

DHRM

GOLDEN HUMANS

1006 - DMIS

MANAGEMENT INFORMATION SYSTEM



TRENDS IN COMPUTER HARDWARE

The system unit

- A. Digital data representation
- B. The System Unit
- C. Motherboard
- D. The CPU
- E. Buses
- F. Memory
- G. Ports and Connecters
- H. Improving Performance

Digital Data Representation

- **Bit** – The smallest unit of data that a binary computer can recognize (a single 1 or 0)
- **Byte** = 8 bits
- Byte terminology used to express the size of documents and other files, programs, etc.
- Prefixes are often used to express larger quantities of **bytes: kilobyte (KB), megabyte (MB), gigabyte (GB), etc.**

• 1 Bit = Binary Digit	• 1024 Terabytes = 1 Petabyte
• 8 Bits = 1Byte	• 1024 Petabytes = 1 Exabyte
• 1024 Bytes = 1 Kilobyte	• 1024 Exabytes = 1 Zettabyte
• 1024 Kilobytes = 1 Megabyte	• 1024 Zettabytes = 1 Yottabyte
• 1024 Megabytes = 1 Gigabyte	• 1024 Yottabytes = 1 Brontobyte
• 1024 Gigabytes = 1 Terabyte	• 1024 Brontobytes = 1 Geopbyte

The System Unit

The main case of the computer

- Houses the processing hardware for a computer
- Also contains memory, the power supply, cooling fans, and interfaces a connect peripheral devices
- Houses the drive boys in which storage devices (hard drives, DVD drives, etc.) are located

MOTHERBOARD OR SYSTEM BOARD

The main circuit board inside the system unit

- All computer components must connect to the motherboard
- External devices (monitors, keyboards, mice, printers) typically connect by plugging into a port exposed through the exterior of the system unit

The CPU

Circuitry and components package together and attached to the mother board

- Does the vast majority of processing for a computer?
- Different CPUs typically designed for desktop PCs, portable PCs, or servers
- Personal computers CPUs often made by Intel or AMD

- CPU clock speed: One measurement of processing speed
 - Measured in megahertz (MHz) or gigahertz (GHz)
- Number of Cores
- Processor Architecture
- Cache Memory
- Manufacturer

