Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

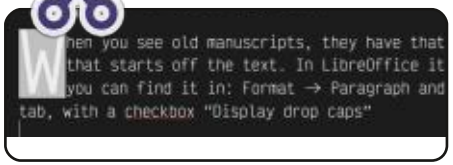
ISSUE #225 - January 2026

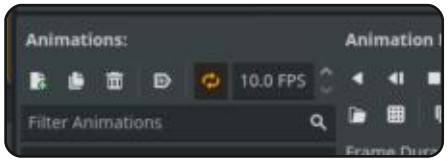
EDUBUNTU 25.10
AND POP!_OS REVIEWED

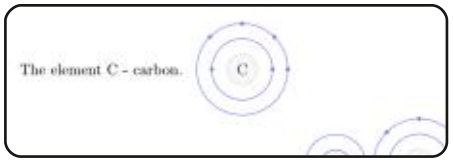
Full Circle

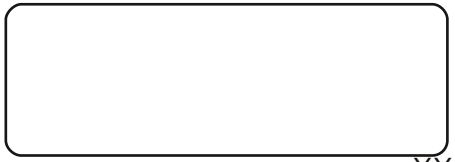
THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

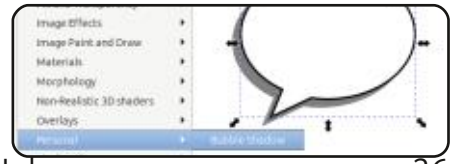
HowTo



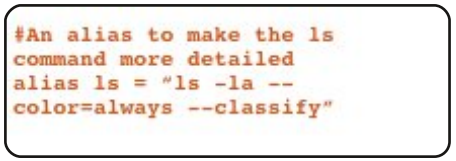


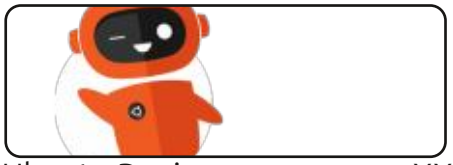


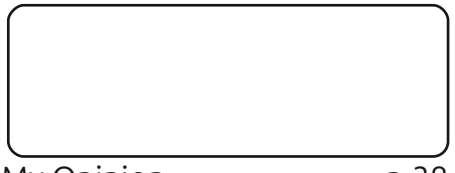




Graphics







EDITORIAL

Welcome to the latest issue of Full Circle

Wow, 2026 already! Where did 2025 go? To bring in 2026 we bring you some Latex, Godot, Inkscape and a sprinkle of LibreOffice.

For our reviews this month we're going with Edubuntu (remember that?) and the latest release of Pop!_OS. I haven't heard of Edubuntu in a while, but it looks like it's back and under new management.

Elsewhere, Erik is having another rant, I mean opinion, and is answering your questions in the ever popular Q&A section. He's also writing the C&C piece too. He's a busy guy.

Remember: the ***Full Circle Weekly News*** is available on ***Spotify*** and ***YouTube***. The more upvotes and reviews you give it on those platforms the more exposure we get. And, we have a Table of Contents which lists every article from every issue of FCM. Huge thanks to ***Paul Romano*** for maintaining: https://goo.gl/tpOKqm and, if you're looking for some help, advice, or just a chinwag: remember that we have a **Telegram** group: https://t.me/joinchat/24ec1oMFO1ZjZDc0. I hope to see you there. Come and say hello.

All the best to you and yours for 2026!
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NEW

https://www.youtube.com/playlist?list=PLnv0U8wOzXu487gi5I2Isf-rQjEyKPAiF

NEW

Orbitiny desktop environment:

29/12/2025

The eighth release of the Orbitiny Desktop desktop environment, written from scratch using the Qt framework, has been published. The project attempts to combine innovative ideas previously unseen in desktop environments with traditional elements, such as a plugin-enabled panel, an application menu and a desktop where shortcuts can be placed. Work is currently focused on running in X-server-based environments, but Wayland support is possible in the future. The code is written in C++ and is licensed under the GPL.

Orbitiny-specific features include: invoking actions via screen gestures (drawing a specific outline with the mouse on an empty area of the desktop); icon labels (shown for new, modified, empty, or clipboard-moved files, as well as empty directories); the ability to paste a file into multiple selected directories simultaneously; support for placing desktop contents in any directory (not just $HOME/Desktop); and the use of separate desktop directories for each virtual desktop and monitor. A list of typical Orbitiny features can be found in the previous announcement.

https://www.reddit.com/r/linux/comments/1py5avz/orbitiny_desktop_pilot_8_release_the_biggest_and/

Arcan 0.7.1 desktop engine and Durden 0.6.3 desktop environment

29/12/2025

After a year of development, the Arcan 0.7.1 desktop engine has been released. It combines a display server, a multimedia framework and a game engine for 3D graphics. Arcan can be used to create a variety of graphics systems, from user interfaces for embedded applications to self-contained desktop environments. The Safespaces 3D user environment for virtual reality systems and the Durden desktop environment are built on Arcan. The project's code is written in C and distributed under a BSD license (some components are licensed under the GPLv2+ and LGPL).

Arcan is not tied to specific graphics subsystems and can run on various system environments (BSD, Linux, macOS, Windows) using pluggable backends. For example, it can run on Xorg, egl-dri, libsdl, and AGP (GL/GLES). The Arcan display server can run client applications based on X11, Wayland and SDL. The project is developing its own fork of the X.org server, xarcan, as well as a composite arcan-wayland server (waybridge), which allows running Wayland-based applications. Key criteria used in the design of the Arcan API include security, performance, and debuggability. To simplify interface development, the use of Lua is proposed.

https://arcan-fe.com/2025/12/27/arcan-0-7-1-minutes-to-midnight/

Ubuntu Sway Remix 25.10:

30/12/2025

Ubuntu Sway Remix 25.10 is now available, offering a pre-configured, ready-to-use desktop environment based on the Sway tiled compositing manager. This unofficial edition of Ubuntu 25.10 is designed for both experienced Linux users and beginners who want to try out a tiled window manager without the need for extensive configuration. Builds for the amd64 and arm64 (Raspberry Pi) architectures are available for download.

A feature of the distribution is its complete abandonment of the Snap package manager. All programs are delivered as standard deb packages, including the Firefox web browser, which is installed using the official Mozilla Team PPA. The distribution's installer is based on the Calamares framework.

The new release features a switch to Ubuntu 25.10, the swaykbdd component for setting individual keyboard layouts for each window, minor optimizations to system scripts, and the elimination of a number of minor bugs.

https://github.com/Ubuntu-Sway/Ubuntu-Sway-Remix/releases/tag/25.10_beta

U-Boot project:

30/12/2025

The U-boot project, that develops a bootloader for embedded devices, has joined the Software Freedom Conservancy (SFC), a non-profit organization that collects and redistributes sponsorship funds and provides legal protection for free software projects. SFC allows participants to focus on development while taking on the responsibility of collecting donations. SFC also takes ownership of the project's assets and indemnifies developers from personal liability in the event of litigation.

Since the SFC falls under a preferential tax category, channeling funds for U-Boot development through this organization will allow for tax deductions when transferring donations. Projects supported by the SFC include BusyBox, CoreBoot, Git, Inkscape, Mercurial, OpenWrt, QEMU, Samba, Sourceware, Wine, Xorg, and about a dozen other open source projects.

https://sfconservancy.org/news/2025/dec/29/u-boot-has-joined-sfc/

Lustre 2.17 cluster file system:

31/12/2025

The Lustre 2.17 cluster file system, used in most of the largest Linux clusters containing tens of thousands of nodes, has been released. Lustre's key components include metadata storage servers (MDS), management servers (MGS), object storage servers (OSS), object storage (OST, which supports operation on top of ext4 and ZFS), and clients. The project's code is licensed under the GPLv2 license.

https://www.mail-archive.com/lustre-announce@lists.lustre.org/msg00281.html

Shotcut 25.12:

31/12/2025

Shotcut 25.12, a video editor developed by the author of the MLT project and using this framework for video editing, has been released. Support for video and audio formats is implemented via FFmpeg. Plugins implementing video and audio effects compatible with Freei0r and LADSPA are supported. Shotcut features include multi-track editing, allowing video to be assembled from fragments in various source formats, eliminating the need for prior import or re-encoding. Built-in tools are available for creating screencasts, processing webcam images, and receiving streaming video. The code is written in C++ using the Qt framework and is distributed under the GPLv3 license. Pre-built builds are available for Linux (AppImage and snap), macOS, and Windows.

https://shotcut.org/blog/new-release-25.12.30/

SDL 3.4.0 Multimedia Library:

1/1/2026

SDL 3.4.0 (Simple DirectMedia Layer) is now available. This library is designed to simplify the development of games and multimedia applications, offering features such as hardware-accelerated 2D and 3D graphics, input processing, audio playback, and 3D rendering via OpenGL, OpenGL ES, Metal, Direct3D, and Vulkan. The code is written in C and licensed under the Zlib license. Bindings are provided for using SDL in projects written in various programming languages.

SDL 3.4.0 is the second major stable branch in the SDL 3.x series – the first stable branch was announced as 3.2.x, while 3.3.x was positioned as experimental. The main changes in SDL 3.4.0 include improved portability between the 3D GPU API and the 2D rendering API, expanded support for building into WebAssembly using the Emscripten compiler, improved support for graphics tablets and digital pens, and native support for the PNG image format.

https://discourse.libsdl.org/t/announcing-sdl-3-4-0/65438

SeaMonkey 2.53.23:

1/1/2026

SeaMonkey 2.53.23, a suite of web applications, has been released. It combines a web browser, email client, NNTP conferencing client, RSS/Atom news feed aggregation system, and Composer, a WYSIWYG HTML page editor, all in one product. Pre-installed add-ons include the ChatZilla IRC client, DOM Inspector web developer toolkit, and Lightning calendar scheduling tool. The new release includes fixes and changes from the current Firefox codebase (SeaMonkey 2.53 is based on the Firefox 60.8 browser engine, with security fixes and some improvements backported from the latest Firefox branches).

Changes in the new version include : ChatZilla IRC client now uses the PluralForm library when formatting network parameters in plurals (e.g., 1 network, 5 networks). Service names in dataman.js have been updated. CSS issues have been resolved.

https://www.seamonkey-project.org/news%232025-12-31

IceWM 4.0.0:

1/1/2026

IceWM 4.0.0, a lightweight window manager, is now available. IceWM offers full control via keyboard shortcuts, virtual desktops, a taskbar, and application menus, as well as tabs for grouping windows. The window manager is configurable via a simple configuration file, and themeing is supported. Tab-based window grouping is supported. Built-in applets for monitoring CPU, memory, and traffic are available. Several third-party GUIs for configuration, desktop implementations, and menu editors are being developed separately. The code is written in C++ and distributed under the LGPLv2 license.

The major version number change is a natural continuation of the project's version numbering (4.0 was created after the release of 3.9). The new version features an improved Alt+Tab interface for quickly switching between windows, which can now handle multiple windows in both horizontal and vertical modes. After activating the Alt+Tab interface, new features are available, such as pressing the first letter of an application class name to switch to the next window in that class, pressing number keys or clicking the mouse to select an application, navigating between windows using the cursor keys, and pressing the "menu" button to open the system menu.

The new version also includes alphaBlending enabled by default (alphaBlending=true) and 32-bit RGBA. A QuickSwitchPreview setting has been added , enabling application thumbnails in the window switching interface. The DoubleBuffer setting has been removed. Icon sizes have been standardized (16, 22, 24, 32, 48, 64, 128, 256). Icon rendering has been accelerated using caching. The text size in window templates is limited to 128 bytes. The getWorkspaceName and getWorkspaceNames options have been added to the icesh utility.

https://github.com/ice-wm/icewm/releases/tag/4.0.0

Devuan 6.1:

2/1/2026

Devuan 6.1 "Excalibur" is now available for download. It's a fork of Debian GNU/Linux, shipped without the systemd system manager. Live builds with the Xfce desktop environment (1.7 GB and 879 MB) and installation ISO images (4.2 GB and 593 MB) are available for download for the amd64 architecture. Packages are built for the i386, amd64, armel, armhf, arm64, ppc64el, and riscv64 architectures. Images for ARM systems and virtual machines can be created manually using the arm-sdk and vm-sdk tools.

The project maintains forks of approximately 400 Debian packages, which have been modified to remove dependencies on systemd, rebranded, or adapted to the specifics of the Devuan infrastructure. Two packages (devuan-baseconf and jenkins-debian-glue-buildenv-devuan) are unique to Devuan and are related to repositories and the build system. Otherwise, Devuan is fully compatible with Debian and can be used as a basis for creating specialized Debian builds without systemd. Devuan-specific packages can be downloaded from the packages.devuan.org repository.

Changes in Devuan 6.1 primarily focus on synchronization with Debian 13.2, as well as support for the sysvinit, runit, and OpenRC init systems. Several issues in the slim login manager and the speech-synthesis package have been fixed. The community has created unofficial builds for Raspberry Pi boards. Additionally, testing of the Devuan 7 "Freia" package repository has begun, based on the Debian Testing repository, which forms the basis for the upcoming Debian 14 release.

https://dev1galaxy.org/viewtopic.php?id%3D7719

Snoop 1.4.3:

2/1/2026

Snoop 1.4.3, a forensic OSINT tool for searching public data for user accounts (open source intelligence), has been released. The program analyzes various websites, forums, and social networks for the desired username, allowing it to determine which websites contain a user with the specified nickname. The project is based on research into public data scraping. Builds are available for Linux and Windows.

The code is written in Python and distributed under a license that restricts use to personal use only. The project is a fork of the Sherlock project codebase, which is licensed under the MIT license (the fork was created due to the inability to expand the site base).

https://github.com/snooppr/snoop/releases

Pidgin 3.0 messenger re5:

2/1/2026

The fifth experimental release of the Pidgin 3.0 instant messaging client (2.94) has been released. This release is rated as being of pre-alpha quality, not intended for everyday use. Builds are available in Flatpak format and are hosted in the beta repository on Flathub.

Pidgin 3 has been in development since 2011, after three years of conceptual and conceptual discussions. Pidgin 3 features the GObject type system, GTK4 and Adwaita libraries, the Meson build system, GPlugin for plugin processing, SQLite for storing chat history, and GSettings for managing settings. The API has been completely redesigned. GTK Builder XML is used to define interface elements, and a custom widget library, Talkatu, has been created to display chat history.

https://discourse.imfreedom.org/t/pidgin-3-0-experimental-5-2-94-0-has-been-released/338

Icecast 2.5:

2/1/2026

Icecast 2.5.0, a server for streaming audio and video over a network, has been released. It supports Ogg Vorbis, Ogg Theora, Opus, FLAC, WebM (VP8/VP9), and proprietary codecs such as MP4 (H.264, MPEG4), M4A, NSV, AAC, and MP3. The code is written in C and licensed under the GPLv2 license.

The platform was created as an

alternative to the proprietary Shoutcast system and gained widespread popularity in the early 2000s for creating internet radio stations. In parallel, the project is developing the libshout library for interacting with Icecast-based servers and the IceS program for sending audio streams to Icecast servers. The development is overseen by the Xiph.Org Foundation.

https://icecast.org/news/icecast-release-2_5_0/

MenuetOS 1.57.70:

3/1/2026

MenuetOS 1.57.70, where the kernel is developed entirely ine assembly, is available. MenuetOS builds are prepared for 64-bit x86 systems and can be run under QEMU. Building system takes up 1.4 MB and is in a diskette image and iso-image for recording on CD (supported launch in VirtualBox). The Menuet64 project code is subject to a limited license requiring the approval of any commercial use, and Menuet32 under the GPL license.

The system supports displacement multitasking, loading on systems with UEFI and SMP on multi-core systems. The project also develops its own X-server and provides a built-in graphical user interface with the support of design topics, Drag & Drop operations, UTF-8 encoding and keyboard layout switchings. For the development of applications in the assembly language, an own integrated development environment is offered.

The operating system has a network stack, drivers for Ethernet and USB 2.0, AC97 audio codecs and Intel HDA (ALC661/2888). The project develops a simple web browser HTTPC, mail and ftp clients, VNC client, ftp and http servers, applications for viewing images, editing texts, working with files, watching videos, playing music. To navigate the files, it is proposed to use the file manager NDN (Necromcer's Dos Navigator), ported for MenuetOS.

You can launch a DOS emulator and play games like Quake and Doom. Compatibility with Linux is provided using the basic layer of POSIX, which allows you to create GUI applications that can be run in Menuet and Linux / X11, as well as its own X-server, written in assembly, in which you can redirect the output of the application running on the external system with Linux, to display its interface in MenuetOS.

https://www.reddit.com/r/linux/comments/1q20c06/menuetos_running_some_simple_linux_x11/

Box64 0.4.0:

4/1/2026

Box64 0.4.0, designed to run Linux programs built for x86_64 architecture, on equipment with ARM64, RISC-V and Loongarch64 processors, is ready. The project pays great attention to launching games and provides the opportunity to run Windows builds through Wine and Proton. The original code of the project is written in C and distributed under the MIT license.

A feature of the project is the use of a hybrid execution model, where emulation is applied only to the machine code of the application itself and specific libraries. Typical system libraries, including libc, libm, GTK, SDL, Vulkan and OpenGL, are replaced by options native to target platforms. Thus, library calls are performed without emulation, this allows for a significant increase in productivity.

https://box86.org/2026/01/new-box64-v0-4-0-released/

Manjaro Linux 26.0:

5/1/2026

Manjaro Linux 26.0, a n00b-focused distribution based on Arch Linux, has been released. The distribution features a simplified and user-friendly installation process, automatic hardware detection and support for installing necessary drivers. Manjaro is available as live builds with KDE (5.4 GB), GNOME (5.2 GB) and Xfce (5.1 GB) desktop environments, designed for the x86_64 architecture and various ARM-based boards. Budgie, Cinnamon, Deepin, LXQt, and i3 builds are also being developed with community input.

Manjaro uses its own BoxIt repository management tool,

modeled after Git. The repository is maintained using a rolling update system, but new versions undergo an additional stabilization phase. In addition to its own repository, it supports the AUR (Arch User Repository). The distribution includes a graphical installer and a graphical interface for system configuration.

https://forum.manjaro.org/t/manjaro-26-0-anh-linh-released/184526

PCSX2 2.6.0:

5/1/2026

The PCSX2 2.6.0 project, a PlayStation 2 emulator, has been released. The emulator allows you to run PlayStation 2 games on a standard PC and utilize advanced features such as screen resolution adjustment with output scaling, creating virtual and shared memory cards, saving game state, patching games, and recording gameplay video. MIPS CPU emulation on x86 systems is achieved using recompilation and interpretation in a virtual machine. The emulator's performance and capabilities are sufficient to run 99% of the 2,500 games tested for the Sony PlayStation 2, including Final Fantasy X and Devil May Cry 3. The project's code is written in C++ and is distributed under the GPLv3 license.

https://pcsx2.net/blog/2025/pcsx2-2.6/

GNU Wget2 2.2.1:

5/1/2026

GNU Wget2 2.2.1 is now available. It represents a completely rewritten and redesigned version of the GNU Wget program for automated recursive content downloading. Wget2 offers a range of additional options, supports multi-threaded downloads, enables the use of available functionality through the libwget library, supports HTTP/2 and TLS 1.3 protocols, enables the download of only changed data, can save data from streaming servers, correctly handles internationalized domain names, and can transcode downloaded content. Wget2 is licensed under the GPLv3+ license, and the library is licensed under the LGPLv3+ license.

https://www.mail-archive.com/info-gnu@gnu.org/msg03481.html

MiDesktop:

5/1/2026

The first experimental release of the MiDesktop project, a fork of the KDE 1.1.2 desktop environment, adapted for modern systems, has been released. The KDE 1 codebase has been ported to the Qt 2 framework to address issues and licensing limitations specific to the Qt 1 branch. The Osiris project, led by the same developers, is developing an updated fork of Qt 2.3.2. MiDesktop's code is licensed under the GPLv2 license. Builds are available for Debian 13 and Ubuntu 24.04.

The project's stated goal is to modernize the KDE 1 codebase without overloading the environment with unnecessary functionality. MiDesktop intends to maintain the overall minimalist approach to desktop development from the late 1990s and early 2000s, while eliminating the shortcomings inherent to those systems. MiDesktop's key features include a simple interface, lightweight design, and high performance.

MiDesktop requires any Linux system with glibc and an X server, such as XWayland or X.Org Server, or the Wayback layer. Dependencies include libjpeg, libtiff, libpng, Osiris Toolkit 2.4.4+, libxcb, libxkb, and gettext. CMake and GCC 12+ are required for building.

https://www.reddit.com/r/linux/comments/1q17svp/midesktop_kde1_fork_development_preview_release/

Debian Data Protection Team have resigned:

5/1/2026

Andreas Tille, the Debian project leader, published a report highlighting problems within the Data Protection Team: three members of the team resigned simultaneously. The reason cited for their departure was a lack of capacity and enthusiasm to continue working. The team is now without members, and the project

is urgently seeking volunteers to replace them.

The Data Protection Team was established in 2018 to coordinate compliance with European data protection law (GDPR), respond to requests for project-stored data, advise Debian developers on personal data processing, and improve privacy policies. Applicants must have a working knowledge of data protection and an understanding of GDPR requirements.

https://lists.debian.org/debian-devel-announce/2026/01/msg00004.html

Middle-click paste:

5/1/2026

Changes have been proposed for use in GNOME and Firefox that disable by default a useful feature of Linux graphical environments—the ability to quickly paste clipboard contents by pressing the middle mouse button. The changes are currently under review and have not yet been finalized.

Firefox developers cite the feature's unfamiliarity with new users, who are confused by accidental mouse wheel clicks, as the reason for disabling it. They also cite a wiki page on freedesktop.org, which claims that normal clipboard behavior in Linux matches that of Windows and macOS, and presents middle-click pasting as an "Easter egg" for experienced users. If the change is adopted, Firefox users will have to manually change the "middlemouse.paste" setting in the about:config page.

