
GNOME 2.2.0 Release Notes

Introduction

The GNOME 2.2.0 Desktop and Platform release is the latest version of the popular, multi-platform free desktop environment.

GNOME runs on a variety of platforms, including GNU/Linux (commonly called Linux), Solaris, HP-UX, BSD and Apple's Darwin. GNOME includes powerful features such as high-quality smooth text rendering, a first class internationalization and accessibility infrastructure, including support for bi-directional text.

The GNOME community has spent the six months since the GNOME 2.0 release improving usability, performance, appearance, and accessibility support. We also added new functionality, including new applications, producing a feature-rich GNOME 2.2 desktop.

GNOME provides a user-friendly environment that "just works" for everyday users, without excess complexity, while at the same time providing the rich flexibility experienced developers demand. We have tried to avoid unnecessary complications or obscure features, sticking instead to a clear, unified vision.

The GNOME 2 developer platform has matured and is now widely used by applications outside of the GNOME Desktop release. While GNOME 2.0 was a major upgrade to the entire Desktop and Developer Platform, GNOME 2.2.0 is a simpler time-based release that includes a number of improvements that have been completed since the previous release. In the future you can look forward to further enhancements from regularly scheduled GNOME releases.

Most major GNOME-based applications have been ported to GNOME 2, and the new platform has allowed the development of several new applications. We encourage developers to use the GNOME 2.2 platform and take advantage of its features.

Of course GNOME 2.2 includes all of the improvements made in GNOME 2.0, which you can learn about here [<http://www.gnome.org/start/2.0/releasenotes.html>].

The Desktop and Platform release does not include large applications such as Gnumeric; those are developed in parallel on their own natural release cycle.

GNOME is part of the GNU Project, and is free software [<http://www.fsf.org/philosophy/free-sw.html>].

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1. What's New In GNOME 2.2

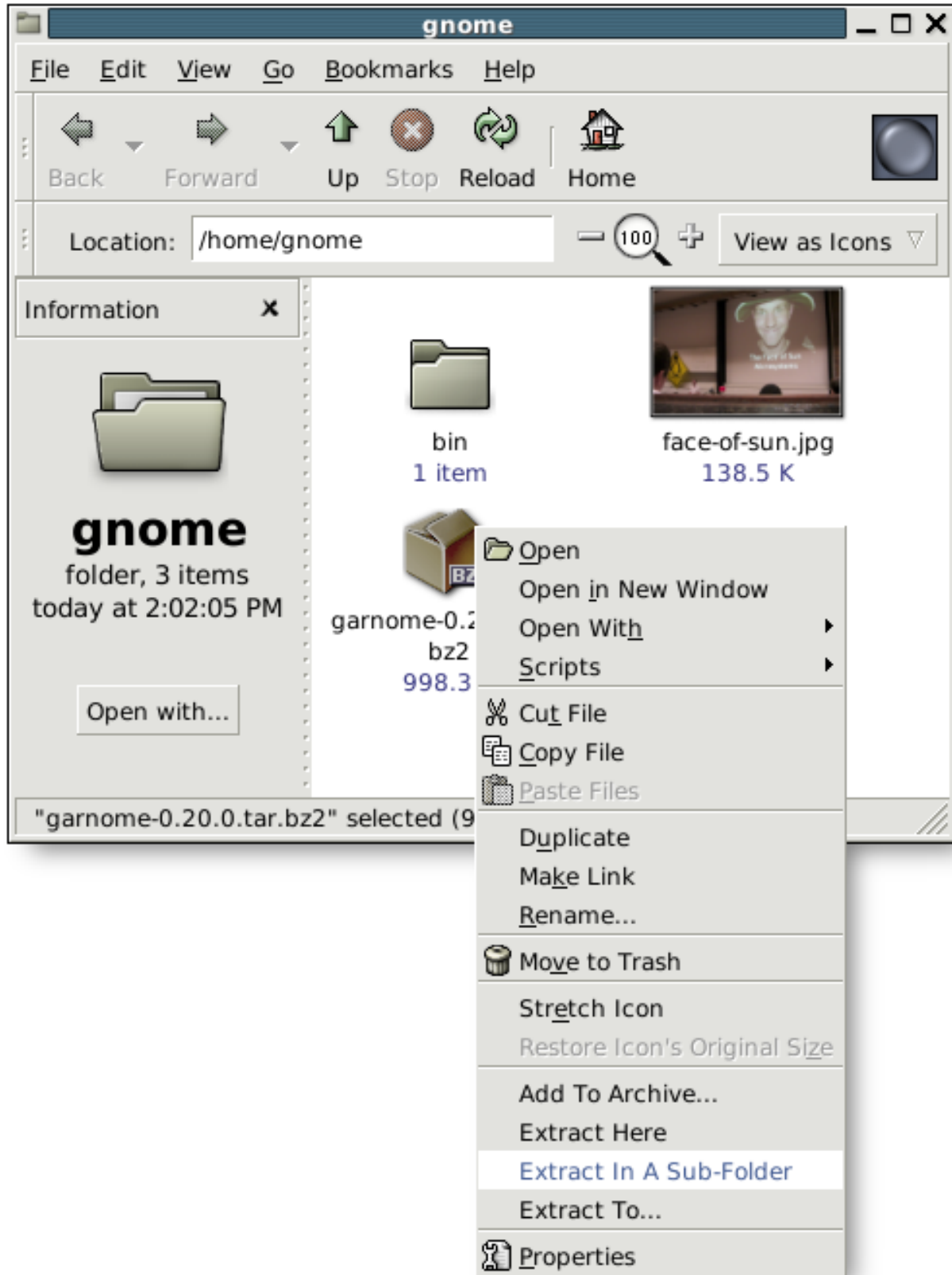
1.1. Desktop

1.1.1. The File Manager

The user interface of Nautilus, the GNOME file manager, has undergone a significant overhaul since the release of GNOME 2.0, making it easier to use and more powerfully integrated with the rest of the desktop and applications.

1.1.1.1. Context menu plug-ins

Figure 1. Context Menu



Context-sensitive menus can now link the file manager to functions performed by other applications. In this illustration, Fileroller, our new archive-handling application, has added menu items when you right-click on an archive.

