Full Circle

Welcome to Linux Mint 20 Cinnamon 64-bit

Start Linux Mint
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OEM install (for manufacturers)
Integrity check
Hardware Detection

REVIEW

XUBUNTU 23.10

OSX TO LINUX MINT
INSTALL MINT ON YOUR OLD MACBOOK

Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

EDITORIAL

WELCOME TO THE LATEST ISSUE OF FULL CIRCLE

It's a full house this month. We have some Python and Micro stuff, some Latex, some Stable Diffusion, and some Inkscape.

This month, Adam reviews Xubuntu 23.10 and UwUntu. Yes, you read that right. It's another *buntu review, but with a twist. It's the start of a short series of lesser known *buntu distros. Elsewhere, Erik takes a look at Ginsha in his Ubuntu Games piece.

The Ubports team have released OTA-4 of Touch, and we've got a run down of the latest features. Unfortunately, there's still no new version of Touch for my old BQ tablet and MX4 phone. Insert sad face here.

Our cover feature is by Art. You remember him from many moons ago, right? He's talking about getting Linux Mint running on Apple laptops. Surprising how easy it is considering their hardware is usually locked down pretty tight.

Don't forget: 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 for 2024!
Ronnie
ronnie@fullcirclemagazine.org
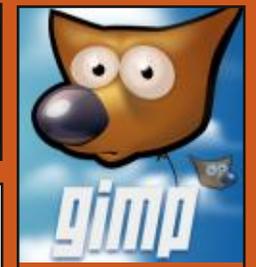
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RELEASE OF LUTRIS 0.5.15:

15/01/2024

The Lutris gaming platform, version 0.5.15 has been released, providing tools to make it easier to install, configure, and manage games on Linux. The project code is written in Python and is distributed under the GPLv3 license.

The project maintains a database for quickly searching and installing games, allowing you to launch games on Linux through a single interface with one click, without worrying about installing dependencies and settings. Runtime components for running games are supplied by the project and are not tied to the distribution used. A runtime is a distribution-independent set of libraries that includes components from SteamOS and Ubuntu, as well as various additional libraries.

You can install games distributed through GOG, Steam, Epic Games Store, Battle.net, Amazon Games, Origin and Uplay.

At the same time, Lutris itself acts only as an intermediary and does not sell games, so for commercial games the user must independently purchase the game from the appropriate service (free games can be launched with one click from the Lutris graphical interface).

https://github.com/lutris/lutris/releases/tag/v0.5.15

OPENSUSE LEAP 16 WILL BE BUILT ON THE ALP PLATFORM USING CONTAINERS:

16/01/2024

The openSUSE project developers have announced their start of work on the next major release of the openSUSE Leap 16, which will be based on the new ALP (Adaptable Linux Platform) technology platform, which the commercial SUSE distribution is also moving to. openSUSE Leap 16.0 is planned for release in 2025.

This year, on June 11, openSUSE Leap 15.6 will be released, which will most likely become the last classic release of the project. If for some reason the development of openSUSE Leap 16 is delayed, they will extend the life cycle of openSUSE Leap 15.6 or release an additional release of openSUSE Leap 15.7. The development of openSUSE Leap 16 plans to continue using the openSUSE Factory repository development model and achieve an optimal balance between new ALP technologies, the traditional Linux operating system and community package integration initiatives.

The ALP platform is positioned as a continuation of the development of the SUSE Linux Enterprise distribution and is distinguished by dividing the basic distribution into parts. The main distribution will be a stripped-down "host OS" environment, which includes only the components minimally necessary to work on top of your equipment. All applications and user space components will not run in a mixed environment, but in separate containers or virtual machines running on top of the "host OS" and isolated from each other.

https://news.opensuse.org/2024/01/15/clear-course-is-set-for-os-leap/

COSMIC CUSTOM SHELL:

16/01/2024

System76, the developer of the Linux distribution Pop!_OS , announced progress in developing their custom shell called COSMIC , rewritten in the Rust language (not to be confused with the old COSMIC, which was based on the GNOME Shell). The shell has been in development for over two years and is close to the first alpha release, which will mark the readiness of a basic set of features that allow the shell to be considered a working product. They expect that the alpha version will be published at the end of March and will help gather more feedback to finalize the functionality and

improve the usability. Highlights include COSMIC Terminal emulator , written using the alacritty_terminal framework and supporting features such as GPU rendering, skins, and rich input methods. Among the tasks under development, the addition of support for mouse emulation and the ability to open hyperlinks in the terminal, are noted.

https://blog.system76.com/post/cosmic-the-road-to-alpha

VIRTUALBOX 7.0.14 RELEASED:

17/01/2024

Oracle has published a corrective release of the virtualization system VirtualBox 7.0.14 , which contains 14 fixes. At the same time, an update of the previous branch of VirtualBox 6.1.50 was created with 7 changes , including support for packages with the kernel from the RHEL 9.4 and 8.9 distributions, as well as the implementation of the ability to import and export images of virtual machines with NVMe drive controllers and media inserted into the virtual CD drive/ DVD.

https://www.mail-archive.com/vbox-announce@virtualbox.org/msg00229.html

MYSQL 8.3.0 DBMS:

17/01/2024

Oracle has formed a new branch of the MySQL 8.3 DBMS and published a corrective update for MySQL 8.0.36 . MySQL Community Server 8.3.0 builds are prepared for all major Linux, FreeBSD, macOS and Windows distributions.

MySQL 8.3.0 is the third release built under the new release model, which provides for the presence of two types of MySQL branches - "Innovation" and "LTS". The Innovation branches, which include MySQL 8.1, 8.2 and 8.3, are recommended for those who want to get access to new functionality earlier. These branches are published every 3 months and are supported only until the next major release is published. LTS branches are recommended for implementations that require predictability and long-term unchanged behavior. LTS branches will be released every two years

and will be supported normally for 5 years, in addition, you can get another 3 years of extended support. An LTS release of MySQL 8.4 is expected in the spring of 2024, after which a new Innovation branch, 9.0 will be formed.

https://dev.mysql.com/downloads/mysql/

X.ORG SERVER 21.1.11:

18/01/2024

Corrective releases of X.Org Server 21.1.11 and DDX component (Device-Dependent X) xwayland 23.2.4 have been published , which ensures the launch of X.Org Server for running/ executing X11 applications in Wayland-based environments. The new versions fix 6 vulnerabilities, some of which can be exploited for privilege escalation on systems where the X server is running as root, as well as for remote code execution in configurations that use X11 session redirection via SSH for access.

https://lists.x.org/archives/xorg/2024-January/061526.html

RELEASE OF TESSERACT 5.3.4:

18/01/2024

The release of the optical text recognition system, Tesseract 5.3.4 was announced. It supports recognition of UTF-8 characters and texts in more than 100 languages. The result can be saved in plain text or in HTML (hOCR), ALTO (XML), PDF and TSV formats. The system was originally created between 1985-1995 in the Hewlett Packard laboratory; in 2005, the code was opened under the Apache license and was further developed with the participation of Google employees. The source code of the project is distributed under the Apache 2.0 license.

Tesseract includes a console utility and the libtesseract library for embedding OCR functionality into other applications. Third-party GUI interfaces that support Tesseract include gImageReader , VietOCR and YAGF. Two recognition engines are offered: a classic one that recognizes text at the level of individual character patterns, and a new one based on the use of a machine learning system based on

an LSTM recurrent neural network, optimized for recognizing entire strings and allowing for a significant increase in accuracy. Ready-made trained models have been published for 123 languages . To optimize performance, modules using OpenMP and SIMD instructions AVX2, AVX, AVX512F, NEON or SSE4.1 are offered.

https://github.com/tesseract-ocr/tesseract/releases/tag/5.3.4

RELEASE OF GNU EMACS 29.2:
18/01/2024

The GNU Project has published a new release of the GNU Emacs 29.2 text editor. Until the release of GNU Emacs 24.5, the project developed under the personal leadership of Richard Stallman, who handed over the post of project leader to John Wiegley in the fall of 2015. The project code is written in C and Lisp and is distributed under the GPLv3 license.

In the new release on the GNU/Linux platform, Emacs is set to handle the 'org-protocol' URI scheme by default. The "org" mode allows you to quickly save bookmarks, notes and links using the 'emacsclient' command, for example to save a URL link with a title you can run 'emacsclient "org-protocol://store-link?url=URL&title=TITLE". In addition, the new version offers a new option 'tramp-show-ad-hoc-proxies', with which you can enable the display of external file names instead of shortcuts to them.

https://www.mail-archive.com/info-gnu@gnu.org/msg03249.html

FOXCONN JOINS INITIATIVE TO PROTECT LINUX FROM PATENT CLAIMS:
18/01/2024

Foxconn has joined the Open Invention Network (OIN), an organization dedicated to protecting the Linux ecosystem from patent claims. By joining OIN, Foxconn has demonstrated its commitment to co-innovation and non-aggressive patent management. Foxconn ranks 20th among the largest corporations by revenue (Fortune Global 500) and is the world's largest contract electronics manufacturer (about 40% of all consumer electronic devices are manufactured at Foxconn).

OIN members agree not to assert patent claims and will freely permit the use of patented technologies in projects related to the Linux ecosystem. OIN members include more than 3,800 companies, communities, and organizations that have signed a patent-sharing license agreement. Among the main participants of OIN, ensuring the creation of a patent pool protecting Linux, are companies such as Google, Amazon, IBM, NEC, Toyota, Renault, SUSE, Philips, Red Hat, Alibaba, HP, AT&T, Juniper, Facebook, Cisco, Casio, Huawei, Fujitsu, Sony and Microsoft.

Companies that sign the agreement gain access to patents held by OIN in exchange for an obligation not to pursue legal claims for the use of technologies used in the Linux ecosystem. Including as part of joining OIN, Microsoft transferred to OIN participants the right to use more than 60 thousand of its patents, pledging not to use them against Linux and open source software.

https://openinventionnetwork.com/hon-hai-technology-group-foxconn-joins-open-invention-network-community/

RELEASE OF WAYLAND-PROTOCOLS 1.33:
19/01/2024

After six months of development, a new release of the wayland-protocols 1.33 package has been published, containing a set of protocols and extensions that complement the capabilities of the base Wayland protocol and provide the capabilities necessary for building composite servers and user environments.

In the new version, the " linux-dmabuf " protocol has been transferred to the stable category , which ensures the sharing of several video cards using DMA-BUF technology (allows you to create wl_buffer based on DMA-BUF). A new protocol " ext-transient-seat " has been added and placed in the "staging" category. The new protocol can be used to create temporary independent sessions (seats) designed for use with virtual input devices implemented using the "virtual_keyboard_unstable_v1" and "wlr_virtual_pointer_unstable_v1" protocols. For example, when implementing the ability to connect to a remote desktop, the protocol allows you to create a separate session for each user with a virtual keyboard and mouse.

https://lists.freedesktop.org/archives/wayland-devel/2024-January/043400.html

KDE HAS IMPROVED SCALING SUPPORT AND ADDED AUTOSAVING IN DOLPHIN:
20/01/2024

Nate Graham, a QA developer on the KDE project, has published a report on preparations for the KDE 6 release scheduled for February 28th. The KDE Plasma 6.0 and KDE Gears 6.0 codebase has been forked into a separate repository, and the master branch has begun accumulating changes for KDE Plasma 6.1 and KDE Gears 24.05.

https://pointieststick.com/2024/01/19/this-week-in-kde-auto-save-in-dolphin-and-better-fractional-scaling/

RELEASE OF GNU OCRAD OCR 0.29:
21/01/2024

After two years of development, the Ocrad 0.29 (Optical Character Recognition) text recognition system, developed under the GNU project, has been released . Ocrad can be used both in the form of a library for integrating OCR functions into other applications, and in the form of a separate utility that, based on the image passed to the input, produces text in UTF-8 or 8-bit encodings.

For optical recognition, Ocrad uses a feature extraction method. It includes a page layout analyzer that allows you to correctly separate columns and blocks of text in printed documents. Recognition is supported only for characters from the "ascii", " iso-8859-9 " and " iso-8859-15 " encodings (there is no support for the Cyrillic alphabet).

https://www.mail-archive.com/info-gnu@gnu.org/msg03251.html

HANS REISER COMMENTED ON DEPRECATING REISERFS:
19/01/2024

The mailing list of Linux kernel developers has published letters received by one of the developers during correspondence with Hans Reiser. In 2008 Reiser was sentenced to life imprisonment for the murder of his wife as a result of a quarrel with a subsequent attempt to cover up the crime (in 2027 Hans will be able to file application for parole). In the published letters, Hans regrets his mistakes in interacting with the developer community, discusses the deprecation of ReiserFS v3 in the Linux kernel 6.6 , analyzes the history of the development of ReiserFS, mentions hopes associated with the promotion of ReiserFS v4, and explains the technical solutions implemented in ReiserFS v4.

Commenting on the decision to remove ReiserFS from the kernel, Hans mentioned that the question of whether this FS remains useful and whether it should continue to be supplied in the kernel should be decided by users and maintainers, taking into account current

realities. He understands that having ReiserFS code in the kernel creates additional burden on maintainers due to the need to test and ensure compatibility with new features emerging in the kernel, and if the FS is no longer relevant, there is no point in continuing to ship it as part of the kernel. During the development of ReiserFS 4, many of the shortcomings of ReiserFS 3 were addressed and maintenance was simplified, but this version was never accepted into the kernel.

According to Hans, his only request is to add a README file accompanying the ReiserFS code , before the ReiserFS code is removed from the kernel, mentioning Mikhail Gilulu, Konstantin Shvachko and Anatoly Pinchuk, whose contributions to the development remained undeservedly missed. They were hired by Hans and developed ReiserFS, but due to Hans' unrestrained character and excessive demands (Hans could work around the clock and expected similar enthusiasm from others) they left the project, which at that time was perceived by Hans as a betrayal, but over time he realized that their decision was

justified under the circumstances.

https://lore.kernel.org/lkml/ b98b29cf-27d9-49e0-b10b- 1848399badfd@kittens.ph/T/

FUCHSIA WORKSTATION OS DEVELOPMENT PROGRAM CANCELED:
16/01/2024

The components required to build the Chrome browser for the Fuchsia operating system have been removed from the Chromium project repository . It is noted that support for Fuchsia in Chrome was an experiment that has now been discontinued. They separately stated that the reason for the termination of support is the winding down of the Fuchsia development program for workstations. Support for the WebEngine and WebRunner browser components for Fuchsia will continue, but a separate full-fledged Chrome browser will not be provided. Fuchsia's future development will likely focus only on consumer devices, such as home automation systems, smart photo frames and speakers.

Fuchsia is based on the Zircon microkernel, which is based on the LK project, extended for use on various classes of devices, including smartphones and personal computers. Zircon extends LK with support for processes and shared libraries, a user level, an object handling system and a capability-based security model. Drivers are implemented as dynamic libraries running in user space, loaded by the devhost process and managed by the device manager (devmg, Device Manager).

Fuchsia has its own graphical interface written in Dart using the Flutter framework. The project also develops the Peridot user interface framework, the Fargo package manager, the libc standard library, the Escher rendering system, the Magma Vulkan driver, the Scenic composite manager, the MinFS, MemFS, ThinFS (FAT in Go language) and Blobfs file systems, as well as FVM partitions. For application development, support for C/C++ and Dart languages are provided, Rust is allowed in system components, Go is used in the network stack, and Python is used in the build system.

https://bugs.chromium.org/p/ chromium/issues/detail? id%3D1509109

HELIOS DISTRIBUTION BASED ON ILLUMOS:
30/01/2024

In preparation for the first public release under the free MPL-2.0 license, the source code to the build tools and specific components of the Helios distribution, developed by Oxide Computer and used to support the operation of software-controlled cloud server racks, like Oxide Rack, has been opened. The entire software stack of the Oxide platform is open source. The Helios distribution is built on the basis of the Illumos project developments, which continues the development of the OpenSolaris kernel, network stack, file systems, drivers, libraries and a basic set of system utilities. Solaris 11.4 support is extended until 2037

https://github.com/oxidecomputer/ helios/pull/136

RELEASE OF SHOTCUT 24.01:
30/01/2024

A new release of the video editor Shotcut 24.01 is available, which is developed by the author of the MLT project and uses this framework to do video editing. Support for video and audio formats is implemented through FFmpeg. You can use plugins with the implementation of video and audio effects compatible with Frei0r and LADSPA. One of the features of Shotcut is multi-track editing with arranging video from fragments in various source formats, without the need to first import or re-encode them. There are built-in tools for creating screencasts, processing images from a web camera and receiving streaming video. Qt is used to build the interface. The code is written in C++ and distributed under the GPLv3 license. Packages are available for Linux (AppImage, flatpak and snap), macOS and Windows.

https://shotcut.org/blog/new-release-240128/

FIRMWARE RELEASE FOR UBUNTU TOUCH OTA-4 FOCAL:
30/01/2024

A fter three months of development, the UBports project, which took over the development of the Ubuntu Touch mobile platform after Canonical pulled away from it, presented their OTA-4 Focal (over-the-air) firmware. This is the fourth release of Ubuntu Touch, based on the Ubuntu 20.04 package base (older releases were based on Ubuntu 16.04). The project is also developing an experimental port of the Unity 8 desktop, which has been renamed Lomiri.

The Ubuntu Touch OTA-4 Focal update will be released in the coming days for Asus Zenfone Max Pro M1, Fairphone 3/3+ and 4, F(x)tec Pro1 X, Google Pixel 3a/3a XL, Vollaphone 22, Vollaphone X23, Vollaphone devices X, Vollaphone, JingPad A1, OnePlus One/5/6, Sony Xperia X, Samsung Galaxy S7, Xiaomi Poco X3 NFC / X3, Xiaomi Redmi Note 9, 9 Pro, 9 Pro Max and 9S, Xiaomi Poco M2 Pro. At the beta testing stage there are assemblies for Pine64 PinePhone, PinePhone Pro and PineTab and PineTab2.

https://ubports.com/en/blog/ubports-news-1/post/ubuntu-touch-ota-4-focal-release-3916

PALE MOON BROWSER 33.0.0 RELEASED:
30/01/2024

A new release of the Pale Moon 33.0.0 web browser has been published, branching from the Firefox code base to provide higher performance, preserve the classic interface, minimize memory consumption and provide additional customization options. Pale Moon builds are created for Windows and Linux (x86_64). The project code is distributed under the MPLv2 (Mozilla Public License).

The project adheres to the classic interface layout, without switching to the Australis and Photon interfaces integrated into Firefox 29 and 57, and with extensive customization options. The removed components include DRM, Social API, WebRTC, PDF viewer, Crash Reporter, code for collecting statistics, tools for parental controls and people with disabilities. Compared to Firefox, support for extensions using XUL has been returned to the browser, and the ability to use both full-fledged and lightweight themes has been retained.

https://forum.palemoon.org/viewtopic.php?t%3D30803%26p%3D248017%23p248017

RELEASE OF LIBREOFFICE 24.2:
31/01/2024

T he Document Foundation presented their office suite, LibreOffice 24.2. Ready-made installation packages are prepared for various Linux, Windows and macOS distributions. 166 developers took part in preparing the release, of which 108 are volunteers. 57% of the changes were made by 50 employees of the three companies overseeing the project - Collabora, Red Hat and Allotropia, 20% - by eight employees of The Document Foundation, and 23% of the changes were added by 108 independent enthusiasts.

The LibreOffice 24.2 release is labelled "Community" and will be supported by enthusiasts and is not aimed at enterprise use. LibreOffice Community is available free of charge to everyone without exception, including corporate users. For enterprises that need additional services, products of the LibreOffice Enterprise family are being developed separately, for which partner companies will provide full support, with the ability to receive updates over a long period of time (LTS) and with additional functions such as SLA (Service Level Agreements).

https://blog.documentfoundation.org/blog/2024/01/31/libreoffice-24-2/

ONLYOFFICE 8.0 OFFICE SUITE PUBLISHED:

01/02/2024

The release of OnlyOffice DocumentServer 8.0.0 has been published with OnlyOffice online editors and collaboration. Editors can be used to work with text documents, tables and presentations. The project code is distributed under the free AGPLv3 license.

At the same time, the release of the OnlyOffice DesktopEditors 8.0 product, built on a single code base with online editors, was launched. Desktop editors are designed as desktop applications, which are written in JavaScript using web technologies, but combine in one set client and server components designed for self-sufficient use on the user's local system, without recourse to an external service. To collaborate on your premises, you can also use the Nextcloud Hub platform, which provides full integration with OnlyOffice. Ready-made builds are generated for Linux, Windows and macOS.

OnlyOffice claims full compatibility with MS Office and OpenDocument formats. Supported formats include: DOC, DOCX, ODT, RTF, TXT, PDF, HTML, EPUB, XPS, DjVu, XLS, XLSX, ODS, CSV, PPT, PPTX, ODP. You can expand the functionality of editors through plugins, for example, plugins are available for creating templates and adding videos from YouTube. Ready-made builds are generated for Windows and Linux (deb and rpm packages).

https://www.onlyoffice.com/blog/2024/01/onlyoffice-docs-8-0-released

RELEASE OF MESA 24.0:

01/02/2024

A release of the free implementation of the OpenGL and Vulkan API - Mesa 24.0.0 has been published. The first release of the Mesa 24.0.0 branch has an experimental status - after the final stabilization of the code, a stable version 24.0.1 will be released.

Mesa 24.0 provides support for the Vulkan 1.3 graphics API in anv for Intel GPUs, radv for AMD GPUs, NVK for NVIDIA GPUs, tu for Qualcomm GPUs, in the lavapipe software rasterizer (lvp), and in emulator mode (vn). Vulkan 1.0 support is implemented in the v3dv (Broadcom VideoCore VI GPU from Raspberry Pi 4) and dzn (Vulkan implementation on top of Direct3D 12) drivers.

Mesa also provides full OpenGL 4.6 support for iris (Intel Gen 8+ GPUs), radeonsi (AMD), Crocus (older Intel Gen4-Gen7 GPUs), zink, llvmpipe, virgl (Virgil3D virtual GPU for QEMU/KVM), freedreno drivers (Qualcomm Adreno) and d3d12 (a layer for organizing OpenGL work on top of DirectX 12). OpenGL 4.5 support is available for AMD (r600) and NVIDIA (nvc0) GPUs. OpenGL 3.3 support is present in the softpipe (software rasterizer), asahi (AGX GPU used in Apple M1 and M2 chips) and nv50 (NVIDIA NV50) drivers.

https://lists.freedesktop.org/archives/mesa-dev/2024-February/226138.html

DAMN SMALL LINUX 2024:

01/02/2024

12 years after the last test version and 16 years after the formation of the last stable release, the Damn Small Linux 2024, intended for use on low-power systems and outdated equipment, has been published. The new release is of alpha quality and prepared in builds for the i386 architecture. The bootable image size is 665 MB (for comparison, the previous version was 50 MB in size).

This build is based on the AntiX 23 Live distribution, which in turn is

built on Debian. The purpose of the revival of Damn Small Linux was the desire to obtain a compact Live distribution for legacy systems that fits on a CD (less than 700 MB) and offers graphical and console environments. The environments to choose from are based on the Fluxbox and JWM window managers. Three web browsers are included: BadWolf, Dillo and Links2.

The set of office applications consists of the AbiWord, Gnumeric, the Sylpheed email client and the Zathura PDF viewer. For multimedia content, MPV and XMMS are included. The distribution also contains the mtPaint graphic editor, the zzzFM file manager, the gFTP FTP/SFTP client, and the Leafpad text editor.

