

Introduction:

Computer Science - What is it?

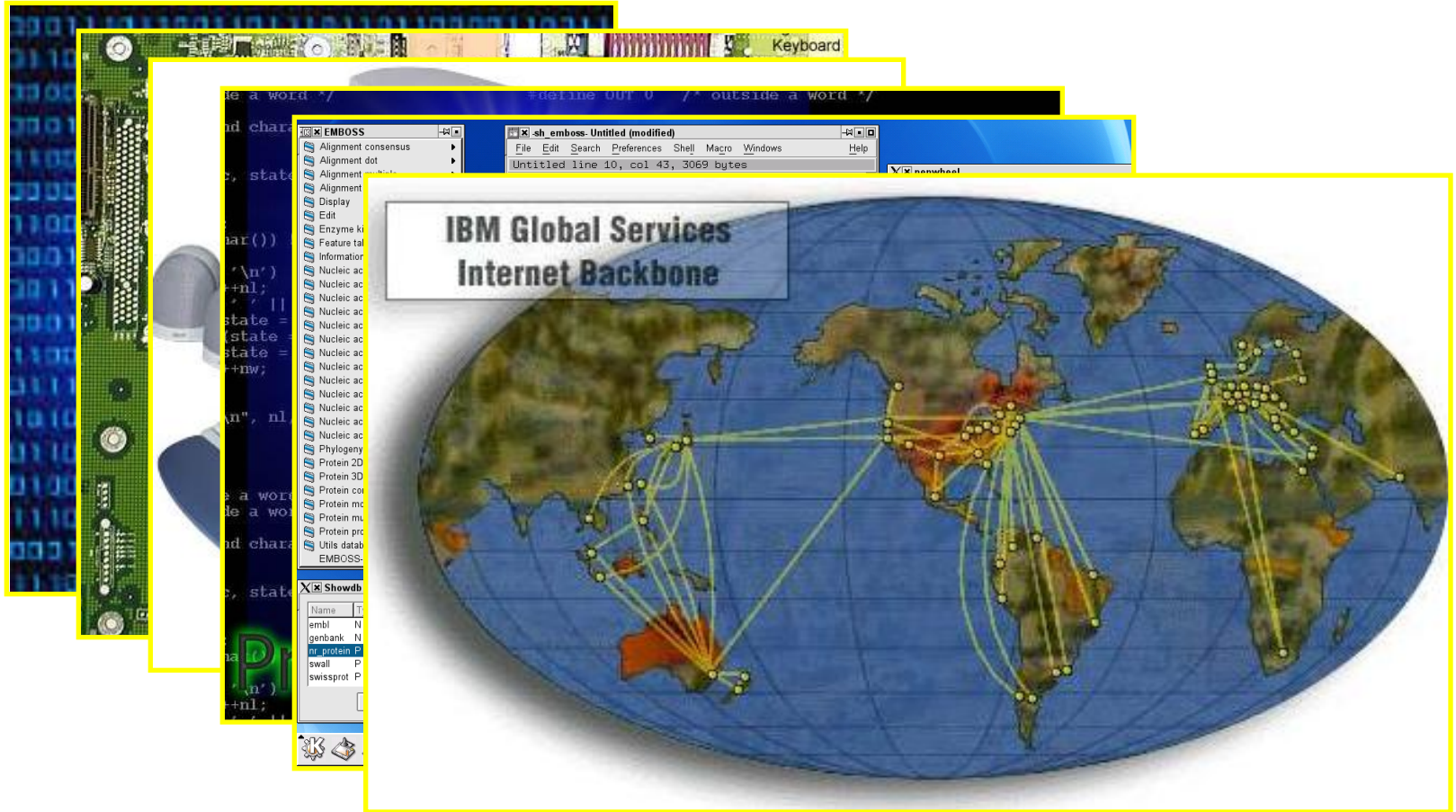
- **Science of ‘abstraction’:**
 - obtaining *external* properties of an entity, by hiding its *internal* details.