1.1.1.2. Property tab plug-ins.

Figure 2. Property Page - Audio

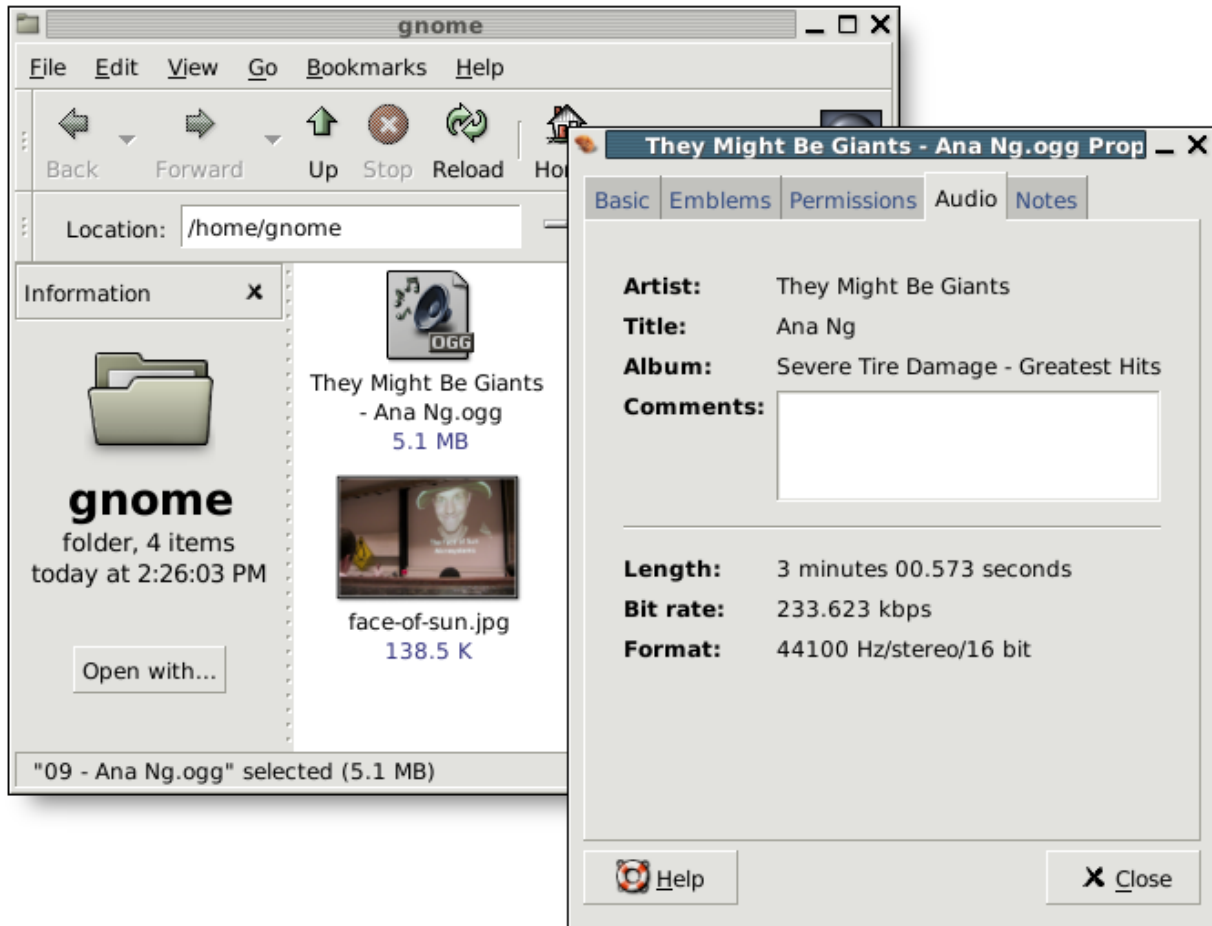
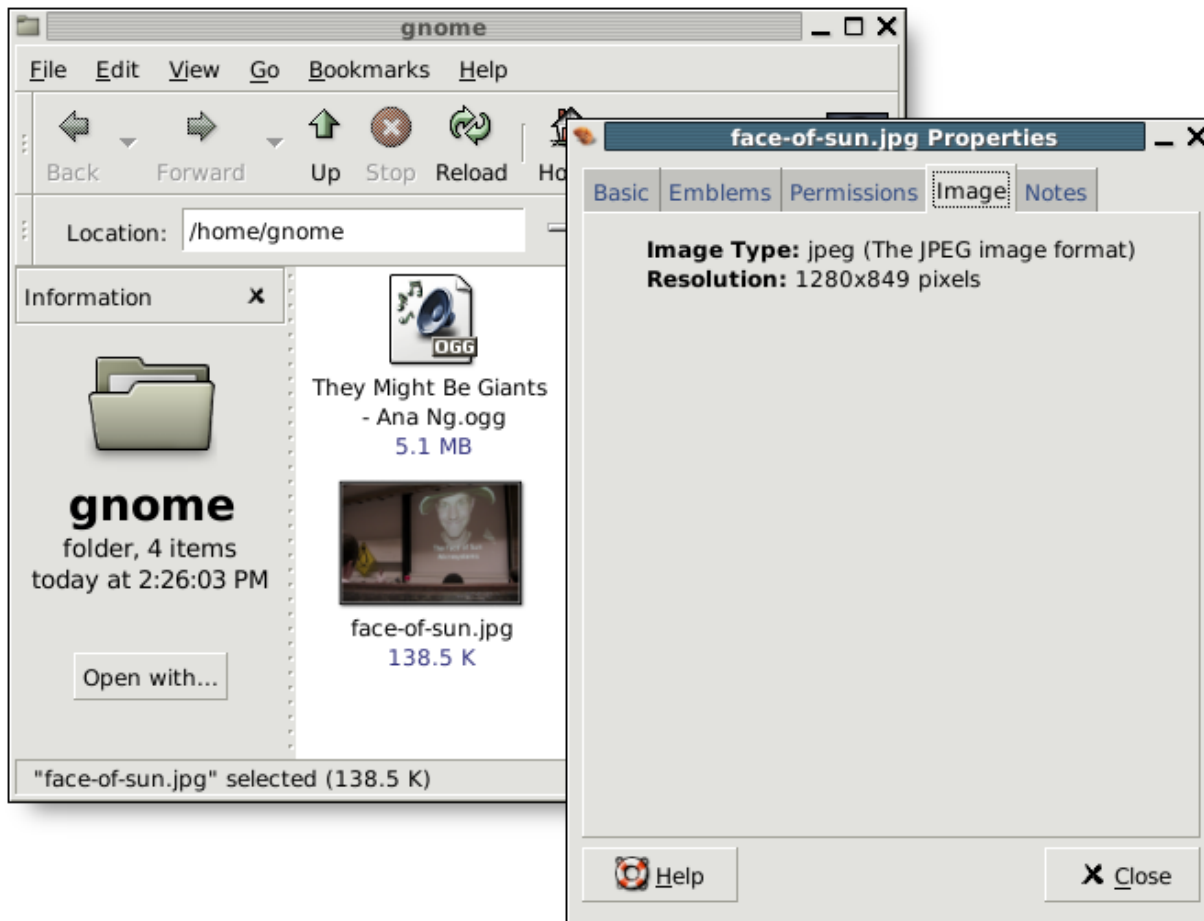


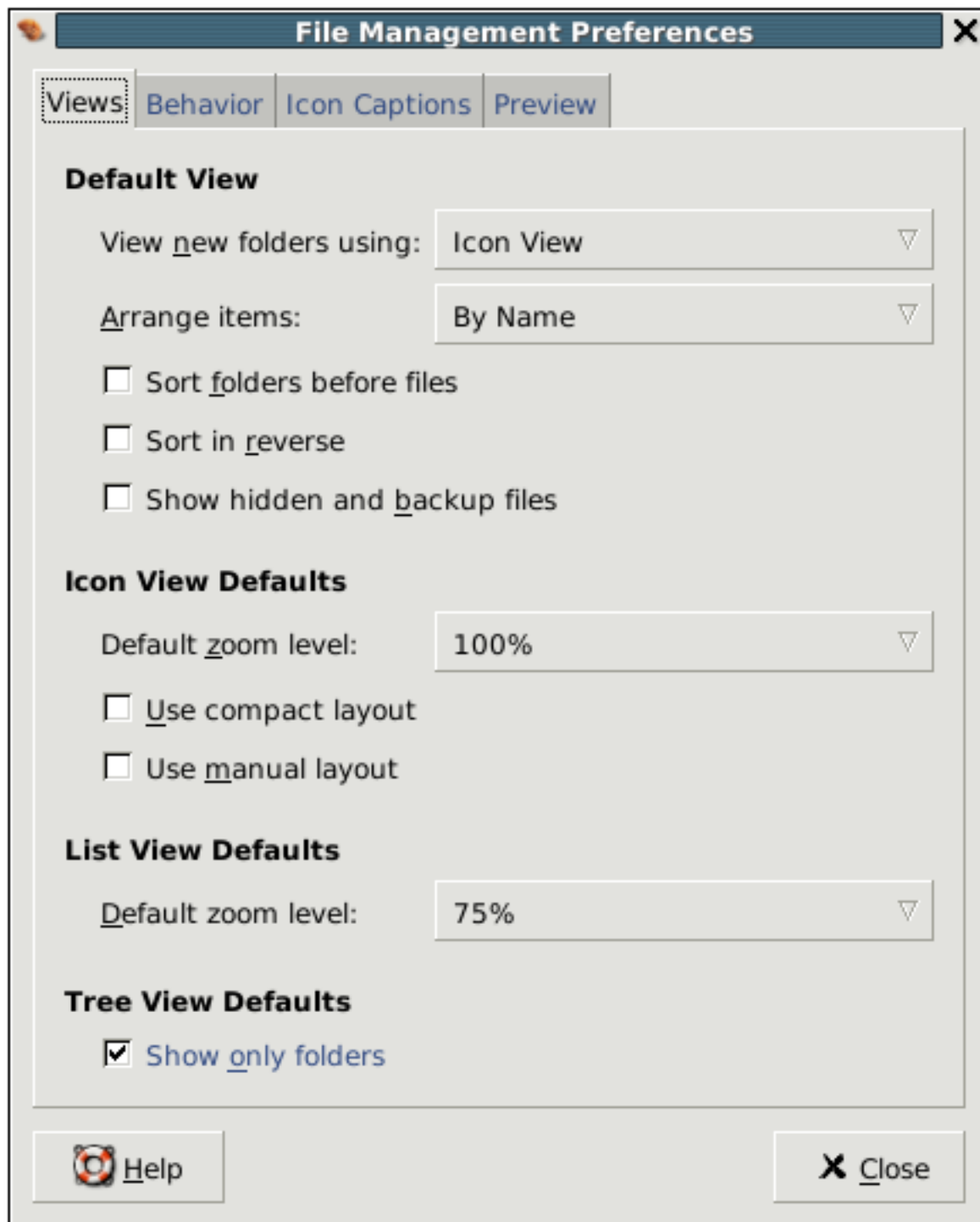
Figure 3. Property Page - Image



The file manager's properties dialog now shows custom tabs for special file formats, such as images or media files. For instance, you can see the dimensions of a graphic file, or information about ogg or MP3 audio files.

1.1.1.3. Improved Preferences dialog

Figure 4. File Manager Preferences



The new file manager preferences dialog illustrates the GNOME design philosophy: clean, simple and usable.

User interface improvements such as this are thanks partly to increasing use of the GNOME Human Interface Guidelines [<http://developer.gnome.org/projects/gup/hig/>]. The HIG had its 1.0 release during the GNOME 2.2.0 release process, and as a result, the GNOME Desktop is now easier to use and easier to learn than ever.

1.1.2. Startup Notification

GNOME can now show that an application is starting, so you don't feel the need to click a second time. For instance, if the application supports it, the cursor may change to a clock while the application starts if the application supports startup notification. Unlike some past attempts at UNIX startup notification, the new standard is reliable and robust, in keeping with the GNOME philosophy of things that "just work."

1.2. Panel

The panel can now be themed along with the rest of the desktop, using GNOME's new icon theming, which allows all applications (including the panel, file manager, and others) to share icons for commonly used concepts like folders, file types, and directional arrows.

