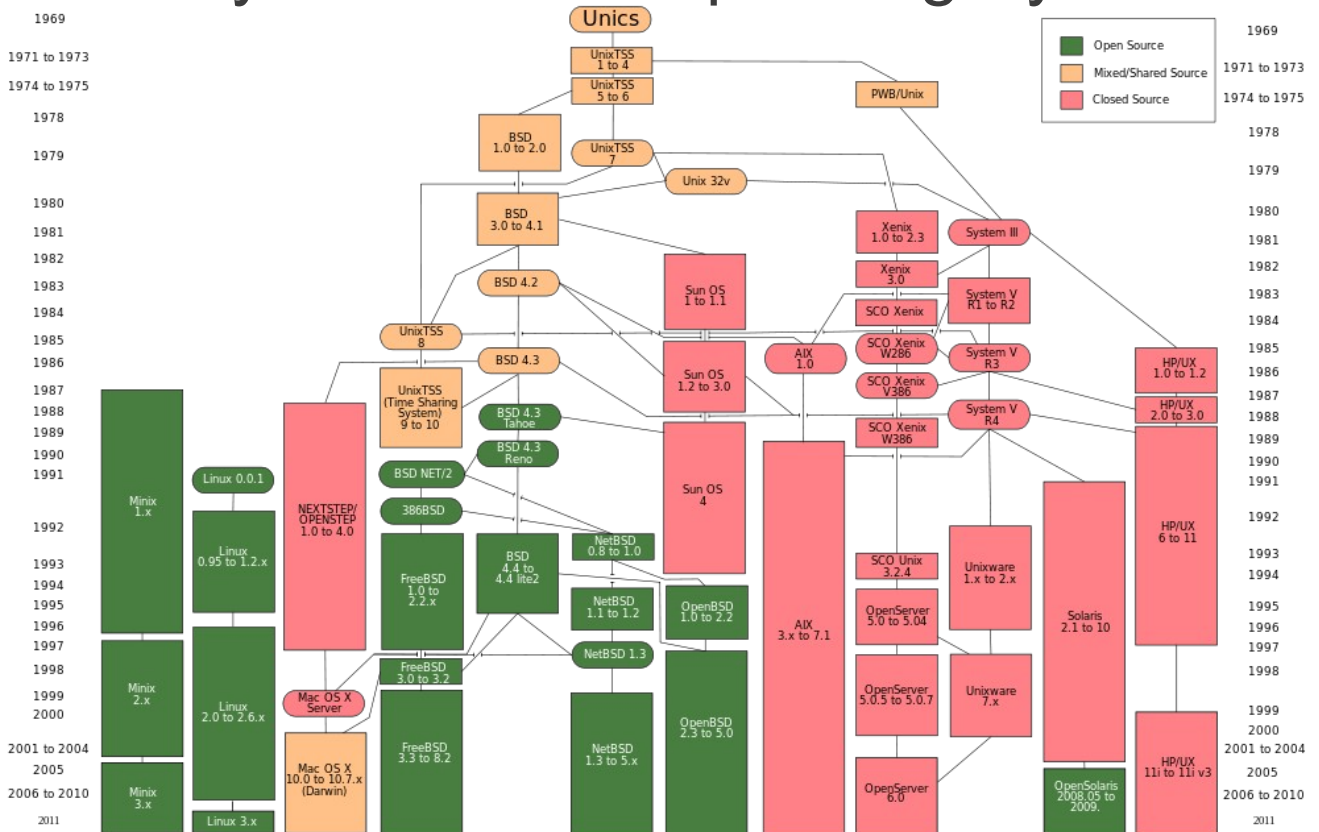# Introduction to Linux Command Line Interface

Family of Unix-like Operating Systems

Source: http://en.wikipedia.org/w/index.php?title=File:Unix_history-simple.svg&page=1; Creative Commons

GNU/Linux and Distributions

- Linux kernel: the core of the operating system

- GNU/Linux: a free operating system using Linux kernel and supporting GNU software (compilers, editors, programming libraries, ...)

- Distributions: combine different applications with GNU/Linux operating system and release as a complete system

    - RedHat, Debian, Slackware

    - Ubuntu, OpenSUSE, Mint, Arch, DSL, Centos, …

- Kernel also used in embedded systems: TVs, wireless routers, mobile devices (Android), …

Why Linux? Why Not MS Windows?

- Linux is in many networking and embedded products

    - Routers, modems, firewalls, TVs, portable devices

- Linux is well-suited to learning networking concepts

    - Simple, yet powerful operations for common network tasks

    - Implementing and running simple client/server applications is easy

    - Easy to run and configure a router and firewall

    - Free (and not pirated) software

- Useful to learn another system (most of you know Windows already)

- (Course coordinator uses it every day)

Why is command line useful?

- Flexibility: often GUI has limits that command line equivalent does not

- Reliability: many command line programs have been used much longer than GUI counterparts

- Speed: few hardware (graphics) resources needed; can bypass delays of human user

- Learning: often command line programs give you 'closer' look at computer inner workings

- Examples:

  – Scripting: automate multiple tasks

  – Diagnosis: view detailed information about computer

  – Networking: interact with computers remotely