

# Technology in Focus: History of the PC



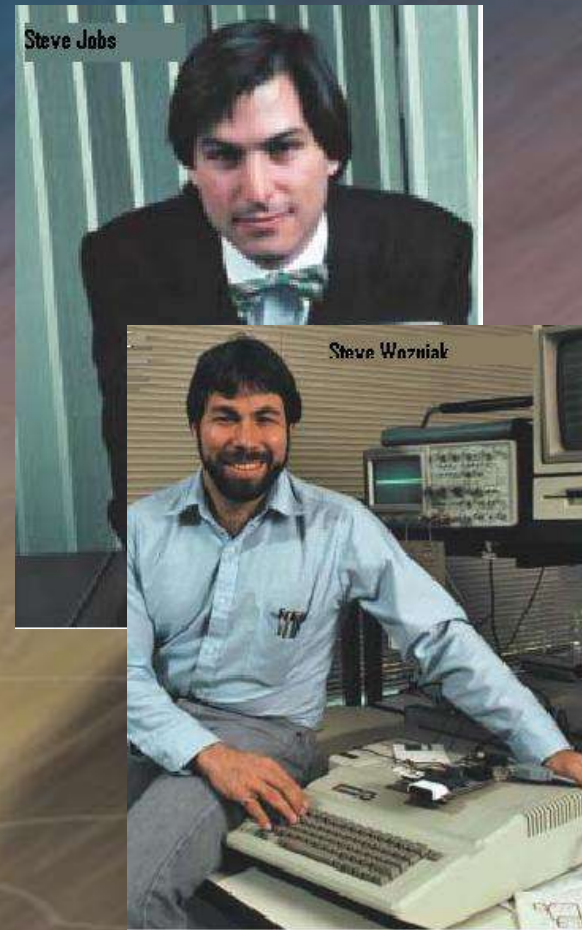
# Intel 8080 and the Altair 8800

- The first microcomputer
- Sold as a kit
- Switches for input
- Lights for output
- Gates and Allen create a compiler for Basic
- MITS receives 4,000 orders



# Apple I and Apple II

- Apple I built by Steve Wozniak in 1976
- Apple II developed by Steve Jobs in 1977
- Uses Motorola processor
- First fully contained microcomputer
- Highly successful



# Early Competitors

- Commodore
- TRS-80
- Osborne



# IBM PC

- IBM enters small computer market 1981
- Uses open architecture
- Purchases operating system from Microsoft



# Beginners All-Purpose Symbolic Instruction Code (BASIC)

- Revolutionized the software industry
- Programming language that beginners could easily learn
- Key language of the PC
- Bill Gates and Paul Allen used BASIC to write the program for the Altair
- Led to the creation of Microsoft



# Advent of Operating Systems

- Steve Wozniak invents floppy drive
- Disk Operating System (DOS): Operating system that controlled the first Apples
- Control Program for Microcomputers (CP/M): First operating system for Intel-based PCs
- MS-DOS
  - Operating system for IBM PCs
  - Based on an operating system called Quick and Dirty Operating System (QDOS)
  - Created by Bill Gates and Paul Allen
  - All PCs using the Intel chip used MS-DOS

# Software Application Explosion

- Electronic Spreadsheets
  - VisiCalc
  - Lotus 1-2-3 and Microsoft Excel
- Word Processing
  - WordStar
  - Word for MS-DOS
  - Word Perfect



Bricklin and Frankston

A screenshot of the VisiCalc spreadsheet application. The spreadsheet has four columns: PAYEE, CHECK, DEPOSIT, and BALANCE. The data is as follows:

PAYEE	CHECK	DEPOSIT	BALANCE
SEARS	14 22		2200.00
VISA	50 75		1500.00
JOES MKT	20 11		1000.00
GAS CO.	19 84	250.94	1000.00

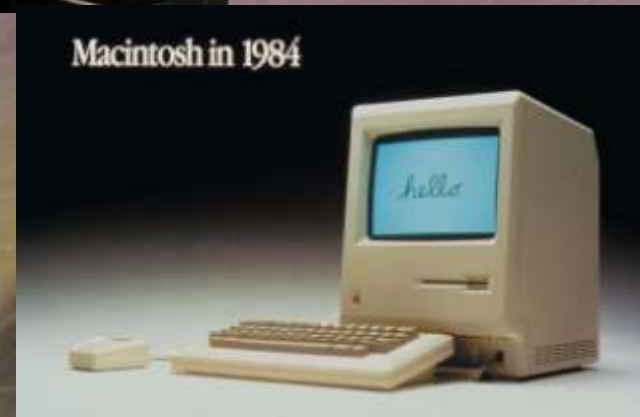
VisiCalc screenshot

# Graphical User Interface

- Xerox
  - Palo Alto Research Center
  - Alto: 1972
- Apple
  - Lisa: 1983
  - Macintosh: 1984



Xerox Alto



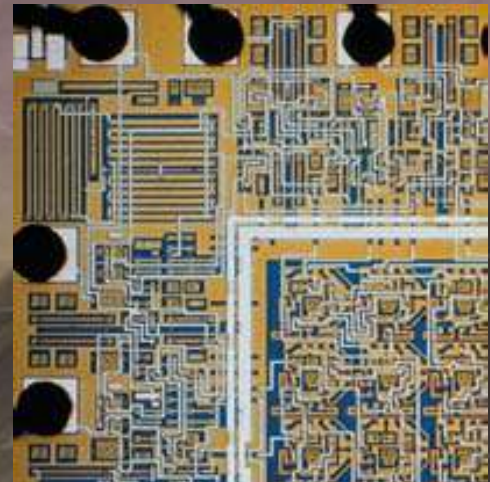
# The Internet Boom

- Mosaic
- Netscape
- Internet Explorer
- Windows 95



# Early Computer History

- Transistors 1945
  - Invented at Bell Laboratories
  - Replaces vacuum tubes
- Integrated circuits 1958
  - Invented by Jack Kilby of Texas Instruments
  - A small chip containing thousands of transistors
  - Enabled computers to become smaller and lighter



# Early Computer History

- Microprocessor chip 1971
  - Created by Intel Corporation
  - A small chip containing millions of transistors
  - It functions as the central processing unit (CPU)



# Computer Generations

- First-generation computers (1946–1958)
  - UNIVAC
  - Use vacuum tubes to store data
- Second-generation computers (1959–1964)
  - Use transistors to store data
- Third-generation computers (1965–1970)
  - Use integrated circuits
- Fourth-generation computers (1971–Today)
  - Use a microprocessor chip