Here are a few of the more significant GNOME panel improvements:

1.2.1. Show Desktop

When the icons on your desktop are hidden by too many open windows, you can now quickly hide them and then bring them all back again by clicking the "Show Desktop" button in the panel, or using the `ctl+alt+d` keyboard shortcut.

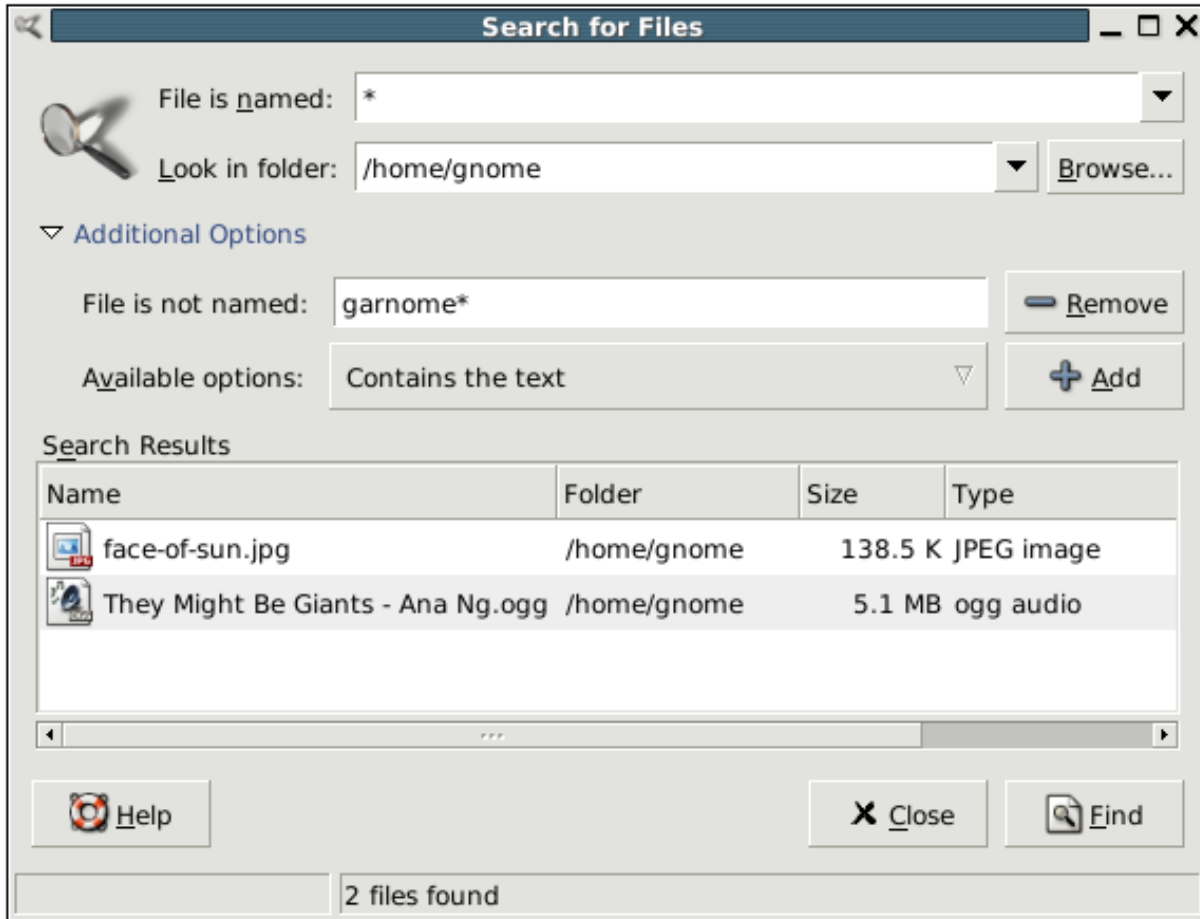
Figure 5. Show Desktop



1.2.2. Search For Files

As before, you can quickly find files via the Actions menu. Now it has an improved user interface and better integration with the file manager, so you can drag and drop files from the results window. And, like the file manager, it can open files with the appropriate applications.

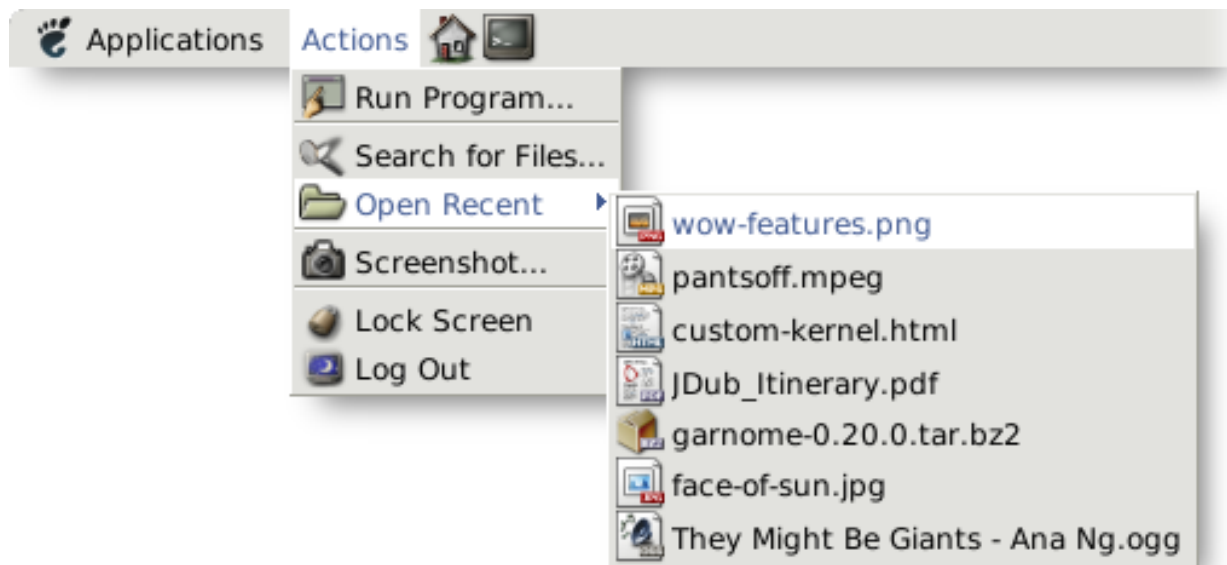
Figure 6. Search For Files



1.2.3. Open Recent

The Actions menu now lists the last few files that you have opened. Just select the file to open it with the appropriate application. Other applications, like gedit, also share this functionality with the panel, and more applications will pick this up in future releases.

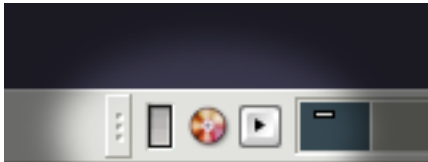
Figure 7. Open Recent



1.2.4. Notification Area

The panel now has a notification-area which applications such as instant messengers can use to inform you of significant events.

Figure 8. Notification Area



1.2.5. Wireless Link Monitor

A new Wireless Link Monitor applet has been added. This shows the strength of your wireless network connection.

Figure 9. Wireless Link



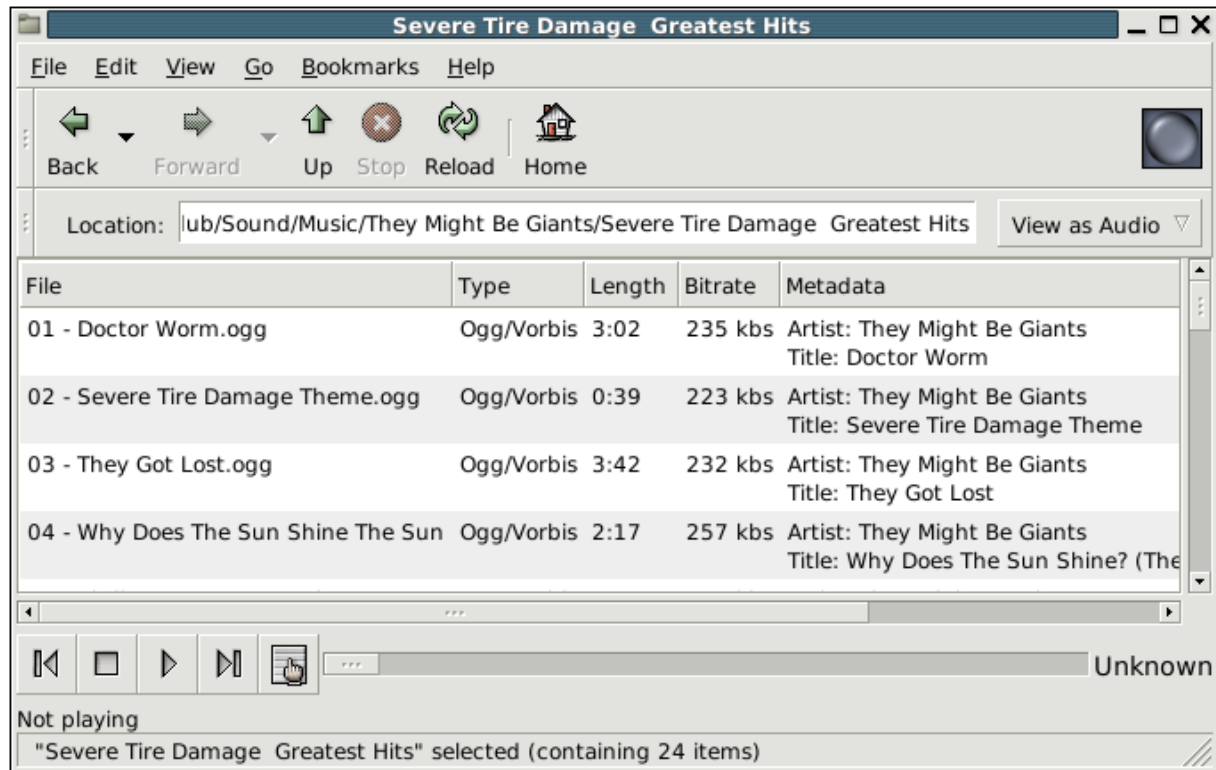
1.3. Multimedia

GNOME 2.2 includes the GStreamer [<http://gstreamer.sourceforge.net/>] multimedia framework for this first time. This has made the following functionality possible:

1.3.1. Special views in the file manager

Via the "View as" feature in Nautilus, the GNOME file manager, you can now see special views of directories containing audio, image, and video files. For image and video files, the file manager will show a preview of the file instead of the normal icon. You can also play some file formats directly from the file manager.

