المملكة العربية السعودية

وزارة التعليم

MINISTRY OF EDUCATION

# هام

لكل المهتمين و المهتمات

بدروس و مراجع الجامعية

مدونة المناهج السعودية eduschool40.blog

# Chapter 3

* Hackers → white hat "ethical hacker".
  → Grey hat
  → Black hat.
* Trojan horse: installs Backdoor / Rootkits on your computer.
* Backdoor: makes your computer a Zombie
* Zombie: is usually used to make Dos
* Dos: can be done ~~form~~ from more than one Zoombie and it is called DDos
* DDos: are Coordinated by Botnet.
* Hackers gain a computer access by: → Direct access
  → Indirect access

Expoloit kit
by exploiting known vulnerbilities in Os and browsers

Internet Connection
via ~~open~~ opened logical port

* virus type → Boot sector
  → logical bombs and time bombs
  → Worms
  → Script and Macro
    → الفرق والتعاريف ... الخ
  → E-mail
  → Encryption

* How viruses avoid detection
  → Polymnrphic
  → Multipritite
  → Stealth

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* Online threats
  - Malware → Virus and worms
    - Adware
    - spyware
  - Spam and spim → [illegible]
  - Cookies
  - Social engineering → types → Phising
    - Pharming
    - Scarware
    - How it works → pretexting

* Protecting your Digital property
  1. Restricting Access to your digital Assets
  2. keeping your Data safe.
  3. Protecting your physical computing Assets.

* [1] Restricting Access to your digital Assets
  - Firewall → preventing hackers from access your computer and information through the Internet by firewall
  - preventing virus Infections → Antivirus software
    - system updates
  - protecting your digital information by [authentication]
    - Passwords
    - Biometrics.
  - Anonmous web Surfing
    - privacy tools
    - Ironkey
    - Linux based on flash
    - Vpn

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Firewalls → types → Hardware
→ Software → استعملهم الاثنين فنفس الوقت عادي بالعكس كويس ~~الحما~~ الحماية تزيد

Come with Os — security suites

أستعمل واحد فقط مما ينفع أشغل الاثنين

→ How it protect you?
- → Block acess to logical ports
  - → Packet filtering
  - → logical ports blocking
- → keeping your computer Network secure
  - → NAT

~~→ Prevent~~

## * How Antivirus works

- → Detection → By virus signature
- → stop virus ~~exe~~ exeution → Quarantining.
  - → Deleting or reparing the infected files.
- → Prevent future infection → Inculation.

## * proteeting your physical computing Assets

- → عوامل بيئية
- → كهرباء → Power surge
- → السرقة

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| Alarm Software | Encryption Software | برامج التتبع |
| --- | --- | --- |
| * Lalarm → laptop | * Safe → iPad, iphone | * LoJack, PC Phone Home |
| * Motion Alarm<br>* Alarmomatic<br>for iPad and iphone | * mobile strong box<br>↓<br>Android | Mac phone home |
| | * SensiGuard, safe house<br>↓<br>laptops | * iHound<br>↙ ↘<br>Android iOS |

find my iphone → iOS
my Droid → Android

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Chapter two [قناة لجين أحمد] / /

Software

System software — Application

operating system [OS] → has three primary function.

utility program

types of operating system
- → single user – single task
- → single user – Multitask
- → Multi ~~task~~ user → Multitask → windows OS X

| Device | OS type | |
|---|---|---|
| Machine with bulit-in computers | Real-time OS [RTOS] أو يسمى embedded system | * embedded system require minimal user interaction<br>* لا يوجد نظام تجاري يباع منها لأن كل شركة تصمم حسب ما يناسب جهازها |
| Network devices<br>→ server<br>→ Super computer<br>→ Main frame | Multiuser Operating System "Network os" | * windows servers * Linux * UniX<br>* Lates version of windows and OSX used in homes and small network |
| smart phone | مالو اسم محدد | * IOS * Android * Windows<br>مميزات هذه الأنظمة "جزئية السمارت فون كلها في السلايدات. |

