Unix Tools

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Overview

- Editors
  - nedit
  - vi
- Browsers/HTML Editors
- Mail Tools
- Utilities
  - xv
  - xman
  - ftp

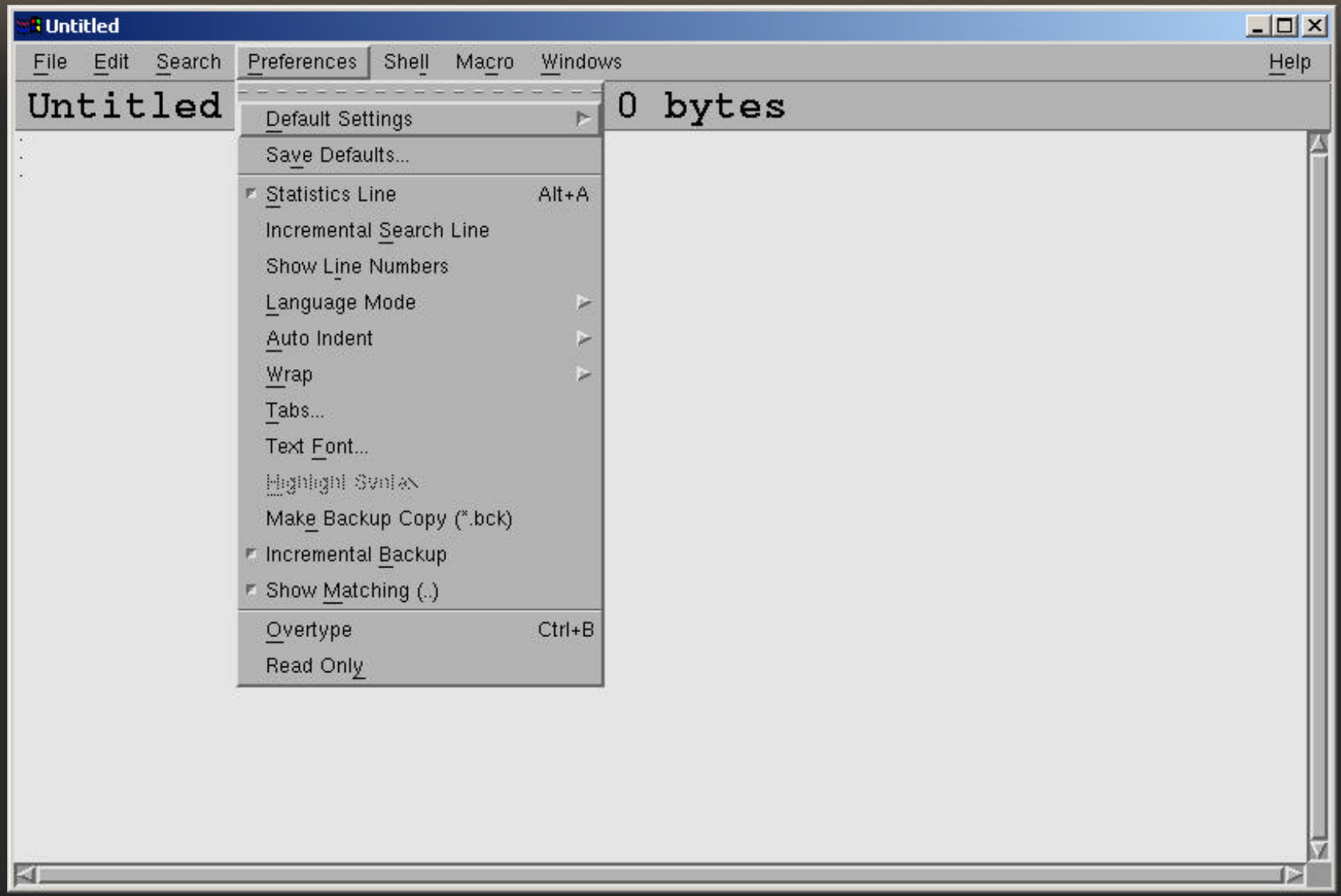
Editors

- There are a variety of editors
  - vi and pico
  - emacs and xemacs
  - Nedit
- The line editors are vi (universal), pico (very simple), emacs (very powerful).
- The graphical editors are nedit (powerful but simple) and xemacs (very powerful and not too hard to learn)