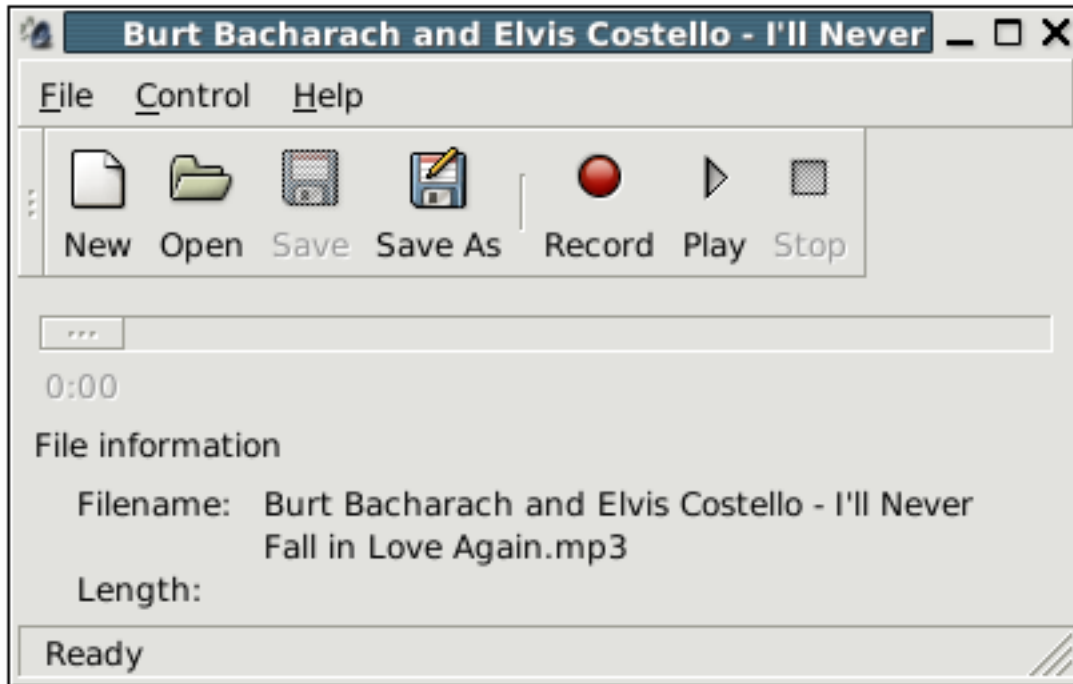
Figure 10. View As Audio



1.3.2. Multimedia Utilities

With the help of GStreamer, GNOME's multimedia utilities, such as the Sound Recorder, can now work with a greater variety of file formats.

Figure 11. Sound Recorder



1.3.3. Thumbnailing

In coordination with the File Manager's new thumbnailing abilities, multimedia applications can create thumbnails for many media types, including video.

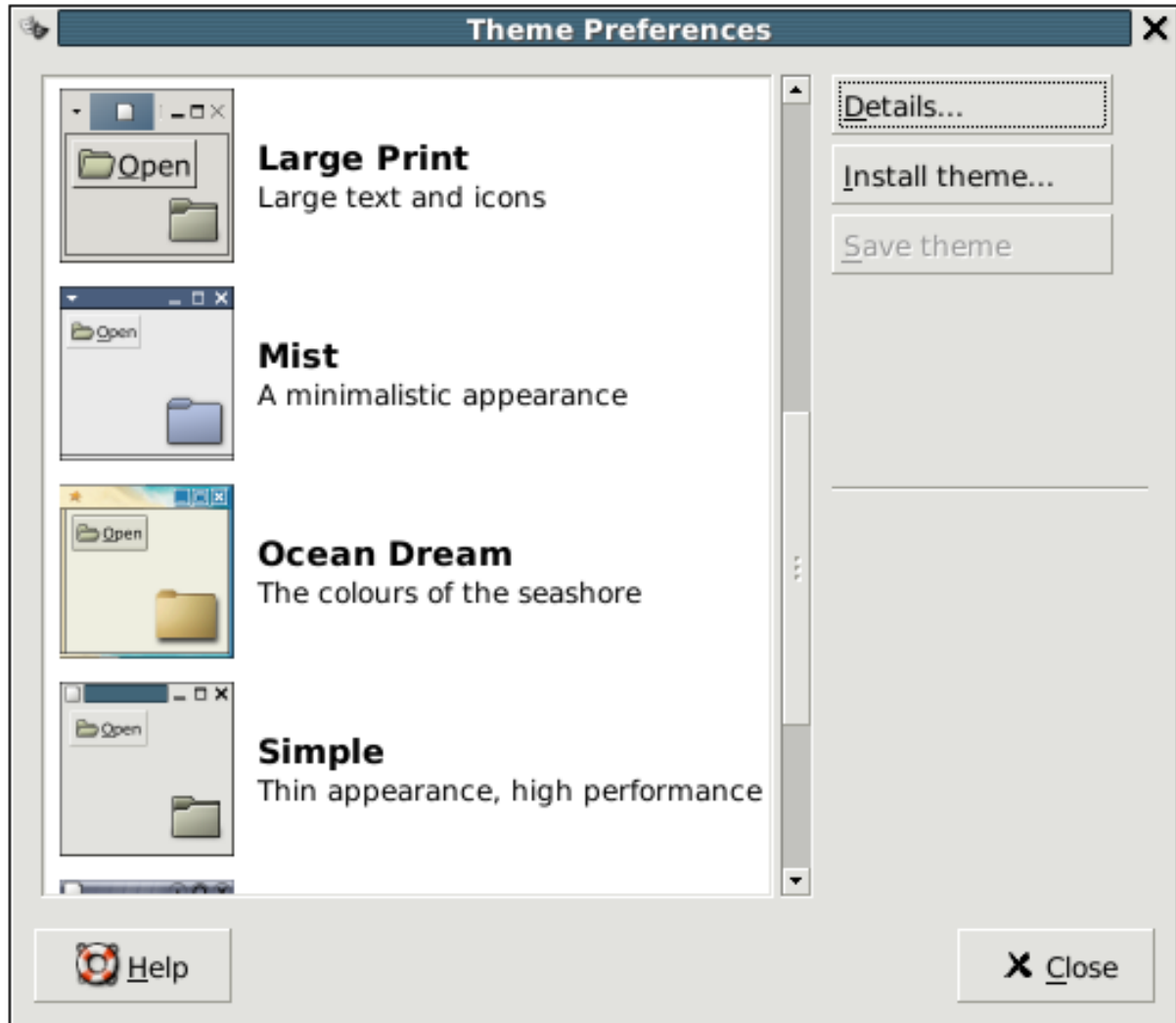
1.4. Themes

The new Theme preferences dialog is simpler and more powerful. Previously there were several independent theme systems for various parts of the user environment. You can now control all of this in one place without needing to be aware of these details. Themes can now change the appearance of window borders, controls, and the icons used on your desktop and panel.

For the technically orientated, this means that the theme manager dialog brings together window manager themes, GTK+ themes, and icon themes.

GNOME 2.2.0 offers several built-in themes. See art.gnome.org [http://art.gnome.org] for more. Or you can edit a theme and save the new theme, all from within the theme manager.

