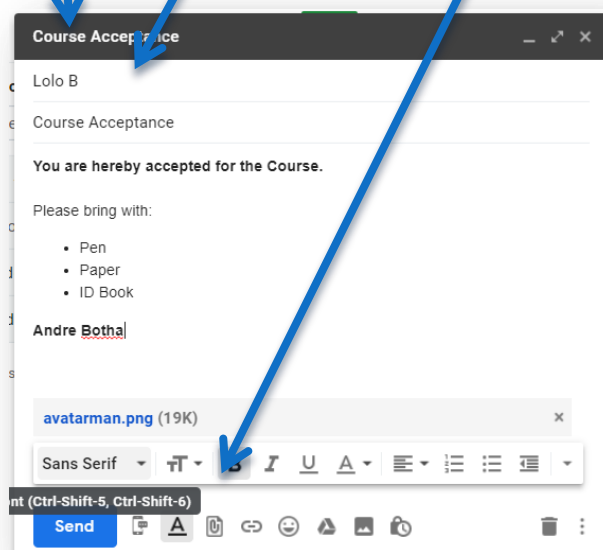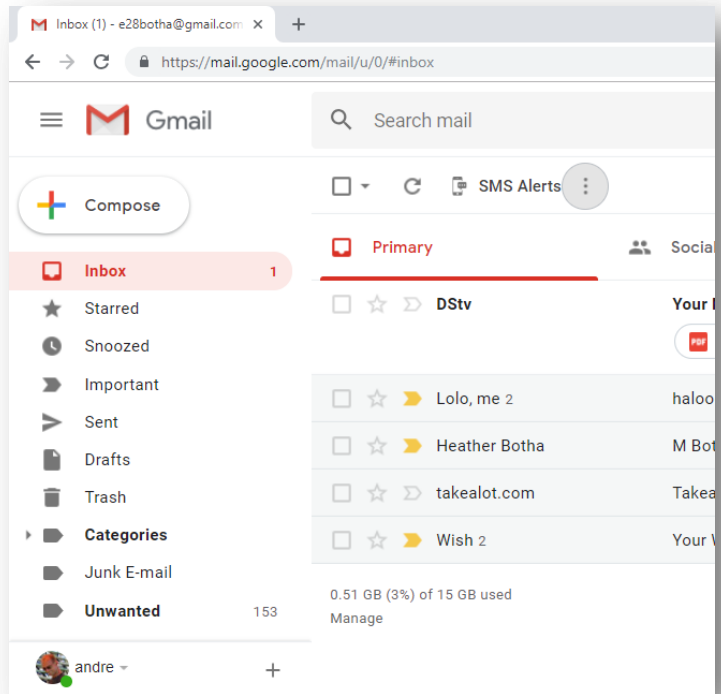
- Click the **SEND** button – if it is a new address, it will be added to the auto complete listing – if the mail failed, you will receive an INBOX stating the receiver whom did not receive the mail – usually incorrect email address.

Using IWCSQuickies MAILER

IWCSQuickies enable you to send/receive (only commercial e-mails) directly from your desktop without having to open the Internet Mailing Service Provider. Select the type of service (Google, Yahoo, Live) and enter credentials. Send directly from the program – you have a Mail Listing capability as well and E-Mail Scheduling (controlled according to date/time and repeated emails).
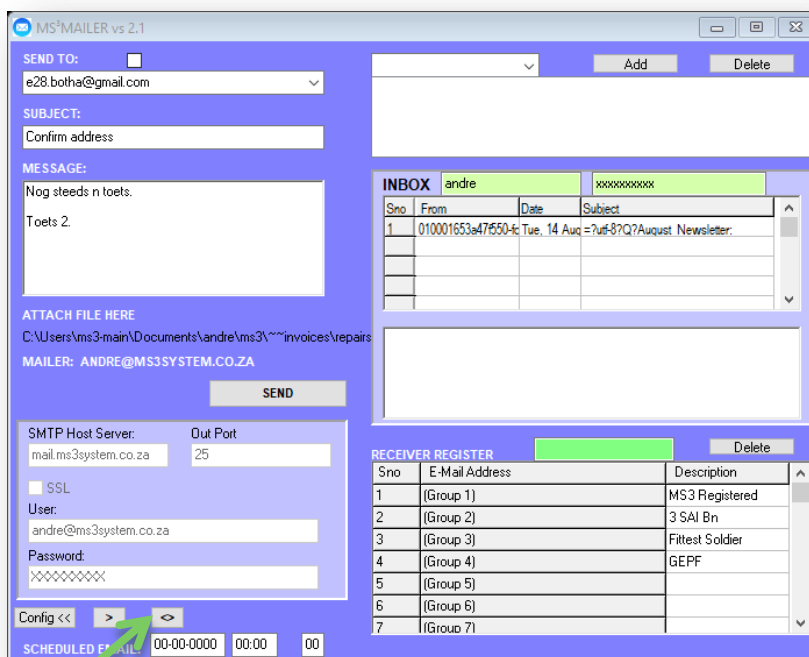
Configuring IWCS Mailer.

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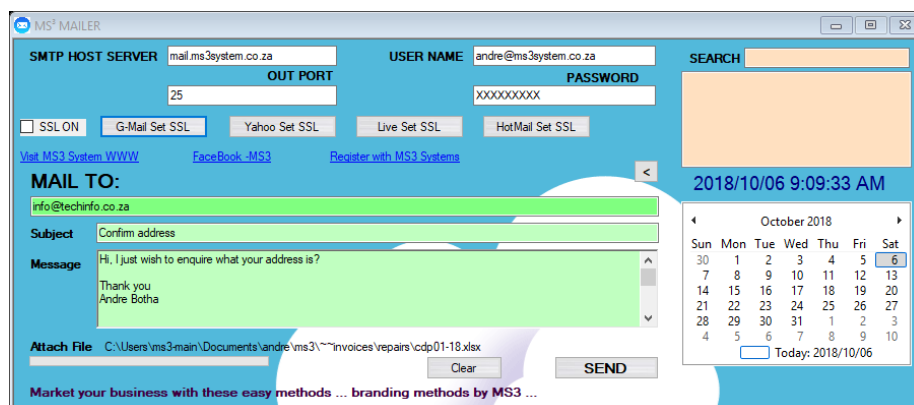
Select the service (GMAIL, YAHOO, LIVE or HOTMAIL). Enter the User Name and Password. Start sending mail.

