Reading

3. The whois++ protocol

2. UNIX Introduction

1. The free software movement and us

Structure

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LIS901a Lecture 1
It's free speech rather than free beer.

free = $0

version 4.0.

Unlike MS-DOS, which originally ran on IBM compatible computers, GNU is not UNIX. It is an attempt to extend the philosophy behind UNIX to the world of personal computing. A large portion of the development of the gnu utilities and applications was done on these machines. Thus, much of the code is directly dependent on the machine on which it is run.

why UNIX

Why UNIX

UNIX is the homogeneous for TCP/IP.

It is not user friendly. It is not useful.

I know of no other more likely to be replaced quickly.

It remains the operating system of all digital library systems that
important free software packages that we need

pell

ROADS is a free implementation of Whirl++; it is written in
ministoodles, Larry Wall.
pell is a scripting language developed by the kind of system and
Apache is a web server software.
emacs is the editor written by Richard M. Stallman
machines are for support to the same programs that are shipped with UNIX
GNU produce a range of dozens of standard UNIX programs that
important free software packages that we need

Such software is now known as "open source software."

program that is used by the end user.
or one of its derivatives—that is the basis for the executable
Source code is the plain computer code—usually written in C,
freedom of others to make changes.
not distributing the source code, because that would restrict the
code. They are prohibited to distribute a modified version with
users are allowed to use the program and to modify its source

the GNU Public License
that Micklusoft products require.

It has no keyboard or screen attached.

It has 2 times 32 MEGA of RAM, 2 times 17 Giga of disk space.

It completes tasks 2 years, is a panter with the hogs' kick,

It was put together out of two machines from the Palmer schools

not as powerful as this name suggests.

Woven is the chief god of the German Legend. Wovenlied is

wovenlied at 14.4.23.

Junk Hardware

open library

more importantly it shows the bridge between open source to

teach you the skill. It will take you onto the road of geekdom.

This is not a trivial task. It needs a lot of skill. This course will

This course aims to build a free digital library.

The credo of this course.

For the die hard hacker.

We use Debian/GNU Linux. This is a more stable free distribu-

ditions.

There are many ways of doing this packaging. These are called

common commands.

More generally, it is the packaging of that kernel with the GNU

By Linux, I refer to the kernel hardware architecture.

Initially Linux is a free implementation of a UNIX kernel, written

Linux
By default, the terminal has a standard input, standard output and a standard error. By default, the terminal uses a variable called `$TERM` to determine the type of terminal you are using. The name of the terminal is obtained from the `TERM` environment variable. A symbolic link to the home directory is also created.

**Other key UNIX concepts**

- In-line command editing
- The name completion
- Environment variable completion
- Command/program completion
- bash features

In Linux, the default shell is `/bin/bash`, invoked by `/bin/sh`. It is the only shell that will be using.

- Extended C shell `/usr/csh`
- Bourne again shell `/usr/bash`
- C shell `/usr/csh`
- Korn shell `/usr/bash`
-Diary shell `/usr/sh`

There are various shells. The shell is a command line interpreter. It reads your command.
open a terminal session
get a list of processes
send a signal to a process
exit

when did user last login?
login again
report and set terminal settings

cal month year
display calendar, e.g. "cal 9 1975"
display or set date
date

display and sort a sorted list of lines

echo command
write something on the screen

Important UNIX Programs

execute a script
create a command alias
delete a command alias
remove any export/unexport environment variables
make a variable visible to programs
export

Change to directory

cd

shell commands

quote a special character

pipe

display without variable expansion
displays without variable expansion

user

directory of user

less

display commands

environment variable

display environment variable

place a job in the background
disable the parent directory
disable the current directory

directory separator

Special characters to watch out for
Files

The man page for a command tells you about the flags of a command. GNU utilities also accept a long format of options, for example:

```
$ ls -lG
```

is -l a file, geometric to be terse.

Traditional flags are of the form -f or -e. For example -i is the same as

command -i.

command accepts arguments and flags. Flags modify the way a command is performed.

Flags

DIRECTIONS have to be executable in order to generate them.

Therefore it is what?

1 execute
2 write
4 read

The basic numbers are

to the owner, the group, and the rest of the world, respectively.

and is the permission expressed by the number, corresponding

to the owner.

The permissions

set the permissions
make user the owner of the file
Executable utility
ZIFF-Lentz decompress file
ZIFF-Lentz compress file
Look for pattern in file
Pathological echo file
Display the amount of disk space used by the file
Report free disk space on the filesystem
In s source destination
Remove copy the file
Copy source to destination
Make a directory
Compare files with file
See the end of a file
Call

More important UNIX programs
4. Create an alias for ls and set it up on login

3. Do a 'ls' to see what packages are available

2. Create an alias for ls and set it up on login

directory

2. Create a file, move it to a subdirectory, move it to the home

Exercise

San gege will tell you more. Read it.

Regular expressions with groups

expression | expression | expression
one or more times | zero or more times | zero or one time
expression | groups expression
and of the line
beginning of the line
any character in list

Important commands with flags
Making all his UNIX plans for nobody...
Strings in this UNIX LAN

He's a real UNIX man.

The new kernel boots, just like you had planned.

UNIX man

Test with the kernel, don't hurry.

UNIX man, don't worry.

UNIX man, can you help me at all?

Use lex and yacc and C

He's as wise as he can be.

Finally

The wrong old is eat(1) your command,

My pid(8) is missing.

UNIX man, please listen(2).

And me? Isn't he a bit like you
Cares not where your mail goes to
Knows the blocksizes from du(1).

For nobody

Making all his UNIX plans
Strings in this UNIX LAN

He's a real UNIX man.

Ports are assigned in /etc/services.

The dynamic and/or private ports are those from 49152 through 65535
The registered ports are those from 1024 through 49151
The well known ports are those from 0 through 1023

The port numbers are divided into three ranges: the well known ports, the registered ports, and the dynamic and/or private ports.

To provide services on addresses called ports.