Figure 12. Theme Preferences

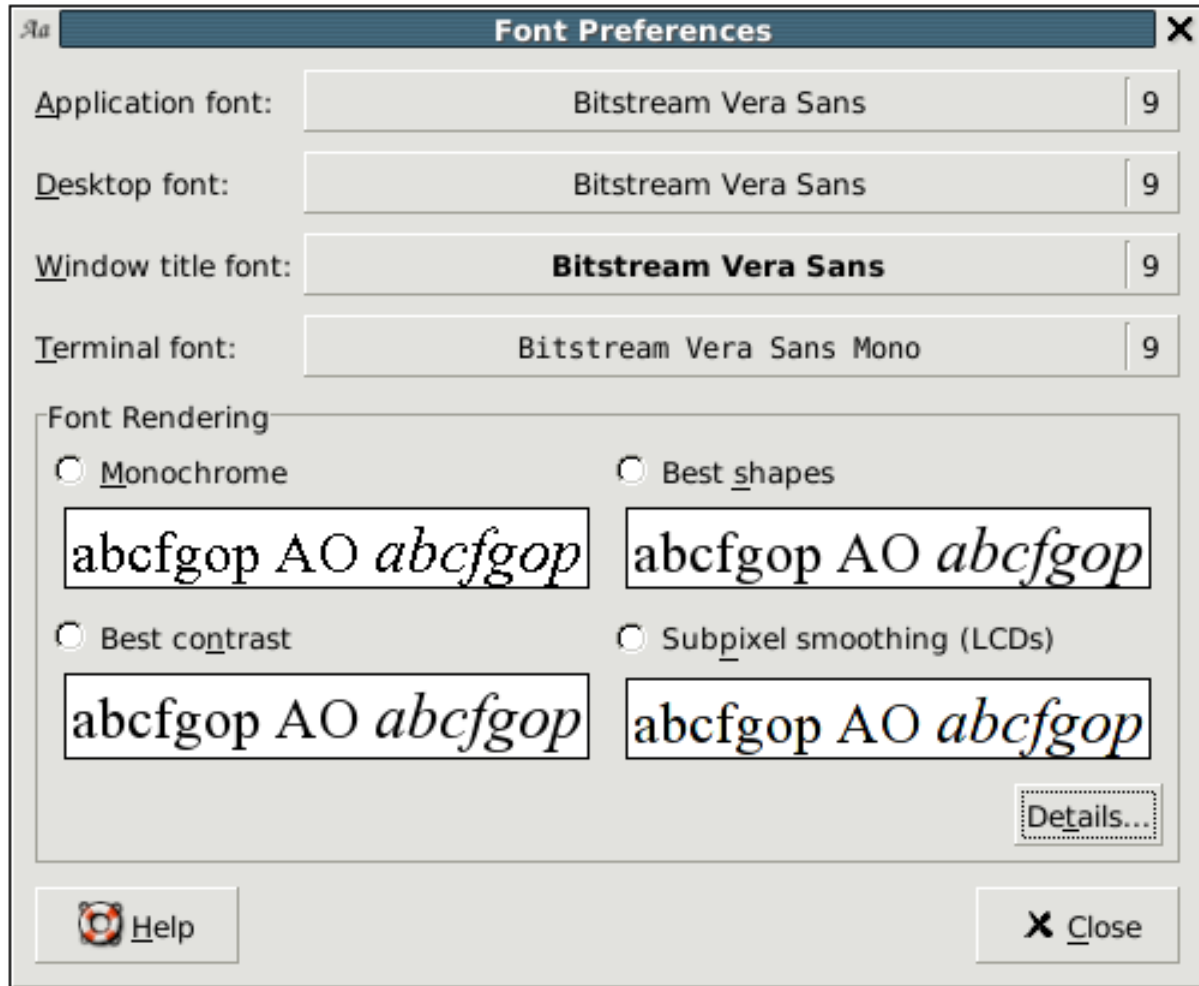


1.5. Fonts

One of the great new features in GNOME 2.2 is desktop-wide support for fontconfig and Xft2 [<http://fontconfig.org>], giving us enhanced font configuration and rendering on screen (and, in the future, on paper). The new Fonts control panel has simple and detailed configuration pages for hinting and subpixel anti-aliasing. Font installation is now incredibly simple- you can simply drop new fonts into `~/.fonts`, and they will work throughout GNOME. Thanks to Keith Packard for his work on fontconfig!

Complementing this technology, Jim Gettys and the GNOME Foundation Board worked with Bitstream, Inc. to arrange the donation of the Vera font family [<http://www.bitstream.com/categories/products/fonts/vera/>] to the Free Software community. While not available for the GNOME 2.2.0 release, they will be released shortly, allowing all GNOME users to take advantage of the technology present in 2.2.0 with beautiful, high-quality fonts. In the mean time, you can see Vera font family in the screenshots throughout the release notes.

Figure 13. Fonts Control Panel



1.6. Multihead support

GTK+ 2.2 supports simultaneous connections to multiple X servers, and X servers with multiple screens. It also supports migration of toplevel windows between screens and displays.

GNOME 2.2 takes advantage of GTK+ 2.2 by nicely handling Xinerama and multiple screens in major desktop components such as the file manager, window manager, and panel.

For instance, if you launch an application from a particular screen, it will now appear on that screen. Applications that can span multiple screens (like file manager and the panel) have also been adapted so that their behaviors take into better account things like the break between screens.

1.7. Metacity Window Manager

GNOME 2.2 officially incorporates the Metacity window manager, a fully integrated window manager that uses GTK+ for UI elements, communicates tightly with the panel and other desktop elements, and is configured straight from the GNOME preferences dialogs.

At the same time, all interaction between the window manager and the desktop is done via documented standards (see Section 5, “Standards Compliance”), so you can substitute the window manager of your choice from a long list

of available options: Sawfish, fvwm2, icewm, Waimea, Openbox, are just some of them.

Early versions of Metacity were in wide use a month or two after GNOME 2.0, so many people will already be familiar with its basic features:

- Does not expose the concept of "window manager" to the user. For example, keybindings are configured in the GNOME "Keybindings" dialog, theme is configured in the GNOME "Theme" dialog.
- Simple XML theme format is designed to allow a single theme to work with large and small font sizes, button reordering, and other user preferences. No more editing the theme to change your preferences.
- Like all of GNOME, full keyboard navigation, including navigation to the panel and the desktop background.
- Inherits the standard GTK+ internationalization support.
- Uses GTK+ to draw window frames, tracking colors, fonts, and so forth from the GTK+ theme. (Colors may not be tracked by all Metacity themes, but any Metacity theme can choose to do so.)

Some new features that may not be in the version of Metacity you've tried before:

- Themeable icons in the window menu.
- Handles dynamic resolution changes via Xrandr extension.
- Supports keybindings with <Super>, <Hyper> and <Meta> keys. (Including Windows logo key.)
- Supports stay-on-top and stay-below hints.
- Allows window buttons to be rearranged (close button on left, etc.), as a user preference, not part of the theme.
- Better multihead support.
- Startup notification support.
- Numerous performance optimizations, especially for high-latency connections.
- Numerous bug fixes and behavior tweaks.

2. Applications

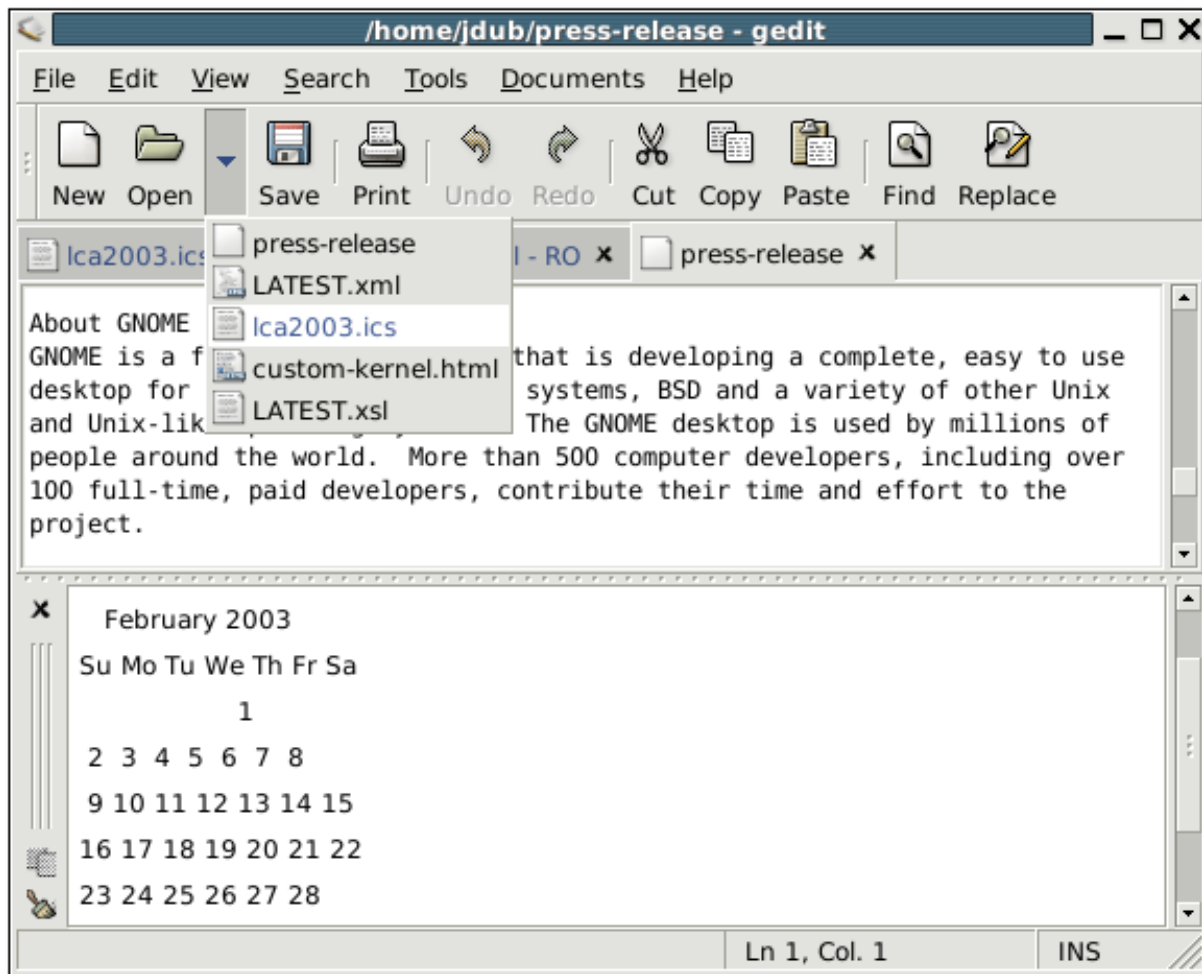
GNOME 2.2.0 includes many new and improved applications.