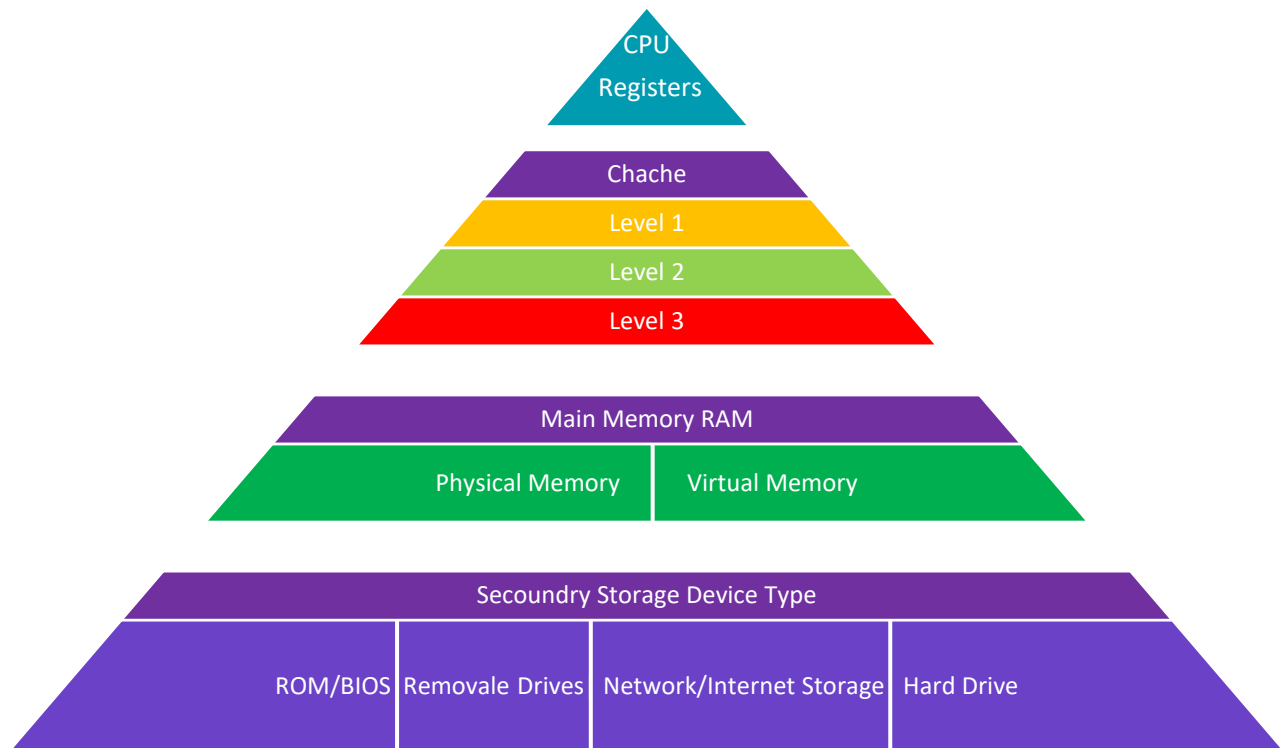
BUSES

- Connector and plugs, and tera with any devices

COMPUTER MEMORY

- Computer memory is the storage space in computer where data is to be processed and instructions required for processing are stored.

COMPUTER MEMORY HIERARCHY



Ports and Connectors

Port: A connector on the exterior of a PC's system unit to which a device may be attached

- Serial
- Parallel
- **RJ45 (Network)**
- PS / 2 (Keyboard / Mouse)
- **Video Out (DP, HDMI, DVI, VGA)**
- RJ11 Modem / Phone
- **USB (2.0, 3.x, Type C)**
- Fire Wire
- MIDI
- Game
- eSATA
- **Audio (Mic in, Speaker out etc. and Audio Combo)**

IMPROVING THE PERFORMANCE OF YOUR DEVICES

Perform system maintenance

- Scan for viruses and spyware
- Uninstall unnecessary programs properly
- Removing unnecessary from the startup list
- Delete temporary files
- Empty the recycle Bin
- Arrange files efficiently
- Consider placing large files on external storage devices or Cloud
- Remove duplicate files

STORAGE

- Storage System
- Secondary Storage Devices
- Remote Storage Systems
- Other Types of Storage Systems

STORAGE SYSTEM CHARACTERISTICS

- Can be internal, external, or remove
- Are nonvolatile
- Usually use random access; can be sequential

SECONDARY STORAGE DEVICES

- **HDD**
- **SSD**
- **Optical Disk**
- **Flash Memory Systems**

REMOTE STORAGE SYSTEMS

- Remote storage refers to using a storage device that is not connected directly to the user's computer; instead, the device is accessed through a local network or through the Internet
- Network Storage: Using a remote storage device via a local network.
- Remote storage device accessed via the internet are often referred to as online storage or cloud storage (E.g., OneDrive, Google Drive, Drop Box etc....)
 - Growing in importance because more and more applications are web-based
 - Increasingly being used for backup purposes

OTHER TYPES OF STORAGE SYSTEMS

- Smart card; Credit card-sized piece of plastic that contains some computer circuitry (processor, memory, and storage)
 - Store small amount of data (about 64KB or less)

- Magnetic tape consists of plastic tape coated with a magnetizable substance that represents the bits and bytes of digital data, similar to magnetic hard disks.
 - Although magnetic tape is no longer used for everyday storage applications because of its sequential-access property, it is still used today for business data archiving and backup.
 - One advantage of magnetic tape is its low cost per terabyte.

INPUT AND OUTPUT

- Input
 - Mouse
 - Keyboard
 - Scanner
 - Cameras
- Output
 - Monitor
 - Speaker

SOURCE DATA AUTOMATION

Capturing data electronically from a source document or entering data directly into a computer at the time and place the data is generated

HOLOGRAPHIC PROJECTION

WHAT IS HTML

- Standard for **H**ypertext **M**arkup **L**anguage
- Based on tags.
 - *So, it is called as a Markup Language*
- HTML document can be named as a Web page.
- It contains HTML Tags (HTML Elements) & Plain Text.
- The file extension is **.html**
- The latest version is HTML 5

<html>

<head>

[contains the information which are needed to run the html file properly.]