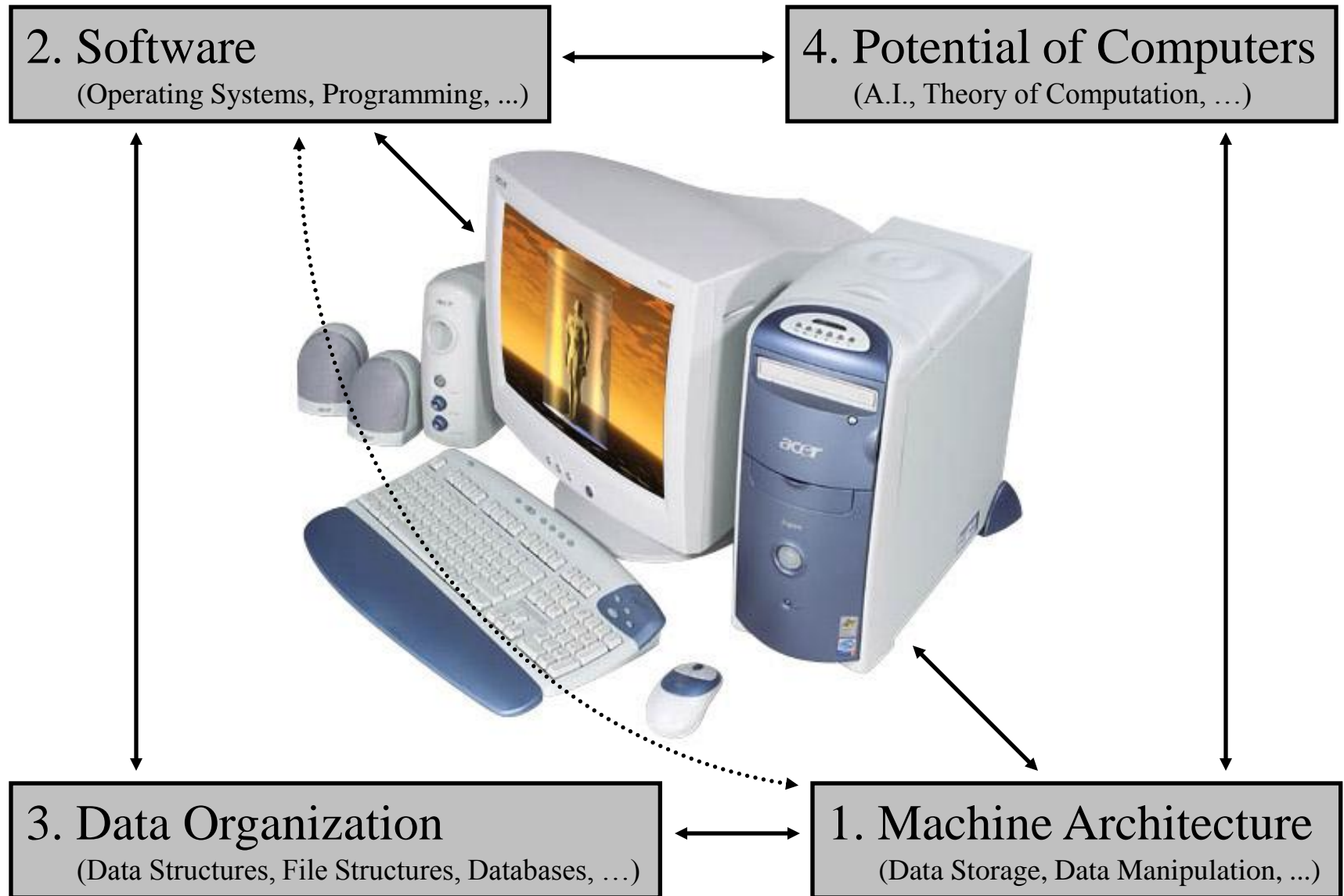
Introduction:

Computer Science - What is it?

- **Abstraction... on abstraction... on...**



Computer Science in relation to desktop PC...