2.1. Utilities

2.1.1. Text Editor

The gedit text-editor now provides spell-checking, among other plugins. There is also a new output window to show feedback when doing special processing. Additionally, it uses the new recent files functionality.

Figure 14. Text Editor



2.1.2. Image Viewer

The Eye of GNOME image viewer now allows you to rotate images and supports a Full Screen mode.

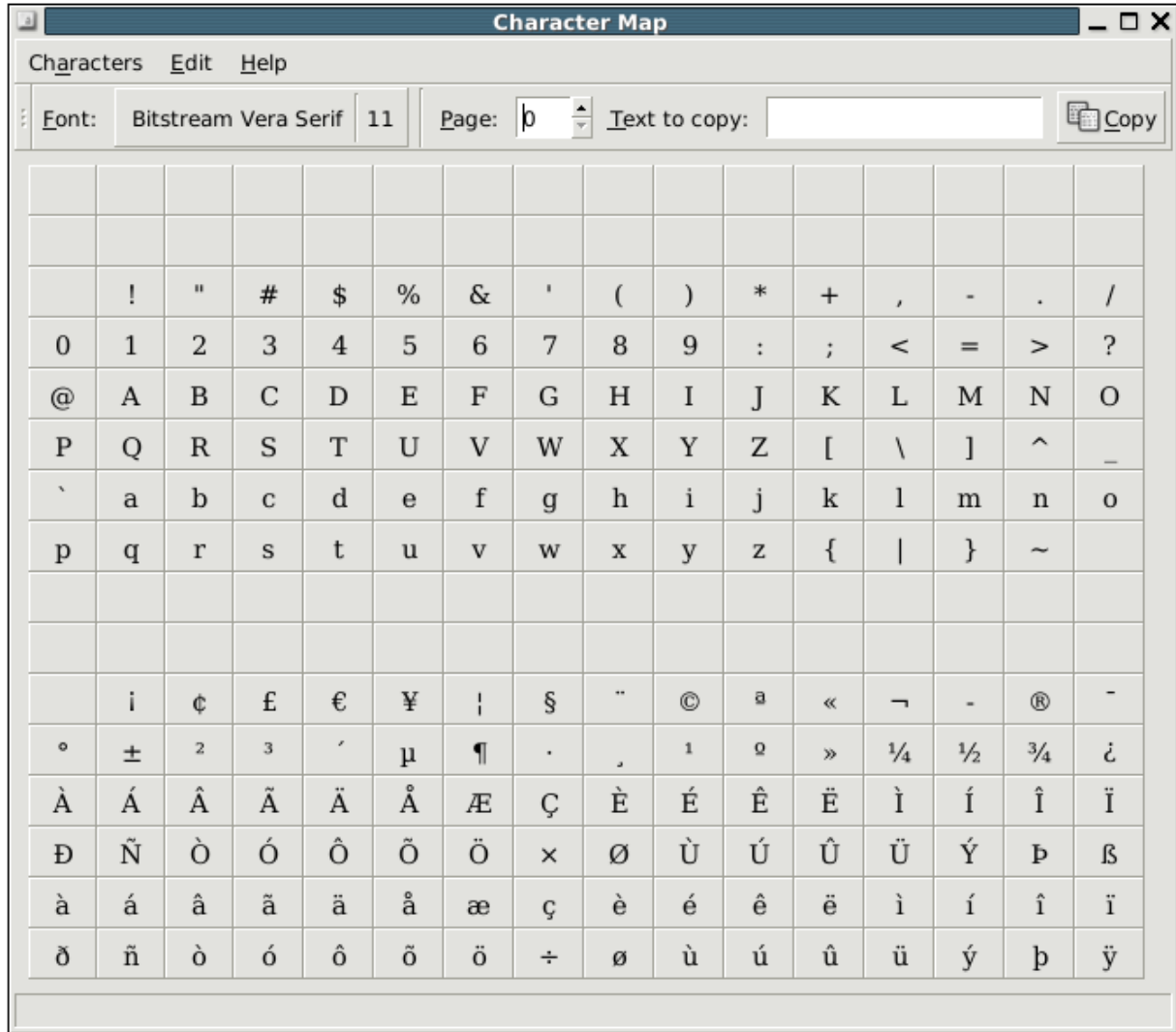
Figure 15. Image View



2.1.3. Character Map

The Character Map now has unicode support, allowing you to select a full range of characters in a wide range of fonts. Users may be interested in the Unicode Character Map [gucharmap] that should be released in the Fifth Toe [<http://5toe.lyrical.net>], later this year.

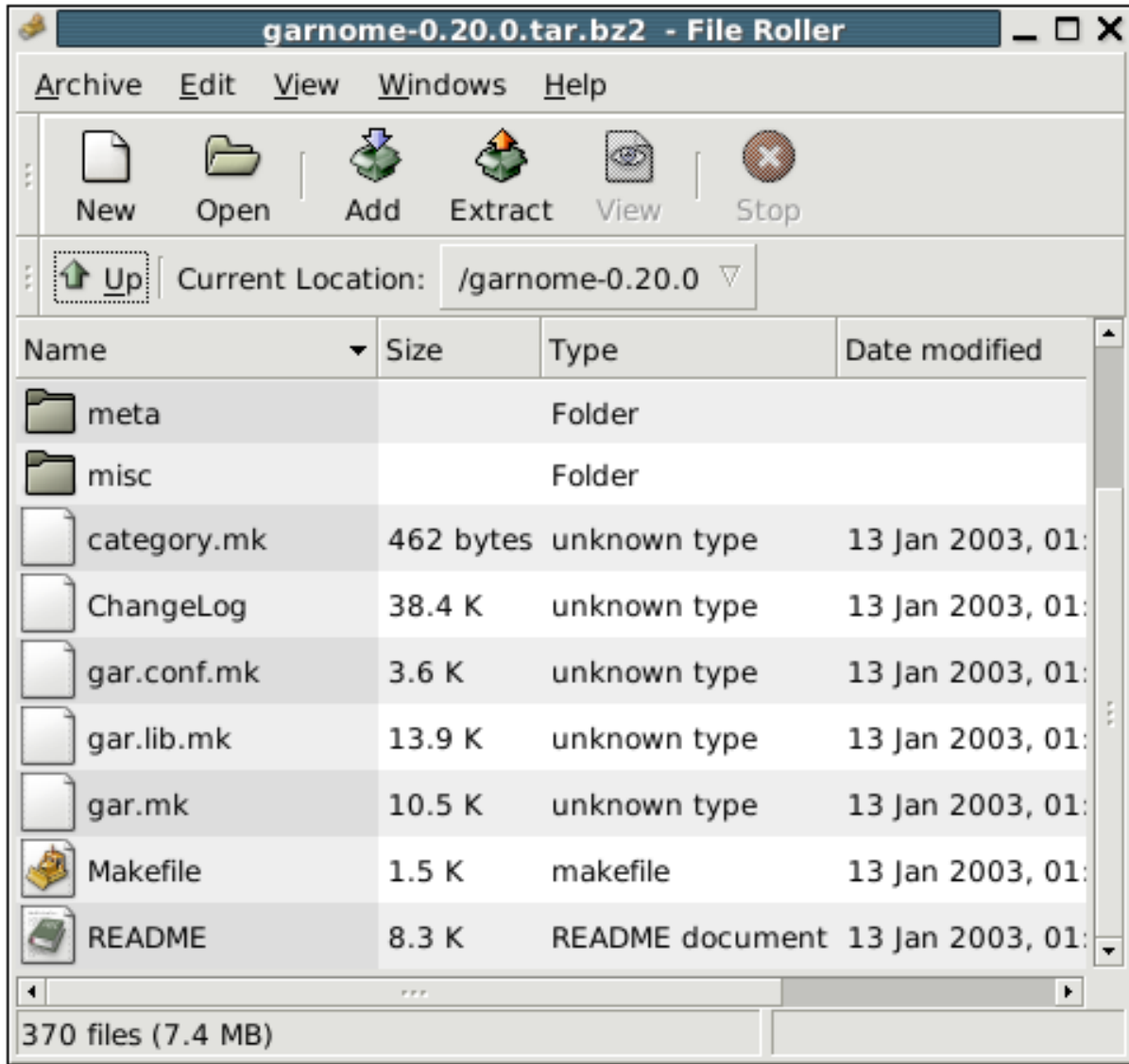
Figure 16. Character Map



2.2. File Roller

File Roller is an archive manager that allows you to view, extract and create archive files. File Roller supports a wide range of archive formats and, like the Search for Files dialog, is closely integrated into the GNOME desktop, with support for icon themes, drag and drop support and MIME type handling.

