Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

ISSUE #183 - July 2022

REVIEW

LUBUNTU 22.04
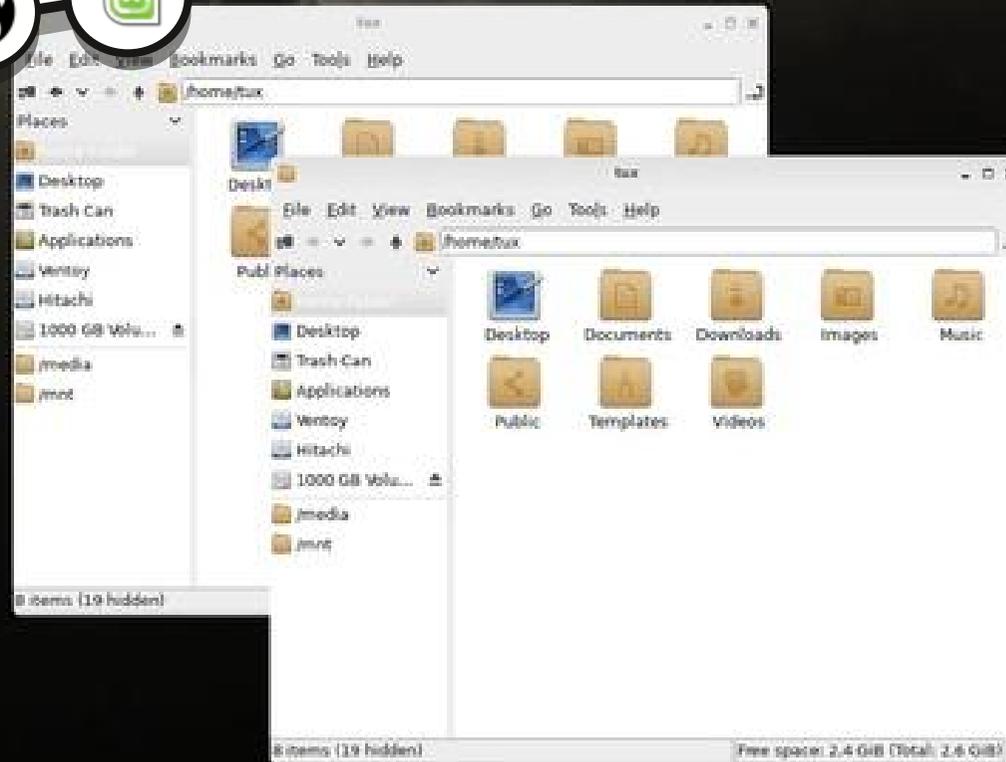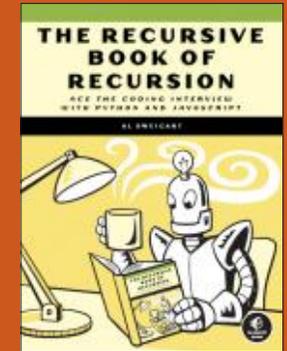
SLITAZ 5.0
AND ANOTHER NON-DEBIAN DISTRO

Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

WELCOME TO THE LATEST ISSUE OF FULL CIRCLE

Another (not quite full) quota of goodness for you this month with: Python, Latex, Inkscape, and lots of other goodness. No Micro or Blender this month I'm afraid. Check the end of the Inkscape article for an update on the bug that we mentioned last month. Looks like they've got it squished.

Our featured review this month is Lubuntu 22.04. Our non-Debian review is Slitaz 5. Not a distro that I've ever played around with, but it looks interesting. Oh, and we have a book review too!

The Ubports team has been busy getting OTA-23 of Touch ready, and it's out. Again, as ever, not much to see visually. It's all under the hood tweaks at the moment.

Don't forget: if you're looking for some help, advice, or just a chit chat: remember, we have a **Telegram** group: https://t.me/joinchat/24ec1oMFO1ZjZDc0. I hope to see you there. Come and say hello.

