

Lesson 02 - Hardware

1. Lab: Set Up del.icio.us account
 - a. Learning is a Journey, so we're going to keep a journal of where we've been.
- a. Why a Computer?
 - i. Things a computer can do:
 1. Cost of an Ipad
 2. Cost of a Gaming System
 3. Cost of a DVD Player
 4. Cost of Encyclopedia
 - a. Compare to Wikipedia (Image)
 5. Total Cost VS Laptop
 - ii. Cognitive Prostheses
 1. Put the number Pi on the projector
 2. Everyone take a moment and memorize this number
 3. Video: Girl Recites Pi
- b.
- c. History of Computing
 - i. Origin of the Word Computer
 1. Professions
 - ii. Abacus
 1. Virtual Abacus
 2. <http://www.tux.org/~bagleyd/java/AbacusApp.html>
 - iii. Astrolabe
 - iv. The Difference Engine
 1. Charles Babbage
 2. Mechanical computer, hand-cranked
 3. Never Finished, ran out of money
 4. This model was built from his schematics
 - v. ENIAC
 1. First general-purpose Electric computer
 2. Used for calculations in developing the Atomic Bomb
 3. 100 kHz
 - vi. UNIVAC
 1. Mass produced mainframe
 2. Mainframe
 - vii. Slide Rule
 1. Univac was Too Big and expensive for Personal Use
 2. Logarithmic placement of numbers
 3. Virtual Slide Rule
 4. http://sliderulemuseum.com/SR_Course.htm
 - viii. Hardware: Cray, Made the bit in the movie Tron in 1982 (80 - 105 MHz).
 1. - Today, your laptop could make that movie.
 2. - The last three Star Wars films were made on Macintosh computers.

- 3. Video Card
 - 4. - Like a mini-motherboard and processor unto itself to accelerate graphics
 - ix. - How Hard Drive, CD, and Flash Drive store data. Scientific Calculator
 - 1. You have a scientific calculator on your computer
 - 2. Bookmark a grid calculator
 - x. Cell Phone
 - 1. iPhone has as much Computing Power as a Sega Saturn
 - xi. Modern Desktop
 - xii. The Kraken
 - 1. And this isn't even the most power computer in the world
 - 2. Just the most powerful in academia
 - xiii.
- d. Inside a Computer
 - i. Motherboard – Spinal Cord
 - 1. http://en.wikipedia.org/wiki/File:Acer_E360_Socket_939_motherboard_by_Foxconn.svg
 - ii. Central Processor – Does the Thinking
 - 1. Megahertz
 - a. The Clock
 - b. Over Clocking
 - iii. RAM – Short-term Memory
 - iv. Hard Drive – Long Term Memory
 - 1. Also CDs, DVDs,
 - 2. Thumbdrives
 - 3. Tape Drives
 - a. Playing Chess against a Timex Sinclair: Push play, come back an hour later and it had made its move
 - b. Still use tapes today for large backups
 - v. Serial Cable, Eight Bits
- e. Networking
- f. Peripherals
 - i. The Keyboard
 - 1. Video: Scotty at the Computer
 - ii. The Mouse
 - iii. Monitors
 - iv. Scanners
 - v. Cameras
 - vi. Fun Stuff
 - 1. Thumb Print Key
 - 2.
 - vii.
- g. Lab: Keyboard Karate
 - i. Keyboard Shortcuts
 - 1. General
 - a. HOME

- b. INSERT
 - c. DELETE
 - d. PAGE UP/PAGE DOWN
 - 2. Windows
 - a. Window Button
 - b. ALT-TAB
 - c. ALT-SHIFT-TAB
 - 3. Text Editing
 - a. CTRL-C, CTRL-V
 - b. CTRL-X, CTRL-V
 - c. CTRL-Z
 - d. CTRL-A
 - 4. Browser Shortcuts
 - a. ALT-HOME
 - b. ALT-LEFT ARROW
 - c. ALT-RIGHT ARROW
 - d. CTRL-F5
 - e. CTRL-F
 - f. CTRL-N
 - g. CTRL-T
 - h. CTRL-TAB
 - i. TAB
 - i. Importance of TAB for Disabled
 - j. Del.ico.us – bookmark cheatsheet
 - 5. Advanced
 - a. ALT+PrtScn
 - b. CTRL-ALT-DELETE
 - i. Task Manager
 - ii.
- ii. Create a Custom Keyboard Shortcut
 - 1. For Web Browser
- iii. Touch Typing Website
 - 1. Learn Touch Typing
 - a. <http://www.sense-lang.org/typing/>
 - 2. Typing Games
 - a. <http://www.onlytypinggames.com/>
 - 3. Speed Typing Test:
 - a. <http://10-fast-fingers.com/>