</head>

<body>

[contains the content of the html files]

</body>

</html>

<title></title>

Used to add the title of the html page

<style></style>

Used to add style settings for html elements.

<script></script>

Used to add client-side scripts to the html file.

Common tags in HTML header

<html>

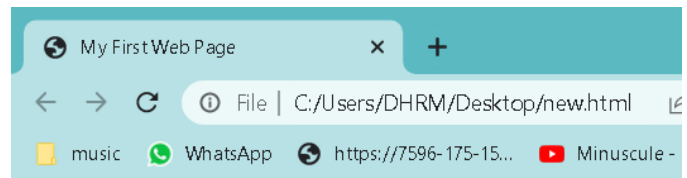
<head>

<title>My First Web Page </title>

</head>

<body>

</body>



** , <table>, <hr>, <tr>, <input>, <form>, , <i>, **

TAGS AND ATTRIBUTES

```
<html>

  <head>

    <title>My First Page</title>

  </head>

  <body>

    <h1 align="center"> ITRC </h1>

  </body>

</html>
```

Computer networks

Network??

- A group of two or more computers, computer systems and mobile devices connected together using a communication system
- Purpose: communicating and sharing files and resources

Network types

- Local Area Network (LAN)
- Metropolitan Area Network (MAN)
- Wide Area Network (WAN)
- Personal Area Network (PAN)

Networks Types

- ❖ Local Area Networks (LAN)
 - Computer network that interconnects computers in a limited area such as home, school, computer laboratory or office building
- ❖ Metropolitan Area Network (MAN)
 - Computer network that usually spans a city.
 - A Man usually interconnects a number of LANs
- ❖ Wide Area Network (WAN)
 - Telecommunication network that covers a broad area
 - A WAN usually interconnects a huge number of LANs

Devise used in network

❖ Modem

-A device that

- Modulates an analog carrier signal to encode digital information, and
- Demodulates such a carrier signal to decode the transmitted information

❖ Router

- A device that forwards data packets between computer
- Connected to two or more data lines from different networks
- When data comes in on one of the lines, the router reads the address information in the packet to determine its ultimate destination
- Then, using information in its routing table or routing protocol, it directs the packet to the next network on its journey
- A data packet is typically forwarded from one router to another through the networks that constitute the internetwork until it gets to its destination node

❖ Network Interface Card (NIC)

- Computer hardware component that connects a computer to a computer network

❖ **Hub**

- Makes a connection among each computer in a LAN
- Broadcast device

❖ **Network switch**

- Computer networking Device that connects computers in a LAN
- More intelligent than a Hub

❖ **Wireless Bass Station**

- A radio receiver / transmitter
- Serves as the hub of the local wireless network

❖ **Pros & Cons**

-Advantage of using Computer Networks

- File sharing
- Resource Sharing

-Disadvantage of using computer Networks

- Security issues
- Rapid spread of computer viruses
- Expensive setup
- Dependency on main equipment (E.g., Main file server)

E- commerce and E- business

Information+ technology

Information is the result of
processing data

E.g.

1. Individual student's AL marks
Z-core
Cut -out Z-Score for university
entrance

The application of scientific
knowledge for practical purposes,
especially in industry

E.g., 'recycling technologies'