The reason for disabling middle-click paste in GNOME is to remove specific X11 features (Wayland also supports this feature), which cause unexpected behavior for users of other platforms and are typically used accidentally. It is expected that users who value middle-click paste will be able to enable it by changing the settings with the command "gsettings set org.gnome.desktop.interface gtk-enable-primary-paste true."

https://www.phoronix.com/news/GNOME-Firefox-MiddleClick-Paste

Privoxy 4.1.0:

6/1/2026

After a year of development, the release of the Privoxy 4.1.0 proxy server, designed to create personal filters of web content, was published. With Privoxy, you can cut advertising inserts, discard tracking cookies, delete pop-up dialogues, block the download of a third-party JavaScript code and make the user's arbitrary changes to the web pages. Privoxy supports the installation of both local systems of individual users and servers to create a centralized storage infrastructure for filtering content on the local network. The project code is written in C and distributed under the GPLv2+ license. Ready-made builds are prepared for Linux (deb) and Windows.

Aadvanced features include: the ability to link tags to change the behavior of filters depending on individual client and server HTTP headers; HTTPS inspection mode, allowing you to filter HTTPS queries and responses; using regular expressions in configuration files; the ability to replace animated gifs with striped static images. Privoxy can be used to block ads and unwanted content on devices where it is impossible to install the appropriate browser add-ons.

https://www.privoxy.org/gitweb/?p=privoxy.git;a=blob;f=doc/webserver/announce.txt;h=78e2a9082a2d0304e47243acc25b6816ccf58a9b;hb=481b2322909dd35158882064f2267f696461e333

Loss32:

7/1/2026

The Loss32 project is developing a Win32/Linux distribution that combines the Linux kernel with a Windows-style graphical environment built on Wine and custom ReactOS components. The distribution aims to recreate the Windows desktop environment and provide tools for seamlessly running Windows applications, while also supporting traditional Linux programs. The first Loss32 prototype is scheduled to be published this month.

The project's goals are very similar to ReactOS and also attempt to recreate a Windows-style operating system, but it differs in

its refusal to use the Windows NT kernel. According to the creators of Loss32, the main factor hindering ReactOS development is the attempt to create a custom Windows NT kernel, which prevents it from achieving adequate hardware support, stability, and functionality. Loss32 has decided to focus its efforts on creating a Windows application runtime environment, using a system environment based on the well-functioning Debian 13 and Wine.

Unlike traditional Linux distributions, Loss32 replaces user-space components with Wine where possible and the desktop environment is based on Win32 applications and libraries, such as explorer.exe and shell32.dll from Wine and the ReactOS project. Mutter serves as the compositing manager. The design is styled after the classic Windows interface used from the late 1990s to the early 2010s. The system allows loading and running executable files containing Windows programs, just like in Windows.

https://news.ycombinator.com/item?id%3D46424173

Linux kernel bug fix analysis:

8/1/2026

The results of a study on the time it takes to detect and fix bugs in Linux kernel code have been published. The data was obtained by analyzing the fixes of 125,000 bugs tagged in the Git repository with the "Fixes:" tag, which refers to the commit in which the bug was introduced. The average time to detect kernel bugs was 2.1 years. If we consider only bugs fixed in 2025, this figure was 2.8 years.

30% of bugs were fixed by the same developers who introduced them. 56.9% of bugs are fixed within a year. 13.5% of bugs remained undetected for more than 5 years (if we consider only bugs fixed in 2025, this figure is 19.4%). Due to the uneven distribution, the median lifetime of a kernel bug was 8 months for the sample since 2005 and 1 year for bugs fixed in 2025. The longest-lasting bug was a buffer overflow in ethtool, fixed after 20.7 years.

The statistics also reflect the impact of the introduction of new tools for automated error detection, static analysis, and code testing, such as Syzkaller, KASAN, KMSAN, and KCSAN. For example, in 2010, no bugs found were fixed within a year. Meanwhile, in 2014, 31% of bugs were found within a year, in 2018, the figure was 54%, and in 2022, the figure was 69%.

The resulting statistics were used to create the VulnBERT machine learning model , which predicts the presence of vulnerabilities in commits. When tested on commits from 2024, the error detection accuracy was 92.2% with a false positive rate of 1.2% (by comparison, the previously available CodeBERT model detected 89.2% of issues with a false positive rate of 48.1%).

https://pebblebed.com/blog/kernel-bugs

QEMU & 32-bit hosts:

10/1/2026

Richard Henderson, one of the QEMU project maintainers and the second-largest contributor, has published a set of patches removing support for 32-bit host systems from QEMU. Support for 32-bit host environments was deprecated in April of last year in QEMU 10.0, and support for mips32 and ppc32 platforms was removed from the Tiny Code Generator (TCG) in December 10.2.

Barring any unforeseen issues, the QEMU 11.0 release, scheduled for mid-spring, will remove support for the remaining i386, arm, ppc, and riscv32 platforms from the TCG, as well as clean up the codebase and build system of components for running on 32-bit hosts.

https://lists.nongnu.org/archive/html/qemu-devel/2026-01/msg00902.html

Debian 13.3 and 12.13:

10/1/2026

The third corrective update for the Debian 13 distribution has been released, incorporating accumulated package updates and fixes to the installer. This release includes 108 updates that address stability issues and 37 updates that address vulnerabilities. Changes in Debian 13.3 include updates to the latest stable versions of the ansible,

apache2, containerd, dpdk, flatpak, gnome-shell, mbedtls, mutter, postgresql-17, and qemu packages.

Debian 12.13 is available, containing 96 updates fixing stability issues and 85 updates fixing vulnerabilities. The following packages have been updated to the latest stable versions: apache2, clamav, dpdk, intel-microcode, nvidia-graphics-drivers, openssl, postgresql-15, qemu, and ublock-origin. For the armel, mipsel, and mips64el architectures, the clamav, clamsmtp, libc-icap-mod-virus-scan, libclamunrar, and pg-snakeoil packages have been removed due to the unavailability of the rustc-web package for these architectures, which is required for building new versions of packages with ClamAV. The pagure package, which contains unfixed issues and vulnerabilities, has also been removed.

https://www.debian.org/News/2026/20260110

Budgie 10.10 ported to Wayland:

10/1/2026

The Budgie 10.10 desktop environment has been released, completely removing X11 support and leaving only the ability to run in Wayland-based environments. Similar releases have also been seen in related components, including the Budgie Session session manager, the Budgie Desktop View desktop, the Budgie Control Center system configuration interface and the Budgie Desktop Services suite. The project's code is licensed under the GPLv2 license. Budgie 10.10 packages are already available in Fedora Rawhide and will be included in Fedora 44 and Ubuntu Budgie 26.04.

Due to the transition to Wayland, many auxiliary components have been replaced: The grim and slurp utilities are used for creating screenshots and selecting screen areas. Screen locking, activating the screensaver during inactivity and power management are implemented using swayidle, gtklock (or swaylock), and wlopm. The swaybg utility is used for managing the desktop wallpaper. The xdg-desktop-portal-gtk and xdg-desktop-portal-wlr XDG portals are used for screen sharing and recording screencasts from applications. wdisplays is recommended for setting up multi-monitor configurations.

https://buddiesofbudgie.org/blog/budgie-10-10-released

Auto-cpufreq 3.0.0 and TLP 1.9.1:

12/01/2026

Auto-cpufreq 3.0.0, a utility designed to automatically optimize CPU speed and power consumption, has been released. The utility monitors laptop battery status, CPU load, CPU temperature, and system activity and dynamically activates power-saving or high-performance modes based on the situation and selected options. It supports devices with Intel, AMD, and ARM processors. It can be controlled using a GTK-based graphical interface or a command-line utility. The code is written in Python and distributed under the LGPLv3 license.

The new version implements the ability to forcefully enable or disable CPU turbo boost via the GUI and command line ("auto-cpufreq --turbo={never|always|auto}"), regardless of the battery charge level. A battery_device parameter for selecting the battery has also been added to the configuration file, in case the default battery is not automatically detected correctly (available batteries can be found in the /sys/class/power_supply/ directory). A sample configuration file for Nixos has been added.

Also noteworthy is the release of TLP 1.9.1, a utility designed to automatically optimize power consumption and extend laptop battery life. In addition to managing CPU power-saving modes, the utility supports adaptive enabling and disabling of Bluetooth, NFC, and Wi-Fi. The project code is written in Shell and Python and is distributed under the GPLv2 license.

The 1.9 branch is notable for the addition of an optional background process, tlp-pd, which enables switching between three power

profiles: performance, balanced, and power-saver. This background process can be used as a replacement for the power-profiles-daemon service and supports the D-Bus API used for profile switching in GNOME, KDE, and Cinnamon. The tlpctl utility is also included for switching profiles from the command line and launching individual applications with a specified profile. The 1.9.1 patch release fixes a vulnerability (CVE-2025-67859) in the new tlp-pd background process.

https://www.reddit.com/r/linux/comments/1qa715a/autocpufreq_v300_is_out/

Budgie desktop changes:

12/01/2026

The Buddies of Budgie developers have published a report on the development of the Budgie desktop environment, outlining achievements through 2025 and outlining plans for 2026. Following the release of Budgie 10.10, which migrated to Wayland, all attention has shifted to the development of the Budgie 11 branch.

Budgie 11 will use Qt6 and supporting libraries from the KDE Frameworks suite instead of GTK for display management. The migration has already been tested in the Budgie Display Configurator application, it is developed using Qt6 and the Kirigami interface framework (a Qt Quick Controls add-on).

Budgie 11 will feature a modular architecture, divided into two layers: "Budgie Core" and "Budgie Desktop." This modular architecture will allow the project to adapt to new form factors, input devices, and workflows. For example, Budgie will be compatible not only with PCs and laptops, but also with tablets, TVs, VR devices, and smartphones.

The Budgie Core layer contains the base libraries used by all devices, is responsible for launching components depending on the device type, and provides libraries for organizing information output, supporting languages and locales, managing power consumption, interacting with input devices, and configuration.

The Budgie Desktop layer is implemented on top of Budgie Core and provides graphical shell functionality. This layer handles operations such as window layout, desktop and application management, and user interface design. Budgie 11 also features cross-platform theme support and the ability to replace components and extensions, such as the compositing server, notification display system, and panels.

https://buddiesofbudgie.org/blog/state-of-the-budgie-2025

ArchBang Release 1001:

13/01/2026

ArchBang 1001, a lightweight Linux distribution based on Arch Linux and featuring a user interface based on the Labwc compositing manager, is out. The distribution offers a continuous update cycle, ensuring you always have the latest versions of software from the Arch Linux repositories. The ISO image size is 1.4 GB.

The new version features a switch to the Labwc composite manager, which uses the Wayland protocol and is similar in functionality to the Openbox window manager originally used in ArchBang. The dmenu application menu has been replaced with wmenu, which supports Wayland. XWayland is now included for launching X11 applications. Other changes include switching the installer to full-screen mode, adding an applet for configuring a network connection using NetworkManager, and a redesigned theme.

https://archbang.org/2026/01/10/a-new-release-image-and-another-app-launcher/

Omarchy 3.3:

13/01/2026

David Heinemeier Hansson, author of the Ruby on Rails web framework, has published the Omarchy 3.3 distribution, which reflects his vision of the ideal Linux environment. The distribution is being developed in accordance with the "Omakase Computing" principle, which assumes that most users, when starting out, don't know exactly what they want and are better off not torturing

themselves with choice, but using a set of tools prepared by someone whose expertise and taste they trust. The project's work is distributed under the MIT license. The ISO image size is 7.2 GB.

David believes that motivation is essential for high productivity and a beautiful and aesthetically pleasing environment is part of that motivation. Omarchy offers only the applications David uses every day—from Neovim, Chromium and LibreOffice to Spotify, Typora, Ghostty and Zoom. Omarchy doesn't try to be like Windows or macOS, cater to the masses, or appeal to casual users. The environment, including coding in Neovim, extensive use of the terminal, and tiling windows will feel unusual to many, but those who dare to step out of their comfort zone and learn something new will be able to improve their productivity.

https://github.com/basecamp/omarchy/releases/tag/v3.3.0

Anthropic donates $1.5 million to Python:

14/01/2026

Anthropic, the developer of the Claude family of large language models, has awarded the Python Software Foundation (PSF) a $1.5 million grant. The funds will be disbursed gradually over two years and will support work to improve CPython and strengthen protections against supply-chain attacks on the PyPI (Python Package Index) repository.

The allocated funds are planned to be used to develop new tools for automated review of packages uploaded to the PyPI (Python Package Index) directory. Instead of the current "reactive" approach, which involves reviewing packages after they are already available in the directory, they intend to implement a "proactive" approach, whereby review is performed before the package is made available to users. To identify malicious packages, they intend to use functionality analysis that takes into account the typical elements of known malware. The developed tools will be usable not only on PyPI but also on other open repositories.

https://pyfound.blogspot.com/2025/12/anthropic-invests-in-python.html

Linux Mint 22.3:

14/01/2026

Linux Mint 22.3 has been released, continuing the development of the Ubuntu 24.04 LTS- based Linux distribution. While fully compatible with Ubuntu, the distribution differs significantly in its approach to user interface organization and default application selection. Linux Mint developers provide a desktop environment that adheres to classic desktop layout principles and is more familiar to users who are not comfortable with the new GNOME 3 interface design. DVD builds based on the MATE (3.1 GB), Cinnamon (3 GB), and Xfce (3 GB) desktop environments are available for download. Linux Mint 22 is a long-term support (LTS) release, with updates expected until 2029.

https://blog.linuxmint.com/?p%3D4981

GNU GRUB 2.14:

15/01/2026

After two years of development, the stable release of the modular, multi-platform GNU GRUB (GRand Unified Bootloader) is now available. GRUB supports a wide range of platforms, including standard BIOS-based PCs, IEEE-1275 platforms (PowerPC/Sparc64-based hardware), EFI systems, systems with RISC-V, Loongson, Itanium, ARM, ARM64, LoongArch, and ARCS (SGI) processors, and devices using the open-source CoreBoot package. The project's code is written in C and distributed under the GPLv3 license.

https://www.mail-archive.com/grub-devel@gnu.org/msg42902.html

Debian Libre 13.3:

15/01/2026

Debian Libre 13.3 has been released, representing Debian 13.3 boot images stripped of non-free components such as firmware blobs. The project is being developed by Simon Josefsson, who maintains 170 Debian

packages.

In accordance with a decision made in 2022, official Debian ISO images include both free firmware from the main repository and proprietary firmware distributed through the non-free-firmware repository. Debian Libre creates official live image editions for the x86_64 and ARM64 architectures, allowing you to run or install Debian 13 without using non-free components.

Live builds with GNOME, KDE, and Xfce come with the Calamares installer. A "standard" build without the graphical environment (1.9GB) and a stripped-down "slim" build (750MB) are also available. ARM64 builds support the following PCs: ADLINK Ampere Altra and MSI Z790-P WIFI PRO i9-14900K Dasharo; Framework 13 AMD AI 9 HX 370, Lenovo X201 i7-620M, NovaCustom NV56 Intel Ultra 7 155H i915 Dasharo; and Dell PowerEdge R630 2xE2680v4, Protectli VP2440, and Supermicro MegaDC ARS-110M-NR Ampere Altra Max servers.

https://blog.josefsson.org/2026/01/13/debian-libre-live-13-3-0-is-released/

Debian on an OpenWrt One:

16/01/2026

Collabora has developed the openwrt-one-debian toolkit for installing and running Debian GNU/Linux on the OpenWrt One open source router. This toolkit allows you to transform OpenWrt One from a specialized network device with a stripped-down Linux environment into a full-fledged general-purpose Linux system, capable of running any services, server applications, developer tools, and isolated containers, among other things.

The toolkit's functionality consists of flashing the u-boot bootloader and a recovery environment to the integrated 256-MB NAND Flash memory for installing and booting a Debian system image onto an NVMe drive connected via the M.2 slot. The NOR Flash memory is unchangeable, so you can always revert to the stock OpenWrt environment if desired. The installed system environment includes minimal tools for installing packages from Debian repositories, an OpenSSH-based SSH server, Hostapd with presets for wireless interfaces, systemd-networkd with settings for obtaining IP addresses for WAN and LAN interfaces via DHCP, and udev rules for LED indicators.

The OpenWrt One router, developed jointly by the OpenWrt and Banana Pi projects, is equipped with a MediaTek MT7981B (Filogic 820) SoC with a dual-core Cortex-A53 1.3 GHz CPU, a MediaTek MT7976C wireless chip (Wi-Fi 6, 2x2 2.4 GHz + 3x3/2x2 + DFS 5 Ghz), 1 GB of RAM (DDR4), 256 MB of SPI NAND Flash and 16 MB of SPI NOR Flash. The device comes with two Ethernet ports (2.5 GbE + 1 GbE), USB 2.0 host Type-A, an M.2 slot for NVMe SSDs, USB-C (Holtek HT42B534-2 UART with USB converter, console, and CDC-ACM support), 10-pin JTAG, and a mikroBUS expansion slot. Schematics and PCB layouts are provided.

https://www.collabora.com/news-and-blog/news-and-events/openwrt-one-meets-debian.html

GNOME 50 Alpha Release Removes X11 Support:

16/01/2026

The first alpha release of the GNOME 50 desktop environment has been released. The release is scheduled for March 18, 2026. A 3GB ISO image based on the GNOME OS distribution has been created for testing the alpha version of GNOME 50.

A key change in the GNOME 50 alpha release was the removal of X11 support from the GNOME Shell user interface and the Mutter compositing server. The GDM display manager has removed X11 support and the ability to build GDM without Wayland has been discontinued. Support for running other desktop environments using X11 remains, though.

https://discourse.gnome.org/t/gnome-50-alpha-released/33616

KDE Plasma 6.6 Beta:

17/01/2026

The latest KDE weekly development report has been published, presenting the first batch of changes for the KDE Plasma 6.7 branch, expected to be released in June. Development of the new branch began after the KDE Plasma 6.6 branch entered beta testing and the associated codebase was frozen from making functional changes (only patches are accepted). The release of KDE Plasma 6.6 is scheduled for February 17. The have a whole list of changes at the following URL.

https://blogs.kde.org/2026/01/17/this-week-in-plasma-dark-mode-switch-and-global-push-to-talk/

nvtop 3.3.0:

18/01/2026

Nvtop 3.3.0, a command-line utility for interactively monitoring GPUs and hardware accelerators, has been released. The utility allows you to visually monitor GPU load, memory consumption, and frequency changes, as well as view the processes that are most heavily loading the GPU. Supported GPUs and accelerators include AMD, Apple (M1, M2), Google (TPU), Huawei (Ascend), Intel (i915/Xe), NVIDIA, Qualcomm (Adreno), Broadcom (VideoCore), Rockchip, MetaX, and Enflame. Monitoring multiple GPUs simultaneously on a single screen is also possible.

The new version adds support for the Enflame GCU (General Computing Unit) and Rockchip NPU AI accelerators, as well as MetaX GPUs. Support for Mali, AMD, and NVIDIA GPUs has been improved. Memory information in the summary report has been expanded. A CTRL + L shortcut has been added to reset the interface. A more visual load metric has been added, calculated as a percentage of the current load relative to the maximum load. A power consumption graph for the Intel Battelmage has been added.

https://github.com/Syllo/nvtop/releases/tag/3.3.0

ChaosBSD:

18/01/2026

The ChaosBSD project maintains a periodically synchronized fork of FreeBSD, aimed at testing drivers before their inclusion in the main FreeBSD distribution. The project provides a platform for developing and porting new drivers, as well as testing and stabilizing partially functional, unstable and unfinished drivers, whose development status prevents them from being included in the main FreeBSD distribution. Once stabilized, these drivers will be ported to FreeBSD.

There are four stages of driver development: achieving build-ability; bug fixing and stabilization; cleanup and documentation; and transfer to the FreeBSD core team. ChaosBSD is considered a testing platform and does not guarantee the preservation of change history and commits. The repository is periodically reset, synchronized with the FreeBSD codebase, and the state is then restored.

https://www.osnews.com/story/144210/chaosbsd-a-freebsd-fork-to-serve-as-a-driver-testing-ground/

Symlinks, or the proper name, symbolic links, are a fundamental feature in any Linux distro. Symbolic links allow you to establish shortcuts to files and folders, even across different locations.

Symbolic links act as pointers to files or directories and don't store the actual data. They are not hard links, which directly reference file data at the inode level; symlinks reference only the file path. If the original file is moved or deleted, the symlink becomes broken.

Another way to look at them:

- Soft link or symbolic link: This is merely a shortcut to the original file.
- Hard link: This points to the memory location of the original file.

The command we will be using is ln. If you look at the ln man page, as a newbie, it will tell you almost nothing. In cases like these, I like to refer to geeksforgeeks, if I can (https://www.geeksforgeeks.org/linux-unix/ln-command-in-linux-with-examples/), as there are usually real-world examples.

How it works, syntax:

```
ln <option> source alias
```

To create a hard link to a file, you can use the ln command without any options like this:

```
ln source alias
```

To create a symbolic link to a file, use the option -s with the target file name and the link name:

```
ln -s source alias
```

Symlinks are displayed in a different colour in Ubuntu. (this is not true for all terminal emulators).

When one does a long listing, it is easier to see (see image below).

The other thing I'd like to point out is that the permissions line starts with an "l", you should know the "d" in the image is for directory. However a link to a directory is still a link and will start with an "l".

We can also symlink a symlink, I actually want you to do that now; make a symlink, then make a symlink to that symlink, and do a long listing and notice the colors in your terminal. Some may even say you are chain linking. Chain linking is generally considered bad, as, let's say, we are 4 links deep and link 2 breaks... See where this is going?