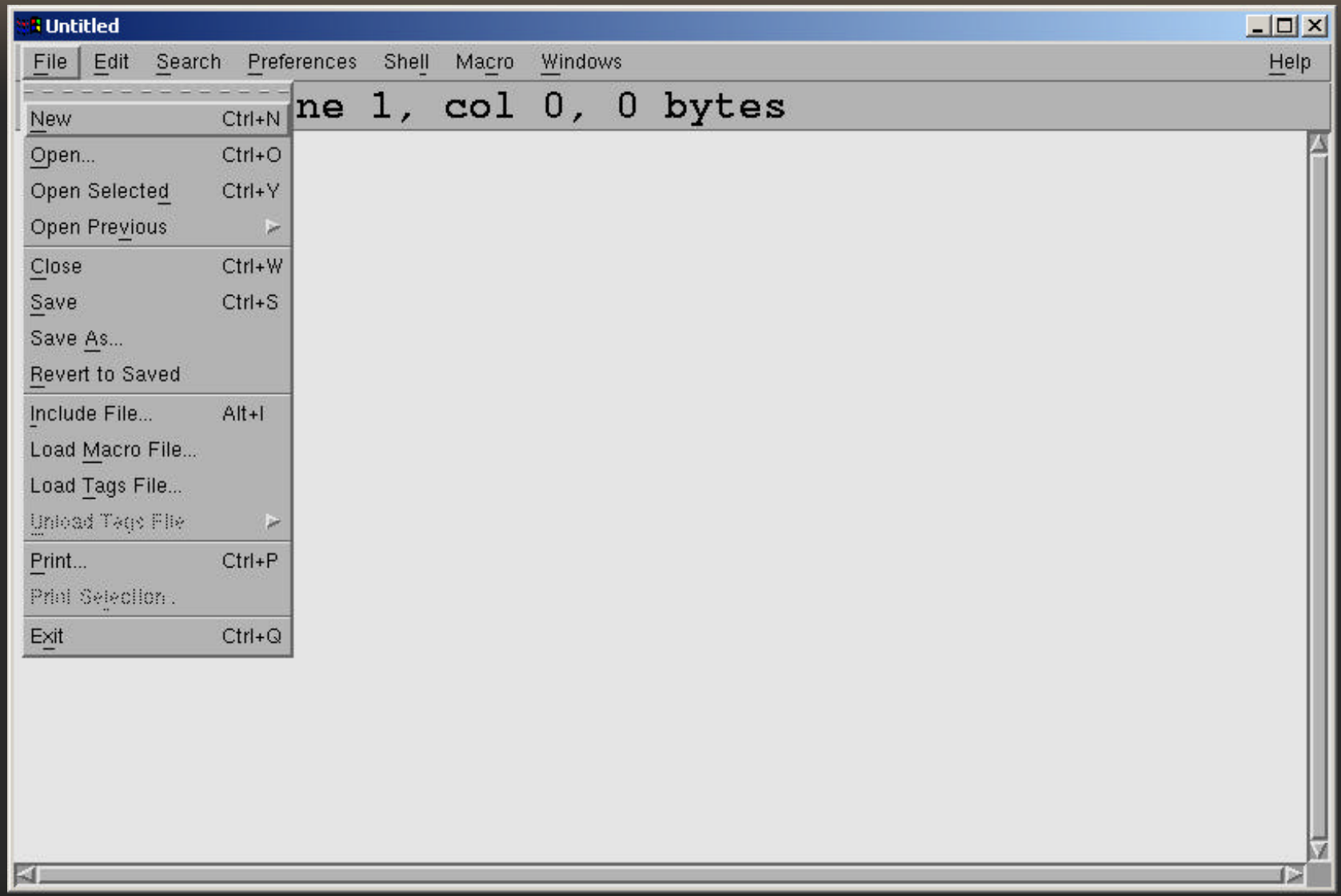
Nedit as an editor

- You must be in an X Window System environment to run nedit
- It is relatively simple to use and has a little built in help
- It is important to keep in mind:
  - Preferences are at two levels, immediate and saved
  - Really useful for programming – syntax, braces, include files, indents, etc.

Nedit Preferences Menu



Nedit File Menu



vi as an editor

- vi is a modal editor
  - To shift between command and entry mode:
    - Type “ESC” to get to command mode
    - Type i(insert), a(append) R(replace), and others to go to edit mode
- vi is a very simple but powerful line editor
- There are 75+ commands, but a dozen will do
- Commands in vi can be:
  - character or sequence optionally preceded by a num
  - : command – a : followed by one or more characters
  - command preceded by a \ or !

Starting vi

- Type vi filename to edit a file
  - If file exits, it is opened, if not it is created
- vi displays lines beyond the end of file by using the "~" character
- The line at the bottom of the screen is used to enter commands
- For practice purposes, use a Unix command to generate fodder for a file to be edited
  - ls –la > testfile.dat
  - vi testfile.dat

Basic vi commands

- Some of the important file handling commands are:
  - :w (write) or :r (read) file
  - :q quit
  - :wq will save the file, if it had been named, and exit
  - :q! will quit abandoning any changes
- The basic movement commands are:
  - h – left
  - j – down
  - k – up
  - l – right
- PC cursor keys may work as well
- The command u undoes the last edit – it is only one deep

vi – getting around

- In command mode most commands can be preceded by a number
- Other movement commands include:
  - H top line, M middle line, L last line
  - ^F,^B one screen forward, backward
- Searching commands include:
  - /text – searches forward for text
  - &text – searches backward for text
  - /, & repeat last search, either forward of backward
- nG will take you to line n, G will take you to the last line

vi – entering text

- From command mode, a number of commands can be issued to enter text:
  - i will start text insert mode just before the current position – this is basically the only command you need
  - a will start append mode – right after the current position
  - r will replace the current character and return to command mode
  - R will go into replacement mode
- These modes (with the exception of r) continue until the user types the ESC key

Vi – deleting and modifying text

- Commands to delete text include:
  - x delete a single character
  - dd delete current line
  - D delete remainder of line
  - dw delete word
- Commands to copy text include
  - yy will copy a single line
  - p will put it down – works on both dd and yy
- Both yy and dd take number prefixes, p doesn't use a number

More commands

- Movement
  - 0 moves to the start of the current line
  - $ moves to the end of the current line
  - W, w, B, b move forward and backward words
- u will undo the last command
- . Will repeat the last command
- J will join two lines

vi – executing commands

- :! cmd will execute the command cmd presenting the output in vi. Hitting the enter key will return to vi
- :!! cmd will pipe the result of command into the current cursor location
- :%! cmd will pipe the current contents to cmd and replace the editor contents with the result
  - Take care in that a bad command will cause the error message to replace the current contents