Anyway, all the best, and stay safe!
Ronnie
ronnie@fullcirclemagazine.org

This issue is dedicated to
OLLIE CLARK
Linux user, podcaster and Blackpool LUG member

FCM PATREON : https://www.patreon.com/fullcirclemagazine

This magazine was created using :

SCRIBUS

gimp

LibreOffice
The Document Foundation

creative commons
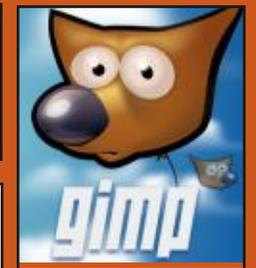
Find Full Circle on:

facebook.com/fullcirclemagazine

twitter.com/#!/fullcirclemag

http://issuu.com/fullcirclemagazine

https://mastodon.social/@fullcirclemagazine

Weekly News:

http://fullcirclemagazine.org/feed/podcast

http://www.stitcher.com/s?fid=85347&refid=stpr

http://tunein.com/radio/Full-Circle-Weekly-News-p855064/

NGINX 1.23.0 RELEASE:
06/21/2022

The first release of the new main branch for nginx 1.23.0 is out, where the development of new features will continue. In the parallel, the maintained stable branch 1.22.x , only changes related to the elimination of serious bugs and vulnerabilities were made. Next year, the 1.24 stable branch will be merged from the 1.23.x main branch.

http://nginx.org/#2022-06-21

NEW QT PROJECT LEADER APPOINTED:
06/22/2022

Volker Hilsheimer has been selected as Chief Maintainer of the Qt project, replacing Lars Knoll, who has held the position for the past 11 years and announced his retirement from the Qt Company last month. The leader's candidacy was approved during the general vote of the escorts. Hilsheimer was

ahead of Allan Sandfeld, who was also nominated for the lead by a margin of 24 votes to 18.

Volker has been developing with Qt since the late 1990s and is currently Director of Research and Development (R&D), Graphics and User Interface at Qt Company. Lars Knoll characterizes Hilsheimer as technically savvy, with connections to the Qt Company, a respected developer community, and a supporter of Qt's development as an open source project.

https://www.qt.io/blog/new-chief-maintainer-for-qt

RUST SUPPORT IN THE LINUX 5.20 KERNEL:
06/22/2022

At the ongoing 'Open-Source Summit 2022' conference, in the FAQ section, Linus Torvalds mentioned the possibility of early integration into the Linux kernel of components for developing device drivers in Rust. It is possible that

Rust-enabled patches will be accepted in the next changelog forming the composition of the 5.20 kernel, scheduled for late September.

A pull request for the kernel has not yet been sent to Torvalds, but the patchset has been further reviewed, stripped of key notes, has been tested in the linux-next branch for quite some time, and has been brought to a state suitable for creating abstraction layers over kernel subsystems, writing drivers, and modules. Rust support is presented as an option that is not enabled by default and does not result in the inclusion of Rust among the required build dependencies for the kernel.

https://www.phoronix.com/scan.php?page=news_item&px=Rust-For-Linux-5.20-Possible

THE GECKOLINUX CREATOR INTRODUCED SPIRALLINUX:
06/22/2022

The creator of the GeckoLinux distribution , which is based on openSUSE and pays great attention to desktop optimization and small things, such as high-quality font rendering, has introduced a new distribution, SpiralLinux , built using Debian GNU/Linux packages. The distribution offers 7 ready-to -use Live builds that come with Cinnamon, Xfce, GNOME, KDE Plasma, Mate, Budgie, and LXQt desktops that are optimized for a better user experience.

The GeckoLinux project will continue to be maintained, and SpiralLinux is an attempt to keep things as they are in the event that openSUSE ceases to exist or is transformed into a fundamentally different product, in line with the upcoming plans for a major overhaul of SUSE and openSUSE. Debian is chosen as basis as a stable, flexibly adaptable and well-maintained distribution. At the

same time, it is noted that the Debian developers are not sufficiently focused on the convenience of the end user, which is the reason for the creation of derivative distributions, the authors of which are trying to make the product more friendly to ordinary consumers.