This is all fine and well, so far, but what if I delete the source file or break my symbolic link in some other way? Deleting a symlink does not affect the original file, as it is a pointer to that file, but let's say I deleted my oops.png file, what do you think would happen?

How can we fix it? We cannot just "re-direct" it? Or can we?

We simply force it, with -f, like so:

```
ln -sf deblist.txt mysymlink
```

Then, as you can see:

```
lrwxrwxrwx  1 edd edd
11 Sep 21 14:40  mysymlink ->
deblist.txt
```

Nice! Your other option is, -i

```
ln -si snap choons
```

Now choons links to my snaps folder instead of my music folder.

```
lrwxrwxrwx  1 edd edd
4 Sep 21 14:45  choons ->
snap
```

Any questions? I hope you opened your terminal and tried it if you are a newbie to Ubuntu.

Let's move along. There is also an unlink command, but honestly, I have never seen the need. In all my years of using Linux, I have never

```
drwxr-xr-x 15 edd  edd       4096 Aug 18 16:33  Music
lrwxrwxrwx  1 edd  edd          8 Sep 21 13:27  mysymlink -> oops.png
drwx------  3 edd  edd       4096 Nov 17  2024  .nv
```

needed it. If I want a link gone, I delete it, as rm is much quicker to type :) Deleting the symlink does not affect the source file (Target).

While the link itself is of no consequence, when I open the link and edit its contents, the original file changes. Though this seems like common sense, remember common sense is not always common.

Remember that I told you to look at the permissions? Other than the "l", what did you notice? Go ahead and look again if unsure, I'll wait...

The eagle-eyed among you may have noticed that the permissions the symlink always gets created with is 777 (rwxrwxrwx). Usually 777 is a bad thing. However, that does not affect the permissions of the target file or folder, they remain the same. When you click the link, it simply links you to the source file (target), and its permissions, meaning that if you had only read permissions on the file, even if on the symlink, you have write and execute permissions, you will still only have read permissions on the source file (target). You can test it out by trying to change the permissions of the symlink and it will not affect your permissions on the source. Go ahead and try it now. You still remember how chmod works, right? Just remember that permissions are not passed on (your takeaway).

As a bonus, I want you to try to remove read, write and execute permissions from the symlink and see what happens. If you tried the above, and are confused, let us know, or if you think you know without trying, let us know at misc@fullcirclemagazine.org. Those of you with hard beards reading this with a glint in your eye, let the newbies cook and remember this on April fool's day, next year. This is also a good interview task/question.

Ok, we have covered linking and unlinking and fixing broken links. This will cover you for most things (80/20 principle).

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

LibreOffice Drop Caps

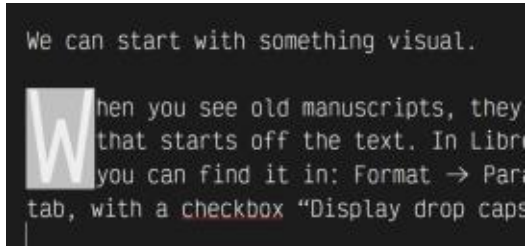
With the news of more countries and monkey-palities dropping MS Office (eg. https://www.heise.de/en/news/From-Word-and-Excel-to-LibreOffice-Danish-ministry-says-goodbye-to-Microsoft-10438942.html) I thought it may be a good opportunity to do some things in LibreOffice.

I was chatting with one of my friends who still uses Windows; what do they do in Office? I found a very interesting trend in perception between male and female friends regarding MS Office and other office packages, and maybe we can discuss that in a later issue. Of my smarter friends and acquaintances, I got replies of; you cannot do x or y, but when I asked if they had ever done the "x" or the "y", or even knew anyone who did x or y, the response was negative. To me, this means that they were influenced by something that they read, rather than really "knowing".

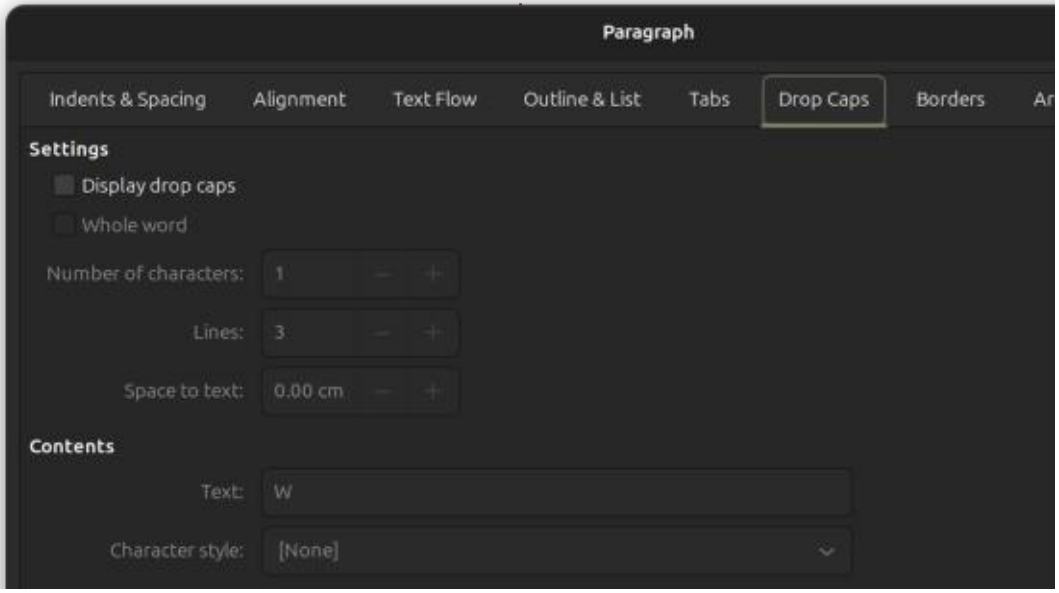
Looking at my list of things people say they do, I'll create this series of articles around that. We can start with the basics and work our way up. We will start with the one I use most and I suspect everyone else uses the most, Writer.

We can start with something visual. Making your paragraphs look snazzy. When you see old manuscripts, they have that large capital letter that starts off the text: (https://abcdefridays.blogspot.com/2014/09/drop-caps.html)

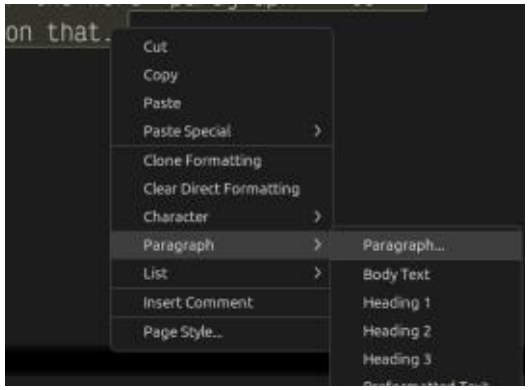
In LibreOffice, it is called drop caps, and you can find it in: Format > Paragraph, and it should be the sixth tab, with a check-box "Display drop caps" (see image bottom). Here is an example using my current paragraph:



I have it set to one character for the demo, but you can also use more, to highlight the whole first word, if you would like. If you pair this up with a snazzy font, the results can be quite pleasing!



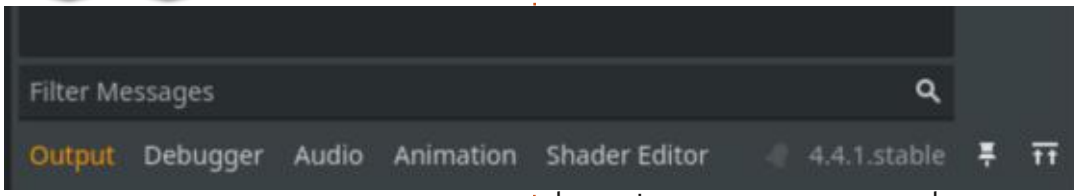
However, there are many ways to skin a cat, and a quicker way would be to highlight the paragraph you want to target, then using the right-click to display the context menu, and then mouse-over the word "paragraph >" to display the word "paragraph ...", and click on that.



And that is it, for our first LibreOffice short. If you would like more, let us know; if you think this is a waste of time, also let us know so we don't use space in the magazine that could be used for something else.

misc@fullcirclemagazine.org

Godot Intro Pt.3



Godot works great on Ubuntu; if you are using the Steam version or the downloaded binary, it does not matter, it runs fine. We looked at the menus in the last issue, now let's look at the lower part of the interface. I'll be referring to the DEFAULT layout. If you have moved yours about, just pay attention.

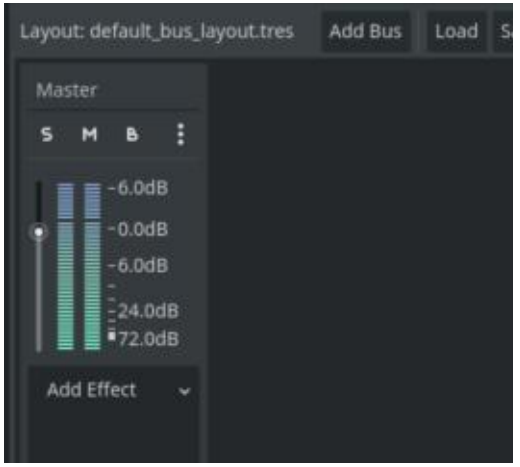
In this issue, we will be looking at the bottom portion of the Godot interface. It is important that you know where to look for things, before you start to make your application or game.

The first thing you may notice is the list at the bottom of the screen, "Output", "Debugger", "Audio", "Animation", and "Shader Editor".

Output is as it says on the tin. If I were to add a print statement to my code, the output would appear here. In my case, you can also see that I added a "Label" node (image from the last issue) and then deleted the node. To the right of "4.4.1.stable", we can see a pin icon and an icon with two arrows going up. This arrow icon expands the output, so one can see what is happening in real time; for example, I wanted to make a "Pang!" clone and was experimenting with a bouncing ball and a brick or glass platform or whatever "Pang!" had, so every time the ball "hit" a platform, I would print "boing!" to the console to see if it did it, every time, on every platform, so I could see a bounce via a signal, with "area entered" (more on that in the GDScript issue). You can see how quickly the space would fill with "boing!" being printed over and over on a new line. Pinning the bottom display would make it visible at all times, as there are times when Godot auto-hides this panel.

I'm going to skip the debugger as it will be a 1000 words by itself! :) I'll see how it goes when I reach the end of the article.

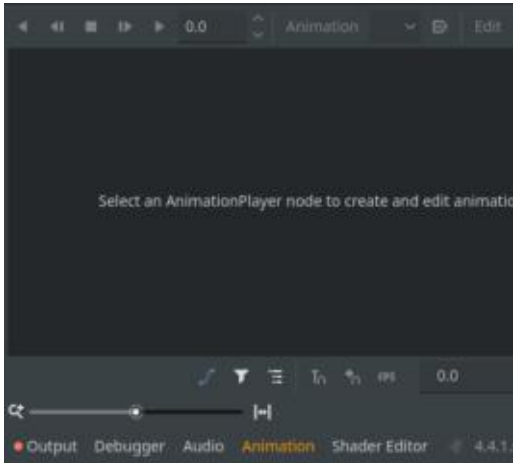
The audio tab is where you control the way your audio behaves.



We can add a bus with the "Add Bus" button at the top. Every time you add a bus, it will link to the previous bus. When you open the tab, you should see a "Master" bus that connects to the speakers. Now if I were to add another bus (you can name it whatever you like, say effects), you will see that it does not connect to the speakers at the bottom of the bus, but it will chain to the master bus (easy way to remember this is that you can only ever patch left, not right). This makes a "choke point" that helps you control the sound in the game, say the master volume or music volume or sound effects volume and so forth, but we will get to that in the future. Let's talk about "SMB". Those are for "Solo", "Mute" and "Bypass" (bypass still does all the work, but does not play the sound). This should already have the gears turning in your head. Usually it is not a good idea to add effects directly to the master, add a bus, add the effect and pipe it to the master. This gives you finer control when it comes to getting your sound "just right". If you added a bus you don't need, simply click on it and hit the delete key. You can also do that via the vertical ellipses next to "SMB". The nice thing is that when you create a cool combo, you can save it and use it in other projects, as it saves in the .tres format, and that is portable between projects. You can also drag and drop audio buses to move them in the chain, they are not static.

At first glance, the animation

tab is rather empty.

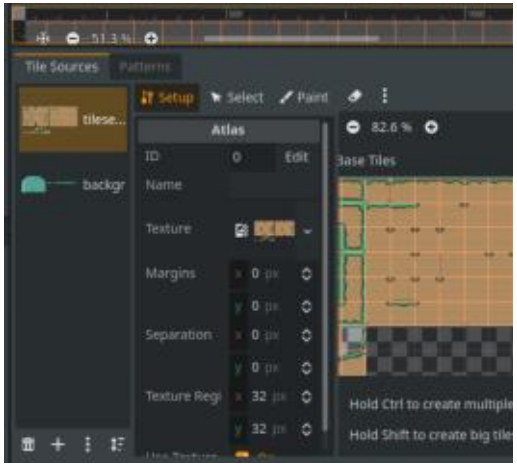


It only comes to life, once you have animations.

I'm lightly going to skim these and we can dive in a bit deeper in a future issue, as with the debugger, it may require an issue on its own. Needless to say, you can see the panel come alive with more things, once you start adding sprite sheets.

As for the "Shader Editor", we will also skip that for now, as it merits more space than this issue is going to give. Just know that it will also be bare if you were to open it on a new project. Go ahead, have a look.

Now there are two more menu items that are not displayed unless you have the nodes for it in your scene tree, they are "TileSet" and "TileMap":



I have trouble remembering which is which and I really hope they update the names soon.

The tilemap is your base, and it contains the actual tile map. It lets you set up tiles, patterns and terrains. The tileset is the subset of the tile map that you will be using, as you don't need to use it all, if you don't want to. You could download a whole tilemap from OpenGameArt, for instance, but you want only a small part of the tiles, not all. However, you do not paint on the canvas from here, even though you can clearly see a "Paint" icon. You do that, when you select tiles on the tilemap and use *that "paint" icon. Yes, I know, very confusing! Again, we will dive into these in a future issue as things will require quite a bit of explaining. I just want you to know that if you do not see them, it's no big deal, it just means that you do not have a tilemap node in your scene tree and you did not click on it (that last bit is important, as just having it will not display them).

For all its improvements in the 4.x.x branch, I still get confused, as I still consider myself a n00b. This will happen to you too, don't fret, we will puzzle it out together!

Let me circle back to output (first image), you will see there are icons in the top-right. To clear the output, you use the paintbrush icon. Yes, a bit counter-intuitive, I know... However, directly below the paintbrush, is the collapse icon, that "folds up" all the same-y errors, making it easier to read your output log. I'm going to skip the copypaste and search icons, they are self explanatory. What I am going to talk about are the four toggles below that. These toggle the type of output you will see in that message window. You can think of these like log messages, starting from the bottom again... :) Think of them as informational, then warnings, and then errors, and you turn on the level you need, so that you are not overwhelmed by messages when you are trying to figure out what went wrong.

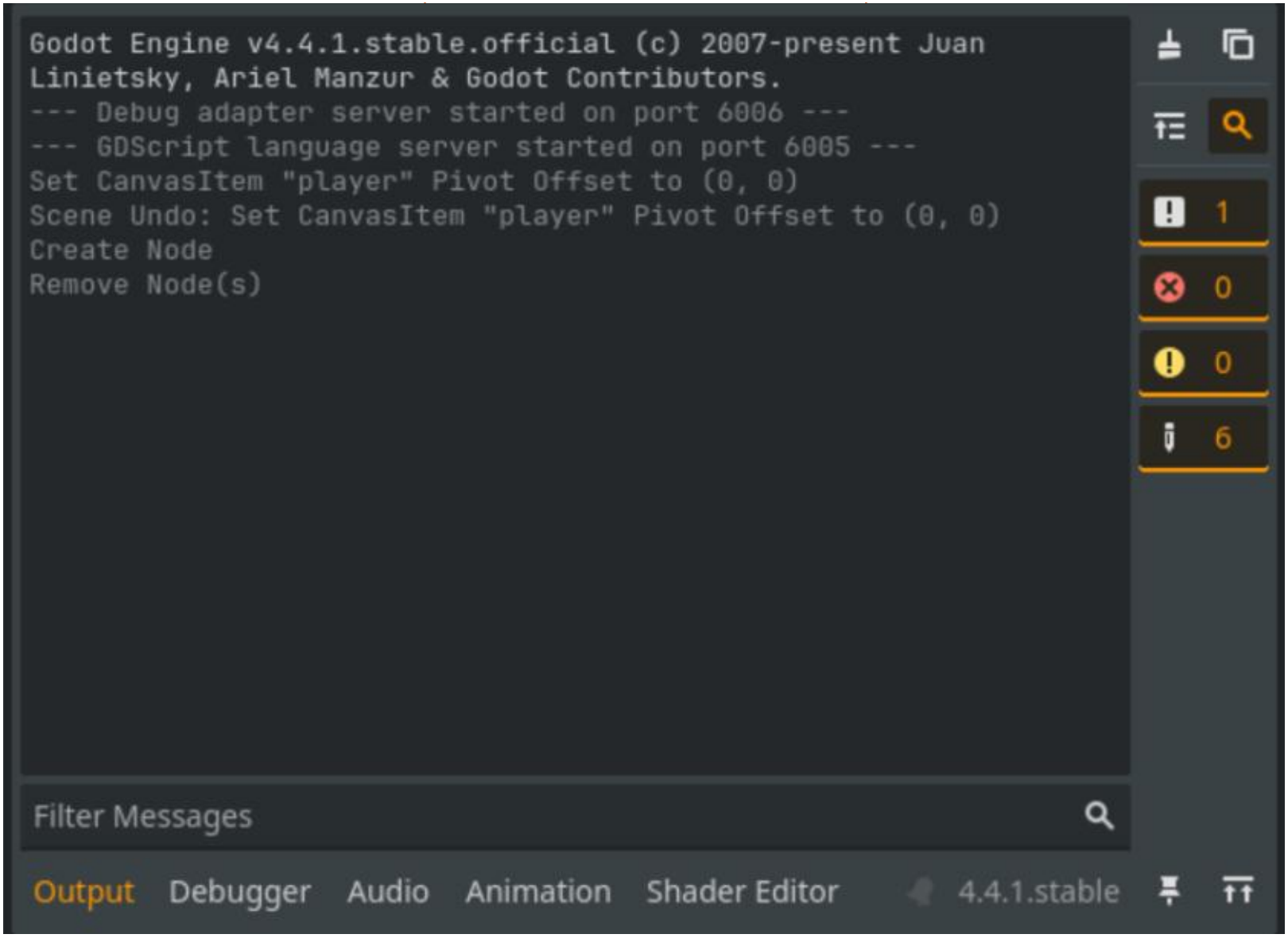
NOTE: In my screenshots, you may see a bar at the bottom for searching, but you may not see it on your version, that is because the little magnifying glass icon is pressed in mine, sorry I forgot mine was on.

There you go, now you know why you may not see x or y, when following along a tutorial on Godot. Hopefully I helped you with any confusion. Don't be like me and download a different version, to find out *why this or that panel is not there. Stick to the latest versions as there are nodes that are being deprecated, so there is no point in getting an old version.

A quick word on the Steam version – that downloads and installs Flatpak, so if you suddenly have flatpaks installed and updating and did not want it, that is the reason. That goes doubly if you have a metered network, the direct download of the binary is like 120MB versus the 1.2GB that Steam installs.

We can get into more of how these panes and panels work in a future issue, when we explore GDScript. Learn to know where to look and identify the ones that confuse you. We can go over the parts we skipped in the next issue as I've hit my 1000 word limit already.

Comments to: misc@fullcirclemagazine.org



Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

Latex - P Topics

Written by Robert Boardman

Another month has gone by and another FCM has been published. This time I am going to work with a few of the many packages under the "P" topic at ctan.org. There are around forty different topics starting with "P", so I had no trouble finding a few that will work, and that seem useful to at least some of you who read this column. As usual, I will ignore topics for languages. This includes: Persian, Piedmontese, Polish and Portuguese. I will also exclude any packages which are not part of the default installation of Latex. Remember there are over five thousand default packages so this restriction is not very limiting.

In the Page Select topic, there are three packages which can control the pages that will be used in the final document. The pagesel package allows for all pages to be "printed" (the default), or just odd numbered pages, or just even numbered pages, or specific pages. Page selections can be made using the same syntax that is commonly used when printing to a printer: comma-separated page numbers, or dashes to indicate page ranges. These can be combined. The examples from the documentation show [1, 4, 9], [7-10,3], [odd,3-6], [-4,3,even,7-8]. The last two examples indicate the priority of the key words over specific page numbers. [odd,3-6] prints 3 and 5, [-4,3,even,7-8] -4 indicates pages from the start to page 4 so 3 is included, but even indicates only even numbered pages will be printed, so pages 2, 4 and 8.

Selecting pages for printing before the PDF is compiled means steps in the compiling process that rely on page numbers will be affected. Tables of contents, indices, cross-references, footnotes, end notes, etc, will all be affected.

Page section tools could be useful to hide information from viewers of the final document. For example, a teacher might find it useful to put all the questions for a test on odd-numbered pages and all the correct answers on even-numbered pages.

There are two other page selection packages, selectp and selectpage. Both were uploaded to CTAN in 1987. I suggest you use pagesel from 2020 if you want to experiment.

There are twelve packages that will allow text to be typed in parallel columns. These are useful in scholarly publications for translations or for adding commentary to text. The paracol package by Nakashima and Kurtz has 315 pages of documentation plus a 64-page user manual. The documentation is written using the package. One column is English and the other is the Latex document used to generate the English. If nothing else, this is quite a feat of writing. I suppose it could be argued the actual documentation is only half of 315 pages. However I find it very helpful if the documentation shows both the Latex code and the result of that code.