Console applications include: Ranger file manager, VisiData spreadsheet processor, Tmux terminal multiplexer, Mutt email client, Cmus music player, CD/DVD burning program - CDW, SurfRaw search system, Vim and Nano text editors, W3M and Links2 browsers.

https://www.damnsmalllinux.org/

RELEASE OF EASYOS 5.7:
04/02/2024

Barry Kauler, founder of the Puppy Linux project, published the EasyOS 5.7 distribution, which combines Puppy Linux technologies with the use of container isolation to run system components. The distribution is managed through a set of graphical configurators developed by the project. The boot image size is 857 MB.

https://bkhome.org/news/202402/easyos-kirkstone-series-version-57-released.html

GENTOO HAS STARTED CREATING BINARY PACKAGES FOR THE X86-64-V3 ARCHITECTURE:
04/02/2024

The developers of the Gentoo project announced the introduction of a separate repository with binary packages compiled with support for the third version of the x86-64 microarchitecture (x86-64-v3), used in Intel processors since approximately 2015 (starting with

Intel Haswell) and characterized by the presence of such extensions like AVX, AVX2, BMI2, FMA, LZCNT, MOVBE and SXSAVE. The repository offers a separate set of packages, built in parallel with the repository published in December, in which the assembly was made for the basic x86-64 architecture, which can be used on any 64-bit Intel and AMD processors.

The new repository allows you to achieve higher performance on modern processors by using extended instructions in programs. To check x86-64-v3 architecture support, you can view processor information by running "ld.so --help" (or "/usr/lib64/ld-linux-x86-64.so.2 --help"). To enable the x86-64-v3 repository in the package manager, you should replace x86-64 with x86-64-v3 in the sync-uri parameter present in the files in the /etc/portage/binrepos.conf/ directory.

https://www.gentoo.org/news/2024/02/04/x86-64-v3.html

KUBUNTU SWITCHES TO CALAMARES INSTALLER:
05/02/2024

The Kubuntu Linux developers have announced work to transition the distribution to use the Calamares installer, which is independent of specific Linux distributions and uses the Qt library to create the user interface. Using Calamares will allow you to use a single graphics stack in a KDE-based environment. Lubuntu and UbuntuDDE have already switched from the official editions of Ubuntu to the Calamares installer. In addition to replacing the installer, the project started preparation of the spring release of Kubuntu 24.04 LTS, which will be the last release based on KDE 5, and the start of development of a test version with KDE 6, which will serve as the basis for the fall release of Kubuntu 24.10.

https://kubuntu.org/news/kubuntu-council-meeting-30th-january-2024/

RELEASE OF KAOS 2024.01:

05/02/2024

The release of KaOS 2024.01 has been published, a distribution with a rolling update model aimed at providing a desktop based on the latest releases of KDE and applications using Qt. Distribution-specific design features include the placement of a vertical panel on the right side of the screen. The distribution is developed with an eye on Arch Linux, but maintains its own independent repository of more than 1,500 packages, and also offers a number of its own graphical utilities. The default file system is XFS. Builds are published for x86_64 systems (3.3 GB).

https://kaosx.us/news/2024/kaos01/

FULLY OPEN STACK FOR MIPI CAMERAS INTRODUCED:

05/02/2024

Hans de Goede, a Fedora Linux developer working at Red Hat, presented an open stack for MIPI (Mobile Industry Processor Interface) cameras at the FOSDEM 2024 conference. The prepared open stack has not yet been accepted into the Linux kernel and the libcamera project, but is marked as having reached a state suitable for testing by a wide range of enthusiasts. The operation of the stack has been tested with MIPI cameras based on ov2740, ov01a1s and hi556 sensors used in laptops such as Lenovo ThinkPad X1 yoga gen 8, Dell Latitude 9420 and HP Specter x360 13.5 2023.

The MIPI interface is used in many new laptop models instead of the previously used video streaming over the USB bus from devices that support the UVC (USB Video Class) standard. MIPI provides access to the camera sensor using a CSI receiver (Camera Serial Interface) and an image signal processor (ISP) integrated into the CPU, which provides image formation based on raw data coming from the sensor. Intel provides a set of proprietary drivers for working with MIPI cameras in Linux via IPU6 (Imaging Processing Unit) in Intel Tiger Lake, Alder Lake, Raptor Lake and Meteor Lake processors.

The main difficulty in developing open drivers for MIPI cameras is due to the fact that the hardware interface of the ISP processor and the image processing algorithms implemented in it are usually not disclosed by CPU manufacturers and are a trade secret. To solve this problem, Linaro and Red Hat have developed a software implementation of an image processor - SoftISP , which allows you to work with MIPI cameras without using proprietary components (SoftISP can be used as a replacement for IPU6 ISP).

The SoftISP implementation has been submitted for inclusion in the libcamera project , which offers a software stack for working with video cameras, cameras and TV tuners on Linux, Android and ChromeOS. In addition to SoftISP, the stack for working with MIPI cameras includes a driver for ov2740 sensors running at the kernel level and code for supporting the CSI receiver in the Linux kernel, which is part of the IPU6 of Intel processors.

The Linux kernel and libcamera packages, including the project's changes, are available in the COPR repository for installation on Fedora Linux 39. The Pipewire media server can be used to capture video from MIPI cameras. Support for working with cameras via Pipewire has already been adopted into the libwebrtc library. In Firefox, the ability to work with cameras via Pipewire has been brought to a state suitable for use with WebRTC, starting with release 122. By default, working with cameras via Pipewire in Firefox is disabled and requires the "media.webrtc.camera.allow-" parameter to be activated in about:config pipewire".

https://hansdegoede.dreamwidth.org/28153.html

CHASQUID SMTP SERVER 1.13 AVAILABLE:

07/02/2024

A new release of chasquid SMTP server 1.13 has been introduced, which places an emphasis on ease of configuration and security. Chasquid is primarily designed for use in typical projects that lack the flexibility and functionality of Postfix and Exim. The project code is written in Go

and distributed under the Apache 2.0 license.

https://groups.google.com/g/chasquid/c/ztlFgik2mPA

CLAMAV 1.3.0 FIXED A DANGEROUS VULNERABILITY:
08/02/2024

After six months of development, Cisco has published the release of the free antivirus suite ClamAV 1.3.0. The project passed into the hands of Cisco in 2013 after purchasing Sourcefire, the company developing ClamAV and Snort. The project code is distributed under the GPLv2 license. The 1.3.0 branch is classified as regular (not LTS), updates to which are published at least 4 months after the first release of the next branch. The ability to download the signature database for non-LTS branches is also provided for at least another 4 months after the release of the next branch.

https://blog.clamav.net/2023/11/clamav-130-122-105-released.html

VIRTUALBOX TO RUN ON TOP OF THE KVM HYPERVISOR:
08/02/2024

Cyberus Technology has opened the code for the VirtualBox KVM backend, which allows you to use the KVM hypervisor built into the Linux kernel in the VirtualBox virtualization system instead of the vboxdrv kernel module supplied in VirtualBox. The backend ensures that virtual machines are executed by the KVM hypervisor while fully maintaining the traditional management model and VirtualBox interface. It is supported to run existing virtual machine configurations created for VirtualBox in KVM. The code is written in C and C++ and is distributed under the GPLv3 license.

https://cyberus-technology.de/articles/vbox-kvm-public-release

XFCE PROJECT UPDATES PLANS FOR WAYLAND SUPPORT:
09/02/2024

The Xfce developers have updated the page with plans related to adding support for the Wayland protocol. The plan has added mention of implementing initial support for Wayland in the core components of the next major release of Xfce 4.20, while maintaining support for X11. Previously, the issue of maintaining backward compatibility with X11 was at the stage of discussion, where it was not possible to achieve consensus. It has now been decided that X11 support will not be discontinued in the foreseeable future.

A Wayland-based session in Xfce 4.20 will cover the minimum required set of capabilities, and they intend to gradually add the missing functionality in future releases. They also plan to continue honing work in an environment based on the Wayland protocol in already ported user applications.

The note mentions that the project does not have the resources to maintain its own composite manager for Wayland, but rejects the possibility of using a binding to XWayland for the job. The previously made decision to use the wlroots library in the Wayland environment instead of libmutter, developed by the developers of the Sway user environment and providing basic functions for a Wayland-based composite manager, remains unchanged .

The xfdesktop desktop and xfce4-panel have already been ported to Wayland using wlroots and will continue to be developed as separately launched components. xfce4-panel has been tested with Labwc and Wayfire composite servers. To abstract work on top of Wayland and X11, the libxfce4windowing library is used, which offers a layer for abstracting from the graphics subsystem in which window management components (screens, root windows, virtual desktops, etc.) are implemented that are not tied to a specific window system. X11 support is implemented based on libwnck (Window Navigator Construction Kit).

Components ported to Wayland are also noted: exo, libxfce4ui, libxfce4util, thunar, xfce4-appfinder, xfce4-settings, xfconf, xfce4-power-manager, tumbler, garcon, thunar-volman and xfce4-dev-tools. Wayland support is not yet available in the xfce4-session

session manager and the xfwm4 window manager, but there is an unofficial xfwm4 port for working with Wayland .

Applications that have added Wayland support include: xfce4-terminal, mousepad, xfce4-notifyd, xfce4-taskmanager, xfce4-mixer, ristretto, catfish, xfburn, parole, xfmpc, xfce4-dict, gigolo and xfce4-panel-profiles. Applications that do not yet work with Wayland: xfdashboard, xfce4-screenshooter, xfce4-screensaver and xfce4-volumed-pulse.

https://wiki.xfce.org/releng/wayland_roadmap

MICROSOFT HAS PUBLISHED SUDO FOR WINDOWS. OPENBSD RESPONDED BY CREATING WORD:
09/02/2024

Microsoft has introduced its own implementation of the sudo utility, designed to organize selective execution of commands in a terminal with administrator rights. The utility is included in test builds of Windows 11 Insider Preview Build 26052 (activated in the "Developer Features" settings section), will be part of the next Windows 11 update and in the future may be ported to Windows 10. The utility code is planned to be opened under the MIT license (in Currently, only the repository framework and PowerShell framework are available).

The utility was written from scratch with an eye to integration with Windows and only conceptually implements the ideas of the classic sudo project used in Linux, differing from it at the level of command line options and delegation logic. The utility also still lags behind the existing independent project gsudo in functionality , which develops an analogue of sudo for Windows, distributed under the MIT license.

Features of sudo from Microsoft include displaying an operation confirmation dialog, launching applications in a new window (forceNewWindow), locally (normal), or in mode with data input blocked (disableInput). Unlike the existing runas utility, Microsoft's sudo only supports running programs with administrative privileges and cannot be used to run as other users. In addition, sudo does not require an administrator password, but uses the UAC (User Account Control) mechanism to verify the request.

Theo de Raadt, founder of the OpenBSD project, posted a humorous response to the publication of sudo for Windows, in which he ridiculed Microsoft's attitude towards development. As an analogy to Microsoft's actions, a patch with the implementation of Word was proposed for inclusion in OpenBSD, created by renaming the text editor mg . As with Microsoft's publication of sudo, the Word application also ignores the intersection of the name with an existing project, does not care about maintaining compatibility, does not consider possible trademark violations, and is published without clarifying the opinion of the original product development team.

https://devblogs.microsoft.com/commandline/introducing-sudo-for-windows/

RELEASE OF MYTHTV 34:
10/02/2024

After a year of development, the platform for creating your home media center, MythTV 34 was released , allowing you to turn a desktop PC into a TV, VCR, music center, photo album, station for recording and watching DVDs. The project code is distributed under the GPLv2 license. At the same time, a separately developed MythWeb web interface for controlling the media center via a web browser was released.

The MythTV architecture is based on the separation of a backend for storing or capturing video (IPTV, DVB cards, etc.) and a frontend for displaying and creating an interface. The frontend can work with several backends, which can be run both on the local system and on external computers. The functionality is implemented through plugins. There are currently two sets of plugins available - official and unofficial. The range of capabilities covered by the plugins is quite wide - from integration with various online services and implementation of a web interface for managing the

system over the network to tools for working with a web camera and allowing video communication between PCs.

https://www.mythtv.org/news/174/v34.0%2520Released

DEBIAN 12.5 AND 11.9 UPDATE:
11/02/2024

The fifth corrective update of the Debian 12 distribution has been generated, which includes accumulated package updates and adds fixes to the installer. The release includes 68 updates to fix stability issues and 42 updates to fix vulnerabilities. In Debian 12.5, we can note the update to the latest stable versions of the dpdk, mariadb, postfix, qemu, systemd and xen packages. They also added support for compressed kernel modules to cryptsetup-initramfs.

For installing from scratch, installation builds from Debian 12.5 have been prepared. Previously installed systems that are kept up to date and receive updates included in Debian 12.5 through the standard update installation system. Security fixes included in new Debian releases are made available to users as updates are released through security.debian.org.

At the same time, a new release of the previous stable branch of Debian 11.9 is available, which includes 70 updates to fix stability problems and 92 updates to fix vulnerabilities. The dpdk, mariadb-10.5, nvidia-graphics-drivers, postfix, postgresql-13 packages have been updated to the latest stable versions. The generation of updates to eliminate vulnerabilities for the chromium, tor, consul and xen packages, as well as the samba components that ensure the operation of the domain controller, has been stopped. The gimp-dds package, the contents of which are included in the main package of GIMP 2.10, has been removed from the repository.

https://www.debian.org/News/2024/20240210

RELEASE OF ARKIME 5.0:
11/02/2024

A new release of the system for capturing, storing and indexing network packets, Arkime 5.0, has been published, providing tools for visually assessing traffic flows and searching for information related to network activity. The project was originally developed by AOL with the goal of creating an open replacement for commercial network packet processing platforms that supports deployment on its servers and can scale to process traffic at speeds of tens of gigabits per second. The traffic capture component code is written in C, and the interface is implemented in Node.js/JavaScript. The source code is distributed under the Apache 2.0 license. It supports Linux and FreeBSD. Ready-made packages are prepared for Arch Linux, RHEL/CentOS and Ubuntu.

Arkime includes tools for capturing and indexing PCAP traffic, and also provides tools for quick access to indexed data. The use of a standard PCAP format greatly simplifies integration with existing traffic analyzers such as Wireshark. The volume of stored data is limited only by the size of the available disk array. Session metadata is indexed in a cluster based on the Elasticsearch or OpenSearch engine . The traffic capture component operates in multi-threaded mode and solves the tasks of monitoring, writing PCAP dumps to disk, parsing captured packets and sending metadata about sessions (SPI, Stateful packet inspection) and protocols to the Elasticsearch/OpenSearch cluster. It is also possible to store PCAP files in encrypted form.

To analyze the accumulated information, a web interface is offered that allows you to navigate, search and export samples. The web interface provides several viewing modes - from general statistics, connection maps and visual graphs with data on changes in network activity to tools for studying individual sessions, analyzing activity in the context of the protocols used and parsing data from PCAP dumps. An API is also provided that allows you to pass data about captured packets in PCAP format and disassembled sessions in JSON format to third-party applications.

https://arkime.com/release-v5

A NEW MODEL FOR GENERATING UBUNTU TOUCH RELEASES:

12/02/2024

The UBports project, which took over the development of the Ubuntu Touch mobile platform after Canonical abandoned it, announced a transition to a new model for generating releases. Instead of releases in the form of "OTA-number branch_name", new versions of the Ubuntu Touch firmware are released using the "year.month.update" scheme, where the year and month correspond to the time of a major release based on a new branch of Ubuntu. The update number corresponds to a minor release that includes only fixes and minor improvements. Major releases are planned to be published once every six months, and intermediate releases - every two months.

The new scheme will be applied after updating the project to the Ubuntu 24.04 packages. The first version of Ubuntu Touch based on Ubuntu 24.04 is scheduled to be released in June and assigned the number 24.6.0. When corrective updates are generated, they will be assigned the number 24.6.1, 24.6.2, etc. In 6 months, around December 2024, Ubuntu Touch 24.12.0 will be released, which will offer new features and changes from Ubuntu 24.10. Each major version will be discontinued one month after the new major version is formed.

Since the transition from the current branch, based on Ubuntu 20.04, to Ubuntu 24.04, it requires a lot more work and additional stabilization, the Ubuntu Touch Focal branch is planned to be supported in parallel for some time along with the new Ubuntu Touch 24.6 branch. In particular, they plan to generate updates for Ubuntu Touch OTA-5 Focal, OTA-6 Focal, etc., until the new branch is completely stabilized. At the same time, OTA updates for Ubuntu Touch Focal will only include bug fixes and vulnerabilities, and new functionality will be developed in the Ubuntu Touch 24.6 branch.

https://ubports.com/en/blog/ubports-news-1/post/announcement-of-release-model-changes-3920

FreeBSD WILL STOP SUPPORTING 32-BIT:

12/02/2024

John Baldwin, on behalf of the FreeBSD Core Team, issued a warning about the end of support for 32-bit platforms. The FreeBSD 15 branch plans to discontinue the armv6, i386, and powerpc platforms, and the FreeBSD 16 branch plans to discontinue support for the remaining 32-bit armv7 platform. The ability to build 32-bit programs and use the COMPAT_FREEBSD32 mode to run 32-bit executables in a 64-bit kernel-based environment will remain at least until the end of the FreeBSD 16 branch lifecycle. There are no plans to remove the ability to run 32-bit programs from 64-bit ones There are no FreeBSD kernel builds yet.

Reasons for ending support for 32-bit architectures include the decline in popularity of 32-bit installations, a shift in the hardware market toward 64-bit systems, the decommissioning of 32-bit hardware, and the project's lack of resources to support legacy platforms.

https://lists.freebsd.org/archives/freebsd-announce/2024-February/000117.html

REGOLITH DESKTOP ENVIRONMENT 3.1:

13/02/2024

The Regolith Desktop 3.1 desktop environment, developed by the developers of the Linux distribution of the same name, is out. Regolith is based on GNOME session management technologies, the i3 window manager, Picom and Sway composite servers, the i3bar, the rofication notification system, the i3status-rs status bar, and the ilia program launcher interface. The project is distributed under the GPLv3 license. Packages for Ubuntu and Debian have been prepared for download.

The project is positioned as a modern desktop environment, developed to perform common actions faster by optimizing workflows and eliminating unnecessary clutter. The goal is to provide a functional yet minimalistic interface that can be customized and expanded based on

the user's preferences. Regolith may be of interest to beginners who are accustomed to traditional window systems but want to try frame-based (tiled) window layout techniques.

FREE VERSIONS OF VMWARE vSPHERE HYPERVISOR HAS CEASED:

13/02/2024

Following the cessation of the sale of perpetual licenses, Broadcom, which acquired the VMware business last November, has stopped distributing free versions of VMware vSphere Hypervisor (ESXi 7.x and 8.x). Free versions were limited by the number of processor cores and memory size involved, and did not include advanced features. However, the basic functionality was present in them, which made them popular for small, personal and experimental implementations. No alternative products provided.

OpenVPN 2.6.9 update with license change:

13/02/2024

A new release of OpenVPN 2.6.9 has been prepared, a package for creating virtual private networks that allows you to make an encrypted connection between two client machines or provide a centralized VPN server for the simultaneous operation of several clients. The new version is notable for its relicensing. The project code has been transferred from using a pure GPLv2 license to a combined license , in which the GPLv2 text is expanded with an exception that allows linking with code under the Apache 2.0 license, which is impossible under normal conditions without relicensing the code due to incompatibility between the GPLv2 and Apache 2.0 licenses.

The exception allows you to link OpenVPN code with code from libraries distributed under the Apache 2.0 license and distribute the combined derivative work without complying with the GPLv2

requirement to distribute linked libraries under the same license, but still subject to all other terms, such as providing source code for the derivative work. The primary focus of the change is to enable linking with the OpenSSL library, which is licensed under the Apache 2.0 license. All OpenVPN code that could not be translated to the new licensing terms, for example due to the inability to contact the authors, has been removed or completely rewritten.

GHOSTBSD RELEASE 24.01.1:

14/02/2024

The release of the desktop-oriented distribution GhostBSD 24.01.1 , built on FreeBSD 14-STABLE and offering the MATE user environment, has been published. Separately, the community creates unofficial builds with Xfce. By default, GhostBSD uses the ZFS file system. Both work in Live mode and installation on hard drives are supported (using its own ginstall installer, written in Python). Boot

images are created for x86_64 architecture (2.5 GB).

POC FOR UNINSTALLED APPLICATION HANDLER IN UBUNTU:

14/02/2024

Researchers from Aqua Security drew attention to the possibility of an attack on users of Ubuntu, using the implementation features of the " command-not-found " handler, which provides a hint if an attempt is made to launch a program that is not in the system. The problem is that when evaluating commands to run that are not present in the system, "command-not-found" uses not only packages from the standard repositories, but snap packages from the snapcraft.io directory when choosing recommendations .

When making a recommendation based on the contents of the snapcraft.io directory, the "command-not-found" handler does not take into account package status and only

covers packages added to the directory by untrusted users. Thus, an attacker can place in snapcraft.io a package with hidden malicious content and a name that overlaps with existing DEB packages, programs that were not originally in the repository, or fictitious applications whose names reflect typical typos and user errors when typing the names of popular utilities.

https://www.aquasec.com/blog/snap-trap-the-hidden-dangers-within-ubuntus-package-suggestion-system/

FreeNginx,:
14/02/2024

Maxim Dunin , one of the three active key developers of Nginx, announced the creation of a new fork - FreeNginx. Unlike the Angie project, which also forked Nginx, the new fork will be developed solely as a non-commercial community project. FreeNginx's stated goal is to ensure Nginx development is free from arbitrary corporate interference.

The reason for the creation of the new project was disagreement with the policy of the management of the F5 company, which owns the Nginx project. F5, without the consent of the developer community, changed its security policy and switched to the practice of assigning CVE identifiers to mark issues that potentially pose a threat to user security as vulnerabilities (Maxim was against assigning CVEs to these errors, since they are present in experimental and non-default code).

After the Moscow office was closed in 2022, Maxim retired from F5, but under a separate agreement retained his role in development and continued to develop and oversee the Nginx project as a volunteer. According to Maxim, changing the security policy is contrary to the agreement and he can no longer control the changes that developers from the F5 company make to Nginx, therefore he can no longer consider Nginx as an open and free project developed for the common good.

https://freenginx.org/en/support.html

Auto-cpufreq 2.2.0:
15/02/2024

A new release of the auto-cpufreq 2.2.0 utility has been published, designed to automatically optimize CPU speed and power consumption in a system. The utility monitors the state of the laptop battery, CPU load, CPU temperature and system activity, and depending on the situation and selected options, dynamically activates energy saving or high performance modes. It supports work on devices with Intel, AMD and ARM processors. A GTK-based graphical interface or a console utility can be used for control. The code is written in Python and distributed under the LGPLv3 license.

Auto-cpufreq can be used to automatically extend the battery life of laptops without permanently cutting down any features. Unlike the TLP utility, auto-cpufreq not only allows you to set energy-saving modes when the device is running autonomously, but also temporarily enable high performance mode (turbo boost) when an increase in system load is detected.

The new version adds support for configuring and overriding EPP (Energy Performance Preference) parameters, as well as setting restrictions related to battery charge (for example, to extend battery life, you can configure charging to turn off after reaching 90%).

https://github.com/AdnanHodzic/auto-cpufreq/releases/tag/v2.2.0

Mixxx 2.4:
16/02/2024

After two and a half years of development, Mixxx 2.4 has been released, providing a complete set of tools for professional DJ work and creating music mixes. Ready-made builds are prepared for Linux, Windows and macOS. The source code is distributed under the GPLv2 license.

https://mixxx.org/news/2024-02-16-mixxx-2-4-0-features/

THE OPENSUSE PROJECT HAS REVEALED PLANS FOR THE DEVELOPMENT OF A NEW AGAMA INSTALLER

02/17/2024 10:54

The developers of the openSUSE project have published a plan for the development of a new installer, Agama (formerly D-Installer), which is being developed to replace the classic SUSE and openSUSE installation interface, and is notable for separating the user interface from the YaST internals. Agama provides the ability to use various frontends, for example, a frontend for managing the installation via a web interface. To test the new installer, live builds are being created for the x86_64 and ARM64 architectures, supporting the installation of a continuously updated build of openSUSE Tumbleweed , as well as editions of SUSE ALP, openSUSE MicroOS and openSUSE MicroOS Desktop, built on isolated containers.

