

Mac OS X

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The Big Transition

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or...

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or...

**Friendly UNIX - where no
OS has gone before...**

X

A Really Big Transition

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- Biggest transition **ever** for Mac users

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... bigger than System 7

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- As big as Windows 3.x to Windows 95/NT

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 - ... bigger than System 7
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- As big as Windows 3.x to Windows 95/NT
- Change of whole core operating system

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Why So Big ?

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preemptive multitasking & protected memory

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- And lots of new capabilities in OS
 - ... easier than ever to write great new apps

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What Does This Mean ?

- Lots of differences between OS 9 and OS X
... changes in the way you use the system
- But many similarities between OS 9 and OS X
... friendly to OS 9 users*
... easier to learn OS X
- And lots of new capabilities in OS X
... easier than ever to write great new apps





Out With The Old



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- Drops support for some older I/O technologies (serial, parallel, ADB, NuBus, AppleTalk, SCSI*)
- Drops support for less popular programmer API's (MacApp, QuickDraw GX, QuickDraw3D) and development tools (MrC[pp], MPW, ResEdit)

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- Apple bought NeXT in 1997, got Steve Jobs and **NeXTstep**
- NeXTstep + QuickTime + OpenGL + Java + Classic (MAE) + Quartz + Aqua + Carbon became **Rhapsody** then **Mac OS X** (Cocoa came from NeXTstep)

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System Structure

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Darwin

UNIX Foundation (Mach Microkernel, UNIX Filesystem, BSD Networking)

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BSD API

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- Powerful scripting via UNIX shells



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- Powerful scripting via UNIX shells
- Availability of UNIX apps (Apache, Oracle etc)



UNIX Terminal (Shell)

```
glint:/etc
$ cd /etc
$ ls
6to4.conf          hostconfig         named.conf         rpc
afpovertcp.cfg    hostconfig.old    networks          rtadvd.conf
authorization     hostconfig~       ntp.conf          services
bashrc            hosts             openldap         shells
crontab           hosts.equiv       passwd           slpasa.conf
csh.cshrc         hosts.lpd         periodic         smb.conf
csh.login         httpd             ppp              smb.conf.template
csh.login.orig    iftab            printcap         ssh2
csh.logout       inetd.conf       profile          ssh_config
cups              kcpasswd         profile.orig     sshd_config
daily             kern_loader.conf protocols         sudoers
defaults          libsocks5.conf   racoon           swamp
dumpdates        localtime        rc               syslog.conf
find.codes       magic            rc.boot          ttys
fstab.hd         mail             rc.cleanup      ttys.installer
fstab.rd         mail.rc          rc.common        weekly
fstab.sd         manpath.config   rc.netboot      xinetd.conf
ftusers         master.passwd    resolv.conf     xinetd.d
gdb.conf        moduli           resolver        xtab
gettytab        monthly
group           motd
$
```