The way to get started is to put usepackage{paracol} in the preamble. Then start the document and start with the command begin{paracol}{2} to generate two columns. (It is just as easy to set up and use more than two columns.) The command to move from one column to another is switchcolumn. Switchcolumn can also have a number as an option in brackets. If no number is indicated, then the next input will be placed in the column that is next. For example, starting in the left column, the switchcolumn command automatically moves the next input from left column to right column. If currently in the right column, then the next input goes into the left column.

Switchcolumn followed by an asterisk (*) will synchronize the columns, matching the length of text to the longest column in the input block before the asterisk.

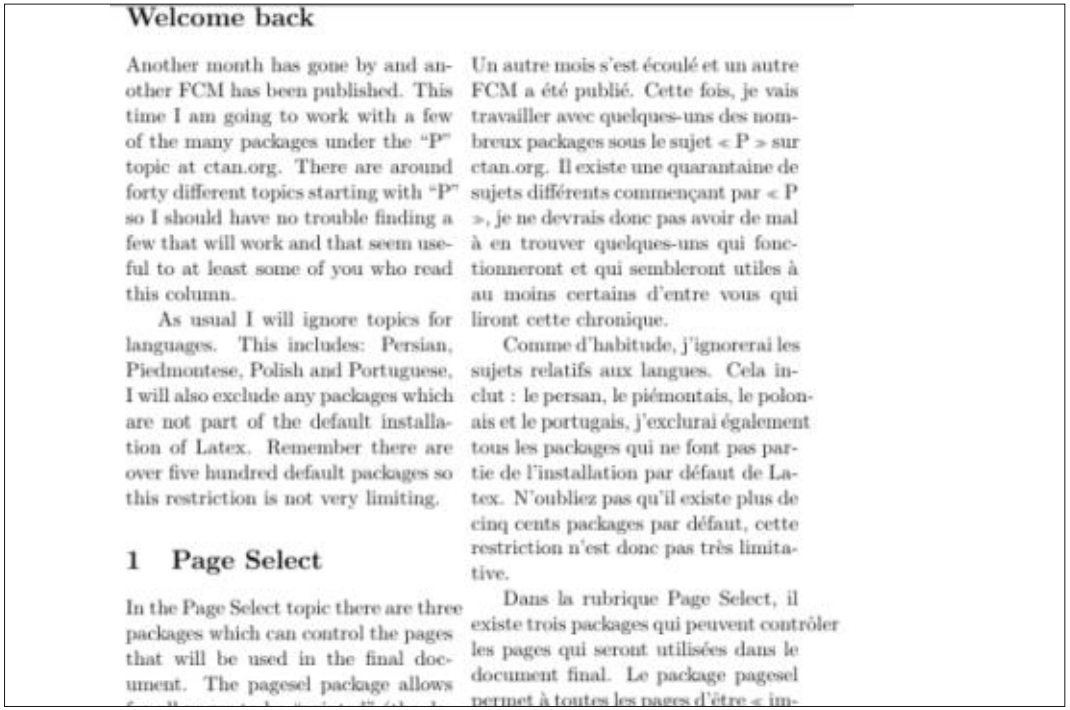
Graphics, tables and other features may be incorporated into the switchcolumn environment. These features are set up as floats in Latex. You may need a few iterations in order to understand how to use them in a column

environment, especially if the floated items require more than one column of horizontal space. If this package sounds interesting to you, I suggest you read the User Manual and work through some examples yourself. I have generated a little example which accompanies this column. I used some paragraphs from the beginning of this article, and used LibreOffice to translate them into French. The code is shown (right) with this article. I removed most of the text.

```
\usepackage{paracol}
\usepackage[french,english]{babel}
\begin{document}
     \section*{Welcome back}
     \begin{paracol}{2}
          Another month has gone by and another FCM ...
          As usual I will ignore topics for languages. ...
          \switchcolumn
          Un autre mois s'est écoulé et un autre FCM a été publié. ...
          Comme d'habitude, j'ignorerai les sujets relatifs ...
          \switchcolumn
          \section{Page Select}
          In the Page Select topic there are three packages....
          \switchcolumn
          Dans la rubrique Page Select, il existe trois packages ...
          \switchcolumn*
          Page selections can be made using syntax...
          The last two examples indicate the priority of the key words...
          \switchcolumn
          Les exemples de la documentation montrent [1, 4, 9], [7-10,3], [impair, 3-
6], [-4,3, pair,7-8]. ...
etc.
```

The paracol package is intended to be used by academics. Many packages in Latex do not have serious intentions. For example, the shapepar package is designed to bring some levity to documents. It allows the user to typeset text to a particular shape instead of a standard paragraph with flush left, ragged right and left indent. The example shows the first paragraph in a circle. There are other possible shapes and other possible options. The shapepar package can show a shape with a cutout in it. The thirteen-page document is somewhat long on technical details, and somewhat short on practical use. There are two examples of the creative use of shapepar but no code to go with them. A close reading of the documentation plus some (many?) practice documents would help a user understand how to use shapepar effectively. This package is obviously not meant for pages of technical or educational documents. It would be fun for invitations, diplomas, certificates and other documents with small quantities of text.

Returning to educational packages, would you like to be able to add illustrations of atoms to your chemistry and physics homework? The bohr package adds the ability to draw Bohr diagrams to Latex documents. You may remember



Welcome back

Another month has gone by and another FCM has been published. This time I am going to work with a few of the many packages under the "P" topic at ctan.org. There are around forty different topics starting with "P" so I should have no trouble finding a few that will work and that seem useful to at least some of you who read this column.

As usual I will ignore topics for languages. This includes: Persian, Piedmontese, Polish and Portuguese, I will also exclude any packages which are not part of the default installation of Latex. Remember there are over five hundred default packages so this restriction is not very limiting.

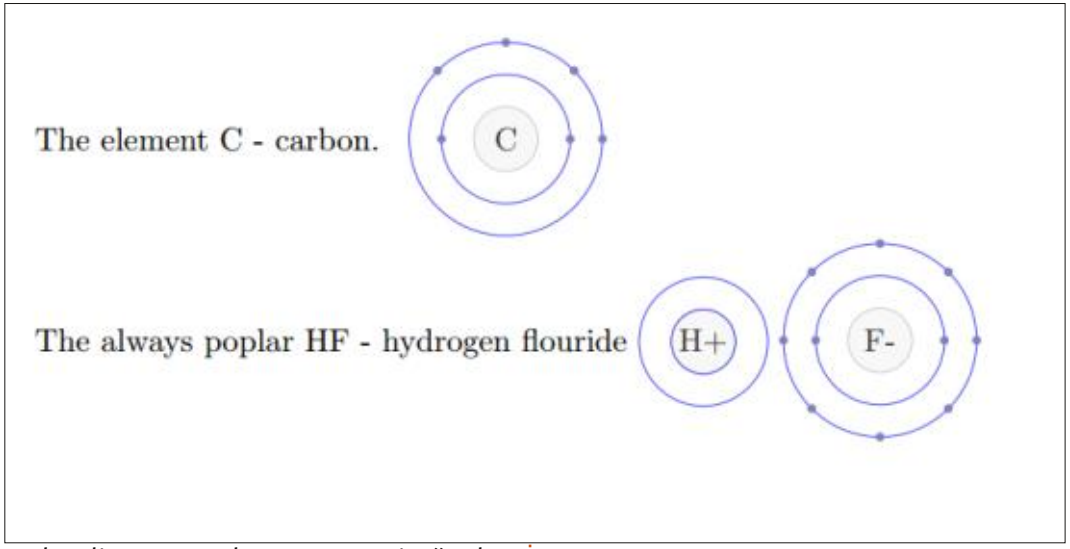
1 Page Select

In the Page Select topic there are three packages which can control the pages that will be used in the final document. The pagesel package allows

Un autre mois s'est écoulé et un autre FCM a été publié. Cette fois, je vais travailler avec quelques-uns des nombreux packages sous le sujet « P » sur ctan.org. Il existe une quarantaine de sujets différents commençant par « P », je ne devrais donc pas avoir de mal à en trouver quelques-uns qui fonctionneront et qui sembleront utiles à au moins certains d'entre vous qui liront cette chronique.

Comme d'habitude, j'ignorerai les sujets relatifs aux langues. Cela inclut : le persan, le piémontais, le polonais et le portugais, j'exclurai également tous les packages qui ne font pas partie de l'installation par défaut de Latex. N'oubliez pas qu'il existe plus de cinq cents packages par défaut, cette restriction n'est donc pas très limitative.

Dans la rubrique Page Select, il existe trois packages qui peuvent contrôler les pages qui seront utilisées dans le document final. Le package pagesel permet à toutes les pages d'être « im-




```
\documentclass[pdf]{beamer}
\title{Practice Beamer File}
\subtitle{for Full Circle Magazine}
\author{Robert Boardman}
\begin{document}
      \begin{frame}
            \titlepage
      \end{frame}
      \begin{frame}{Beamer Advantages}
            \begin{itemize}
                  \item Generates slides
                  \item Uses Latex components
                  \item Generates PDF files
            \end{itemize}
      \end{frame}
```

Bohr diagrams show atoms in "solar system" configurations with a central nucleus surrounded by electrons going around it like planets around the sun. The current version is limited to elements up to atomic number 112. (Atomic numbers, i.e. elements, are currently at 118.)

The syntax is very simple. usepackage(bohr) in the preamble and then bohr{atomic number}{atomic name}. The six-page documentation gives several other options to control the appearance of each model. The package is not limited to atoms. It can draw ions which will show the distribution of electrical charge in a compound. Important Note: The user has to supply appropriate correct values, the package does not have a database with these values..

As you might imagine the P topics include physics. There are many packages in the physics area. Packages for mechanics, optics, high energy physics, quantum theory, string diagrams, Feynman diagrams, thermodynamics, and more, are available. Some packages are for specific institutions.

Presentation packages are also in the P topic. Tex/Latex is not restricted to PDFs which resemble books and journals. Tex/Latex can generate PDFs which resemble presentation files. The main package for this kind of work is called "beamer". There are more that seventy packages available which either work with beamer or which attempt to make similar documents. If you need to generate slide shows but have no wish to use a commercial package, I suggest you experiment with Latex Beamer.

Beamer is a document class like article and book. The class was last updated in 2025 August. All (or almost all) of the packages discussed in these columns will work in beamer files. There is no need to learn a new set of commands simply because the document class is now a presentation. Because beamer files are Tex/Latex files, converting from a presentation to a text document, or vice versa, is easy. The final output of a beamer document is a PDF file which can be shown on-screen, uploaded to a web site, or given directly to participants. Documentation for beamer is extensive: 234 pages. In addition to the documentation available at CTAN, there are many other sources of information and guidance for beamer.

I will explore the beamer class in one or more columns in the future. For now (above) is a code snippet and an illustration (top left) to get started.

Next issue I am going to explore modifying an existing package. As I said in a previous issue I am not happy with the default formatting for the jwjournal package, so I am going to manipulate it in order to get a journal environment I like.

Inkscape - Part 165

It's an unwritten law of nature that magazine deadlines and software releases share a mystical connection, such that when a writer states that an expected new version has not yet been released, it invariably follows that the statement will have been rendered false by the time of publication. Such was the case with my statement, last month, that "there is likely to be a 1.4.3 release, though it will probably be mainly bug fixes with few new features to write about."

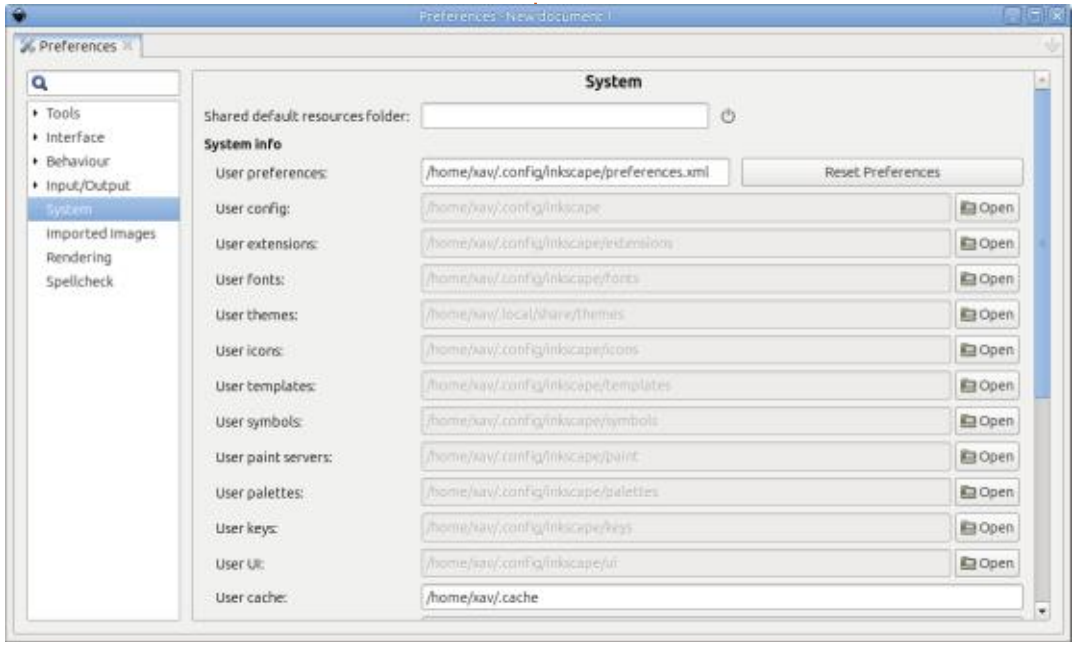
Version 1.4.3 came out over the festive break, but I was correct in suggesting that it will be mainly bug fixes. Such a statement doesn't really do justice to the continued hard work of the Inkscape developers, with this release including almost 100 bug fixes and improvements – including a lot of fixes for potential (and actual) crashes.

There's an overview of the changes in a news article on the main Inkscape website (www.inkscape.org) – but for a full list I recommend taking a look at the Release Notes in the Inkscape wiki: https://wiki.inkscape.org/wiki/Release_notes/1.4.3

As expected, however, there are no new features that warrant much more discussion in this column (with one exception, which I'll talk about next month). Therefore, as I promised last time, I'm going to continue my investigation into the sort of tweaks and changes you can make via Inkscape's 'User…' directories.

To avoid too much repetition, I'll assume that you've read last month's article. That one, in turn, refers you to the article before that, so you've a bit of catching up to do if you haven't read either of them. Suffice to say that we're looking at the directories listed in the 'System' pane of the Edit > Preferences dialog (below).

This month, I'm going to rattle through a few of the directories that I haven't yet covered, starting with 'User extensions'. This is empty for the vast majority of users, who only use the default set of extensions that are shipped with Inkscape, but there are additional third-party extensions available which you may wish to install to your own directory, rather than making them available to all the Inkscape users on a machine.

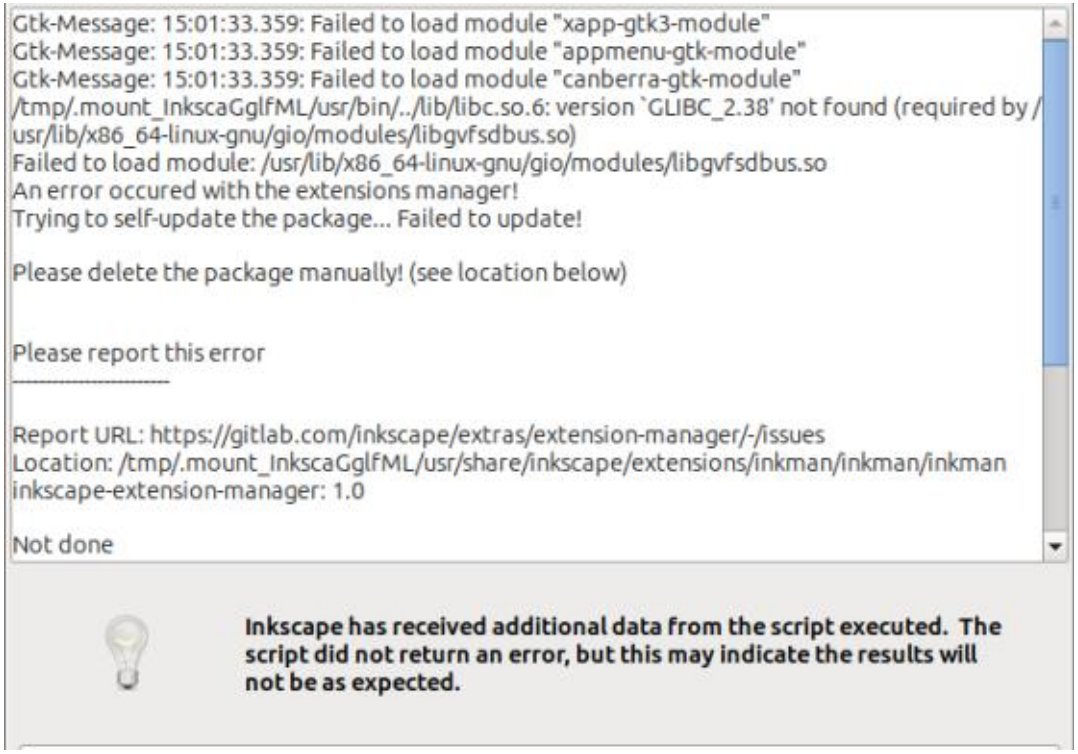


In fact, the Inkscape project maintains a list of additional extensions at https://inkscape.org/gallery/=extension/ - and it's well worth reading the information box at the top of that page before you go adding any extensions. An extension is essentially an executable program that is executed by Inkscape and passed a few pieces of information (such as the currently selected objects). I believe that, in theory, they could be written in any language – though Python is by far the most common. But, like any program you run, a rogue extension potentially has rights to alter or delete any files on your machine for which you have suitable permissions. Unless you run Inkscape as a superuser (don't do that), they're unlikely to be able to affect any of the OS system files

– but deleting all your personal photos, or exfiltrating your 'top_secret_passwords.txt' file to a server somewhere on the internet, are probably even larger concerns for most desktop users. This is all theoretical, and I'm not aware of any malware having been shipped via a third-party Inkscape extension – but it still pays to be vigilant.

If you do read the information box, you'll also note that it says "Reviewed extensions can be installed directly from Inkscape's Extension Manager." This is the preferred way to go if you can, but it's not always possible. What if the extension you need hasn't been 'reviewed'? Or what if the Extension Manager fails to open? I really wish this was a hypothetical 'what if', but when trying to get a screenshot of the dialog for this article, all my efforts to launch it from the Extensions > Manage Extensions… menu entry resulted in this error (below).

I guess that, on my system at least, even Reviewed extensions will have to be installed the manual way, so let's see what that entails.



The first step is to download the extension to your local machine. Find one you like the look of on that wiki page, and click it to get to the extension's details page. Here you'll find a download button (though it's not very obvious – look for the downward facing arrow, next to a number for the download count). But you'll also find a description, some tags that hint at compatible Inkscape versions, and, most likely, some user comments. It's worth looking at those comments first as they may provide some insight or detail that will help you with the extension – or reveal to you that it's not going to be useful in whatever task you're trying to achieve. And although the compatible version numbers can be useful, don't take them at face value. An extension labelled as compatible with version 1.2 or 1.3 may well still work on a 1.4 installation, even if not explicitly flagged as such.

Having decided to download an extension, you need to unzip the content of the downloaded file into your 'User extensions' directory. On restarting Inkscape, you should hopefully find it somewhere in the Extensions menu structure. If it doesn't stand out immediately, you can try searching for part of its name in the Extensions > Extension Gallery… dialog. If it appears, selecting it will allow you to run it directly (via the Run button at the bottom), but will also show you its location in the Extensions menu to the left of that Run button.

Not all extensions will run with all versions of Inkscape, on all machines, across all operating systems. There were significant changes in the extensions interface in Inkscape 1.0, so any that were written for previous versions, but not updated, are unlikely to work on more recent builds. Additionally, extensions may require specific libraries or other dependencies to be installed. In short, just because an extension is listed on the Inkscape website is no guarantee it will work for you.

I tried installing an extension in order to document the process: the "Instrument Scale Thumb" extension. I downloaded the zip file, extracted the contents into my 'User extensions' directory, then launched Inkscape. Scouring the submenus, there was no sign of it. Even searching for 'Instrument' in the Extensions Gallery yielded no results. Had I been a victim of a system incompatibility?

Looking more closely at the files that I had extracted revealed a Python file ('render_scale.py') and an XML configuration file ('render_scale.inx'). Opening the latter in a text editor, I found a <name> element which contained 'Scale' near the top of the file. Near the bottom was an <effects-menu> element with a <submenu name="Render"> entry as a child. Sure enough, this extension that was labelled as "Instrument Scale Thumb" on the website appears in Inkscape as Extensions > Render > Scale.

As you can see, manually installing extensions in this way may sometimes require a little additional effort and detective work. Don't let that put you off though – and, if you do get stuck, asking questions in the Inkscape forum may yield useful responses. But if your Extensions Manager does work, and you find the extension you're looking for listed in there, use that over manual installation unless you have a very good reason not to.

