Module 5 Glossary

New terms and their definitions: Course 1 Week 5

Application software: Any software created to fulfill a specific need, like a text editor, web browser, or graphics editor

Assembly language: A language that allowed computer scientists to use human readable instructions, assembled into code that the machines could understand

Automation: It makes processes work automatically

Coding: Translating one language to another

Compiled programming language: A language that uses human readable instructions, then sends them through a compiler

Copyright: Used when creating original work

.exe: A file extension found in Windows for an executable file

Firmware: Software that's permanently stored on a computer component

GIT: A version control system that helps keep track of changes made to files and directories

Interpreted programming language: A language that isn't compiled ahead of time

Programming: Coding in a programming language

Programming language: Special languages that software developers use to write instructions for computers to execute

Script: It is run by an interpreter, which interprets the code into CPU instructions just in time to run them

Scripting: Coding in a scripting language

Software: The intangible instructions that tell the hardware what to do

Software bug: An error in software that causes unexpected results

Software management: A broad term used to refer to any and all kinds of software that are designed to manage or help manage some sort of project or task

System software: Software used to keep our core system running, like operating system tools and utilities

Terms and their definitions from previous weeks

A

Abstraction: To take a relatively complex system and simplify it for our use

Address bus: Connects the CPU to the MCC and sends over the location of the data, but not the data itself

Algorithm: A series of steps that solves specific problems

Android: A mobile operating system based on Linux

Application: A computer program designed for a specific use

ARPANET: The earliest version of the Internet that we see today, created by the US government project DARPA in the 1960s

ASCII: The oldest character encoding standard used is ASCII. It represents the English alphabet, digits, and punctuation marks

ATA: The most common interface that hard drives use to connect to our system

ATX (Advanced Technology eXtended): The most common form factor for motherboards

B

Backward compatible: It means older hardware works with newer hardware

Binary system: The communication that a computer uses is referred to as binary system, also known as base-2 numeral system

BIOS (Basic Input Output Services): The BIOS is software that helps initialize the hardware in our computer and gets our operating system up and running

BIOS/UEFI: A low-level software that initializes our computer's hardware to make sure everything is good to go

Block storage: It improves faster handling of data because the data isn't stored in one long piece but in blocks, so it can be accessed more quickly

Boot: To start up a computer

Bootloader: A small program that loads the operating system

BYOD (Bring Your Own Device): Refers to the practice of allowing people to use their own personal devices for work

Byte: A group of 8 bits

C

Cache: The assigned stored location for recently or frequently accessed data; on a mobile app it is where anything that was changed or created with that app is stored

Character encoding: Is used to assign our binary values to characters so that we as humans can read them

Charge cycle: One full charge and discharge of a battery

Children's Online Privacy Protection Act (COPPA): Regulates the information we show to children under the age of 13

Chrome OS: A Linux-based operating system designed by Google

Clients: A device that receives data from a server

Computer: A device that stores and processes data by performing calculations

Chipset: It decides how components talk to each other on our machine

Clock cycle: When you send a voltage to the clock wire

Clock speed: The maximum number of clock cycles that it can handle in a set in a certain time period

Clock wire: When you send or receive data, it sends a voltage to that clock wire to let the CPU know it can start doing calculations

Command Line Interface (CLI): A shell that uses text commands to interact with the operating system

Computer file: Data that we store and a file can be anything, a word document, a picture, a song, literally anything

CPU: Central processing unit

CPU sockets: A CPU socket is a series of pins that connect a CPU's processor to the PC's motherboard

Cryptography: The overarching discipline that covers the practice of coding and hiding messages from third parties

D

DARPA: A US government project in the 1960s that went on to create the earliest version of the Internet that we see today

Data blocks: Data that can be broken down into many pieces and written to different parts of the hard disk

Data sizes: Metrics that refer to data sizes including bit, byte, kilobyte, kibibyte, and megabyte

DDR SDRAM (Double Data Rate SDRAM): A type of RAM that is faster, takes up less power, and has a larger capacity than earlier SDRAM versions

Decimal form- base 10 system: In the decimal system, there are 10 possible numbers you can use ranging from zero to nine

Desktop: The main screen where we can navigate our files, folders, and applications

Digital divide: The growing skills gap between people with and without digital literacy skills

DIMM: Dual Inline Memory Module

Display port: Port which also outputs audio and video

Distributions: Some common Linux distributions are Ubuntu, Debian, and Red Hat

Domain name: A website name; the part of the URL following www.