Unlike Ubuntu and Linux Mint, SpiralLinux doesn't try to develop its own infrastructure, but tries to stay as close to Debian as possible. SpiralLinux uses packages from the Debian core and uses the same repositories, but offers different default settings for all the major desktop environments available in the Debian repositories. Thus, the user is offered an alternative option for installing Debian, which is updated from the regular Debian repositories, but offers a set of settings that are more optimal for the user

https://spirallinux.github.io/

AMD OPENS FIDELITYFX SUPER RESOLUTION 2.0 TECHNOLOGY:

06/22/2022

AMD has announced the release of the source code for an implementation of FSR 2.0 (FidelityFX Super Resolution) supersampling technology that uses spatial scaling and detail reconstruction algorithms to reduce loss in image quality when upscaling and converting to higher resolution. The code is written in C++ and distributed under the MIT license. In addition to the basic API for the C++ language, the project provides support for DirectX 12 and Vulkan graphics APIs, as well as HLSL and GLSL shader languages. A set of examples and detailed documentation is provided.

FSR is used in games to scale output on high-resolution screens to achieve near-native resolution quality while preserving texture detail and crisp edges by reconstructing fine geometric and bitmap detail. With the help of settings, you can balance between quality and speed. The technology is compatible with various GPU models, including integrated chips.

https://gpuopen.com/fsr2-source-available/

KaOS 2022.06

DISTRIBUTION RELEASED:

06/24/2022

KaOS 2022.06 is out, a rolling release distribution aimed at providing a desktop based on recent releases of KDE and applications using Qt. In the distribution-specific design features, one can note the placement of a vertical panel on the right side of the screen. The distribution is developed with Arch Linux in mind, but maintains its own independent repository of more than 1500 packages, and also offers a number of its own graphical utilities. The default file system is XFS. Builds are published for x86_64 systems (2.9 GB).

https://kaosx.us/news/2022/kaos06/

COMMUNIST 1.4 P2P-MESSENGER RELEASED:

06/25/2022

Version 1.4 of Communist P2P messenger has been published . The source code is written in the C++ programming language and distributed under the GPLv3 license. The graphical interface is based on the GTK 4 library. Linux and Windows operating systems are currently supported. Ready packages are prepared for Arch Linux (AUR) and Alt.

Communist is a simple P2P messenger designed to work both on the Internet and in local networks of various configurations. To establish communication between users, a combination of a distributed hash table is used (the DHT version is used, designed for torrent clients) and the UDP hole punch technique (for interacting with hosts behind address translators). IPv4/IPv6 protocols are supported. All data is stored on the user's machine in encrypted form and is also transmitted encrypted. The encryption uses the AES standard and the ed25519 digital signature scheme.

https://forum.altlinux.org/index.php?topic=46108.msg371189#msg371189

PITIVI VIDEO EDITOR RELEASE 2022.06:

06/25/2022

After a year of development , the release of the free, non-linear video editing system Pitivi 2022.06 is available . The editor is written in Python using the GTK+ (PyGTK) library and GES (GStreamer Editing Services) and can work with all audio and video formats supported by GStreamer, including the MXF (Material eXchange Format) format. The code is distributed under the LGPL license.

https://github.com/pitivi/pitivi/releases/tag/2022.06.0

ENDEAVOROS 22.6

PUBLISHED:

06/25/2022

EndeavorOS 22.6 "Artemis" project is available , which replaced the Antergos distribution, which was discontinued in May 2019 due to the lack of free time for the remaining maintainers to maintain the project at the proper level. The size of the installation image is 1.8 GB (x86_64, the assembly for ARM is being developed separately).

