
CS120 The Information Era

Prof. Shereen Khoja

TTh 9:25am - 10:40am

Marsh LL21

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CS120 Goals

- To learn about communicating using computers and the internet
- How?
 - By becoming computer savvy
 - By learning software
 - By thinking critically about information
 - By becoming aware of the importance of the web and web design

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Warning!

- This class is NOT for those people who have already had a lot of expertise with multimedia software and/or web publishing
- It is not intended for those who are thinking about a CS major
- If either applies to you, see me ASAP!

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In Class Policies

- Show up on time for every class
- Do not leave early
- Take notes
- While I'm lecturing, do NOT use your computers unless I say so. Violating this policy will result in having your screen locked
- Absolutely no inappropriate web surfing will be tolerated
- Participate in class discussions
- If you don't understand something, ASK!

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CS 120 Topics

- Background in computers and the internet
- Discussion of internet issues
 - Copyright and Privacy
 - Freeware, Shareware, Spyware
- Web development using HTML, CSS, and Javascript
- E-Commerce and Encryption
- Search engines and how they work

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Class Survey

- Let's get down to something practical
- Log onto the computers and open up a web browser
- Go to <http://zeus.cs.pacificu.edu/shereen/cs120sp07/Lectures/01quest.htm>
- Complete the survey, print it out and hand it to me
- If you get stuck, ask me for help!

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The Internet

- What is the Internet?
- What have been your experiences with the Internet?
- When/why/how do you use it?
- How many hours do you average online per week?

What's the big deal?

- The internet has been growing exponentially over the last 7 years.
- Millions of users
 - 1.08 billion and counting
 - Which country has the highest percentage of its population online?
 - How are they distributed worldwide?
- http://www.clickz.com/stats/web_worldwide/

What does it mean?

- Why do you think it's important that the Internet is growing?
- What's happening?
- How has it changed the way we live?

Computer Basics

Reading: pp. 1-8

- Learning Objectives
 - The Operating System
 - The Central Processing Unit
 - Memory and Storage

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What Is An Operating System?

- A large program that starts when the computer is turned on
- The Operating System (OS) is needed to run application programs (Microsoft Word)
- Key task: manage applications access to shared resources
 - Processor/Memory/Network

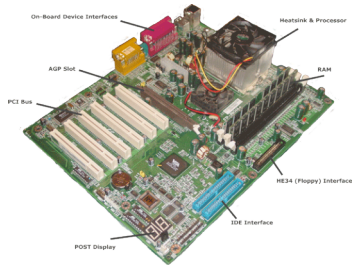
Q: Can you name an OS?

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Motherboard



<http://depts.washington.edu/sacg/services/workshops/fundamentals/troubleshootingosx/img/motherboard.gif>

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The Central Processing Unit

The CPU has three characteristics:

1. Instruction set

- o The collection of operations (depending on the CPU type) that the CPU can execute

Q: Can you give an example of two different CPU types?

Q: Give an example of an instruction

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The Central Processing Unit

2. Word size (a.k.a. data width)

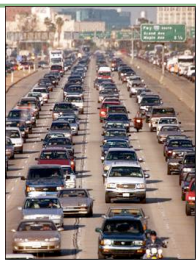
- o The more data that the CPU can potentially manipulate at one time, the faster the CPU.
- o The instruction set must accommodate large word sizes in order to increase the CPU speed.

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Word Size Example



Q: Use the above picture to explain word size.

Q: How can the above traffic jam be reduced using the concept of word size?

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The Central Processing Unit

3. Clock speed

- Helps determine the number of instructions the CPU can execute in an amount of time
- Measured in Megahertz (MHz) or Gigahertz (GHz)

Q: What does a clock tick look like?

Q: How many clock ticks per second are there for a CPU running at 1 GHz?

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Memory and Storage

- Random Access Memory (RAM)

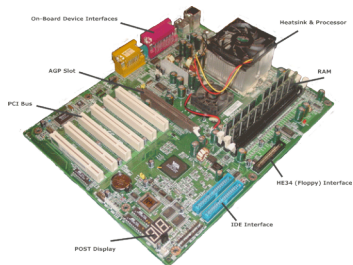
- Long-term storage

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Motherboard



<http://depts.washington.edu/sacg/services/workshops/fundamentals/troubleshootingosx/img/motherboard.gif>

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Memory and Storage

- Random Access Memory (RAM)
 - The memory that the CPU uses when it executes instructions
 - The CPU reads and writes to RAM very quickly
 - RAM is volatile - the information goes away when the computer is turned off or restarted (short-term)
 - Each program that you run requires some amount of RAM

Q: If you were to buy a computer today, how much memory would you want to have? Why?

Memory and Storage

- Long-term storage
 - Hardware that stores:
 - Files that you create
 - Software and its data files
 - The information remains when the computer is turned off
 - Examples:
 - Hard drive
 - CD-ROM / CD-RW

Q: T / F A jump drive is an example of RAM

For next time

- Read chapter 1 of *Web 101: Making the 'Net Work for You*.