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authorization      hostconfig~      ntp.conf         services
bashrc            hosts            openldap         shells
crontab           hosts.equiv      passwd           slpasa.conf
csh.cshrc         hosts.lpd        periodic         smb.conf
csh.login         httpd            ppp              smb.conf.template
csh.login.orig    iftab           printcap         ssh2
csh.logout        inetd.conf       profile          ssh_config
cups              kcpasswd        profile.orig     sshd_config
daily             kern_loader.conf protocols         sudoers
defaults          libsocks5.conf  racoon           swamp
dumpdates        localtime       rc               syslog.conf
find.codes        magic           rc.boot          ttys
fstab.hd          mail            rc.cleanup       ttys.installer
fstab.rd          mail.rc         rc.common        weekly
fstab.sd          manpath.config  rc.netboot       xinetd.conf
ftputers         master.passwd   resolver         xinetd.d
gdb.conf          moduli          resolv.conf      xtab
gettytab         monthly
group            motd
$
```

Yes, it's *real* UNIX !!



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... but sometimes you do !



Quartz Benefits



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- Great new features possible with very little effort
... leading to great new apps (iPhoto, Keynote)



Text Antialiasing



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No AA



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A long time ago, in a galaxy far, far away...
A long time ago, in a galaxy far, far away...
A long time ago, in a galaxy far, far away...



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A long time ago, in a galaxy far, far away...

in a galaxy far
a galaxy far, fa
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QuickDraw AA

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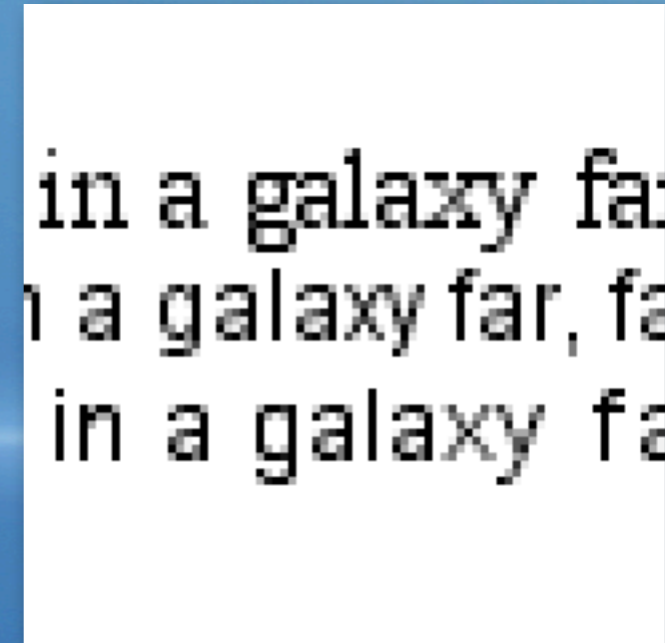
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Quartz sub-pixel AA

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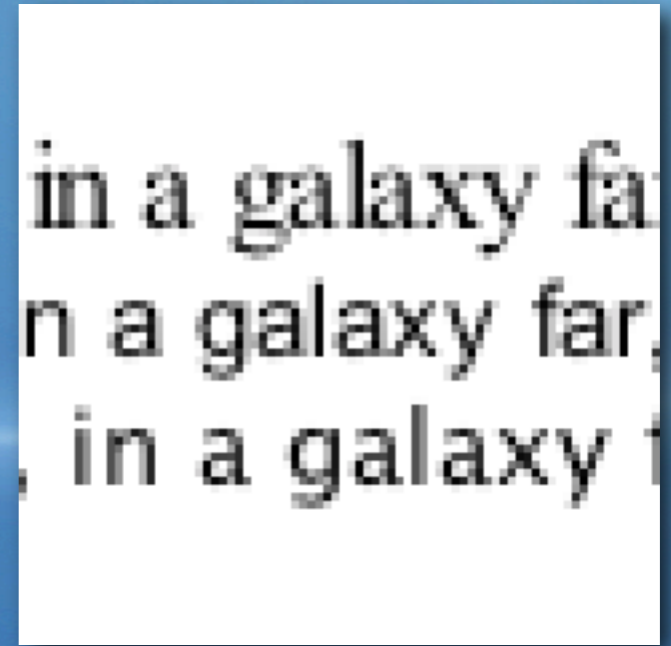
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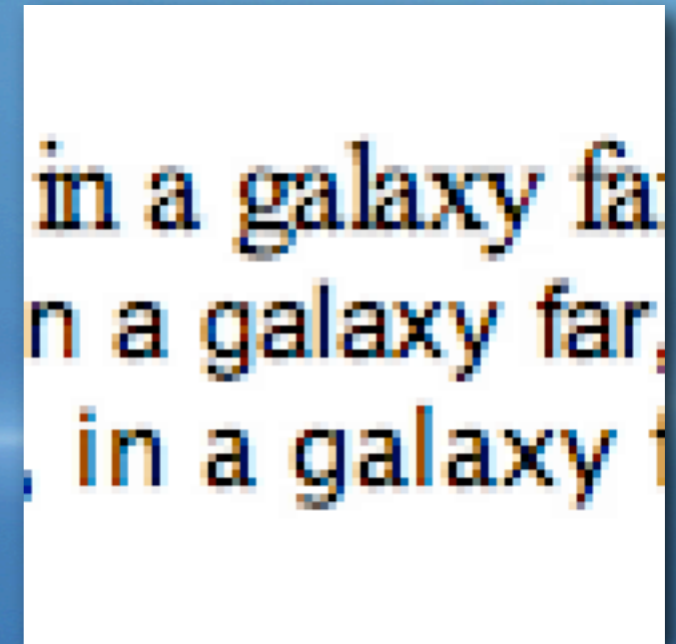
