

Component 4: Introduction to Information and Computer Science

Unit 1: Basic Computing Concepts, Including History

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Options for Computer Systems Home/Business User

- Laptop with a budget of under \$1,000
 - 15 inch monitor
 - Dual core processor
 - 2 GB RAM
 - 250+ GB hard drive
 - DVD Burner

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Other Options for Laptops

- Hard Drive
 - Traditional hard disk drive
 - Inexpensive
 - Moving platter
 - Solid state drive
 - No moving parts, cooler
 - Faster in some cases
 - More expensive
- Optical drives
 - DVD no longer standard on laptops
 - Blu-ray drives are available

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Other Options for Laptops

- Network
 - Modem
 - Ethernet
 - Wireless
 - Bluetooth
 - Mobile broadband antenna
- Docking Station
 - Used to conveniently connect laptop to keyboard, mouse, monitor, printer
- Extra battery
- Travel mouse

Other Types of Laptops

- Netbook/Ultraportable
 - 9 to 12 inch display
 - No optical drive
 - Single core processor (can have low-voltage ULV CPU)
 - Less than \$300 - \$800
- Desktop replacement
 - 17 – 20 inch display
 - DVD/Blu-ray drive
 - Video Card
 - Low battery life
 - \$1300+
- Thin and Light
 - 13 inch display
 - Dual core processor
 - MacBook
 - Around \$1000

Other Considerations for PCs

- Warranty
 - Usually 1 year for parts and labor
 - Repair on site vs. drop off
 - May need to keep boxes
- Internet Access
 - Have to select an Internet Service Provider (ISP)
 - FiOS, DSL, cable are all options
 - May depend on what's available in your location

Other Considerations for PCs, contd.

- Security Software
 - Windows 7 has Defender
 - Add more from other vendors (Norton, McAfee)
 - Need anti-viral, anti-spyware, anti-adware
- Backing up
 - Software makes it easier to backup and restore
 - Can back up to external hard drive or DVD
 - Online services

Computer Systems for Healthcare Applications

- Vary depending on software requirements
- Typical for EMR
 - Server(s) hosts application, database
 - Local machine runs application (client)
- Need
 - Server(s)
 - Client PC's
 - Network connection

Selecting a Server

- Depends on application requirements and number of users
- Usually contains
 - High end processor/multiple processors
 - Large amount of RAM
 - Large amount of storage (RAID)
 - Connection to a fast network (multiple connections)
- May need
 - Database
 - Web server

Client PC's

- Desktops for fixed computer locations
 - Users who work at desks
 - Can be in exam room
 - Doesn't need wireless
- Laptops/netbooks for mobile computing
 - Users can have own computer
 - Take it to any clinical setting
 - Requires wireless
 - Limited battery life

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Other Needs

- Scanners
 - Small footprint
 - ID card scanner
- Back up systems
 - Tape
 - Hard Drive
 - Online
 - May need offsite backup storage
- Internet Access
- Security
 - Network firewall
 - Security software for servers and clients

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Very Important

- Keep up to date with new technology
- Read reviews in current magazines (PC, PC World, Computerworld, Computer Shopper, etc.)
- Online sites provide latest information
 - <http://reviews.cnet.com/>
 - <http://www.tomshardware.com/>
 - <http://www.extremetech.com/>
 - <http://arstechnica.com/reviews/>
 - <http://www.anandtech.com/>
 - <http://techreport.com/>

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Summary for Selecting Computers

- Know your needs
- Know your budget
- Know your terms
- Research latest products