What is information technology

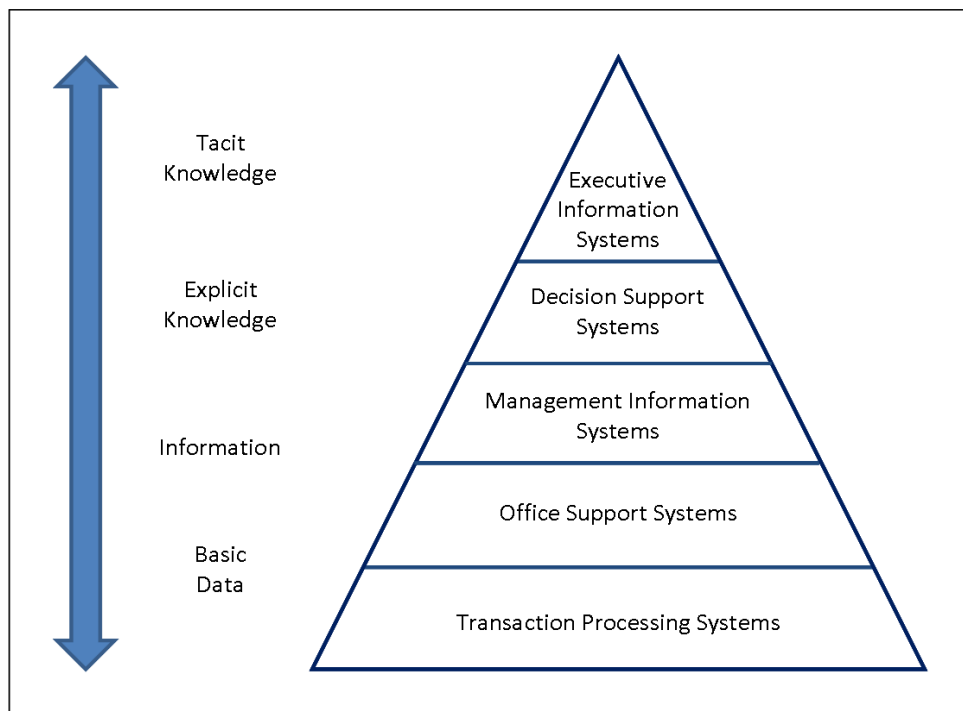
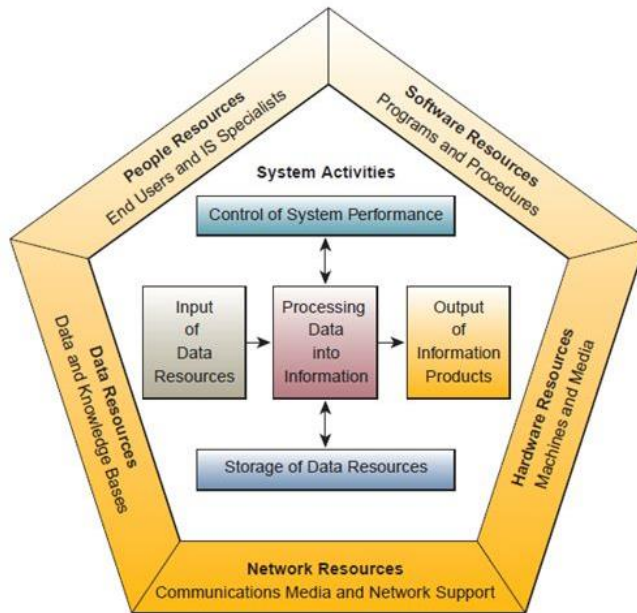
In general, information technology includes any expertise (scientific knowledge) that helps create, modify, store, manage, or communicate information

It encompasses networking, systems management, program development, computer hardware, interface design, information assurance, systems integration, database management, and web technologies.

Information systems

- An information system uses the resources of people, hardware software, data, and network to perform input, processing, output, storage, and control activities that convert data resources into information products
- Modern information systems are just not processes data into information, and
- They provide efficient and effective communication and collaborative virtual environment for employees as well as customers and suppliers

components of information system



E-business

- E-business is a term used to describe business run on the internet, or utilizing internet technologies to improve the productivity or profitability of a business
- in a more general sense, the term may be used to describe any form of electronic business-that is to say, any business which utilizes information systems to do business activities.

E-Commerce

By selling products and services online, an e-business is able to reach

A much wider consumer base than any traditional brick-and-mortar

Store could ever hope for. This function of e-business is referred to

As e-commerce, and the terms are occasionally used interchangeably

Advantage of E-commerce

- with the use of e-commerce, you can promote your product globally
 - reduces time and money spent
 - gives competitive advantages
 - removes location and availability restrictions.

Disadvantages

- security-there are still some people who don't think it is safe
- you may not receive what you believe you have purchased
- things such as viruses could mean losing the site or affecting your customer computers while on your website.