Setting up your phone for your Free-Email (Android):

- Ensure Mobile Data is on.
- Go to SETTINGS.
- ACCOUNTS (add account).
- GOOGLE – existing/new (business account will be POP3 – see WebCourse).
- Enter EMAIL address and password.
- Ensure the account is active or use sync should you have multiple accounts on your phone.

NETWORK SYSTEM

HUB/Switch/Router:
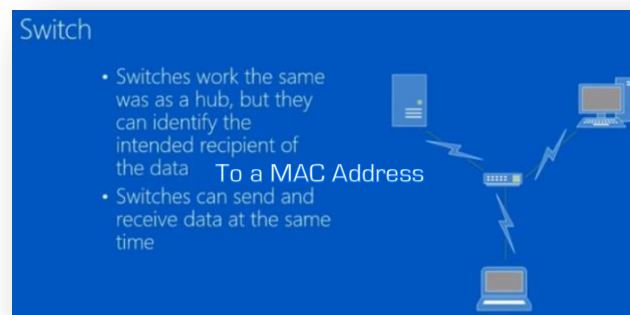
A switch will not divide it's speed (bandwidth) capability for all ports.
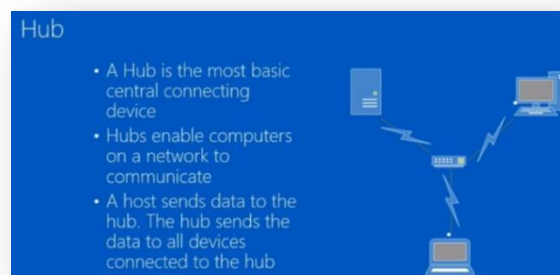
A hub will divide it's speed (bandwidth) capability for all ports.
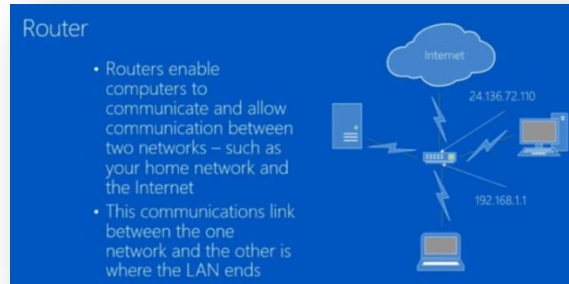
NIC (Network Interface Card) – hardware that enables you to send and receive data from/to your computer – wired network.

Type of transfers:

- **Broadcast** – sends data to every other host on the network (everybody).
- **Unicast** – sends data to a specific host/device.

IP Address:

- Every individual computer on a network is assigned an IP Address.
- The address is typically for instance: 192.168.1.2
- **IP Address is broken down into two parts by a subnet address**:
  - o Network ID: 192.168.1 (the network number – the same network)
  - o Host ID: 2 (the computer's network log on number)
- **To determine IP Address**:
  - o CMD (search/run Windows element)
  - o IPCONFIG

FireWall:

A security method to prevent other users/networking software to access your network.
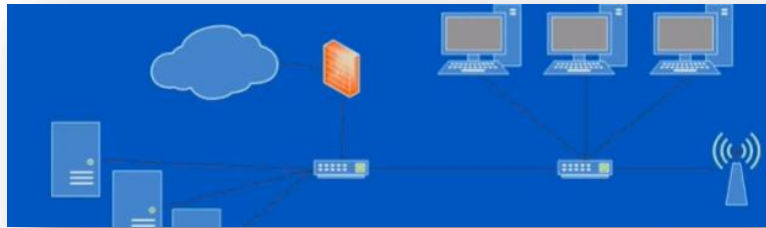
Network Topology:

The actual layout of the network (symbol sketch).
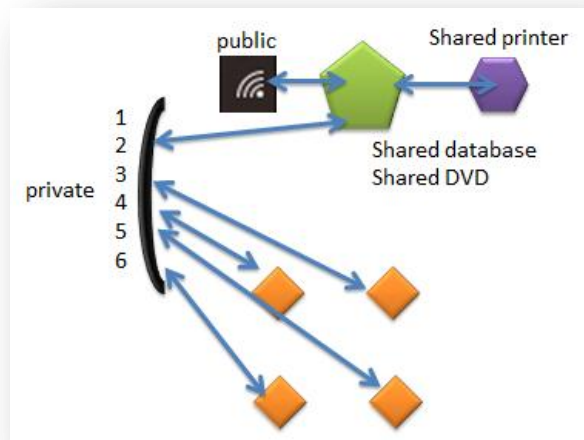
Altering between Public or Private Network