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Save As PDF



Printer: Stylus Photo 830

Presets: Standard

Copies & Pages

Copies: 1 Collated

Pages: All
 From: 1 to: 1

? Preview Save As PDF... Cancel Print

Save As PDF



Printer: Stylus Photo 830

Presets: Standard

Copies & Pages

Copies: 1 Collated

Pages: All
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Also still possible to print to PostScript and use Distiller

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- Bottom line - GUI is slower on Mac OS X, and **much** slower on old systems



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 - slide-out sidebars
 - non-modal “sheet” dialogs



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 - sliding & zooming for windows, dialogs & sidebars
 - fading on/off for menus & content transitions
 - pulsing for progress bars
- New GUI widgets...
 - customizable toolbars
 - slide-out sidebars
 - non-modal “sheet” dialogs
 - column-view (sideways) file requester



Aqua Benefits

- Huge 128x128 icons with alpha channels
- Animated feedback (*where should I be looking?*)...
 - throbbing for default buttons
 - sliding & zooming for windows, dialogs & sidebars
 - fading on/off for menus & content transitions
 - pulsing for progress bars
- New GUI widgets...
 - customizable toolbars
 - slide-out sidebars
 - non-modal “sheet” dialogs
 - column-view (sideways) file requester
 - non-modal color and font dialogs



Huge, Beautiful Icons



Huge, Beautiful Icons





Huge, Beautiful Icons



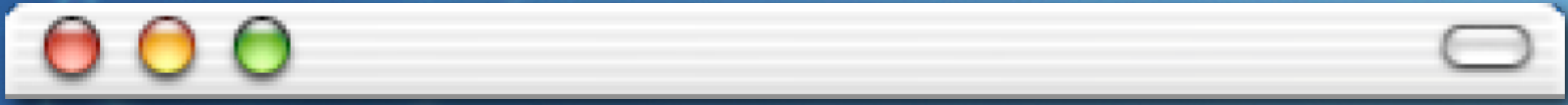


Huge, Beautiful Icons



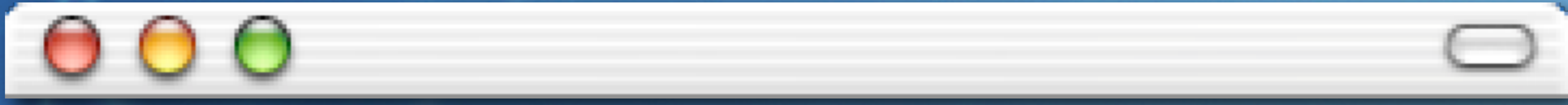


Window Controls





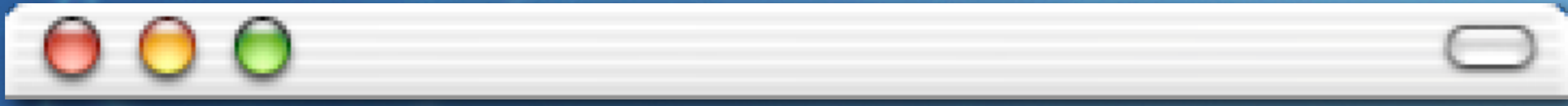
Window Controls



Close



Window Controls

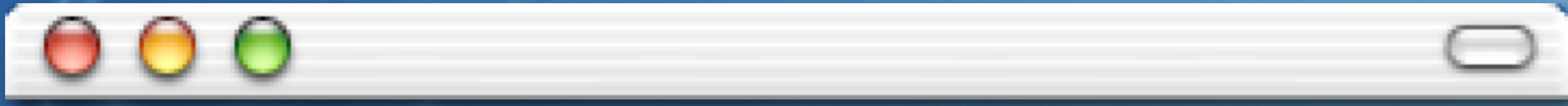


Close

Iconify



Window Controls



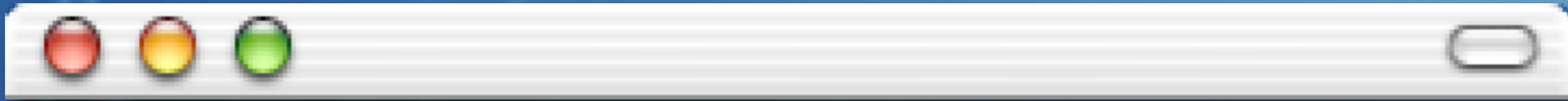
Close

Iconify

Zoom



Window Controls

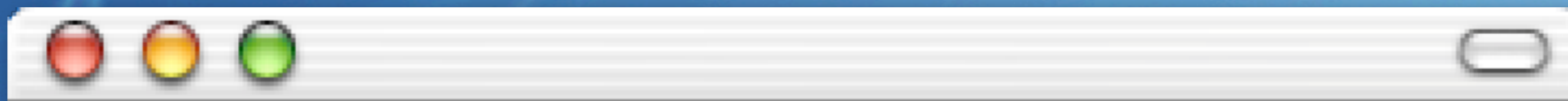


Close
Iconify
Zoom

Fold Away Toolbar



Window Controls



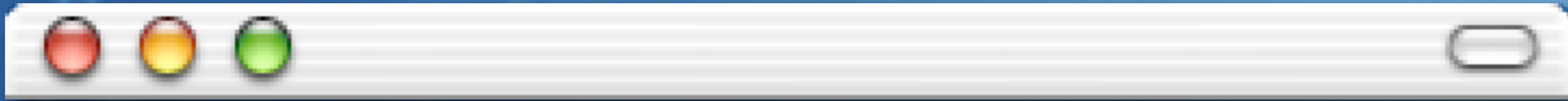
Close
Iconify
Zoom

Fold Away Toolbar

- Close button also shows dot if data unsaved



Window Controls



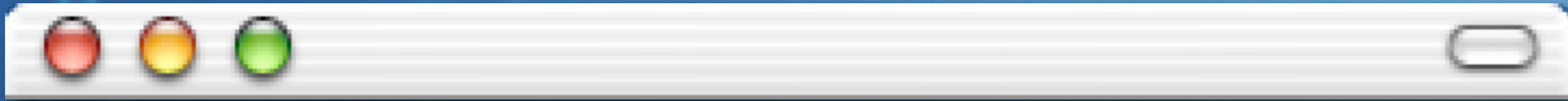
Close
Iconify
Zoom

Fold Away Toolbar

