



Gnome 2.20 in detail

MEET THE NEW GNOME

The new release of the GNU desktop spoils users for choice with a whole bunch of innovations. **BY CHRISTIAN MEYER**

The latest version of the Gnome desktop impresses with improved interoperability; seamless drag and drop; the lean Tracker search engine, which integrates with the file manager; and automatic codec installation in the media player [1]. The developers also have added new features and removed annoying bugs from many key components.

In the past, critics said that the Gnome desktop component architecture is too complex. The architecture, dubbed “Bonobo,” has been regarded as obsolete since Gnome 2.18. The panel and

Evolution are the only black sheep left that rely on the technology, and this is likely to change next year at the latest. Most applications, including the Epiphany browser and gedit, come with their own plugin infrastructure that nicely fills the gap left behind by the ditched component architecture.

The latest version of Nautilus not only offers more in the line of eye candy, it also has useful features that improve usability. Whereas File Roller, the archive manager, previously refused to support drag-and-drop copying to a directory, this feature is now available. The code behind this feature, which comes from the Xfce project [2], was integrated by Nautilus developer Alexander Larsson in early September.

Many users complained about the delays before thumbnails were displayed. Christian Neumair resolved this issue by introducing an intelligent algorithm that asynchronously generates the images. This means that the file manager can

display directories with many images far faster after the code is updated; at the same time, the Exif data are parsed to choose either landscape or portrait format for display. The latest version of Nautilus is also the first to support XMP metadata (see the “eXtensible Metadata Platform” box).

eXtensible Metadata Platform

The XMP format was invented by Adobe to support RDF (Resource Description Framework) embedding in binaries. The free format defines a standardized schema and can be embedded in PDF, JPG, and PNG files, among others. Wikipedia [3] has more information on XMP.

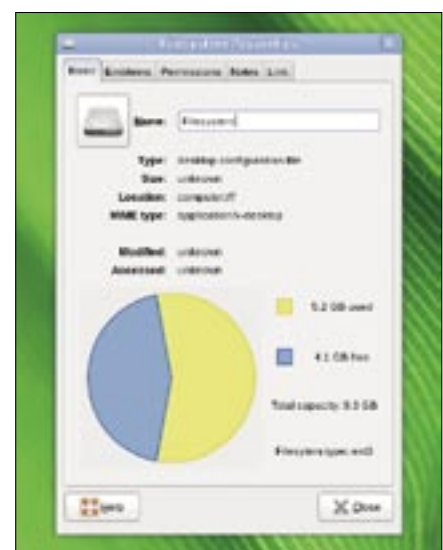


Figure 1: Nautilus shows disk information, the filesystem, and a graphic of disk usage in this case.

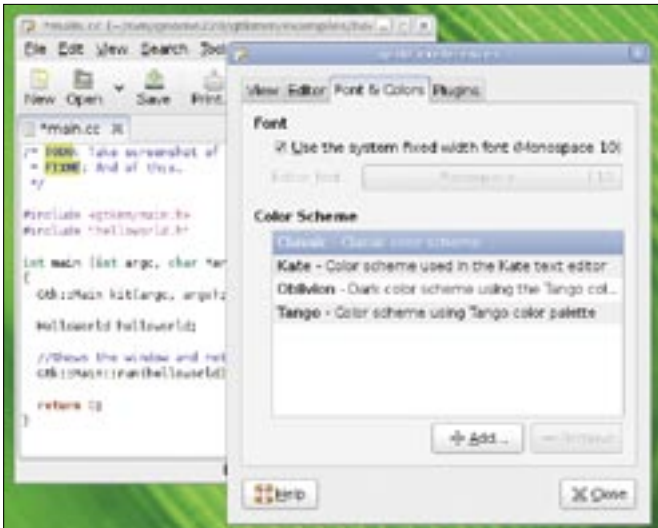


Figure 2: The gedit text editor, with its advanced syntax highlighting, outshines many state-of-the-art editors.