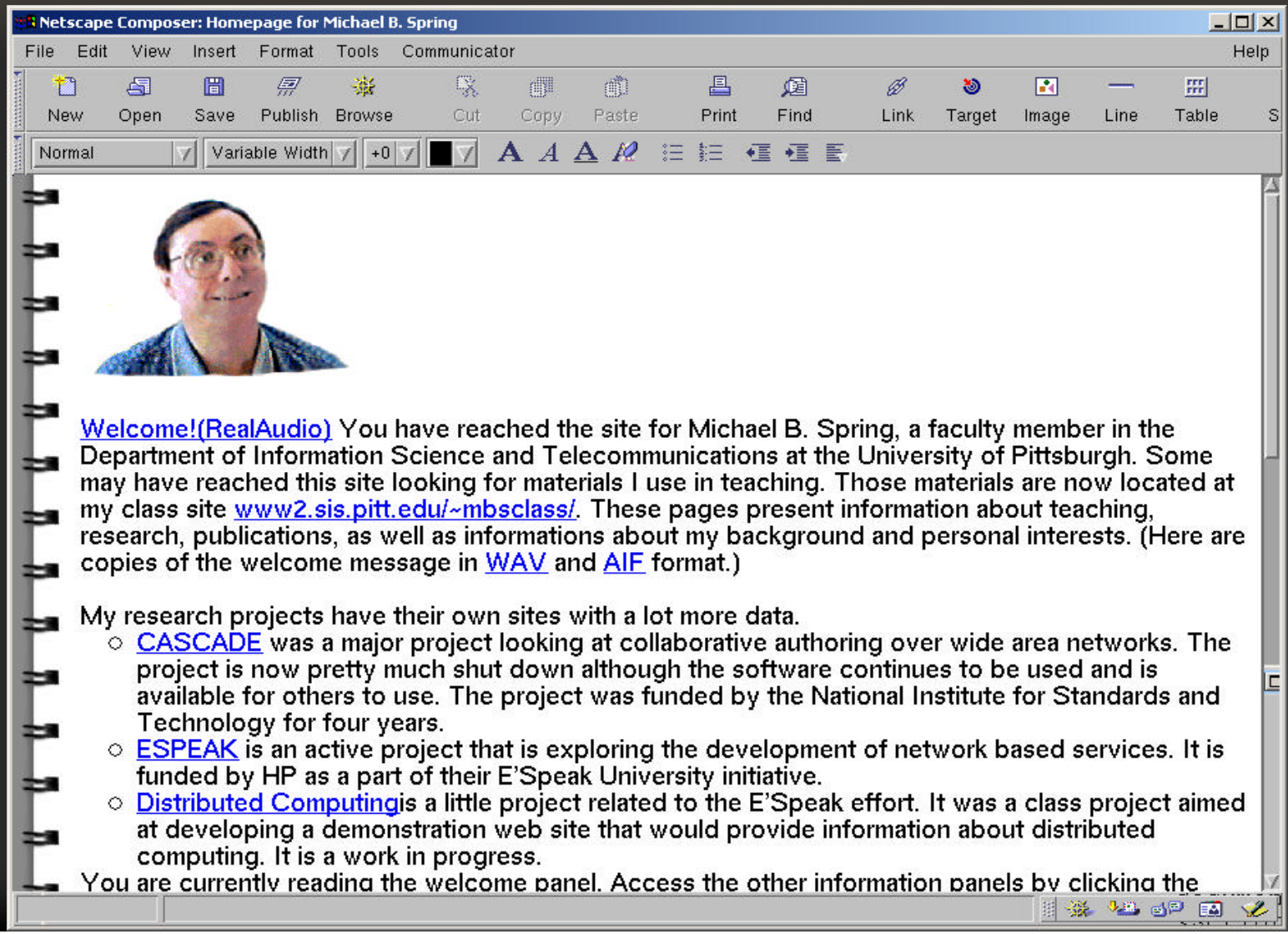
The .exrc file

- vi is based on the ex editor
- The .exrc file thus defines resources or startup conditions for ex and vi
- Some common setting might include:
  - set number
  - set showmode
  - set ignorecase
  - set wm=10
  - ab tstr rstr
  - map c commandsequence