There are two major updates to Agama scheduled for this year. The first is planned to be presented in mid-April, and the second in mid-July. The July update will focus on increasing the flexibility and functionality associated with automated, unattended installations. The goal of the development is to make Agama possible to use as an alternative to the AutoYaST toolkit .

https://news.opensuse.org/2024/02/16/exploring-agamas-roadmap/

OPEN IMAGE DENOISE 2.2:

17/02/2024

Intel has published a new release of oidn 2.2 (Open Image Denoise) project , which is a collection of filters for removing noise from images prepared using ray tracing rendering systems. Open Image Denoise is being developed as part of a larger project, oneAPI Rendering Toolkit, aimed at developing software visualization tools for scientific calculations (SDVis - Software Defined Visualization), including the Embree ray tracing library, the GLuRay photorealistic rendering system , the OSPRay distributed ray tracing platform and the OpenSWR software rasterization system The code is written in C++ and published under the Apache 2.0 license.

The project's goal is to provide high-quality, efficient, and easy-to-use denoising features that can be used to improve the quality of ray tracing results. The proposed filters allow, based on the result of a shortened ray tracing cycle, to obtain a final level of quality comparable to the result of a more expensive and time-consuming process of detailed rendering.

Open Image Denoise eliminates random noise, such as from Monte Carlo RT (MCRT) ray tracing. To achieve high quality rendering in those algorithms, it is necessary to trace a very large number of rays, otherwise noticeable artifacts in the form of random noise appear in the resulting image.

The use of Open Image Denoise allows you to reduce the number of necessary calculations when calculating each pixel by several orders of magnitude. As a result, you can generate an initially noisy image much faster, but then bring it to acceptable quality using fast noise reduction algorithms. If you have the appropriate equipment, the proposed tools can even be used for interactive ray tracing with on-the-fly noise removal.

https://github.com/OpenImageDenoise/oidn/releases/tag/v2.2.0

RELEASE OF DUCKDB 0.10.0:

18/02/2024

A new release of the DBMS, DuckDB 0.10.0 is presented, combining properties of SQLite, such as compactness, the ability to connect via an embedded library, storing the database in one file and a convenient CLI interface, with tools and optimizations for executing analytical queries covering a significant part of the stored data, for example, that aggregate the entire contents of tables or merge several large tables. The project code is distributed under the MIT license. The development is still at the stage of forming experimental releases, since the storage format has not yet been stabilized and changes from version to version.

DuckDB provides an advanced

SQL dialect that includes additional capabilities for handling very complex and time-consuming queries. The use of complex types (arrays, structures, unions) and the ability to execute arbitrary and nested correlating subqueries are supported. It supports running multiple queries simultaneously, running queries directly from CSV and Parquet files. It is possible to import from the PostgreSQL DBMS.

In addition to the shell code from SQLite, the project uses a parser from PostgreSQL in a separate library, a Date Math component from MonetDB , its own implementation of window functions (based on the Segment Tree Aggregation algorithm), a regular expression processor based on the RE2 library , its own query optimizer, and an MVCC control mechanism simultaneous execution of tasks (Multi-Version Concurrency Control), as well as a vectorized query execution engine based on the Hyper-Pipelining Query Execution algorithm, which allows large sets of values to be processed at once in one operation.

https://duckdb.org/2024/02/13/announcing-duckdb-0100.html

UGREP 5.0:

18/02/2024

The ugrep 5.0 project has been released, developing an advanced version of the grep utility for searching data in files. Additionally, an interactive ug shell is provided with a user interface that provides a preview of the surrounding rows. In terms of performance, ugrep is many times faster than grep. The project code is written in C++ and distributed under the BSD license.

The utility combines the most useful features of the grep program with advanced functionality, such as the ability to use Perl-like regular expressions, fuzzy search, hex dump mode, nested search, text encoding transcoding, search in archives (zip, 7z, tar, pax , cpio), compressed files (gz, Z, bz2, lzma, xz, lz4, zstd, brotli), document formats (pdf, doc, docx, odt, epub, rtf), as well as searching for metadata in images and fields in certificates. You can speed up searching through the contents of directories using an index separately created by the ugrep-indexer utility.

https://github.com/Genivia/ugrep/releases/tag/v5.0.0

The VirtualBox Networking Primer
Connecting and Configuring Virtual Machines

The VirtualBox Networking Primer is a no-nonsense guide for the VirtualBox user taking their next steps into virtual networks.

While Oracle VM VirtualBox is a great free tool, the real power of virtualisation comes when you start connecting virtual machines to each other and to the wider world. Software development, sales, education and training are just some of the areas in which network access to virtual machines offers endless opportunities. But the world of computer networks is filled with complex technical jargon.

Complete with principles, practice, examples and glossary, The VirtualBox Networking Primer takes the frustration and confusion out of connecting real-world projects.

Author: **Robin Catling**
Publisher: Proactivity Press
ISBN13 : 9781916119482

Amazon US link:
https://www.amazon.com/dp/1916119484?ref_=pe_3052080_397514860

Amazon UK link:
https://www.amazon.co.uk/VirtualBox-Networking-Primer-Connecting-Configuring/dp/1916119484/ref=sr_1_1?dchild=1&keywords=virtualbox+networking+primer&qid=1600253699&s=books&sr=1-1

Kobo:
https://www.kobo.com/us/en/ebook/the-virtualbox-networking-primer

As a follow up to a question I had, I'd like to take this opportunity to explain the Linux boot process for n00bs, as the comments that flew around were highly inaccurate.

WHAT HAPPENS WHEN I PRESS THE POWER BUTTON?

Usually this is where your BIOS or UEFI will spring into action and get things ready for you. This is just code / software that gets things like your keyboard and screen and storage ready for action. It used to be called POST (Power On Self Test). POST polls your hardware and makes sure they respond, before basically turning them on. (This is not 100% accurate, but it allows you to grasp it easily and imagine it for yourself as this is a high-level overview.) If there is an error, you will usually get an error on the screen or a BIOS beep code (you can look these up online for your specific BIOS). If everything checks out, the BIOS/UEFI will go and find your storage and look for the bootloader software (more on

this later). You can control where it looks and the order thereof in your BIOS/UEFI settings (usually something named "boot order"). Now here is where BIOS and UEFI are not alike. BIOS will look for a Master boot record (MBR), and UEFI will look for a UEFI partition. This is the .efi bootloader file – that you will see people talk about if you dig into the UEFI boot process.

So what does a bootloader do?:
• Firstly, it will look for your kernel. Once it finds your kernel, it will load it into memory.
• Secondly, it will execute the kernel code. That is, it will start running your kernel.

Grub bootloader is what we all know and love, but you may find Lilo bootloader on older or more esoteric distributions. Grub is actually amazing, allowing you to boot multiple operating systems and sporting a large array of features that most users do not even use. You will know you are a Linux power user if you use the Grub2 advanced features!

Let's look at it in a Linux light.

```
6.337s NetworkManager-wait-online.service
2.614s lightdm.service
2.611s plymouth-quit-wait.service
2.026s systemd-udev-settle.service
 311ms apt-daily-upgrade.service
 269ms dev-nvme0n1p2.device
 254ms blueman-mechanism.service
 175ms gpu-manager.service
 171ms upower.service
 166ms systemd-journal-flush.service
 144ms zfs-load-module.service
 132ms systemd-udev-trigger.service
 123ms lvm2-monitor.service
 123ms networkd-dispatcher.service
 108ms systemd-resolved.service
 105ms udisks2.service
  93ms systemd-journald.service
  92ms keyboard-setup.service
  87ms apparmor.service
  86ms systemd-logind.service
lines 1-23
```

COMMAND & CONQUER

Once Grub2 (your bootloader) finishes finding and loading your kernel into memory, it hands over control to said kernel. The kernel now takes over the start-up process, and starts doing the booting you will see on your screen, if you do not have something like Plymouth installed. With modern hardware, that scrolling list is usually scrolling by too fast to read anyway! What is happening here, is the kernel is initiating all the services and processes needed. The process is as follows: the kernel decompresses (we had a news article about this some time ago about the compression algorithm), or expands itself into memory. The kernel includes a decompressor stub that handles unpacking the kernel itself once it is loaded, and it includes full decompression support for initramfs. The kernel now checks the available hardware and loads device drivers for said hardware as well as other necessary kernel modules. The initial process that starts, is the init process (get it?). As Ubuntu users, we all know it as Systemd. In older distributions it was SysV or Upstart, and there are others out there too. Since this is the first process that runs, it is the parent process of all other processes that run in your computer. Love it or hate it, Systemd is what you have in your Ubuntu OS. Systemd will now take over and get your system ready to use. When you run something like systemd-analyze blame, it will show you all the services it ran and the time it took to do so. Systemd can also find and run additional drivers not run by the kernel for any additional hardware.

Systemd uses target configuration files to choose the mode that it will be booting into. Like, for instance, the graphical user mode we are used to. Think of these as the old init scripts or runlevels, if you have had any experience with older distributions (I used to get paid to go out to a client and type init 6 on the command line... XD). Systemd now handles all the background processes for you, abstracting a lot away from the user.

That is more-or-less the overview of the way your Ubuntu machine boots.

Helpful tools include dmesg – on Ubuntu you need to type: sudo dmesg to see the output. Remember to pipe it to a pager like less.

In dmesg, you can see what happened, at what time during the boot process. Did things go right, did things go wrong? Modern distributions will have dmesg color-coded, but many do not, and you will need to pay close attention to the output of those. Hope this helps any n00bs who wish to picture the boot process for themselves.

Please send any comments or concerns to misc@fullcirclemagazine.org

```
[   36.034390] [drm:lspcon_init [i915]] *ERROR* Failed to probe lspcon
[   36.034482] [drm:lspcon_resume [i915]] *ERROR* LSPCON init failed on port D
[   36.702519] [drm:lspcon_init [i915]] *ERROR* Failed to probe lspcon
[   36.702595] [drm:lspcon_resume [i915]] *ERROR* LSPCON init failed on port D
[   39.552641] Bluetooth: RFCOMM TTY layer initialized
[   39.552647] Bluetooth: RFCOMM socket layer initialized
[   39.552650] Bluetooth: RFCOMM ver 1.11
[   52.909394] [drm:lspcon_init [i915]] *ERROR* Failed to probe lspcon
[   52.909483] [drm:lspcon_resume [i915]] *ERROR* LSPCON init failed on port D
[   53.577494] [drm:lspcon_init [i915]] *ERROR* Failed to probe lspcon
[   53.577596] [drm:lspcon_resume [i915]] *ERROR* LSPCON init failed on port D
[   53.679535] xhci_hcd 0000:01:00.2: xHC error in resume, USBSTS 0x401, Reinit
[   53.679538] usb usb3: root hub lost power or was reset
[   53.679539] usb usb4: root hub lost power or was reset
[ 5788.377548] xhci_hcd 0000:01:00.2: xHC error in resume, USBSTS 0x401, Reinit
[ 5788.377554] usb usb3: root hub lost power or was reset
[ 5788.377555] usb usb4: root hub lost power or was reset
ed   ~
```

PYTHON AND WINDOWS

Greetings fellow Beings. Working in Python means that, many times, the need arises to deal with cross-platform programming. Lately, when starting Python, the majority of us need to use 'python3', and, when using pip, we actually need to use 'pip3'.

Some of us have aliased python3 to simply 'python' and pip3 to 'pip'. This is especially easy with pyenv. Unfortunately, users of Microsoft Windows don't have the ability to use pyenv. So for those Windows users, the problem is worsened because when Python is installed on their machine, it might get set up to use either 'python' or 'python3' or even "python3.9' to start Python. This extends to pip as well. To make matters worse, the shebang line (#!/usr/bin/env python3) that should start every Python file, will be wrong when Python is started with "python".

So how do you create a batch file to make the startup process simple, and to work in every instance, and create a shebang that will work every time as well?

For the last few years, this problem has plagued the Sourceforge PAGE discussion forum. Many users don't bother looking at the previous posts to see if their issue has already been addressed, they seem to think that they are the only ones to have the issue. So the question gets answered multiple times with the same answer. Change the batch file command 'python3' to 'python' or vice versa.

Back in December, the Python-list digest had a thread about the shebang line no longer working correctly when running Python 3.12 under Windows 11. Knowing that this could trouble PAGE users, I started following the thread with interest. As expected, there were a number of responses that contained a "Well, it worked for me" kind of response but many of the responses were seriously trying to help the poster, without a definitive answer.

Eventually, there was a post that pointed to the Python for Windows documentation about using the shebang line. At first, that didn't fix the issue for the poster, but for me, it gave me some valuable information. However I had to dig deeper into the documentation.

Since I run Linux for everything, and fire up a Windows machine only when I absolutely must, I never really looked into the "proper" way to install and start Python when it comes to a Windows machine.

The documentation located at https://docs.python.org/3/using/windows.html#python-launcher-for-windows was really an eye-opener for me. I never knew that there was a 'launcher' for Windows. I just assumed that Python was Python, and if the command to start Python was 'python3', that was what you should use. I couldn't be more wrong.

It turns out that, as far back as Python 3.3, there has been a launcher for Windows, and the command to use the launcher is simply 'py' . You can still use python or python3, depending on how your python got installed, but the 'py' command will start python regardless. (There is a small caveat here. If Python 2.x was previously installed, the launcher might not have been installed correctly.)

If you have two instances of Python on the Windows machine, 'py' will start the latest version, but not the last installed version.

You can find all the versions that the Windows launcher will provide by doing a 'py --list' in the command prompt (shown below).

In the below screen print, version 3.12 will be the default whenever 'py' is called. If you want

```
C:\Users\gregg>py --list
 -V:3.12 *        Python 3.12 (64-bit)
 -V:3.11          Python 3.11 (64-bit)
 -V:3.10          Python 3.10 (64-bit)
```

to use version 3.10 instead, simply call py with the version you want. For example…

```
py -3.10 -v
```

will return 3.10.10 (in my case).

There is a curious thing about Python and Windows. Many people have suggested using the 'where python' command in the command prompt. However, on my system with three versions of Python installed, what gets returned is…

```
C:\Users\gregg>where python
C:
\Users\gregg\AppData\Local\Pr
ograms\Python\Python312\pytho
n.exe
C:
\Users\gregg\AppData\Local\Mi
crosoft\WindowsApps\python.ex
e
```

It shows only two versions, not three, and the second version is actually a zero-byte file. This is where the issue with the shebang comes in.

According to the Python https://docs.python.org/3/using/windows.html#shebang-lines :

"*If the first line of a script file*

starts with #!, it is known as a "shebang" line. Linux and other Unix-like operating systems have native support for such lines, and they are commonly used on such systems to indicate how a script should be executed. This launcher allows the same facilities to be used with Python scripts on Windows, and the examples above demonstrate their use.

To allow shebang lines in Python scripts to be portable between Unix and Windows, this launcher supports a number of 'virtual' commands to specify which interpreter to use. The supported virtual commands are:

/usr/bin/env
/usr/bin/python
/usr/local/bin/python
python
"

Of course, the first three versions of the accepted virtual commands couldn't possibly exist on Windows, but the launcher is supposed to handle them.

The problem can come from that zero-byte file I pointed out a few moments ago. In fact, when I started fighting the problem on my virtual Windows machine, I had the following zero byte files…

```
C:
\Users\gregg\AppData\Local\Mi
crosoft\WindowsApps\python.ex
e
```

```
C:
\Users\gregg\AppData\Local\Mi
crosoft\WindowsApps\python3.e
xe
```

For some reason, sometimes on a Windows 11 machine these zero-byte files can cause a message similar to…

```
"Unable to create process
using 'C:\usr\bin\env\python"
```

I've never heard of this happening on a Windows 10 machine, but I suppose it COULD happen. Anyway, message after message came, suggestions were made, but there was nothing definitive that would fix the user's problem until January 16. Finally someone suggested that Windows 11 was failing at the zero-byte Alias stub files. The suggestion was to turn off access to the Python stub files.

That fixed the user's issue. But how do you get access to the alias settings to turn them off?

It isn't easy to find. Thankfully the poster was able to give a way to find it.

Windows has a search box on the panel right next to the start menu.

In it, simply type (or even start to type) "Manage app execution aliases".

This will bring up a Settings window that looks something like this. Find the two entries for "App Installer python.exe" and "App Installer python3.exe" and set them to off.

Close this window and reboot the machine.

Issue fixed!

That's all for this month. I'm in the process of rebuilding my home office from a music room / electronics lab into a true office.

We'll talk again next month.

Until next time, as always; stay safe, healthy, positive and creative!

This article focuses on ComfyUI, an interface to Stable Diffusion that provides greater flexibility for producing images. For some time, I was thinking there was no reason to consider the ComfyUI option - both Easy Diffusion and Automatic1111 were more than sufficient. However, as one becomes familiar with the possibilities, I began to see the advantages of ComfyUI even though it looked a bit more demanding for the user. It had also been suggested that it was developing faster than other interfaces – which may be helpful, depending on your image production needs. The most obvious visual difference is the use of nodes and connectors. Perhaps you are familiar with Blender (blender.org), and may recall it uses nodes in a similar way for the compositor function. A screenshot shows the nodes with connections with the dark default color scheme.

We will cover a few nodes in some detail, but consider how this differs from the other interfaces. They consist of what appears to be similar options – without the node and connector concept. With nodes and connectors, you make the interface reflect your needs and not hamper your creativity. ComfyUI allows you to add duplicate nodes wherever needed or add additional nodes and reroute the workflow. You can right-click on the node area and select a node to add. As an example I selected add Node, sampling, custom sampling, and samplers. The number of choices gives you a taste for the possibilities and we will use this feature in the future. Other interfaces may have additional options but the simplicity of drawing out your workflow like a map makes it both:
• obvious what you are doing now, and
• easier to follow when you go back to it in the future.

That said, the complexity can dramatically increase, and learning and understanding all the possible options can require much more experience.

But before we get too carried away with adding complexity to what some would think is already too complex, let's see what it takes to make an image. Keep in mind that this is an introduction, and expanded information and initial install will be the goal next time. Let's start with a picture I needed showing a mother helping her daughter make a pot roast.

When you first start ComfyUI, you get a generic interface which contains essentially the same interface as other "simpler"
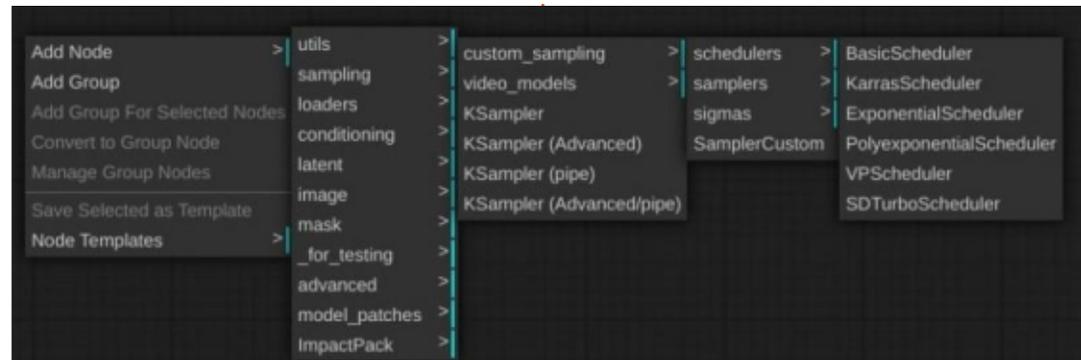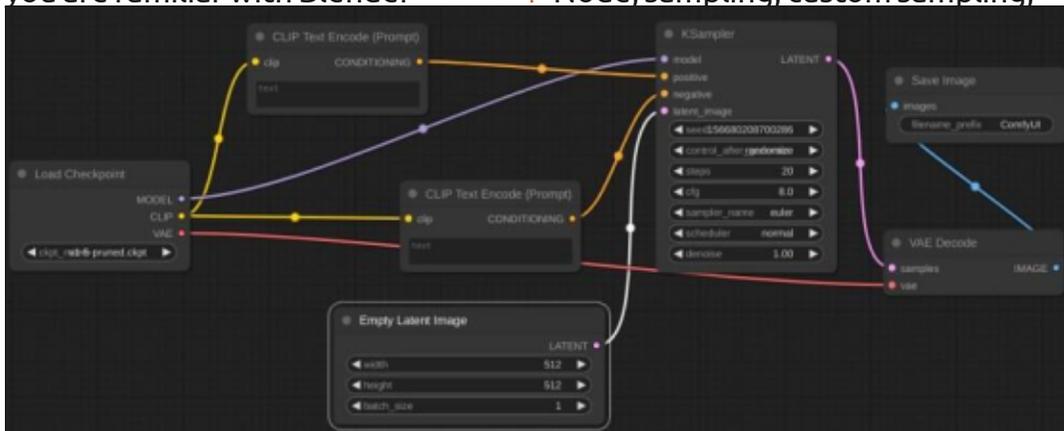
interfaces. First you determine the checkpoint to be used, which in this case is an SDXL safetensors version or sd_xl_base_1.0.safetensors. Clicking on that area of the Load Checkpoint node gives you the option of choosing from what is available. Next, as with other interfaces, you need to add appropriate descriptive text or prompt. Instead of two different areas set in the interface, ComfyUI uses a CLIP Text Encode (Prompt) node which is only differentiated by where it is connected. The yellow CLIP connection goes to two different CLIP nodes (you could rename them as Positive and Negative). Nodes can also be moved around to reflect your needs with connectors following appropriately.

It all starts to come together in the KSampler node. Conditioning outputs from the CLIP nodes in orange go to the Positive and Negative input in the KSampler. The Model output originating from the Load Checkpoint node (light purple) does the same. An Empty Latent Image node (pink), which also connects to the KSampler, allows you to determine image size and batch size for the image(s) to be created. A latent image is not a true image but essentially information that can be converted into an image.

A variety of options are available within the KSampler (also see the larger version). Sampling steps with higher numbers increase quality and time required, and a minimum of 20 is a good start. The CFG or Classifier Free Guidance scale controls how much the prompt should be followed. De-noise strength determines how much the image should change in the IMG2IMG process, zero is none and one is completely changed. Other options are available via drop-down lists. To create an image, click on the Queue Prompt button.