E-Commerce

- e-Commerce is usually associated with buying and selling over the internet, or conducting any transaction involving the transfer of ownership or rights to use goods or services through a computer mediated network
“E-Commerce is the use of electronic communications and digital information processing technology in business transaction to create, transform, and redefine relationships for value creation between or among organizations, and between organizations and individuals”

Types of E-Commerce

- the major different types of e-commerce are
- Business-to-Business(B2B)
- Business-to-Consumer(B2C)
- Consumer-to-Consumer(C2C)
- other
- Consumer-to-Business(C2B)
- Business-to-Government(B2G)
- Government-to-Business(G2B)
- Government-to-Citizen(G2C)

Mobile commerce

- M-commerce (mobile commerce) is the buying and selling of goods and services through wireless handheld devices such as smartphones and tablets as form of e-commerce, m-commerce enables users to access online shopping platforms without needing to use a desktop computer

B2B

- B2B e-commerce is simply defined as e-commerce between companies
- About 80% of e-commerce is of this type, and most experts predict that B2B e-commerce will continue to grow faster than the B2C segment

B2C E-Commerce

- Business-to-consumer-e-commerce, or commerce between companies and consumers, involves customers gathering information; purchasing physical goods (i.e., tangibles such as books or consumer products) or information goods (or goods of electronic material or digitized content, such as software, or e-books); and for information goods, receiving products over an electronic network

C2C E-Commerce

- Consumer-to-consumer e-commerce or C2C is simply commerce between private individual or consumers
- This type of e-commerce is characterized by the growth of electronic marketplace and online auctions, particularly in vertical industries where firms/businesses can bid for what they want from among multiple suppliers, it perhaps has the greatest potential for developing new markets.

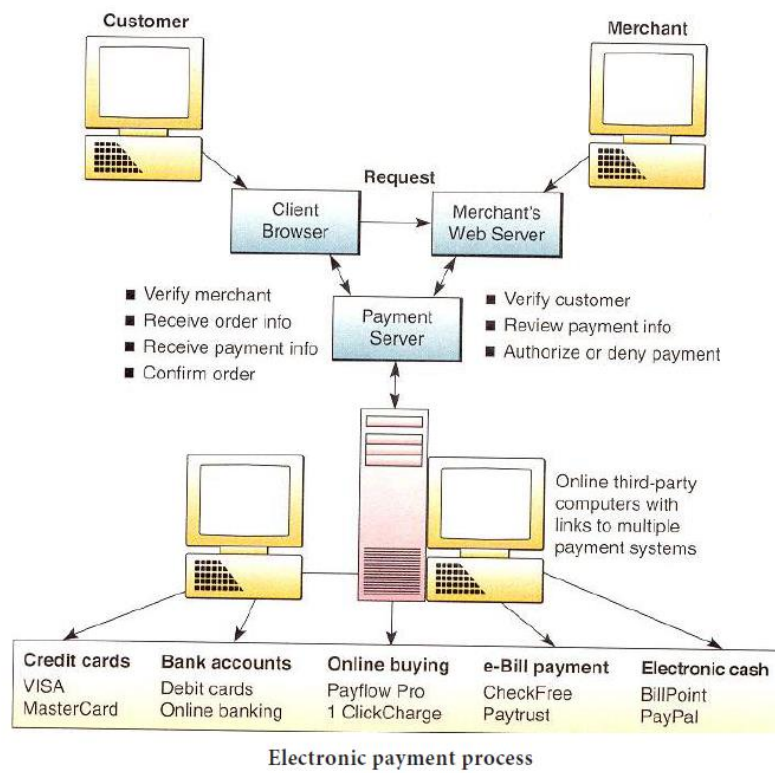
Payments on internet

- Most of online purchases are paid by a credit card, Merchants like credit card payments because an instant authorization guarantees that the card is valid (as opposed to a check which may bounce)
Customer like paying by credit cards because they can easily cancel a transaction in case when they don't receive products or devices according to the agreement in the transaction

Electronic payment systems

- Protecting customers from merchant's fraud by keeping credit card numbers unknown to merchants
- Allowing people without credit cards to engage in online transactions
- Protecting confidentiality of customers
- In some cases, proving anonymity of customers ("electronic cash")

Electronic payment system



Payment methods

- Credit card
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