The origin of computing machines

- First Computing device: Abacus
- Mechanical Devices before the invent of Electricity
 - Efforts by Pascal, Leibniz and Charles Babbage
 - Babbage's machine was programmable
 - Augusta Ada is considered first programmer

After the invention of electricity

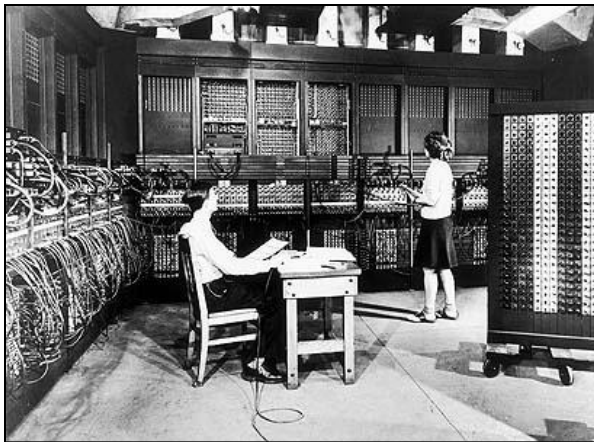
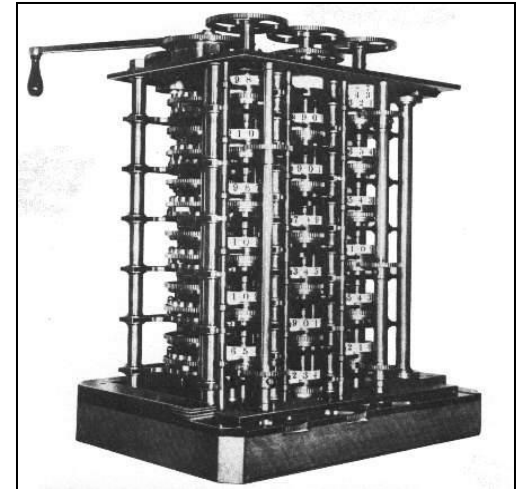
- 1944- **Mark I** at Harvard university
- Obsoleted soon, because work on vacuum tube technology has been done to construct Electronic Digital Computers
 - 1945- **ENIAC**- Electronic Numerical Integrator Calculator
- 1981- **PC**- IBM first personal Computer, software by Microsoft

Central issues identical in the past...



- Abacus (ca. 50 BC)

- Difference Engine (Babbage, ca. 1822)



- ENIAC (Univ. of Pennsylvania, 1945)

The Evolution of Computers: Then & Now



Time Line of Intel Processor

intel®

revolution in evolution

Highlights from the Journey to 1 Billion PCs

1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000

1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000

1971 - Intel, founded by Robert Noyce, Gordon Moore and Andy Grove, introduces the world's first microprocessor and calls it the Intel® 4004.

1974 - Intel introduces the 8080 microprocessor, which was used in the first commercially successful personal computer - the Altair.

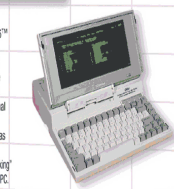
1976 - Apple Computer, Inc. releases the Apple II, the first single circuit board computer. The following year, the company introduces the Apple II A, the first personal computer, the Apple II featured colored graphics.¹



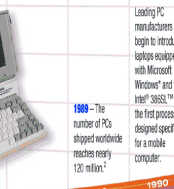
1981 - IBM introduces the IBM PC, the first personal computer. The IBM PC established the IBM format PC featuring an Intel processor, Microsoft DOS as the operating system, and a hard drive as a standard feature. The IBM PC became the most popular personal computing platform.



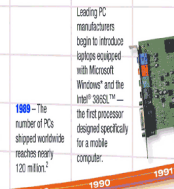
1982 - Lotus Development Corporation introduces Lotus 1-2-3, which becomes a best-seller application. IBM Systems Corporation brings the first portable computer, the Osborne I, it weighs 24 pounds and plugs into the wall.²



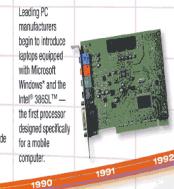
1983 - The IBM PCXT establishes the IBM format PC featuring an Intel processor, Microsoft DOS as the operating system, and a hard drive as a standard feature. The IBM PCXT became the most popular personal computing platform.



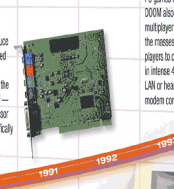
1984 - Apple introduces the Macintosh with a GUI. A GUI is a graphical user interface that provides visual representation for what was previously lines of DOS code, making PCs more usable for non-technical people.