Domain Name System (DNS): A global and highly distributed network service that resolves strings of letters, such as a website name, into an IP address

DRAM: Dynamic Random Access Memory

Drivers: The drivers contain the instructions our CPU needs to understand external devices like keyboards, webcams, printers

DVI: DVI cables generally just output video

E

Electrostatic discharge: Electrostatic discharge is a sudden and momentary flow of electric current between two electrically charged objects caused by contact, an electrical short or dielectric breakdown

Etcher.io: A tool you can use to load an install image onto your USB device and make it bootable

Ethernet cable: It lets you physically connect to the network through a cable

External Data Bus (EDB): It's a row of wires that interconnect the parts of our computer

F

Factory reset: Resetting a device to the settings it came with from the factory

Fiber optic cable: Fiber optic cables contain individual optical fibers which are tiny tubes made of glass about the width of a human hair. Unlike copper, which uses electrical voltages, fiber cables use pulses of light to represent the ones and zeros of the underlying data

File extension: The appended part of a filename that tells us what type of file it is in certain operating systems

File handling: A process of storing data using a program

File system: A system used to manage files

Finder: The file manager for all Macs

Folders/Directories: Used to organize files

Form factor: A mathematical way to compensate for irregularities in the shape of an object by using a ratio between its volume and height

G

Globalization: The movement that lets governments, businesses, and organizations communicate and integrate together on an international scale

H

Hard drive: It is a long term memory component that holds all of our data, which can include music, pictures, applications

Hardware: External or internal devices and equipment that help you perform major functions

Hardware resource deficiency: It refers to the lack of system resources like memory, hard drive space, et cetera

HDD (Hard disk drive): Hard disk drives, or HDDs, use a spinning platter and a mechanical arm to read and write information

HDMI: A type of cable that outputs both video and audio

Heatsink: It is used to dissipate heat from our CPU

HFS+/APFS: HFS+ is a journaling system developed by Apple Inc. and APFS is another but more encrypted Apple journaling system

Hostname: Used to identify the computer when it needs to talk to other computers

Hubs: Devices that serve as a central location through which data travels through

I

Information technology: The use of digital technology, like computers and the internet, to store and process data into useful information

Input/Output device: A device that performs input and output, including monitors, keyboards, mice, hard disk drives, speakers, bluetooth headsets, webcams, and network adapters

Install image: A downloadable operating system image used to install an operating system on a device

Instruction set: A list of instructions that our CPU is able to run

Internet: A worldwide system of interconnected networks

Internet Corporation for Assigned Names and Numbers (ICANN): Where website names are registered

Internet of Things (IoT): The concept that more and more devices are connected to the internet in a smarter fashion such as smart thermostats that turn off the air conditioner when you leave and turn it on when you come back

Internet Protocol version 4 (IPv4): An address that consists of 32 bits separated into four groups

Internet Protocol version 6 (IPv6): An address that consist of a 128 bits, four times the amount that IPv4 uses

Internet service provider (ISP): A company that provides a consumer an internet connection

I/O management: Anything that can give us input or that we can use for output of data

iOS: A mobile operating system developed by Apple Inc.

IP address: The most common protocol used in the network layer, used to helps us route information

ITX (Information Technology eXtended): A form factor for motherboards that is much smaller than ATX boards

K

Kernel: The main core of an operating system that creates processes, efficiently schedules them, and manages how processes are terminated

L

Land Grid Array (LGA): It is a type of CPU socket that stick out of the motherboard

Lightning adaptor: One of the standard power, data and display connector types used in mobile devices

Linux OS: Linux is one of the largest an open source operating system used heavily in business infrastructure and in the consumer space

Logic gates: Allow transistors to do more complex tasks, like decide where to send electrical signals depending on logical conditions

Logs: Files that record system events on our computer

M

MAC address: A globally unique identifier attached to an individual network interface. It's a 48-bit number normally represented by six groupings of two hexadecimal numbers

Mac OS: Apple's operating system

Mb/s: megabit per second, which is a unit of data transfer rate

Memory controller chip (MCC): A bridge between the CPU and the RAM

Memory management: One of the functions that a kernel performs; it optimizes memory usage and make sure our applications have enough memory to run

Metadata: Tells us everything we need to know about a file, including who created it, when it was last modified, who has access to it, and what type of file it is

Micro display port: One of the standard power, data and display connector types used in mobile devices

Microsoft Terminal Services Client: A client program used to create RDP connections to remote computers

Micro HDMI: One of the standard power, data and display connector types used in mobile devices

Micro USB: One of the standard power, data and display connector types used in mobile devices

Mini HDMI: One of the standard power, data and display connector types used in mobile devices

Mini USB: One of the standard power, data and display connector types used in mobile devices

Motherboard: The body or circulatory system of the computer that connects all the pieces together

N

Network: The interconnection of computers

Network Address Translation (NAT): A mitigation tool that lets organizations use one public IP address and many private IP addresses within the network

Networking: Managing, building and designing networks

Networking protocols: A set of rules for how we transfer data in a network

Network stack: A set of hardware or software that provides the infrastructure for a computer

Northbridge: interconnects stuff like RAM and video cards

O

Open SSH: The most popular program to use SSH within Linux

Open source: This means the developers will let other developers share, modify, and distribute their software for free

Operating system: The whole package that manages our computers resources and lets us interact with it

Overclocking: it increases the rate of your CPU clock cycles in order to perform more tasks