As it starts, you can watch it progress as each node border becomes highlighted in green. Most processing occurs in the Ksampler, now highlighted, and a thicker green line indicates progress as it moves from the left to right.
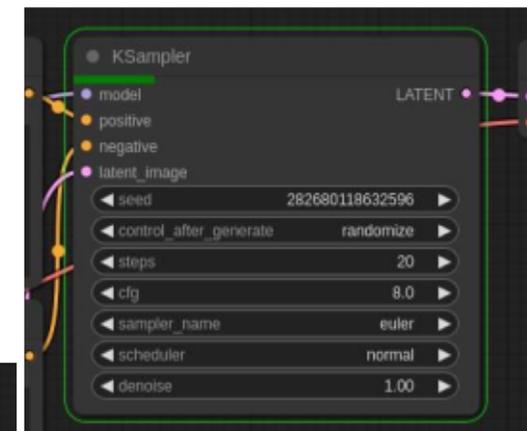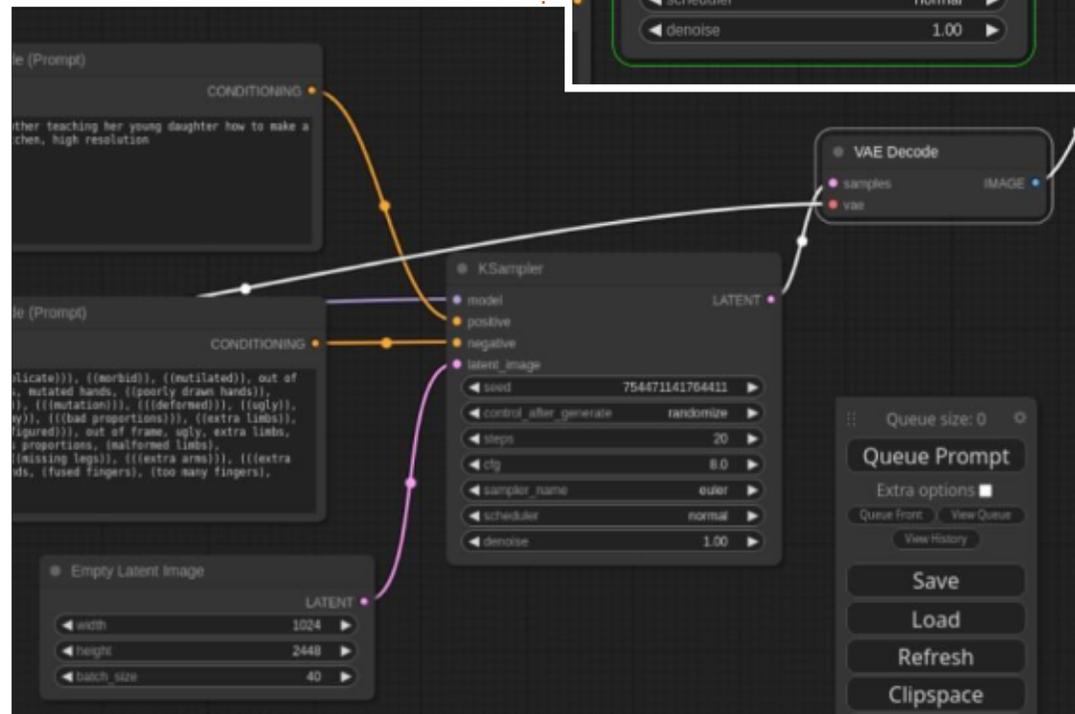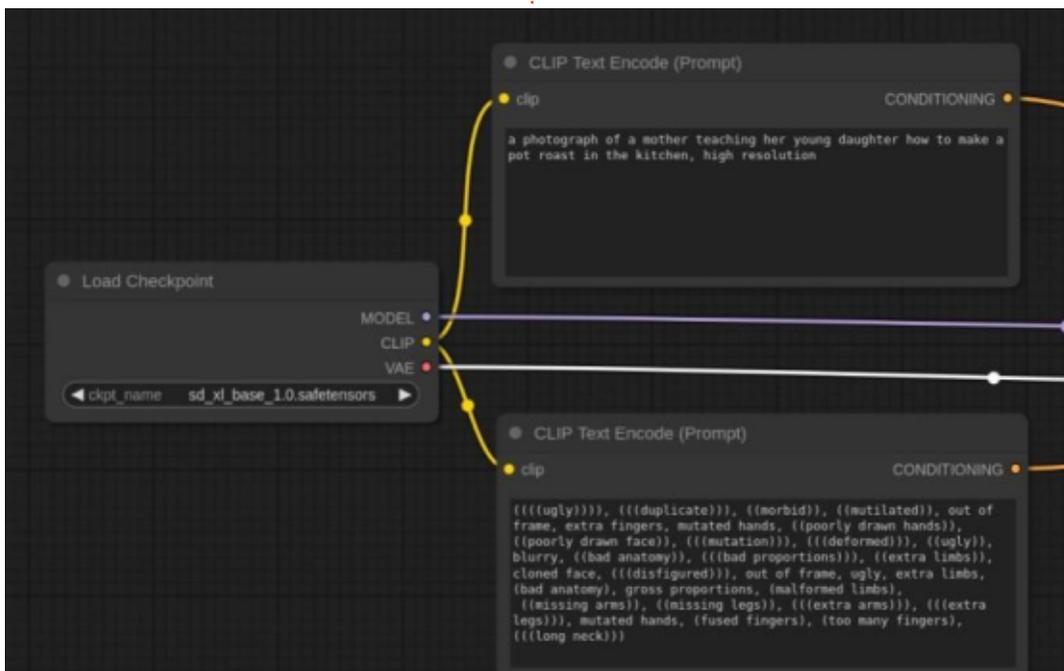
The initial result produced is a single image or batch with the 40 images shown in this case. You can select one and look at each in detail. Hopefully this introduction will entice you to try the ComfyUI interface (rather than discourage you). Next time we will address initial installation, updates, and a few additions you will want to add.
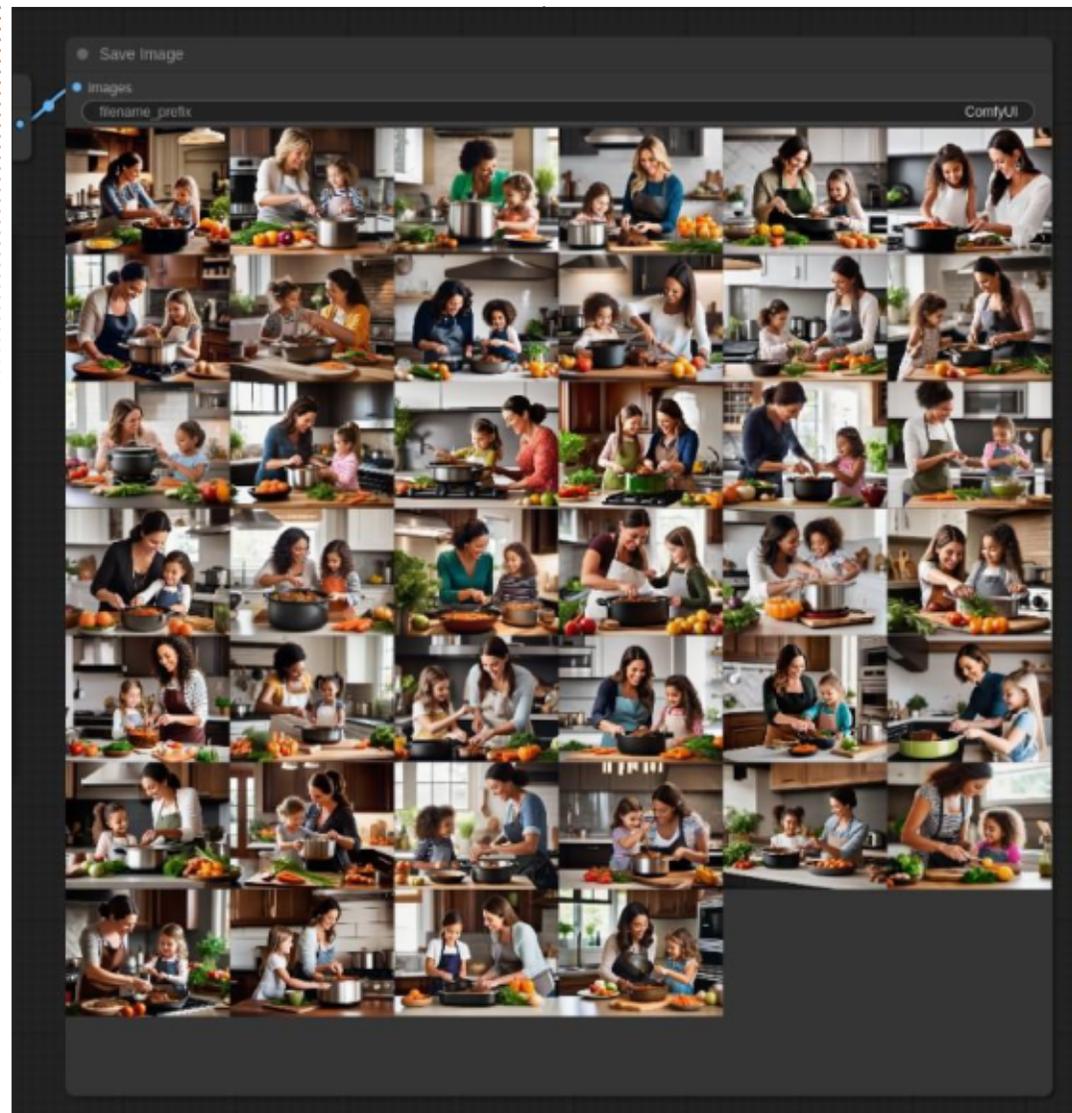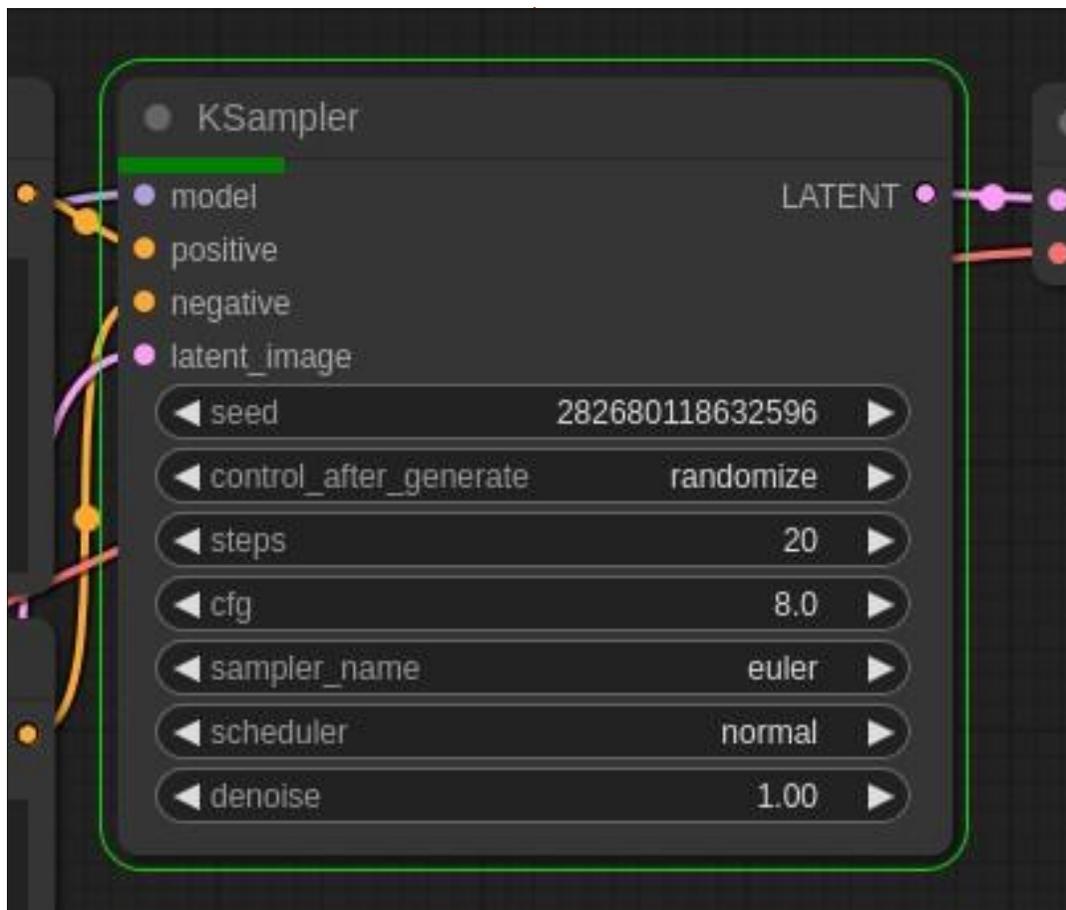
We finished with the cookbook last issue and I said we would explore some of the pre-installed packages in this issue and several more issues in the future. With over two thousand to explore, we could be busy for a long time. I could put the list of installed packages into several columns over a few pages and submit that as my article. However I suspect the editor would not be pleased with me if I did that.

One of my interests is typesetting, particularly font use and page design. I start my exploration of the installed packages with some font packages. There are twenty-two packages that contain the word "font" and which name a particular font, a set of definitions for character shapes which can be used to make words in most cases. There are a few fonts which are sets of icons and other shapes. I am lazy and did not review the complete list of packages looking for font names I recognize. I can tell you there are over one hundred pages of fonts in volume 2 (pages 11 – 126) of The Latex Companion (Mittelbach and Fischer,

```
\documentclass{article}
\usepackage{noto}
\begin{document}
\renewcommand\sfdefault{noto} % Sets the default font
\fontsize{36pt}{36pt}
\usefont{T1}{GaramondLibre-LF}{b}{n}
This is the document title using Garamond Libre at 36 points with no leading.
\fontsize{11}{13} % Change font size
\sffamily % Use default font as defined above
A little Noto – the default character set – set at 11 points with 2 points of leading. The rest of the document will use Noto unless otherwise instructed.
\end{document}
```

ISBN 978-0-201-36300-5).

These pages contain discussion of the features of almost two hundred different fonts which work in Latex. With only two exceptions (Cambria and Lucida), all of these fonts are free. If you use Windows or MS Office products, you already have a license to use Cambria. I realize many will be offended that I mention Microsoft in FCM. However many of you have devices using different operating systems, and remember Latex / Tex is operating system agnostic. So Cambria is probably already installed on your "other" computer. Lucida is available to purchase from TUG.org (tug.org/store/lucida). Individual licenses are US$110 if you are a

TUG member, and US$190 if you are a non-member. If you think this is expensive, check the prices of licensed fonts from commercial font foundries.

Fonts can be used in two ways. The entire document can be formatted using a particular font or font family. That is what I did with the cookbook: \usepackage{notosans}. Or, set a document font and use one or more other fonts as required, something like putting a circle of red paint on a yellow background. There is an example in figure 1. Shown above are the Latex instructions for that example.

I used Noto as the default

because it is installed on my machine. However, it is not one of the fonts installed by default. So this code will not work on your machine unless you install Noto. If you remove or comment out the instruction \usepackage{noto}, then the second paragraph will be displayed in the default font which was developed by Donald Knuth and called Computer Modern.

If you are not interested in fonts, you have probably had enough discussion about font packages!

Next, we will look at page layout, in particular what are the defaults built into Latex and how to alter those values using the

geometry package. Quoting from the documentation file for the geometry package:

Paper width and height are determined in the first line of every TEX document. The documentclass instruction dictates paper size and also sets printing as one-sided or two-sided. As with many Latex instructions, there are defaults. Documentclass has five document types: article, book, report, slides, letter. Base font size options are 10pt, 11pt and 12pt. Paper sizes can be letterpaper, legal paper, executive paper, A4, A5 and B5. By default, paper is printed in portrait format but can be landscape. There is a draft printing option. Printing on one side of the paper is the default except for book class which is two-sided. Articles, books and reports can be two columns if desired. There are some other options, and some packages can be loaded which will give other choices (for example the memoir document class). All of these choices can be set as options in documentclass. Each choice automatically determines many of the other dimensions of the page.

An easy example is paper size. It determines the text area in the

```
[Start of quotation]
To set dimensions for page layout in Latex is not straightforward. You need to adjust
several Latex native dimensions to place a text area where you want. If you want to center
the text area in the paper you use, for example, you have to specify native dimensions as
follows:
\usepackage{calc}
\setlength\textwidth{7in}
\setlength\textheight{10in}
\setlength\oddsidemargin{ (\paperwidth-\textwidth)/2 - 1in}
\setlength\topmargin{ (\paperheight-\textheight
-\headheight-\headsep-\footskip)/2 - 1in}.
Without package calc, the above example would need more tedious settings. Package geometry
provides an easy way to set page layout parameters. In this case, what you have to do is
just
\usepackage[text={7in,10in},centering]{geometry}.
Besides centering problems, setting margins from each edge of the paper is also
troublesome. But geometry also makes it easy. If you want to set each margin to 1.5in, you
can type
\usepackage[margin=1.5in]{geometry}
Thus, the geometry package has an auto-completion mechanism, in which unspecified
dimensions are automatically determined.
[End of quotation]
```

document which automatically sets the margin sizes. (It might be more accurate to say the paper size sets the margin sizes which then dictate the text height and width.) As noted above, if the document is a book, it will automatically be published two-sided, which means the margin names become inside and outside. Normally, inside margins are wider than outside margins to allow for the space required when the book is bound. The geometry package allows the writer to customize the page layout, to override the defaults, to suit their particular requirements.

In the example copied from the geometry package documentation, there is the instruction usepackage[margin=1.5in] {geometry}. No matter what class of document is being written, this instruction makes all margins the same size. The previous instruction \usepackage[text={7in,10in},centering]{geometry}, makes the text area to be 7 inches wide and 10 inches high. In addition, the text area will be centred on the page. This instruction forces Latex to calculate the appropriate margins for whatever page size is being used. These settings will cause problems for A5 and B5 paper sizes since

these sizes of paper are too small for a 7 inch x 10 inch text area.

The geometry package has a number of complex options. The Latex Companion book (Mittelbach and Fischer, 2023, ISBN 978-0-13-465894-0) discusses them in some detail in five pages, and there are references to the package on several other pages. I am not going to copy the information from the book, I suggest you take a look for yourself or at least download and review the documentation for the geometry package found at ctan.org. As a starting point here is the example from p. 377 of the

book (shown top right).

```
\usepackage[paper=a5paper, landscape, tmargin=52pt, lmargin=74pt, marginratio=1:2,
headheight=30pt, marginparwidth=62pt, includehead, includemp]{geometry}
```

Notice the parameters are defined before the package name is specified. Notice the parameters are shown as key=value pairs (except for landscape). Notice the top margin, the left margin and the margin ratio are specified but not the right margin or the bottom margin, neither has the size of the text area. The sizes not specified are calculated by the package from the information given by the paper size and these three parameters. The package will check to make sure what is entered meets certain criteria. If not, then the user is warned and at least one of the selected criteria will be ignored. For example the package will not allow the left and right margins to overlap.

The paper parameter accepts a0 paper to a6 paper, b0 paper to b6 paper, c0 paper to c6 paper, plus b0j to b6j for Japanese users, and letterpaper, legal paper and executive paper for those users not using ISO standard paper sizes. Paper sizes can be indicated without the key name, for example just a4 paper instead of papersize=a4paper. Custom paper sizes can be entered using the keys paperwidth and paperheight. Paper can be two-side, as well as landscape or portrait. If a portion of the paper will be consumed during binding, a value for binding offset can be added. This will be added to any inner margin. Type can be displayed as two-column, and the space between columns set using columnsep.

The area on the page that will contain the text can be specified by setting the "outside" sizes (margins, header, footer, etc), or by setting the "inside" size with textwidth and textheight, and the geometry package will do its best to calculate the other values. If you specify both margins and text body sizes, and they overlap, geometry assumes the margins are correct and reduces the text body size.

You probably noticed the key "margin ratio". This is the ratio of left:right and top:bottom margins. In the case of the sample, the left margin is set to 52pt so the right margin is twice that or 104pt (1,4 inches or 37mm). Since the top margin is set to 62pt, the bottom margin is 132pt or 46mm.

In some limited ways, it is possible to reset page geometry part way through a document. This is done with the newgeometry command. This command issues a clearpage command, which finishes the current page and starts a new page. The new page initially has all its key=value pairs set to the defaults except for keys in the preamble specifying the physical paper. To return to the original settings, use the command restoregeometry, which also closes the current page and starts a new page with the settings from the preamble. If a document has several layouts, it is possible to save each variant with a name using the savegeometry{name} command after the newgeometry command. Then use the load geometry{name} to use the saved layout.

By default, it is not possible to insert a landscape page into a Latex document when the preamble says portrait. The "problem" of inserting a landscape page into a portrait document is solved with the lscape package. This situation often occurs when inserting spreadsheet information (i.e. large tables in Latex). Lscape issues the clearpage command when invoked so that the landscape section starts on a new page no matter how much text is on the previous portrait page. Of course, when the landscape content is finished, it issues another clearpage command when returned to portrait mode.

I hope this article helps move you further along in your knowledge of Latex. I have included two graphics with this article to show you names of the key/value pairs used in the geometry package.

More fun with Latex next issue.

KILOBYTE

MAGAZINE

Kilobyte Magazine is a fanzine for 8bit enthusiasts. It covers consoles, computers, handhelds and more, as well as new games for old systems. If you grew up with Commodore, Atari, Sinclair or Amstrad, this magazine is for you.

https://retro.wtf/kilobytemagazine/

This month, I'll begin with a small correction, courtesy of @dwhall on the Inkscape forum (https://inkscape.org/forums/). Previously I described the new ability to set the origin point for Selector tool transformations – i.e. the point that remains fixed when you change the width or height via the numeric fields in the tool control bar. I said that it was a shame that there's no way to choose the center-center point as the reference. It turns out there is, but not while the Selector tool is in its default move/resize mode. Instead, you have to click on the object a second time to switch to the scale/rotate handles. Once in that mode, a single click on the handle that marks the center of rotation will display the blue color and barely visible lines that indicate it's being used as the reference point.

This also means that the reference point can be moved to an arbitrary position by dragging the handle (Shift-Click on it to return it to the center of the bounding box), but suffers from a long-standing omission in this regard in that there's no way to set the position by typing values in, except via the not-so-user-friendly XML editor. In addition, none of the other rotate/skew handles can be clicked to set the reference point, so if you want to switch it to one of the corners, for example, you'll need to cycle back round to the move/resize mode.

I sincerely hope that the Inkscape developers make these three small additions in a future release to unify this new functionality across the different modes of the Selector tool:
• Add a visible center handle to the move/resize mode, similar to the center of rotation
• Add fields for explicitly entering the reference coordinates to the tool control bar
• Allow all the scale/rotate handles to be selected as reference points

DOCUMENT RESOURCES DIALOG

This dialog is a new addition to version 1.3, and provides a single place to view the various 'assets' that are used in your document. An asset, in this case, is one of the following types of element:
• Fonts
• Styles
• Colors
• Swatches
• Gradients
• Filters
• Patterns
• Symbols
• Markers
• Images
• External references (i.e. links to URLs)
• Metadata

There's an absolute trove of information in this dialog, as can be seen from the default 'Overview' pane that appears when it's first opened via File > Document Resources.

To the left of the dialog you can see a list of the various categories of information available, beginning with the Overview pane that is currently selected. Categories appear in this list only if they have content to display, so you won't be
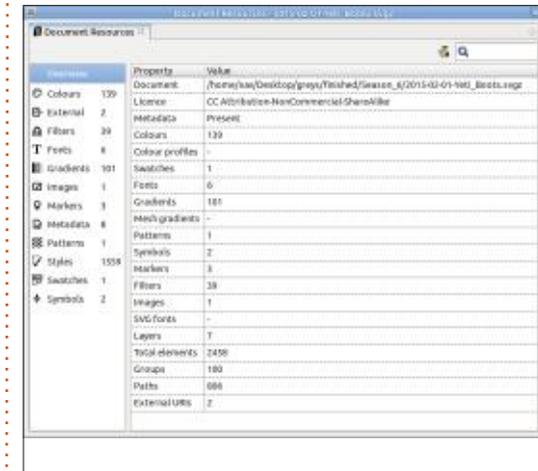
faced with a useless 'Symbols' category if your document doesn't contain any symbols, for example.

To the right of this list is the main content of the dialog, which often displays information in a tabular form, as can be seen with the Overview. Unfortunately, the cells of these tables are not only read-only, but also don't allow their contents to be copied to the clipboard. There's also no option to export them to a file for further processing or analysis. A command-line mechanism for opening a drawing in a headless Inkscape instance and exporting a JSON file from this dialog would open up a lot of possibilities for indexing or

exploring any large corpus of SVG files.

Looking at the overview pane, you can see some immediately useful information about the document path, the licence and the total number of elements. A lot of the other information, however, just duplicates the list of categories on the left. There's no interactivity in the overview table, either: clicking or double-clicking on one of those entries is in vain, as it doesn't take you to the relevant category pane, and certainly doesn't open the appropriate dialog on the screen. For example, it would be great on noticing that I've failed to add a licence, to be able to double-click on the second row as a shortcut to open the Document Properties dialog with the relevant tab selected, but this dialog doesn't currently provide that sort of capability.