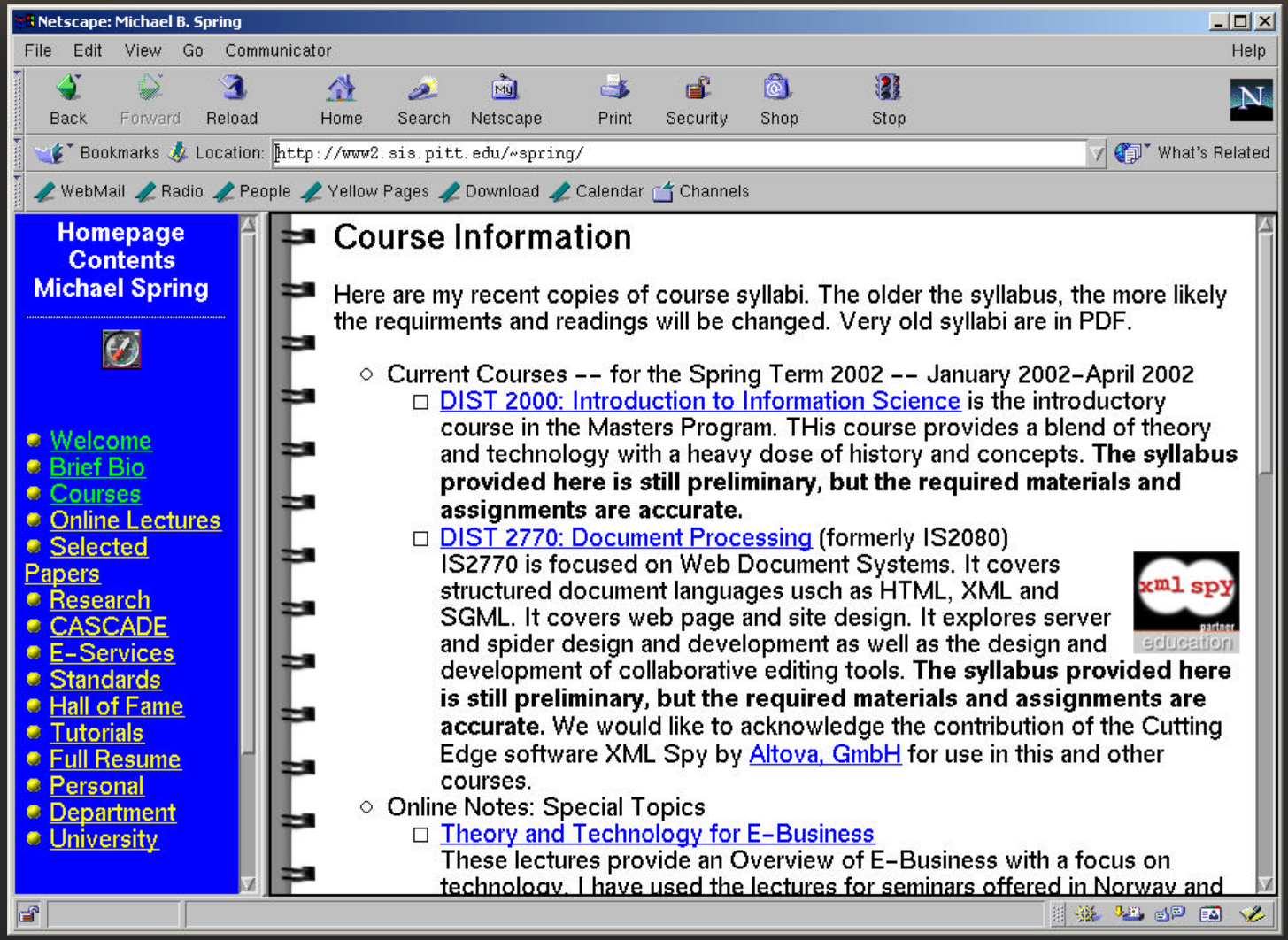
Browsers/HTML Editors

- Netscape is the default browser on Unix
- Hotjava also is installed on solaris
- Netscape can be used:
  - For viewing web sites
  - Editing webpages (composer)
  - Keeping address books
  - Reading imap mail

Composer


Netscape Composer: Homepage for Michael B. Spring
File Edit View Insert Format Tools Communicator Help
New Open Save Publish Browse Cut Copy Paste Print Find Link Target Image Line Table
Normal Variable Width +0
Welcome!(RealAudio) You have reached the site for Michael B. Spring, a faculty member in the Department of Information Science and Telecommunications at the University of Pittsburgh. Some may have reached this site looking for materials I use in teaching. Those materials are now located at my class site www2.sis.pitt.edu/~mbsclass/. These pages present information about teaching, research, publications, as well as informations about my background and personal interests. (Here are copies of the welcome message in WAV and AIF format.)
My research projects have their own sites with a lot more data.
CASCADE was a major project looking at collaborative authoring over wide area networks. The project is now pretty much shut down although the software continues to be used and is available for others to use. The project was funded by the National Institute for Standards and Technology for four years.
ESPEAK is an active project that is exploring the development of network based services. It is funded by HP as a part of their E'Speak University initiative.
Distributed Computingis a little project related to the E'Speak effort. It was a class project aimed at developing a demonstration web site that would provide information about distributed computing. It is a work in progress.
You are currently reading the welcome panel. Access the other information panels by clicking the