Each network may be set as either Public or Private Network. They differ in the way your computer will react within that network.
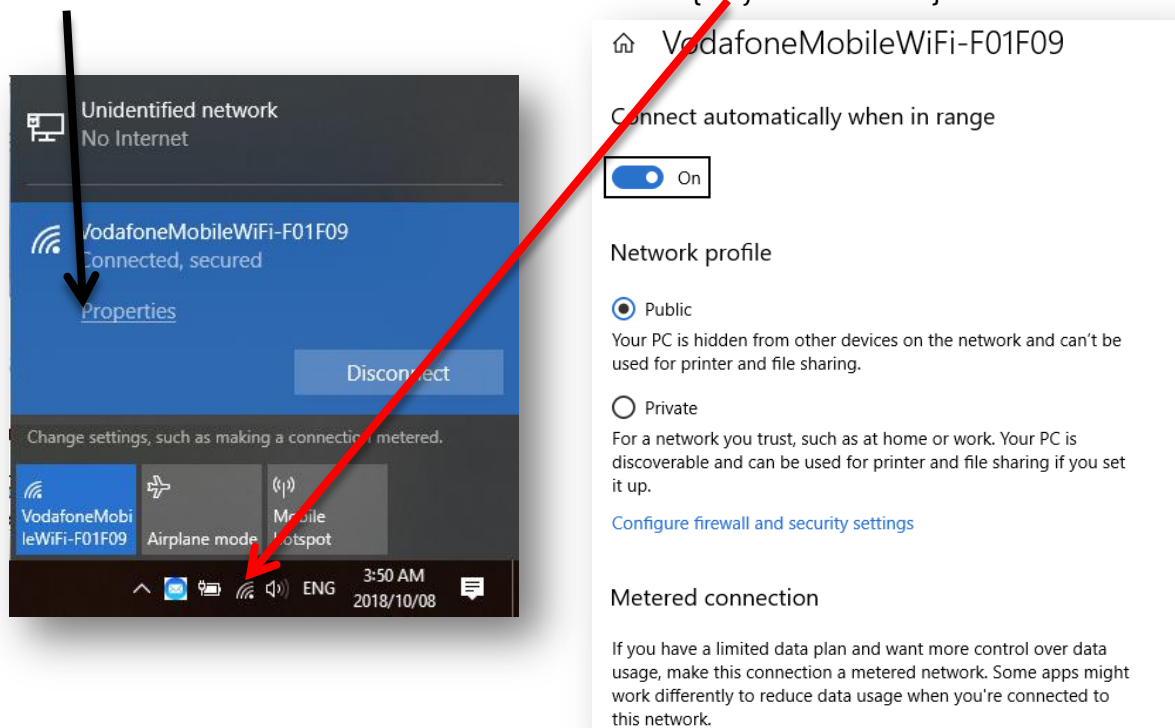
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Public Setting:

- Not seen on that network by other computers.
- Not sharing folders\files.
- Not sharing Printers.

Private Network

- Must be a trusted network such as a home network.
- Seen by other computers.
- May share folders\files.
- May share Printers and other peripherals.

To set the network:

Select PROPERTIES from the list of available networks (tray network icon).

If you have a wireless INTERNET and wired LAN; I would advise you to set up the wireless INTERNET connection as PUBLIC and the LAN wired network as PRIVATE. This method you will be protected against any other computer than what is physically connected to your LAN system (cabled).

Determine all computers on your network:

SNO	CMD Command	Remark
1	net view	Will list all the computer names on your network.
2	arp –a	List all dynamic (active) computer IP Addresses (cabled: 0x4; wireless: 0x13).
3	ipconfig /all	Will display all connected computer (IP Protocol details).
4	netstat –n	List all established network computers
5	ping (address)	Ensure link to IP Address.
6	Net view > c:\iWCs \test.txt	Save result of request as text file (drive and location to be indicated)

CREATE YOUR NETWORK:

Sketch Network

Draw a sketch of your network. Include the following if applicable:

- Router – public/private.
- Network Switch – public/private.
- Server (must have one) – shared options.
- Method (cables/wireless/both).
- Client\Slave stations (sub-stations)

Create shared folder (server)

- On the server, create a folder that will be used to share (database software) – gaming does not need a shared folder.
- **Right mouse** click on the folder and select **PROPERTIES**.
- Select the **SHARE** tab and select the **SHARE** button.
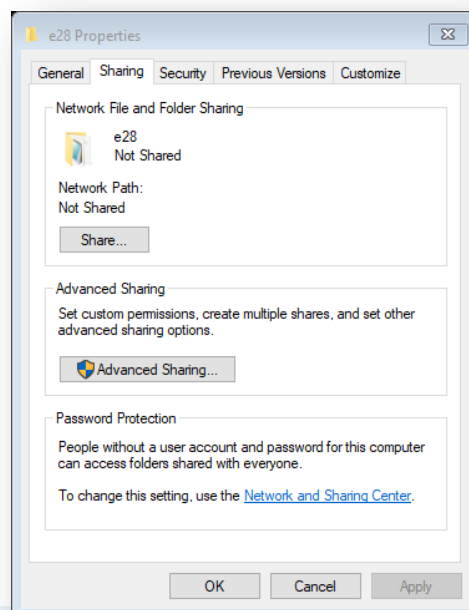
- Select **EVERYONE** from the combobox (pull down list) and click the **ADD** button.
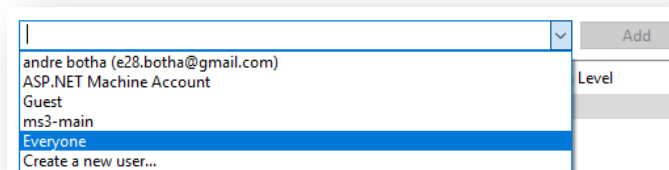
- Ensure **READ & WRITE** functions.
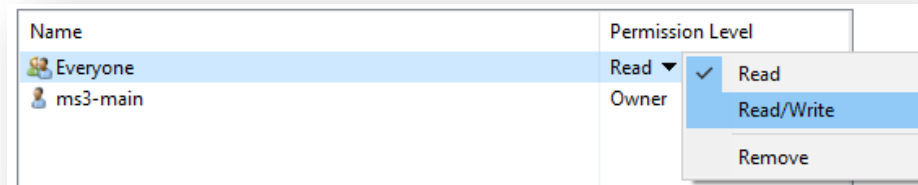
- Click the **SHARE** button and wait for a moment until the process is done.
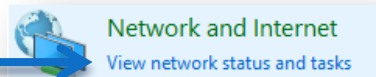- This folder is now shared and will be visible when the network has been established.