Above the main pane is a toolbar whose contents change depending on the selected pane. In all cases the button and search box on the right remain present. The button – which has an icon that looks like a vacuum cleaner, in my theme – will remove any definitions that are present in the file, but not used in

the actual drawing. As an example, this can happen when you create gradients on objects then change them to a different fill, or delete the objects entirely. If that sounds familiar, it's because there is already a File > Clean Up Document menu item which performs the same task. In fact, if you have the 'Show icons in menus' option enabled in the Theming pane of the Preferences dialog, you'll probably already recognise the icon in this button.

The search box in the toolbar is actually more of a filter, in that it just restricts the entries in the current pane to those that match the search string. It doesn't search across all the panes in the dialog. This is a simple case-insensitive substring search that doesn't support any wildcards, which somewhat limits its usefulness (e.g. no searching for '??ff??' in the Colors pane to find all the colors with 100% green).

I won't go through every pane in this dialog, as many show just tabular information. But I will take a look at some that do offer some additional functionality, starting with the aforementioned Colors pane.
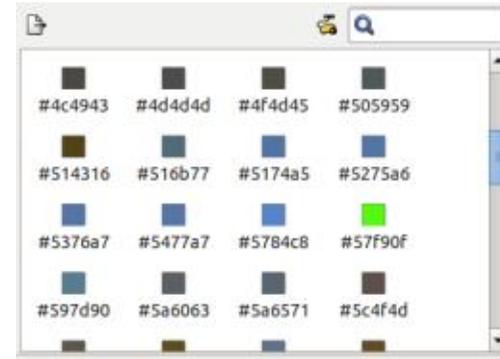
This pane shows a grid of color swatches, each with its hexadecimal RGB value beneath it. Remember, no matter what color picker you use, Inkscape stores values internally as RGB, so don't go expecting to see your HSL values in here. Also note that these are 6-digit hex values, so any transparency in your colors is omitted. This is a pity, because the difference between a fully opaque and a nearly transparent color is stark, so this view might grossly misrepresent the colors that are actually visible in your image.

You can't edit the hex values from here; you can't double-click to open a color picker to change any of the colors interactively; you can't even drag a swatch to the canvas to set the fill or stroke on your selected object. This is purely a report of the colors used in your image, in ascending hex order, not a

tool for working with them.

There is, however, one small bit of additional functionality in this pane, offered by the button in the toolbar. Clicking that will export a palette of the colors in *.gpl format – the palette format used by The Gimp and some other tools, as well as by Inkscape itself. But before you get too excited about this function, note that it will always export the entire list of colors. There's no way to select a subset of the swatches in the pane to produce a more limited palette.

The Fonts pane is a useful little tool, showing a list of the fonts used in your document, but doing so with two entries per font: the first shows the font name rendered at a fairly large size using the font itself, while the second shows it as plain text.

This is great for getting an overview of the fonts you're using, and the preview makes it easier to identify whether each font is a serif, sans-serif, display font, and so on. Showing the font name as plain text also helps when dealing with dingbat fonts, or extremely fancy or cursive fonts where the fully rendered version might be hard to read.

Unfortunately color fonts don't appear in color (e.g. Gilbert Color in the screenshot). Even if there are technical reasons why they can't be rendered in color in here, it would be nice to at least have some flag or indicator to show that they're color fonts. In fact, a little more metadata about the fonts would be nice to have in here generally.

The Gradients, Markers, Patterns, Swatches and Symbols panes all share some common toolbar buttons, as seen here in the Markers pane.
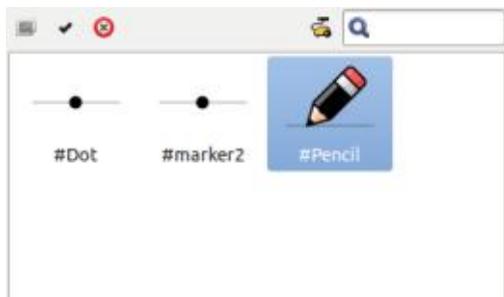
Unfortunately there only seems to be a symbolic icon for the first button – at least in my 1.3.2 AppImage downloaded directly from the Inkscape website. All other themes show some sort of 'missing image' icon. For reference, the symbolic icon for this is a pencil.

The buttons are enabled only when an item in the pane is selected. Clicking the first will let you edit the label of the item; double-clicking on the item label directly also achieves the same result. I'll make my usual clarification that the label is purely an informative thing that Inkscape offers. It's not part of the SVG spec (it's stored as an attribute in the Inkscape namespace), and changing this won't alter the ID, which makes it less useful for JavaScript developers. But if you want some of your assets to have user-friendly labels – perhaps to make them easier to reuse – you can rename them in bulk (albeit one at a time) in this dialog.

The tooltip for the second button in the toolbar claims that it will "Select this on canvas (if applicable) or in the XML dialog (e.g. a pattern in the 'defs' section)". In my experience, this should probably be reworded to be the other way round: it will actually select the item in the XML dialog, if it's already open, and very occasionally also select an element on the canvas. The reason for this is that most of the items in these panes refer to internal definitions that don't have a direct on-canvas object associated with them. Selecting the definition in the XML editor makes sense in that case – though it's not something that's likely to be terribly useful for most people. Only if the item is actually represented directly on-canvas will the corresponding object be selected. This will not be the case for any of the panes I listed above though it may be for images, which I'll discuss further below.

The last button on the toolbar deletes the selected item from the file. This will not always have the effect you expect. Deleting a Swatch, for example, will remove the fill or stroke color from any objects that use it – no surprise there. But deleting a Symbol won't remove it from your canvas; instead the symbol is converted to a group of normal objects, the same as if you'd selected it on the canvas and used Edit > Clone > Unlink Clone.

There's one more pane that features all three of these toolbar buttons, plus one additional entry: the Images pane.
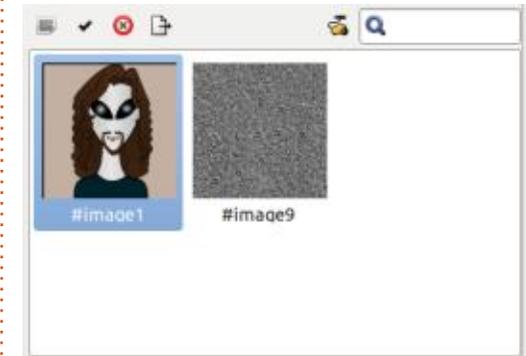
The extra button here lets you directly export the selected image to disk. This is the same functionality that is present in the Image Properties dialog on the right-click context menu for images, but it's useful to have it in the Document Resources dialog too, particularly if you have to extract multiple images from a single document.

The remaining panes – for Metadata and Styles – just show data in a tabular form, with no additional tools or features. Again, this is rather frustrating. The lack of

even a means to copy the text to the clipboard seems odd, and trying to show long CSS definitions in a single row in a table isn't terribly usable. At least the search field can be used to narrow down the list of styles, if you're looking for something specific. But the lack of wildcards makes even this tricky. Perhaps the developers should reuse the pop-up editor for styles that is present in the XML editor, which at least breaks the long string down into its constituent parts.

It may seem as though I've done little but complain in this article, but the truth is that I really like the idea of a Document Resources dialog. I just wish that the implementation went a little

further, with a few more convenience features that would make this more of a go-to dialog for working with resources in bulk. As it stands, it's mostly a reporting tool that doesn't actually produce reports, rather than something I think I'll be using regularly.

But this is the first appearance of this dialog in Inkscape, and I can only hope that the developers will iterate on it over time, adding more functionality. It also seems like it might be a useful target for new Inkscape developers, as there's scope for some simple and isolated additions (such as the ability to copy text from the tables) which would probably make a good choice for someone's first contribution to the project.

Although this is the only brand-new dialog in version 1.3, several others have seen changes and improvements which I'll look at next month.

```
opacity:0.50194576;fill:url(#linearGradient6066);fill-opacity:1;fill-rule:evenod…

opacity: 0.50194576;
fill: url(#linearGradient6066);
fill-opacity: 1;
fill-rule: evenodd;
stroke: none;

Shift+Return
   to close                                    Cancel    OK
```

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

Greetings fellow Beings. I'm trying to convert my music room / electronics lab into a proper office, and all of my microcontroller parts and widgets are all in boxes.

So I have to skip MTMT this month.

Have a great February, and I'll see you again in March.

Until next time, as always; stay safe, healthy, positive and creative!

Greg Walters is a retired programmer living in Central Texas, USA. He has been a programmer since 1972 and in his spare time, he is an author, amateur photographer, luthier, fair musician and a pretty darn good cook. He still is the owner of RainyDaySolutions a consulting company and he spends most of his time writing articles for FCM and tutorials. His website is www.thedesignatedgeek.xyz .

Linux on Your iPad

For as low as $4.95, you can have your own personal Linux cloud computer in minutes on any device.

We are happy to announce the release of Ubuntu Touch OTA-4, our 4th stable update to the new Ubuntu 20.04 LTS based system! OTA-4 will become available for the following supported Ubuntu Touch devices over the next days:

Asus Zenfone Max Pro M1
Pro1-X
Fairphone 3 and 3+
Fairphone 4
Google Pixel 3a and 3a XL
JingPad A1
Oneplus One
Oneplus 5 and 5T
OnePlus 6 and 6T
PinePhone (beta)
PinePhone Pro (beta)
PineTab (beta)
PineTab2 (beta)
Samsung Galaxy S7
Sony Xperia X
Vollaphone
Vollaphone X
Vollaphone 22
Vollaphone X23
Xiaomi Poco M2 Pro
Xiaomi Poco X3 NFC / X3
Xiaomi Redmi 9 Pro, 9 Pro Max and 9S

WHAT'S NEW?

This release of Ubuntu Touch is based on Ubuntu 20.04 LTS, so latest Ubuntu 20.04 LTS security updates have landed in this OTA.

NEW FEATURES:

You can now hide notifications' content while locked

We used to always show all notification's content even when the screen is locked. This can lead to an awkward situation if the content is inappropriate. In this OTA, we've added a setting to allow you to hide the content of the notification.

You can access the settings at System Settings > Security & Privacy > Locking and unlocking > When locked: > Hide notifications content. Note that for now, other people could still read the notification content from the quick settings at the top. So, you may want to disable "Allow quick settings" in the same page as well.

Credit goes to Lionel Duboeuf (@lduboeuf)

THE LOCK SCREEN NOW SHOWS THE ESTIMATED TIME TO CHARGE YOUR PHONE

Ever wondered how long it will take to charge your phone? We've added the charge time estimation, directly on the lock screen.

If you prefer not to see it, you can disable it in System Settings >

Battery > Show charging information on lock screen.

Credit goes to Muhammad (@TheVancedGamer).

THEME SWITCHING NOW BUILT-IN

We have always had a system-wide dark mode in the system. However, in the past, you had to use a third-party app to access the necessary switch. In this OTA, we've added a new toggle switch in the
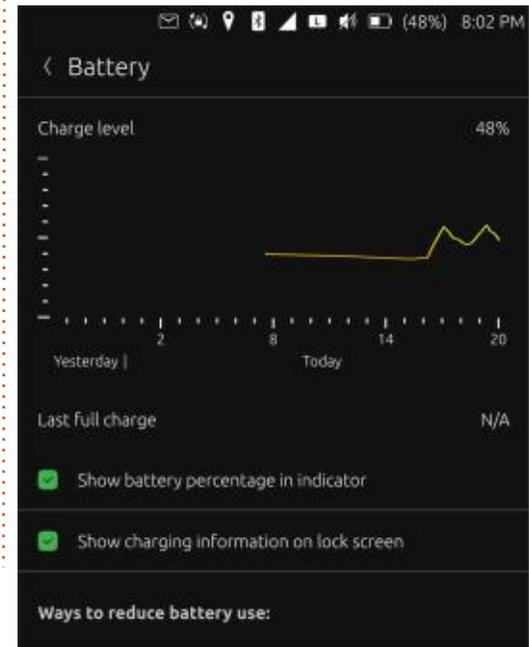
System Settings to allow you to change it without the need of an additional app.

To access it, go to System Settings > Background & Appearance. For now, it will affect applications only, and not the other system components (such as notifications). Also, you'll have to restart the applications for the change to take effect. In the future, we plan to extend this system to also affect system components, and to have the change applied immediately too.

Credit goes to Muhammad (@TheVancedGamer).
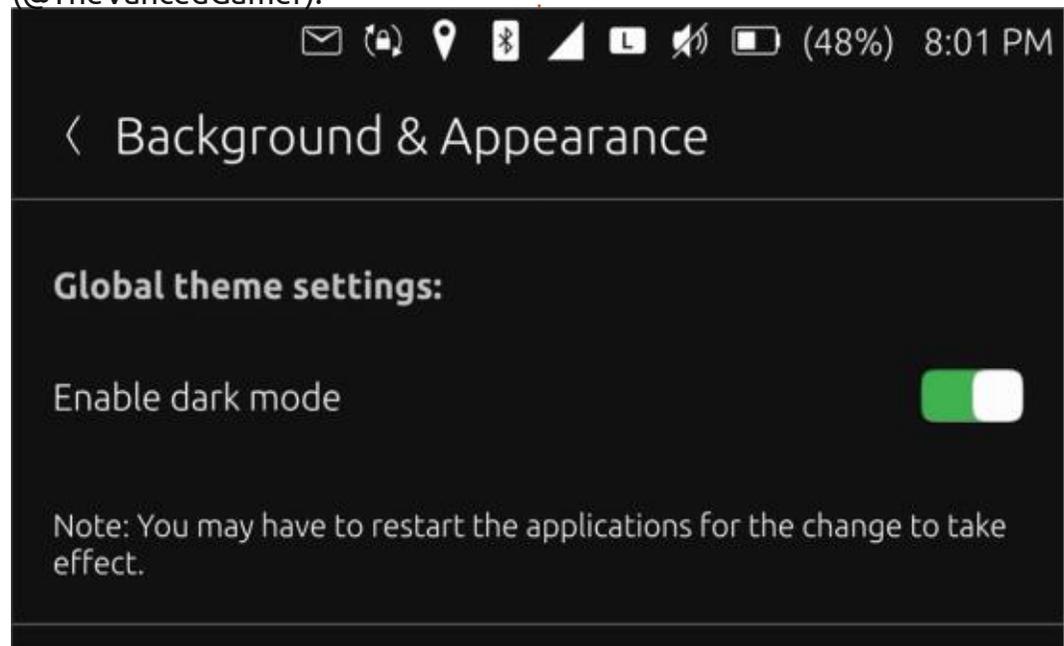
EACH CONTACT GET ITS OWN RINGTONE

Maybe you want a special ringtone for your significant other, or maybe you need a specific ringtone to warn you that the caller is hard to deal with. In this OTA, now you can assign a specific ringtone for a specific contact. You can access it by editing a contact or adding a new one then select Add field > Ringtone.

Credit goes to Lionel Duboeuf (@lduboeuf).

For developers: connecting your phone to a new computer now asks for confirmation.

When using adb for the first time on a computer, the following dialogue will appear when you unlock the screen.

This ensures that adb commands will not work on a new computer unless the user unlocks the phone and acknowledges the dialogue. Selecting "Allow" will make the adb commands work for this session, and will also remember this computer so that it won't prompt you again in the future.

UBPORTS DEVICES
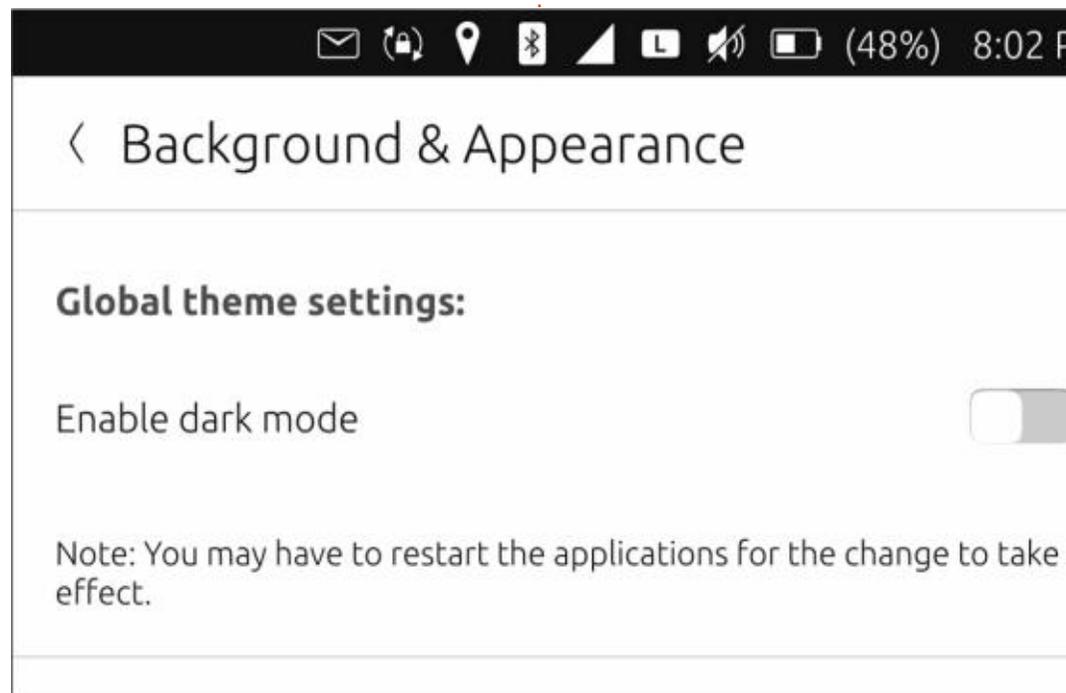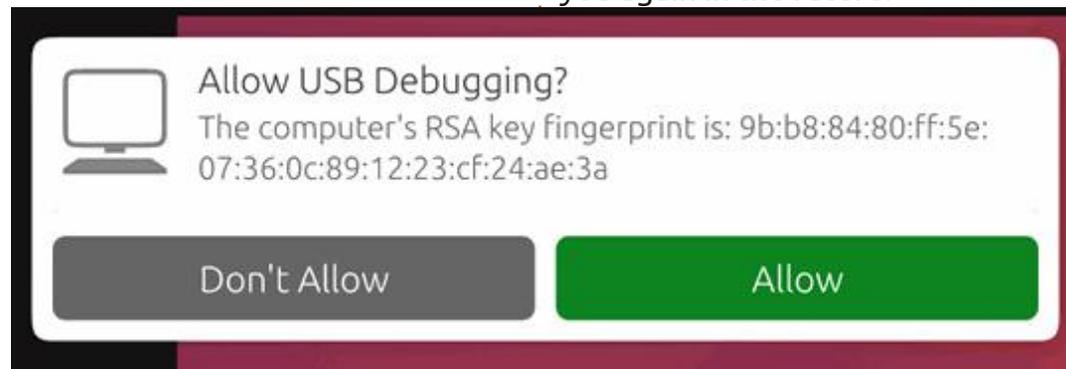
Credit goes to Ratchanan Srirattanamet (@peat_psuwit)

OTHER NOTEWORTHY CHANGES

The ability for apps to specify custom vibration patterns is now fixed. For example, Teleports' notification will now have 2 short pulses instead of a single long one.

Using a Bluetooth headset for voicecall should work more reliably.

Double-tap-to-wake settings now will persist across reboots.

For Waydroid users, you will less likely encounter camera problems after you exit Waydroid. However, this is not yet fully resolved, we're still working on finding a way to completely fix the issue.

You will no longer see "Low storage space" warning on the barcode reader app.

oFono has been patched against CVE-2023-4233 & CVE-2023-4234.

QtWebEngine, our web-browser engine, has been updated to 5.15.16 (the latest in 5.15.x line).

You should experience less occurrences of "have LTE, but can't access internet" in the area of low cellular coverage.

"Sign in with Google" and similar features on other networks are now fixed on certain websites. This also fixes websites that communicate with their pop-ups.

On incoming calls when mobile data is enabled, the incoming call interrupts the mobile data connectivity. With this OTA, after having finished the phone call, mobile data connectivity comes back again immediately and does not require being switched off and on again.

ESP. LOMIRI'S SYSTEM SETTINGS APP HAS SEEN MULTIPLE IMPROVEMENTS:

The layout of a few pages (e.g. Sound) have been adjusted to be more consistent. There are more like this to come in the future, so stay tuned!
https://gitlab.com/ubports/development/core/lomiri-system-settings/-/merge_requests/393

https://gitlab.com/ubports/development/core/lomiri-system-settings/-/merge_requests/404

You can now delete your custom background image that you've added earlier, in case you don't want to have that background image any more.

You can now adjust the sensitivity of the edge gestures in Lomiri. If you install a case or a bumper on your device, you can now increase the width of the edge area so that swipes from the border into the screen centre become easier for you. Or maybe you find it too sensitive, now you also can reduce it. The new setting can be found in System Settings > Gestures. Currently only visible though on a device that supports double-tap to wake.

You can now use the physical camera button to shoot the photo.
https://gitlab.com/ubports/development/apps/lomiri-camera-app/-/merge_requests/162

When requesting a file from File Manager app over Content Hub, the app opens more smoothly.

https://gitlab.com/ubports/development/apps/lomiri-filemanager-app/-/merge_requests/105

More at: https://ubports.com/blog/ubports-news-1/post/ubuntu-touch-ota-4-focal-release-3916
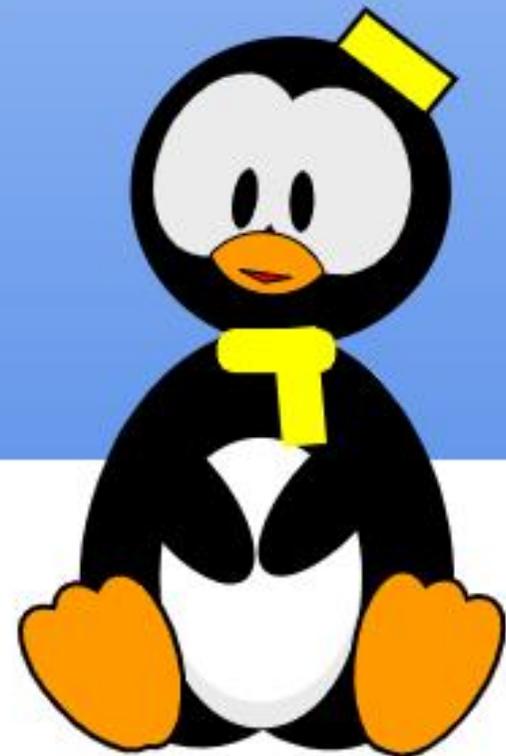
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Mike McGrath

Microsoft

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in easy steps

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EASY TO FOLLOW

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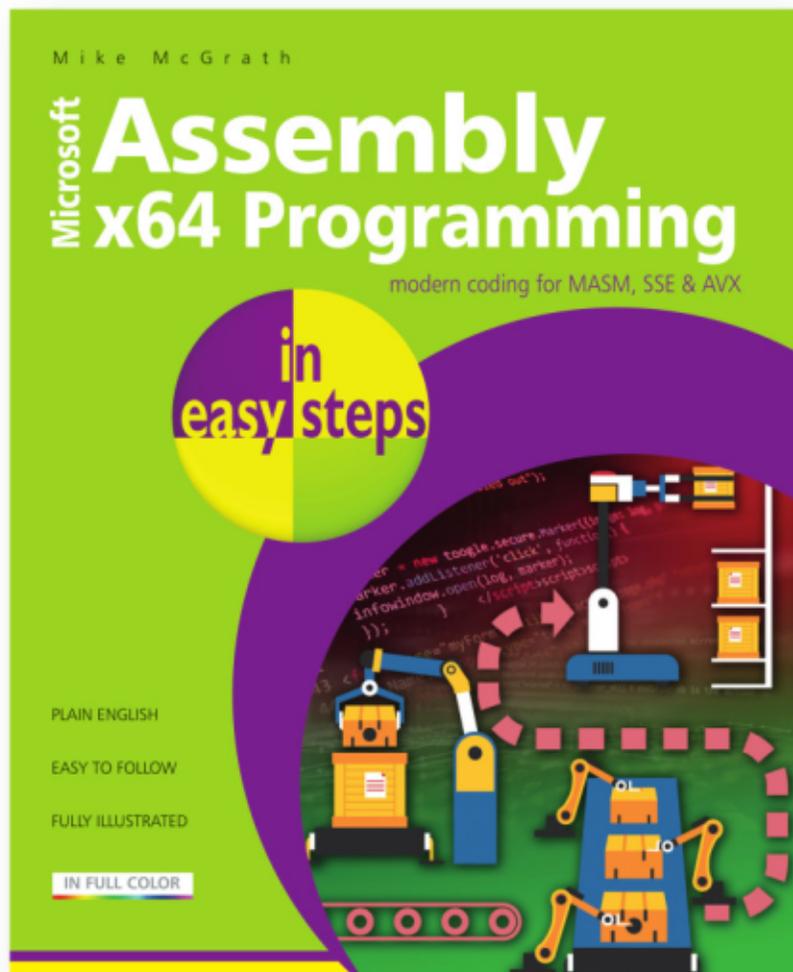
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ISBN: 9781840789522 / 192 pages / By: Mike McGrath

My introduction to Ubuntu (and later variants such as Linux Mint) started nearly 20 years ago when a friend gave me an Ubuntu CD after I complained about how poor Windows NT was. That was version 4.10, Warty Warthog, and I was hooked (Linux Mint would debut a few years later).

