

# The History of Computers



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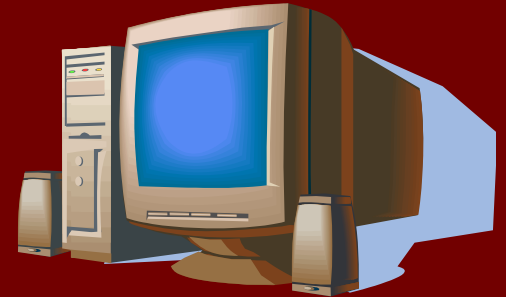
Modern Marvels: The History Channel

# Computers

- Helped win wars
- Solved problems
- Launched us into space

# The Basic Computer

- Consists of:
  - Input Devices: Mouse, Keyboard, Scanner
  - Brain of the Computer: CPU (Central Processing Unit)
  - Output Devices: Monitor, Printer
  - Storage: Hard drive , flash drive (memory keys), CD's, DVD



# What happens inside the computer?

- Millions of calculations per second
- Electrical circuits have 2 options:
  - On
  - Off
- Binary Code
  - 1 = On/True
  - 0 = Off/False
- Binary Logic – allows the computer to compute

# What is the speed of a computer?

- 100 Million operations per second
- Fastest computer – ASCI White
  - Speed was = to 8,000 average computers
  - 12 trillion math operations per second
  - Devoted to the service of our country

# Why are super computers needed?

- Supercomputers, like the ASCI, run simulations to determine the safety of nuclear weapons.
- They also show molecular models

# Who is the father of the computer?

- Charles Babbage
- 1780's – Idea of early computer
- Used punch cards for input
- “Analytical Engine” – calculations mechanically and was steam driven (it was never built)

# After Charles Babbage...

- The computer idea was revisited because of:
  - Population explosion
  - U. S. Census of 1880 was overwhelmed – took 7 years to hand count



# Herman Hollerworth

- Herman Hollerworth-the first computer to tally the U. S. Census of 1890
- The basis for the IBM company of today.

# 1930's

- Computers were basically used for keeping up with information concerning:
  - Railroad passengers
  - Population
  - Life Insurance Information

# The Colossus

- Supercomputer Colossus
  - Built to break the German Code – Enigma
  - Deciphered German transmissions called the “Ultra Secret” – the most important secret of the War.

# 1943

- ENIAC
- Supercomputer that figured charts in minutes
- ENIAC = Electronic Numerical Integrator and Computer

# Transistors & Silicone

- 1947 – Transistor was invented – made of silicone and small wires
- Transistor – a semiconductor device
- Building block of circuitry in computers, cell phones, and other electronic devices

# UNIVAC

- UNIVAC – 1<sup>st</sup> computer to be mass produced and sold commercially.
  - Payroll, billing, etc.

# 1960's

- IBM dominated the large mainframe computer business
- 1961 – Race for space – NASA needed a smaller computers for space missions
- Supercomputers would not fit on a space ship!

# 1970's

- Xerox realized the future was in computers
- 1973 – created the ALTO – used a mouse, graphical interface, and used a laser printer.
- \$18,000 per machine
- People were not able to afford this computer.



# The Apple

- Steve Jobs & Steven Wozniak designed the Apple 1
- 1977 – The Apple 2 – 4 Kilobytes of memory – plug & play device - \$1200.00
- 1981-The PC, MS-DOS
- 1984 – The Macintosh (The Mac) was invented – had an operating system & it's own software
- Software-a list of instructions telling the computer what to do.

# Bill Gates - Microsoft

- Bill Gates & Microsoft sold software to ALL computer companies
- He became the richest man in the world
- Windows 2000 – which imitated Apple's graphical interface
- 1981 – 500,000 computers were sold a year
- 1990 – 7,000,000 computers were sold

# 1990's

- WWW – Because of the invention of the World Wide Web computers started surfacing in most households
- Microprocessor = 100,000,000 transistors
- Chip – miniaturized electronic circuit, mini-computers

# Future of Computers

- Computers are becoming much smaller
- Hewlett-Packard is working on a molecular computer – uses molecules instead of 1's and 0's
- HP is also growing molecular wires
- When finished a molecular computer could store the entire Library of Congress on a computer the size of a fingernail

# Artificial Intelligence

- Scientists say that computers will eventually be able “think” or have cognitive thought.
- Computers will be able to solve a problem without being programmed of how to do so.