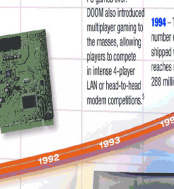
1985 - Intel introduces the 386™ microprocessor featuring 275,000 transistors - more than 100 times as many as the original 4004. The 386™ microprocessor was a 32-bit chip that brought "multitasking" capabilities to the PC.



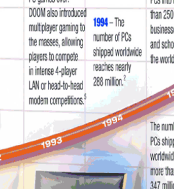
1986 - The number of PCs shipped worldwide reaches nearly 120 million.³



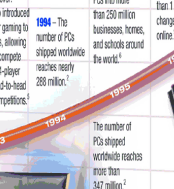
1987 - Toshiba introduces the T1000 laptop PC, making portable computing more widely available.



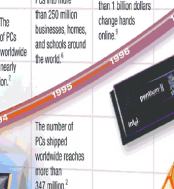
1988 - Recordable CD discs become available.⁴



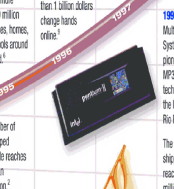
1989 - Microsoft ships the Windows® operating system with a graphical user interface. America Online is founded.⁵



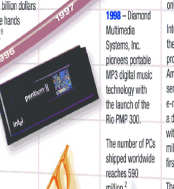
1990 - The number of PCs shipped worldwide reaches nearly 64 million and a 15-year period of continuous growth begins.⁶



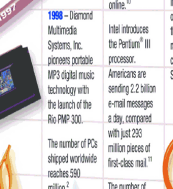
1991 - Creative Labs introduces a Multimedia Upgrade Kit containing a CD-ROM drive, Sound Blaster™ Pro board, speakers and multimedia software.



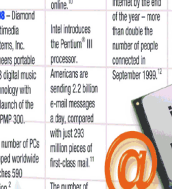
1992 - The number of PCs shipped worldwide reaches 202 million.⁷



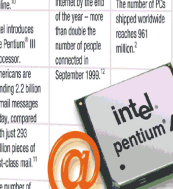
1993 - Intel introduces the Pentium® processor and Microsoft introduces Windows® 3.1, providing a solid multimedia platform for consumer games and learning applications. Increased processing capabilities, coupled with the availability of affordable CD-ROM drives and sound cards, usher in multimedia on the PC.



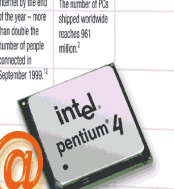
1994 - The number of PCs shipped worldwide reaches nearly 288 million.⁸



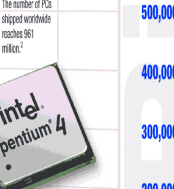
1995 - Microsoft launches Windows® 95 and its browser Internet Explorer. Selling more than 1 million copies in the first four days, the operating system helps move PCs into more than 250 million homes, businesses, and schools around the world.⁹



1996 - The number of PCs shipped worldwide reaches more than 347 million.¹⁰



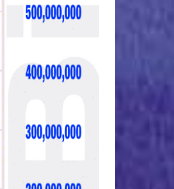
1997 - Intel introduces the Pentium® II processor and the number of PCs shipped worldwide reaches more than 457 million.¹¹



1998 - The number of PCs shipped worldwide reaches 580 million.¹²



1999 - Intel introduces the Pentium® III processor. Americans are sending 2.2 billion e-mail messages a day, compared with just 255 million pieces of first-class mail.¹³



2000 - Intel introduces the Pentium® 4 processor and the number of PCs shipped worldwide reaches nearly 708 million.¹⁴



2001 - 20th anniversary of IBM's first personal computer, Microsoft introduces the Windows® XP operating system. Nearly half a billion people around the world have access to the Internet from their homes.¹⁵



2002 - Intel introduces the Mobile Intel® Pentium® 4 Processor-M, bringing desktop performance to the laptop PC. The PC industry ships the 1 billionth PC, according to industry analyst firm Gartner Dataquest.¹⁶



2007-2008 - The number of PCs shipped worldwide may reach 2 billion, according to industry analyst firm Gartner Dataquest.¹⁷