- Close button also shows dot if data unsaved
- Iconify to Dock



Window Controls



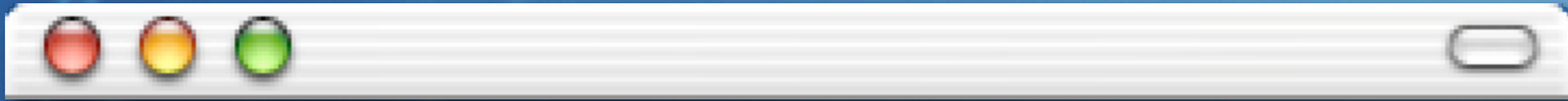
Close
Iconify
Zoom

Fold Away Toolbar

- Close button also shows dot if data unsaved
- Iconify to Dock
- Can also double click title bar to iconify



Window Controls



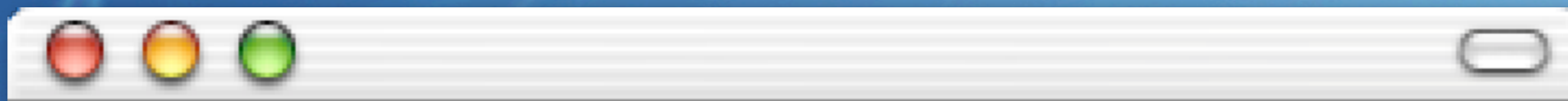
Close
Iconify
Zoom

Fold Away Toolbar

- Close button also shows dot if data unsaved
- Iconify to Dock
- Can also double click title bar to iconify
- Try to use iconify a **lot** - don't move windows!



Window Controls



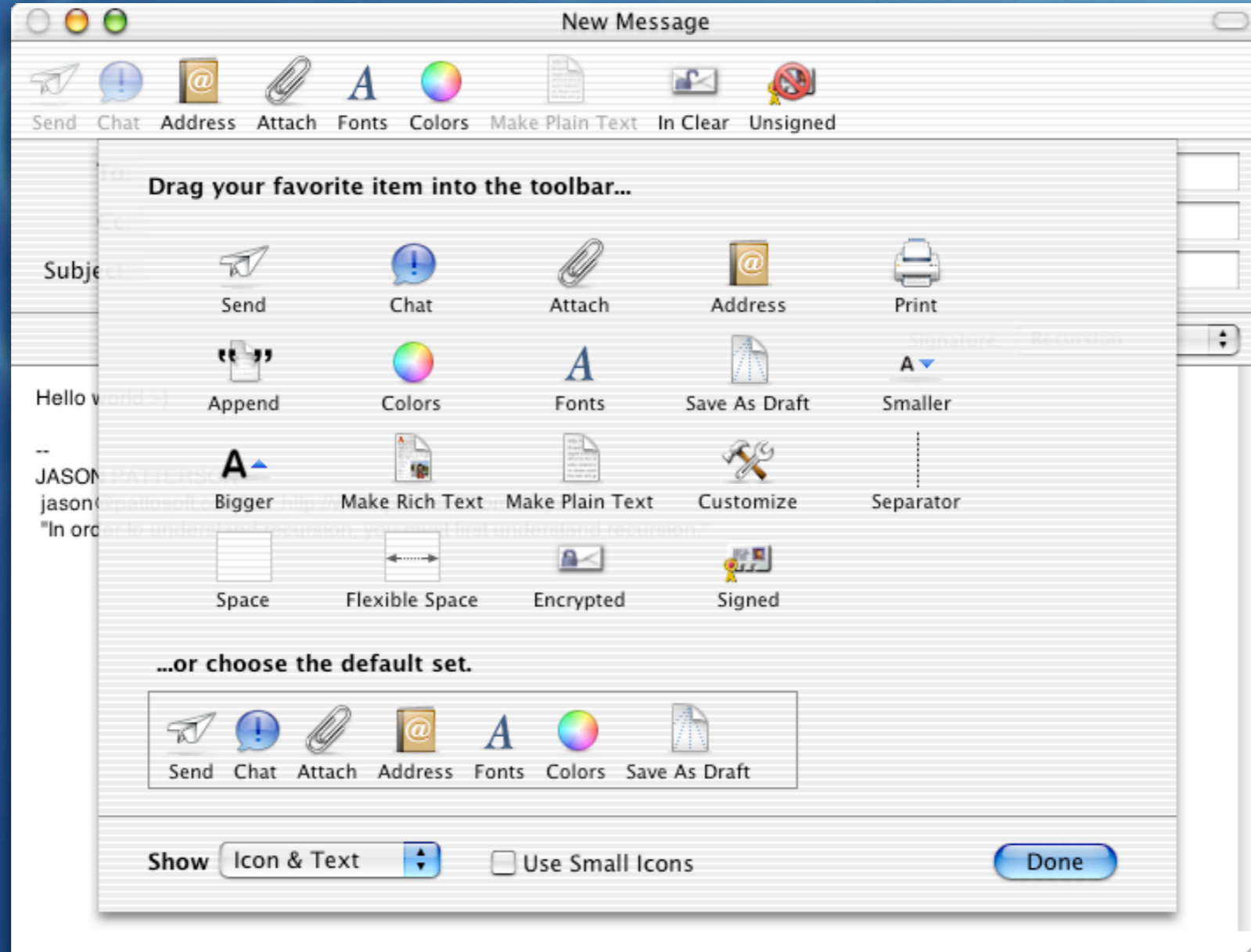
Close
Iconify
Zoom

Fold Away Toolbar

- Close button also shows dot if data unsaved
- Iconify to Dock
- Can also double click title bar to iconify
- Try to use iconify a **lot** - don't move windows!
- Zoom to "best" size, not necessarily full screen

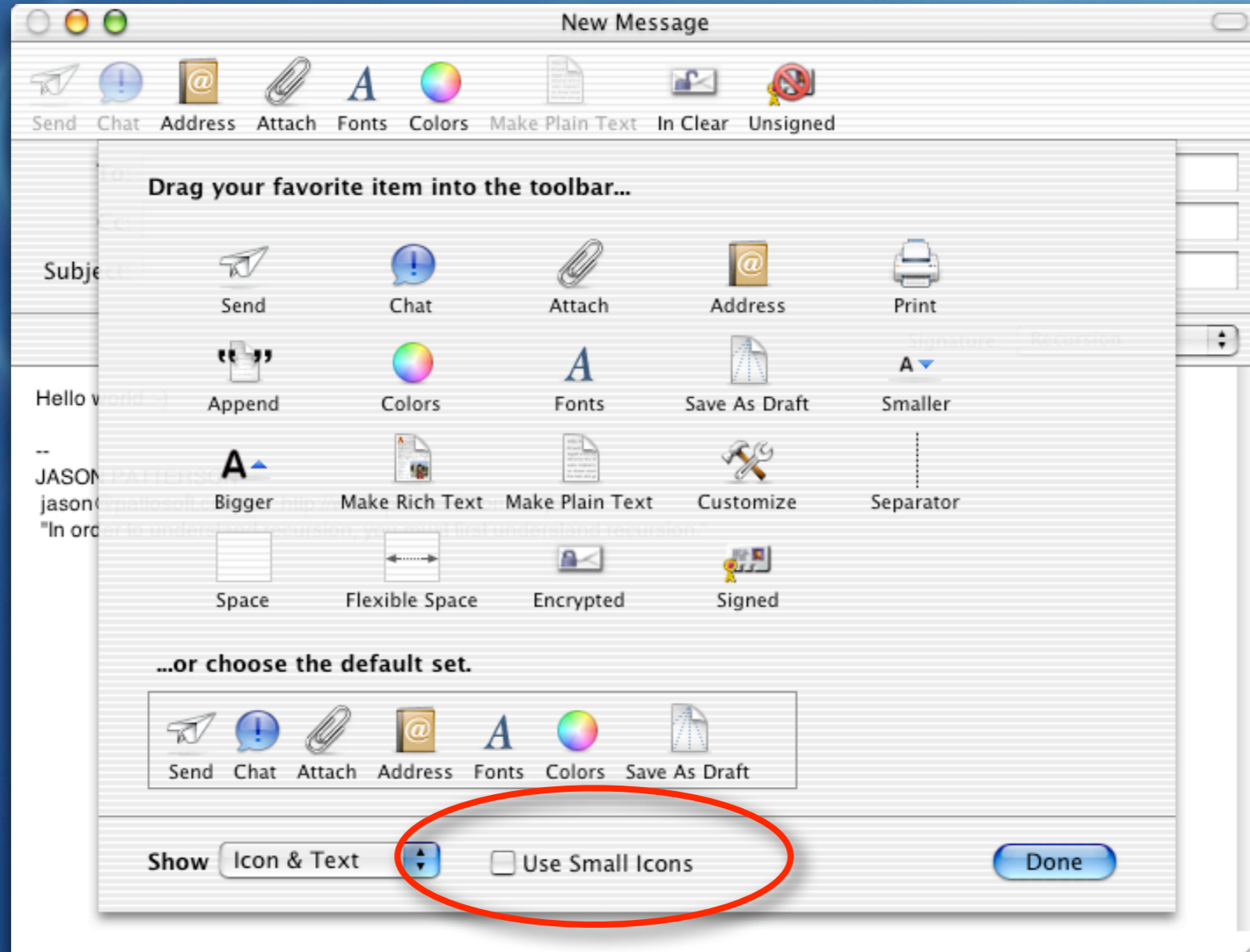


Customizable Toolbars





Customizable Toolbars





Slide-Out Sidebars

The screenshot shows an email client window titled "In". The interface includes a toolbar with icons for Delete, Junk, Reply, Forward, Redirect, Compose, Get Mail, and Mailboxes. A search bar is labeled "Subject" and "Search 'In'". Below the toolbar, there are 277 messages listed in a table. The selected message (row 18) is highlighted in green. The message content is displayed below the list, showing the sender, date, recipient, and subject. A slide-out sidebar on the right side of the window shows a list of mailboxes: In, Out, Drafts, Sent, Trash, and Junk. The sidebar is currently open, showing the "In" mailbox selected.

#	From	Subject	Date Received
13	dna_del@MelbourneIT.com.au	DNS Delegation: [pattosoft.com.au]	03/25/02 8:57 AM
14	dna_del@MelbourneIT.com.au	DNS Delegation: [pattosoft.com.au]	03/25/02 8:57 AM
15	dna_del@MelbourneIT.com.au	DNS Delegation: [reflections.com.au]	03/25/02 9:07 AM
16	dna_del@MelbourneIT.com.au	DNS Delegation: [reflections.com.au]	03/25/02 9:07 AM
17	hostmaster@networksolutio...	HOST TEMPLATE: glare.pattosoft.com...	03/25/02 9:35 AM
18	by way of Keith Patterson	DNS Delegation: [reflections.com.au]	03/25/02 9:38 AM
19	by way of Keith Patterson	Registry Key for reflections.com.au	03/25/02 9:38 AM