The third party extensions list is fairly easy to find via the Inkscape website – it's present as an entry in the Download menu at the top of the page. But once there, it's work taking a look at the 'Media Category' list to the right of the page:

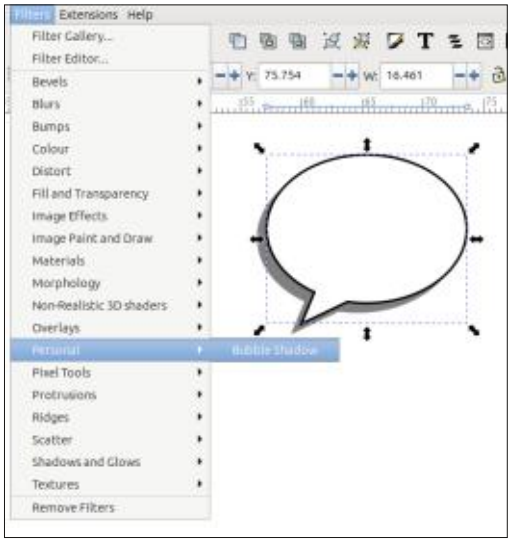
You'll note that some of those entries bear a close resemblance to other directories in Inkscape's user config folder. Take, for example, "Inkscape Filter Set". As you can see, at the time of writing there are only 20 entries in that category, but they're worth exploring anyway.

Downloaded filters typically consist of just an SVG file. It's nothing out of the ordinary – just a standard Inkscape SVG file much like you might create yourself. But the file will contain SVG filter chains and, usually, some objects with those filters applied. Opening the file in Inkscape will show the content, as you would expect.

This is actually a valid way to use a filter file. You can delete the content if you wish but, so long as you don't use File > Clean Up Document, the filter definitions will remain in the document. You can therefore create a new element and apply one of these existing filters using the Filters > Filter Editor… dialog. This is a good way to use a filter as a one-off, if you're certain that you don't want to use it again and again. Copy-pasting an element with a filter applied from one document to another will also copy the filter definition with it, which is useful if you wish to apply a filter to something in an existing file as a one-off.

But what if you do want to use it frequently? In case you hadn't guessed, just drop the SVG file in your 'User filters' directory and restart Inkscape. Any filters found in the files in that directory will appear in a new 'Personal' submenu within the Filters menu.

This also applies to your own filters. Have you created a filter that you want to reuse? Reduce your file down to just an object demonstrating the filter (or one for each filter in the file), save the file, and drop it into this directory.



As an example, in the Elvie comic strip that I co-create for Linux Magazine, we use a very specific drop shadow for the speech

bubbles. By deleting most of the content of a comic strip, and saving a cleaned-up document containing just a single speech bubble to my User Filters directory, I've now got easy access to this filter from the Inkscape menus.

On the subject of speech bubbles, Inkscape does ship with some of its own, as Symbols. These, along with a variety of other symbols for flowcharts, logic gates, map icons, and more, can be found via the Object > Symbols dialog (see part 64 of this series, in FCM #124, for full details about Symbols). But, in case you hadn't guessed, you can also add your own symbols to this dialog via the 'User symbols' directory.

This works in a similar way to adding filters. You need to create an SVG file containing symbols – or download one from the 'Inkscape Symbols Set' category of the wiki, much as we did with filters. Then just drop the file into your 'User symbols' directory and restart Inkscape.

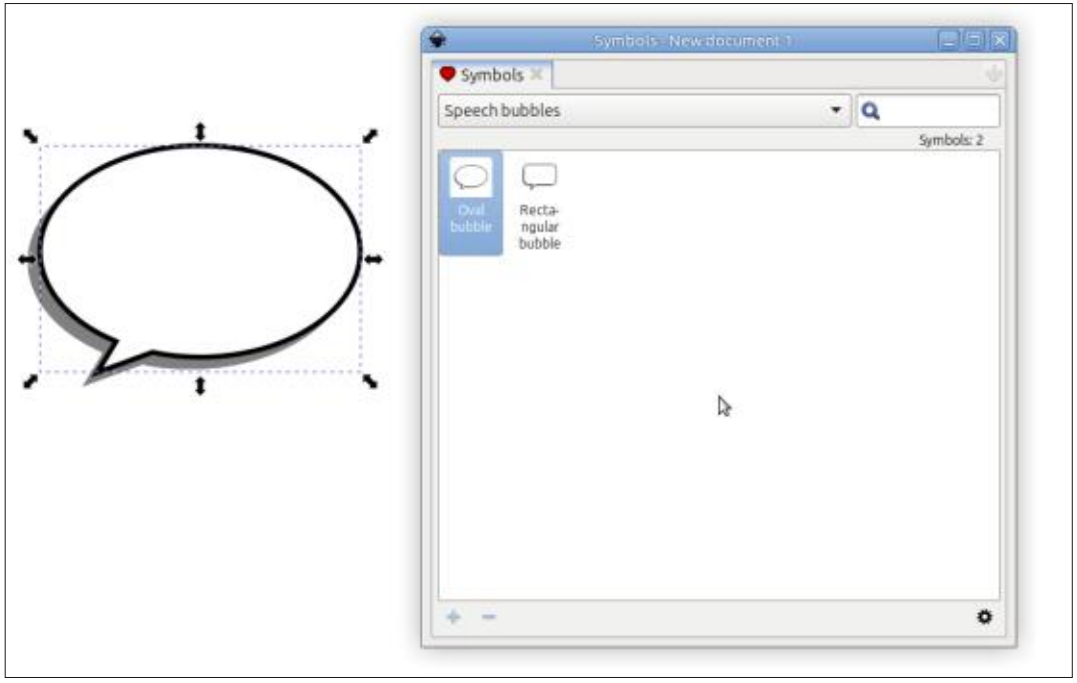
If you're creating your own symbols, there's a step you'll probably want to include, in order to make the resultant file more usable. That is to give your object a title before you convert it to a symbol – the title will ultimately be used in the Symbols dialog. Here are the steps in full:

- Draw your object. If your symbol consists of several separate parts, group them so that you're only dealing with one (group) object.
- Open the Object Properties dialog. I usually right-click on the object and select it from the context menu, but you can also select the object first, then use the Object > Object Properties… menu, or the Ctrl-Shift-O shortcut.
- In the 'Properties' section of the dialog, ensure that you give your object a human-readable name (preferably a fairly short one).
- Make sure to click the 'Set' button in the dialog before closing it, in order to apply your change. You may need to scroll to find it.
- With your object selected on the canvas, Open the Symbols dialog via the Object > Symbols menu entry or the Ctrl-Shift-Y shortcut.
- Ensure that the 'Current document' category is selected in the pop-up menu at the top of the dialog.
- Click on the '+' button at the bottom of the dialog to convert your object to a symbol. It should appear in the dialog with the name you specified.
- Repeat for any other objects that you wish to convert to symbols within this document.

Note that the objects on the canvas will have been converted to symbols. Technically you could now delete them from your document, but I prefer to leave them in place as a visual example of each symbol in use. At this point you can tidy up the layout and optionally run File > Clean Up Document (don't do this if you've removed the symbols from the page though, as unused symbols get cleared out). Finally, save the file into your 'User symbols' directory with an appropriate name. Note that this name will be used as the basis for the Category name in the Symbols dialog, preserving the case but with the extension stripped. So a name of 'Speech bubbles.svg' is much better than 'symbols.svg' (even if I do usually advise against spaces in filenames).

On relaunching Inkscape you should now find your custom symbols are present in the dialog, and can be dragged into your page like any other.

In case you're unfamiliar with symbols, they're intended for use as-is, with just affine



transformations such as scaling and rotation applied. If you wish to use the Symbols dialog as a library of objects which you will further edit once they're on the page, be aware that you'll need to use Object > Object To Path on each one to turn them back into 'normal' Inkscape objects.

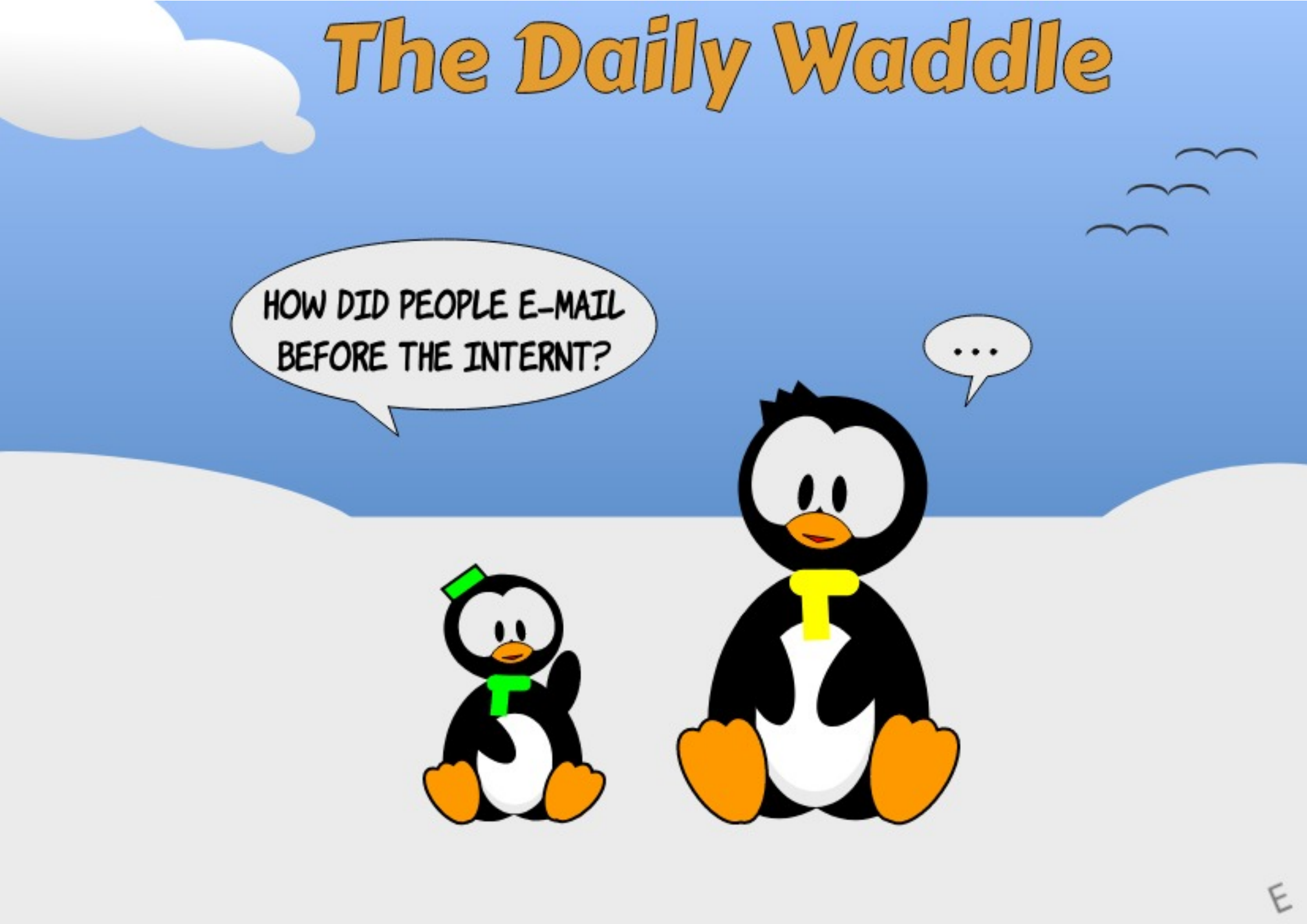
That concludes our investigation of the user directories. There are others that you are welcome to explore, though. For example, 'palettes' is a handy place to store your own custom palettes, in GIMP '*.gpl' format. And 'fonts' is sometimes useful for any fonts that you want to use only in Inkscape – though generally I recommend installing fonts at a system level, or in your per-user OS-level font folder (i.e. ~/.fonts on a typical Linux machine), as there's a good chance you'll actually want to use them in another program at some point.

As mentioned in the previous articles, tinkering in some of these files and directories can break Inkscape, but, generally, you can just delete the new files you've created to get back up and running again. Therefore, so long as you exercise a little caution, you might find that Inkscape is far more configurable than you had perhaps realised.

INKSCAPE

Mark uses Inkscape to create comics for the web (www.peppertop.com/) as well as for print. You can follow him on Twitter for more comic and Inkscape content: **@PeppertopComics**

The Daily Waddle



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Bodhi Themes on the CLI

Want to personalize your Bodhi Linux experience? Dive into the world of themes! Bodhi offers a wide variety of themes to suit your style, from sleek minimalism to vibrant creations. While the wiki covers the basics of installing and using themes, let's explore some simple commands to get you started.

Listing Themes:

To see a list of available Bodhi themes in the repositories, use:

```
apt search bodhi-theme
```

You can filter the results by adding keywords after the search term. For example, to find themes with "green" in the name, use:

```
apt search bodhi-theme green
```

Theme Information:

To get detailed information about an installed theme, like its description and version, use:

```
dpkg -s bodhi-theme-moksha-green
```

The output will display details about the theme package.

Installing Themes

To install a specific theme, use sudo apt install followed by the theme's package name (e.g., sudo apt install bodhi-theme-moksha-dimensions).

If you want to install the entire collection of Bodhi themes at once, use:

```
sudo apt install bodhi-theme-pack
```

Viewing Installed Theme Files (Optional):

You can use dpkg -L to see the files a theme installs but this output might be more useful for advanced users.

Theme Anatomy: Unpacking What Bodhi Themes Install

Think a Bodhi theme is just about eye candy? Think again! While themes certainly transform the visual appearance of your desktop, they install several components that work together to create a cohesive experience. Here's a breakdown:

- Moksha Theme: This is the core of the theme, defining the visual style of windows, panels, menus, and other Moksha elements. It controls things like colors, fonts, and window decorations.
- The Elementary Theme: This theme is built around the Elementary Library (ELM), a core component of the Enlightenment Foundation Libraries (EFL). ELM is the toolkit used by applications like ePhoto and Terminology. The Elementary Theme reflects the default visual style of ELM apps and likely includes settings optimized for their appearance and functionality.
- GTK Theme (Optional): Many Bodhi themes also include a matching GTK theme. This theme applies visual styles to standard GTK applications, ensuring a consistent look and feel across your entire desktop.
- Icon Theme (Optional): Bodhi themes often come with a custom icon theme, replacing the default icons with a set that complements the overall aesthetic of the theme. This includes icons for applications, folders, and system elements but is optimized for older machines.

By installing these components together, Bodhi themes create a unified and visually appealing desktop environment. It's like getting a complete makeover in one click!

Beyond the Repos

Want to get even more granular with theme customization? The BodhiDev/Bodhi-themes GitHub repository offers a treasure trove of options. Here's how you can explore and potentially install individual theme components, rather than a whole theme package from the official repositories.

Each theme within the Bodhi-themes repo has its own dedicated folder. Within these theme folders, you'll find two key directories: DEBIAN and usr. The DEBIAN folder contains information used to package the theme for easy installation (not relevant to this

method).

The real star of the show is the usr/share directory. This folder houses all the components that make up a Bodhi theme. Here's what you might find inside:

- doc: This folder contains copyright and changelog files related to the theme.
- elementary: This folder contains the Elementary theme, which could be a symbolic link to the Moksha theme. Not all themes utilize the Elementary theme.
- enlightenment: This folder holds the core visual elements for the Moksha desktop environment, essentially the "Moksha theme" itself.
- icons: This folder houses the custom icon set associated with the theme.
- theme: This folder contains GTK themes that complement the Moksha theme and ensure a consistent look across applications.

Important Note: Not all themes might include every directory listed above. It depends on the specific theme's design and functionality.

Install Components Locally

While the Bodhi-themes repo offers individual theme components, installing them directly requires some technical knowledge and can be a bit tricky.

Target Locations:

- Elementary Theme: ~/.elementary
- Moksha Theme: ~/.e/e/themes/
- Icon Set: ~/.local/share/icons (Update the icon cache after installation using the gtk-update-icon-cache command)
- GTK Theme: ~/.local/share/themes

Important Notes:

- Symlinks and Elementary Themes: Many themes listed as "Elementary" themes are actually symbolic links pointing to the Moksha theme. In these cases, you only need to copy the Moksha theme edj file.
- Missing Components: Themes often work together as a set, with the Moksha theme relying on specific GTK themes, icon sets, or even the Elementary theme (if applicable). If you only install the Moksha theme and not the other components, your desktop might appear incomplete. You can adjust these settings in Moksha's Settings Panel. There, you can set the desired GTK theme and icon set. For the Elementary theme (if your theme uses it), you can use the elementary_config command.
- Icon Cache Refresh: When installing a new icon theme, especially on older machines, you might experience a slight delay as Moksha rebuilds its icon cache. This one-time occurrence shouldn't impact performance after the initial refresh or if needed a reBoot.

While directly installing theme components from the GitHub repo requires some technical knowledge, it offers a unique way to personalize your Bodhi experience with specific elements from different themes.

Compiling Bodhi Themes Yourself

This section is for the truly adventurous themers! Compiling a Moksha theme from its source code offers ultimate control and customization, but it requires a strong technical background and familiarity with development tools.

Compilation Challenge:

To embark on this journey, you'll need to:

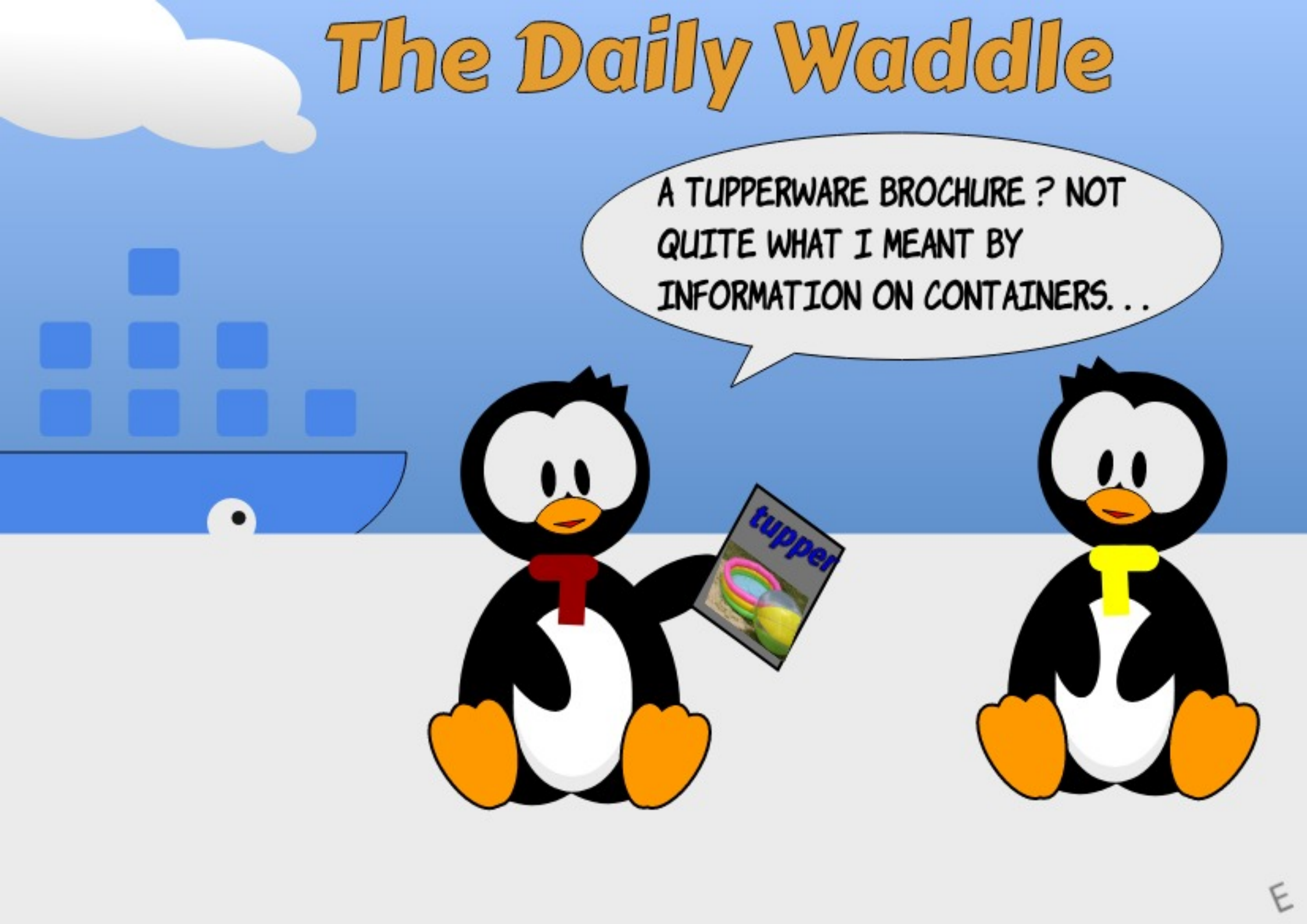
- Clone the Theme Source: Use the git clone command to download the theme's source code from its Git repository (URLs are provided on the BodhiDev/Bodhi-themes repo).
- Consult the Theme's Instructions: Each theme might have specific build instructions or dependencies. Carefully review any documentation or README files included in the source code to understand the compilation process and required tools. These details can vary significantly between themes.

A Word of Caution:

Compiling themes can be a complex process and might involve working with build systems, managing dependencies, and potentially encountering errors. A theme's GitHub page might reflect ongoing development, meaning the code might have bugs or require the latest version of Moksha for full functionality. This latest version of Moksha might not yet be available in the official Bodhi repositories.

BACK NEXT MONTH?

The Daily Waddle



MY OPINION

Written by Erik

Some shower thoughts...

You know, I just had a conversation with an acquaintance about a few scary movies, but for me, it covers almost all movies, not just horror. This person reads so much into a movie, sees so much sub-text, whereas moi, on the other hand, just sees bad props and shallow storytelling. This guy almost lives himself into the movie, squeezing out every drop and every crumb. I look at the same movie and yawn and scratch my butt; for me, a movie is face value, it shows me a guy (who is not me), distrust his colleagues for anyone could be a monster – for instance. I don't live myself into this person, and when he gets eliminated, start living myself into the next person's feelings and hopes and regrets, mainly because it is not shown (and even when things are supposedly "shown", like a cigarette in an ashtray, I don't immediately leap to; "this person is a nervous wreck with trust issues and arrhythmia and abusive parents").