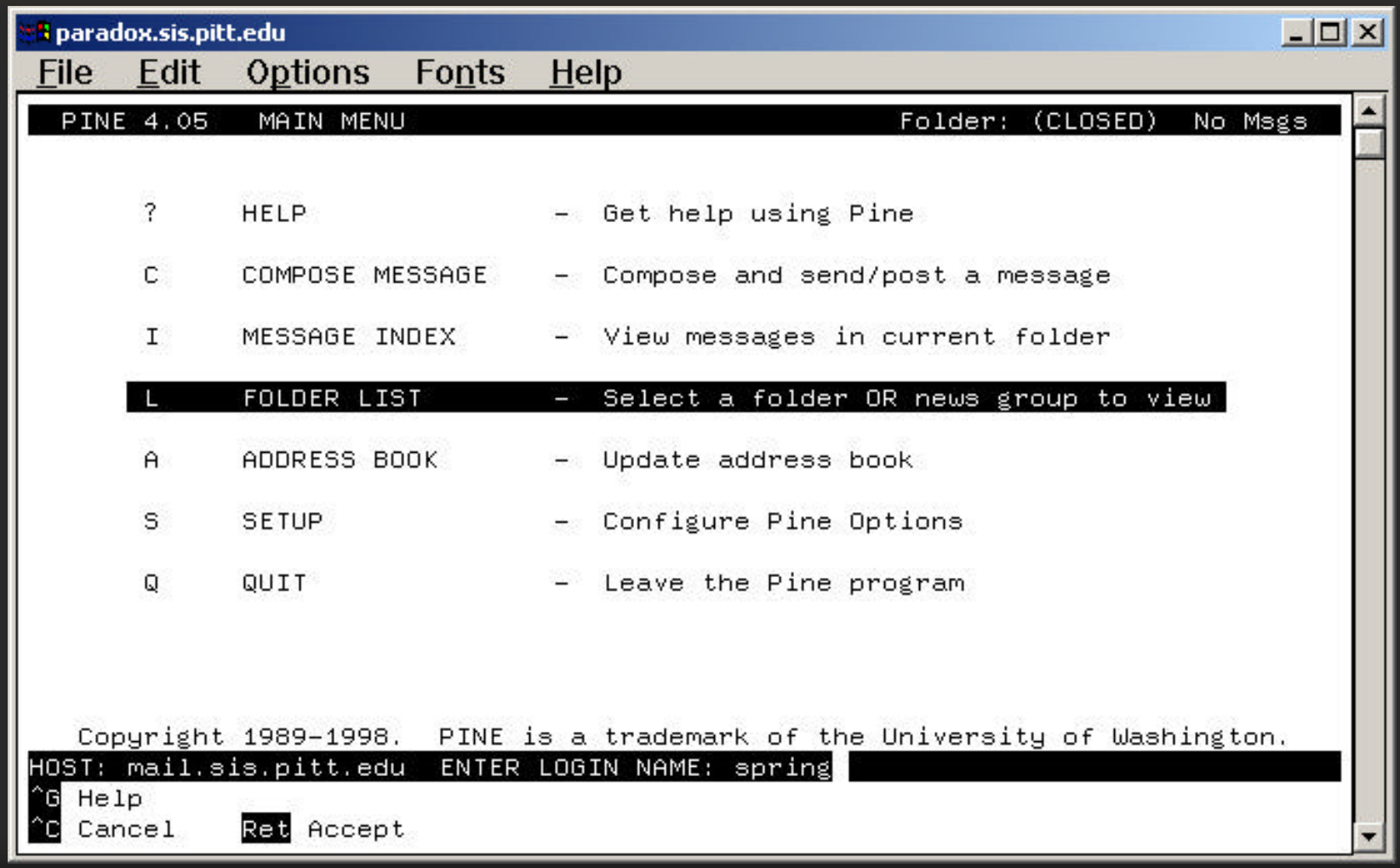
Navigator


Netscape: Michael B. Spring
File Edit View Go Communicator Help
Back Forward Reload Home Search Netscape Print Security Shop Stop
Bookmarks Location: http://www2.sis.pitt.edu/~spring/ What's Related
WebMail Radio People Yellow Pages Download Calendar Channels
Homepage Contents Michael Spring
Welcome
Brief Bio
Courses
Online Lectures
Selected Papers
Research
CASCADE
E-Services
Standards
Hall of Fame
Tutorials
Full Resume
Personal
Department
University
Course Information
Here are my recent copies of course syllabi. The older the syllabus, the more likely the requirments and readings will be changed. Very old syllabi are in PDF.
Current Courses -- for the Spring Term 2002 -- January 2002-April 2002
DIST 2000: Introduction to Information Science is the introductory course in the Masters Program. THis course provides a blend of theory and technology with a heavy dose of history and concepts. The syllabus provided here is still preliminary, but the required materials and assignments are accurate.
DIST 2770: Document Processing (formerly IS2080)
IS2770 is focused on Web Document Systems. It covers structured document languages usch as HTML, XML and SGML. It covers web page and site design. It explores server and spider design and development as well as the design and development of collaborative editing tools. The syllabus provided here is still preliminary, but the required materials and assignments are accurate. We would like to acknowledge the contribution of the Cutting Edge software XML Spy by Altova, GmbH for use in this and other courses.
xml spy
Online Notes: Special Topics
Theory and Technology for E-Business
These lectures provide an Overview of E-Business with a focus on

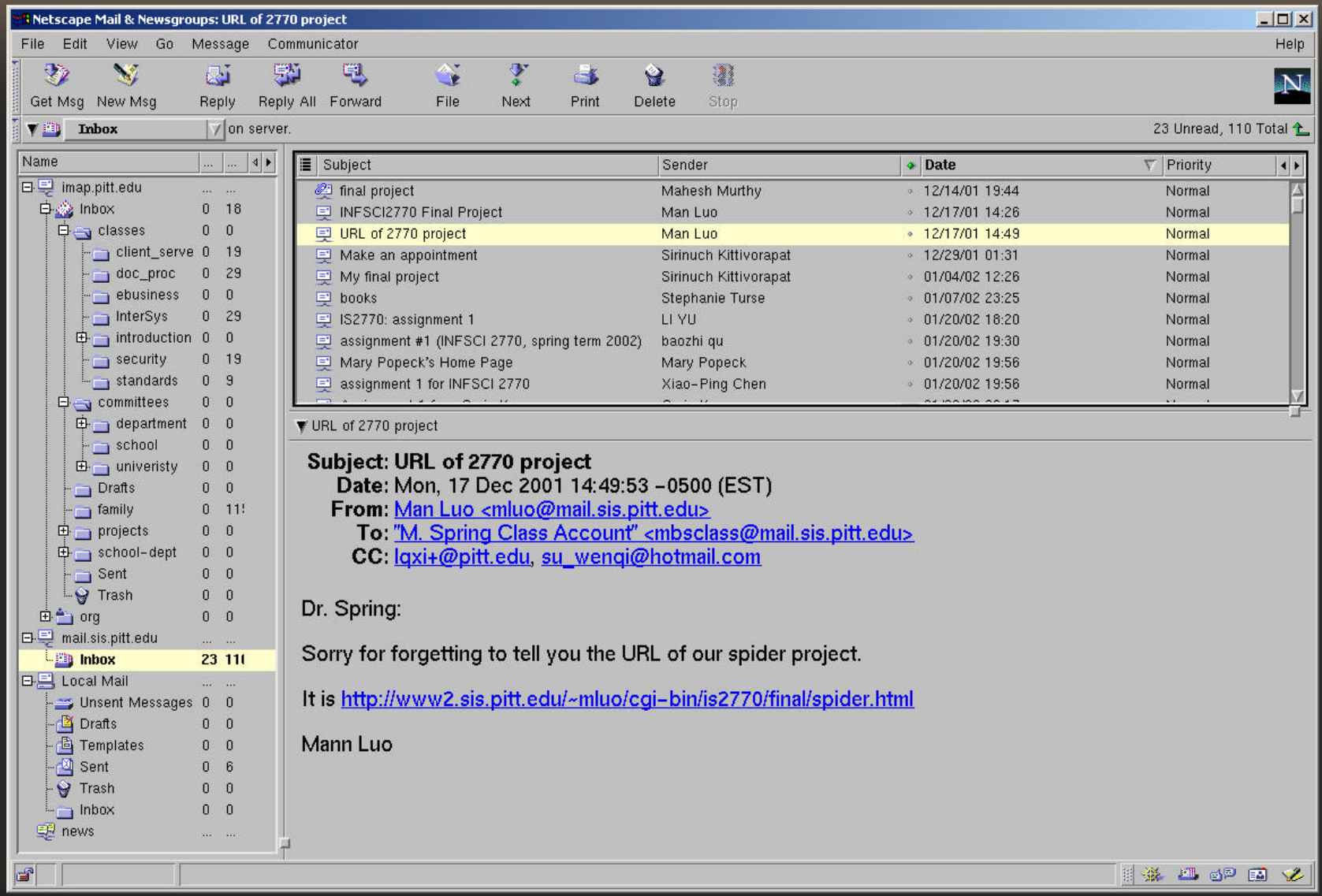
Mail Tools

- The mail tools used on Unix are multiple and all are imap and pop compliant
  - pine exists as a command line mail tool
  - mailtool is the default solaris mailtool
  - netscape provides a powerful mail capability

pine


paradox.sis.pitt.edu
File Edit Options Fonts Help
PINE 4.05 MAIN MENU Folder: (CLOSED) No Msgs
? HELP - Get help using Pine
C COMPOSE MESSAGE - Compose and send/post a message
I MESSAGE INDEX - View messages in current folder
L FOLDER LIST - Select a folder OR news group to view
A ADDRESS BOOK - Update address book
S SETUP - Configure Pine Options
Q QUIT - Leave the Pine program
Copyright 1989-1998. PINE is a trademark of the University of Washington.
HOST: mail.sis.pitt.edu ENTER LOGIN NAME: spring
^G Help
^C Cancel Ret Accept

