

# COMPSCI 111 / 111G

*Mastering Cyberspace:  
An introduction to practical computing*

## Development of Personal Computers

# US Census

## 1880 Census

- Took 7 years to tabulate data

## 1890 Census

- Predicted to take more than 10 years

## Dr. Herman Hollerith

- Developed mechanical punch card tabulator
- Used to tabulate census data
- Completed the 1890 census in 3 years

## Tabulating Machine Company

- Formed 1896

[http://en.wikipedia.org/wiki/Herman\\_Hollerith](http://en.wikipedia.org/wiki/Herman_Hollerith)

# International Business Machines

## Computing Tabulating Recording (CTR) Corporation

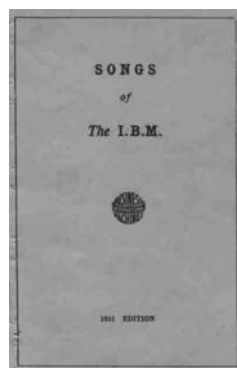
- Incorporated 1911
- Tabulating Machine Company
- Computing Scale Corporation
- International Time Recording Company

## Thomas Watson Sr.

- President 1915 - 1956
- International Business Mac

## Thomas Watson Jr.

- President 1956 - 1971



<http://www.users.cloud9.net/~bradmcc/ibmsongbook.html>

# IBM - Development and influence

## IBM exemplified corporate America

- Incredibly successful
- Everyone wanted to be IBM
- 1971
  - 270,000 employees
  - 8 Billion dollar turnover



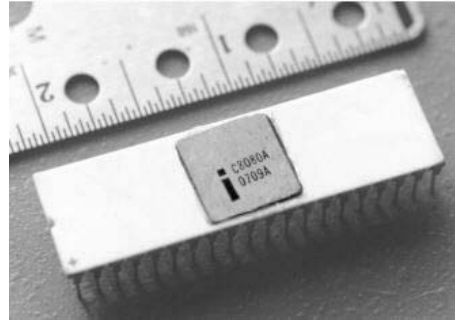
## Built and maintained large computer systems

- Computers were leased
- Computer time was expensive
- Difficult to get access
- Government institutions, large corporations

# The first microprocessor

## Intel

- Formed 1968
- Gordon Moore
- 8080 released in 1974
- First micro processor
- Entire CPU in a single chip



[http://en.wikipedia.org/wiki/Gordon\\_E.\\_Moore](http://en.wikipedia.org/wiki/Gordon_E._Moore)  
<http://en.wikipedia.org/wiki/Intel>

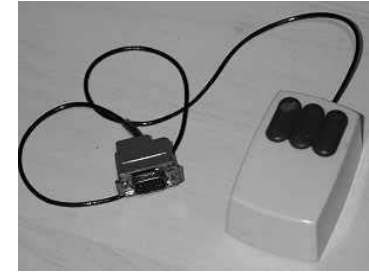
# Palo-Alto Research Centre

## Xerox

- Opened PARC in 1969
- Pure computer research

## Assisted / invented

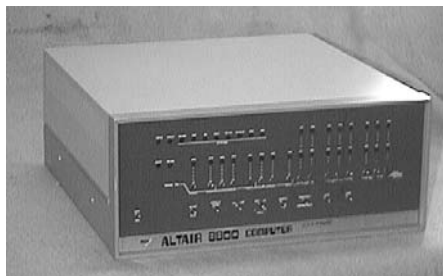
- Mouse
- WYSIWYG
- Laser printer
- And lots more...



# The first personal computer

## Ed Roberts

- MITS in financial trouble
- Altair released as kitset
- January 1975



[http://en.wikipedia.org/wiki/Altair\\_8800](http://en.wikipedia.org/wiki/Altair_8800)

# Micro-soft

## Microsoft

- Formed by Bill Gates and Paul Allen
- BASIC written for Altair
- Wrote compilers for microcomputers



[http://en.wikipedia.org/wiki/Paul\\_Allen](http://en.wikipedia.org/wiki/Paul_Allen)  
[http://en.wikipedia.org/wiki/Bill\\_Gates](http://en.wikipedia.org/wiki/Bill_Gates)  
<http://en.wikipedia.org/wiki/Microsoft>

# Apple

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## Apple

- Formed by Steve Wozniak and Steve Jobs
- Wozniak created Apple I
- Wozniak created Apple II. Steve Jobs designed its case.
- Apple II released 1977/ 1978



# Visicalc

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## VISICALC

- Dan Bricklin, Bob Frankston
- Killer application
- Spreadsheet
- Proved necessity of owning Apple
- Apple captured 50% of market by 1980

# IBM enters the market

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## IBM

- Too slow to compete with Apple
- Forced to use open architecture
- Needed software

## Microsoft DOS

- Only sold languages
- Wanted IBM contract
- Bought DOS from Seattle Computer Products
- Sold DOS to IBM

## IBM XT released 1984

# Attack of the Clones

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## Clones

- IBM had buying power
- Compaq created IBM compatible PC
- DOS licensed to Clones
- Lotus capture spreadsheet market

# Apple

## Macintosh

- PARC developed GUI
- Steve Jobs given tour in 1979
- Led the Macintosh project
- Macintosh released 1984



## Adobe

- John Warnock
- Macintosh failed to overtake IBM PC
- PARC developed laser printer technology
- Adobe started based upon postscript
- Macintosh as Desktop Publishing system (1985)

# IBM compatible PC's

## Compaq's 386

- In 1986 Compaq beat IBM to release new computer
- Others followed
- IBM lost billions, withdrew from market

## Windows

- Version 3.0 of windows released in 1990
- Good enough to compete with Macintosh
- Release of Window 95, Windows 98, Window 2000, Windows ME, Windows XP
- Windows Vista

# Trouble in paradise

## Windows

- Microsoft sold Internet Explorer bundled with Windows
  - Netscape takes legal action
- US Justice department takes legal action
  - Anti-monopoly laws apply to Microsoft
- US Courts suggest breaking MS into 2 companies
  - Applications
  - Operating System
- MS shares halve in value

## Apple

- Steve Jobs fired in 1985
  - Apple share values dropped steadily
- Steve Jobs re-hired 1998, settles legal action vs Microsoft
  - Apple makes comeback
- Apple iPod

# Predicting the future?

**So we went to Atari and said 'Hey, we've got this amazing thing, even built with some of your parts, and so what do you think about funding us? Or we'll give it to you. We just want to do it. Pay our salary and we'll come work for you.' And they said "No." So then we went to Hewlett-Packard, and they said, "Hey, we don't need you. You haven't even made it through college yet."**

- Steve Jobs, talking about the Apple II