A book, on the other hand, lets me make it all up in my head, the characters can be anything *I want them to be, not some director's version, you don't have to imagine every crumb, as you get to read all the characters' motivations. My thoughts then obviously switch over to the people on Reddit, who cannot see an apple in their mind's eye, and I worry that my "movie eye" may be dead, like these redditor's minds? I watch a thriller movie and it just feels like lies and half-truths to me. The contradictions and omissions speak louder to me than the story itself. A series like some "whodunnit", let say "murder she wrote", is just escapism to me. I skim the surface like a water strider, because in real life, if you were to meddle in a police investigation, you'd be the one behind bars. It obviously does not help that the actual story in a movie has to be cut to two or three hours, making it an abridged version of an abridged version of an abridged version of the actual book.

Long preamble over! I sometimes wonder about distributions that are out there, that do not really add or subtract anything to the "base" distribution and have none of their own innovations. I find Debian a good one to pick on, bear with me. A lot of the Debian-derived distro's can actually just be a script – that you run after installing Debian. The changes are cosmetic, like customised start buttons or wallpapers. Somehow making it as shallow as Windows is, since Vista. There was a time you could run Litestep and truly customize Windows, but now, with Windows, you will own nothing and be happy.

(However, we are not here to talk about an operating system that does not respect you, we are here to talk about Linux.) Then at the opposite end, we have distributions that just Frankenstein it, the ramifications be damned! Using XFCE as a base, they add every framework out there and mix-and-match the things you use every day, like say Gnome's file manager and KDE's control panel and Cinnamon's settings or whatever, and every package manager out there, making it boot slower, the application usage slower, and memory usage sky-rocket. I feel these distros have no clue and fumble in the dark. I don't want to talk about those, they are the kids who watch a Bruce Lee movie, then leave the theatre and immediately beat up a homeless person.

If we were to go to these Debian (respin) distros' websites, we'd find mission statements or goals listed, and usually I'd find that it is nothing vanilla Debian does not already have. Mostly it equates to swopping out a few applications for alternatives.

Don't get me wrong, XFCE (I'm talking about XFCE here, as usually the Debian-derived distro's use it as a base) is fugly by default (even on Debian), and some other desktop environments in pure Debian, has menu issues, etc, but with a bit of patience, XFCE is one of the most beautiful customisable desktops there is, that stays functional and does not require editing hundreds of configuration files, like, say, openbox.

If I compare say Xebian, Sparky,

Synex, AVLinux, MiniOS, Siduction, WattOS, Muana, Kumander or Netrunner, I'd be really pressed to find honest innovations, original programs (other than a few welcome centres). I'm just naming these off by hand, I haven't tried most of them in at least a year, but it is the idea I'm trying to put forward here. Also... none of my four Debian machines have a desktop, so I'm not very recent. Lol. Let me pick on Synex quickly as it was the last one I installed. It says "Focus on what matters: Solid foundation, simple experience: designed for businesses and users who want to work without distractions". As well as: "About Synex – Synex is an innovative Linux distribution crafted in Argentina, built on the robust foundation of Debian. Our mission is to deliver a minimalist and stable operating system that caters to the needs of small and medium-sized businesses, as well as individual users seeking a straightforward computing experience. We prioritize simplicity without compromising on performance, ensuring that our users can focus on what truly matters."

Right, I installed Debian and Synex side-by-side. Synex had an "install" option that took you to the live CD, where Debian had a true installer plus a live install. Once installed, the only difference I could find is that Synex removed some applications. What made it "business ready?" There were no "business" applications? No shortcuts to set up LDAP, or a server or an accounting or invoicing program. Maybe it has an office suite with excel or calc? Not even. Maybe they have documentation on this? (Checks website...) Nope, installation guide only. Then what was the point?

Ubuntu is not just Debian-derived, they try their own thing, you need to give them kudos for that, even if it is sometimes not well received. Other than trying to protect you with Snap applications, they also help you with things like Multipass, LXD, and more. (I believe the intentions are good). Linux Mint has their Cinnamon desktop going for them. I have respect for others like Devuan, who really get into the guts and oppose systemd. If we look beyond Debian, to say, Void Linux, much respect to these pioneers, but with a small community and one maintainer, it will never be more than a "hobby" operating system (too much fiddling) with only a few applications available to them. We can go extreme – Kolibri OS, an amazing operating system that is fast(!!) and small, but again, no applications and no big developer base, no real hardware support.

Juxtapose KaOS with what I have said, they focus on 64bit systems only, KDE and only the QT toolkit, giving you a much more unified experience, and developers build their own packages which are available from in-house repositories. This means it is excellent for home users, but cannot be used commercially or in the enterprise. They have chosen their market and aim to be the best in that market segment. If I were a normal home user, who did not need to learn new technologies for my trade, I'd probably use KaOS, as it seems focussed, and with clear objectives.

Even on the Ubuntu side, there are distros with value added, like say, Voyager OS. They include their own scripts and small applications, and the overhead is on par with vanilla Gnome Ubuntu. Their goal is ease of use and customisation. I don't see a "new distribution" based on say, Debian; I see re-spins, posing as new distributions. Are they necessary? Do we just need to let them (the Debian respins) grow into their own thing? Do I have movie vision when it comes to these distributions? Do other people see Ubuntu as a Debian re-spin? Is innovation even a thing any more? There seems to be more of a rush to re-write things in Rust than there is to innovate, or is it just my imagination? It just turned August 2025 (this may only go out next year), and all I see is Rust this, Rust that, but Ubuntu still does not have a decent PDF reader compatible with Acrobat, but it is positioned as an enterprise OS?

What do you think Ubuntu needs now? Is it a roadmap, is it better configuration applications, is it hardware compatibility? Is it to worm themselves into AMD and Nvidia and smash that "code that cannot be included in Linux" horse manure and get Linux to be a viable option to Windows in the gaming space? Is it more creative applications, like cakewalk or whatever? Let us know your thoughts on misc@fullcirclemagazine.org

Write For Full Circle Magazine

Guidelines

The single rule for an article is that **it must somehow be linked to Ubuntu or one of the many derivatives of Ubuntu (Kubuntu, Xubuntu, Lubuntu, etc).**

Rules

• There is no word limit for articles, but be advised that long articles may be split across several issues.

• For advice, please refer to the **Official Full Circle Style Guide**: http://bit.ly/fcmwriting

• Write your article in whichever software you choose, I would recommend LibreOffice, but most importantly - **PLEASE SPELL AND GRAMMAR CHECK IT!**

• In your article, please indicate where you would like a particular image to be placed by indicating the image name in a new paragraph or by embedding the image in the ODT (Open Office) document.

• Images should be JPG, no wider than 1200 pixels, and use low compression.

• Do not use tables or any type of **bold** or *italic* formatting.

If you are writing a review, please follow these guidelines :

When you are ready to submit your article please email it to: articles@fullcirclemagazine.org

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REVIEWS

Games/Applications

When reviewing games/applications please state clearly:

• title of the game
• who makes the game
• is it free, or a paid download?
• where to get it from (give download/homepage URL)
• is it Linux native, or did you use Wine?
• your marks out of five
• a summary with positive and negative points

Hardware

When reviewing hardware please state clearly:

• make and model of the hardware
• what category would you put this hardware into?
• any glitches that you may have had while using the hardware?
• easy to get the hardware working in Linux?
• did you have to use Windows drivers?
• marks out of five
• a summary with positive and negative points

You don't need to be an expert to write an article - write about the games, applications and hardware that you use every day.

Edubuntu 25.10

During each set of Ubuntu releases, I normally look at Ubuntu Unity, but this time there was no Ubuntu Unity 25.10 release due to some last minute unsolvable problems. Left me with an opening, so I decided to fill it with a review of Edubuntu 25.10. The last time we had a look at this distribution was in FCM#005 back in September, 2007, so a fresh look is long overdue!

Edubuntu is an educational-focused Linux distribution with an interesting history. I thought it would be worth seeing how it stacks up for school use and also as a general-use desktop distribution.

Like the other official Ubuntu flavors, Edubuntu 25.10 came out on 9 October, 2025. After the third and final interim release in this development cycle, the next version will be Edubuntu 26.04 LTS, scheduled for 23 April 2026.

This is Edubuntu's 20th anniversary of its first release, 5.10, "Breezy Badger". Because this is an interim release, 25.10 will be supported for only nine months, until July 2026.

Background

Edubuntu's first release came out only a year after Ubuntu's first release and Edubuntu became one of the earliest official flavors, after Kubuntu. The project was founded by Oliver Grawert and enlisted a team of developers aiming to provide a stock Ubuntu desktop (at that time using GNOME 2 and later using Unity) along with a suite of preinstalled educational software. The distribution was intended to enable nontechnical teachers and other school staff to easily set up a computer lab.

After its first release, 5.10, in 2005, Edubuntu went on regular six-month releases for eight and a half years until 14.04 LTS. For one release, 8.04, it was replaced by Ubuntu Education Edition, which allowed adding the educational packages on top of any existing Ubuntu installation. That idea was not a success and Edubuntu came back with 8.10.

The project had been losing momentum by the time 14.04 LTS was out in April, 2014, and the departure of developers Jonathan Carter and Stéphane Graber to other projects hastened that. The next plan was to start putting out only LTS releases every two years in order to save on labor, aiming for 16.04 LTS as the next release. That 16.04 LTS release was never made and 14.04 LTS proved to be the end of the line for Edubuntu for the next nine years, with the project abandoned.

It was while attending the Ubuntu Summit 2022 in Prague, Czech Republic, that husband and wife team, Erich and Amy Eickmeyer of Ubuntu Studio fame, decided to see about resurrecting Edubuntu with blessings from Canonical. Amy brought her experience as an early childhood educator to the project, and today she is the Edubuntu Project Lead, part of a team that also includes her son, Jonny Eickmeyer, as lead student advisor.

Relaunched two and a half years ago with Edubuntu 23.04, the project aims to provide the Ubuntu

desktop core plus educational software that can be selected for school groups by age on installation.

Edubuntu 25.10 is now the fifth release that has been put out by the Eickmeyer team. This version is being advertised as "The 20th Anniversary of Edubuntu" but, to be fair, there were no releases for nine of those 20 years.

Installation

I downloaded Edubuntu 25.10 from the official source using Transmission to retrieve the BitTorrent. I next carried out an SHA256 sum check to ensure that the ISO file download was good, which it was.

This release's ISO file is 6.8 GB, making it the biggest Ubuntu flavor in size I have looked at so far and 1.1 GB bigger than the mainstream Ubuntu 25.10 on which it is based. It will become apparent later on where that 1.1 GB comes from.

I tried out Edubuntu 25.10 in a live session from a USB stick using Ventoy 1.1.07. Edubuntu is not listed as being officially supported by Ventoy but, because it is based on Ubuntu, it works just fine.

System requirements

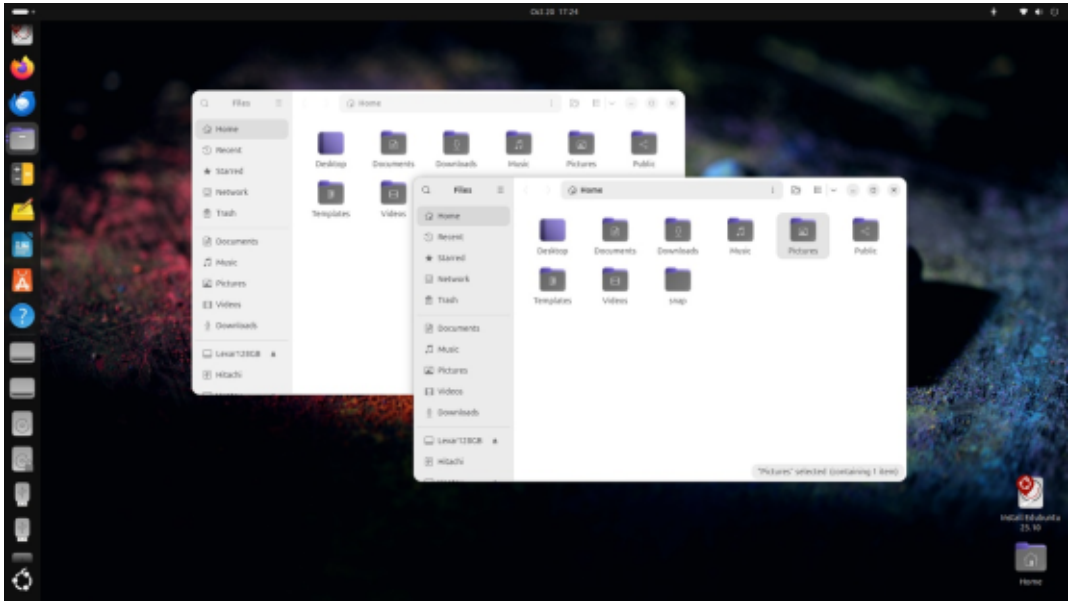
The recommended minimum system requirements for Edubuntu 25.10 are:
1.2 GHz Dual-core processor or better.
4 GB RAM.
25 GB of free hard drive space.
16 GB USB drive for flashing the installer.
An internet connection is preferable for installing additional software.

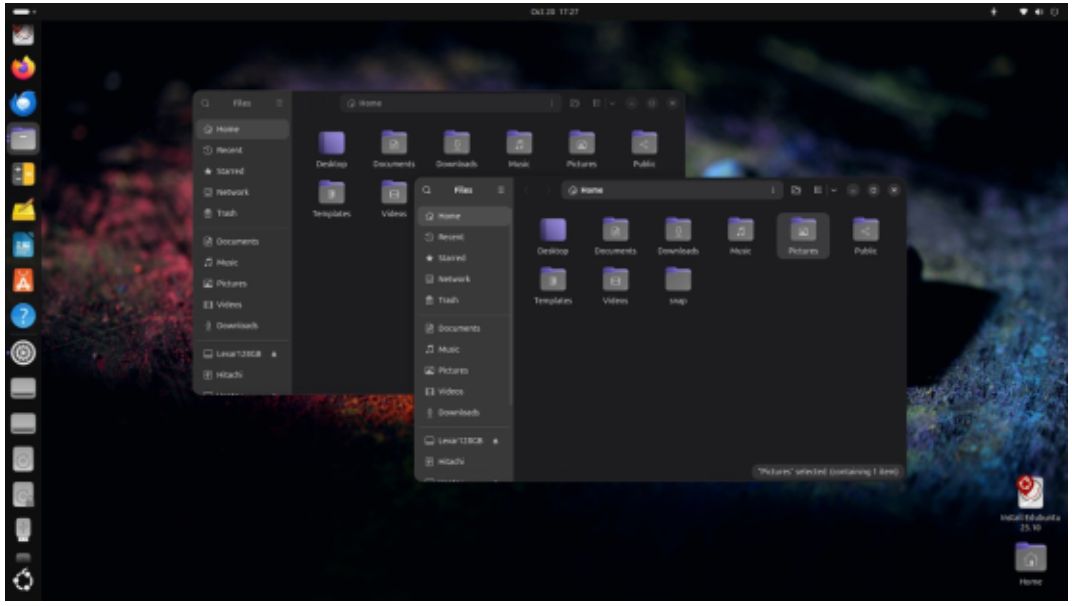
This means that Edubuntu 25.10 should run well on any hardware designed for Windows 7 or later, although I suggest at least 8 GB of RAM as a working minimum especially for web browsing.

New

Being based on Ubuntu 25.10 means that Edubuntu 25.10 uses the GNOME 49 desktop and incorporates all of the changes that Ubuntu 25.10 brings, including using Wayland only for its display server. There is no X11 session any more.

This release replaces some previously used applications as described below and adds more games, as recommended by the project's lead student advisor. It also adds gm-assistant, a package to assist in setting up and managing role-playing games, including Dungeons and Dragons.





Settings

Because it uses the same desktop, the settings are generally the same as found in Ubuntu 25.10. Edubuntu 25.10 does include 29 wallpapers, with many of them classroom-themed (chalkboards, books, etc). Some of the wallpapers are quokka-themed since this is the Questing Quokka release.

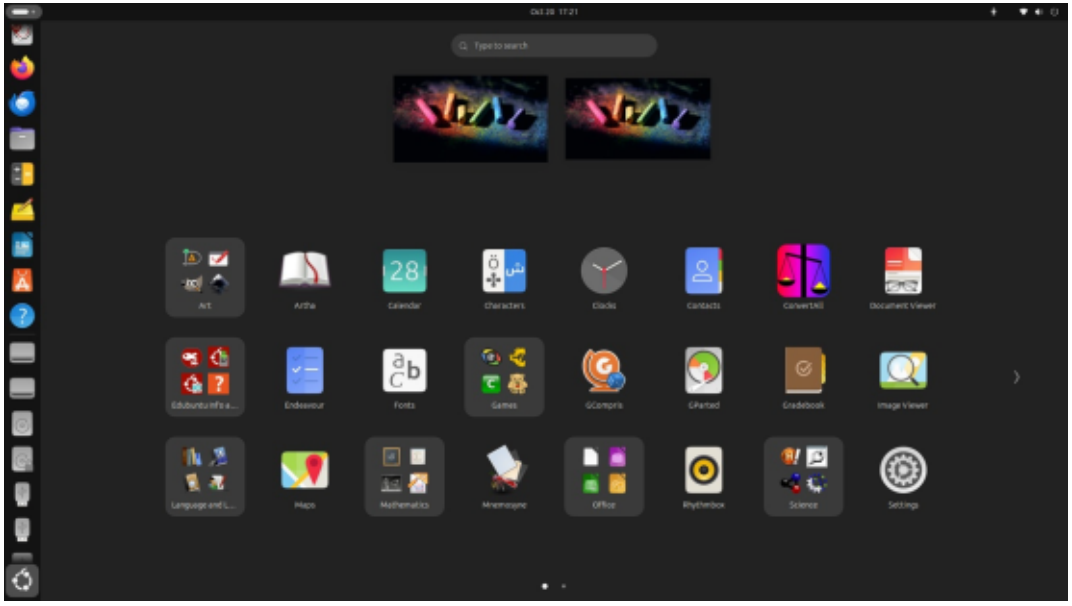
Applications

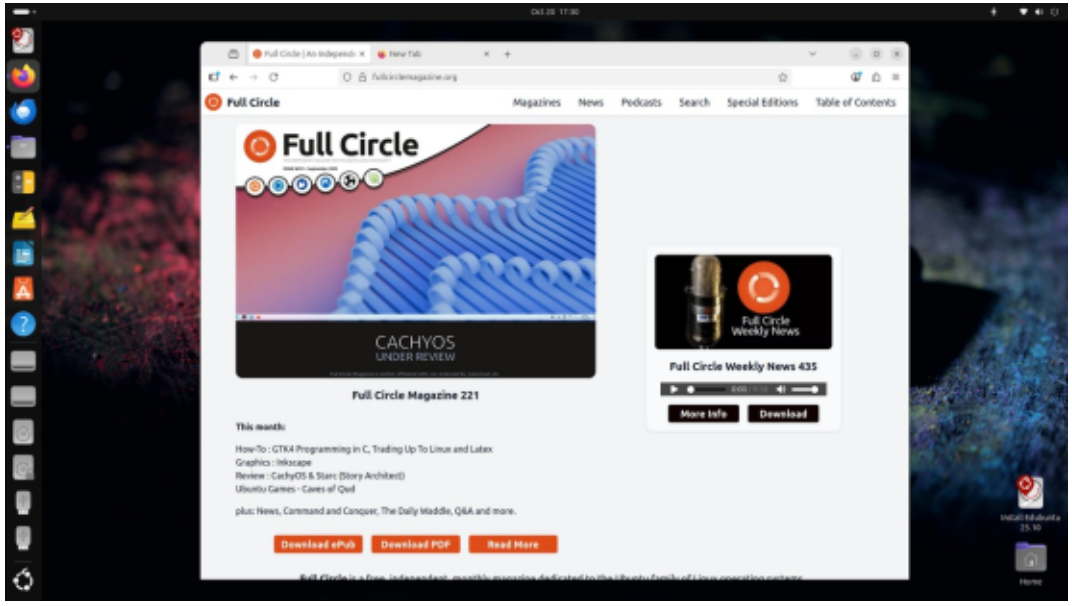
The applications included with Edubuntu 25.10 from the Ubuntu 25.10 desktop are:
CUPS 2.4.12 printing system*
Deja Dup 49.9 file back-ups
Firefox 143.0.4 web browser**
GNOME Calculator 48.0 desktop calculator*
GNOME Calendar 48.1 desktop calendar*
GNOME Clocks 48.0 clocks*
GNOME Disks 48.0 disk manager*
GNOME Disks Usage Analyzer (baobab) 48.0 disk manager
GNOME Document Viewer (papers) 48.0 PDF viewer*
GNOME Files (nautilus) 49.0 file manager
GNOME Image Viewer (Loupe) 47.0 image viewer
GNOME System Monitor 48.1 system monitor
GNOME Terminal (Ptyxis) 49.1 terminal emulator
GNOME Text Editor 48.3 text editor
GNOME Videos (totem) 43.2 movie player
Gparted 1.6.0 partition editor***
LibreOffice 25.8.1 office suite, less LibreOffice Base
PipeWire 1.4.7 audio controller
Rhythmbox 3.4.8 music player*
Security Center (desktop-security-center) 0+git.d2e7fd4 security controller**
Startup Disk Creator (usb-creator-gtk) 0.4.1 USB ISO writer*
Systemd 257.9 init system
Thunderbird 140.3.0 ESR email client**
Ubuntu App Center 1.0.0 package management system**
Wget 1.25.0 command line webpage downloader

* indicates same application version as used in Edubuntu 25.04
** supplied as a Snap, so the version depends on the upstream package manager
*** included on the ISO for boot-up, but not included in a full installation