Messenger

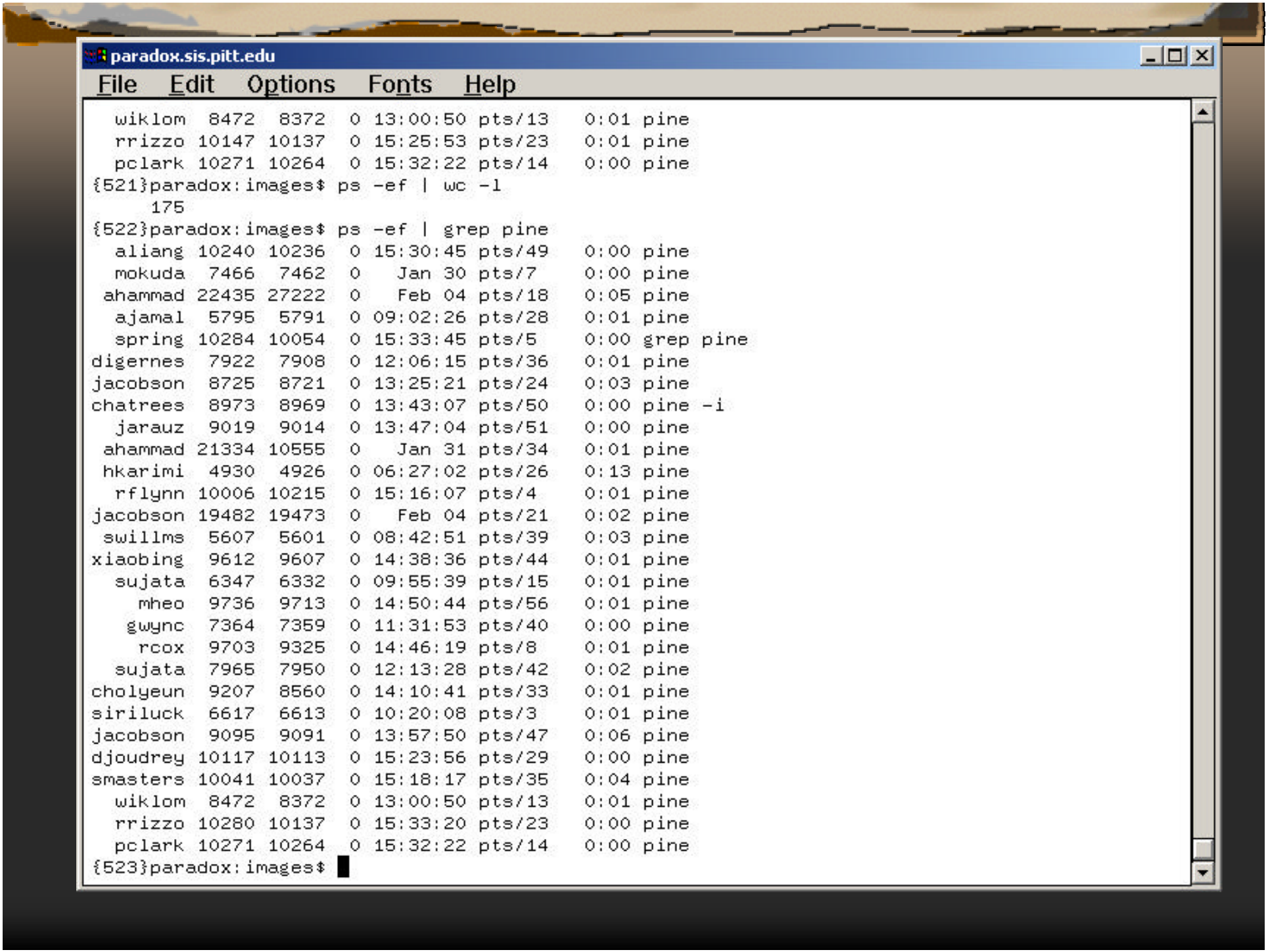

Netscape Mail & Newsgroups: URL of 2770 project
File Edit View Go Message Communicator Help
Get Msg New Msg Reply Reply All Forward File Next Print Delete Stop
Inbox on server.
23 Unread, 110 Total
Name
imap.pitt.edu
Inbox 0 18
classes 0 0
client_serve 0 19
doc_proc 0 29
ebusiness 0 0
InterSys 0 29
introduction 0 0
security 0 19
standards 0 9
committees 0 0
department 0 0
school 0 0
univeristy 0 0
Drafts 0 0
family 0 11
projects 0 0
school-dept 0 0
Sent 0 0
Trash 0 0
org 0 0
mail.sis.pitt.edu
Inbox 23 11
Local Mail
Unsent Messages 0 0
Drafts 0 0
Templates 0 0
Sent 0 6
Trash 0 0
Inbox 0 0
news
Subject Sender Date Priority
final project Mahesh Murthy 12/14/01 19:44 Normal
INFSCI2770 Final Project Man Luo 12/17/01 14:26 Normal
URL of 2770 project Man Luo 12/17/01 14:49 Normal
Make an appointment Sirinuch Kittivorapat 12/29/01 01:31 Normal
My final project Sirinuch Kittivorapat 01/04/02 12:26 Normal
books Stephanie Turse 01/07/02 23:25 Normal
IS2770: assignment 1 LI YU 01/20/02 18:20 Normal
assignment #1 (INFSCI 2770, spring term 2002) baozhi qu 01/20/02 19:30 Normal
Mary Popeck's Home Page Mary Popeck 01/20/02 19:56 Normal
assignment 1 for INFSCI 2770 Xiao-Ping Chen 01/20/02 19:56 Normal
URL of 2770 project
Subject: URL of 2770 project
Date: Mon, 17 Dec 2001 14:49:53 -0500 (EST)
From: Man Luo <mluo@mail.sis.pitt.edu>
To: "M. Spring Class Account" <mbsclass@mail.sis.pitt.edu>
CC: lqxi+@pitt.edu, su_wenqi@hotmail.com
Dr. Spring:
Sorry for forgetting to tell you the URL of our spider project.
It is http://www2.sis.pitt.edu/~mluo/cgi-bin/is2770/final/spider.html
Mann Luo