Configuring the Network Adapter:

Before you are to establish a network, you need to configure your computer to be able to create and/or connect to a network.
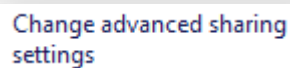
- <u>Windows 7 (Administrator)</u>:
  - o Open **Control Panel**
  - o Open **Network** and then **Advanced Settings**.

- <u>Windows 10 (Administrator)</u>:
  - o Open **Control Panel**.
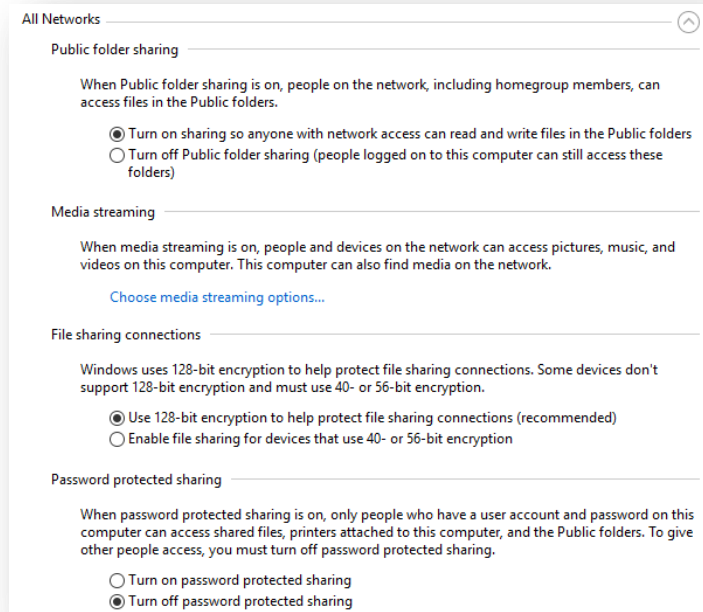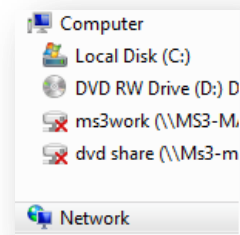 - o Open **Advanced Settings**.
  - o Set all options as follow:
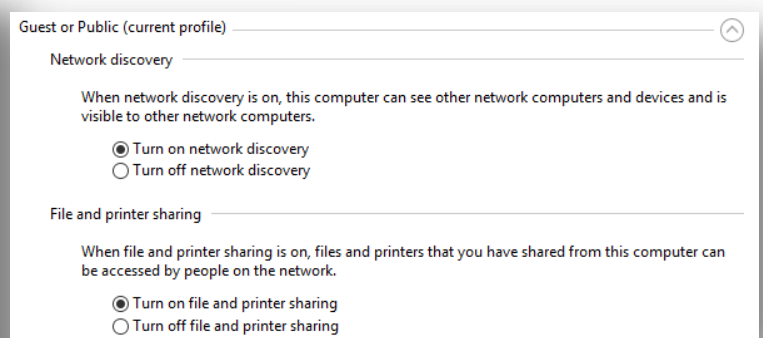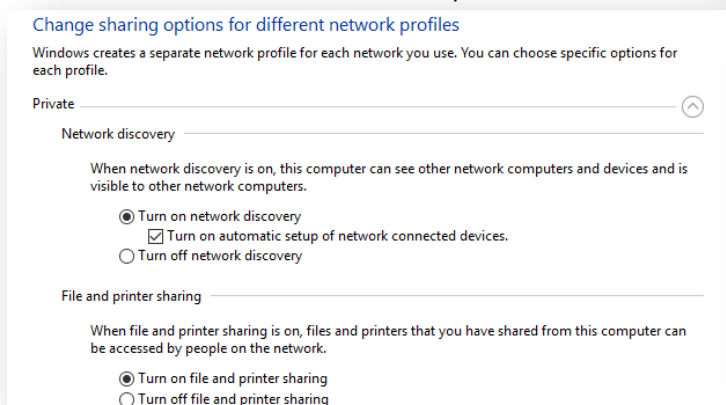
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ESTABLISH NETWORK

Open MY COMPUTER/MY PC and click on NETWORK (bottom left) to see any connections.

Establishing Wireless (Windows 7)

- Windows 7 makes use of ADHOC networking, which means that you may simply create an **AdHoc network** and everybody connects to that (Control Panel – Network)

- OR you may use IWCSNETWORKER to create a network for you.
- To create a network (server) is one step, step two is to connect that will establish the network and step 3 will be to map the network drive.

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Establishing Wireless (Windows 10)

- ADHOC networking **has been removed** from Windows 8/10.
- You must have an external network router (Internet – no data required, just a wireless network adapter) to establish a network.
- The router requires to be switched on and once the server is connected, the rest of the machines may connect and view the shared folder/printers.

Establishing Direct Comp-Comp (Wired)