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| | | |
|---|---|---|
| tablets | مالو اسم محدد | * IPad → IOS<br>* Samsung galaxy tab * google nexus<br>* kindle fire → android<br>* windows 8 was released in 2012, before it microsoft didn't have a popular tablet OS. |
| Gaming console<br>→ Xbox 360<br>→ Wii<br>→ Playstation<br>→ IPad<br>personal media player | | * كل شركة تسوي نظامها نفس سالفة الا مبديه كمبيوتر عشان كل شركة * بكيفها تبرمجه<br>* بيتحكم النظام في الأجهزة المادية والبرامج كمان |
| personal computer | | windows<br>OSX<br>Linux<br>مع مميزات وخصائص كل واحد. |

## User Interfaces

1) command driven interface
* مره صعبة للمستخدمين العادي
* أقدم نوع

2) menu driven interfaces
* أسهل من الكوماندس
برضوا تعتبر صعبة

GUI
graphical user interface
* الأحدث * أول من سواها أبل
* لنكس عندو اكثر من وحدة
GNOME KDE لـ

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* What OS does
  - provides user interface
  - Hardware Coordination → manage cpu
    - Memory uRam and storage devices
    - Hard ware and ~~pe~~ peripheral device ~~management~~ mangment
  - software application Coordination

* مراحل عمل الـ Booting

* Utilty program
  - windows Admistration utilites
    - Disk clean up → make system faster
    - Task manegar → checks stopped prograns and teminate them
    - Disk Defragmentation → improve computer's perfomance
  - file system Backup Utilities
    - file history → Back up files
    - system restore → ~ ~ system → بس لويندوز
    - time machine → ~ ~ ~ → بس لابل
  - Aceessibility utilites
    - magnifier
    - Narrator
    - speech ...
    - One screen key board
    - High contrast

مصطلحات ومسميات تهم نوعيا

* NFC * distrubutions u distros n * computer platform * virtual drives * GNOME , KDE * preemptive multitasking * interrupt * interrupt hundler * interput table * buffer * spooler * virtual memory * paging * trashing * device driver * PnP * Plug and Play * Roll Back driver * API * Bios ~~* Emios~~

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* CMOS * authintication * Recycle Bin / Trash
* winzip * stuff.!

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# Chapter One :- Basic Computer Concepts

لازم نفرق بين :-

| | |
|---|---|
| * Computer | * a programmable electronic device that can, input, process output, and store data. |
| * programmable | * a device can be instructed to perform a task or a function when fed with a program or software |
| * Data | * represents text, numbers, graphics, sounds, ... entered into the computer's memory during [input operation] |
| * information | Data has been [Processed] so it can be |

| | | |
|---|---|---|
| * PC | * the OS → windows * less expensive<br>* user interface * Application soft ware<br>* has a larger market among general users. | They both Do the same functions |
| * MaC | * the OS → Mac * more expensive<br>* user interface * Application Software<br>* popular with graphic design | |