20	hostmaster@networksolutio...	Re: [NIC-020324.18aa] Fwd: HOST TE...	03/25/02 9:46 AM

From: dna_del@MelbourneIT.com.au (by way of Keith Patterson)
Date: Mon Mar 25, 2002 9:37:28 AM Australia/Brisbane
To: Jason Patterson <jason@pattosoft.com.au>
Subject: DNS Delegation: [reflections.com.au]

Dear Sir/Madam,

Melbourne IT* has received a request to change the delegation for the domain name the .com.au domain name listed in the subject line of this email.

If you feel this application has been lodged without the approval of the licence-holder, please reply to this email and append the words 'URGENT SUSPENSION' in the subject field. Please do NOT overwrite the original subject.

Please note that delegation requests are processed regularly. Once a valid authorisation for this change has been received in our system the redelegation will be processed. This may have already occurred if and when you send an iURGENT SUSPENSIONi response.

Following are the server details in the application:
From : jason@pattosoft.com.au
Date : 1005 25/3/2002



Slide-Out Sidebars

The screenshot shows an email client window titled "In". The interface includes a toolbar with icons for Delete, Junk, Reply, Forward, Redirect, Compose, Get Mail, and Mailboxes. A search bar is labeled "Subject" and "Search 'In'". Below the toolbar, there are 277 messages listed in a table. The selected message (row 18) is highlighted in green. The message content is displayed below the list, showing the sender, date, recipient, and subject. The slide-out sidebar on the right contains a list of folders: In, Out, Drafts, Sent, Trash, and Junk. A red arrow points to the sidebar.

#	From	Subject	Date Received
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14	dna_del@MelbourneIT.com.au	DNS Delegation: [pattosoft.com.au]	03/25/02 8:57 AM
15	dna_del@MelbourneIT.com.au	DNS Delegation: [reflections.com.au]	03/25/02 9:07 AM
16	dna_del@MelbourneIT.com.au	DNS Delegation: [reflections.com.au]	03/25/02 9:07 AM
17	hostmaster@networksolutio...	HOST TEMPLATE: glare.pattosoft.com...	03/25/02 9:35 AM
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Following are the server details in the application:
From : jason@pattosoft.com.au
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Slide-Out Sidebars