- Ensure all settings are as with the LAN system (Network Adapter Advanced Settings)
- Simply plug network cable into two computers.
- Open MY COMPUTER/MY PC (requires Internet router) and click on NETWORK – you will see the computer connected to you. Double click on it to establish the link.
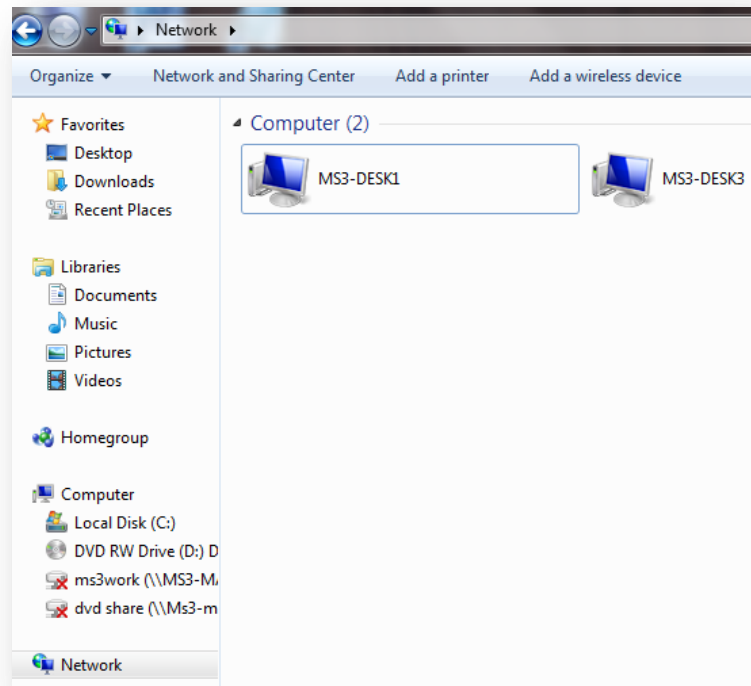

Establishing Switch

- Connect the switch to a power unit (electrical plug).
- Connect the router (internet) to Socket 1 (if applicable).
- Connect the server to Socket 2.
- Connect the rest of the computers.
- The switch will automatically create a network (unidentified network) that is fully operational (if you have no router to Socket 1, then you will not have Internet. You may however use a wireless router and share the Internet protocol).

Establishing Wireless (Internet) and Switch (LAN)

- Connect all the computers to the Switch.
- If it is a wireless router (no network cable), connect to the server computer (**Wireless**) or wired (USB).

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- **Connect to the internet** with the server computer.
- Set the server computer to share the Internet Capability.
  - o Open CONTROL PANEL.
  - o Open NETWORK AND INTERNET.
  - o Open VIEW NETWORK STATUS & TASKS.
  - o Open CHANGE ADAPTER SETTING.
  - o **Right mouse** click the **Internet connected Adapter** and click **PROPERTIES.** Open the **SHARE** tab and **CHECK** the checkbox – **SHARE INTERNET**.
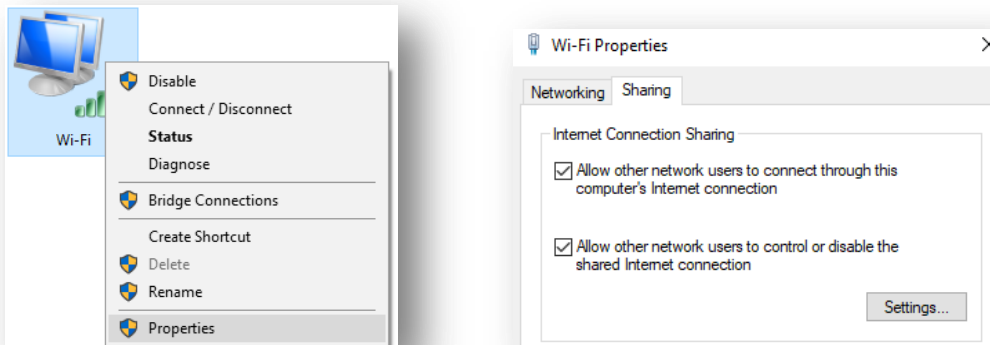

  - o Click **OK**.
  - o The network has now a shared Internet Connection.
  - o The other WI-FI devices may still connect to the router wireless.

Mapped Network:

The purpose of a mapped network is to have the network drive visible on MY COMPUTER/MY PC as an additional storage device (shared storage device).

- You can only map a SHARED folder from a computer/server.
- Open **MY COMPUTER/MYPC**

- Select **MAP NETWORK DRIVE.**

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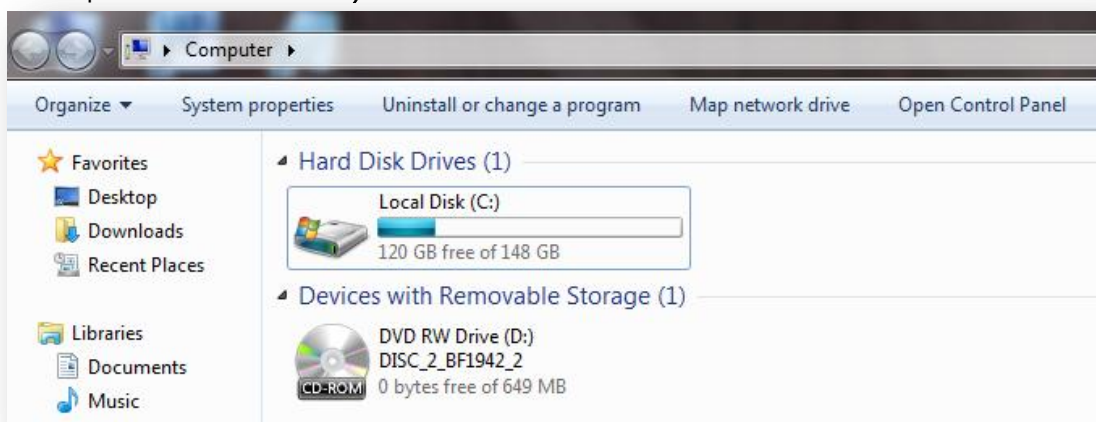
- Select the DRIVE NAME (usually T:\ drive)
- Click the **BROWSE** button.
- Select the server computer on the network list (remember the computer must be set as visible on all networks)
- Select until you have selected the correct folder for sharing.
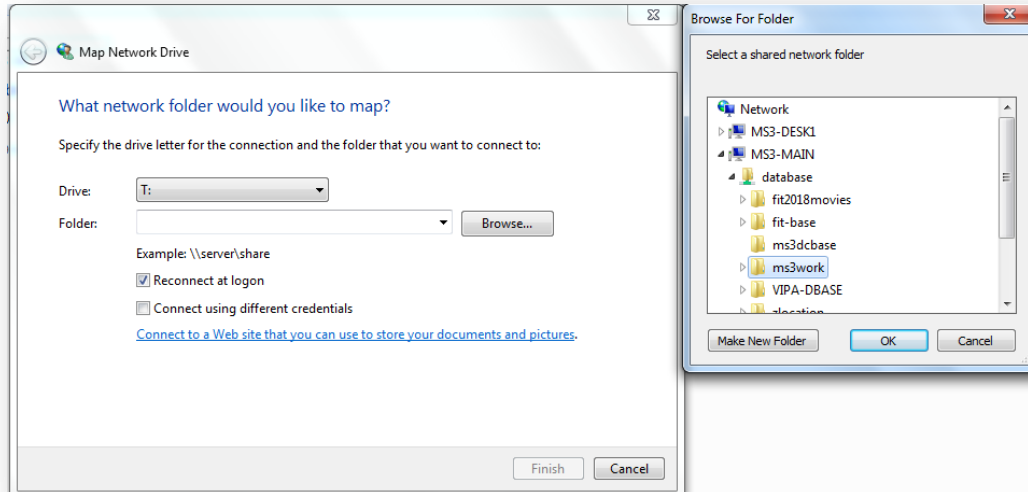
- Select the correct shared folder and click **OK** and then **FINISH**.
- The drive will now be visible on the MY COMPUTER explorer as a drive on the computer. Remember the server must be on to access that drive.