Nautilus was the first free file manager to integrate a desktop search engine. It gives users a convenient option for file- and keyword-based searching. What's new is the option to choose Tracker [4] instead of Beagle. Tracker, which was programmed in C, is a desktop search engine that saves memory and works faster than Beagle [5] in many cases.

Nautilus now displays the filesystem properties and hard-disk usage in the *Basic* tab (Figure 1). Baobab is still available to give users a more detailed analysis of disk use and includes bug fixes.

Easy Unpacking

The File Roller archive manager now supports a large variety of archive types including ZIP, RAR, GZ, and BZ2. The latest version of the program allows users to drag and drop files between two instances – for example, when creating a new archive to store files from various archives. The application now fully exploits the capabilities of GnomeVFS (the virtual filesystem support library); the

highlighting, which it owes to the new GtkSourceView2 library replacing its predecessor after two years. The new engine will recognize scripting languages such as Python or Ruby embedded in HTML and is intelligent enough to correctly interpret dollar signs in *\verbatim* environments. Other modern editors fail miserably at this task and highlight the text in the wrong color. If you are used to a specific syntax color scheme with a different editor, you need not change – the editor gives you four basic schemes that you can modify (Figure 2).

Just Look

If you use Adobe Reader to view PDFs and fill out forms, you now have the op-

portunity of kicking the heavyweight application off your disk. The new version of the Evince document viewer, which is based on the **Poppler** library, will help you master these tasks. A project that was implemented during the last Google Summer of Code [6] gave Evince forms support (see Figure 3). The program can now save images embedded in PDF documents and print multiple pages on a single sheet of paper.

Easy Editing

The latest version of the Gnome text editor, gedit, which now has an advanced plugin infrastructure, impresses with improved syntax

The Eye of Gnome (EoG) image viewer has also made considerable progress. Thanks to a core rewrite, the image viewer is now more stable and faster than its predecessor. The image viewer has a new Properties dialog for images (see Figure 4) and has XMP support, just like Nautilus. The ability to launch an image from the application for editing is new (see Figure 5). The reworked Properties dialog shows information and metadata for images.

Yelp, the Gnome help browser, gives users a hand if they are struggling with a program. With the color scheme now reflecting the current theme, the help function is more intuitive. Intelligent loading of manuals reduces wait times; instead of loading the whole manual into memory, Yelp now simply loads and displays individual pages (see Figure 5).

The Tomboy note-taking application replaces the legacy note taker, but you do not need to rewrite old data because Tomboy can import existing notes. The developers have added two useful functions to the program: Tomboy can use **WebDAV** or SSH to talk to a server and

GLOSSARY

Poppler: Poppler is an Xpdf library fork and is now under separate development. Both Gnome and KDE use the library for their applications.

WebDAV: Web-based Distributed Authoring and Versioning. An open standard for file sharing over the Internet. WebDAV is an extension of http/1.1 that lets users transfer whole directories.



Figure 3: Evince is one of few free document viewers that lets users fill out forms.



Figure 4: The Eye of Gnome Properties dialog with information about the current image. You can choose which application to use.

synchronize notes between two computers, and an intelligent algorithm prevents data loss and merge conflicts as much as possible. Plus, when you restart, Tomboy now displays any notes you left open.

Multimedia

In the age of multimedia entertainment, a missing codec should not stand in the way of a user's home viewing pleasure. Previously, users were expected to manually install missing codecs. As you can guess, this was often a frustrating experience if a search drew a blank. The

feature is available on Ubuntu and openSUSE right now. Other distributors, such as Fedora, will probably introduce it with their next releases. Embedded videos on Internet pages and the option to play back in full-screen mode now work better in Totem. The flashing play button that tells you when you can launch a video is also a neat gadget.