Utilities

- There are numerous utilities on Unix
- Two of the command line utilities are:
  - grep
  - ftp
- Two of the graphical utilities are:
  - xv
  - xman

grep

- The General Regular Expression Program or grep is a program to search streams
  - allows the user to search a standard I/O stream for terms pr patterns
  - Allows the numbering or lines
  - Allows non matches to be displayed
  - Allows counts to be developed
- Helps with voluminous data streams


paradox.sis.pitt.edu
File Edit Options Fonts Help
wiklom 8472 8372 0 13:00:50 pts/13 0:01 pine
rrizzo 10147 10137 0 15:25:53 pts/23 0:01 pine
pclark 10271 10264 0 15:32:22 pts/14 0:00 pine
{521}paradox:images$ ps -ef | wc -l
175
{522}paradox:images$ ps -ef | grep pine
aliang 10240 10236 0 15:30:45 pts/49 0:00 pine
mokuda 7466 7462 0 Jan 30 pts/7 0:00 pine
ahammad 22435 27222 0 Feb 04 pts/18 0:05 pine
ajamal 5795 5791 0 09:02:26 pts/28 0:01 pine
spring 10284 10054 0 15:33:45 pts/5 0:00 grep pine
digernes 7922 7908 0 12:06:15 pts/36 0:01 pine
jacobson 8725 8721 0 13:25:21 pts/24 0:03 pine
chatrees 8973 8969 0 13:43:07 pts/50 0:00 pine -i
jarauz 9019 9014 0 13:47:04 pts/51 0:00 pine
ahammad 21334 10555 0 Jan 31 pts/34 0:01 pine
hkarimi 4930 4926 0 06:27:02 pts/26 0:13 pine
rflynn 10006 10215 0 15:16:07 pts/4 0:01 pine
jacobson 19482 19473 0 Feb 04 pts/21 0:02 pine
swillms 5607 5601 0 08:42:51 pts/39 0:03 pine
xiaobing 9612 9607 0 14:38:36 pts/44 0:01 pine
sujata 6347 6332 0 09:55:39 pts/15 0:01 pine
mheo 9736 9713 0 14:50:44 pts/56 0:01 pine
gwync 7364 7359 0 11:31:53 pts/40 0:00 pine
rcox 9703 9325 0 14:46:19 pts/8 0:01 pine
sujata 7965 7950 0 12:13:28 pts/42 0:02 pine
cholyeun 9207 8560 0 14:10:41 pts/33 0:01 pine
siriluck 6617 6613 0 10:20:08 pts/3 0:01 pine
jacobson 9095 9091 0 13:57:50 pts/47 0:06 pine
djoudrey 10117 10113 0 15:23:56 pts/29 0:00 pine
smasters 10041 10037 0 15:18:17 pts/35 0:04 pine
wiklom 8472 8372 0 13:00:50 pts/13 0:01 pine
rrizzo 10280 10137 0 15:33:20 pts/23 0:00 pine
pclark 10271 10264 0 15:32:22 pts/14 0:00 pine
{523}paradox:images$

ftp

- ftp stands for file transfer protocol
  - It was one of the first network programs in Unix
  - The ftp works through a client/server program set
  - The host system runs a server called ftpd
  - The client runs a client program normally called ftp
  - Some systems allow restricted “anonymous” ftp
- PC based interfaces tend to hide the underlying ftp commands, Unix ftp is normally command line
  - ftp does automatic conversion of line endings as needed
  - To turn this feature off, use binary mode