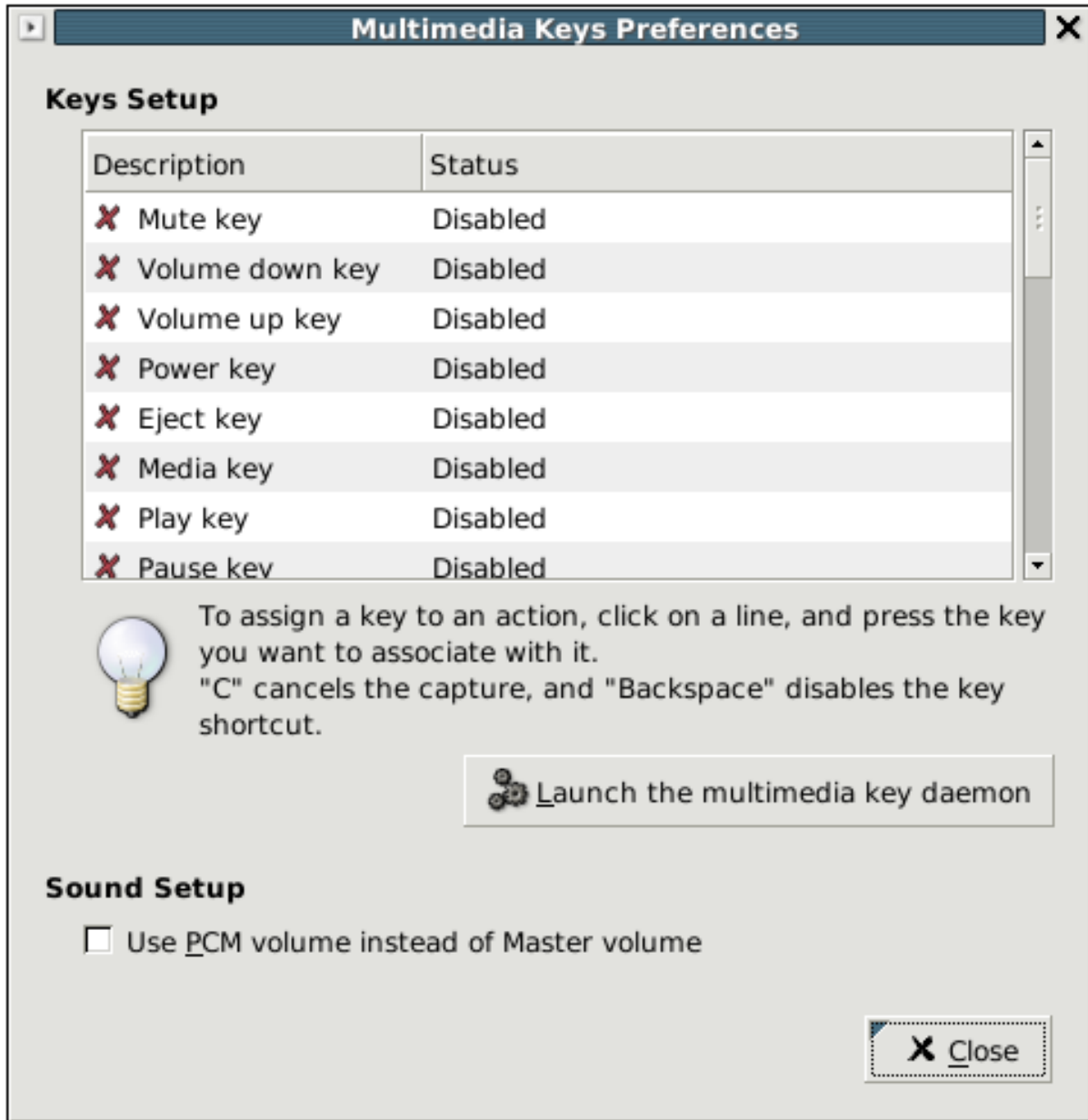
Figure 17. File Roller



2.3. Multimedia Keys

The Multimedia Keys preference dialog allows you to make use of the multimedia keys on your laptop or home computer. With this dialog, you can assign keys to launch your email, browse the web, eject a CD, configure the brightness of your screen and many more.

Figure 18. Multimedia Keys



3. Sysadmin, User, and Accessibility Guides

Thanks to the efforts of the GNOME Documentation Project [<http://developer.gnome.org/projects/gdp/>], GNOME 2.2 comes with comprehensive and professional documentation. As in GNOME 2.0, each application shipped with GNOME 2.2 includes full user documentation. New with GNOME 2.2 is a comprehensive guide administrators.

Learn to how to use GNOME with the User Guide [<http://www.gnome.org/learn/users-guide/2.2/>].

Learn to manage GNOME in an enterprise environment with the System Administrator Guide [<http://www.gnome.org/learn/admin-guide/2.2/>].

4. Internationalization

Due to GNOME's strict string freeze policy leading up to the release, the GNOME Translation Project [<http://developer.gnome.org/projects/gtp/>] was able to translate 100 percent of strings for 14 languages by release time, and nearly 100 percent for 12 more. The string freeze will continue on the 2.2 branch, so more and more translations will be completed in the coming weeks.

In this release, GTK+ 2.2 has improved support for right-to-left languages, and support for OpenType Indic fonts, adding to the excellent internationalization support already available in GTK+ 2.0.

5. Standards Compliance

GNOME works closely with groups such as freedesktop.org [<http://www.freedesktop.org/standards/>]. Standards support is a big plus for GNOME users- interoperability support improves the user experience by allowing GNOME, KDE, and other applications to work together more easily, and following open specifications helps ensure that user data is not trapped in proprietary formats.

Freedesktop.org specifications for which GNOME 2.2 has added support include: icon themes, recent files, thumbnail management, and the system tray spec. In addition, GNOME 2 supports CORBA, XML, Xdnd, EWMH, XEMBED, XSETTINGS, and XSMP.

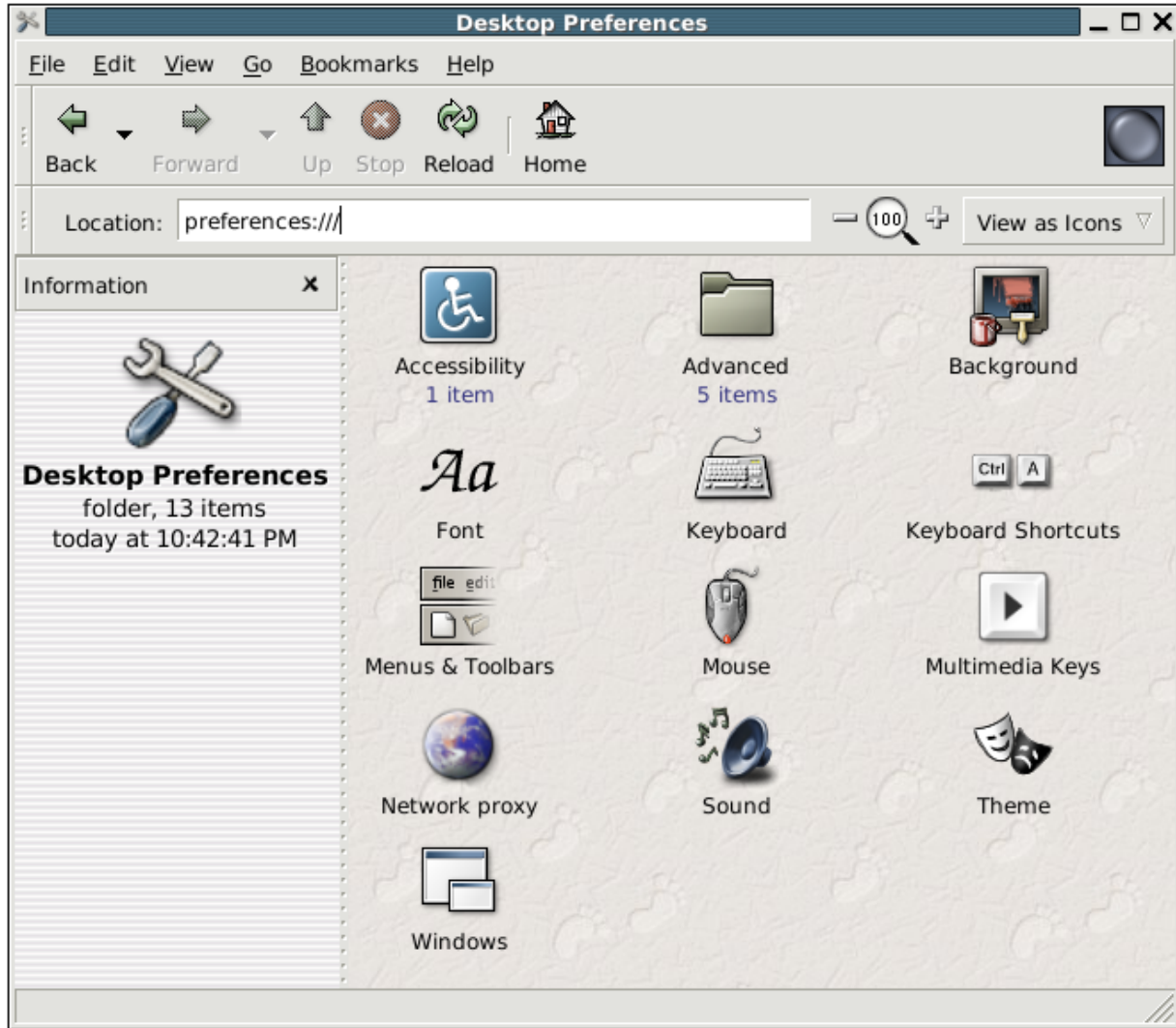
6. So, why GNOME?