And, yes, I said CD. My internet connection was slow back then (dial-up with the squawking modem), so downloading anything past a picture was excruciating. Besides, Ubuntu was a puny OS compared to the behemoths of today.

I was hooked from the beginning and decided I would dedicate myself to resurrecting as many old Windows computers as I could.

That's when an ugly problem surfaced. Many Windows-based computers of the period were poorly designed and pretty much guaranteed to fail after a few, short years.

Anybody remember the netbooks that died a much needed death about a decade ago?

In essence, my work converting old Windows-based beaters in Ubuntu standouts was often for naught – the machines died anyway. A lot of HP, Compaq, EMachines, Packard-Bell and Xerox (now Lenovo), and pre-WalMart Gateway computers died for the effort (they were dead anyway, but it's the thought that counts).

Guess I'm getting old – half of those computer companies probably went belly-up before some of you readers were born.

And before you claim contemporary Windows laptops and desktops are much better, keep in mind that there is a Windows truism - they may set the minimum parameters for their OS to work, but they do nothing concerning quality control of the products their OS is installed on.

At least Apple manufactures computers to a set standard, unless you count the time a company named Psystar attempted to install OS X on their branded computer (the end result was a flurry of lawsuits and bankruptcy).

As much as I loved Ubuntu and Linux Mint, I just couldn't afford to replace bad power supplies, wonky hard drives, and burned out motherboards on a continuing basis or, in the worst case scenario, a Windows OS that refused to work properly (Me and Vista come to mind).

So, for a while, I switched to Apple laptops and desktops (Airs and iMacs, generally), and all was fine, at least until OS-X got bogged down or Apple decided my beater wasn't worth updating anymore.

Fortunately, Apple switched to Intel processors over a decade ago and I discovered, by reading some reviews, that Linux could operate, with some hoop jumping, on a OS X, Intel based, device.

Not in a virtual window or emulator, mind you, but by completely replacing OS X with Ubuntu or Linux Mint.

And why would I do that?

As you read this, I'm typing away on my 2014 MacBook 13 Air that Apple stopped updating earlier this year.

But it's still in mint condition and I installed a new battery. It's nearly a decade old and still looks like new (after all, it is aluminum). It comes with 550GB SSD, 8GB RAM, and a 1.4GHz Intel processor. Hardly top-of-the-line today, but more than enough to run most Linux variants.

Oh, forgot to mention that I paid a whopping $200 for it (plus another $50 for the battery, which I installed). Give or take, $999 off original retail.

So, why should I pay $1,000+ for a new MacBook when the old one is still humming along just fine?

Mainly because this guy isn't stupid enough to pay a grand for a laptop. Also, I didn't want to risk

virus or malware exposure, and my version of OS-X was getting a bit slow, so I opted for a radical, and possibly dangerous (as in bricking my laptop) procedure of installing Linux over OS-X.

Before we start, you must make sure your MacBook or iMac is capable (yes, even the desktops can be converted):
• Pre-2020 with Intel processors. This includes nearly every Apple computer made from 2006 to 2020. After 2020, Apple went with the M1 chip with stronger security parameters.
• Avoid the pre-Intel varieties. If it has a polycarbonate casing, it's probably pre-Intel.
• Must have a capable hard drive, preferably SSD. Hybrids and standard HDD may work, but they'll be somewhat slower.
• Working WiFi adapter/card.
• USB port. It can be USB-C. Don't use a connected hub, that's begging for problems.
• If the screen is bad, there is nothing any version of Linux will do to help.

Now comes the question, how do you go about doing this?

Fortunately, it's not as

cumbersome or complicated as it may seem.

UNETBOOTIN

First, download UNetbootin, a nifty little program found at https://unetbootin.github.io/ or https://unetbootin.org/ (the former is a much better site).

Second, plug a flash drive of at least 8GB into your USB or USB-C port on your laptop (or desktop). Don't get all fancy and attempt to do this on a mini SD card. For whatever reason, some SD cards, especially micros, just don't get recognized.

And please make sure it's empty! Don't want to lose those pics or docs you've been packing away since 2005, do we? Don't lie, you've got a box of flash and SD drives sitting around (and possibly a few old spinning hard drives) and have no clue what's on them.

Third, download your favorite version of Linux. For me, it's Ubuntu or Linux Mint. You can download through UNetbootin or go directly to the developer's website. Whichever way you go, it's a nearly 3GB download. Be patient.

By the way, go for the 64-bit version of whatever you choose – MacBook architecture doesn't play well, if at all, with 32-bit variants.

Finally, tell UNetbootin where to find your disk image, enter the type drive you want it sent to (UNetbootin defaults to USB drive as you see above). Don't worry if the Drive drop-down doesn't work, it's just funny that way.

Word of warning here! Have just one flash drive inserted at a time. Remove all others because UNetbootin might just pick the wrong one! This includes SD cards!

Then do the following:
• Once you're assured UNetbootin has done the job (it'll tell you), unmount the flash drive and shut off your MacBook.
• Plug the flash drive back in, turn on the power and hold down the Option key when you hear the Apple bong.
• Release the Option key once you see the Startup Manager. If all goes well, you'll see the drive you regularly boot from and the USB
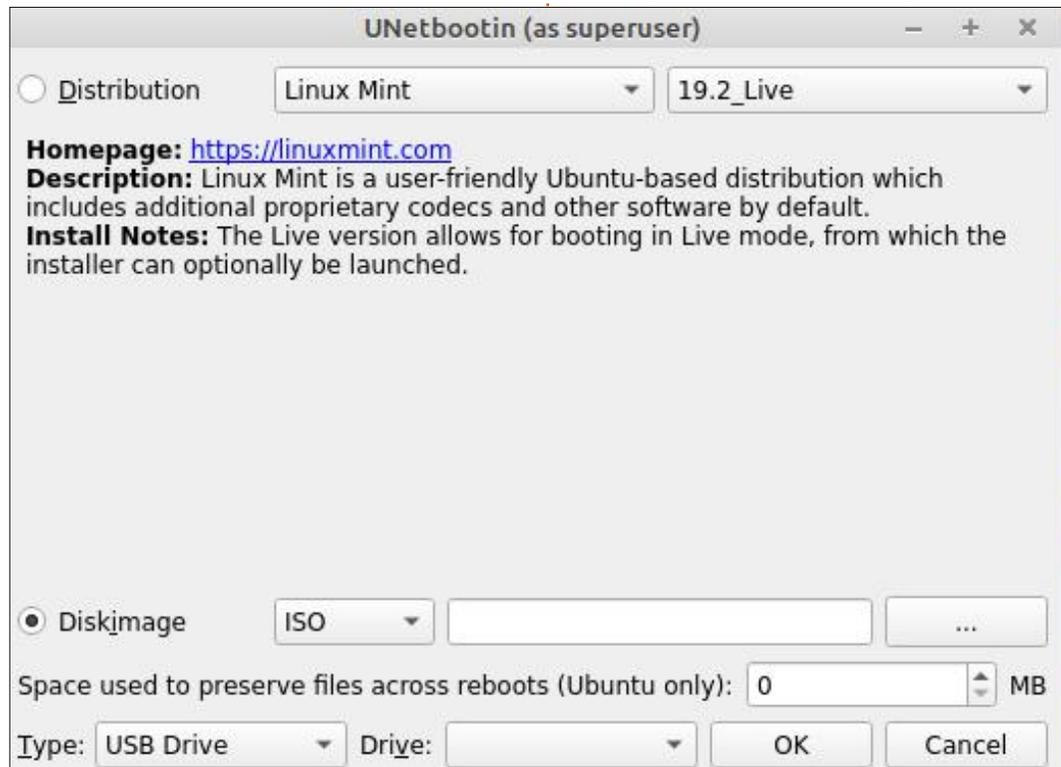
MY STORY

drive you just created.
• Click on the USB drive (use the trackpad as your Bluetooth or USB mouse might not work in this mode).

At this point you'll get the ubiquitous Linux Mint (in my case) startup menu:

You've seen this a few times, I would imagine, so you know enough to click on Start Linux Mint. Do yourself a favor and ignore the rest.

And, if you must know, "OEM install…" is a procedure during which a temporary password is given for the installer. The new owner of the machine will then set their password.

If all goes well, and it should, you'll soon have a working version of Linux Mint on your MacBook.

Happy, right?

Not yet. You'll notice the WiFi doesn't work. Bummer.

Before you start swearing at me, go to your menu, click on Control Center, and then go to Hardware, Administration, and then Driver Manager (or just type Hardware Manager into the search function at the menu).

Once you click on Driver Manager, it'll take a few seconds to tell you that your MacBook needs the Broadcom 802.11ac Wireless Adapter. Click on it and you're golden.

If you're wondering why it isn't

installed from the get-go, it's because that driver is proprietary. You have to ask first..

At this point you should notice almost everything else works on your MacBook. Backlighted keyboard – check. Sound – check. Keyboard – yep. USB and SD card slots – yes and yes. Function keys – 99%. Bluetooth – yep. Webcam – fat chance.

Oops. The webcam doesn't work. Not a flutter or flicker anywhere.
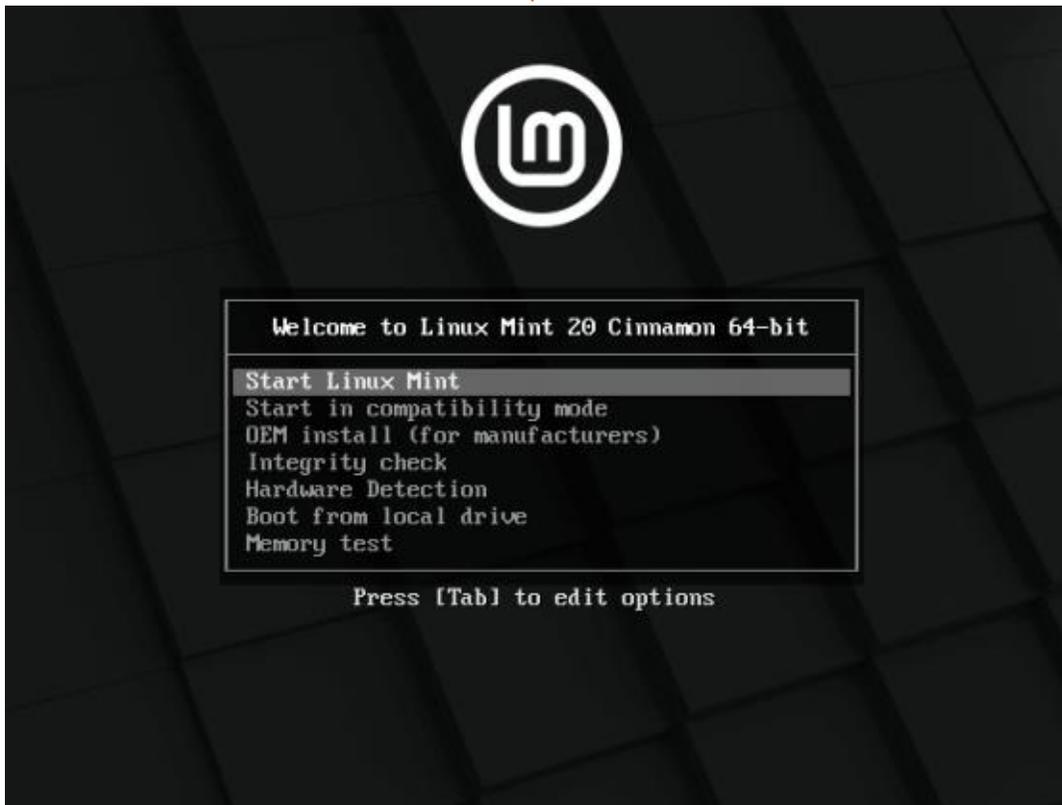
As much as I'd like to say there's an easy code fix, there really isn't. Nearly everything I've tried that's been recommended has either failed or ended up a disaster.

Cheap USB webcam to the rescue!

By now you're either satisfied or disappointed, hopefully the former.

If you want to go through with the conversion, you know the desktop box to click for installation. Within 20 to 30 minutes or so you should have a MacUbuntu or a MacMint.

And for you Linux historians, I once used PearOS on a MacBook. Around 2013 or so, this was a Linux variant with a desktop and menu that looked a lot like Apple OS-X. They even went as far as using a pear with a bite taken out of it instead of an apple. It went kaput for unknown reasons although I can venture a guess.

History aside, there are a few things to remember:
• Having second thoughts and want OS-X back? Pay a visit to Ebay and you'll find quite a few listings for bootable USB drives with OS-X included. This also works if you want to sell the unit in the future.
• Battery life will suffer. Plan on losing about an hour or so. I went from roughly 6 hours on a full charge with OS-X down to roughly 5 hours although, oddly enough, it seems to be improving.
• Worried about losing iCloud? No problem, just go to www.icloud.com and sign in. Everything will be there, believe me. In fact, you'll find the complete Apple office suite there, too.
• Hibernation and wake work just fine. This was an issue in the past, but not so much anymore.
• Sorry, no more pinch or zoom on the trackpad. It still works, but there's no gee-whiz finger movements to wow your friends with. There is a workaround called TouchEgg but it's a bit complicated for most. Use a mouse instead.
• As for printers, that might be a mixed bag. My 20 year-old laser printer that operates off WiFi works just fine using the CUPS printer server; however, my new thermal printer that operates off of Bluetooth won't work. In fact, it won't work off USB, either. Linux recognizes it, but the driver (in my case) may be proprietary. There are workarounds, but you'll have to work to implement them.

Finally, here are distinct advantages you should notice:
• Crowded drive space with OS-X? Not with Ubuntu or Linux Mint. I still have 499 GB space left on my 550 GB SSD and that's after installing a boatload of programs from the Software Manager.
• Boot time was routinely 45 seconds with OS-X from the time I pushed the power button until I had a usable desktop. Now it's 15 seconds.
• Updates are manageable and come every couple days or so. Unlike Windows or OS-X, though, the updates are smaller and seem to load faster. No more OS lockups.
• You now have a laptop you got on the cheap while everybody will think you dropped a mint on an Apple product. Thing is, most MacBook Airs from 2008 to today look similar and your average user can't tell one from another. That aluminum body hides age well.

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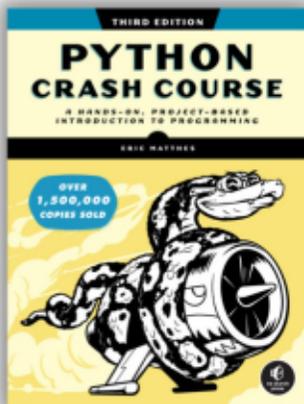
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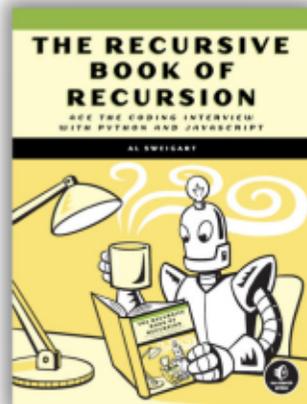
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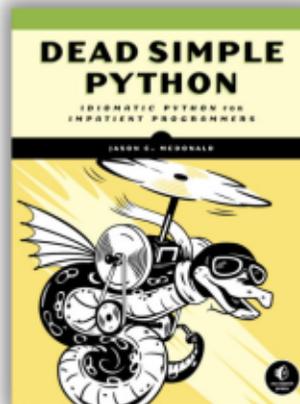
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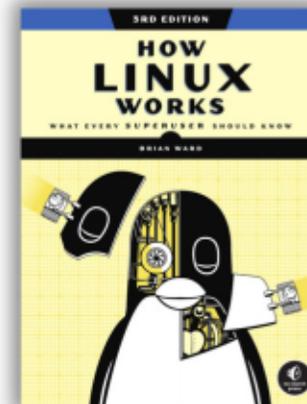
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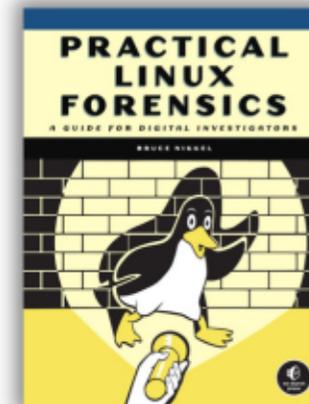
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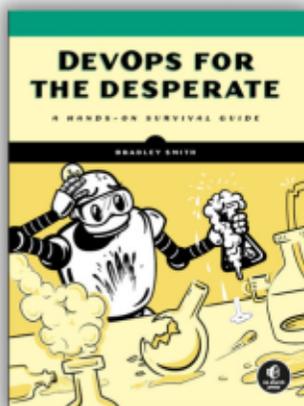
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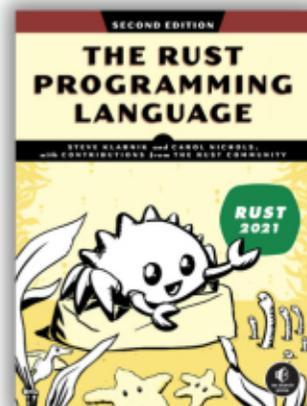
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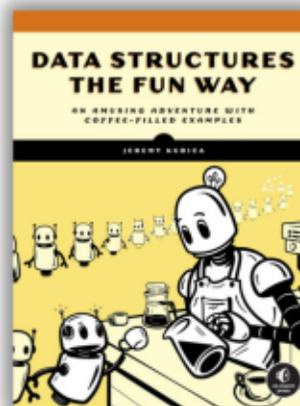
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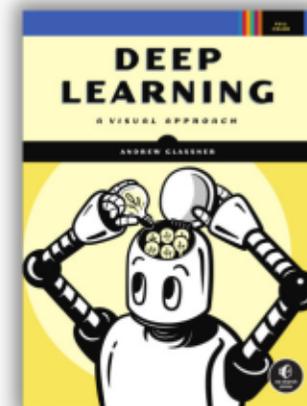
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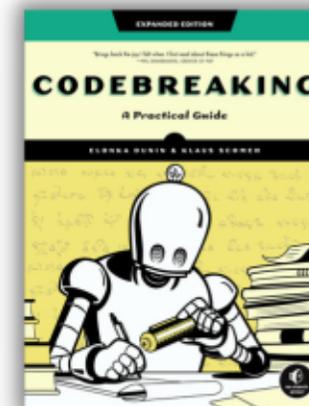
Codebreaking
9781718502727
$29.99 PB | 488 pages

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 800 pixels, and use low compression.

• Do <u>not</u> use tables or any type of **bold** or *italic* formatting.

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

Xubuntu 23.10 came out on 12 October, 2023. This release marks the third and final interim release for this development cycle. Next out should be the long term support version (LTS), Xubuntu 24.04 LTS, expected in April, 2024.

As an interim release, 23.10 is supported for only nine months, until July, 2024.

This entire Xubuntu development cycle of three interim releases has introduced only a few small changes. That all points to April's expected LTS version being not dramatically different from the last LTS version, 22.04 LTS.

I think that there is a good argument to be made that this developer approach is actually a really sound one. After all, most Xubuntu users are pretty dedicated to this Linux distribution, and like the way it looks and works. I am not hearing many calls for changes, just for some small tweaks and bug fixes and that is what developers are delivering.

INSTALLATION

I downloaded the Xubuntu 23.10 ISO file from the official source via BitTorrent, using Transmission. Once it had arrived, I ran a command-line SHA256 sum check on the file to make sure it was not corrupted.

This release download is 3.2 GB, just slightly bigger than the last one at 3.0 GB. Even though Xubuntu has grown in size from 2.3 GB at the last LTS, it has not put on as much weight as mainstream Ubuntu which is 5.2 GB in its 23.10 version!

It is worth noting that a separate Xubuntu 23.10 Minimal download is also available. Formerly called "Xubuntu Core", this provides only the desktop and a few key components. It's ideal for users who like to add what they need, and not spend as much time removing what they don't need. At just 1.7 GB, this version is only 57% the size of the full version. Similarly, a minimal version is now the Ubuntu "default installation", with the "full installation" as an option. I think it is a good

endorsement of the philosophy.

SYSTEM REQUIREMENTS

The recommended system requirements for Xubuntu 23.10 have not changed since 21.04 and are:
1.5 GHz dual-core processor
2 GB RAM
20 GB of drive space

That 2 GB of RAM will probably quickly be used up by Firefox all by itself, with only a few tabs open, 8 GB of RAM is probably a more realistic minimum for good performance these days. Remember, more RAM always makes life better!

NEW

This Xubuntu release uses the Xfce 4.18 desktop, plus some applications from GNOME 45 and Mate 1.26. The desktop itself brings a few minor fixes and upgrades.

The Linux kernel included is version 6.5 and the initialization
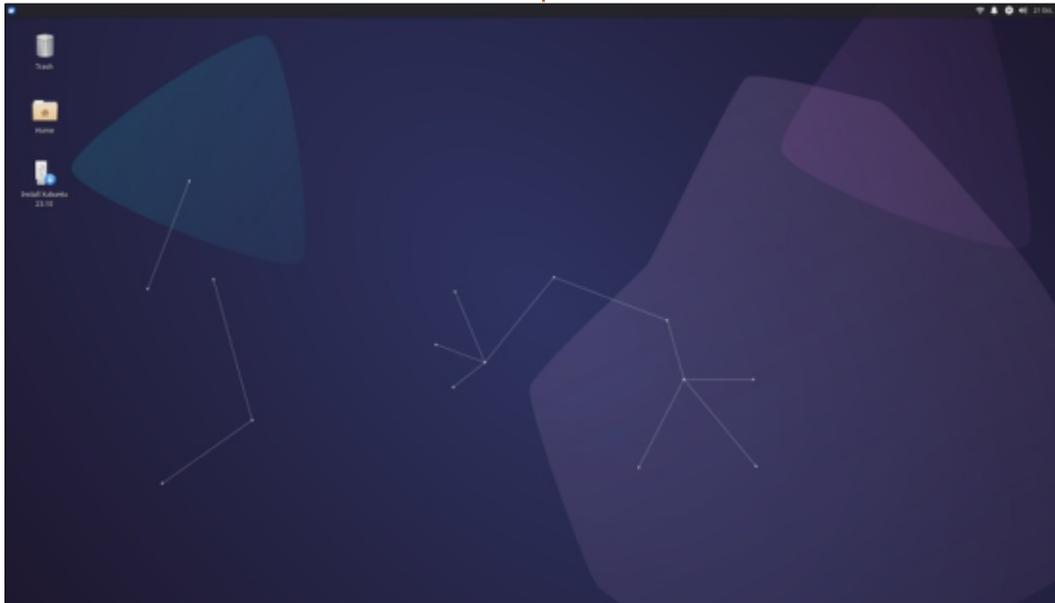
system is Systemd 253.5.