P

PC: Personal computer, which technically means a computer that one person uses

PCI Express: Peripheral Component Interconnect Express

PDA (Personal Digital Assistant): Allows computing to go mobile

Peripherals: the external devices which we connect to our computer that add functionality, like: a mouse, a keyboard, and a monitor

Pin Grid Array (PGA): CPU socket where the pins are located on the processor itself

Plink (PuTTY Link): A tool built into the command line after PuTTY is installed that is used to make remote SSH connections

Ports: Connection points that we can connect devices to that extend the functionality of our computer

POST (Power On Self Test): It figures out what hardware is on the computer

Powershell: A shell (program that interprets text commands) for Windows

Power supply: Converts electricity from our wall outlet onto a format that our computer can use

Power user: Above average computer users

Process management: The capacity to manage the many programs in a system - when to run them, the order they run in, how many resources they take up, how long they run, etc.

Programs: Basic instructions that tell the computer what to do

Punch cards: A sequence of cards with holes in them to automatically perform calculations instead of manually entering them by hand

Q

Qwiklabs: An online platform which provides training in cloud services

R

RAM: Random Access Memory

Registers: An accessible location for storing the data that our CPU works with

Reimaging: The process of reimaging involves wiping and reinstalling an operating system using a disk image which is a copy of an operating system

Remote connection: The ability to connect an authorized person to a computer or network remotely; allows us to manage multiple machines from anywhere in the world

Remote Desktop Protocol (RDP): A secure network communication protocol developed by Microsoft that allows a user to connect to another device remotely

Return merchandise authorization (RMA): The process of receiving returned merchandise and authorizing a refund

RGB model: RGB or red, green, and blue model is the basic model of representing colors

ROM chip (Read Only Memory): A read-only memory chip where the BIOS is stored

Router: A device that knows how to forward data between independent networks

RPM: Revolutions per minute

S

Safe operating temperature: The temperature range in which rechargeable batteries must be kept in order to avoid demanage

SATA: The most popular serial ATA drive, which uses one cable for data transfers

Scalability: The measure of a system's ability to increase or decrease in performance and cost in response to varying loads in system processing demands

SDRAM: It stands for Synchronous DRAM, this type of RAM is synchronized to our systems' clock speed allowing quicker processing of data

Server logs: Text files that contains recorded information about activities performed on a specific web server in a defined period of time

Servers: Devices that provide data to other devices that request that data, also known as a client

Shell: A program that interprets text commands and sends them to the OS to execute

SOC (System On a Chip): Packs the CPU, Ram, and sometimes even the storage onto a single chip

Southbridge: It maintains our IO or input/output controllers, like hard drives and USB devices that input and output data

SSD: Solid State Drive

SSH (Secure shell): A protocol implemented by other programs to securely access one computer from another.

SSH authentication key: A secure authentication method for accessing a computer from other device

SSH client: A program you must have installed on your device in order to establish an SSH connection with another device

SSH server: Software installed on a machine that allows for that device to accept an SSH connection

Standardization: A systematic way of naming hosts

Standoffs: Used to raise and attach your motherboard to the case

Swap space: The allocated space where the virtual memory is stored on the hard drive when the amount of physical memory space is used up or full

Switches: Devices that help our data travel

System: A group of hardware components and software components that work together to fun the programs or processes in the computer

System settings: Settings like display resolution, user accounts, network, devices, etc.

T

Task bar: It gives us quick options and shows us information like network connectivity, the date, system notifications, sound etc

Terminal: A text based interface to the computer

Thermal paste: A substance used to better connect our CPU and heat sink, so the heat transfers from to the other better

Time slice: A very short interval of time that gets allocated to a process for CPU execution

Transfer Control Protocol (TCP): A protocol that handles reliable delivery of information from one network to another

Type-C connector: A type of USB connector meant to replace many peripheral connections

U

Ubuntu: The most popular Linux consumer distribution

UEFI: United Extensible Firmware Interface

Uniform Resource Locator (URL): A web address similar to a home address

USB (Universal Serial Bus): A connection standard for connecting peripherals to devices such as computers

USB-C adapter: One of the standard power, data and display connector types used in mobile devices

User name: A unique identifier for a user account

User space: The aspect of an operating system that humans interact with directly like programs, such as text editors, music players, system settings, user interfaces, etc.

UTF-8: The most prevalent encoding standard used today

V

Virtual Box: An application you can use to install Linux and have it completely isolated from your machine

Virtual machine (VM): An application that uses physical resources like memory, CPU and storage, but they offer the added benefit of running multiple operating systems at once

Virtual memory: A combination of hard drive space and RAM that acts like memory which our processes can use

VPN (Virtual private network): A secure method of connecting a device to a private network over the internet

W

WannaCry Attack: A cyber attack that started in Europe and infected hundreds of thousands of computers across the world

Wireless networking (Wi-Fi): Networks you connect to through radios and antennas

World Wide Web (WWW): The information system that enables documents and other web resources to be accessed over the Internet