WINDOWS 10 DILEMMA

With Windows 10, HOME NETWORKING has been discontinued and once you connect a Windows 10 computer to a Windows 7 network, the Windows 7 computers will only display the shared media player and not the folders. To fix this, you need to link directly to each computer **\\computer name** or **\\server name**. You may now MAP the network from the results founded.

Sharing Printers and other hardware:

Any of the computers on the network (it is advised to focus on the server) may share their peripherals (printers, scanners, DVD roms/ram).
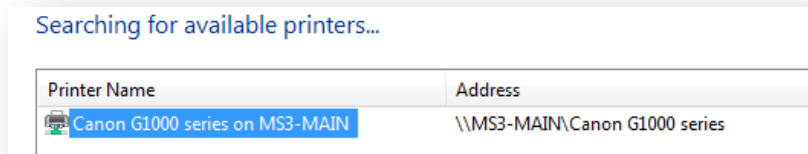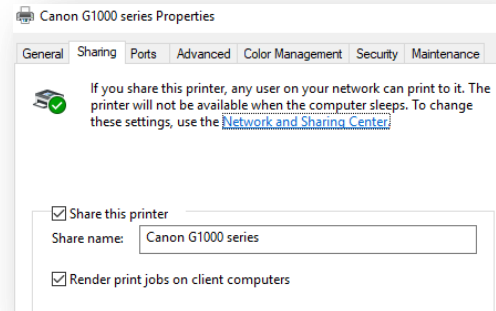
PRINTER

- Open **CONTROL PANEL.**
- Open **Devices & Printers** (via IWCSQUICKIES – PRINTERS)
- Select the printer you wish to **SHARE** (**left mouse** click once only) – now **right mouse** click on it and select **PRINTER PROPERTIES**.

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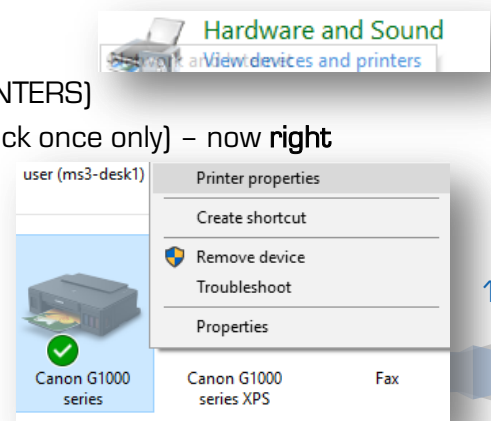
Select the **SHARING** tab and ensure the settings as below (check boxes and name the network printer – what the others will see).
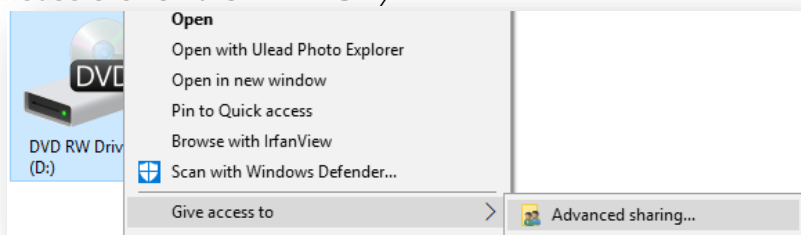
- **Connecting to the shared printer by other users:**
  - o Ensure you are established on the network.
  - o Go to **Control Panel** - **DEVICES** and **PRINTERS**.
  - o Click on **ADD A PRINTER**.
  - o Select **ADD A NETWORK PRINTER**.
  - o The network will display any shared printers on the network.
 - o Select the desired printer and click **NEXT**.
  - o The printer has now been added (drivers are required if it does not print – it could be due to different Window Version from the server to the slave computer). Remember to set the configuration (A4, draft, print from last page, etc.)