Evolution

Have you ever forgotten to send an important attachment with an email? The Evolution groupware solution prevents

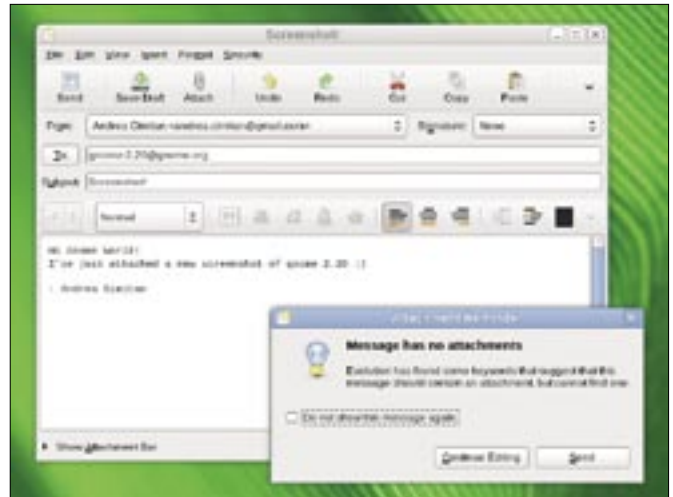


Figure 6: Forgotten the attachment? No problem - Evolution will remind you of missing attachments.

Gnome multimedia player helps users by offering to autonomously locate and install missing codecs.

this common mistake - a dialog warns you if the body of the mail refers to an attachment, but you don't actually have one (see Figure 6).

Automatic notification for incoming mail is also new - an envelope icon flashes in the Gnome panel to draw your attention (Figure 7). Users reinstalling their computers often had problems transferring file structures created in Evolution to the new system. The backup and restore system avoids this problem by saving the required files and giving users the ability to restore them later at one fell swoop (Figure 8).

The "magic space key" is harder to find; pressing the space key shows you every new message in every single folder. There's no need to push the mouse - Evolution will take care of navi-

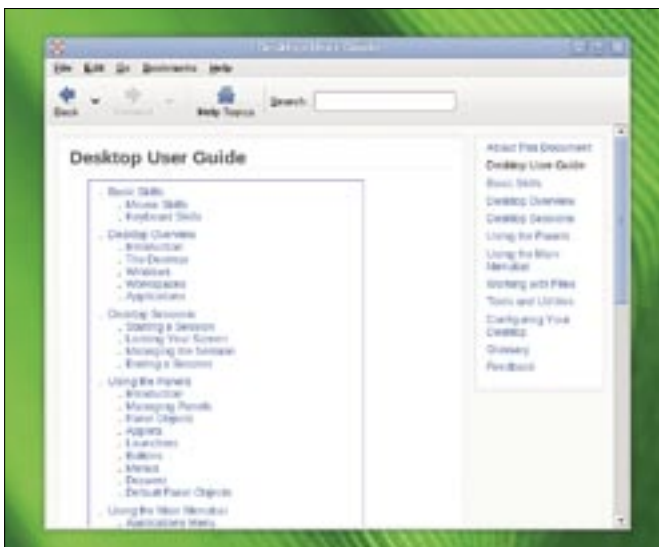


Figure 5: The latest Yelp help browser is far faster and renders help pages in a more attractive way.



Figure 7: A flashing envelope icon notifies users of incoming mail.

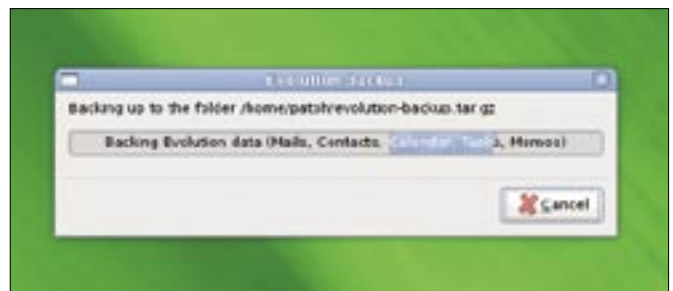


Figure 8: With the new backup plugin, you can save your Evolution settings.