The screenshot shows an email client window titled "In". The top toolbar includes buttons for Delete, Junk, Reply, Forward, Redirect, Compose, and Get Mail, along with a search field labeled "Subject" and a "Mailboxes" button circled in red. A red arrow points to the "Mailboxes" button. Below the toolbar is a list of 277 messages. The selected message (row 18) is highlighted in green. The message content is displayed below the list.

#	From	Subject	Date Received
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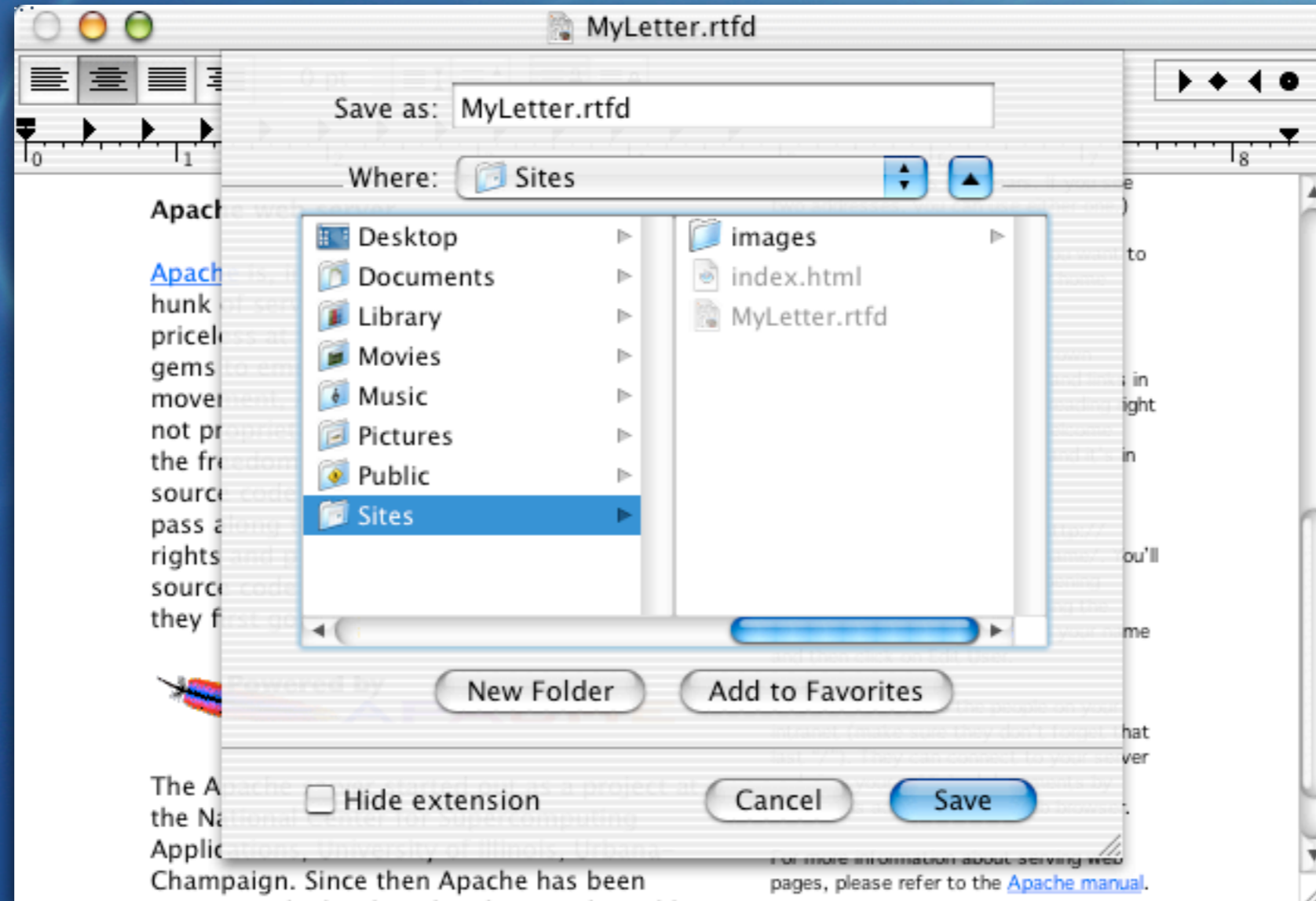
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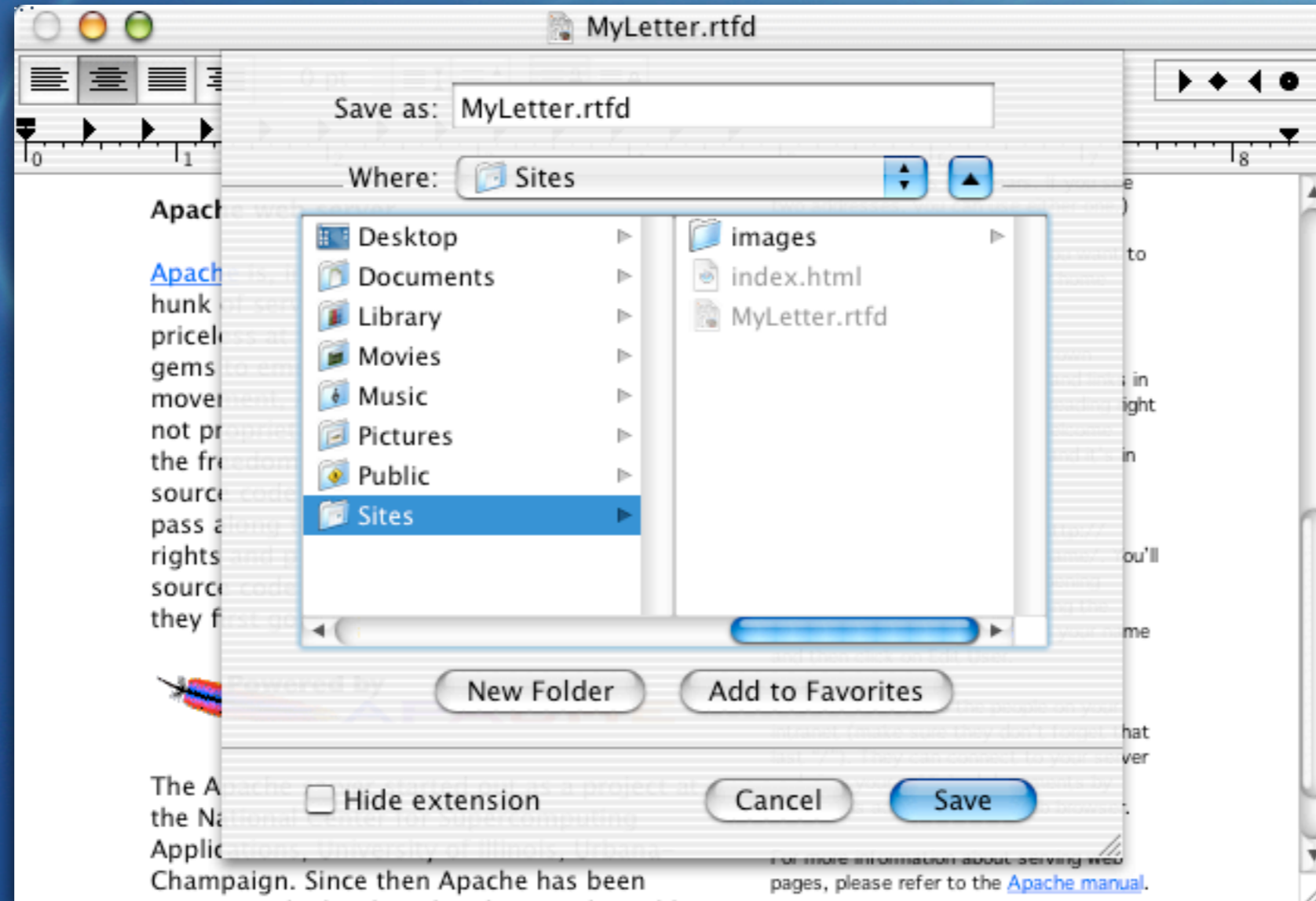


Non-Modal Sheet Dialogs



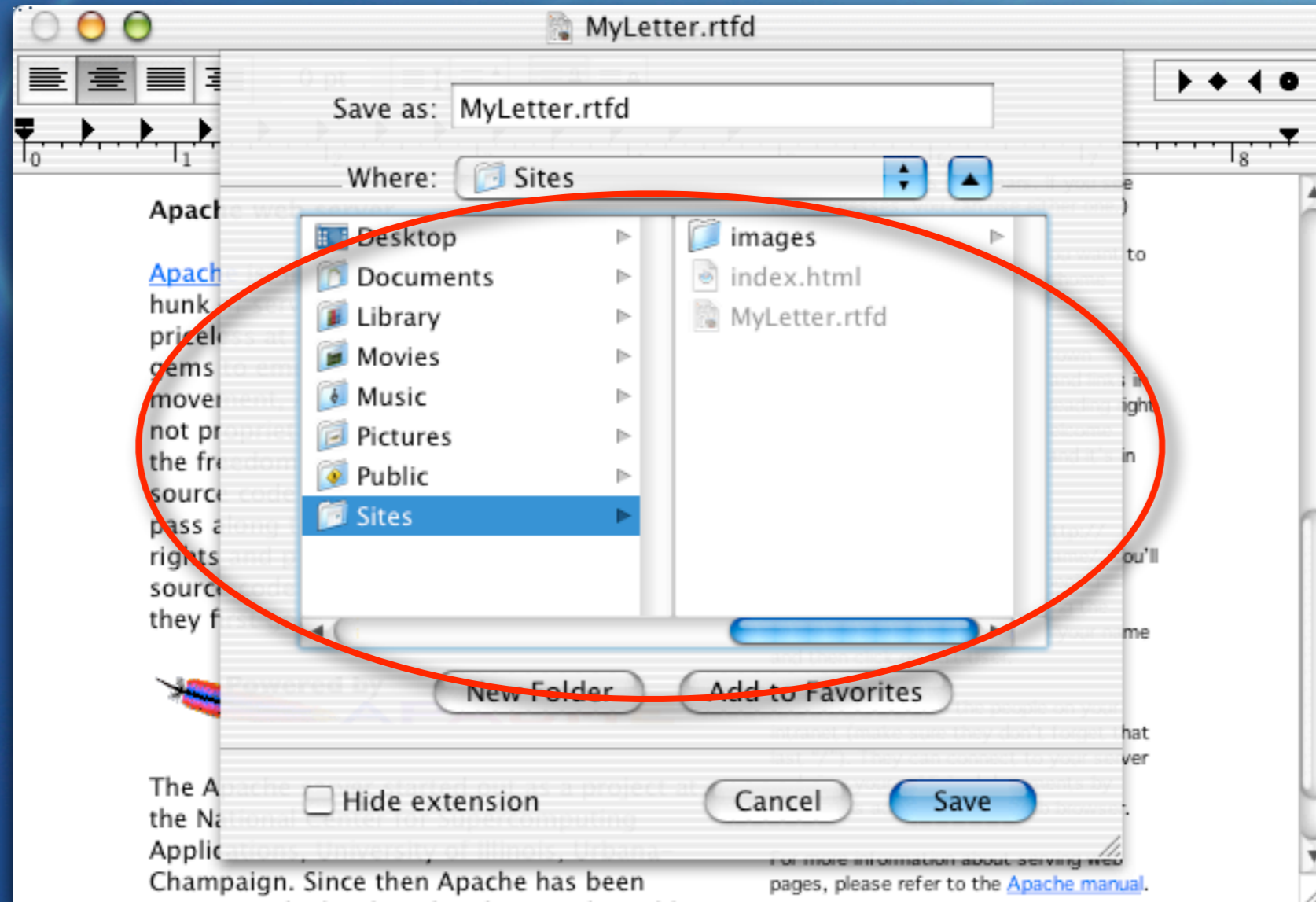


Column File Requester



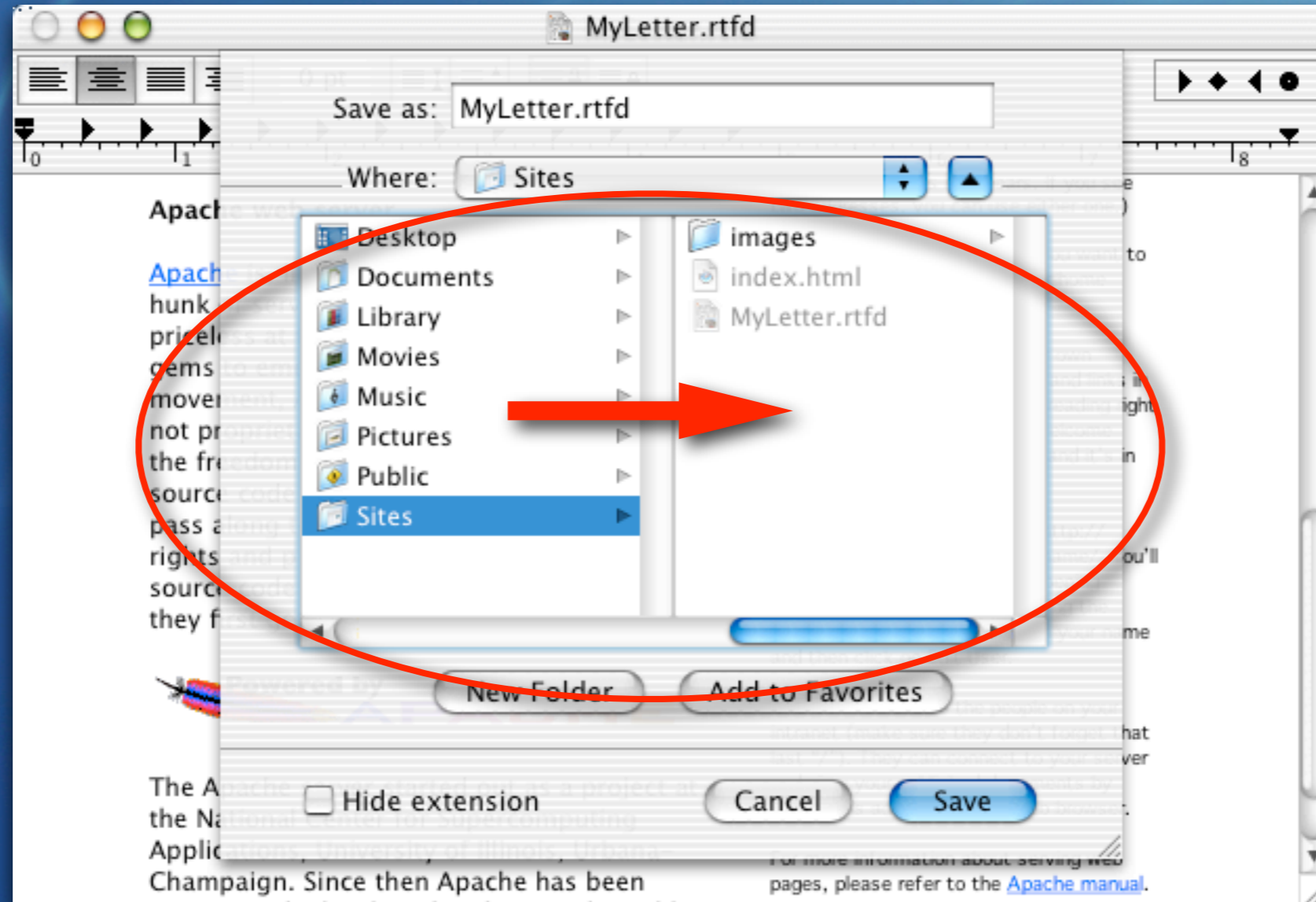


Column File Requester



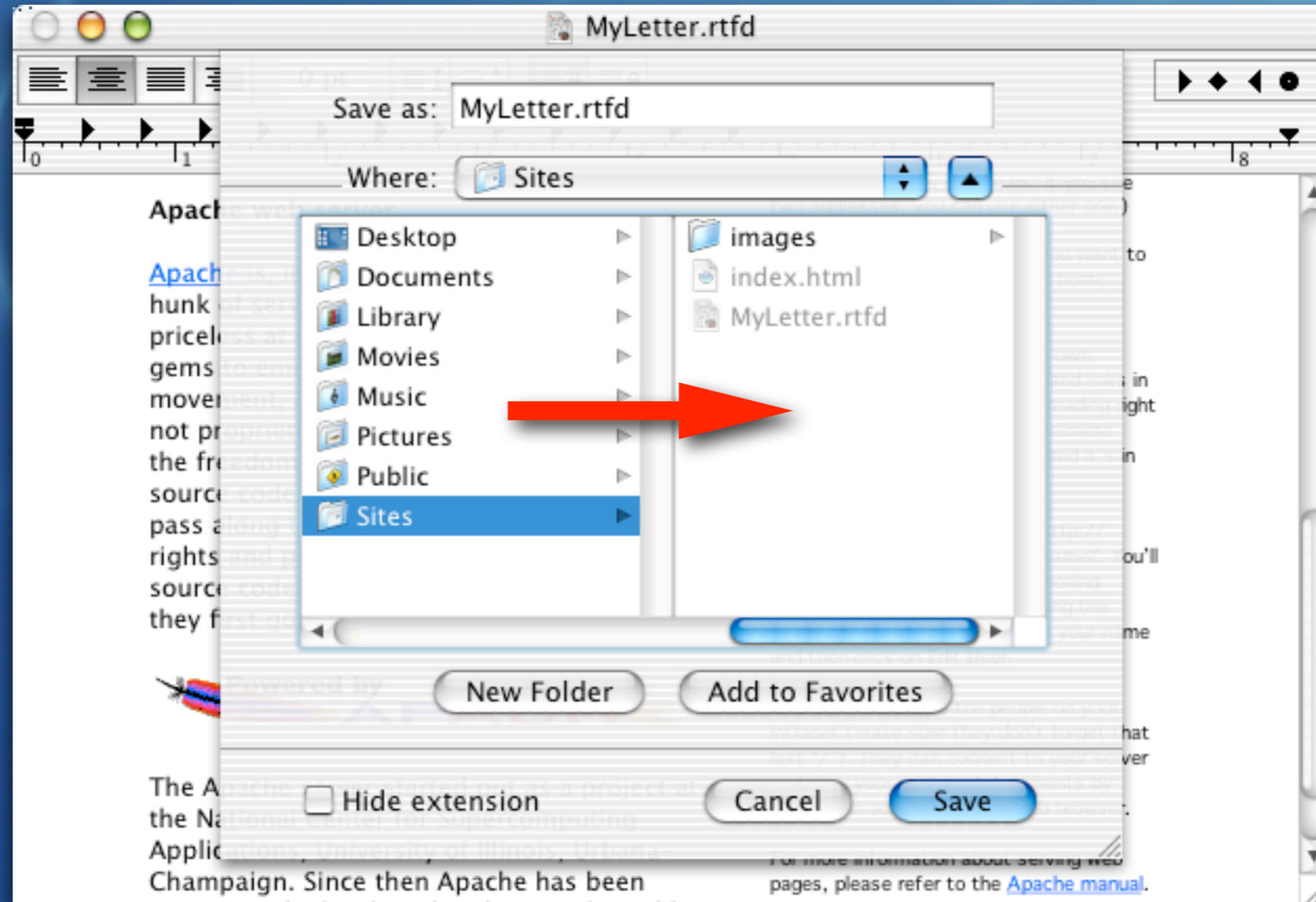


Column File Requester



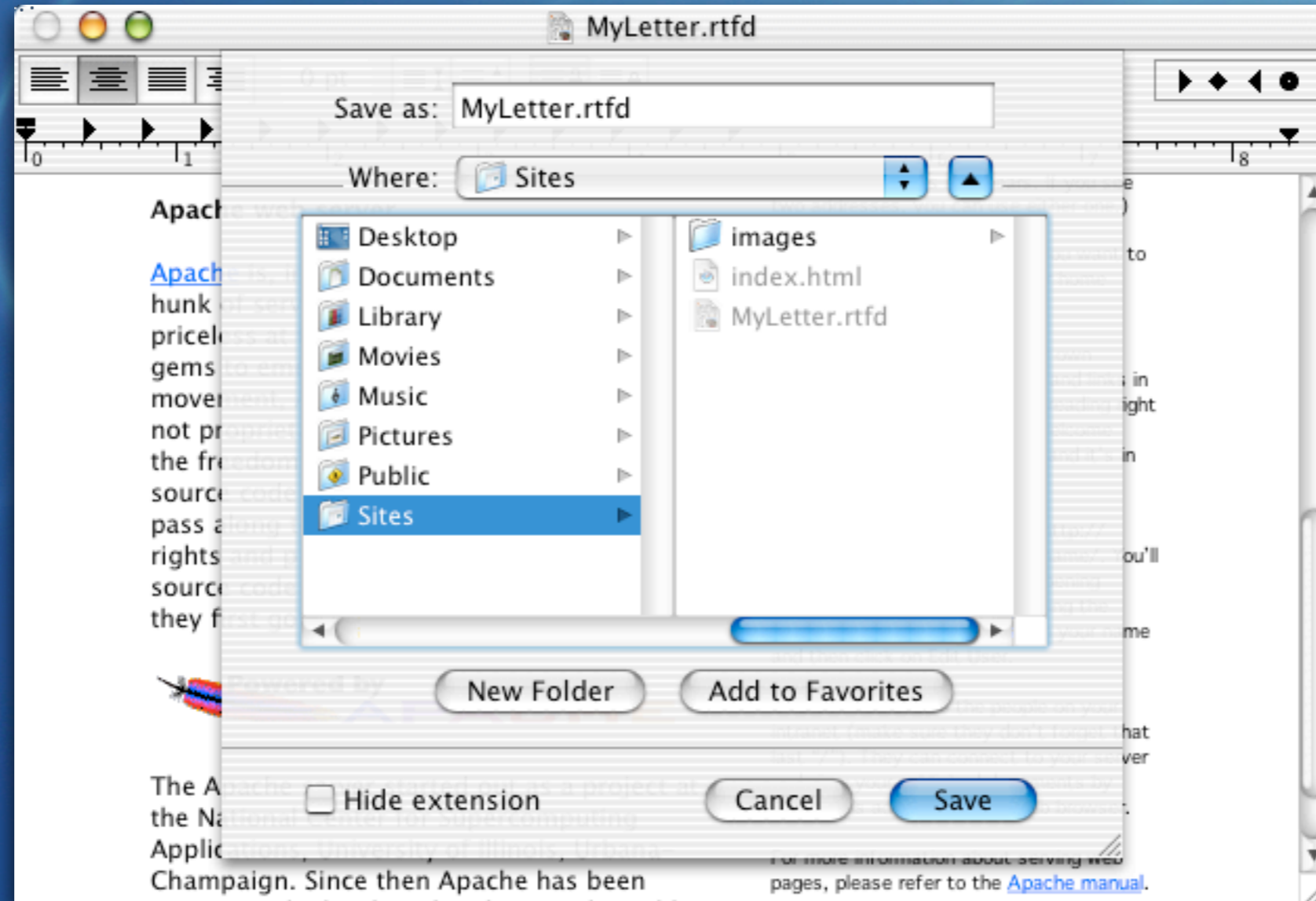


Column File Requester



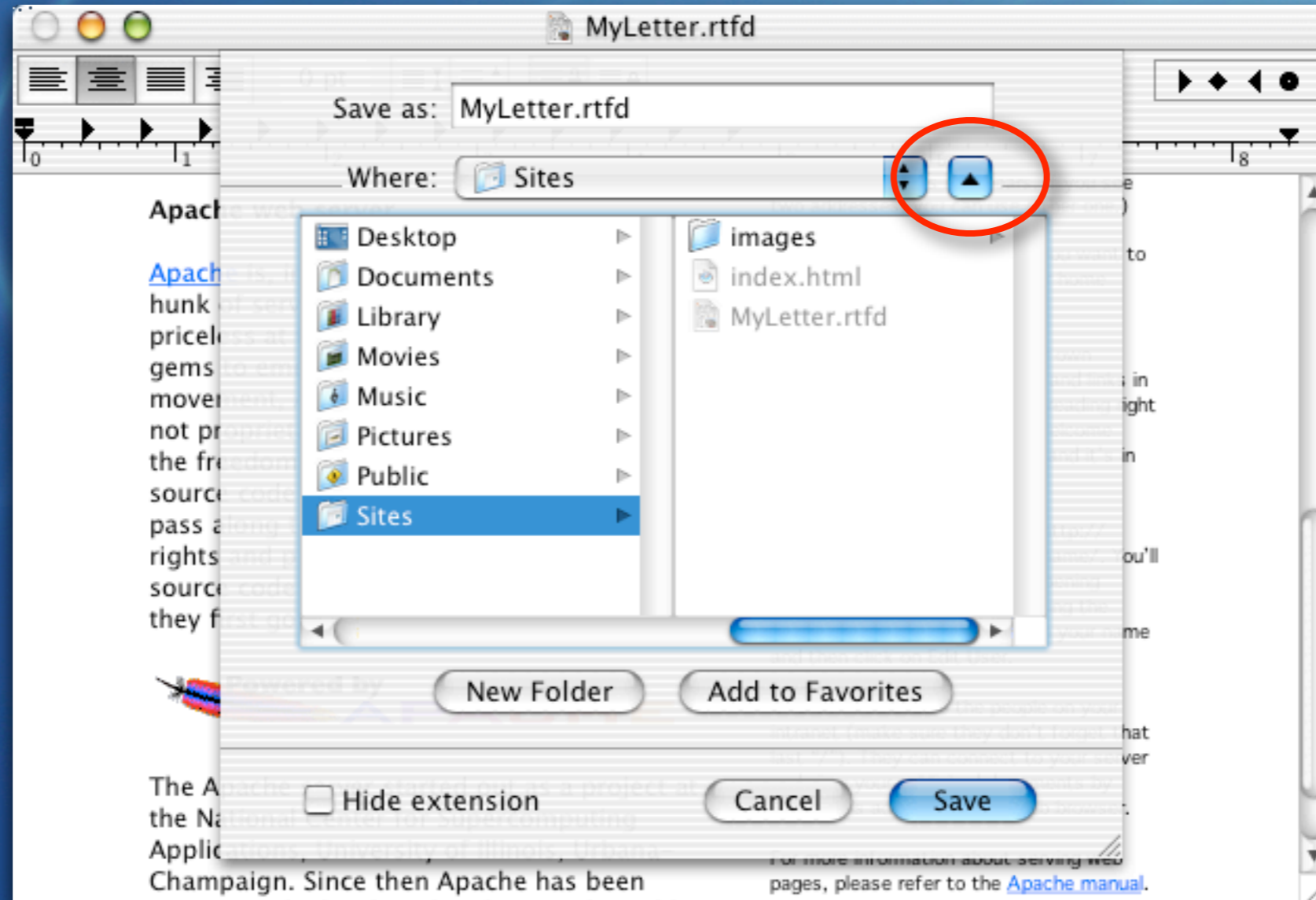


Column File Requester



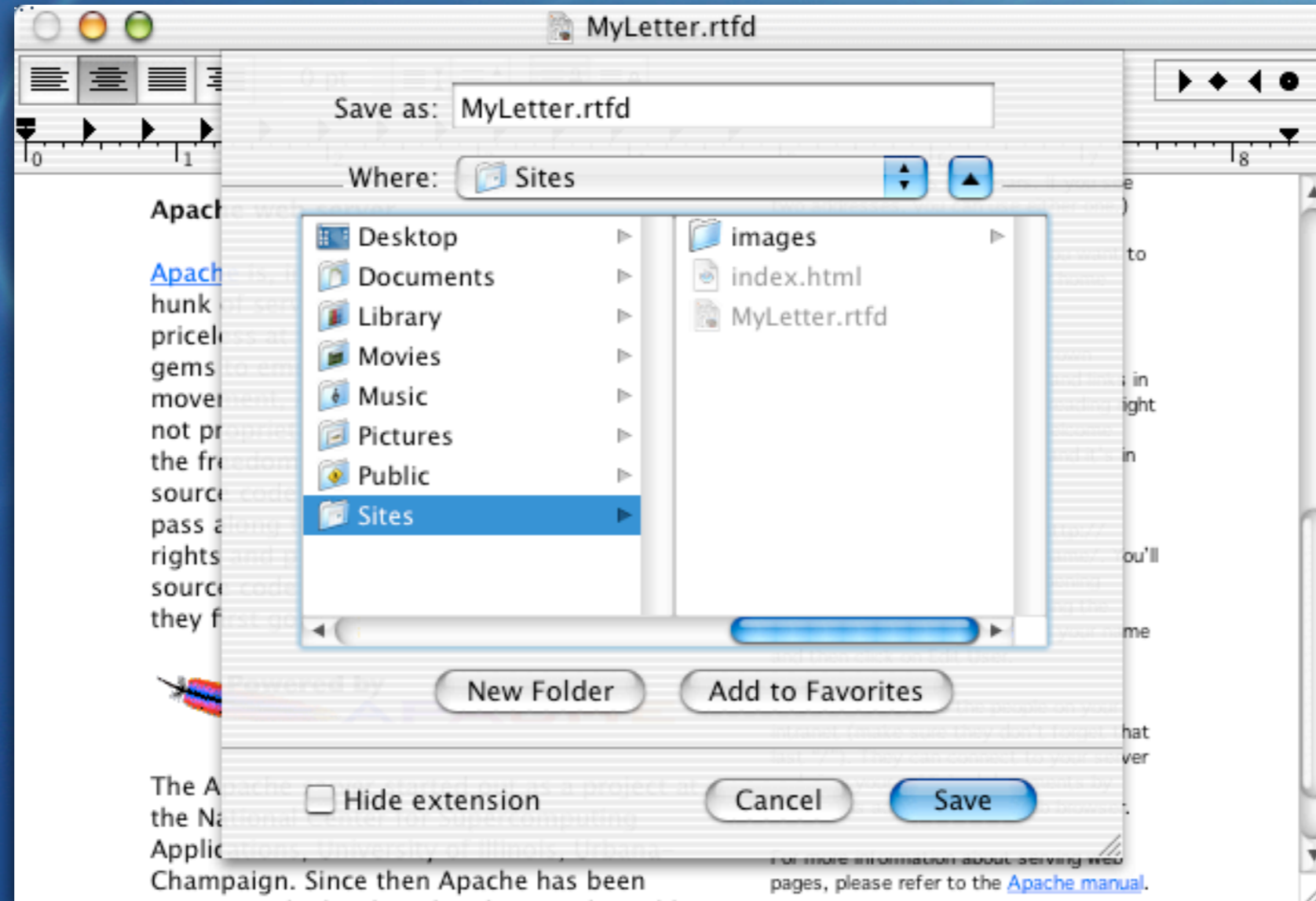


Column File Requester



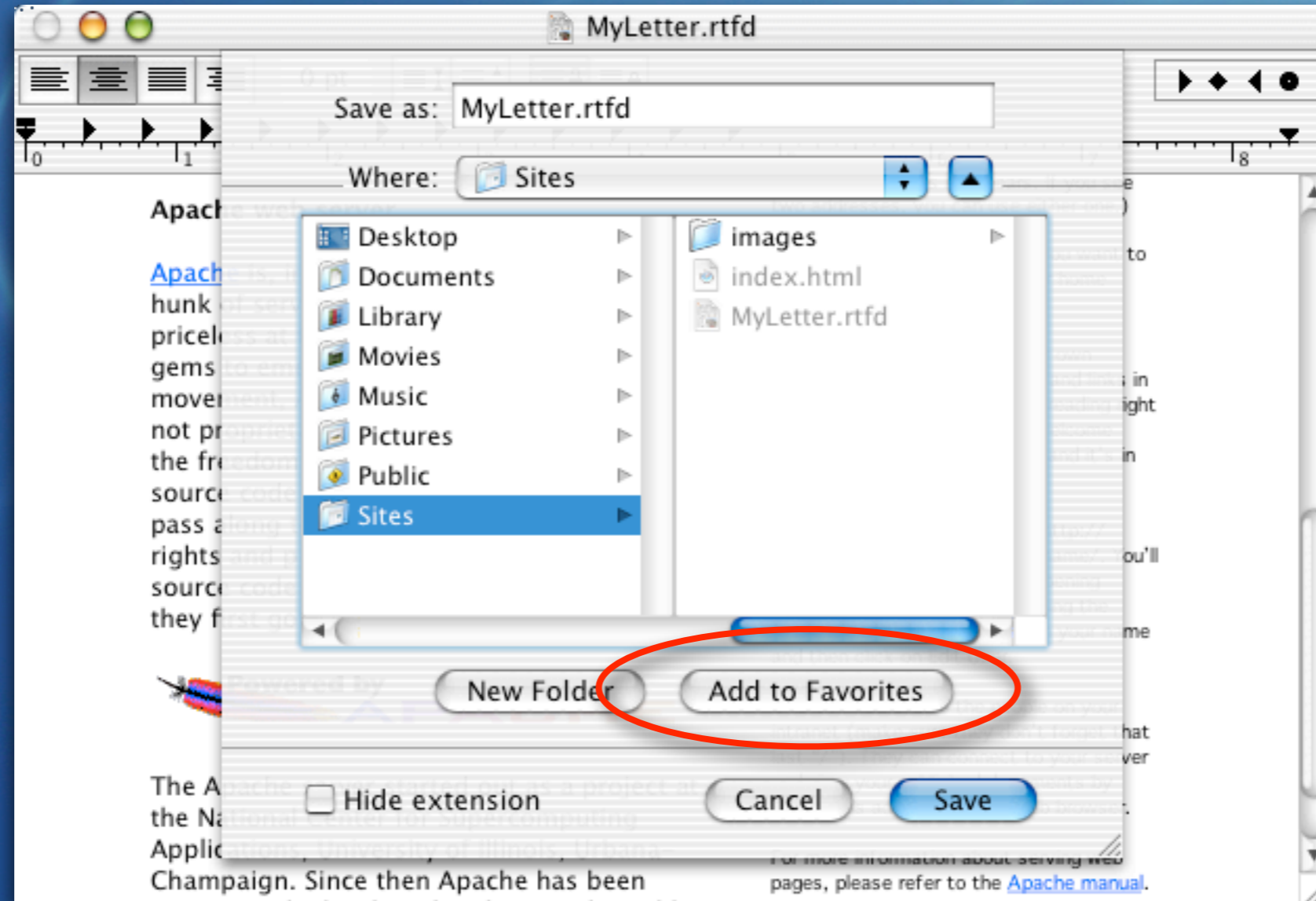


Column File Requester



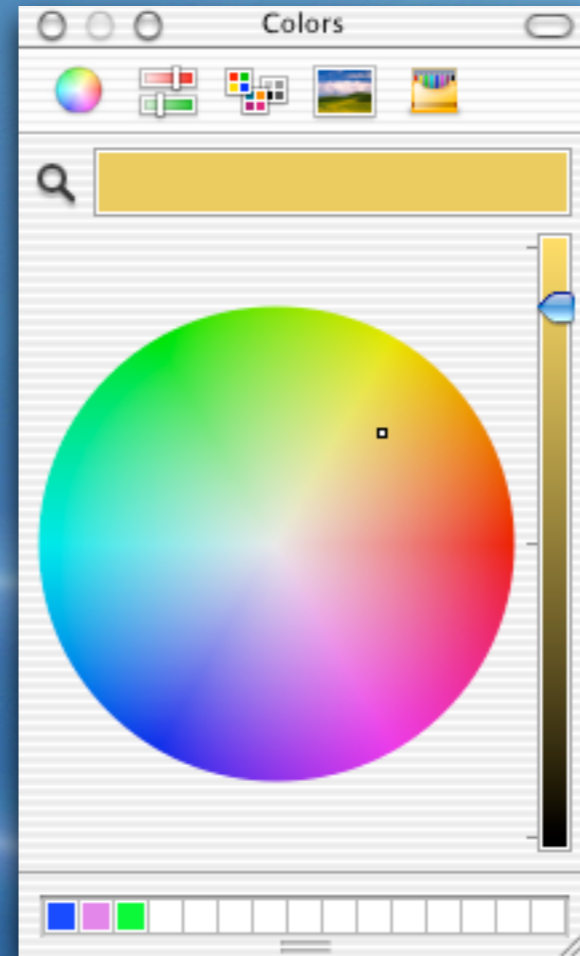
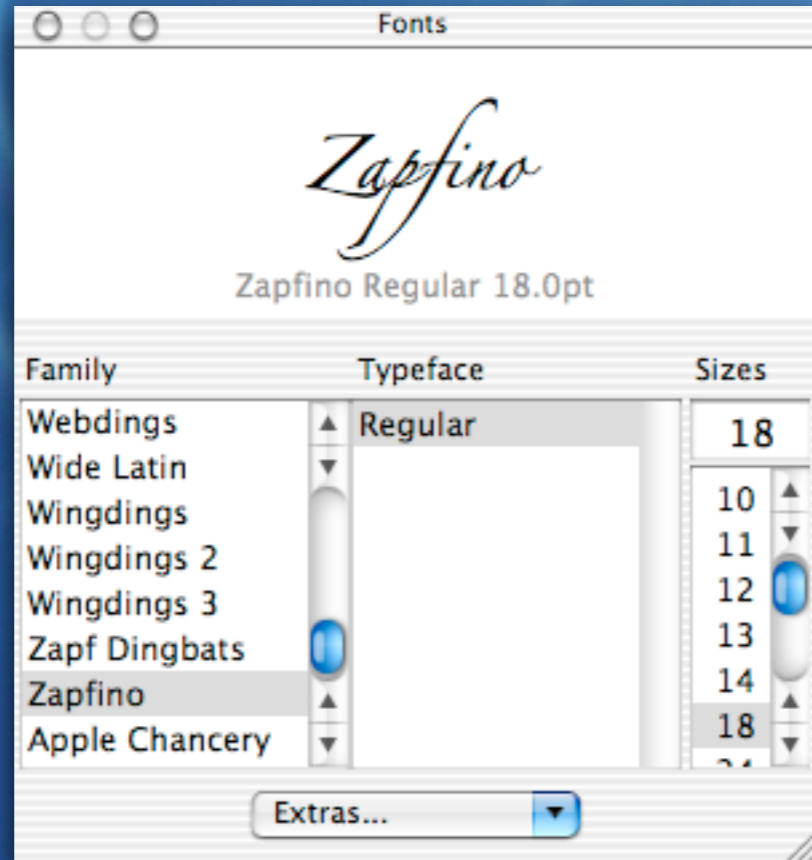


Column File Requester



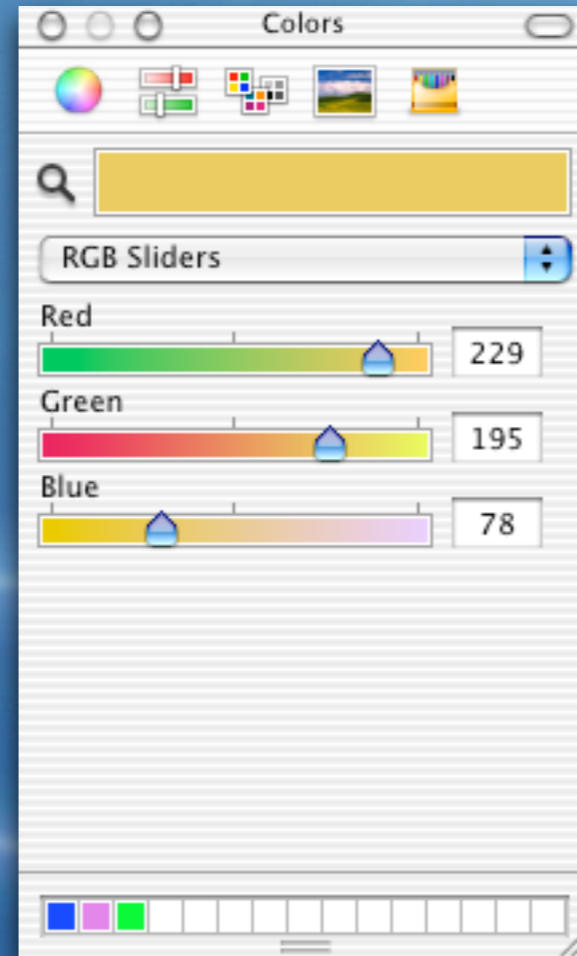
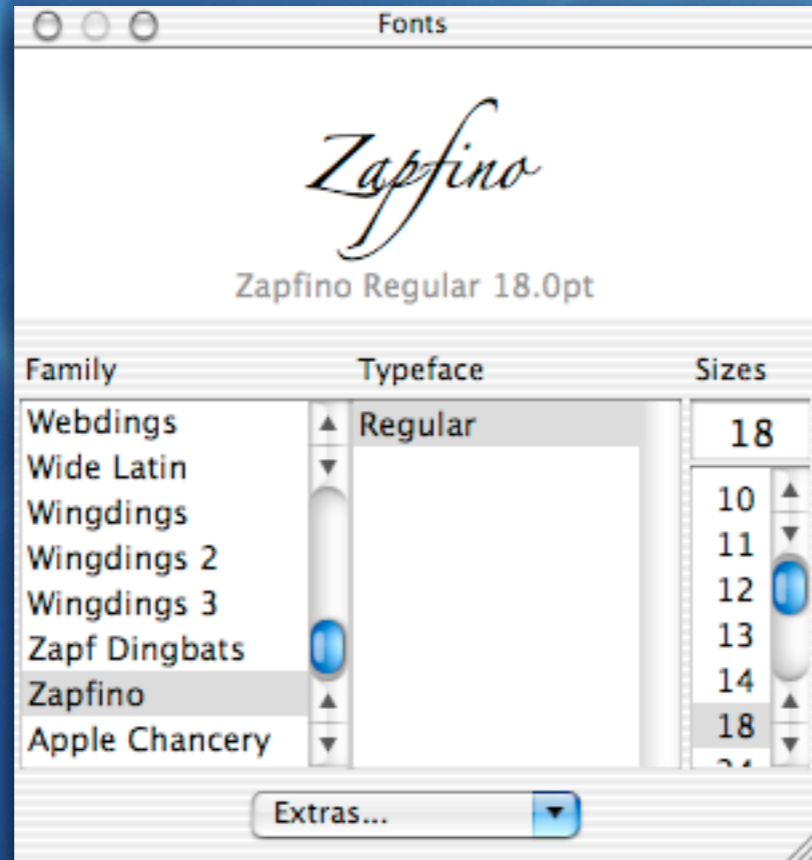


Font & Color Dialogs



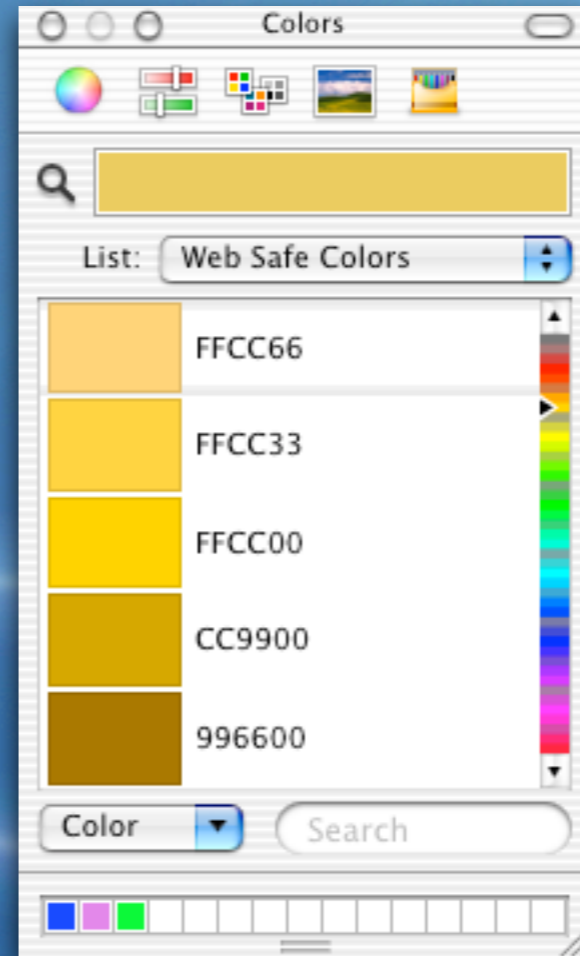
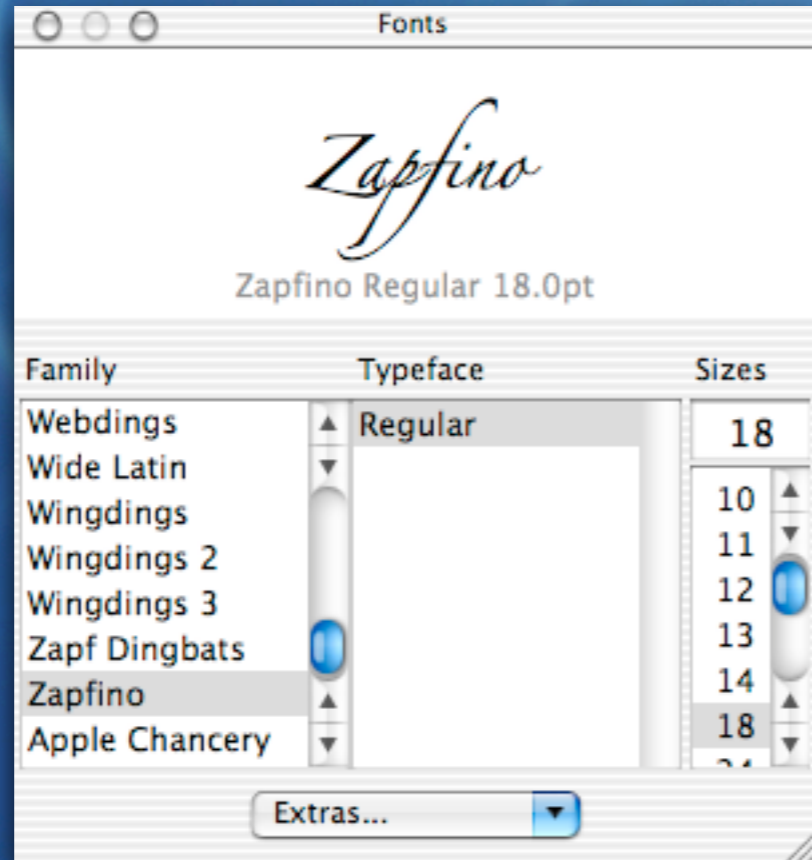


Font & Color Dialogs



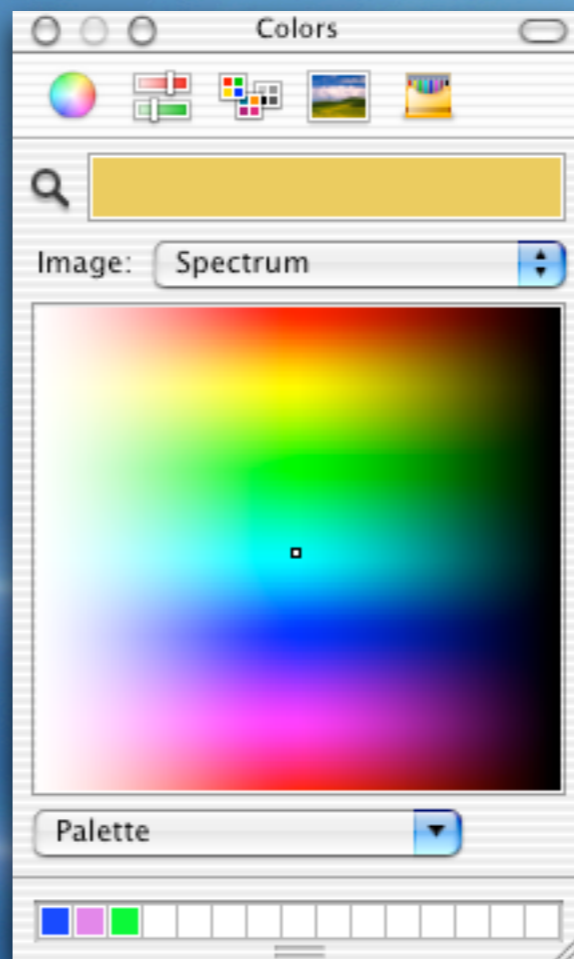
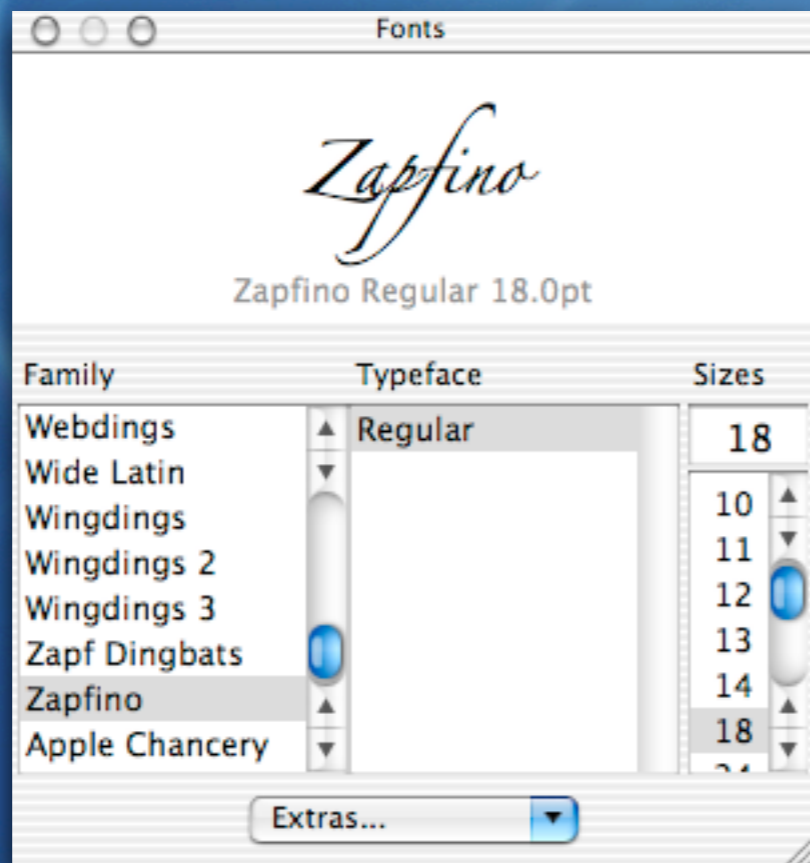


Font & Color Dialogs



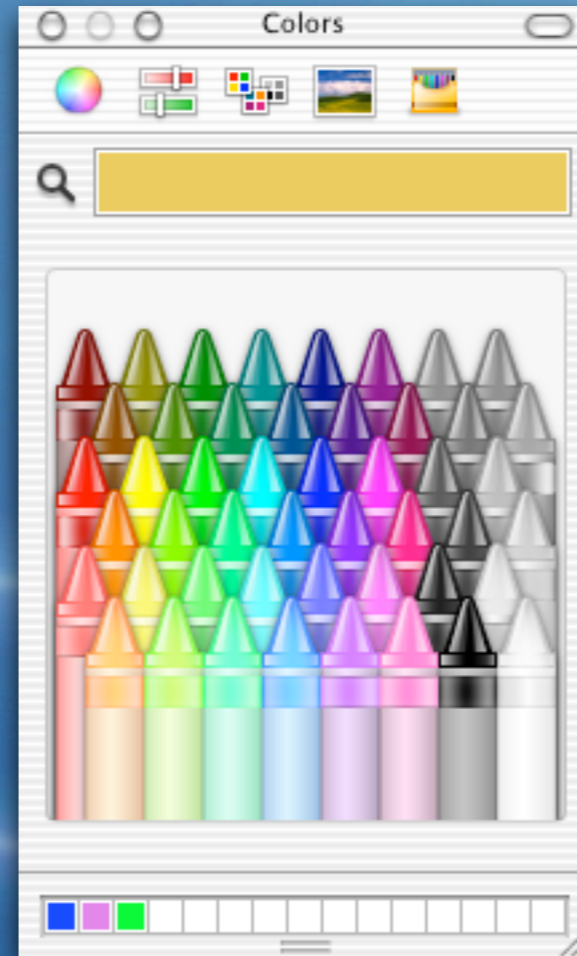
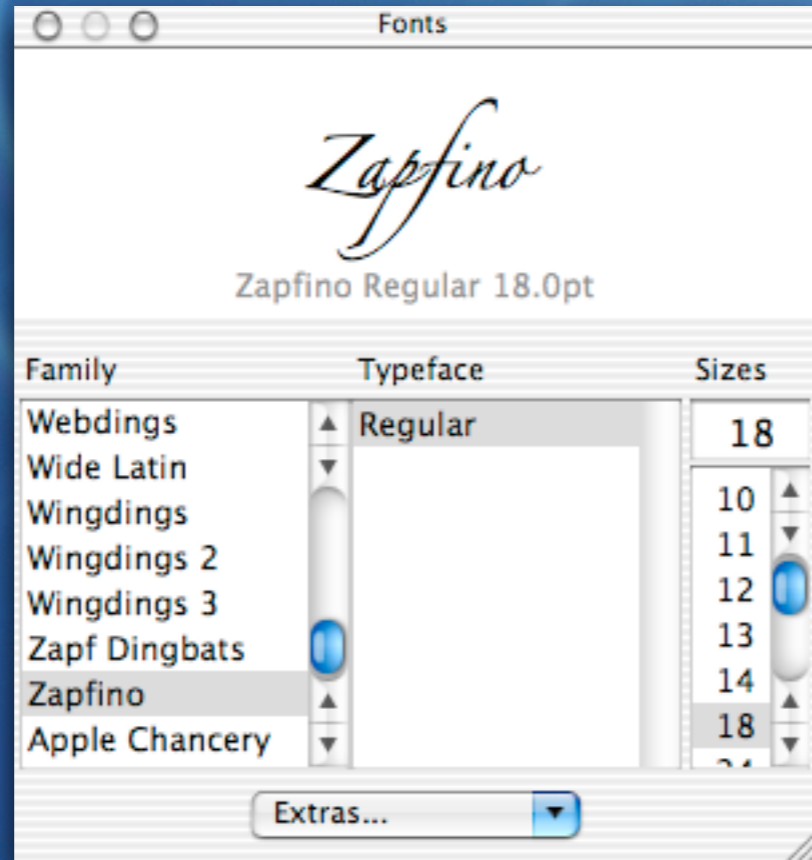


Font & Color Dialogs



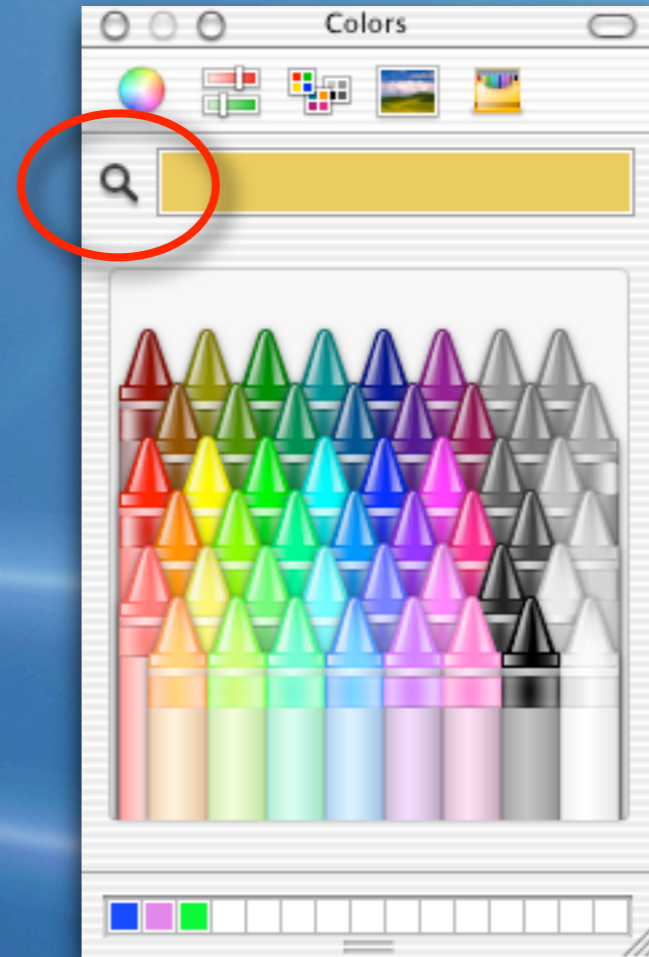
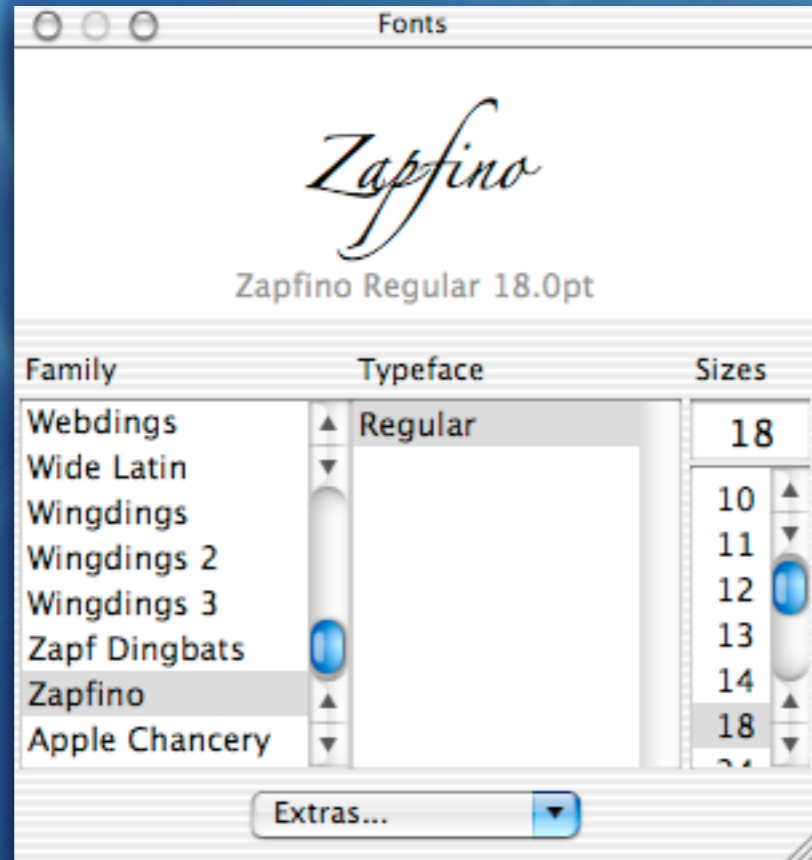


Font & Color Dialogs



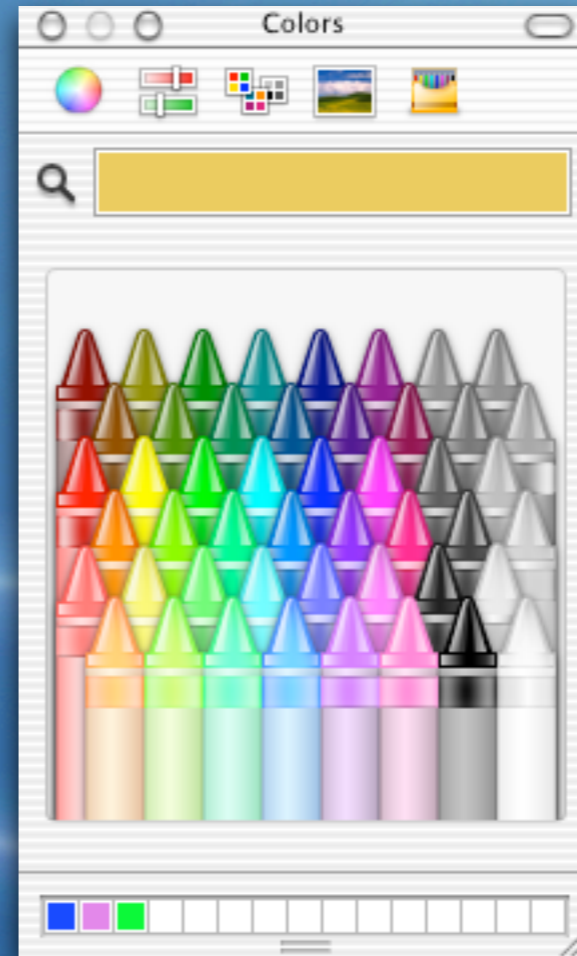
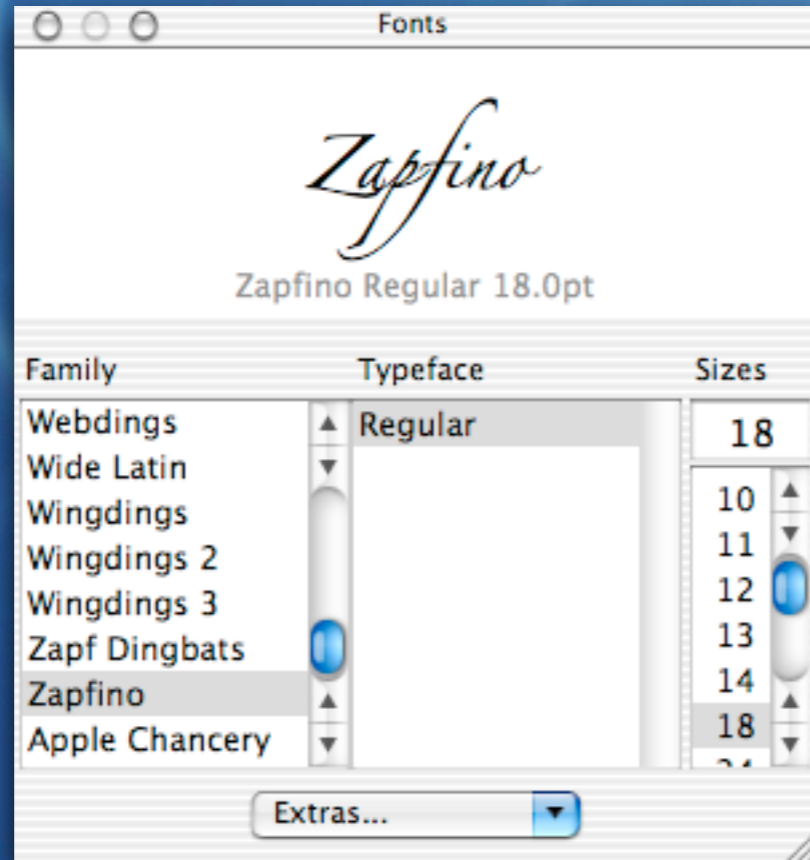


Font & Color Dialogs



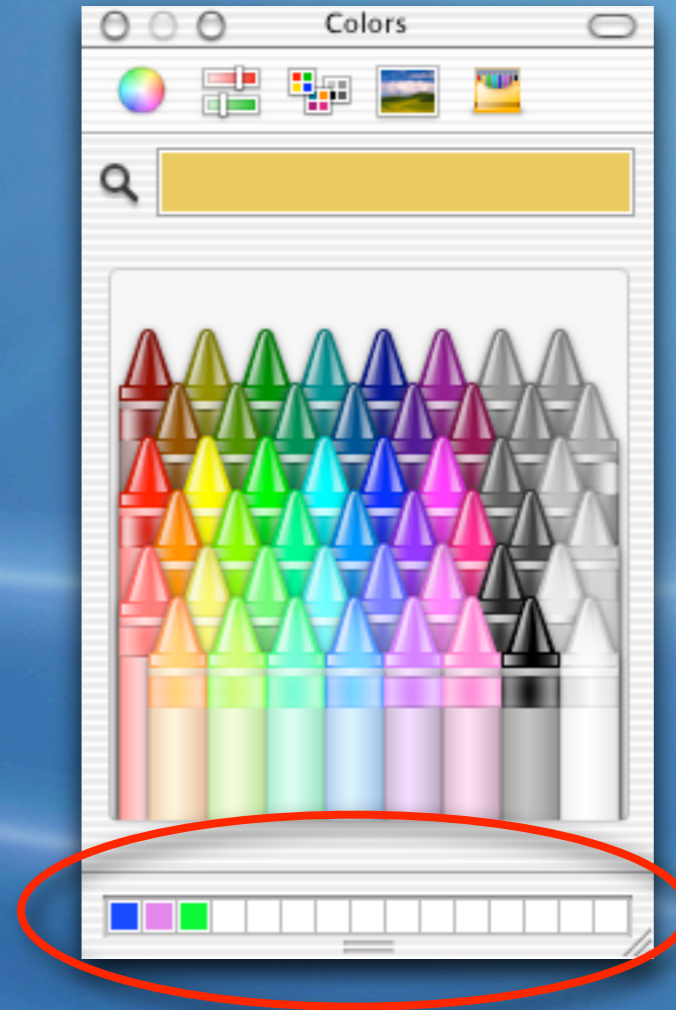
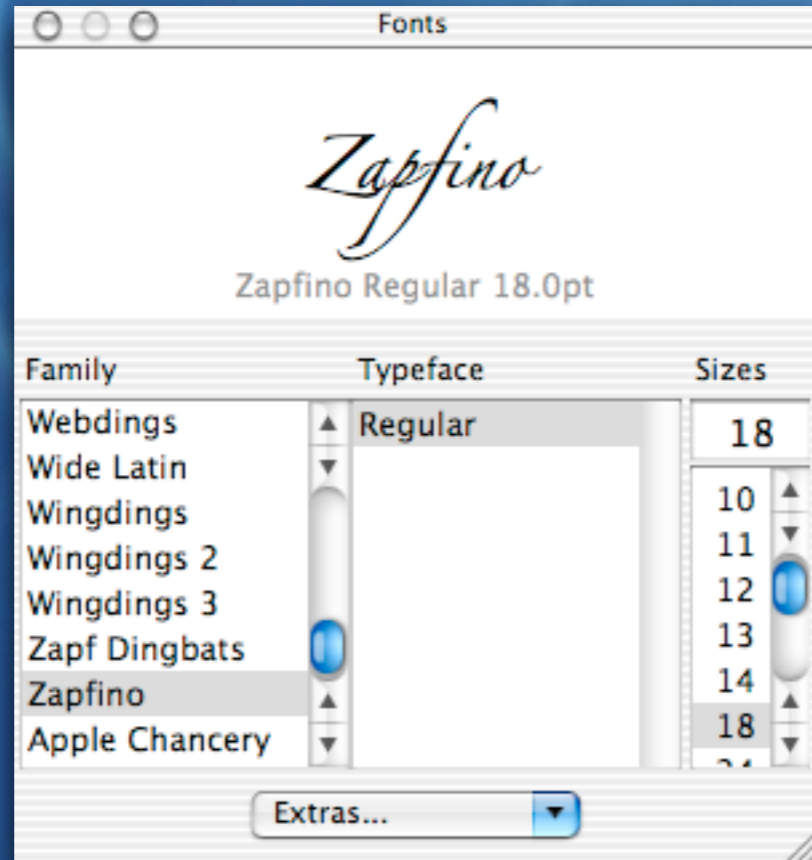


Font & Color Dialogs





Font & Color Dialogs



X

The Dock



X

The Dock



- Replaces both Launcher and Application Menu

X

The Dock



- Replaces both Launcher and Application Menu
- Windows iconify to the Dock (with cool animation)