## DVD ROM/RAM (for netbooks to make use of and shared drivers for peripherals)
- To share an entire DVD ROM/RAM as a network drive you need to share it as a folder – obviously the owner of the shared DVD ROM/RAM will load the required disks – game/drivers/software.
- Open **MY PC**.
- **Right mouse** click on the DVD ROM/RAM.
- Select **GIVE ACCESS TO** and then **ADVANCED SHARING**.
- Again click on **ADVANCED SHARING**.
- Enter the name of the **FOLDER** (drive) and select how many users may access it at once (slows down network, the more).

https://www.iwcs.co.za | COMPUTER CONCEPTS–
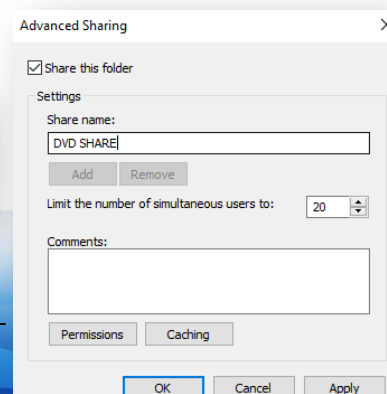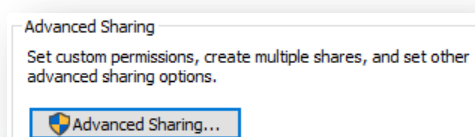
- Click **APPLY, OK and then CLOSE**.
- Notice the SHARED icon on the DVD drive:
- ==To log onto the shared DVD DRIVE by the other computers:==
  - o Ensure there is a disk in the DVD drive for this configuration.
  - o Open MY COMPUTER/MY PC on the slave computer.
  - o Select MAP NETWORK DRIVE.
  - o Select drive name (W:\) and then the **BROWSE** button.
  - o Open the server computer and find shared DVD drive.
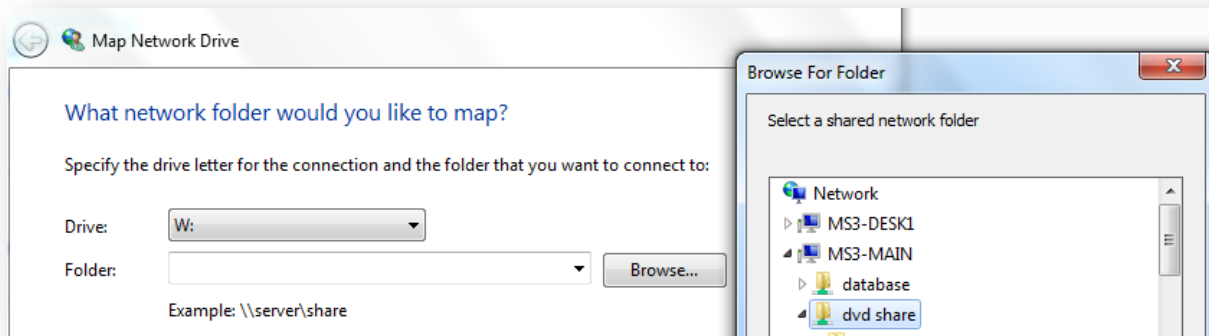
  - o The drive has now been added as a drive.
  - o Always ensure with the server owner that the required disk is in.

Gaming Networks (review Condition Zero)

One of the most used purposes of networking is to play linked games. You only need to establish a network. No MAPPED network is required for this purpose as the game is making use of framed packets to share the data between the game consoles. 90% of all games work by the same principle:

- The server machine will CREATE a multiplayer game (network server).
- The other computers will JOIN the network (LAN) game.

IWCS Chat

IWCS CHAT is a server/client based communication system over a LAN. The server administrator will create a server (address 1149) and then clients can logged onto that server address to chat (open system).

- Open **IWCSQUICKIES** menu; **MAILER**; **IWCSCHAT**
- Firstly open the Server (only one member must do this) – just leave the program minimized – it must be open to be an active network system.

https://www.iw
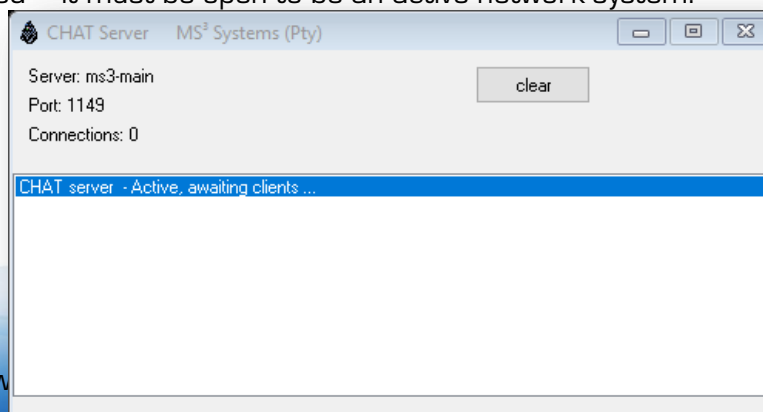
- Now all the other members must open the **IWCS Client program** and **CONNECT** to start chatting – type in at **TEXT** field and press **SEND**. The server will indicate how many connections are connected and report any member whom has disconnected afterwards.
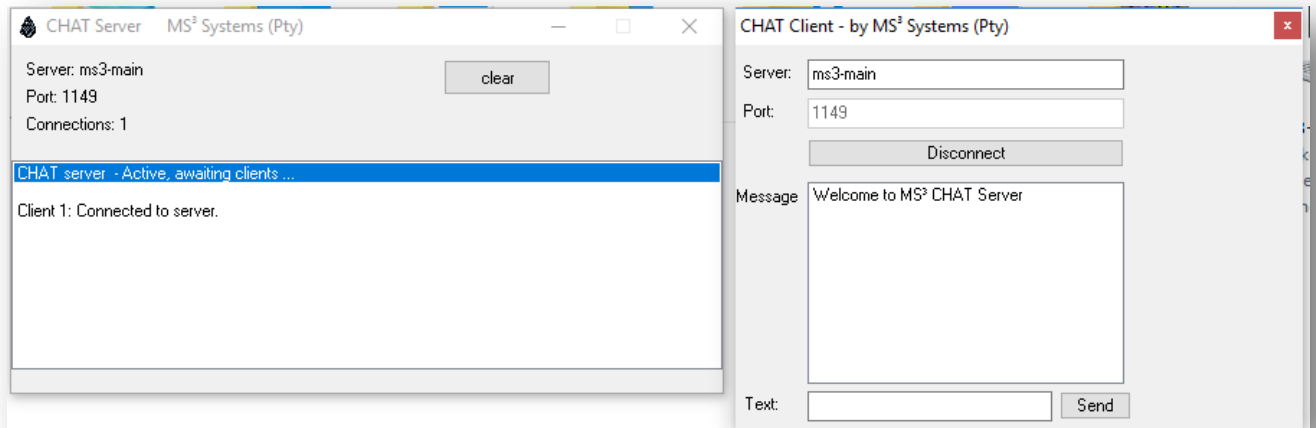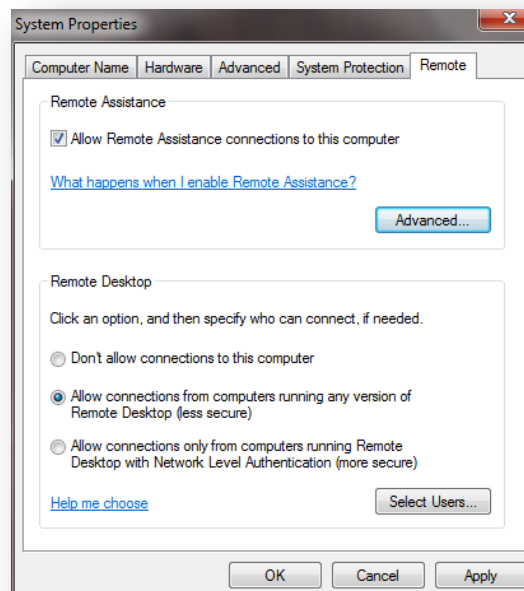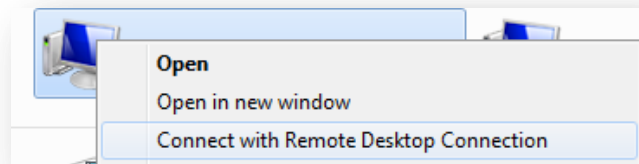
REMOTE AGENT

