WHAT THE TECH?

AN ABSOLUTE BEGINNER’S GUIDE TO WHAT MAKES YOUR DEVICES WORK

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TECHNOLOGY IS BEYOND ME

- Not True At All!
- Understanding technology is a learning process like everything else
- We all start somewhere and grow from there
HARDWARE

THE PHYSICAL DEVICE
CASE/HOUSING

- Typically made of plastic, aluminum, or steel
- Outer layer which protects the internal parts
CRT – CATHODE RAY TUBE
- Large and heavy
- Not energy efficient

LCD – LIQUID CRYSTAL DISPLAY
- Smaller and lighter
- More energy efficient

LED – LIGHT EMITTING DIODE
- Lighter and thinner
- Most energy efficient
TOUCHSCREEN

RESISTIVE

• Pressure sensitive
• Durable and consistent
• Lower clarity/visibility
• Slower response

CAPACITIVE

• Electricity sensitive
• Faster response
• Better clarity/visibility
NOW LET’S TAKE A LOOK INSIDE
MOTHERBOARD

• AKA LogicBoard in Macs

• Think of the motherboard as *city infrastructure*. It is all of the roads, sidewalks, and bridges that connect all the components of your device together.

• Determines what extras your device can support
CPU (CENTRAL PROCESSING UNIT)

- Also known as the Processor
- The CPU is basically the *traffic coordinator* of your computer.
- Everything you do with your computer goes through this chip from pressing buttons to plugging in headphones.
CPU (CENTRAL PROCESSING UNIT)

• Core Types = How traffic is directed
• Single core – “the street”
• Dual Core – “the Highway”
• Quad Core – “the freeway”
• Clock Rate – “the speed limit”
HARD DRIVE

• Think of the hard drive as your storage unit or safe where you keep your valuables.

• The Hard Drive is:
  • Another pricey part of the computer
  • Can vary greatly in capacity size
  • Where your operating system, software, and most other information lives

• Two basic types:
  • HDD – Hard Disc Drive
  • SSD – Solid State Drive
HARD DRIVE: HDD

- HDD: Hard Disk Drive
- The Magnetic Whirr and Click Phonograph

**Pros**
- Cost less than SSD
- Can offer more space than SSD

**Cons**
- Slower to boot and retrieve information
- Can be noisy or cause vibration
- Mechanical parts may fail over time
HARD DRIVE: SSD

-The Built-in Memory Stick

• Pros
  • Faster
  • Quieter
  • Uses less power than HDD

• Cons
  • More Expensive
  • Not subject to mechanical failure, but electrical components can still fail. Power surges or power failures can kill or corrupt data.
The desk at the office
Holds important information temporarily
Memory is volatile, which means it requires constant power to store information. When the device is turned off, the information held in memory is erased.
COOLING

• -the Weather
• Fans
• Heat Sink/Heat Pipes
• Water Cooling
OTHER INTERNAL COMPONENTS

- Bluetooth
- Webcams/cameras
- Wireless cards
- Built-in Microphones
- Built-in Speakers
- Optical Drives
PORTS

- Charging (power/data)
- USB
- Headphone (audio)
- HDMI (display)
- VGA (display)
- Ethernet (network connection)
ALL TOGETHER NOW!

• The case is the box in which your city lives
• The monitor is how you’re able to watch over your city’s activity
• The motherboard is your city infrastructure
• The CPU is your traffic coordinator
• The Hard Drive is your storage unit or safe
• The RAM is your desk at the office
• The Fan and Heat Sink control the weather
INTERESTED IN LEARNING MORE?

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