For more information, please visit <http://www.intel.com>

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¹Intel.com
²Computer Museum
³www.AOL.com
⁴www.digitals.com
⁵www.aol.com
⁶www.intel.com
⁷www.intel.com
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Advancement in Computer Science Technology

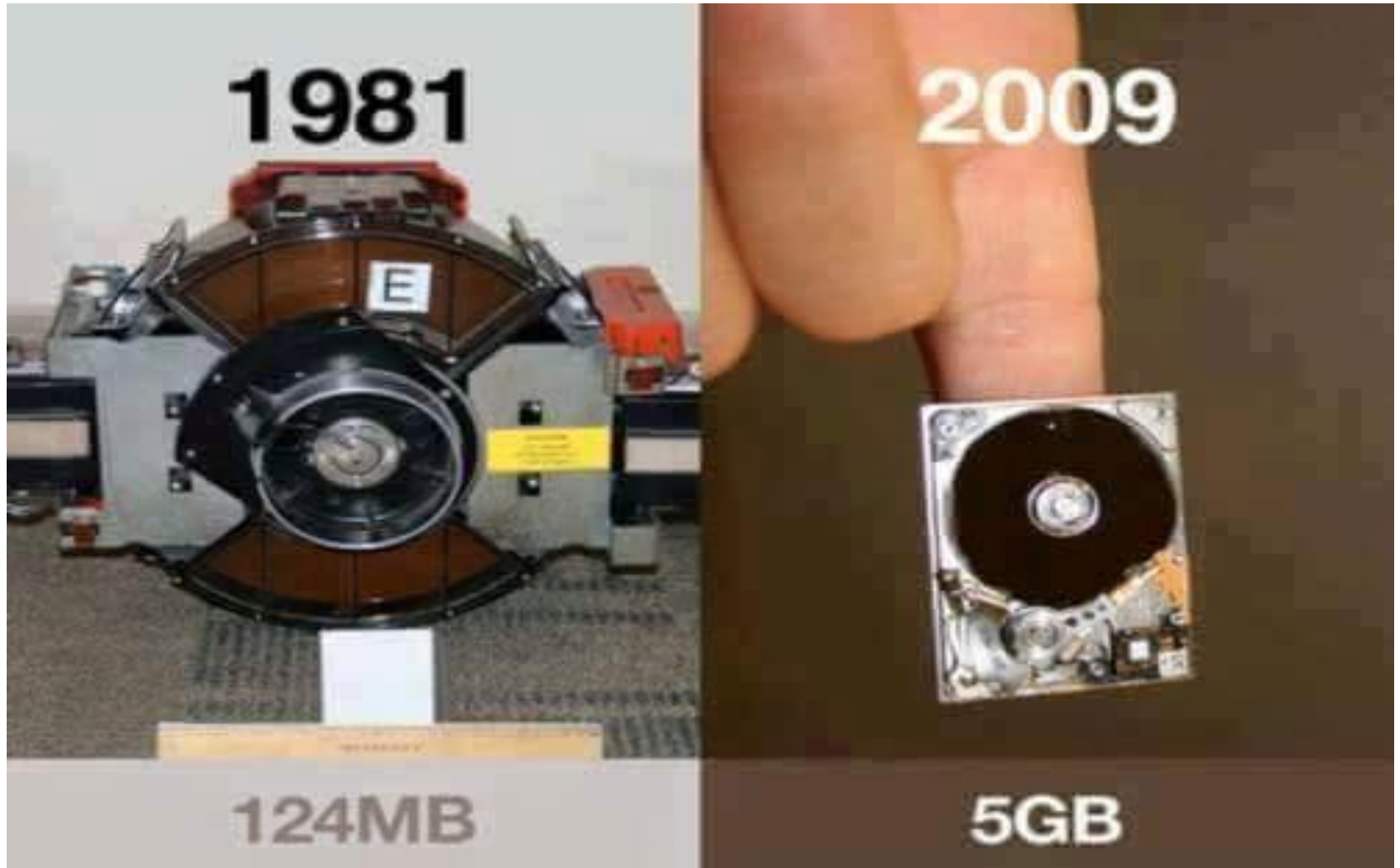
Difference



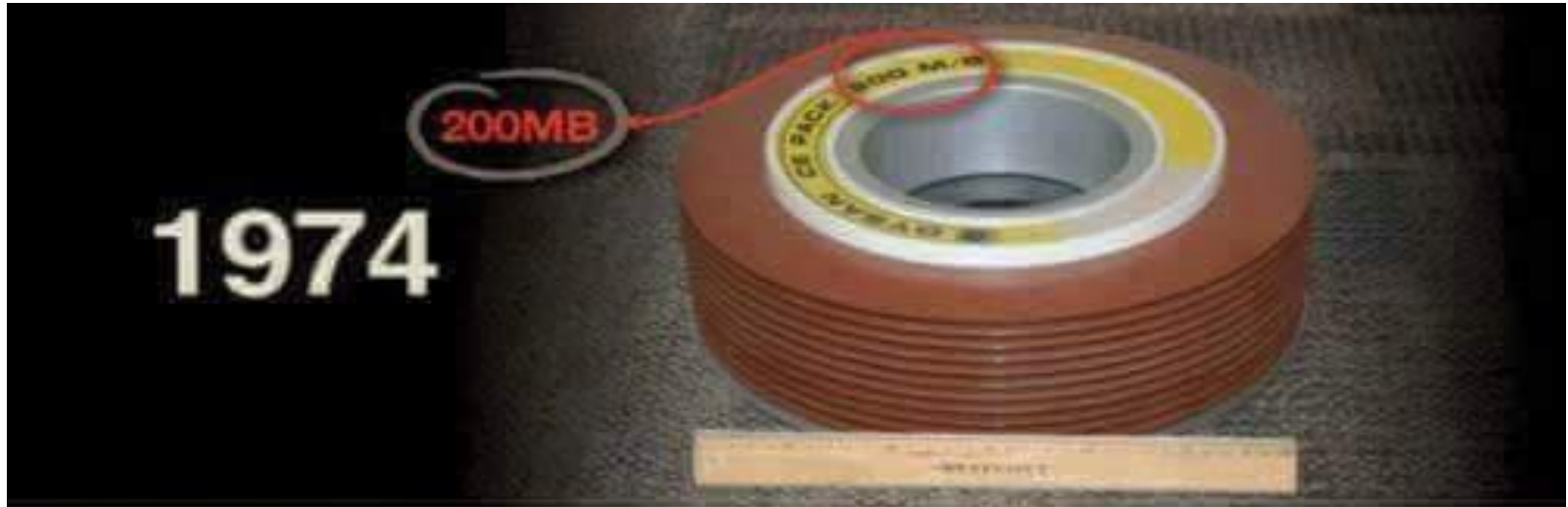
Difference



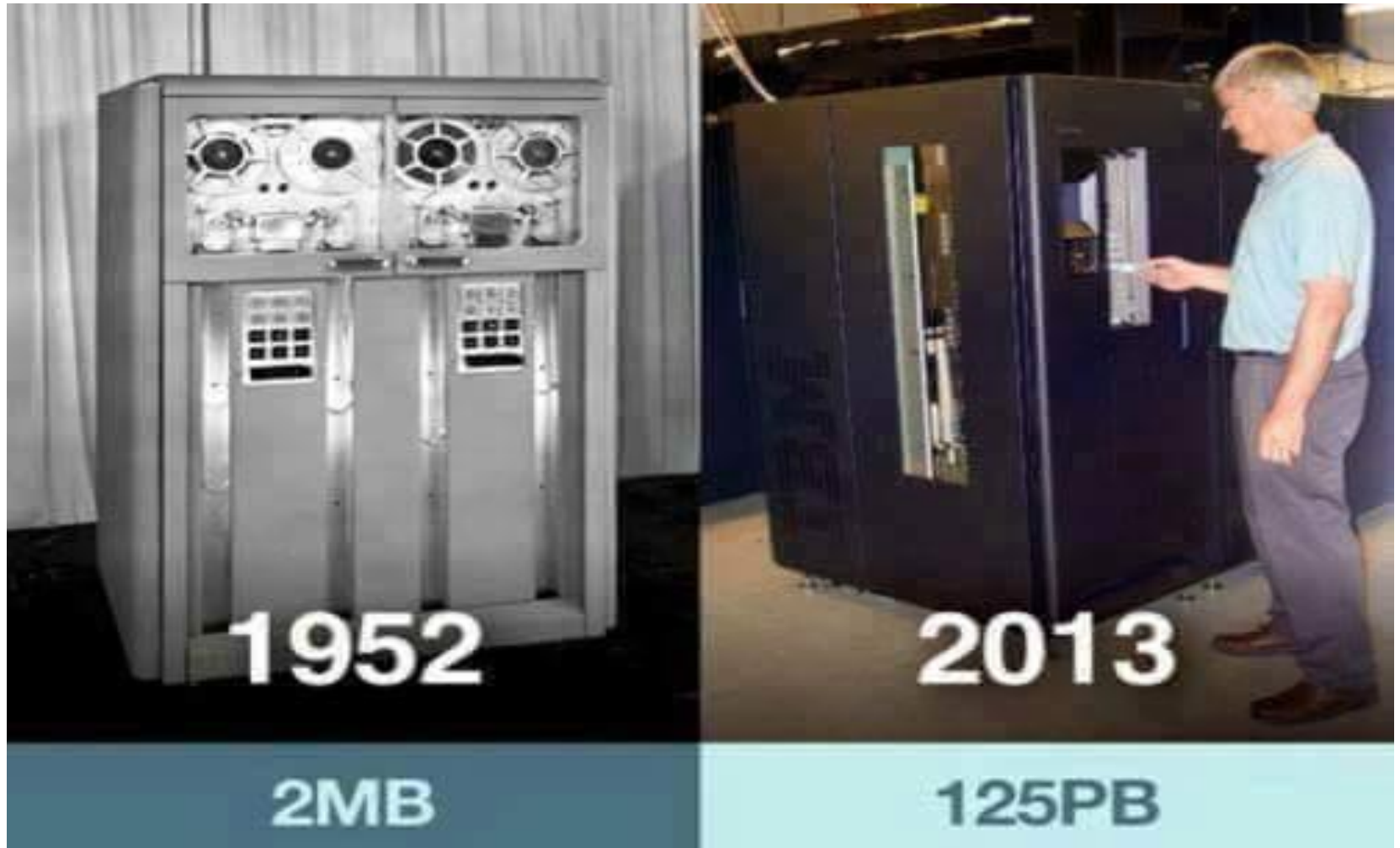
Difference



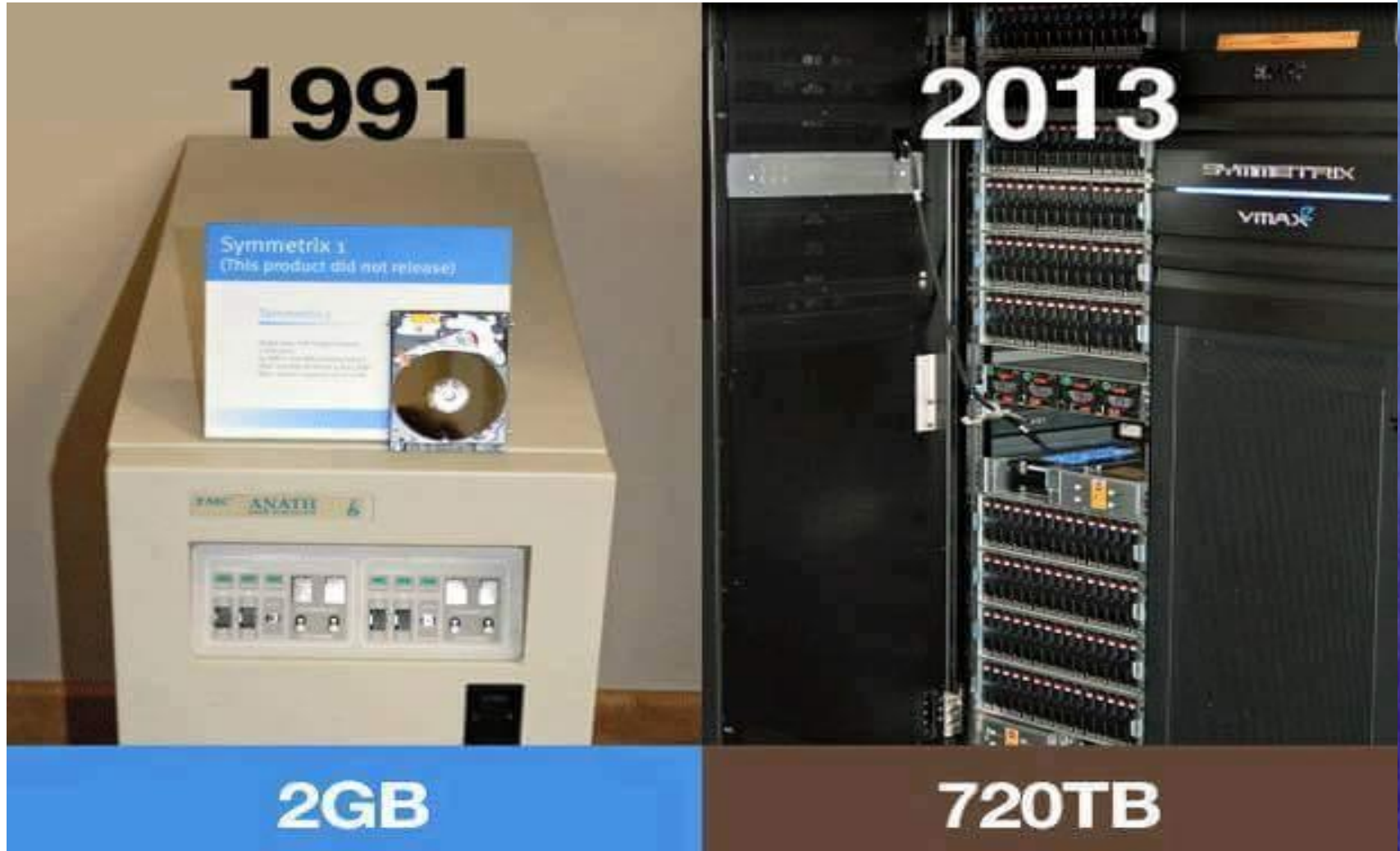
Difference



Difference



Difference



Questions:

- Can you think of any other common computing device other than computers?

Mobiles

Correct Answer

But Why?

Computing Device: Mobiles in the Past