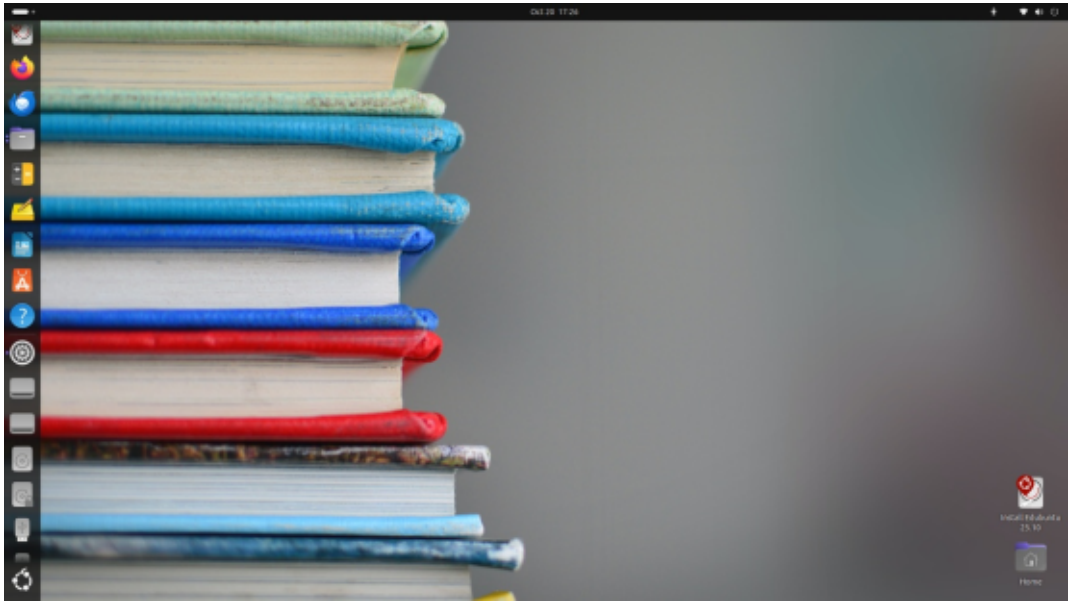
Missing compared to the mainstream Ubuntu 25.10 default applications are:
Archive Manager (file-roller) file archiver
GNOME Document Scanner (simple-scan) optical scanner
GNOME Snapshot webcam application
Remmina remote desktop client
Shotwell photo manager
Transmission bit-torrent client

The additional packages added over and above the Ubuntu 25.10 default applications are:





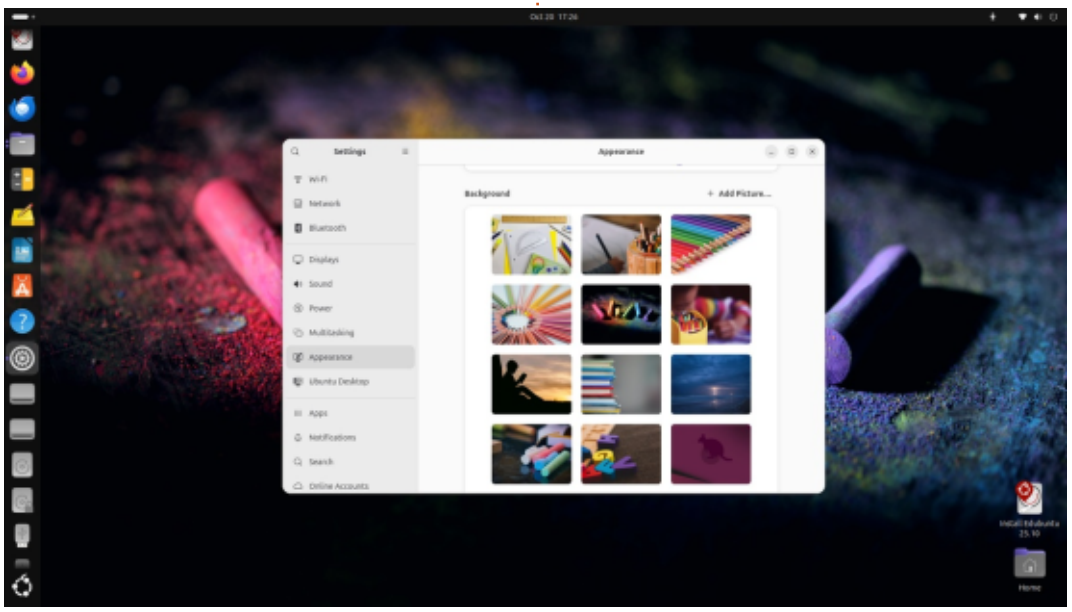
Artha 1.0.5 thesaurus*
Atomix 44.0 molecule building game*
BASIC256 2.0.99 BASIC programming for children*
Blinken 25.08.1 KDE version of the Simon memory game
Calibre 8.8.0 ebook reader
Cantor 25.08.1 KDE mathematics application
Chemtool 1.6.14 chemical structures drawing program*
Colobot 0.2.2 programming strategy game*
Connectagram 1.3.8 word unscrambling game
ConvertAll 0.8.0 units converter*
Dia 0.98.0 diagram editor*
Drawing 1.0.2 drawing application*
Endeavour 43.0 personal task manager*
Fritzing 1.0.1 electronic design software*
Gamine 1.6 interactive game for young children*
GCompris 25.1.1 Games for children aged 2-10**
GIMP 3.0.4 image editor
GNOME Maps 48.7 map viewer
GNOME Shell extensions 49.0 desktop extensions*
GNOME Weather 48.0 weather display*
gm-assistant 1.2.4 game master assistant for role-playing games*
Gobby 0.6.0 collaborative text editor*
Gradebook 1.2 school grade tracker*
Gramps 6.0.1 genealogical research program
Image Magick 7.1.2.3 image manipulator
Inkscape 1.4.2 vector graphics editor
Jigzo 0.6.1 photo puzzle game*
KAlgebra 25.08.1 KDE algebraic graphing calculator
Kalzium 25.08.1 KDE periodic table tools
Kanagram 25.08.1 KDE jumble word puzzle
KBruch 25.08.1 KDE teaching aid for fractions
KGeography 25.08.1 KDE geography teaching tool*
KHangman 25.08.1 KDE Hangman word puzzle
Kig 25.04.3 KDE interactive geometry tool
Klavaro 3.14 touch typing tutor*
KLettres 25.08.1 KDE foreign alphabet tutor
Kmplot 25.08.1 KDE mathematical function plotter
KTurtle 25.08.1 educational programming environment
KWordQuiz 25.08.1 flashcard learning program
Laby 0.7.0 Learn how to program with ants and spider webs*
LibreCAD 2.2.0.2 computer assisted design*
Li-ri 3.1.4 toy train simulation game*
Marble 25.08.1 KDE globe and maps program
Mnemosyne 2.11 spaced repetition flash-card program*
Pysio game 4.20.01 games package for kids*
Rocs 25.08.1 graph theory IDE
Scribus 1.6.3 desktop publishing*
Stellarium 24.3 planetarium



program*
Step 25.08.1 KDE physics simulator
Sysprof 48.0 GNOME system profiler*
Tux Math 2.0.3 math game for kids*
TuxPaint 0.9.34 painting program for young children*
Tux Typing 1.8.3 typing tutor game*
Ulcc 1.0.2 teaching tool using pictures*
Xball 3.1.0 bouncing balls simulator*

* indicates same application version as used in Edubuntu 25.04
** supplied as a Snap, so the version depends on the upstream package manager

As can be seen, this is a very extensive list of included applications, which accounts for that 1.1 GB of extra ISO file size! These applications can be selected on installation based on the age of the students targeted.



Changes in the application mix for this release include that Thunderbird has replaced Geary as the default email client, due to Microsoft 365 account compatibility issues, and that the GNOME Music player has been replaced with Rhythmbox.

Conclusions

So does Edubuntu 25.10 meet the aim of being a useful and easy to administer educational operating system for school use? I think it does. It would also prove helpful in keeping older computers in service, plus the worthwhile goal of introducing students to the wonders of Linux.

Does Edubuntu make a good general use operating system? It does and might be worthwhile as your children's operating system for home use, but for non-students there is really no advantage to installing it over just mainstream Ubuntu instead. A lot of unneeded applications would have to be removed to employ Edubuntu as a general home desktop.

Overall, Edubuntu 25.10 is a good release, with much to offer a student or for use in a school environment.

The next release will be the long term support version to complete this development cycle. Edubuntu 26.04 LTS is expected out on 23 April 2026.

External links

Official website:
https://www.edubuntu.org/

Adam Hunt started using Ubuntu in 2007 and has used Lubuntu since 2010. He lives in Ottawa, Ontario, Canada, in a house with no Windows.

Pop!_OS 24.04 LTS Stable

Christmas arrived a little early in 2025 for fans of the Ubuntu-based Pop!_OS. In fact, it arrived on 11 December. As had been promised in a System76 post on Bluesky on 29 October, 2025, the long-awaited stable version with the new COSMIC desktop came out just in time for Christmas.

Perhaps the biggest surprise in this new stable version is that there are almost no surprises. I'll put it this way: if you liked the beta version then you will love the stable. The main noticeable differences over the beta are "no crashes" - this stable does indeed seem stable - and lower idle RAM consumption, which is always a good thing.

Background

The project by Denver, Colorado-based Linux hardware builder System76 to build a new Linux desktop for its Pop!_OS Linux distribution was announced in 2022. Almost four years later, it has now arrived, production ready. I suspect the in-house company development team thinks the timing is fortuitous, as they get some well-earned Christmas vacation!

After seven alpha versions, plus one beta, the stable release is now here, able to be ordered for delivery on new System76 hardware, but also available for download for anyone to use, as it is truly free software.

Pop!_OS 24.04 LTS is based on Ubuntu 24.04 LTS which is still the current long term support version of Ubuntu and will be until 23 April, 2026 – when Ubuntu 26.04 LTS is expected out.

This new release sports the new COSMIC Epoch 1 desktop, built using the Rust programming language, the Iced toolkit, and running on a modern Wayland display server. As of today, it is pretty much the state-of-the-art in the Linux world.

Not to rest on their laurels, the System76 developer team notes, "the COSMIC Desktop will be continuously updated with new features and improvements after release". In the past, it has received pretty much continuous advancements, much like would be expected in a rolling release distribution.

Getting Pop!_OS

It is worth noting that Pop!_OS is not just for System76 hardware but will run on a variety of devices. There are separate Pop!_OS download versions for general Intel and AMD machines, boxes with NVIDIA GPUs, ones with ARM architecture, plus ARM combined with NVIDIA.

As in the past, there are several ways of getting Pop!_OS 24.04 LTS:

If you were previously running Pop!_OS 24.04 Beta then you will already have Pop!_OS 24.04 LTS Stable through the update process. There is nothing more you need to do.

If you are still running the previous Pop!_OS 22.04 LTS then you will be offered an upgrade via notification to Pop!_OS 24.04 LTS in

January 2026 or you can force it sooner from a terminal with:

```
pop-upgrade release upgrade -f
```

Or, you can just download the ISO file from the website today, write it to a USB stick and do a fresh installation, which may be the cleanest route.

If you like the new COSMIC desktop there are also many other places to get it besides on Pop!_OS. It is available on several other Linux distributions including AerynOS, Arch Linux, Fedora, NixOS, openSUSE Tumbleweed, BSD, and Redox OS.

Installing

I downloaded the generic version of Pop!_OS 24.04 LTS from the official source by https, as there are no BitTorrents.

The ISO file was 3.1 GB, just 100 MB larger than the Beta's 3.0 GB. These are relatively small files for a modern Linux operating system here in 2025, and half the size of Ubuntu 24.04 LTS upon which it is based, which was 6.1 GB. In fact, it is smaller than any Ubuntu "flavor". As described below, Pop!_OS includes fewer user applications, which is one reason why it is smaller.

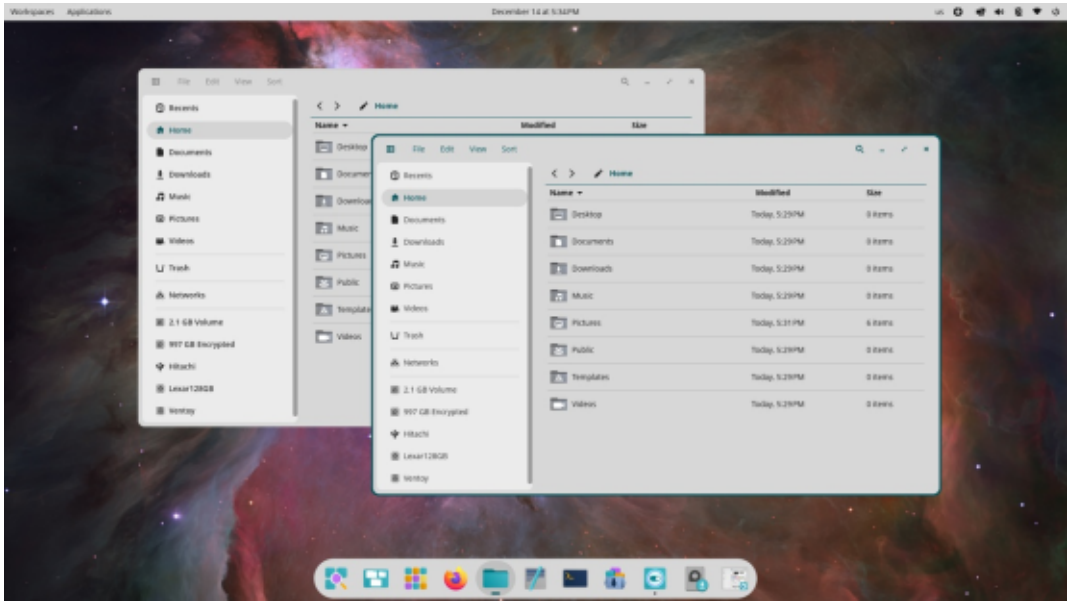
For testing, I dropped the ISO file onto a USB stick equipped with Ventoy 1.1.07 and booted it up from there. Pop!_OS is officially supported by Ventoy and it loaded without any issues.

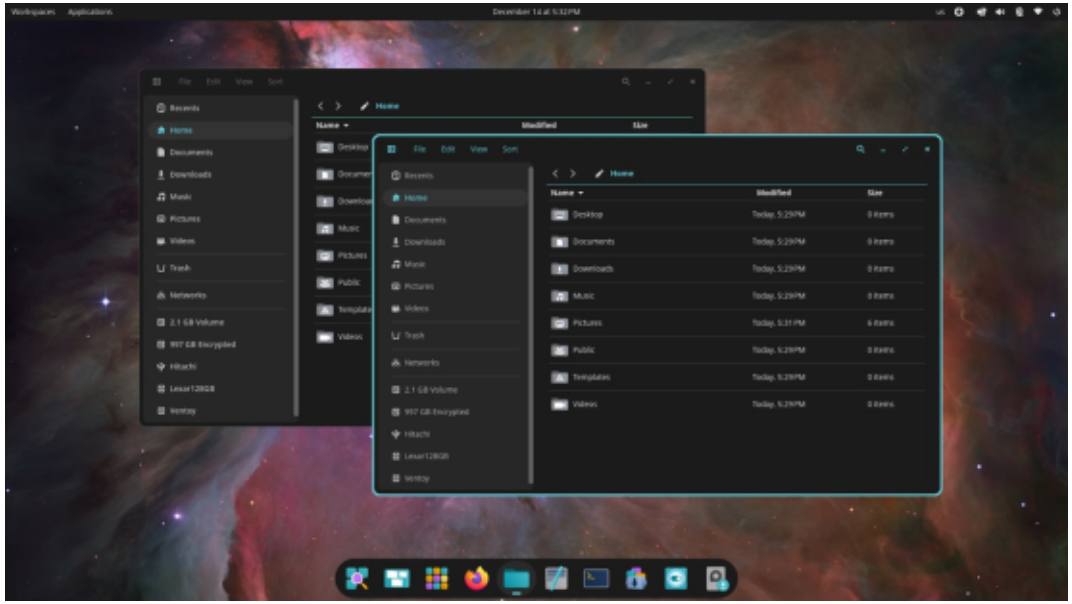
System requirements

There are now official "recommended" specs for Pop!_OS 24.04 LTS which are "4 GB RAM, 16 GB storage, 64-bit processor", but I think that RAM call is unrealistically low.

Pop!_OS has never been particularly light on RAM usage. One of my previous complaints way back with Pop!_OS 22.04 LTS was that its fresh boot idle RAM was 3.9 GB. Pop!_OS 24.04 Alpha 7's idle RAM was 4.3 GB, and the Beta was even higher at 4.7 GB. Operating with a few applications open quickly puts all of them over 10 GB of RAM.

This stable version is now down to an idle RAM of 3.7 GB, a clear improvement, but 4 GB will barely get you started. In comparison, also running on Ventoy, Ubuntu 25.04 and Ubuntu Cinnamon 25.04 both idle at 2.3 GB. In testing with a bunch of stuff open on Pop!_OS 24.04 LTS, RAM use exceeded 10 GB, so 4 GB just isn't going to do it, and 16 GB is the minimum I would recommend, with 32 GB a better





performance option.

New

Other than reduced idle RAM and improved stability, there is actually very little new in Pop!_OS 24.04 LTS that users will notice.

The provided Linux kernel is the updated 6.17, compared to the baseline Ubuntu 24.04 LTS, which originally came with Linux kernel 6.8. Pop!_OS's initialization system remains as systemd 255.4, the original version of systemd from Ubuntu 24.04 LTS. Pop!_OS also uses Mesa 25.1.5 open-source graphics.

Much developer effort seems to have been expended on making desktop application tiling work right, and it does work well. In my testing, I have found that Pop!_OS's tiling is not really of much value on smaller screens. Trying it out on a 1920 × 1080 pixel screen, it works fine with two application windows open, but the results are not good with five or more applications! Tiling may be something that is useful on a big screen or even on a multi-screen setup but it does not work well on most single screens, and most users will be better off with traditional floating windows or perhaps multiple workspaces instead. By default tiling is "off" and is controlled by an icon on the panel.

Settings

Pop!_OS 24.04 LTS maintains its focus on maximizing user customization choices and that makes it very different from Ubuntu and much more comparable to Kubuntu.

Most of the customization settings are found in the new COSMIC Settings manager which puts them in one neat and organized place. Some other desktops, like Budgie, could learn from this solution. A few specific items are hidden away in the panel icon menus, but are easy enough to locate. There are still some desirable settings missing though, like the ability to display laptop battery time and percentage charge remaining on the panel.

The settings provide a wide range of customization, including turning off the dock and removing anything on the panel, which are all individual applets. The dock can also be reconfigured almost any way imaginable, including placing it on any screen edge, changing its color, opacity, size, and shrinking or expanding it to the screen edge. It all works very smoothly.

In Pop!_OS there are only two window themes, light and dark, but

those should be enough to keep most users happy. There are also nine highlight color schemes for each of the light and dark themes. These not only provide selection highlighting in application windows but also frame the active window (the so-called "active hint" feature), which is helpful to identify which window is active and gives the desktop a "spacey" feel as well. You can pick your own colors and save them, too.

This stable release includes the same seven wallpapers as the Beta version had, all of them "space" themed.

I think most users will be impressed with the wide range of user settings provided. They really do make it easy to customize, so you can truly make the desktop feel like your own.

The COSMIC Desktop Environment

What sets Pop!_OS apart from its progenitor, Ubuntu, is the newly written COSMIC desktop. The idea is that it's supposed to provide a better interface, with improved efficiency and ergonomics than the GNOME desktop. It does this with an improved workspace menu (Super+W), better applications menu (Super+A) where it is easier to find things, and the launcher (Super key).

Simple as it looks, the launcher is really what you will use the most. It allows viewing all open applications, searching for applications to open, and also searching for files to open. It is simple, but it works. Especially when it comes to opening files; it can save a lot of time delving through the file manager, although that option is always still available. It does make the file manager less important, as you will use it less frequently.

These three menuing elements are not new, as Pop!_OS has used them for a while now, but they have been refined and even integrated with the "alt-tab" application switcher to the point where they are all pretty optimized.

It is hard to argue with this basic design: it works and it is quite efficient. When you factor in the customization options you quickly realize you can make it look and work as you want, although the "out-of-the-box" settings are probably the best, once you get used to them.

Is there a more efficient or flexible Linux desktop? I don't think so.