With remote agent you are able to "take over" a computer that is allowing you to "take over". This is to assist in troubleshooting and lectures.

You firstly need to set YOUR computer to accept Remote Agent:

- In search bar, type in REMOTE and select ALLOW REMOTE ACCESS.

- **APPLY** and **OK** abovementioned settings.
- Ensure the other computer will accept a REMOTE AGENT.
- Open **MY COMPUTER/MY PC** and then **NETWORK**.
- **Right Mouse** click on the computer that you wish to remote with.

- You will be required to enter the **USER NAME** and **PASSWORD** of that computer.
- You will now work as REMOTE AGENT on that computer. Windows Explorer will display the drives/files and folders of THAT computer. Everything that you do is on that computer, until you EXIT remote agent – the other computer will go in LOG ON screen mode. Whatever you change (even on the desktop) will remain as new. The screen will remain as you LOG OUT from that computer.

The other method is using E-MAIL Invitations to connect to somebody's computer.

- Search REMOTE with Windows Search Bar.
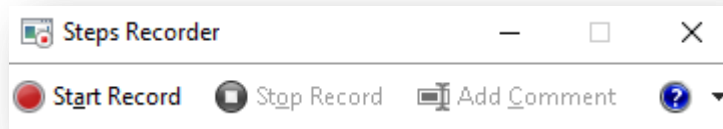- Either select you invite somebody or somebody invited you.
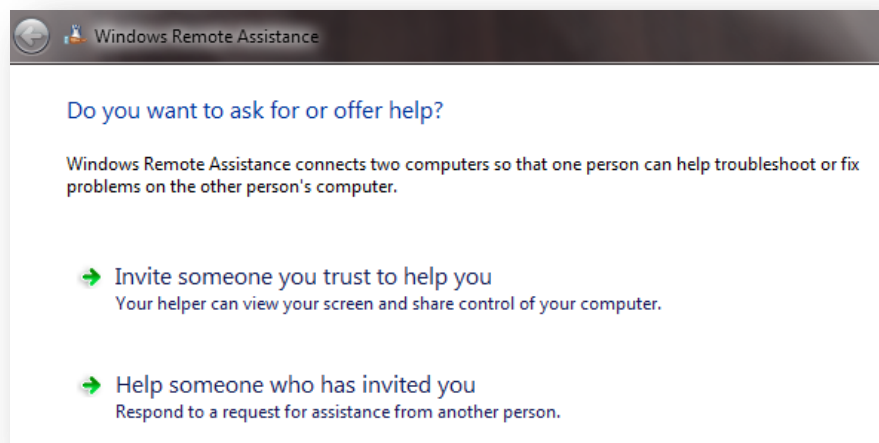
STEP RECORDER (Windows 10)

Step Recorder ® is used to record your every action and then compile a document with the steps (photos) as you worked – you will then use this as a lecture or send as an email

for somebody to confirm your work.

- Enter STEP RECORDER in search bar
- Run the application.

- Press START RECORD.
- Execute what you wish to do/record.
- Click the STOP RECORD.
- A complete file with images and notes were created. Save it (ZIP – sequence of actions).
- You can now use it within PowerPoint for presentations or email for further evaluation.

FINAL NOTE

Whenever you are unable to remember where is a specific application or function, simply click the SEARCH bar and enter the application or function's name within.

Always maintain your computer's hard drive – clean and clear from unnecessary files. Ensure not to overpower your computer with video, music and photo files (MY PC - SYSTEM – STORAGE – TEMPORARY FILES)

Make use of IWCS Quickies and update it – it will have features that you will require and give easy access to.

WHICH COURSES FROM HERE ...

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- IWCS Windows Programming ©
- IWCS Game Programming ©