Having seen some of the new features in GNOME 2.2, why choose GNOME over other desktop environments? Every GNOME volunteer has their own motivations, of course, but here are some of the common reasons many of us choose to work on GNOME.

6.1. Usability.

GNOME is one of the few open source projects to take a stand for ease of use and UI consistency over geeky hyper-configurability. Our Human Interface Guidelines [<http://developer.gnome.org/projects/gup/hig/>], developed by a team of UI professionals and GNOME volunteers, and released before GNOME 2.2, are the most complete Free Software usability guidelines yet. We believe that this focus on usability will produce a user environment that "just works" and as a result lets GNOME users- both experienced and inexperienced- focus on the task at hand instead of on their applications.

Figure 19. Usability



6.2. Accessibility.

Beyond making GNOME easier to use for the average computer user, GNOME has also taken the lead in making the unix desktop accessible to those with disabilities. GNOME's accessibility technologies allow (for example) the use of braille readers, voice synthesizers, and pointing devices. This has nice side effects for other users, as well- for example, all of GNOME should now be keyboard navigable, and many GNOME interfaces have more informative tooltips. Many governments, including the US government, require comprehensive accessibility support in software they purchase. After dozens of person-years of effort, GNOME is the only free software desktop to address this issue.

6.3. Improved performance

GNOME 2.0 and 2.2 are smaller and faster than previous versions of GNOME, a welcome trend. The file manager in particular continues to improve, as it now uses faster techniques for rendering and icon creation.

6.4. Interface Stability

The key libraries in the GNOME Development Platform carry guarantees of API and ABI stability. This means that 'porting' an application from GNOME 2.0 to GNOME 2.2 (or to GNOME 2.4) should involve exactly nothing, if a developer does not wish to take advantage of new functionality in the libraries.

6.5. Mature applications.

Popular and robust applications such as Mozilla, Galeon, Evolution, Gnumeric, Abiword, GAIM, X-Chat, and more are based on GNOME or GTK+. These applications are among the most powerful and capable in the Free Software world, and we expect that they'll only get better as they take more advantage of the GNOME development environment.

6.6. Licensing.

All GNOME libraries are licensed under the LGPL [<http://www.gnu.org/copyleft/lgpl.html>], so developing for the GNOME platform is 100% free of license fees, both for developers of Free and proprietary software.

6.7. Support.

Active contributors to GNOME 2.2 development include Red Hat, Sun Microsystems, Ximian, and Mandrake, all established experts who can help with your enterprise UNIX or Linux deployment.

7. Installation of the GNOME 2.2.0 Developer Platform and Desktop

7.1. External Dependencies

- pkg-config, available at <http://www.freedesktop.org/software/pkgconfig/releases/pkgconfig-0.14.0.tar.gz>
- Xft/font-config, available at http://nexp.cs.pdx.edu/fontconfig/release/fcpackage.2_1.tar.gz

From the fcpackage distribution, you will need to separately build Xft and font-config. XFree86 4.2 or greater also is recommended.

- FreeType 2.0.9 or greater, available at <http://www.freetype.org/>
- docbook-xml [docbook dtd 4.1.2]
- docbook-xsl [docbook xsl stylesheets]

7.2. Development Library dependencies

- libpng
- libjpeg
- libtiff
- XFree86
- libpopt

- libbbz2
- zlib
- libfam

7.3. GNOME 2.2.0 Installation Order

- libxml
- libxslt
- gtk-doc
- glib
- linc
- libIDL
- ORBit2
- intltool
- bonobo-activation
- libbonobo
- pango
- atk
- gtk+
- gconf
- gconf-editor
- gnome-mime-data
- gnome-vfs
- audiofile
- esound
- libgnome
- libart_lgpl
- libglade
- libgnomecanvas
- libbonoboui

- gnome-icon-theme
- libgnomeui
- libwnck
- startup-notification
- gtk-engines
- gnome-themes
- gnome-desktop
- gnome-panel
- gnome-session
- vte
- gnome-terminal
- scrollkeeper
- libgtop
- gnome-system-monitor
- gail
- at-spi
- libgail-gnome
- gnome-applets
- gnome-utils
- gnome-games
- metacity
- gnome-control-center
- librsvg
- gdm2
- eel
- nautilus
- gtkhtml2
- yelp
- bug-buddy
- libgnomeprint

- libgnomeprintui
- gedit
- eog
- acme
- ggv
- file-roller
- gstreamer
- gst-plugins
- nautilus-media
- gnome2-user-docs

7.4. GARNOME

If you do not wish to go through the process of manually building each module yourself, then you might consider using GARNOME, a GNOME distribution based on the GAR ports system. GARNOME automatically downloads the tarballs from a specified location and builds them for you. To find out more information visit the GARNOME web page [<http://www.gnome.org/~jdub/garnome/>].

8. Known Issues

All software, when it is released, contains bugs the developers know about but have elected, for a variety of reasons, not to fix before releasing. Free software is no different in this regard from proprietary software, except that with free software, we tell users about them.

We also encourage our users to report bugs so that they can be fixed. The best way to report bugs found in GNOME is to use the Simple Bug Guide [<http://bugzilla.gnome.org/simple-bug-guide.cgi>]. This will take you through the necessary steps to file a quality bug report, and make sure that it is tagged appropriately. If you're too advanced for anything with the word 'simple' in it, there is also the traditional bug form [http://bugzilla.gnome.org/enter_bug.cgi]. More details on bugs already reported can be found at our Bugzilla [<http://bugzilla.gnome.org/>]. Among the most prominent GNOME 2.2.0 bugs:

8.1. Threading in GStreamer

GStreamer uses its own threading implementation, which has some known issues. They are discussed in more detail in the GStreamer 0.6 Release Notes. [<http://www.gstreamer.net/releases/0.6.0/notice.php>]

8.2. FAM bugs can cause Theme Manager hangs

In some cases, problems with FAM can cause the new Theme Manager to hang. For more information, see bug 103797. [http://bugzilla.gnome.org/show_bug.cgi?id=103797]

8.3. Sound Recorder hangs in some cases

In some circumstances, the Sound Recorder can hang when recording. For more information, see bug 103279.

[http://bugzilla.gnome.org/show_bug.cgi?id=103279]

8.4. Sawfish support in Theme Manager

As metacity is now the official window manager of GNOME, sawfish support may be incomplete in the theme manager.

9. Looking to GNOME 2.4 and Beyond

The popularity of the GNOME 2.0 developer platform, and our quick release cycle for GNOME 2.2.0 have stimulated great interest not only in GNOME 2.2 but in the next release of the GNOME Desktop and Developer Platform.

Over the last couple of months, there has been a huge amount of activity at the application level. GNOME 2.4 will continue to benefit from this activity, as we merge many of these newly developed and ported applications together. You can find many of these applications at the 5th Toe website [<http://5toe.lyrical.net/>]. Major software releases based on the GNOME 2.2 Developer Platform are expected in the next several months, including Ximian's powerful Evolution personal information manager, the popular Galeon web browser, and Gnumeric and Abiword, two of the leading Free Software office tools. In addition, a large number of smaller apps will continue to provide a rich and usable environment for GNOME users.

GNOME 2.4 will continue GNOME 2.2's movement towards a more tightly integrated desktop, making it a real competitor at the enterprise level. This next release - expected in the late (northern) summer of 2003 - should offer several mature productivity applications, utilities and accessories so that a GNOME user will never have to leave a simple, clean, powerful GNOME application.

Six months after GNOME 2.4, we anticipate that GNOME 2.6 will feature the next release of GTK+, introducing new file selector and "combo" widgets, powerful menu and toolbar widgets and further advances in accessibility, usability and internationalization.

10. Getting Involved

The core of GNOME's success is its many volunteers, both users and developers.

As a user, your contribution can be as simple as filing good bug reports. You can file bugs in our Bugzilla using the simple bug assistant [<http://bugzilla.gnome.org/simple-bug-guide.cgi>]. If you want to contribute more, you can join our active bug-squad [<http://developer.gnome.org/projects/bugsquad/>].

From a developer aspect, there is much exciting progress to be made in any of our active developer groups - Accessibility, Documentation, Usability, Translation, Web, Testing, Graphics and Desktop & Platform Development. Many of these sub-projects have web pages on developer.gnome.org [<http://developer.gnome.org/projects/>]. Choosing a role that suits you may be difficult at first, but here is a guide to help you make your decision [<http://developer.gnome.org/documents/joining-gnome/>].

Helping on GNOME can be an incredibly satisfying experience, allowing you to meet a wide range of motivated, skilled, and helpful people all working towards a unified goal. Join us today and see what a difference you can make.