paradox.sis.pitt.edu

File Edit Options Fonts Help

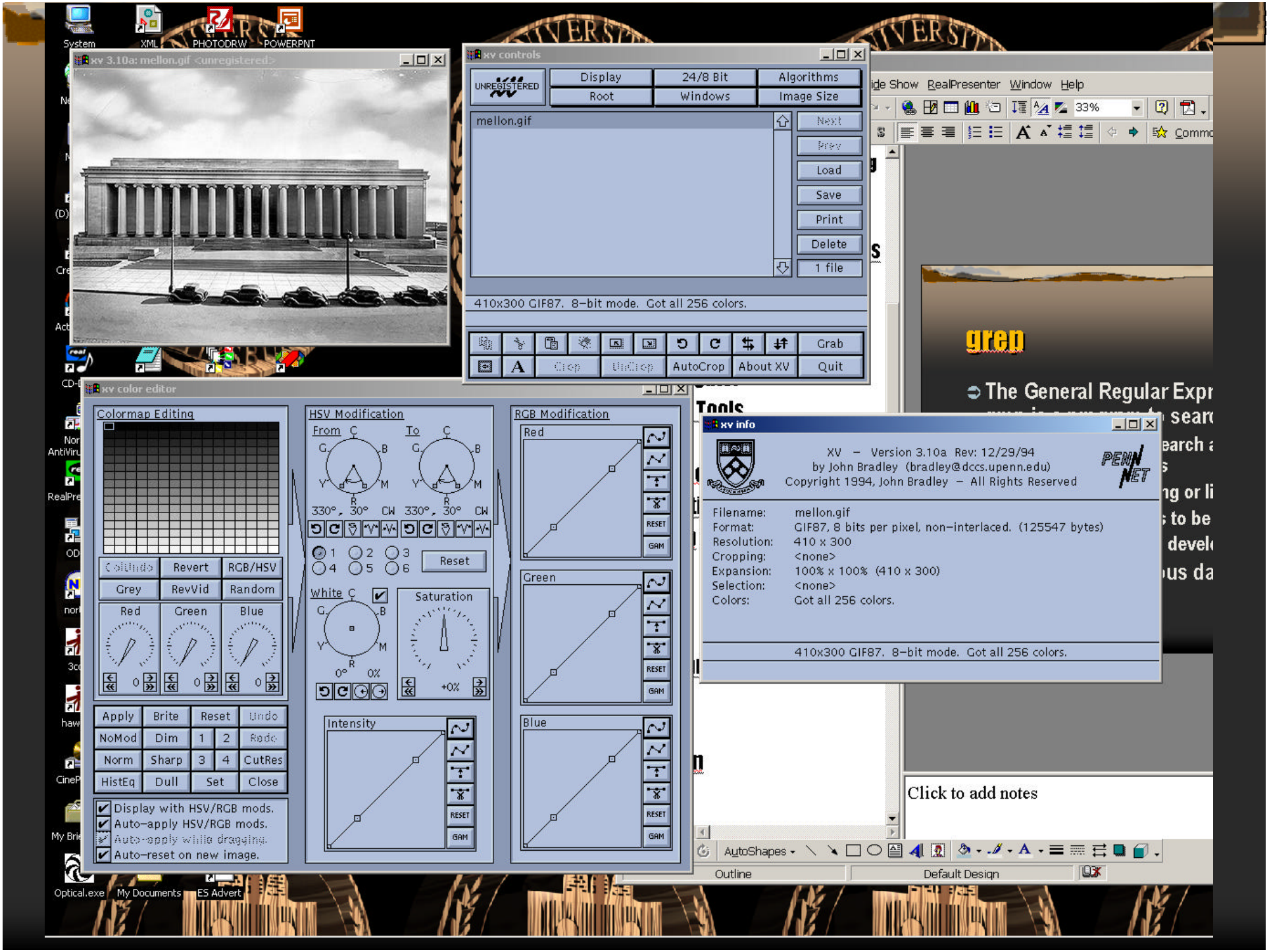
```
{523}paradox:images$ ftp augment.sis.pitt.edu
Connected to augment.sis.pitt.edu.
220 augment.sis.pitt.edu FTP server (SunOS 5.6) ready.
Name (augment.sis.pitt.edu:spring): spring
331 Password required for spring.
Password:
230 User spring logged in.
ftp> pwd
257 "/export/home/spring" is current directory.
ftp> ls
200 PORT command successful.
150 ASCII data connection for /bin/ls (136.142.116.28,58940) (0 bytes).
2
Chajongs_Parser
G_CASCADE
Mail
NEWSEAL.BMP
NEWSEAL2.BMP
SISReport
agent.dat
base16.c
bin
cas_ballot
cs
ctemp
curmud1.dat
curmud2.dat
curmud3.dat
docuverse
dp
espeak
htdocs
humor
images
is
```

Common ftp Commands

- get will get a single file
- put will put a single file
- binary specifies that files are to me moved byte for byte
  - text mode does pc to unix conversion of line endings
- prompt turns off prompting for mget and mput
  - mget will get multiple files
  - Mput will put multiple files
  - hash prints a hash mark for each block moved
- Commands like cd and pwd operate on the remote system
- “! Command” allows a command to be executed locally from within ftp

XV

- An image display and manipulation utility
  - Allows editing of the color palette
  - Allows display of image information
  - Allows file type conversion
  - Allows resizing and croping


xv 3.10a: mellon.gif <unregistered>
xv controls
UNREGISTERED
Display
24/8 Bit
Algorithms
Root
Windows
Image Size
mellon.gif
Next
Prev
Load
Save
Print
Delete
1 file
410x300 GIF87. 8-bit mode. Got all 256 colors.
Grab
Crop
UnCrop
AutoCrop
About XV
Quit
xv color editor
Colormap Editing
HSV Modification
RGB Modification
From
To
330°, 30° CW
Revert
RGB/HSV
Grey
RevVid
Random
Red
Green
Blue
Reset
White
Saturation
Intensity
Apply
Brite
Undo
NoMod
Dim
Redo
Norm
Sharp
CutRes
HistEq
Dull
Set
Close
Display with HSV/RGB mods.
Auto-apply HSV/RGB mods.
Auto-apply while dragging.
Auto-reset on new image.
xv info
XV – Version 3.10a Rev: 12/29/94
by John Bradley (bradley@dccs.upenn.edu)
Copyright 1994, John Bradley – All Rights Reserved
Filename: mellon.gif
Format: GIF87, 8 bits per pixel, non-interlaced. (125547 bytes)
Resolution: 410 x 300
Cropping: <none>
Expansion: 100% x 100% (410 x 300)
Selection: <none>
Colors: Got all 256 colors.
410x300 GIF87. 8-bit mode. Got all 256 colors.
Click to add notes
Outline
Default Design

xman

- A utility to view man pages
  - Allows index and pages open simultaneously
  - Allows easy browsing – recognition versus recall
  - Allows scrolling back and forth
  - Allows model of “sections”

Manual Page

Options | Sections | More... | Directory of: (1) User Commands

gtac	gtail	gtbl	gtk-config	gtr
gtroff	gtsort	guavac	guil	gunexpand
guniq	gunits	gunzip	guuencode	gwc
gzexe	gzip	h2ph	h2xs	hash
hashcheck	hashmake	hashstat	hdf	hdfls
hdfpack	hdfunpac	hdp	head	help
helpdate	helpgid	helpint	helpitem	helpopen
helppath	helprange	helpstr	helptime	helpuid
helpviewer	helpyorn	hipstopgm	history	host

User Commands **GZIP(1)**

NAME

gzip, gunzip, zcat – compress or expand files

SYNOPSIS

gzip [**-acdfhlLnNrtvV19**] [**-S suffix**] [*name* ...]
gunzip [**-acfhlLnNrtvV**] [**-S suffix**] [*name* ...]
zcat [**-fhLV**] [*name* ...]

DESCRIPTION

Gzip reduces the size of the named files using Lempel-Ziv coding (LZ77). Whenever possible, each file is replaced by one with the extension **.gz**, while keeping the same ownership modes, access and modification times. (The default extension is **-gz** for VMS, **z** for MSDOS, OS/2 FAT, Windows NT FAT and Atari.) If no files are specified, or if a file name is "-", the standard input is compressed to the standard out-