* information processing cycle → ملخص في رسمة في سلايد 6

types of computer

- Microcomputer
- Embedded Computers
- Mainframe
- Supercomputer

~~#~~ types

* ضروري نعرف كل نوع وصفاته ومميزاته

- Desktop
- Gaming computer
- Notebook « لاب »
- taplet devices
- mobile devices

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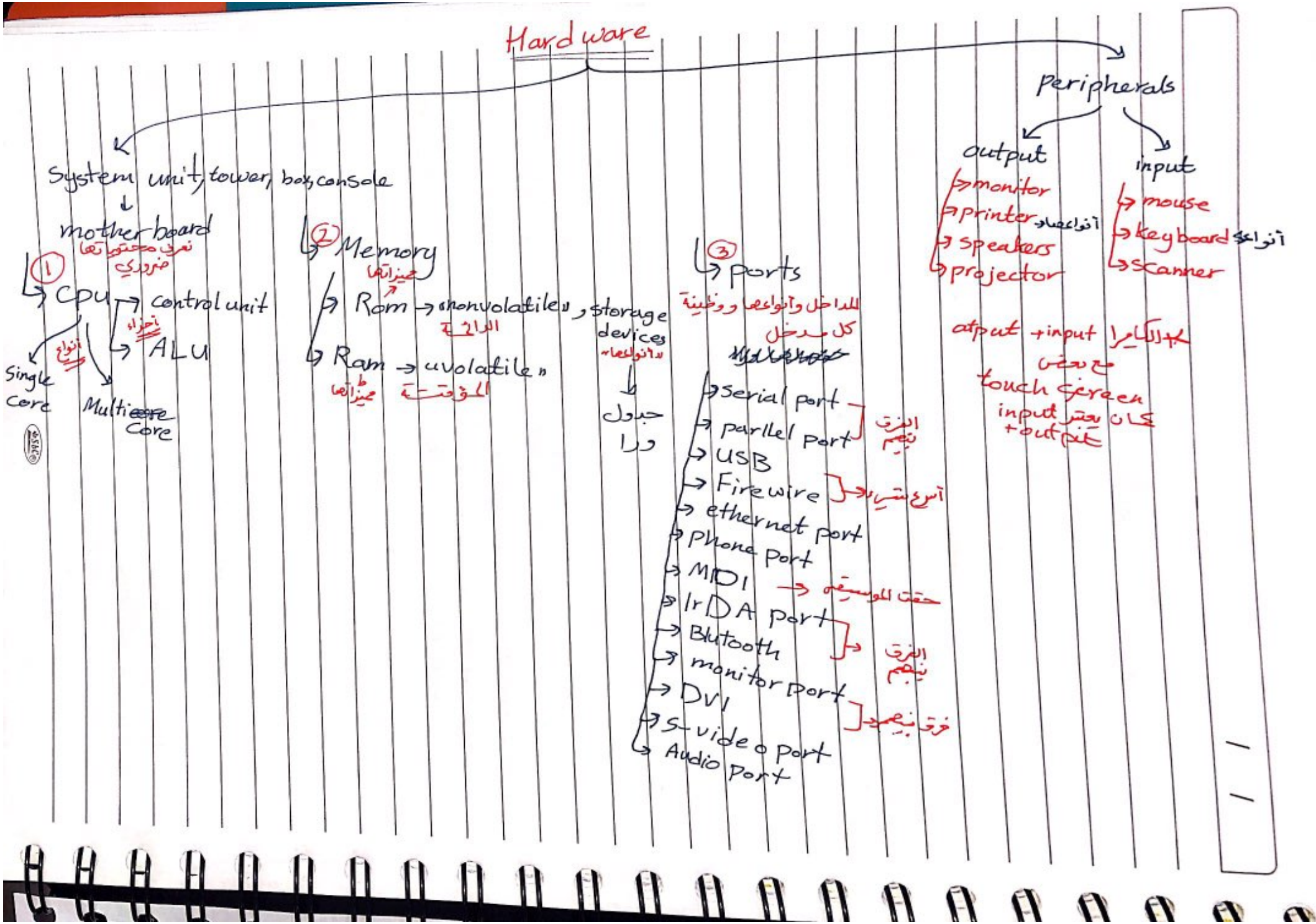


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| اللي يقرأ ليا ويكتب<br>storage device | اللتي يتم قراءة المحتوى منها والكتابة عليها<br>Media | type of storage طريقة التخزين |
|---|---|---|
| * Hard disk drive | Hard disk | ~~Mg~~ Magnetic |
| * floppy ~ ~ | floppy disk | Magnetic |
| * flash drive | flash memory | flash |
| * Backup tape drive | magnatic tape | Magnatic |
| CD or DVD Drives الفرق بينهم مهم | CD → Rom, R, Ram<br>DVD → Rom, R, Ram<br>الفرق بينهم مهم | → optical |

مهم تفهم أنو الدرايف هو جهاز بيشغل لنا الميديا واحنا معلوماتنا تتخزن على الميديا

الشبكات

## Network

تصنف الشبكات حسب ثلاثة محاور (1) :

- Size
  - ~~Lan~~ LAN
  - WAN
- privacy
  - public
  - private
- Configuration
  - peer / peer
  - peer / server

End of ch.1

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