X

The Dock



- Replaces both Launcher and Application Menu
- Windows iconify to the Dock (with cool animation)
- Can be placed on any side of screen

X

The Dock



- Replaces both Launcher and Application Menu
- Windows iconify to the Dock (with cool animation)
- Can be placed on any side of screen
- Automatic hide/show and magnification

X

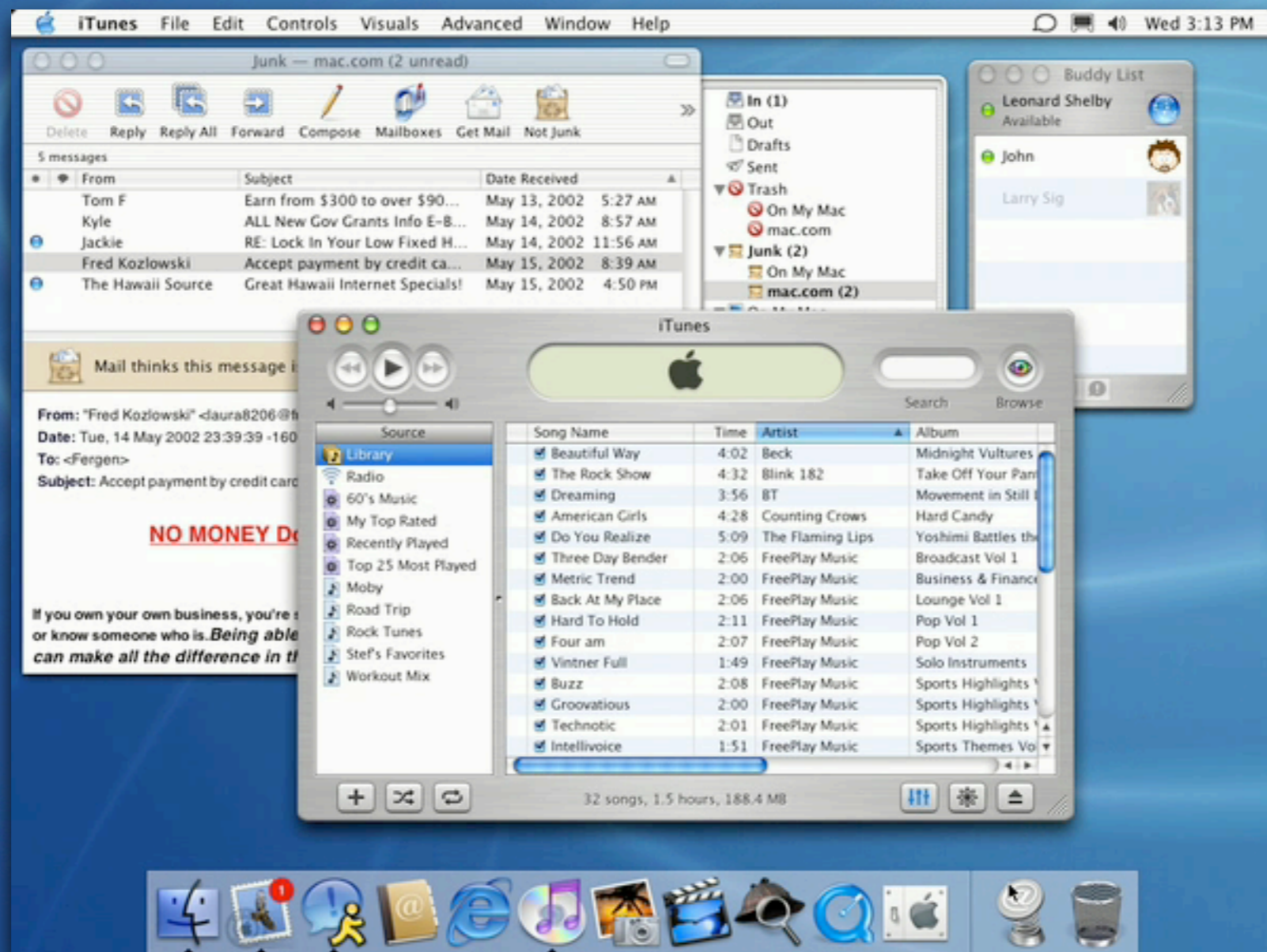
The Dock



- Replaces both Launcher and Application Menu
- Windows iconify to the Dock (with cool animation)
- Can be placed on any side of screen
- Automatic hide/show and magnification
- Some apps not “Dock-aware” (window positions)

X

The Dock





Browser-Style Finder



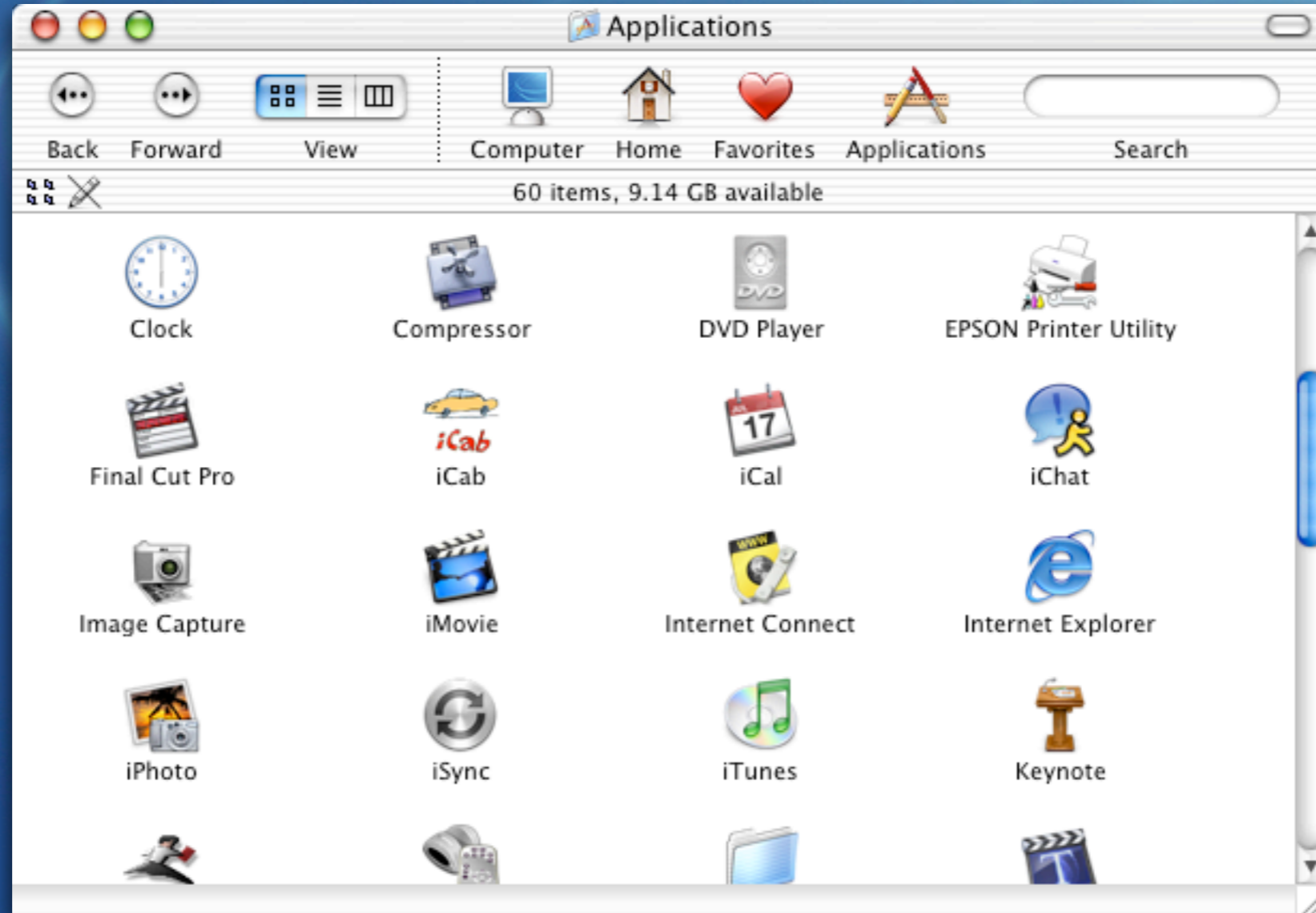


Browser-Style Finder



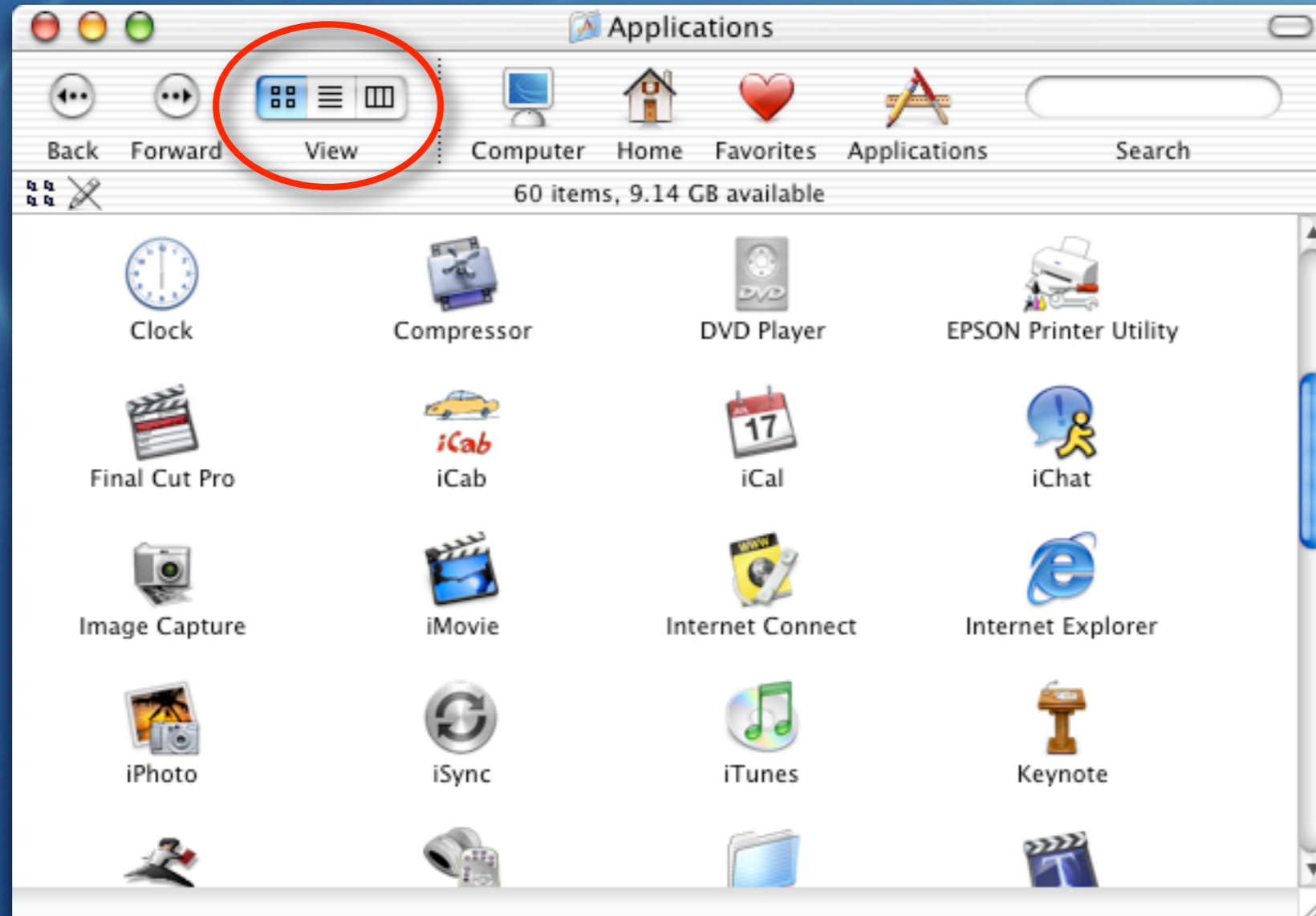


Browser-Style Finder





Browser-Style Finder



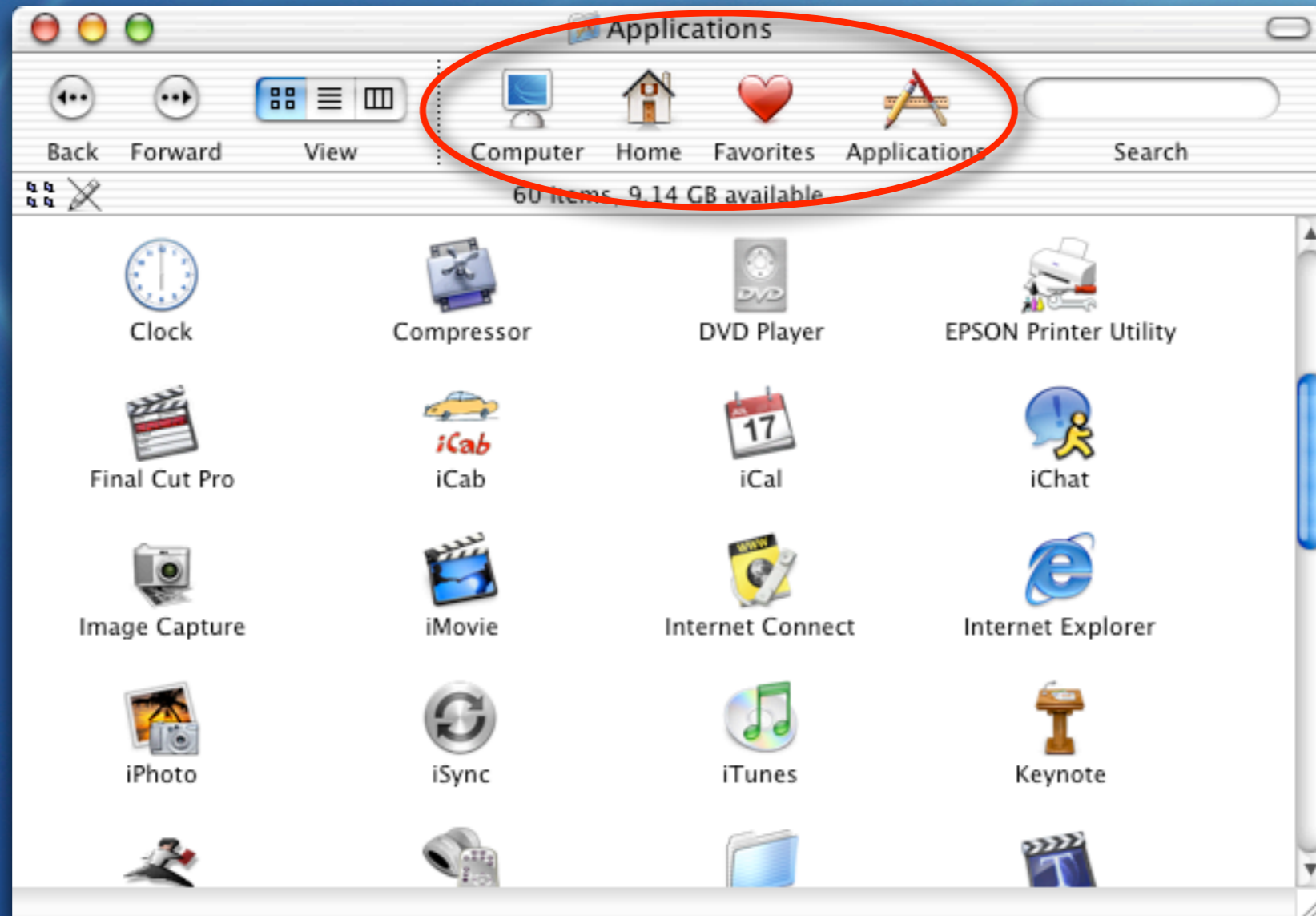


Browser-Style Finder



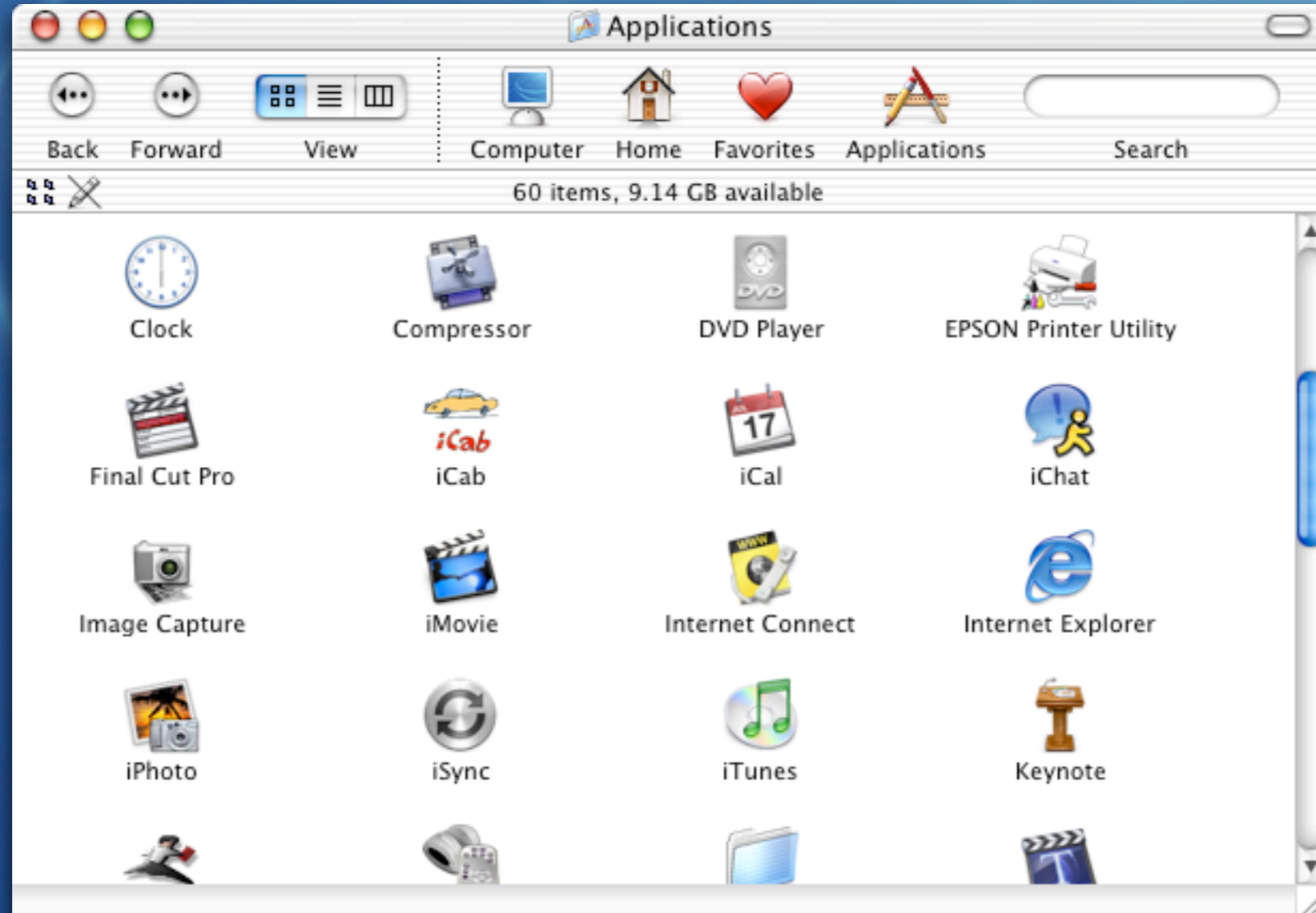


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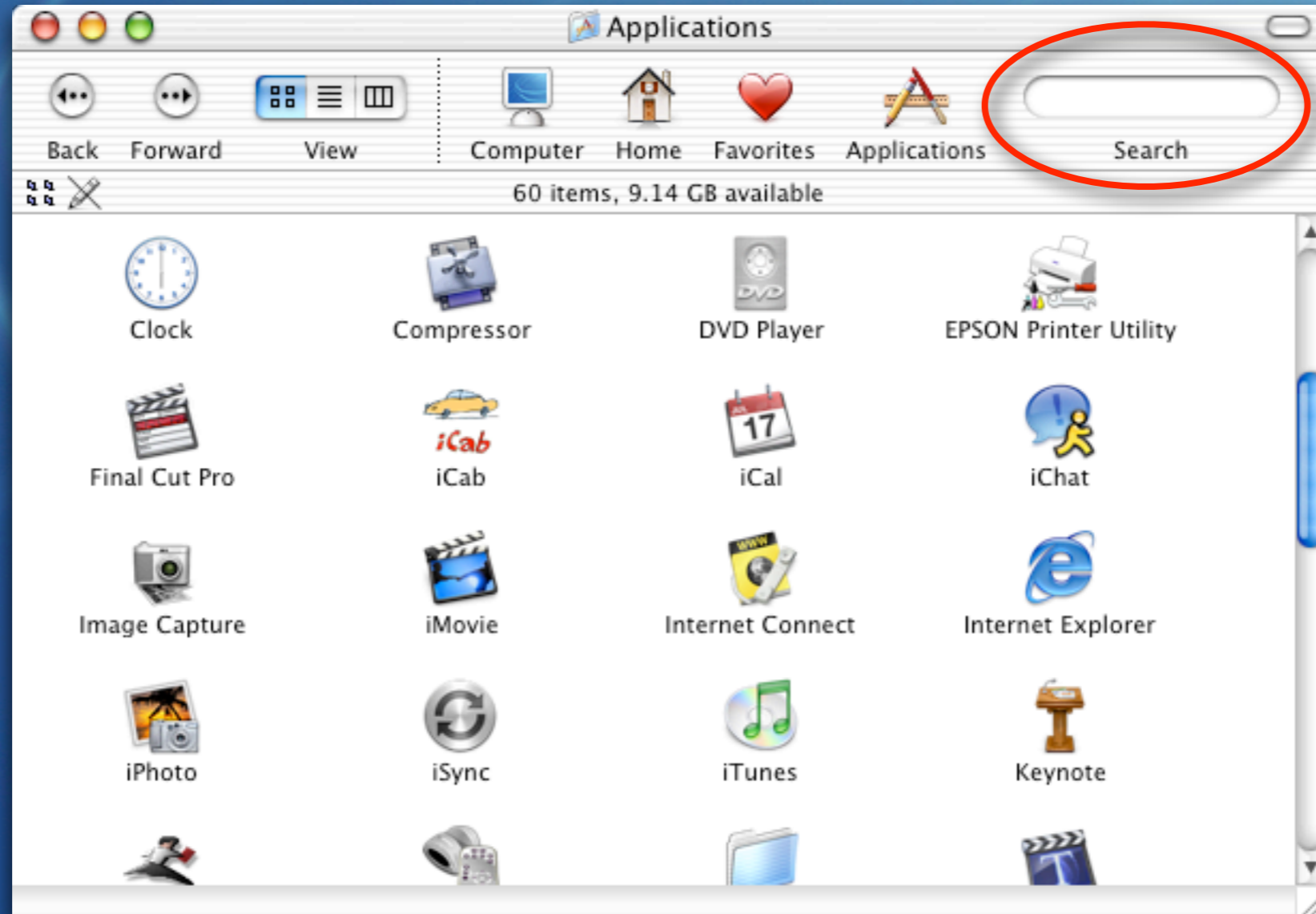


Browser-Style Finder



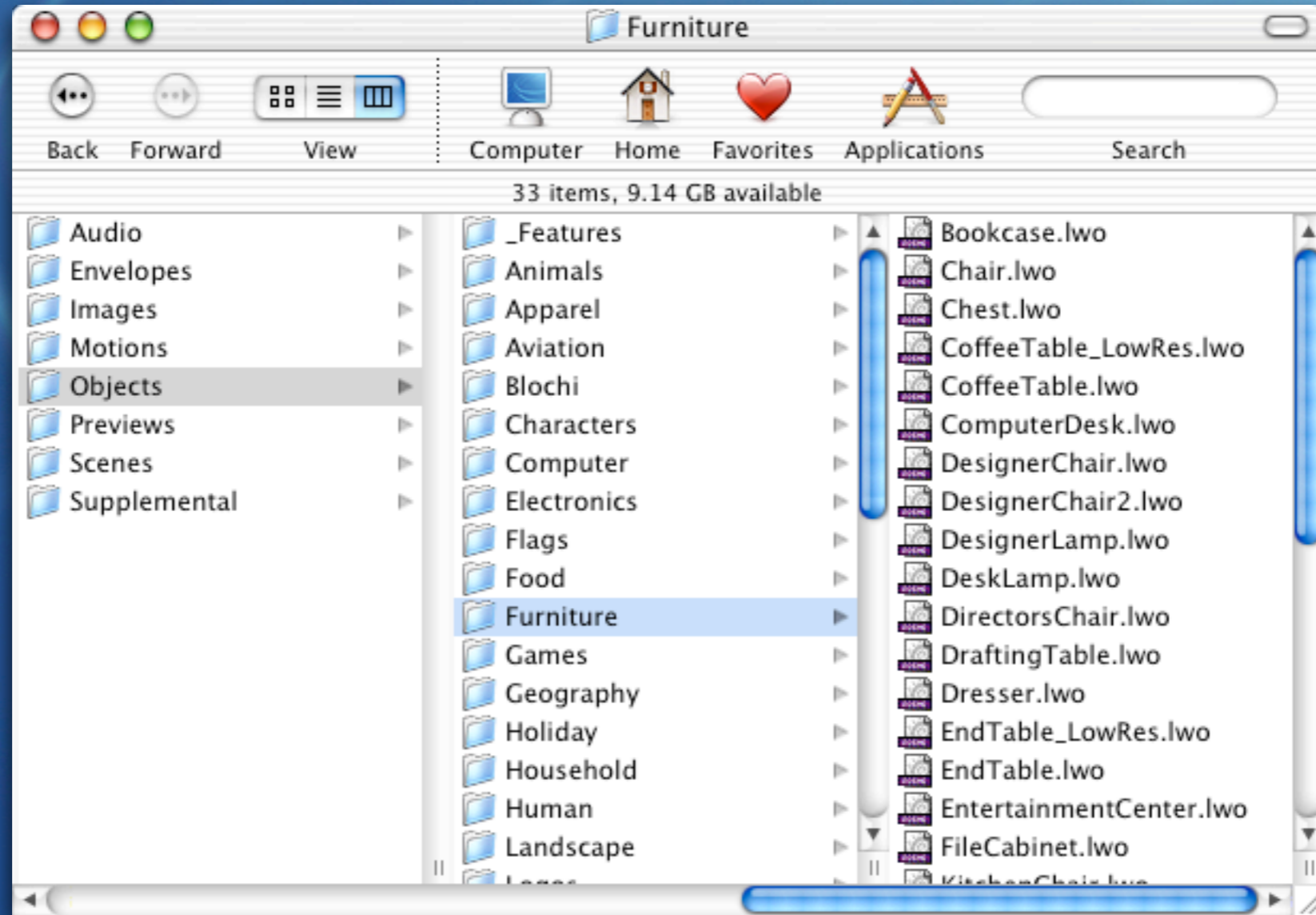


Browser-Style Finder



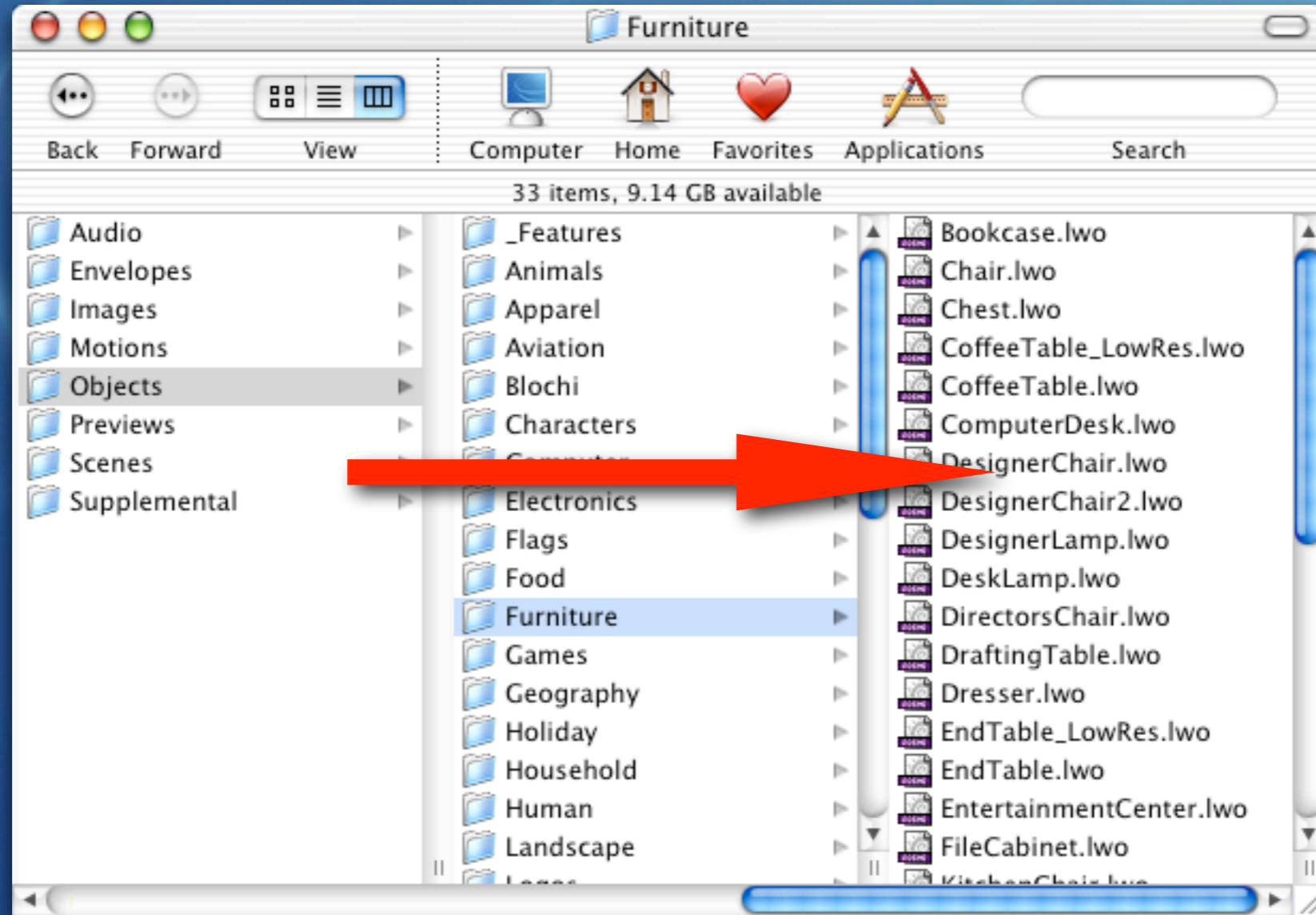


Finder Column View





Finder Column View





Application Packages



Application Packages



Netscape



Application Packages



Netscape

is really...



Application Packages



Netscape

is really...



Netscape.app



Application Packages



Netscape

is really...



Netscape.app

- Problem - too many files (but all related)



Application Packages



Netscape

is really...



Netscape.app

- Problem - too many files (but all related)
- Folders with special extensions are viewed as files



Application Packages



Netscape

is really...



Netscape.app

- Problem - too many files (but all related)
- Folders with special extensions are viewed as files (.app, .plugin, .bundle, .framework, .kext ...)



Application Packages



Netscape

is really...



Netscape.app

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- So, not all files are really files now



Application Packages



Netscape

is really...



Netscape.app

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- Folders with special extensions are viewed as files (.app, .plugin, .bundle, .framework, .kext ...)