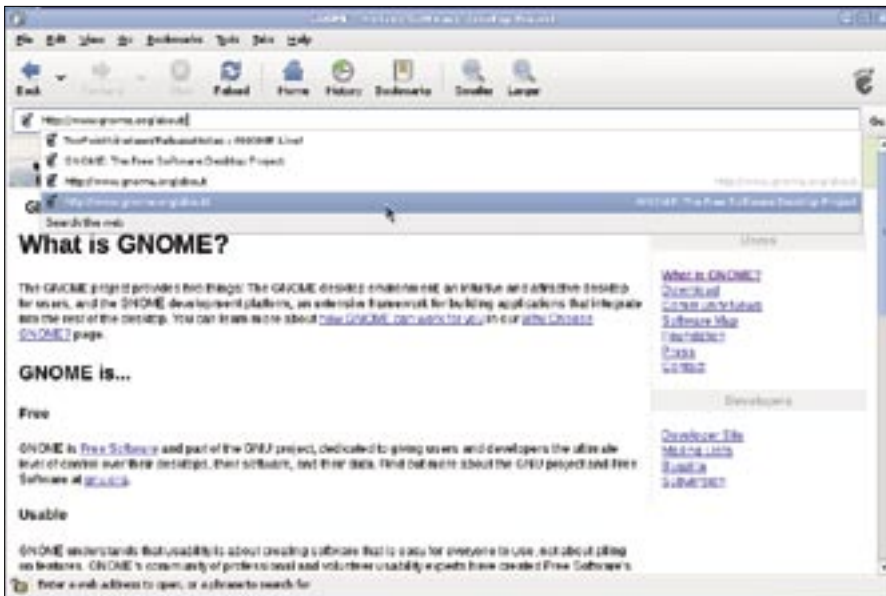


Figure 9: Epiphany updates the address bar when you use the keyboard to navigate it.

gation between new messages.

Evolution uses the printer API introduced with Gtk+ 2.10. The printing system is cross-platform capable and will run on Windows; the developers have already ported Evolution to the Windows platform. Thankfully, the anti-spam extension is now more reliable and no longer restricted to SpamAssassin. The alternative, in the form of Bogofilter, is no problem for Evolution; in fact, there is a spam configuration option in the preferences.

Evolution is also known to be a groupware solution that works perfectly with Microsoft Exchange Server. To underline this ability, Evolution has a delegate feature that allows your colleagues to work on your files while you are away. Other enhancements include improved connector performance; the connector is far faster in offline mode and loads folders more quickly.

Epiphany

The Epiphany Web browser has also benefited from small but decisive enhancements. The address bar now changes when you search a site you

have already visited (see Figure 9), and your “Favicons” are shown in the history entries. Firefox-style soft scroll also has been integrated in response to repeated user requests.

Panel and Control Center

The Gnome panel is the user’s constant companion. One weak point that annoyed many users was the window buttons changing size. The developers have now tackled this issue and at the same time fixed the issue with storing the po-

sition of the floating panel, which led to the panel moving to different positions for different screen resolutions.

In the Control Center, the developers have reorganized the various *Theme*, *Background*, *Fonts*, and *Interlace* dialogs. The new *Appearance* control-panel applet (Figure 10) groups these items, thus helping to unclutter the screen. The accessibility settings have been moved into a new tab below *Preferred Applications*. Users who have a wireless LAN at home can now look forward to **WPA** encryption support.

Power on the Road

Up to now, laptop users often have had the problem of not knowing how long the battery would last. The computer would give them an optimistic assessment sometimes, and a more pessimistic one at other times. Gnome’s integrated power management provides extremely precise information on the battery status on the basis of manufacturer data. The program will even warn you if it finds a battery that has been withdrawn for safety reasons.

GDM

A graphical login screen is a matter of course today. GDM is the leading login screen with respect to configuration options and features. In combination with

GLOSSARY

WPA: Wi-Fi Protected Access. A method of encrypting data traffic on wireless LANs currently regarded as secure. In contrast to WEP (Wired Equivalent Privacy), which is fairly easy to break, WPA uses dynamic keys to protect the network.

