Computer Science E-1

Understanding Computers and the Internet

Lecture 2: Hardware, Continued

Thursday, 29 September 2005

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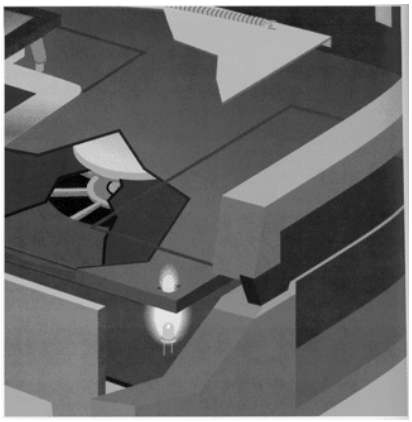
Agenda

- Secondary Storage
  - Floppy Disks
  - Hard Disks
  - CD-ROM Discs
  - DVD-ROM Discs
  - Recordable and Rewriteable Discs
    - CD-R, –RW
    - DVD-R, +R, -RAM, -RW, +RW
- Expansion Buses and Cards
  - PCI
  - AGP
  - ISA
  - SCSI
- Ports
- I/O Devices
- Monitors
  - Color Depth
  - Resolution
  - Dot Pitch
  - Refresh Rate
- Printers
- How to Shop for a Computer
- History

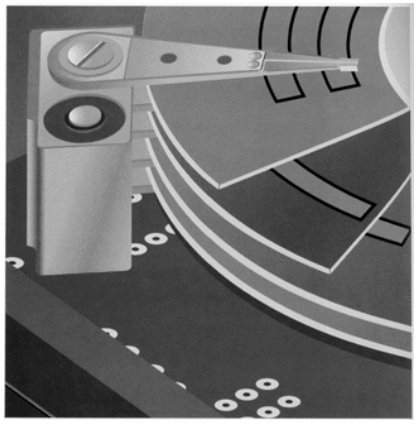
Secondary Storage

Floppy Disks



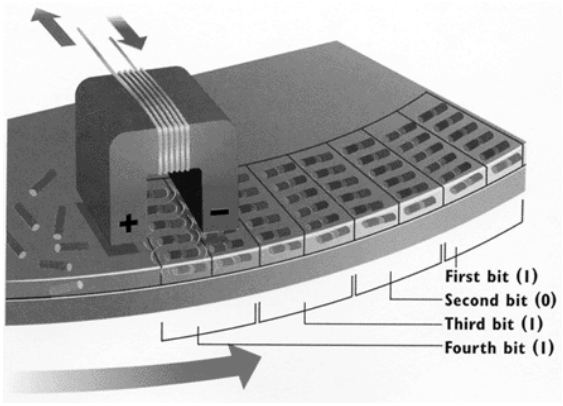
Secondary Storage

Hard Disks



Secondary Storage

Hard Disks



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Secondary Storage

Hard Disks

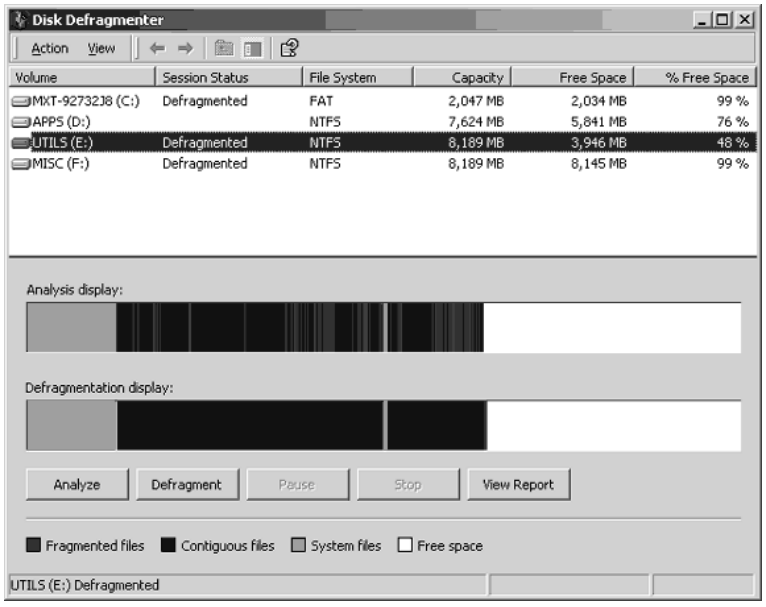
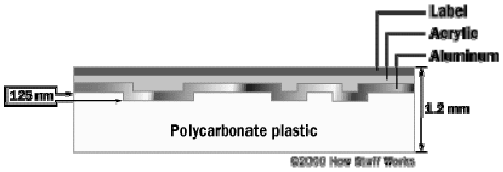
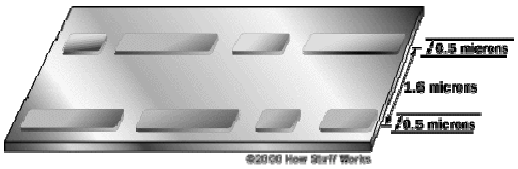


Image from http://www.winntmag.com/Articles/Index.cfm?ArticleID=8276.