In 23.10, the PipeWire audio controller with libspa-0.2-bluetooth improves support for Bluetooth headphones. Touchpads, including the second-generation Apple Magic Trackpad, are better supported due to the removal of xserver-xorg-input-synaptics.

Xubuntu 23.10 includes a new color emoji picker that interfaces with most recent GTK-based composition applications including the Firefox web browser, Thunderbird email, and the MousePad text editor. By just hitting "Ctrl+." (that is Ctrl plus the period key), users can quickly access a wide range of emojis to add to text. I am sure this will make some people's lives much better.

Other improvements include improved integration and stability for the screensaver, updated library files making the desktop more responsive and stable, and the default Xubuntu image viewer, Ristretto, now includes printing capabilities. The screenshot tool Xfce4 Screenshooter adds support for the AVIF and JPEG XL image formats.

SETTINGS

Xubuntu 23.10 still uses Greybird as the default window color scheme, although it is the newly updated version 3.23.3. There continue to be six window themes provided in the Appearance manager: Adwaita, Adwaita-dark, Greybird, Greybird-dark, High Contrast, and Numix. The separate Window Manager also has 11 window themes: Daloa, Default-hdpi, Default-xhdpi, Greybird, Greybird-accessibility, Greybird-compact, Greybird-dark, Greybird-dark-accessibility, Kokodi, Moheli, and Numix. Oddly, some of the themes with the same names in two different places are the same, and some are quite different. There is also a choice of eight icon themes, the same as in the last release, with Elementary Xfce Darker as the default.

The new Xubuntu 23.10 release wallpaper is a modernist-style abstract design, but that sure looks like a guitar pick to me! If you don't like the default wallpaper, there are 11 other wallpapers included. As a new feature, all the old main release wallpapers right back to Xubuntu 6.06 are now available in repository packages for installation as well, in case you have a long lost, nostalgic favorite that you miss. Even though this release's code name is "Mantic Minotaur", there are no Minotaur-themed wallpapers, unlike in most other Ubuntu flavors.

Almost ten years ago, Xubuntu 14.04 LTS introduced the Whisker Menu as the default Xubuntu menu
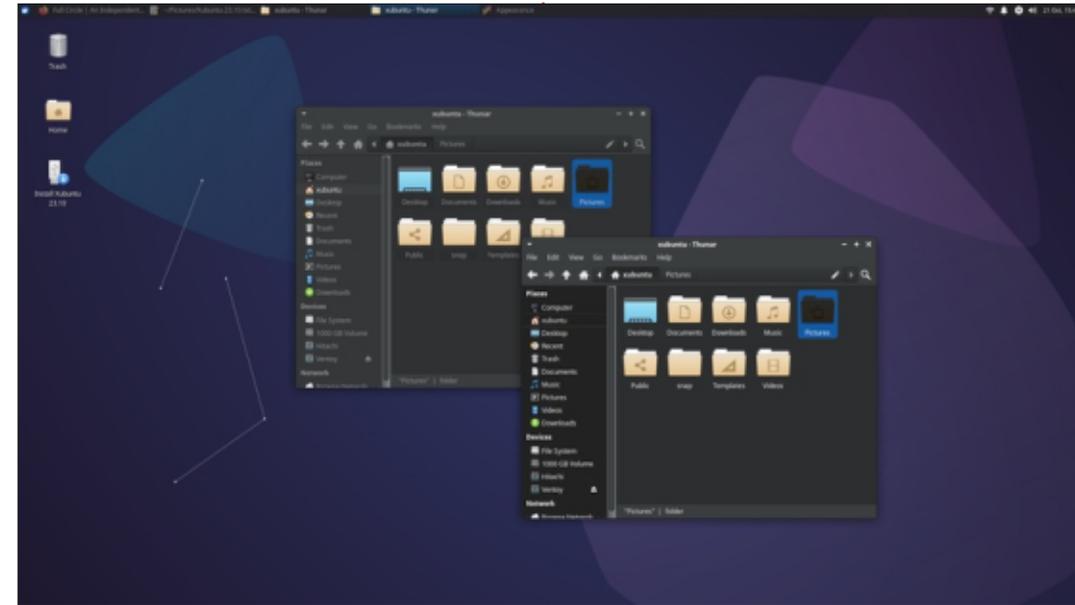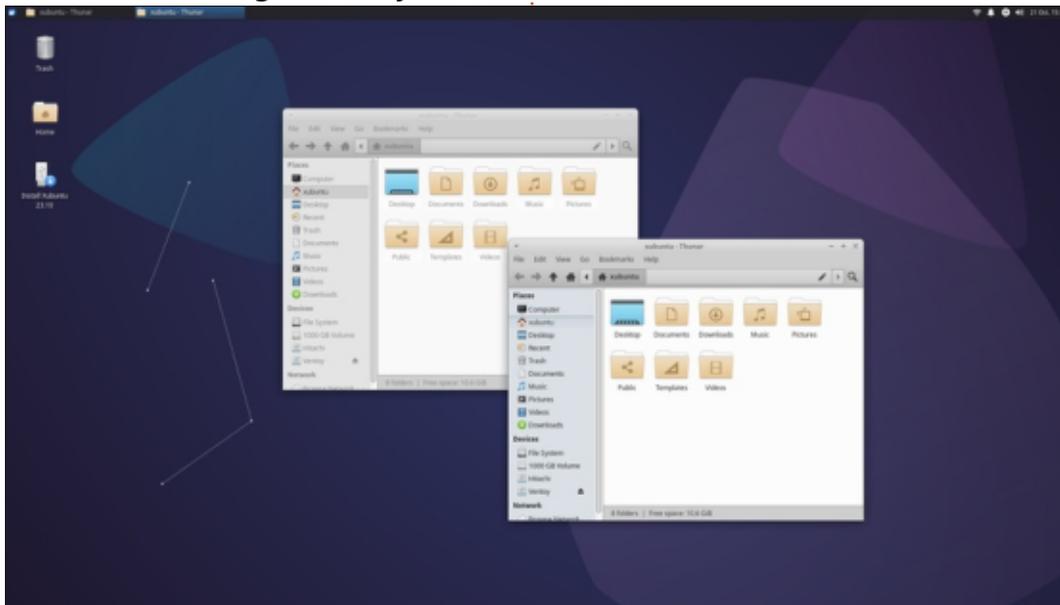
system (before that it had been a popular add-on extra). Whisker is still with us and is the main feature that makes Xubuntu distinctive from the other Ubuntu flavors.

APPLICATIONS

Some of the applications included with Xubuntu 23.10 are:
Atril 1.26.0 PDF viewer*
CUPS 2.4.6 printing system
Catfish 4.16.4 desktop search*
Document Scanner 44.0 (simple-scan) scanning utility*
Firefox 118.0.1 web browser**
GIMP 2.10.34 graphics editor*
Gnome Disk Utility 45.0disk space and health monitor
Gnome Disk Usage Analyzer 45.0

(baobab) disk display
Gnome Software 45.0 package management system
Gparted 1.5.0 partition editor
Hexchat 2.16.1 IRC client*
LibreOffice 7.6.2 office suite
Mousepad 0.6.1 text editor
Parole 4.18.0 media player*
Pipewire 0.3.79 audio controller
Ristretto 0.13.1 image viewer
Rhythmbox 3.4.7 music player
Software Updater 23.10.1 (update-manager) software update manager
Synaptic 0.91.3 package management system*
Thunar 4.18.7 file manager
Thunderbird 115.3.1 email client
Transmission 4.0.2 BitTorrent client
Wget 1.21.3 command line webpage downloader*

Xfburn 0.7.0 CD/DVD burner
Xfce4 Panel 4.18.4 desktop panel
Xfce4 Power Manager 4.18.2 system power manager
Xfce4 Screenshooter 1.10.4 screenshot tool

* indicates same application version as used in Xubuntu 23.04
** supplied as a snap, so version depends on the upstream package manager

There have been no changes to the default list of applications included in this release, just newer versions of some applications supplied, with improved capabilities or at least bug fixes.

Xubuntu 23.10 includes

LibreOffice 7.6.2 which is, as usual, complete except for LibreOffice Base, the database application. It is probably the least-used component and can easily be added, if desired.

As in recent Xubuntu releases, there is no default webcam or video editing application although there are several of each in the repositories that can be installed. Xubuntu is unique in the Ubuntu family in providing the GIMP image editor in the default installation.

Otherwise, the list of default applications included is very complete and comes with almost everything that any new Linux desktop user could ask for. More experienced users can opt for the
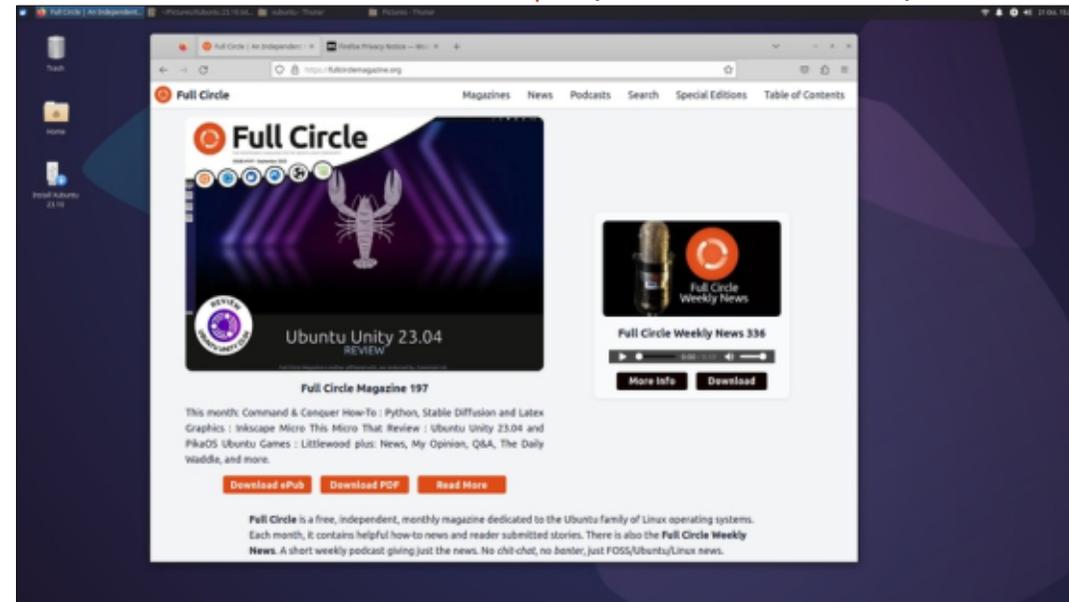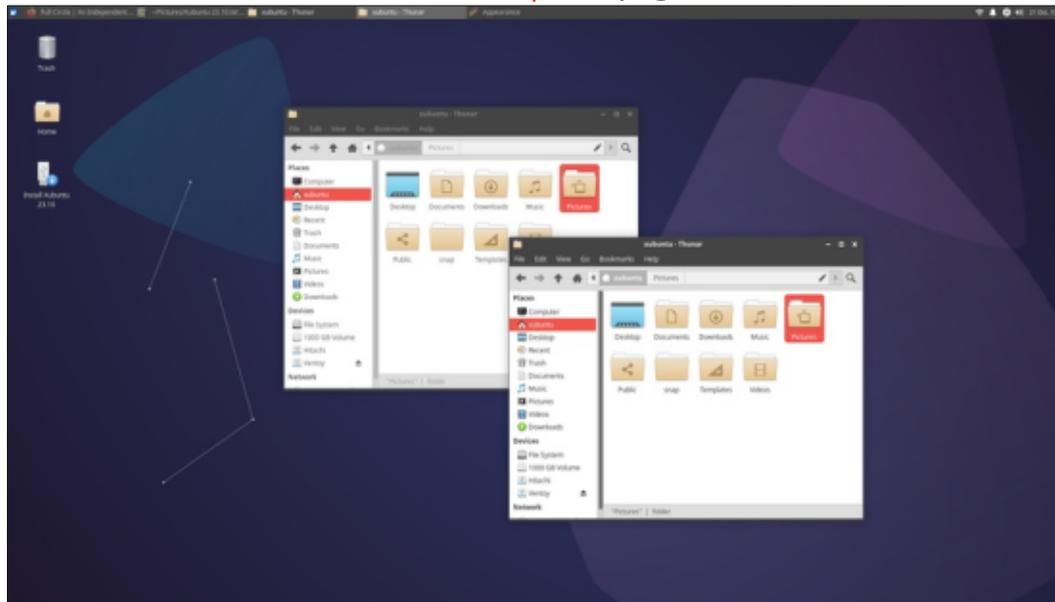
REVIEW

Xubuntu Minimal installation instead and then just add needed applications rather than deal with the menu clutter of unwanted items.

CONCLUSIONS

While a basically flawless release, Xubuntu 23.10 brings only a few minor improvements over the last one. Some users may decide to upgrade to get support for newer hardware, the improved Bluetooth headphone support, or for the emoji access advantage, but I suspect most will wait for the next LTS release, Xubuntu 24.04 LTS, expected out in April, 2024.

EXTERNAL LINKS

Official website:
https://xubuntu.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.
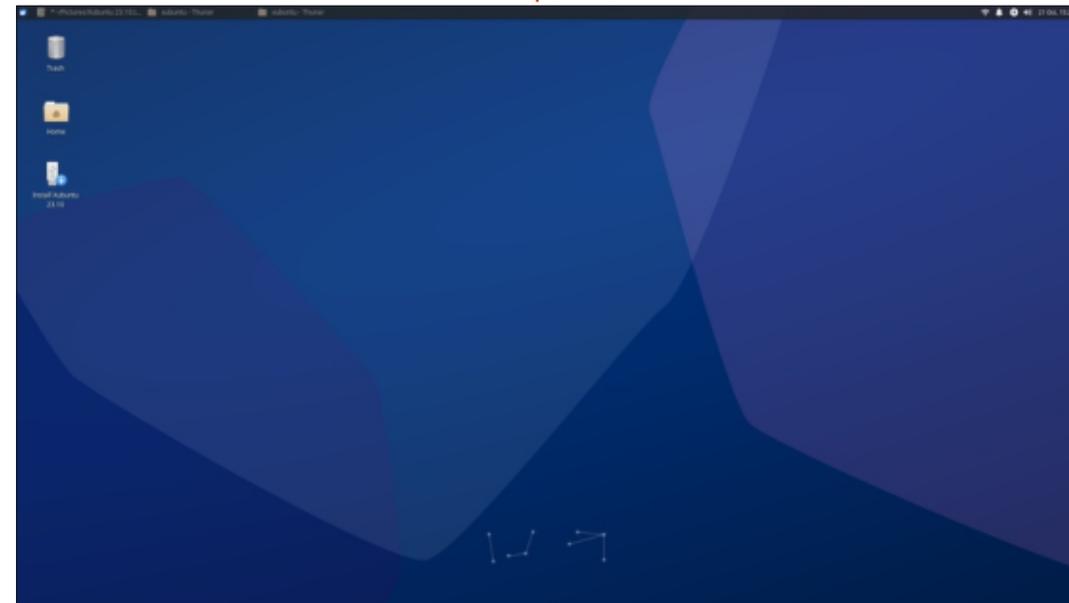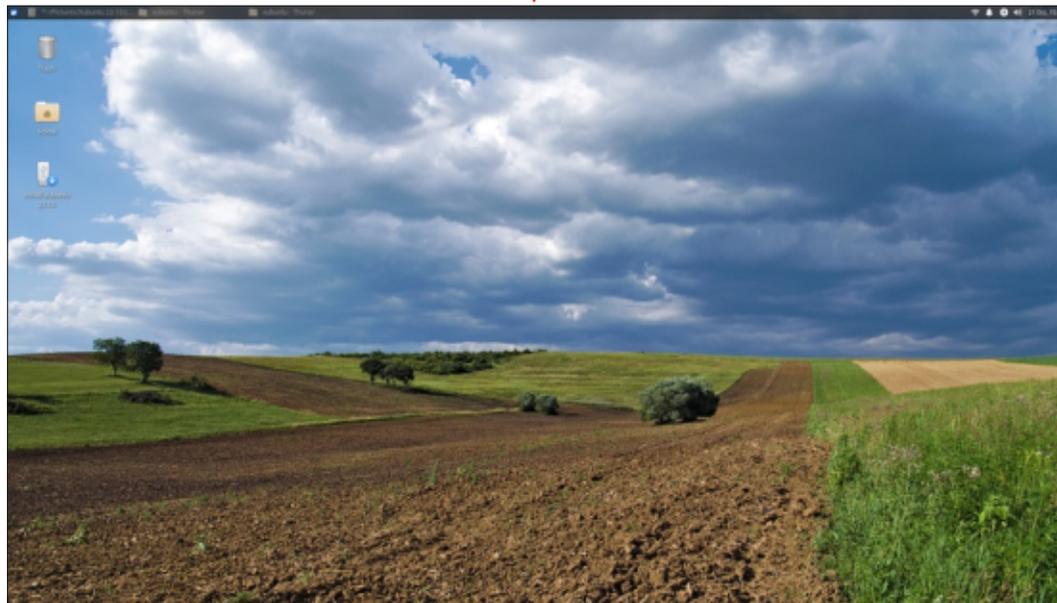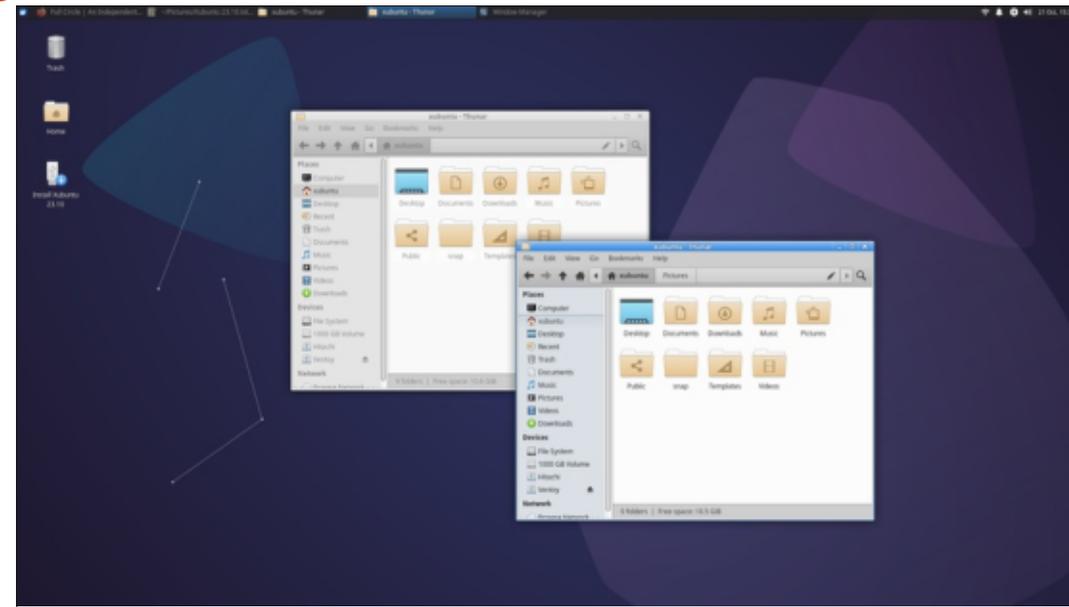
In 2021, two anonymous Spanish IT students decided to create a new derivative of Ubuntu as a class project. They used a tool called Cubic (Custom Ubuntu ISO Creator), which is a graphical interface wizard that allows the easy creation of customized live ISO images, based on any Ubuntu or Debian-based distribution. Their result, which they call UwUntu, has now had two releases.

BACKGROUND

With UwUntu, the intention was to create a custom Linux distribution that was as "weaboo" as possible. Weaboo refers to a western person who is obsessed with Japanese culture, especially anime. In times past, the term weaboo was used as an insult but, as is the case with many of these terms, it has now been appropriated by the people it was supposed to insult and they use it to identify themselves. The developers bill UwUntu as "The Best WeaboOS".

The developers wrote: "*We really did this as a school project on our free time, cause we wanted to create an OS that was to our exact liking, but then we invested more and more time in the project like, built the website, released the OS on the internet just to see if people liked it, etc, and as it was a good name to play with, we were lucky enough to find people who liked it.*"

It is worth noting that there have been other endeavors in this same field, including Moebuntu, which is a package of modifications and customizations that can be made to stock Ubuntu to make it "moe-moe", which is an affection for anime and manga characters. It results in Ubuntu with a very pink, anime-driven, theme.

The first release of UwUntu was 21.05, "Mochi Mango", which was based on the Ubuntu 20.04 LTS using Ubuntu's modified GNOME desktop. The second and current release is UwUntu 22.10, "Leo Dango", out on 22 October, 2022, and is based on Ubuntu Budgie 22.04 LTS. In the time since then, there have been no more releases and it is not clear if there will be any more. The official website notes over 63,000 downloads, but of course that does not equate to the number of people actually using it.

The distribution is not covered on DistroWatch or Wikipedia, nor have there been any reviews, so I thought it might be worth a look.

GETTING UWUNTU

The official website directs you to three external sites to get the current UwUntu ISO file. These are all free hosting sites: MediaFire, Mega.nz, and Google Drive. Yes, Google Drive. Obviously this is one way to save money on hosting large ISO files and this one is 5.0 GB to download.

I actually did download it via HTTPS from Google Drive, and that worked fine. Both MD5 and SHA256 sums are provided which allows a quick command-line check to confirm that the download is received intact.

I did not install the ISO, but ran it from a USB drive equipped with
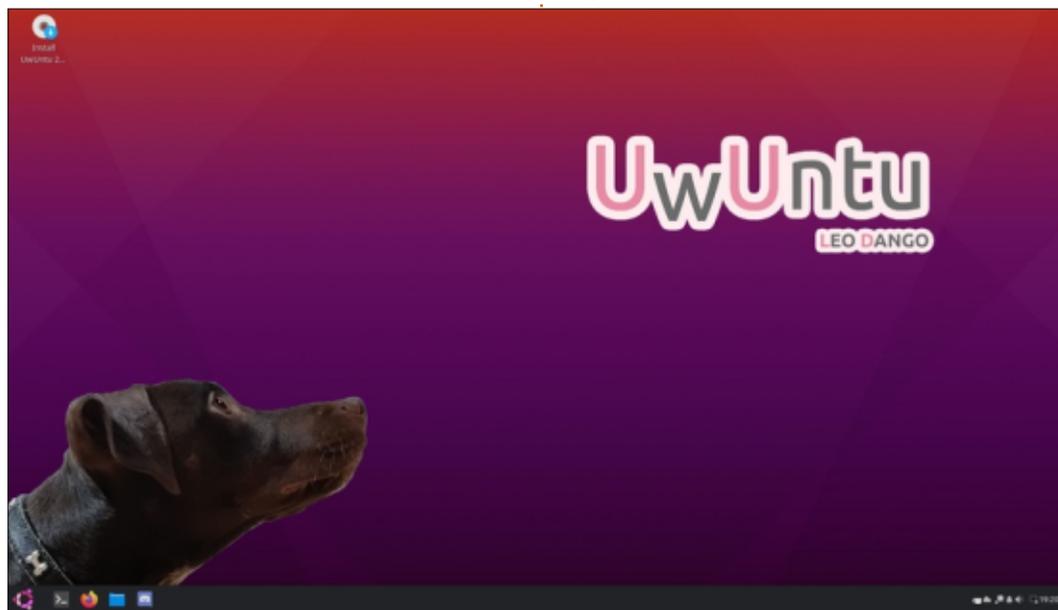
Ventoy 1.0.96. UwUntu is not listed as being supported by Ventoy, but Ubuntu Budgie is and UwUntu 20.10 booted fine.