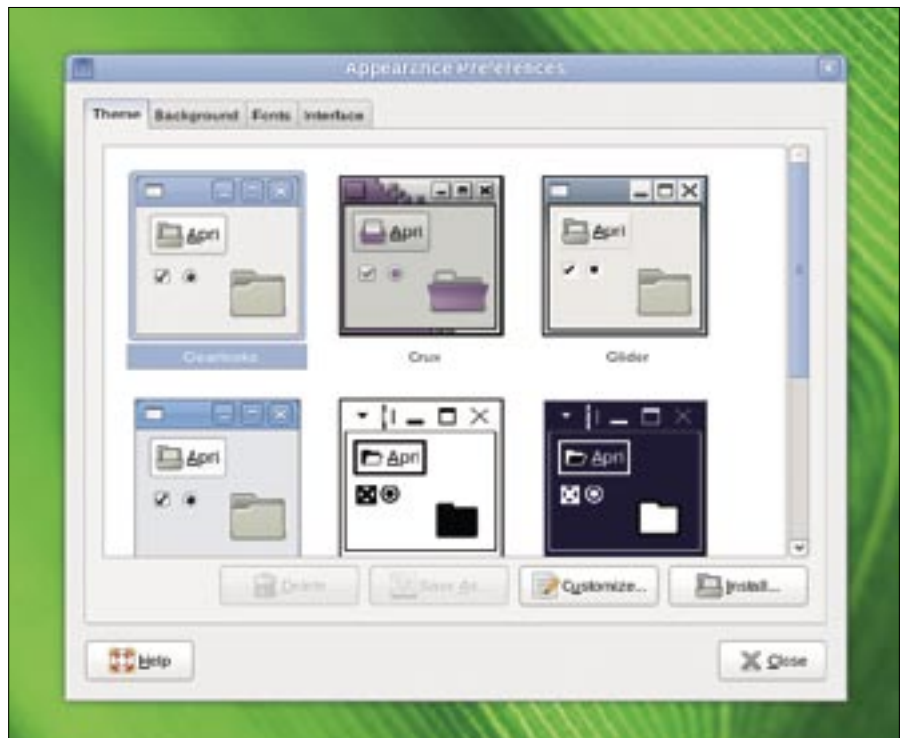


Figure 10: The new Appearance Preferences dialog groups what were four separate dialogs in previous versions. Ubuntu adds a Desktop Effects tab for Compiz configuration.

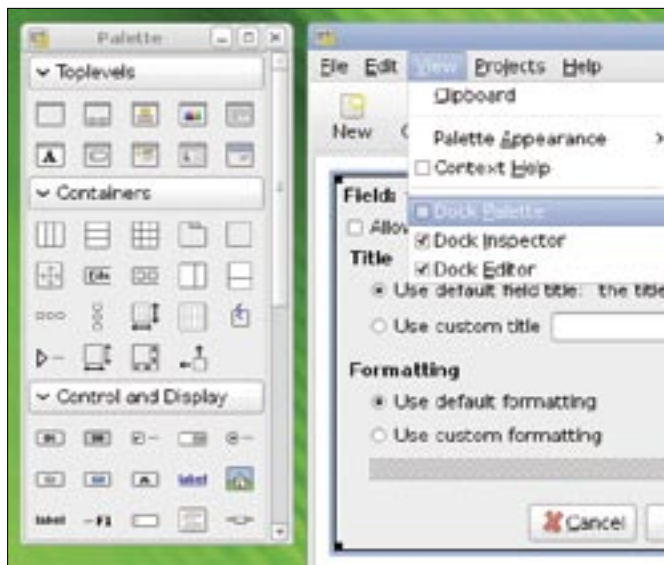


Figure 11: Glade lets developers compile complex interfaces in next to no time.

the screen saver, which now gives other users the ability to leave you a message, even if your screen is locked, GDM rounds off the good overall impression the desktop makes. GDM now monitors *utmp* and *wtmp* more precisely and supports the Linux-auditing library for improved user control.