Secondary Storage

CD-ROM Discs





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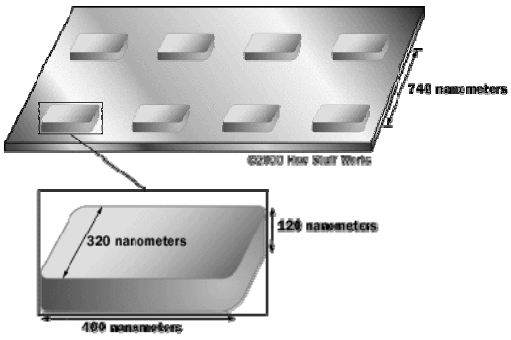
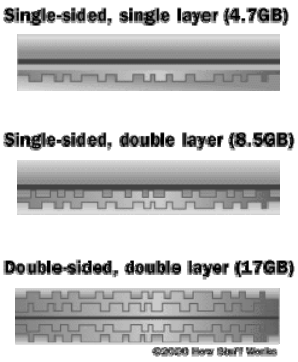
Secondary Storage

DVD-ROM Discs

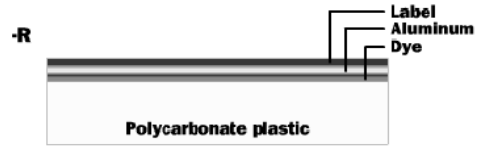


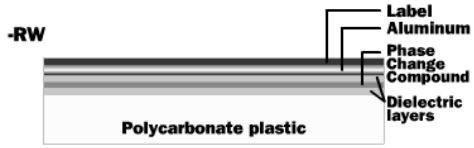


Images from http://www.howstuffworks.com/dvd2.htm, copyright © How Stuff Works.

Secondary Storage

Recordable and Rewriteable Discs





Images adapted from http://howstuffworks.lycoszone.com/cd-burner2.htm and http://howstuffworks.lycoszone.com/cd-burner4.htm, copyright © How Stuff Works.

Expansion Buses and Cards

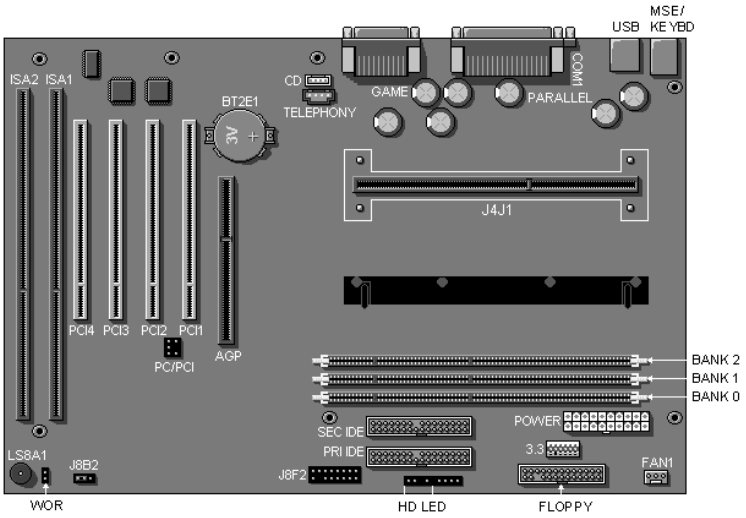
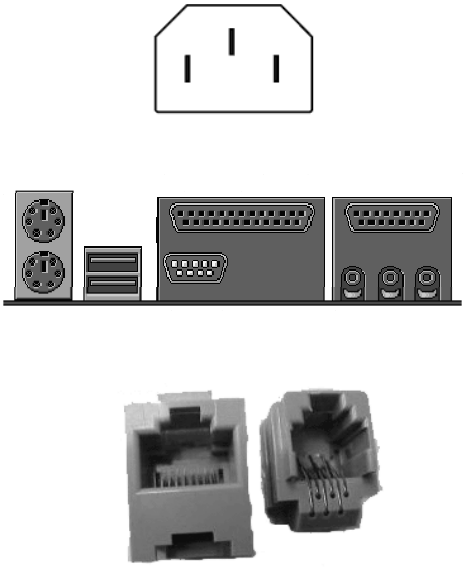


Image from http://docs.us.dell.com/docs/systems/dalex/board.htm, copyright © Dell Computer Corporation.