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- You don't need to know (mostly)



Application Packages



Netscape

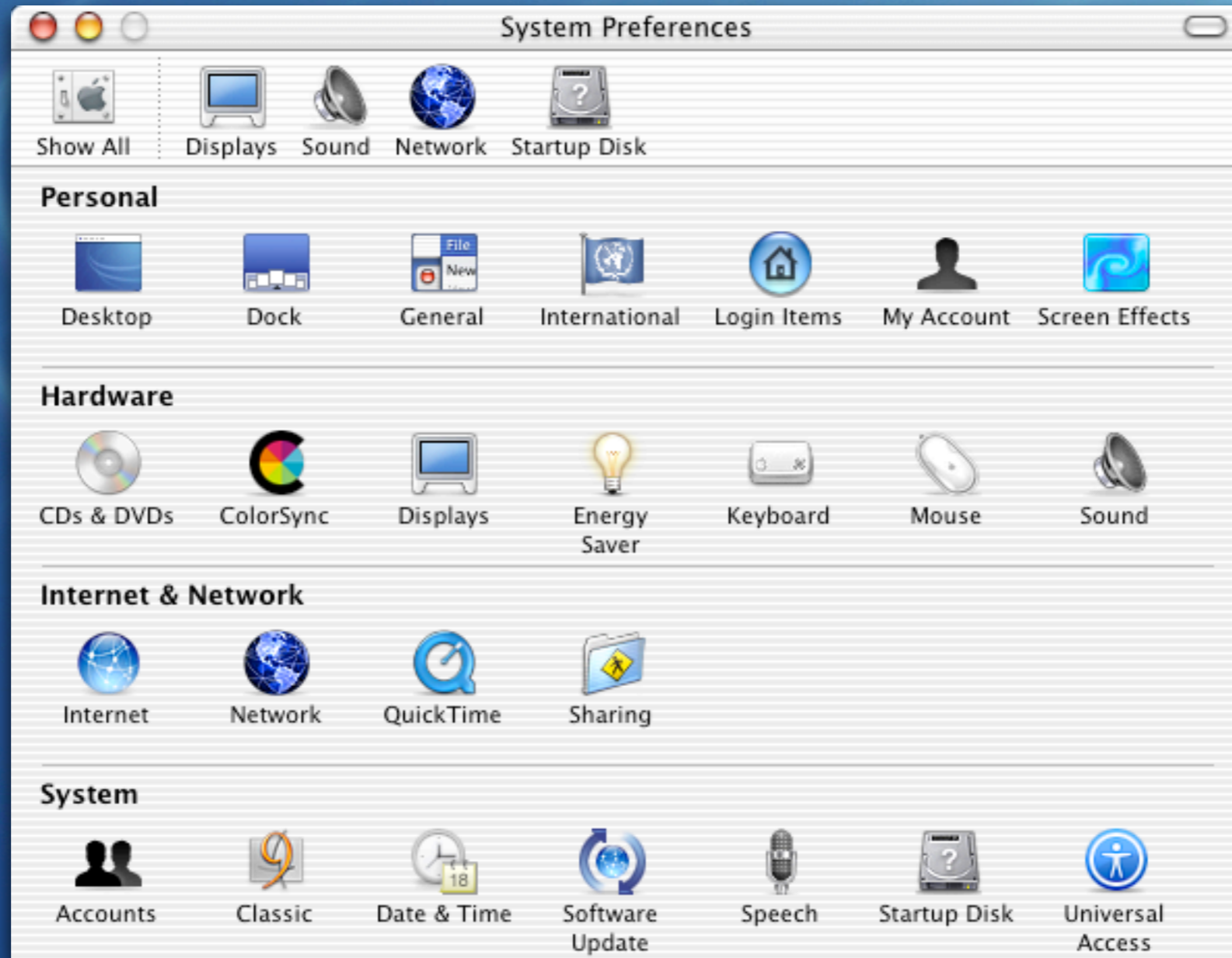
is really...



Netscape.app

- Problem - too many files (but all related)
- Folders with special extensions are viewed as files (.app, .plugin, .bundle, .framework, .kext ...)
- So, not all files are really files now
- You don't need to know (mostly)
- “Show Package Contents” via contextual menu

System Preferences





Classic



Classic

- Emulation of Mac OS 9 for old apps that haven't been recompiled under Carbon (not many left now)



Classic

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- Runs at full native speed, but...



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- Limited support for device drivers



Classic

- Emulation of Mac OS 9 for old apps that haven't been recompiled under Carbon (not many left now)
- Runs at full native speed, but...
- No Aqua look & feel
- No preemptive multitasking or protected memory
- Limited support for device drivers
- Can be a bit of a processor & memory hog

X

Miscellaneous

X

Miscellaneous

- Application menu in addition to File menu

X

Miscellaneous

- Application menu in addition to File menu
- Filename extensions preferred (almost ***required***)

X

Miscellaneous

- Application menu in addition to File menu
- Filename extensions preferred (almost **required**)
- File-type mapping through Finder “Get Info”

X

Miscellaneous

- Application menu in addition to File menu
- Filename extensions preferred (almost **required**)
- File-type mapping through Finder “Get Info”
- New printing system (Print Center)

X

Miscellaneous

- Application menu in addition to File menu
- Filename extensions preferred (almost **required**)
- File-type mapping through Finder “Get Info”
- New printing system (Print Center)
- System-wide spell checking (almost)

X

Miscellaneous

- Application menu in addition to File menu
- Filename extensions preferred (almost **required**)
- File-type mapping through Finder “Get Info”
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- Lots of other minor changes (too many to list)

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Questions ?