Accessibility

The accessibility initiative launched by Sun in 2001 continues to make progress on Gnome. Orca, the default screen reader, now has voice synthesis support, a magnifying glass, and braille support. The program is application independent, which means it adapts to reflect the functionality and usage differences in various applications, including OpenOffice, Firefox, Pidgin, and Java.

The latest version of Orca has no trouble handling context-sensitive help, messages, and progress indicators, and it can adapt to match the pronunciation of various words.

A Free Hand for Admins

Gnome’s lock-down mechanism was neglected for many years until Pessulus and Sabayon hit the scene, giving ad-

ministrators a powerful configuration tool.

In recent weeks, Federico Mena Quintero, who works for Novell, integrated the Pessulus lockdown program with Sabayon. The Sabayon user profile editor creates global profiles to match an enterprise’s needs. This all happens within an interactive Gnome session that runs in an embedded win-

dow.

Individual settings, stored as GConf values, can be modified arbitrarily with the convenient administration interface. Gnome 2.20 adds the ability to modify OpenOffice components. Sabayon now supports a wide range of programs, including Mozilla/Firefox and of course Gnome applications.

Design Factory

The Glade interface designer (Figure 11) was introduced with the early Gnome versions. The application lets programmers compile graphical front-ends with drag and drop, thus reducing development time considerably. Glade version 3.4 is a more mature application; many free-floating windows, including the tools, editor, and pallet window, now dock onto the main window. Developers can visit the website [7] for more information about this GUI tool.

Information

Just as in the past, detailed information on the API and documentation on usability studies for translators and the documentation team are available online [8], and another page provides a larger selection of user and developer documentation [9], courtesy of the Google Summer of Code. The documentation on the site is updated regularly.

Future

The next six months will be exciting for Gnome. The mobile initiative launched

with the Neo1973 [10] and Nokia’s N770/N800 [11] is likely to produce its first results.

The developers are again collecting ideas for the desktop; for example, a re-work of the user interface for the Gnome VoIP client, Ekiga [12], is planned, as well as support for SIP presence.

Clean-up work on the Control Center and libraries continues to top the priority list. Users can look forward to more intuitive use and further reductions in resource requirements.

An enhanced API for panel development is in the cards, although users are more likely to benefit from the ability to arrange applets in a simpler way.

The Sabayon administration tool is also on the list of applications scheduled for enhancements, and let’s not forget the Vinagre [13] VNC tool, which is also under development.

Roadmap

The list of applications planned for Gnome 2.22, which is scheduled for release in March, is fairly impressive. A visit to the Roadmap site [14] is worth the trip. ■

INFO	
[1]	Gnome homepage: http://www.gnome.org/
[2]	Xfce Desktop: http://www.xfce.org/
[3]	Wikipedia entry on XMP: http://en.wikipedia.org/wiki/Extensible_Metadata_Platform
[4]	Tracker homepage: http://www.tracker-project.org/
[5]	Beagle homepage: http://www.beagle-project.org/
[6]	Google Summer of Code: http://live.gnome.org/SummerOfCode2007
[7]	Glade User Interface Builder: http://glade.gnome.org/
[8]	Gnome development site: http://developer.gnome.org/
[9]	Gnome library: http://library.gnome.org/
[10]	OpenMoko (Neo1973): http://www.openmoko.org/
[11]	Maemo changes: http://live.gnome.org/Maemo/Gtk210Changes
[12]	Ekiga homepage: http://www.ekiga.org/
[13]	Vinagre homepage: http://www.gnome.org/projects/vinagre/
[14]	Gnome Roadmap: http://live.gnome.org/RoadMap

GLOSSARY

SIP: The Session Initiation Protocol, which was developed by the Internet Engineering Task Force (IETF), establishes a communications session between multiple subscribers and is popular in the IP telephony sector.