Ports



Images adapted from http://www.masterflex.com/reference/pwrcords.asp;
http://docs.us.dell.com/docs/systems/dalex/board.htm, copyright © Dell Computer Corporation;
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I/O Devices

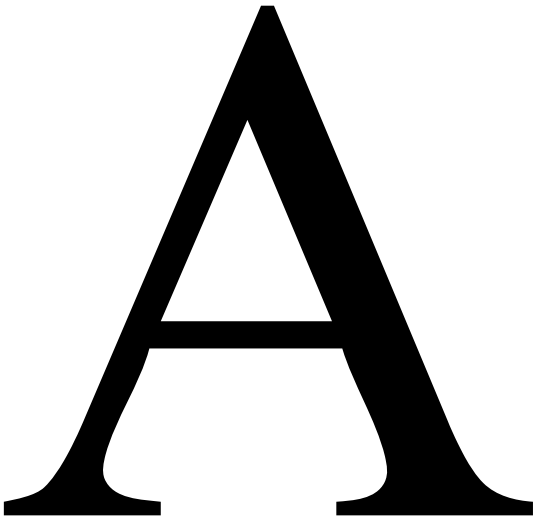
Input Devices		Output Devices

Monitors

Color Depths		Resolutions

Dot Pitches		Refresh Rates

Printers



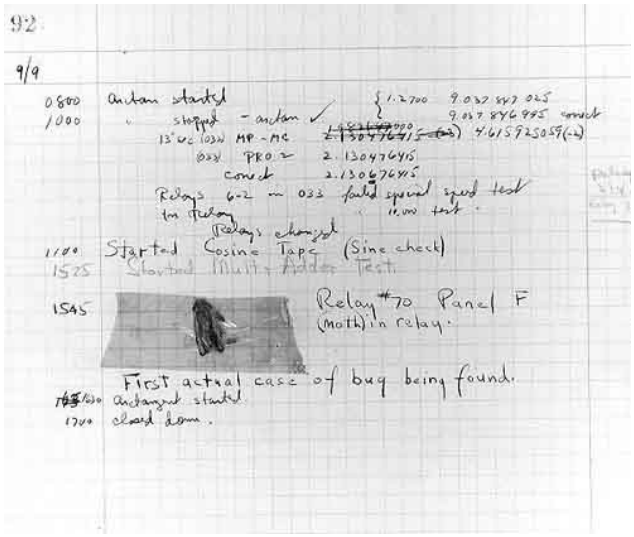
How to Shop for a Computer

History

1943

"When the Mark I was completed in 1943, it had a number of specific functions: addition, subtraction, multiplication and division plus logarithms and trigonometric functions and had an accuracy of 23 decimal place numbers. It measured 51 feet long, 8 feet high and 2 feet wide and weighed over 5 tons. It was a relay computer, like Zuse's, with output on an electric typewriter. Speed was about three calculations per second. The Mark I was used for both industrial and military purposes. It was even used in a Concordance program: providing an alphabetical list of all words of the Bible plus a statement of places and citation of the texts. That program did not work. Mark I served until 1959! Today, the Mark I has been split up an was divided between Harvard (Science Center), the Smithsonian Institute and IBM (Historical Collection)." Image and text from http://www.digidome.nl/howard_h__aiken.htm, copyright © DIGIDOME.

History



"Grace Murray Hopper, working in a temporary World War I building at Harvard University on the Mark II computer, found the first computer bug beaten to death in the jaws of a relay. She glued it into the logbook of the computer and thereafter when the machine stops (frequently) they tell Howard Aiken that they are "debugging" the computer. The very first bug still exists in the National Museum of American History of the Smithsonian Institution. Edison had used the word bug and the concept of debugging previously but this was probably the first verification that the concept applied to computers." Image and text from http://www.lewhill.com/firstcomputerbug.html, copyright © IEEE, Inc.

History

1975

Image from http://www.computermuseum.20m.com/popelectronics.htm.

