

<http://www.gnu.org/graphics/gnu-slash-linux.html>

LINUX

The Big Picture

FIRST: UNIX

- 1965: MULTICS - MIT, GE and Bell Labs - Time sharing of computer systems. Abandoned in 1969.
- 1969: Ken Thompson, Dennis Ritchie, Brian Kernighan (from MULTICS) continued playing. Developed UNIX in 1969, which ran on a DEC PDP-7.
- 1972: Dennis Ritchie develops C programming language at Bell Labs. Revolutionary step. Used on UNIX.
- 1973: UNIX rewritten in C! Portability achieved!

MORE UNIX

- 1970's-1980's: AT&T releasing versions, selling source code licenses to other entities such as Sun Microsystems, Microsoft (you read that right), SCO, BSD and others. Wild times. Segued into the "Unix Wars"
- 1989: System V Release 4 (SVR4) - de facto standardization of UNIX (at least, so far as AT&T and Sun were concerned). A combination of features from from Xenix, BSD, SunOS, and System V.
- Since then, more fighting, struggling, developing. It's been fun. Spend a couple hours in wikipedia for the sordid details. :)

LINUX?

- All of this leads us to Linux!
- A brief history...
- A long time ago (in computer years), in a galaxy not so far away (Finland), there lived a man. Not just any man! This man was different, for he was a super nerd.
- His name was Linus, and he was taking an operating systems course from Professor Andrew Tannenbaum.
- MINIX! Mini-UNIX

LINUX

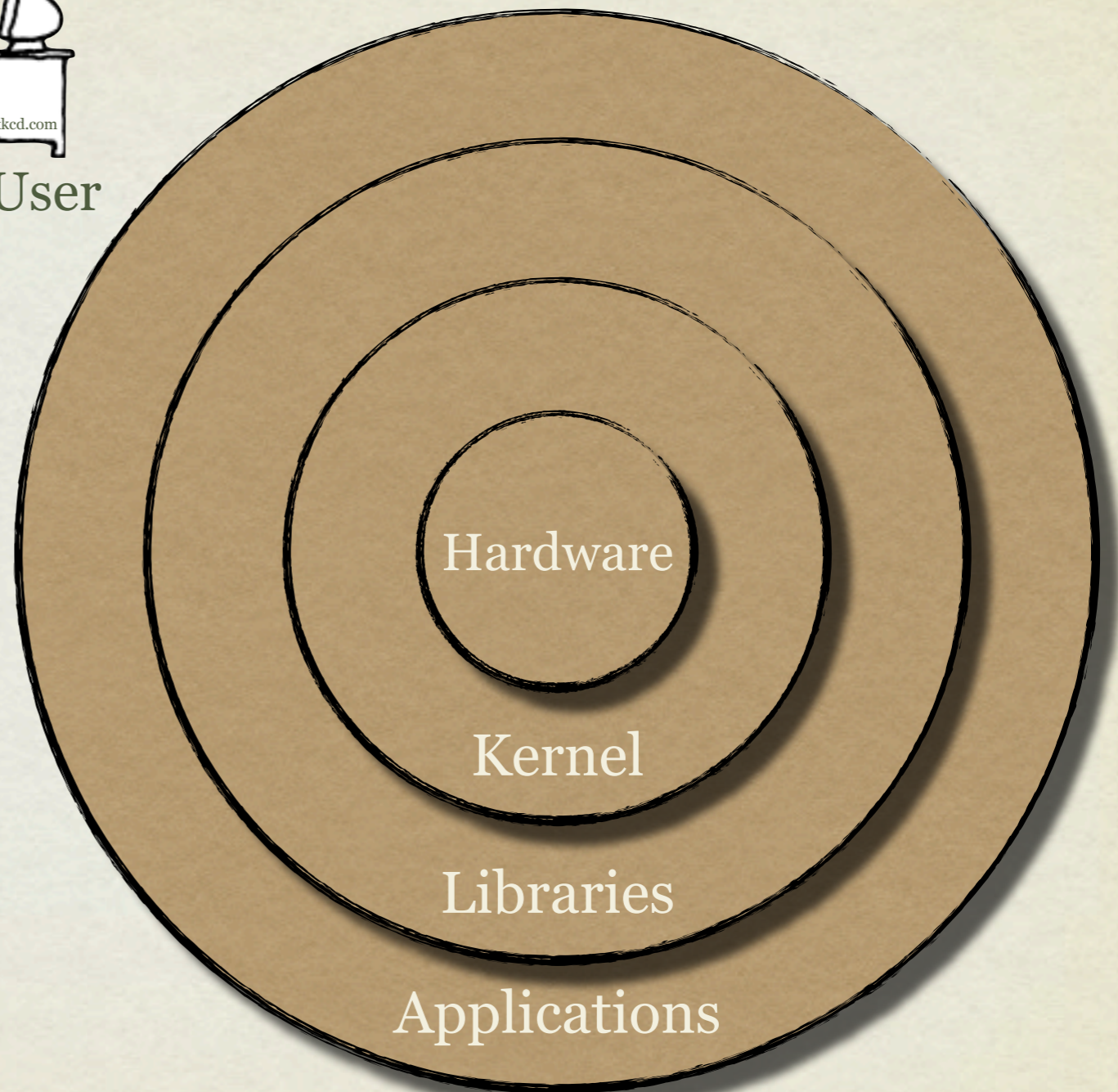
- UNIX not cheap or readily available. Certainly not on this cheap new hardware, the Intel x86 family.
- Linus ported MINIX to PC hardware and renamed it to Linux. Released first version, *including the source code*, in 1991.
- What? Source code? And why'd he do that?
- Richard Stallman! The Open Source Movement!
 - 1983: GNU
 - 1985: Free Software Foundation.

OVERVIEW



End User

- Center of machine
- Scheduler, memory manager, device drivers
- Shared software routines, system calls
- User level software



DISTRIBUTIONS

- The “Linux” part of Linux is the kernel and supporting drivers. By itself, it does not represent a complete operating system.
- Thousands of open source projects combine their powers to form the One True Operating System we know as Linux. :)
- *Distributors* pick and choose from all of this software, combine it with a Linux kernel and package it up into something called a distribution. Common ones include...

DISTRIBUTIONS

- Redhat: One of the oldest and most popular. Originally offered two levels: personal and enterprise. Decided to focus on enterprise offerings, so dropped Red Hat Personal and created the Fedora Project, a community driven entity to produce a personal distribution of Linux.
- Fedora: Aims to release quarterly “Core” distributions. Focuses on up to date software packages and kernels.
- CentOS: Takes Redhat Enterprise Linux, strips the branding and provides free version.

DISTRIBUTIONS

- Debian: Popular, flexible, apt packaging system
- Ubuntu: Popular for desktops, easy to use, based on Debian
- Gentoo: Focus on performance through targeted, on-the-fly compilation. Unique, advanced, powerful.
- Slackware: One of the first distributions. Meant for advanced users - focus on stability and simplicity.
- 100's of distributions! See <http://www.linux.org/dist/>

LINUX IS...

- Multuser
- One of the primary goals of UNIX was to maximize the utilization of the computer (they weren't cheap then!)
- The concept allows multiple users to perform tasks at the same time



LINUX IS...

- Multitasking
- Allowing multiple users necessitates the ability to do multiple things at once.
- Implemented through a complex scheduling system



LINUX USES

- Linux is used in thousands of ways:
 - Servers, workstations
 - Routers, network gear
 - Embedded systems, monitoring stations
 - Supercomputers

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slideshow.end();
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