Today Mobiles and Devices



Today Mobiles and Devices



Future?

FROM HEAD TO TOE WEARABLE TECHNOLOGY

SHIRT

Conductive thread means a computer is literally built into the fabric of the shirt, providing the processing power for all the other wearable gadgets.

WRISTBAND

A sensor that tracks movement to determine the number of steps taken through the day – 10,000 is ideal – and how much sleep the wearer gets at night.

TROUSERS

Also made with conductive thread, the trousers take the energy generated by movement and use it to power the other gadgets.

GLASSES

Overlays navigation directions and information about points of interest directly on to the wearer's field of vision.

WRISTWATCH

Vibrates when a message arrives and displays it on the watch face. Tells the time too.

HAND

Embedded under the skin is a chip containing medical records, passport data and credit records. Information is transferred by waving the hand over a suitable scanner.

SHOES

GPS chip provides directions using LED lights in each shoe: the left shoe indicates direction, while the right shows distance.



Dream Smartphone Devices | Intelligent Personnel Assistant Mobile

- No need to take tension about its charging time. it can be charge from body heat or electromagnetic waves.
- it check my mood and set the wallpaper of mobile phone according to my mood.
- Make a record of my decision and give me opinion is my every day problem.
- Detecting your Geo location and hence providing you help like mulch-language translation support and best traffic routing via GPS.
- Direct satellite connection for 24/7 uninterrupted service/internet connection.
- Looking at your schedule and replying to an incoming invitation for a party/get together.
- Fully voice functional.
- Ability to provide you suggestion about your schedule/adjusting your schedule as it best fits.
- Behavior based detection of messages hence informing you about the important ones only.
- Practically 100% unbreakable and stealth proof/secure



Last topic of Chapter 0: Introduction

- Ethical, Social and Legal Repercussions
 - Home work
 - Verbal presentation in the next class

Any Questions?