History

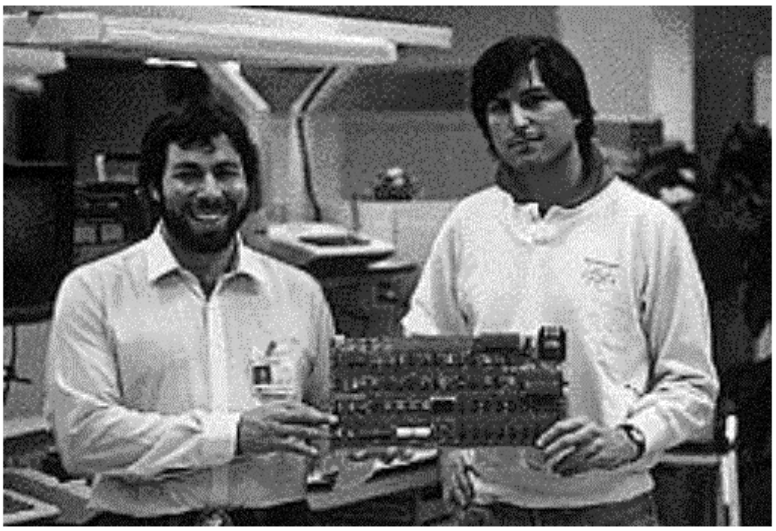
1975

Photo courtesy of Microsoft Archives.

Image from http://www.microsoft.com/italy/stampa/articolo_sez60info704.htm.

History

1977



Steve Wozniak e Steve Jobs con la scheda dell'Apple I

Image from http://www2.polito.it/didattica/polymath/ICT/Htmls/Studenti/Universita/Tesi-DAlessandro/Cap2.htm.

History

1977

Image from http://www.spiegel.de/wissenschaft/mensch/0,1518,grossbild-141673-164435,00.html.

History

1979

F3 /FR (L) Total

	A	B	C	D	E	F
1						
2						
3						Total
4			Jan	Feb	Mar	Q1
5						
6		Revenues	10000	11000	12100	33100
7		Cos	9000	9900	10890	29790
8						
9		Gross	1000	1100	1210	3310
10						
11						
12		G&A	500	550	600	1650
13						
14		Net Incom	500	550	610	1660
15						
16		Taxes	200	220	244	1328
17						
18		After Tax				
19		Income	300	330	366	996
20						

Image from http://www.hodgy.net/computer_history/page_2/page_2%20spreadsheets.htm.

History

1981

Image from http://www.tprthai.net/goldold.htm.

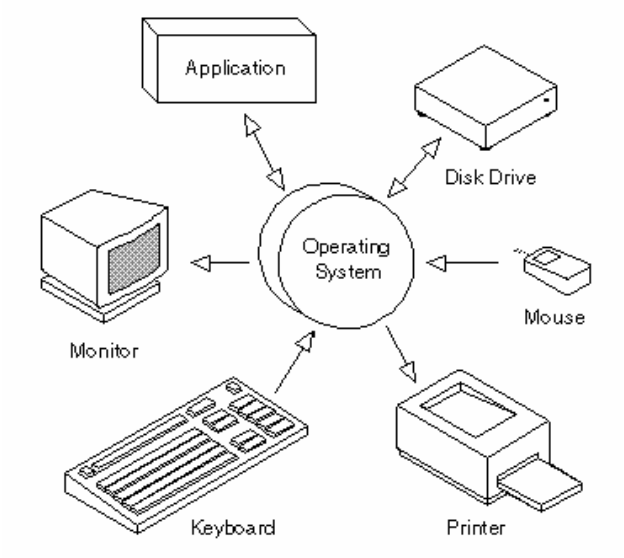
History

1984

Image from http://www.my-two-cents.de/mac.

History

Operating Systems



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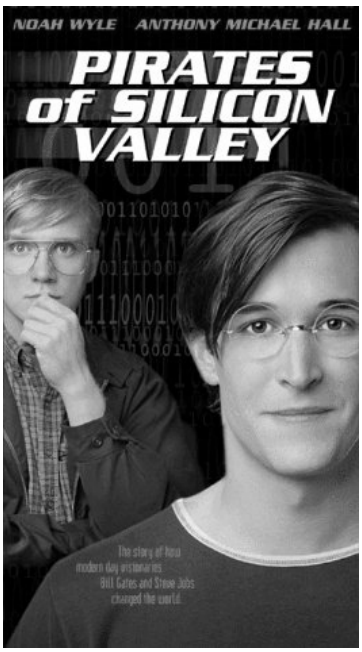
History

Pirates of Silicon Valley

"The revolution came when we weren't looking. It happened in a garage. In a dorm room. In countless hours of effort, imagining and intrigue. Apple® co-founder Steve Jobs and Microsoft® co-founder Bill Gates were changing the way the world works, lives and communicates.

The event-packed saga of the quirky visionaries who jump-started the future unfolds with exhilarating, cutting-edge style in *Pirates of Silicon Valley*. Noah Wyle (*ER*) portrays Jobs and Anthony Michael Hall (*The Breakfast Club*) portrays Gates in this chronicle of the fierce and often personal computer empire. 'The story is almost Shakespearean—it's a tale of lust, greed, ambition, love and hate,' writer/director Martyn Burke reflects. And it's a success story unlike any other."



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