

EXAM 1 REVIEW (CGS 2100)

OTHER IMPORTANT ADVANCEMENTS

SOFTWARE APPLICATION EXPLOSION: VISICALC AND BEYOND

- Including disk drives in personal computers set off an explosion of software applications

Spreadsheets:

- VisiCalc
- Lotus 1-2-3
- Microsoft Excel

Word Processing:

- WordStar
- Word for MS-DOS
- WordPerfect

THE GRAPHICAL USER INTERFACE

- Graphical User Interface (GUI) allowed users to interact with computer more easily
- Previously used command or menu driven interfaces
- GUI not invented by a computer company

XEROX: BIRTH OF THE GUI

- Xerox Alto (1972)
- Introduced "What You See is What You Get" (WYSIWYG)
- File Management system with directories and folders
- Mouse and network connectivity
- Never sold commercially

THE LISA AND THE MACINTOSH

- Apple Lisa (1983)
 - First successful PC using GUI
 - Windows, drop-down menus, icons, a file system with folders and files
 - Very expensive
- Apple Macintosh (1984)
 - 1/3 cost of Lisa
 - Introduced 3.5-inch floppy disk

THE INTERNET BOOM

- 1993: Mosaic browser introduced
- 1994: Netscape Launched
- 1995: Internet Explorer introduced by Microsoft
- 1998: Netscape became open source

MAKING THE PERSONAL COMPUTER POSSIBLE: EARLY COMPUTERS

- Computers are the compilation of the results of individual inventions
- Early machines helped create the personal computer of today

THE PASCALINE CALCULATOR AND THE JACQUARD LOOM

- First accurate mechanical calculator

- Created by Blaise Pascal in 1642
- Used revolutions of gears to count by tens
- Could be used to add, subtract, multiply, and divide
- Basic design used in mechanical calculators for 300 years
- Created by Joseph Jacquard
- Revolutionized fabric industry
- Cards had punched holes; automated weaving complex patterns
- Process adopted later; record and read data in computers using punch cards

BABBAGE'S ENGINES

- Analytical Engine: 1834
- Designed by Charles Babbage
- First automatic calculator
- Based on Difference Engine
- Never developed
- Drawings and descriptions similar to today's computers

HOLLERITH TABULATING MACHINE

- 1880: Created by Herman Hollerith
 - U.S. Census Bureau: Tabulate census data
 - Automatically read data from punch cards
- 1896: Hollerith started the Tabulating Machine Company
 - Later became International Business Machines (IBM)

Z1 AND ATANASOFF-BERRY COMPUTER

- Z1 (1936)
 - Created by Konrad Zuse
 - Mechanical calculator
 - Included control unit and separate memory functions
 - Important breakthrough for future computer design
- Atanasoff-Berry Computer (ABC)
 - Created by John Atanasoff and Clifford Berry
 - First electrically powered digital computer
 - Used vacuum tubes to store data
 - First computer to use the binary system

UNDERSTANDING YOUR COMPUTER

- Two basic designs of computers
 - Portable
 - Laptop computers
 - netbooks
 - Tablet PC's
 - Tablet computer
 - Ultrabooks
 - Stationary
 - Desktop computers
 - All-in-one computers
- Mainframe
 - Supports many users simultaneously
- Supercomputer
 - Performs complex calculations extremely rapidly
- Embedded

- Self-contained computer devices performing dedicated functions
- Smartphone

COMPUTERS ARE DATA PROCESSING DEVICES

- Performs for major functions
- *Input*: Gathers data allows users to enter data
- *Process*: Manipulates, calculates, or organizes data into information
- *Output*: Displays data and information for user
- *Storage*: Saves data and information for later use
- *Data*: Representation of a fact, figure, or idea
- *Information*: Data that has been organized or presented in a meaningful fashion

BITS AND BYTES: THE LANGUAGE OF COMPUTERS

- The language of computers
 - Bit
 - Binary digit
 - 0 or 1
- Byte
 - 8 Bits
- Each letter, number, or character is a unique combination of 8 bits and 0s and 1s
- Computer uses combinations of hardware and software to process data into information
 - Hardware is any part of the computer you can physically touch
 - Software is set of computer programs
 - Application software
 - System software
 - Operating system (OS)

INPUT DEVICES

- Devices used to enter data and instructions into the computer
- Most common input devices:
 - Keyboards
 - Mouse
- Other input devices
 - Microphone
 - Scanner
 - Digital camera
 - Stylus

KEYBOARDS

- QWERTY layout is standard on most PCs
- Netbook and laptop keys are more compact and have fewer keys
- Wireless keyboards work via radio frequencies
- Alternative keyboards
 - Flexible keyboards
 - Virtual laser keyboard

MICE AND OTHER POINTING DEVICES

- Touch pads and track point devices
- Take place of mouse on laptops

TOUCH SCREENS