SYSTEM REQUIREMENTS

The recommended system requirements for UwUntu 22.10 are:
4GB or more of RAM
64-bit capable Intel and AMD processors
UEFI PCs booting in CSM mode
Modern Intel-based Apple Macs
60 GB of free hard drive space
Internet access is helpful

TRYING OUT UWUNTU
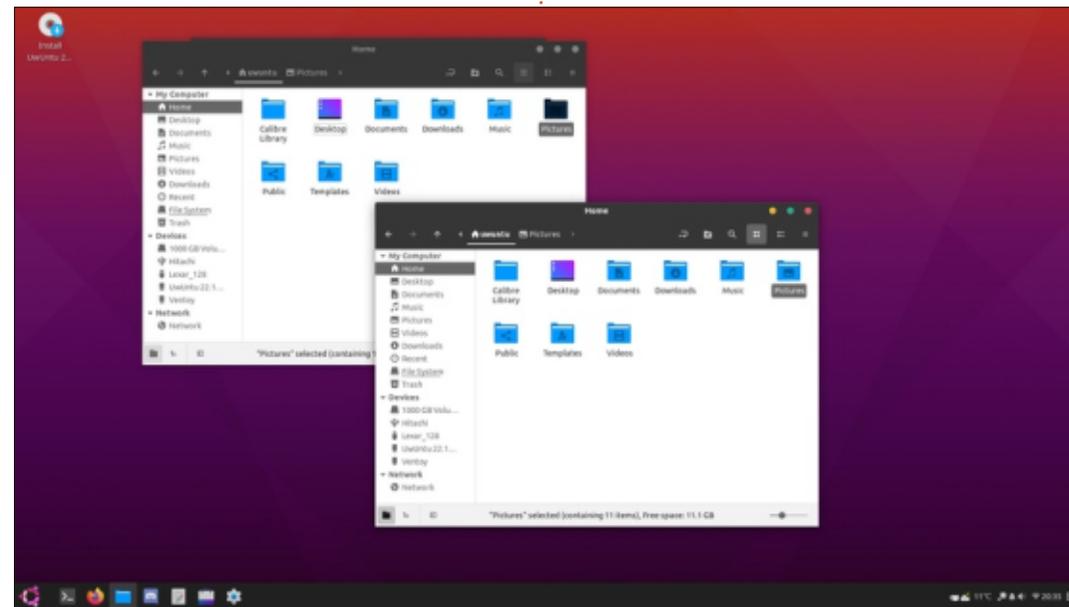
Booting up UwUntu brings you to a pretty stock Ubuntu Budgie desktop, and a wallpaper with a dog on it. There is no immediate sign of anything Japanese, which was a bit of a surprise given its weaboo pretensions.

Looking through the menus, and trying out what is there, shows a distribution with a bit of an emphasis on gaming and ebooks, which is not surprising. As a general-use Linux distribution, it works well and even includes a few settings improvements.

SETTINGS

Checking the list of UwUntu 22.10 alternate wallpapers does show some photographs of Japanese landscapes including Mount Fuji, plus some Japanese theater masks. When one forum participant asked why there was no actual anime artwork included, one of the developers indicated that there were copyright issues for the public releases. It did sound like the first private test versions had more weaboo content, though. A number of commenters did point out sources for copyright-free anime illustrations from AI and other sources, but these seem to not have been incorporated, at least in the two releases so far.

Also included is a cat-themed wallpaper from the previous UwUntu release, and even a spoof of "Bliss", the Microsoft XP wallpaper, which at least shows that the developers have a sense of humor. Of the 16 included wallpapers, three are UwUntu themes and 12 are Japanese themed, plus the Windows parody one.

Compared to stock Ubuntu Budgie, UwUntu 22.10 also has an expanded range of 22 window color themes, with Vimix-dark-beryl, a dark theme, as the default. There are some nice light themes available too, like Vimix or Vimix-ruby. Also included are 12 icon sets and four cursor styles, which adds up to a wide range of user choices.

APPLICATIONS

Some of the applications included with UwUntu 22.10 are:

Archive Manager (File Roller) 3.42.0 archiver
Calibre 5.37.0 ebook editor and viewer
Celluloid 0.20 movie player
Cheese 41.1 webcam application
CUPS 2.4.1 printing system
Discord 0.0.20 messaging voice and video client*
Document Scanner (Simple Scan) 42.0 optical scanner
Document Viewer (Evince) 42.1 PDF viewer
Drawing 0.8.5 image editor
Firefox 106.0 web browser**
Gnome Calendar 41.2 desktop calendar
Gnome Disks 42.0 disk manager
Gnome Screenshot 41.0 screenshot tool
Gnome Software 41.5 package management system
gThumb 3.12.0 image viewer
ImageMagick 6.9.11.60 image editor
Kitty 0.21.2 terminal emulator
LibreOffice 7.3.6 office suite
Nemo 5.2.4 file manager
PulseAudio 15.99.1 audio controller
Rhythmbox 3.4.4 music player
Spotify audio streaming client*
Steam 1.0.0.75 gaming platform
Text Editor (gedit) 41.0 text editor
Tilix 1.9.4 terminal emulator
VLC media player

* indicates proprietary software

** supplied as a flatpak, so version depends on the upstream package manager

There are a few unexpected packages here, including two proprietary ones, the Discord messaging voice and video client, and the Spotify audio streaming client. While practical, this will not thrill free software advocates.

Also notable is the free software Steam gaming platform package included by default, as this is one of the best ways to get gaming on Linux. It is worth adding that while the client itself is free software, most of the games available are proprietary.

Unlike all the official flavors of Ubuntu, UwUntu 22.10 provides Firefox as a flatpak instead of as a snap package. In testing, it works well.

UwUntu 22.10 includes the LibreOffice 7.3.6 office suite. Like the official Ubuntu flavors, it is supplied complete, except for the LibreOffice Base database program. It is probably the least-used part of LibreOffice and can be installed if needed.

CONCLUSIONS

As packaged and publicly released, UwUntu 22.10 is a bit of a curiosity. What you get is a nice

Budgie desktop distribution that works well and comes with a good selection of software. What it falls short on is its aim, as stated by one of the developers, "we wanted this distribution to be as weaboo as possible". In that vein, all it offers are a dozen rather generic Japanese wallpapers. As Aristotle noted, "one swallow does not a summer make" and he could have added "a handful of Japanese wallpapers does not a weaboo Linux distribution make."

In the end, you are left with a quite serviceable desktop distribution, but it really does not offer much more than the stock version of Ubuntu Budgie already provides.

One unanswered question is, will UwUntu continue? With only two releases, will there be a third one? Time will tell if there is a user base and developer commitment, or whether it was just a school project that did not survive graduation.

EXTERNAL LINKS

Official website:
https://uwuntuos.site/

Moebuntu:
https://moebuntu.web.fc2.com/home_eng.html
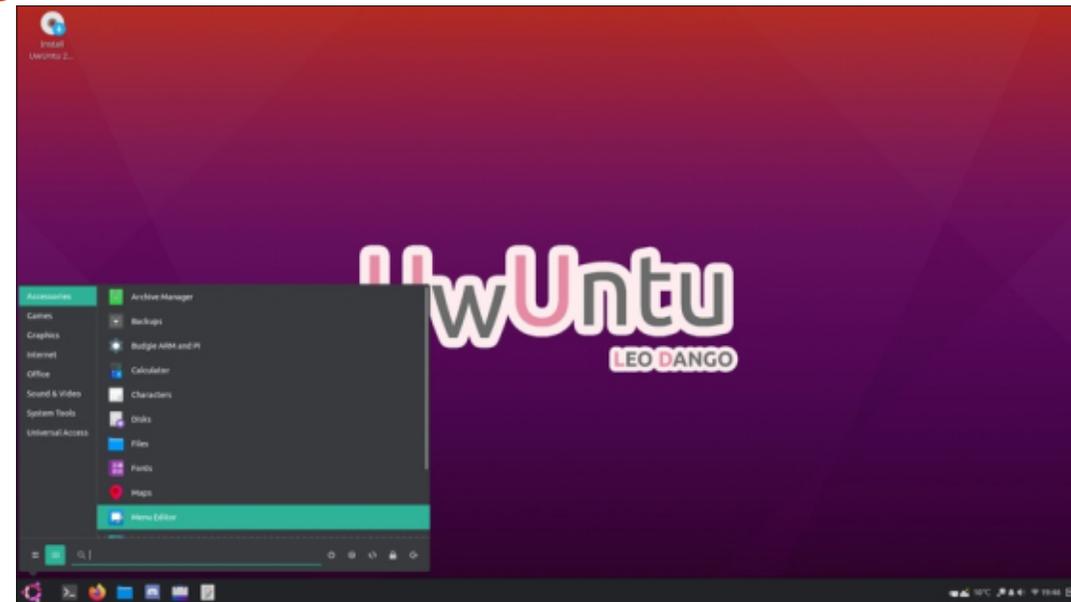
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See the article **Writing for Full Circle** in this issue to read our basic guidelines.

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 is such a lot, and I do them, first-come-first-served.

So when I was eight, I figured out that anything times five is half that number and you move the decimal point or add a zero. This was great, it was my lightbulb moment. From there on, I tried to find patterns in maths to make my life easier. Looking back now, hindsight being 20/20 and all, I realise some of them were really convoluted, but it helped me do maths in my head. This all went well until I changed schools. Suddenly I had a maths teacher, who instead of encouraging us, would beat you.

There would be a problem and I would do it in my head and have the solution before he started to explain. Again, hindsight being 20/20 – I may have come off as a know-it-all, but I honestly just loved maths. I would have my way of getting to the answer, which was not the curriculum way and he would constantly cane you for not using the curriculum way. This all came to an abrupt end one day, when he threw me with a dictionary and broke my nose for blurting out an answer to something I had figured out previously. I cut maths and school out of my life from that day forward. I realise I cut my nose to spite my face, but I want to say to you, that if you ask for help on a forum and your post gets closed for no reason, or you get shot down, don't take it personally. Try again or try another forum. Just do not ask in a non-related forum!! Don't do what I did, I still love maths, I just wish I had said, bugger you chap and continued. There will always be someone who also struggled and will be willing to help you. You just need to persevere. Ask on your favourite blog site, or Linux site, if they block you from asking questions at a site. Don't give up on Linux because some idiot on forum x said you must go learn to ask questions, and locked the thread.

_____

Q : I'm not sure how to say this, but my Ubuntu does not shut down all the way. It seems to have stopped, but I see the terminal prompt. I can't do anything but push the power button for it to shut down. It goes off if I hold down the power button, but I don't want to corrupt my machine. I had no issues with previous versions of Ubuntu?

A : What is the output of:

```
journalctl -r -b -1
```

It should give you some insights as to what is happening. Also be sure to keep Ubuntu up to date.

Q : I've now switched to Ubuntu permanently, but I keep running into problems. I want to play Skyrim and followed the tutorial here- https://www.youtube.com/watch?v=NOsF29ybsTo, it is not working and I don't know how to troubleshoot it or fix it. Can you help me? Skyrim is Special Edition on steam and my Ubuntu is 22.04 and everything is updated. My PC is i5 3.4GHz and my GFX is Nvidia 1050Ti and my RAM is 16GB.

A : Don't use outdated tutorials. I just tested it for you and I set Proton version 8.0.4 as my version on Steam and it works out of the box without needing to faff with other stuff. The first time you launch it, it will take a while as it needs to cache all the textures, but it should be fast from there on.

Q : I got myself a USB-C memory stick as my new laptop has no USB-A/B ports any more. I was trying to transfer some files from my old Windows laptop to my new Ubuntu laptop. I can copy them on Windows, but I can't even see the drive in Ubuntu. I tried installing fuse, but it says it is already there.

Q&A

I'm at a loss on how to proceed.

A: Ubuntu does not "see" dirty partitions. You will need to fix it in Windows and do a proper eject and you should see it in Ubuntu.

Q: I'm following a tutorial and it states that I should type: python myfirstprog.py. I'm getting the following error. Command python not found, did you mean, command python3 from deb python3 command python from deb python is python3. I have no idea what it all means, I'm just following along.

A: OK, the long and the short of it is whenever you see python <program name.py> type python3 instead. You can install the package python as python3, but it may break other stuff if you are learning to program. Safest is just add the 3 to the keyword at the start.

Q: I have added a second NVME drive to my laptop. I want to format it, but I'm not sure which one it is as they are both 1TB Western digital blue. Someone tried to explain lsblk to me, but I don't speak geek. I don't want to delete my current install by mistake. How do I check to see what is what?

A: Open the disks utility and click on a drive in the left side list. On the right, you will see filesystem /partition. Click on one (the block). Below that you will see how full the drive is and the contents. This is important. The boot drive will have /boot/efi on it, and your data will say mounted at Filesystem root. This is the drive you DO NOT want to format, unless you want to lose it all. You can use the disks utility to do the formatting.

Q: I have followed the instructions on the gnome extensions website, but I can't get it to work. Actually I have no idea, I'm just trying to make my desktop more functional. This is my specs <Screenshot from 2023-09-24 07-03-36.png> <removed> This is what I have done - <Screenshot from 2023-09-24 07-06-38.png>

A: OK Gnome extensions are for Gnome only. Even if your desktop is "built on Gnome technologies" it is not Gnome. You are trying to fit 2020 Toyota headlamps into your 1989 Ford. It is not going to fit. You need to look at *your desktop environment's wiki pages to see if they have extensions for you.

Q: Every time I boot or reboot my PC, all goes well up until a point. It runs through the usual and after the splash screen the display goes black. I have the latest Nvidia driver and OS and kernel and updates. I have tried everything. I have googled for days. No idea what is going wrong.

A: Use an older Nvidia driver, 525 served me well. It may do so for you too (look towards the bottom of the driver list provided by Ubuntu drivers util).

Q: Hi there, can you help me install a theme in Firefox on my Ubuntu? I Found it here https://github.com/EliverLara/firefox-sweet-theme. I copy and paste their installation script, yet it fails. My Ubuntu version is still 20.04 and Firefox is 117. I have tried to find the XPS file in the zip I downloaded, but this one is different.

A: I had a look at that page and it specifically says it will install on Firefox v70 last, and has not been updated in a few years. I suggest grabbing it from the Firefox theme page here. If it fails for you there, you need to find another theme that you like.

Q: I have only recently switched to Ubuntu 23.04, as I was on Ubuntu Budgie 18.04 for a long time. Coming from budgie, I miss the 'open in terminal', eg, when I am in a folder and I want to do something in that folder (in terminal mode). It is one of those deal breakers for me with Gnome, if it does not have it, I will have to go back to Budgie. <removed>

A: I am sorry, I only saw this now, so your answer will only be a bit late. If you have not reverted to Budgie yet, your image shows that you have Files (aka Nautilus) in list format; that means, to get what you want, you need to either right-click in the address bar, or change your view to icon view and right-click in some empty space.

Website: https://www.ginsha.com/

Price: $10-15 USD

Blurb: "*GINSHA is a unique atmospheric 2D Sci-Fi Action Adventure Platformer, with special Gravity Shield and Dash mechanics. It combines a versatile Platformer Core with RPG, Souls and Crafting Elements to an Anomaly among Metroidvania games. Explore huge interconnected planets, filled with secrets, loot, obstacles, different enemy types and epic boss fights. (sic) Level up, equip and customize your Clone, craft companion drones, and enjoy ever evolving possibilities as you proceed to save your species.*"

Ginsha is the successor to Cryogear. If you know that game, you will know it is one of those metroid-vania's that stand out on the indie-scene. The graphics were nothing special, actually below par, but it had fans all over the world in just a few months, and that says something. If you have never heard of it, look it up and see the similarities.

If you are a fan of exploration, you will not be disappointed. Ginsha brings exploration in spades and there is no hand-holding. This is quite refreshing, as following ' way points' makes a game feel linear. When you explore, you discover, and discovery is a big part in getting your dopamine release, as there are secrets everywhere. You can go left, right, up, down, wherever, and you may discover new things like secret areas or mini-boss fights, whether you're ready or not, ramping up the tension. This is something a lot of modern AAA titles lack. The feels! I go back to playing Skyrim every few years; why? It does not hold your hand and you can go wherever you want, ready or not. If you just want to do side quests, so be it. Let me not start ragging on Fallout 76, once they took out the feels, I have no interest in playing it again. Back to Ginsha. The level design is fun to experience for yourself, you are not led there by the nose. You even need to find the secret room on the first level to set your game difficulty. How's that? There is *some guidance in the beginning, so you are not just kicked from the nest. If you are looking for a non-violent game, the game has shooting, and gun choices. I think one should expect that from the metroid-vania genre.

This is the second thing Ginsha does well. The shooting is responsive and sounds punchy. The game has the usual tropes, auto fire, shotgun charge gun, and so forth. There is another interesting mechanism in play here too, as you have a personal force field (Holtzman shield anyone?) that you can use to access otherwise dangerous places. It also allows you to fly. OK, that is a bit of a lie. You can glide or float, depending on the situation. The game feels very fluid and sometimes reminds me of the classic game Abuse (that you can still find here: http://old-releases.ubuntu.com/ubuntu/pool/universe/a/).

There is also a smidge of role-playing involved where you can improve your 'stats' as you get better. There are four categories, red, blue, purple & orange, that basically have skill trees in them.

GOM: ARE YOU OK GIN..?

THANKS GOM. I'M OK. HOW ABOUT YOU?
LET'S MOVE AND FIND OUT WHAT BROUGHT US HERE.

UBUNTU GAMES

(Well... they may mean something, but that is how I identify them, as the icons are way too small and low-res for my liking). This can make for an explorer build or a tank build or whatever, allowing for replayability. Replayability is important for modern games, because as much as I liked a game like Dredge, once the story is done, it's done. I'm not going to play it again just for the alternate ending, I'm going to load my last save game and choose the other option. Couple this touch of role-playing with large level design and secret hunting, and you have yourself some fun on a Sunday afternoon.

Honestly, for me, the only downside is the low-resolution graphics. Though the levels feel lovingly crafted with interesting backdrops and faux lighting effects, I detest faceless heroes. The symbiote, or alien on your head, is nothing more than waving red pixels, looking like a bad hair day for a ginger. This could have been such a nice twist; a game mechanism gone wasted due to the low-res sprites. The other thing is the palette. I understand that it is supposed to be an alien world, but the faded purply-wurply does not work for me.

Let us quickly talk about the sound. When you start the game, it has that tinkerbell bell and heavy distorted bass in the menu areas, creating an expectation of the music to follow. When you start the game, however, the music is different. By different, I don't mean bad, just a completely different sound from what I was expecting, given the sound mood created on the menu screens. There is a full gameplay video on YouTube - https://www.youtube.com/watch?v=_0vi8oERRHw -but you only need to watch the first ten seconds to understand what I mean here, I do not expect you to sit through hours.

The question you have is probably, how does it run on Linux? Well, great actually, on a modern machine, but what about the guy with the low-end computer? Sadly my potato laptop has sort of bit the dust, so I am unable to test that aspect for you guys. The Steam page says all you need is 4GB of RAM. At the end of the day, it is a low-res pixel art game that would probably run on a Nintendo famicom, so I doubt you would have a bad experience.

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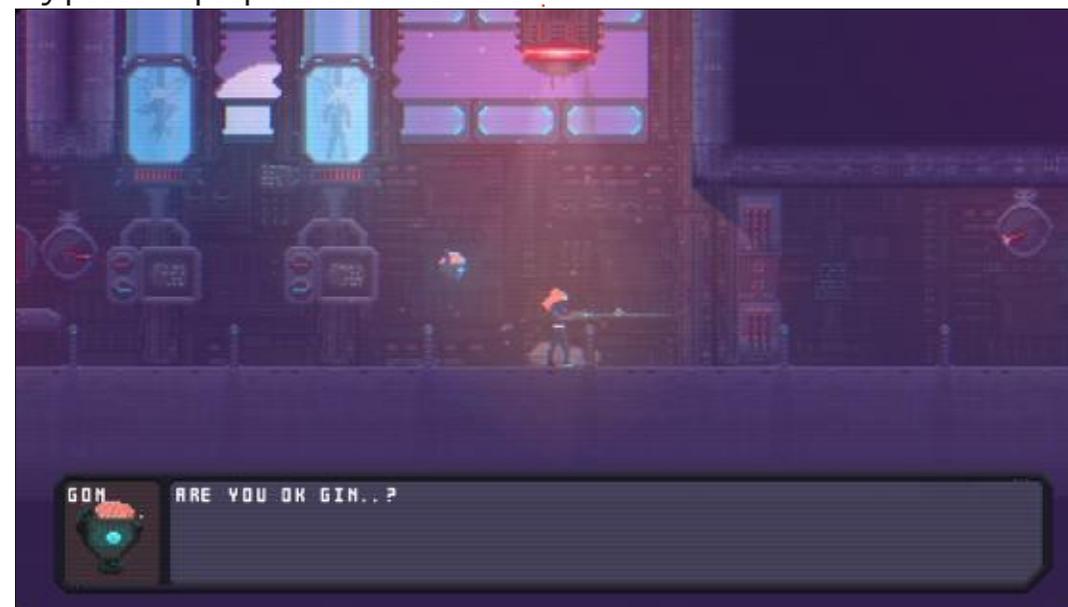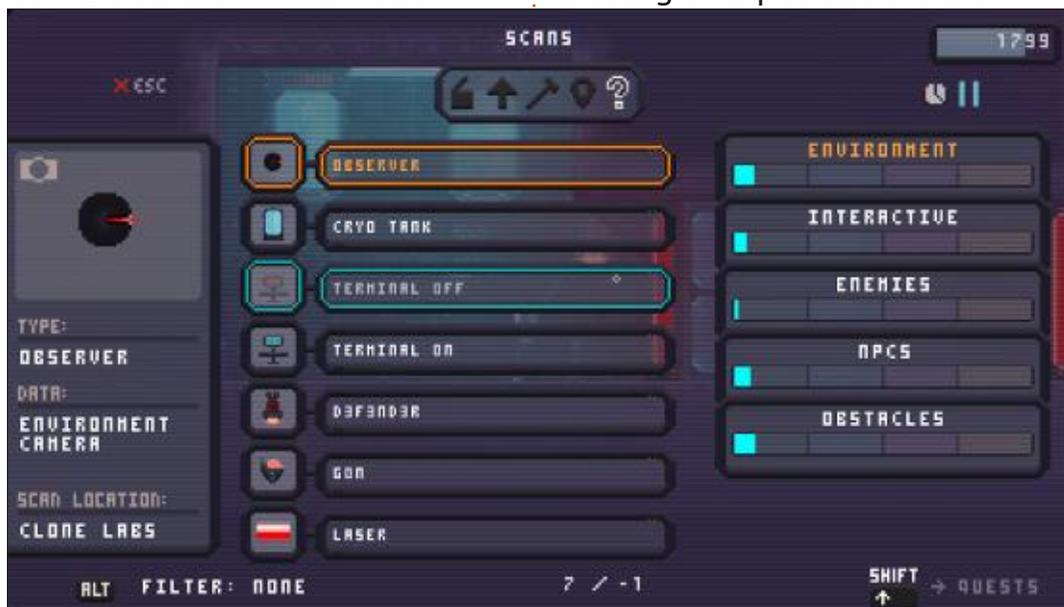
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The Patreon page is to help pay the domain and hosting fees. The money also helps with the new mailing list.

Several people have asked for a PayPal (single donation) option, so I've added a button below.

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