Applications

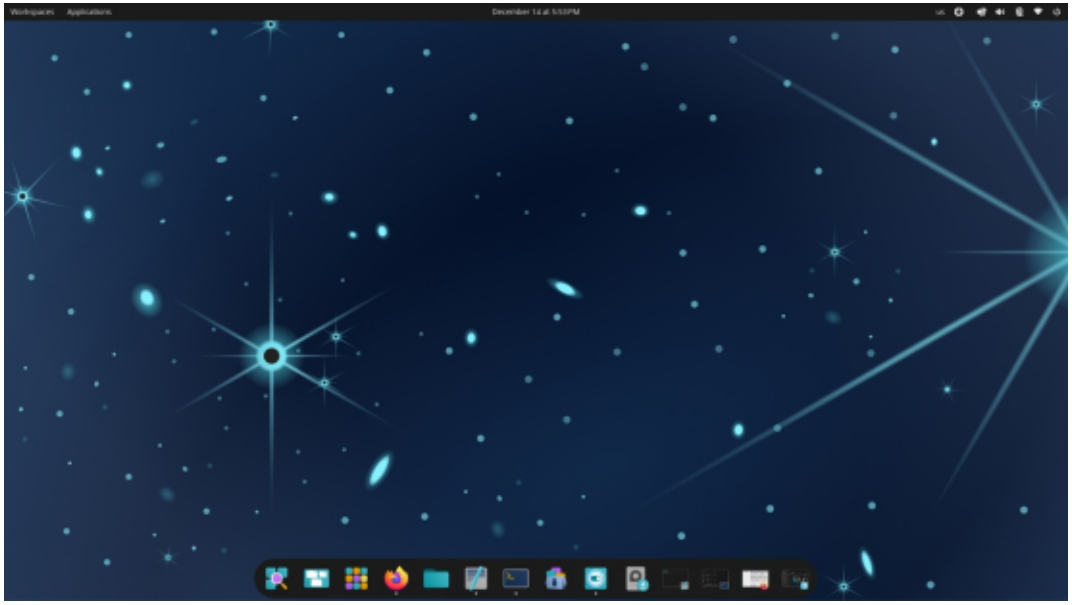
The applications included with

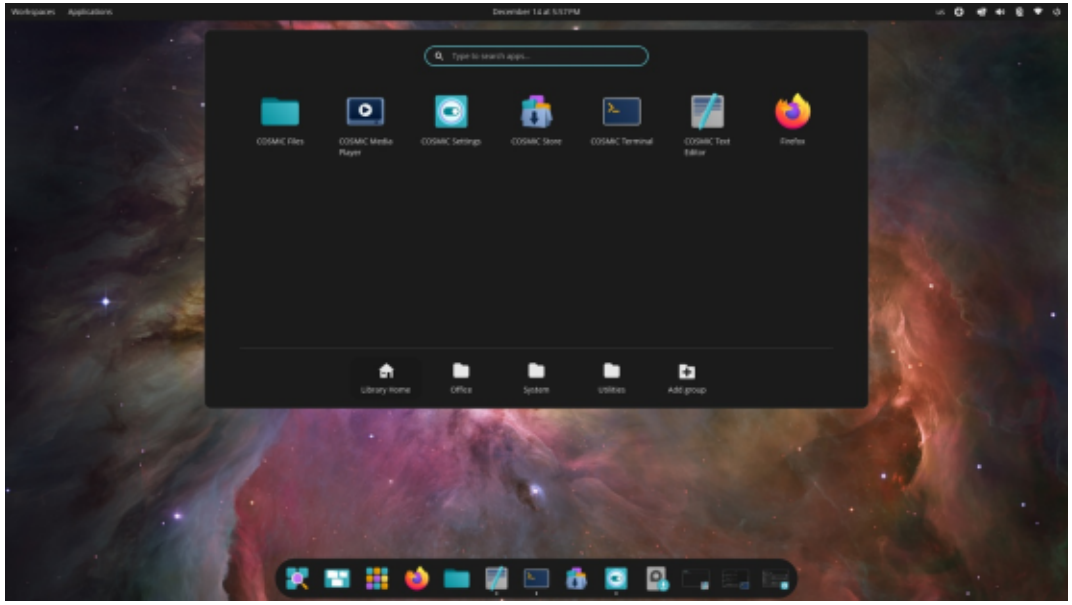
Pop!_OS 24.04 LTS are the same as with the Beta and Alpha 7, with a new version of Firefox as the only upgrade:
Archive Manager (file-roller) 44.3 file archiver
COSMIC Files 0.1.0 file manager
COSMIC Media Player 0.1.0 media player
COSMIC Screenshot 0.1.0 screenshot utility
COSMIC Store 0.1.0 package management system
COSMIC Terminal 0.1.0 terminal emulator
COSMIC Text Editor 0.1.0 text editor
CUPS 2.4.7 printing system
Firefox 146.0. web browser
GNOME Disks 46.0 disk manager
GNOME Disks Usage Analyzer (baobab) 46.0 disk manager
GNOME Document Scanner (simple-scan) 46.0 optical scanner
GNOME Document Viewer (evince) 46.3.1 PDF viewer
GNOME Image Viewer (Eye of Gnome) 45.3 image viewer
GNOME System Monitor 46.0 system monitor
Gparted 1.5.0 partition editor
LibreOffice 24.2.7.2 office suite, less LibreOffice Base
PipeWire 1.2.7 audio controller
Popsicle 1.3.3 USB writer
Systemd 255.4 init system
Thunderbird 128.14.0 ESR email client
Wget 1.21.4 command line webpage downloader

As can be seen, the suite of provided applications remains fairly light. The desktop basics are all there but, compared to Ubuntu, it is not a very complete beginner desktop suite. Obviously missing are a bit-torrent client, calendar, file back-up utility, webcam, image editor, photo organizer, and remote desktop client. It is, however, a good list for a more advanced Linux user, at least as a starting point. Personally, I actually like this list of included applications as I would not have much in the way of unwanted applications to remove and just a few things to add.

Application installations, removals and software updates are all handled by the COSMIC Store which is simple enough to use and works well. You can also use APT from the command line, too.

Both the Firefox and Thunderbird versions provided are the Mozilla binaries and not Ubuntu's Snap format ones. Pop!_OS does not use Snap files by default, although snapd can be installed to facilitate using Snaps if desired. Pop!_OS is set up for the usual and expected .deb file repositories, mirrored from Ubuntu. It also has Flatpak installed by default, although there are no actual Flatpak applications installed. Flatpak offers a few nonstandard Linux applications, such as the proprietary Google Chrome browser.



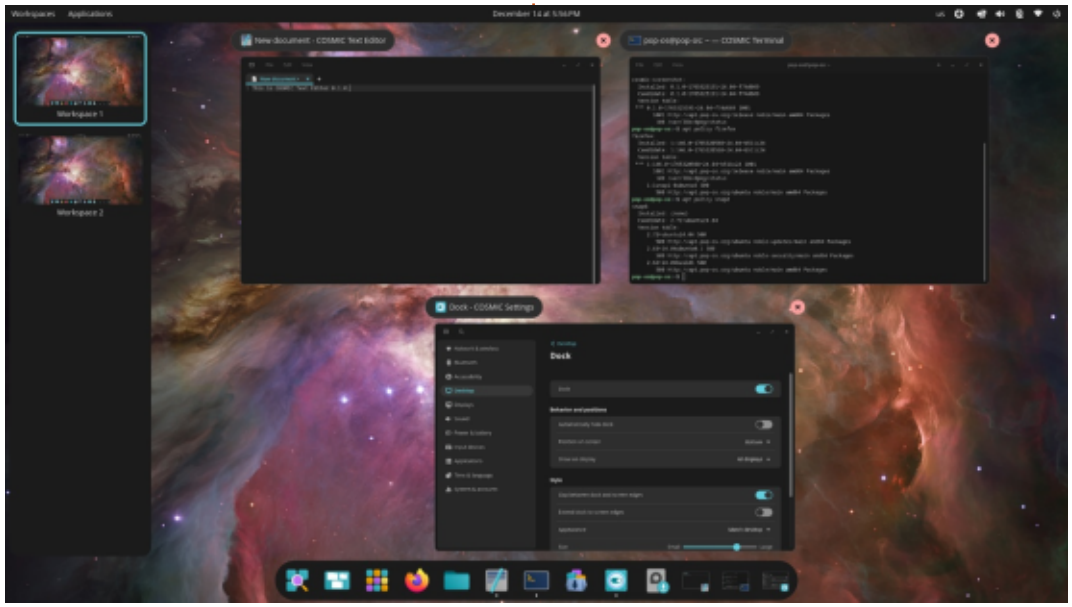


The biggest shortcoming in Pop!_OS 24.04 LTS remains the same as in the Beta and Alpha 7 versions: missing features in the core COSMIC applications. They all work, but need more necessary features before they will be fully ready for prime time desktop use. For example:

- COSMIC Files 0.1.0 file manager does not display disk space, has no bulk file renaming, and does not even give a count of files selected.
- COSMIC Media Player 0.1.0 is lacking codecs for .mov and .mp4 files, although it will play .webm ones. It offers to install the missing codecs, though.
- COSMIC Screenshot 0.1.0 lacks a countdown timing feature.
- COSMIC Text Editor 0.1.0 has syntax highlighting that works, but is still missing spellchecking. The Beta release notes promised "printing support in COSMIC Text Editor is planned for the release candidate" but there was no “release candidate“ and there is still no printing from the text editor.

All of these may one day become good applications, they just need some more work to get them to a "feature complete" state. I had hoped they would be completed for the stable version of Pop!_OS, but that did not happen.

Until these applications are improved, there are many alternatives in the repositories that can be installed in their place. I tested both the Nemo file manager and the gedit text editor and they work well on Pop!_OS. Personally, I would install gedit to get a text editor with spellchecking, printing and better syntax highlighting options, at least until those are all rolled out for the COSMIC Text Editor.



Conclusions

The COSMIC desktop and Pop!_OS 24.04 LTS have arrived, and it is all pretty good: stable, highly configurable, slightly lighter on RAM, and very functional. If you liked the earlier Alpha and Beta versions, you will like this stable version even more, as it is just more stable, polished and a bit less RAM intensive. It is just the core COSMIC applications that need some more work to be as good as their equivalents in other Linux desktops. Perhaps we will see improvement by spring’s Pop!_OS 26.04 LTS.

External links

Official website:
https://system76.com/pop/

Adam Hunt started using Ubuntu in 2007 and has used Lubuntu since 2010. He lives in Ottawa, Ontario, Canada, in a house with no Windows.

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Without reader input **Full Circle** would be an empty PDF file (which I don't think many people would find particularly interesting). We are always looking for articles, reviews, anything! Even small things like letters and desktop screens help fill the magazine.

See the article **Writing for Full Circle** in this issue to read our basic guidelines.

Have a look at the last page of any issue to get the details of where to send your contributions.

Q&A

Compiled by EriktheUnready

If you have a Linux question, email it to: questions@fullcirclemagazine.org, and Erik will answer them in a future issue. Please include as much information as you can about your query.

Welcome back to another edition of Questions and Answers! In this section, we will endeavour to answer your Ubuntu questions. Be sure to add details of the version of your operating system and your hardware. I will try to remove any personally identifiable strings from questions, but it is best not to include things like serial numbers, UUIDs, or IP addresses. If your question does not appear immediately, it is just because there are many waiting, and I do them first-come-first-served.

[insert intro story here]

Q: I have been pulling my hair out. Sound in Ubuntu 24.04 used to work. Suddenly, nada. I have tried Celluloid now too, and still nada. No sound in VLC, but the sound test in settings plays sound perfectly. With Windows, it's always drivers, how do I fix Ubuntu sound? I'm using Ubuntu Gnome with Wayland.

A: In Ubuntu, applications affect each other, so if you have the sound muted in one, it may affect the others. I think we had someone on here that muted VLC to find that SMPlayer was also muted. Thus, in that same sound settings, open up "Volume levels" and play your audio or video. You should see the application pop up. For instance, if I fire up SMplayer, I will see "mpv" pop up. That is the underlying application, if that application's volume is muted, in my case, mpv, SMplayer will be muted even if the volume slider is up all the way. If however, you see the volume bar to the right of the slider moving, your output may be set to the wrong output, for instance HDMI, instead of speakers.

Q: How can I install ONLY writer and calc in LibreOffice. I don't need the other stuff as I do not use them. This will be very handy to me please.

A: Surf to the LibreOffice website and download the compressed file. Uncompress it on your computer. Once uncompressed, go into the folder and delete anything that says "draw", "impress" or "math". You can delete the KDE integration if you are on Gnome. You can also delete the dictionaries that you do not use. (Don't worry, you still have all those files compressed.) Now run the install command in the 'readme' file in your terminal (terminal has to be in the same folder). Voila! Even though menu items may say math or impress, they will not launch.

Q: I tried to open a file in LibreOffice and accidentally bumped my mouse, which caused the main window to move. This in turn moved my "open" window to go below my main window and I could not access it, causing my main window to now be "frozen", waiting for me to select a file that I could not reach. I had to open the system monitor and kill it from there. How can I avoid this in the future?

A: I had to translate your question into English to fit the magazine format and I took a few liberties. The short answer is that you cannot. This is a bug, the overlay window needs to be modal (I think that is the term), where it cannot move or go below other windows. Kindly log this as a bug on the LibreOffice forums.

Q: I am still on Ubuntu 24.04.2, having switched with 20.04 during covid, so I'm not your typical Linux enthusiast. Pinta just updated to a new version. I have updated a few times now, but Pinta is not updating. How long will it take before I can get it?

A: It may never(!); that is the thing with updates. It may have a dependency that is not compatible with 24.04, or the package maintainer may have moved on to other things. You can wait, at the time of writing it has only been a few days. (Someone may need to test it before it gets accepted into the Ubuntu repository). If you are in a hurry and "must have" the latest version to, say, fix an issue, you can grab

the .deb file directly from the developer or you can compile it yourself. However, if you have problems thereafter, you would need to contact the developer.

Q: Please don't go all high and mighty on me. I have somehow broken my software installer. It says I must use gksudo synaptic to fix the error. When I try that, it says.
melanie@ubuntu:~$ gksudo synaptic
Command 'gksudo' not found, did you mean: command 'gfsudo' from deb gfarm-client (2.7.20+dfsg-1build1)
Try: sudo apt install <deb name>

I don't know my gksudo from my gfsudo, so please help.

A: Oh look at these peasants! (ONLY KIDDING). I don't think gksudo is in the repositories any more. In your terminal, type the following:

```
sudo apt-get install -f
```

and hit enter. Then follow the instructions.

Q: I record sound with sound recorder 43 beta to upload to a website to identify the tune. I can see the recording, it says Recording 1, and the length of the recording. This part is simple, but how do I get it out of the sound recorder onto a file, or upload it from there? There is no file menu in this application. The only menu is the 3 stripes, which is useless. <removed>. Also, why is it that when I record off of a youtube video, the sound is so hollow?

A: When you click on the recording to play it, it should expand, and on the bottom-right, there should be a downwards arrow to save the recording. Yes, it is rather unintuitive. Just on a side note, there is an application (mouse.ai?) that can do it all for you, in one go. (I have not used it, but I read about it). Secondly, Sound Recorder uses your device microphone to record, if you want a clean recording off YouTube, I suggest you give yt-dlp a go.

Q: I tried to install phoenix code as per their website, with:
wget -qO- https://updates.phcode.io/linux/installer.sh | bash

It is supposed to be brackets enhanced, but it is something else that I don't like. How do I uninstall it now?

A: I had a quick look, and it seems that there is an uninstaller in the script, but I'm not sure how to access it. I suggest you ask the question on their forum.

Q: I have a question about the "open with" dialogue in Gnome Ubuntu, please. When I click on a PDF, and I want to open it in Zathura, rather than Evince, I choose, "open with" and hit the "Z" key to sort or bring up Zathura to the top of the search. When I do that, it shows me this <removed> (zathura with no icon), but when I scroll down, I find Zathura with the hash icon happily at the end? What is going on here?

A: I suspect it has to do with Zathura itself, as Zathura has a command line launcher as well (iirc).

Q: I'm really confused here. I installed Chromium and set it as my default browser and immediately blocked it from any network connections via my firewall. This is so that applications that just open your browser and launch a webpage without your say-so get no satisfaction. I use FireFox BTW. Then I noticed something in passwords and keys. Under "login" I have a blank line, when I click on it I see snap.chrome and I get a broken password? If I copy the password and paste it in my text editor, it looks like this:
Bu\FE\9E\E8>\86\BF\B3q#\C38\A2\F5z\88#\87;US\E6 #;
\9EgjD\FBuE\E6#\CAvL\99\BB Ht EoC\ч\<removed>\FD\ED#

Can you tell me why?

A: I removed a piece of that just in case. The short answer is that you have changed your font to one that does not have all the characters that are needed to display the password. Try Nerdfonts? Ubuntu Tweaks? Or, you have removed fonts that you do not use, like say, Chinese and Japanese or Arabic fonts. If you open the Characters app and you see missing items, you can click on the missing items and it will tell you why (eg."Arabic end of text mark is not included in Ubuntu Sans").

Q: I bought a surplus laptop from my company that is sold every 3 years. I installed Ubuntu on it and wanted to make sure the battery is still okay. The weird part is that it displays multiple AC adapters but I only have the one plugged in? Also 'Energy when full' is 55 and 'Energy design' is 85. Do I need to replace the battery?

A: Let me start with the battery. Some settings only let the battery charge to +-60% if plugged in all the time to extend the battery life. You would need to check that in the UEFI/BIOS. I'd say 55/85 is fair after three years of use. If you scroll down, you should see "Capacity", if that drops below 40%, it's time to get a new one. As to the AC adapter, I used mine as reference, as I cannot say otherwise, mine also has multiple "AC Adapters" but that is because mine charges via USB-C port and it will list one for each. I suspect yours is the same, listing USB-C ports as adapters.

Website: https://endless-sky.github.io/

Price: Free!

Blurb: "*Endless Sky is a 2D space trading and combat game similar to the classic Escape Velocity series. Explore other star systems. Earn money by trading, carrying passengers, or completing missions. Use your earnings to buy a better ship or to upgrade the weapons and engines on your current one. Blow up pirates. Take sides in a civil war. Or leave human space behind and hope to find friendly aliens whose culture is more civilized than your own.*"

Endless_Sky-v0.10.16-x86_64 was released the day before yesterday and we just had to try it, because this project has been getting better by the release! (This article may not hit the current issue(s) as the October issue has already been set.) However, when you do read this, the context will be just as valid as it is today. If you ever tried Escape Velocity, Naev or Cosmic Frontier, you will feel at home in Endless Sky.

Installation:

The game is available as an AppImage at 343 MB and requires no installation. You simply run the application and enjoy. (I think it was half the size of Neav nightly build, which was also released this week.) If you have Steam installed, you can play it from there too.

Graphics:

The first thing that may jump out at you is just how gorgeous the game looks. The graphics are crisp, even at 4K, and you can simply marvel at some of them.

Story:

Yes, this game has a story, woven by many internet story tellers and proofread by just as many users. This also means that this is not a game you can sit down and play for five minutes. You better put aside an hour or two when you approach this game. While the story won't give you Firefly levels of intrigue, it is passable and engaging even with a twist in there. There is also realism here, where the bank gives you a 500k loan with 500k in interest, to be paid back in a year.

They put it thus: "*After years of working a factory job, you have finally saved up enough money to apply for a pilot's license and make a down payment on your very first starship. The backwater planet where you grew up sells only three ship models: a shuttle, a cargo barge, and a light interceptor. Depending on which one you choose, you'll start out earning money by transporting passengers, looking for good trade deals, or perhaps mining asteroids or taking jobs escorting freighter convoys. Of course, you are hoping to save up enough money for a much better ship before long.*"

SPOILER:
This is not the only story.

Gameplay:

I highly suggest that you head over to: https://github.com/endless-sky/endless-sky/wiki/PlayersManual - and read the

"manual" or wiki, before you even start playing. Why? Keys... When I first started playing, I put the game aside, as it was so slooooowww. It was only when I read the wiki, that I found out about the afterburner and how to jump to hyperspace. All those space rocks that assault you when you start? Read the wiki. It will make your time with this game worthwhile.

My first impressions were, Freelancer / Privateer / Elite in 2D!

You start with a shuttle, Uber in space, a freighter, basically a barge, or a fighter, the space mosquito. From here, you are given free reign to explore the galaxy, undertake missions and trade, defend or plunder… your choice. The game loop is simple, but solid. I haven't had any issues playing on Linux. (Debian, Mint, Ubuntu). Physics plays an important role in this game, so you better get used to it. The bigger your ship, the longer it takes to spin up and slow down.

The best part is that you can buy stuff for your ships that you can bolt on. I'm not just talking guns and missiles, though there are lots of those too, but "systems" as the game calls them. This freedom of customisation is probably why *I enjoy the game so much. If you want to make a space train (lots of fun, really), you can do that and the missions in the game seem to mould around what you have. If you go to a new place, like a planet, there is usually a job board and this is one of the ways you can build reputation with that place. Reputation plays a big role in the game and you should not ignore it. As I said earlier, the missions mould themselves to your capacity, a nice mechanism that stops that endless scrolling for something you can actually do, not just randomised missions.

You will be playing a while before the missions start to become recognisable and then a long time more, before they start to feel same-y, so don't worry. In the beginning, I'd play it like elite, where I keep pen and paper handy, as remembering names and places is not my forté. There are also factions in this universe and your reputation with these matter too. You need to pay attention when reading what is happening, as you don't want to be on the bad side of all of the factions in this game, that is, unless you are a pirate (space is large, so piracy can spawn anywhere). There is, for instance, the free worlds group or the syndicate or the republic if you like to get involved in politics, but, I don't want to give anything away, it is best experienced when you play

for the first time. Obviously you can pay the bank back in the first year – but not with ferrying students – there is a secret... OK, I'll level with you, it's drugs. I'm not talking pharmacy runs here, stuff that have names like "bad blues" and that is why you start with the barge...

Now once you are comfortable with the game, and you start to notice some things recurring, you need to head on over to: https://endless-sky.github.io/plugins.html - and see where that takes you!

But wait, there's more! You can extend the game even more with mods.
https://www.nexusmods.com/games/endlesssky
https://www.moddb.com/games/endless-sky/mods

Star wars? Star Trek? Babylon 5? New alien races? Pick your poison and see where the rabbit hole takes you. If you cannot find what you are looking for, there are guides to help you make your dreams come true. (https://github.com/endless-sky/endless-sky/wiki -> and go to: Creating ships, missions, artwork, etc.)

For me, this is a game that keeps on giving. It gets better every time they update. If you like this kind of game, I suggest putting this one on your radar and hope we get to a version 1.0 soon!

If you want a more old school approach, you can always compare ASCII sector https://www.asciisector.net/ , with this.

Though you can play this on your tablet. My suggestion is to play it on your Ubuntu PC or laptop, because when your fleet grows, the tablet chokes.

Conclusion:

Go grab it, it's free, you may like it. I know I did!

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

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The Patreon page is to help pay the domain and hosting fees. The money also helps with the new mailing list.

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