Endeavor OS allows the user to easily install Arch Linux with the necessary desktop in the form in which it is conceived in its regular filling, offered by the developers of the selected desktop, without additional pre-installed programs. The distribution offers a simple installer to install a basic Arch Linux environment with a default Xfce desktop and the ability to install from the repository one of the typical desktops based on Mate, LXQt, Cinnamon, KDE Plasma, GNOME, Budgie, as well as i3 tile window managers, BSPWM and Sway. Work is underway to add support for Qtile and Openbox window managers, UKUI , LXDE and Deepin desktops. One of the developers of the project is developing its own window manager 'Worm'.

https://endeavouros.com/news/artemis-is-launched/

REDBEAN 2.0, A PLATFORM FOR WEB APPLICATIONS PACKAGED IN A UNIVERSAL EXECUTABLE ZIP ARCHIVE:

25.06.2022

Redbean 2.0 project has been introduced , allowing web applications to be delivered as a universal executable file with an embedded web server that can run on Linux, Windows, MacOS, FreeBSD, NetBSD, and OpenBSD. It is a file that bundles all of the resources associated with the web application and the server, is compatible with the ZIP archive format, and allows you to use the zip utility to add additional files. The ability to run one file on different operating systems and recognize it as a ZIP archive is achieved by manipulating the headers of executable files and linking to the multiplatform standard C library Cosmopolitan . The project code is distributed under the ISC license.

A universal executable file is made by combining segments and headers specific to different operating systems PE, ELF, MACHO, OPENBSD, ZIP in one file. To ensure

that a single executable file runs on Windows and Unix systems, a trick is used to encode Windows PE files as a shell script, taking advantage of the fact that Thompson Shell does not use the "#!" script marker. As a result, an executable file is created, which combines several different formats used in Linux, BSD, Windows and macOS.

https://justine.lol/redbean2/

EXIM MAIL SERVER 4.96:
06/26/2022

The Exim 4.96 mail server has been released, which includes the previous accumulated fixes and added new features. According to the May automated survey of about 800 thousand mail servers, the share of Exim is 59.59% (59.15% a year ago), Postfix is used on 33.64% (33.76%) of mail servers, Sendmail - 3.55% (3.55%), MailEnable - 1.93% (2.02%), MDaemon - 0.45% (0.56%), Microsoft Exchange - 0.23% (0.30%).

https://lists.exim.org/lurker/message/20220625.141825.d6de6074.en.html

SHOTCUT VIDEO EDITOR RELEASE 22.06:
26.06.2022

Shotcut 22.06 has been published, which is being 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. It is possible to use plugins with the implementation of video and audio effects compatible with Frei0r and LADSPA . Among the features of Shotcut, one can note the possibility of multi-track editing with the composition of video from fragments in various source formats, without the need to import or re-encode them first. There are built-in tools for creating screencasts, processing images from a webcam and receiving streaming video. Qt5 is used to build the interface. The codewritten in C++ and distributed under the GPLv3 license.

https://shotcut.org/blog/new-release-220623/

CHANGES TO CONTAINERD TO ALLOW LINUX CONTAINERS TO RUN ON FREEBSD:
06/26/2022

The containerd project has adopted a set of changes that integrates runj runtime support and allows FreeBSD to use OCI-compliant Linux-based container images, such as Docker images. In the changelog, an example of successfully running an Alpine Linux image on FreeBSD is given. Despite the experimental status of the runj project and the limited functionality at the moment, even in this form, the project can be useful for personal experiments, simplifying solution modeling (Proof Of Concept), local development, running tests before deploying to cloud systems, and working out operability for cases when there is no way to switch to tested and industrial solutions on other platforms, but the need for containerization has matured. It requires installed jail, jls, jexec and ps.

It's worth noting that runj is a personal project of Samuel Karp, an Amazon engineer developing the Bottlerocket Linux distribution and container isolation technologies for AWS, who is also an independent member of the Technical Oversight Board of the OpenContainers project. After bringing runj to the required level, the project can be used to replace the regular runtime in Docker and Kubernetes systems, using FreeBSD containers instead of Linux to run. The OCI runtime currently implements commands for creating, deleting, starting, forcibly terminating, and evaluating the status of containers, as well as setting the process, mount points, and hostname.

https://github.com/containerd/containerd/pull/7000

WIFIBOX 0.10 - ENVIRONMENT FOR USING LINUX WIFI DRIVERS IN FREEBSD:
06/27/2022

A release of the Wifibox 0.10 project is available to address the problem with FreeBSD's use of wireless adapters that lack the required drivers. Adapters that are problematic for FreeBSD are provided by starting a Linux guest

system, in which Linux-native wireless device drivers are loaded.

The installation of the guest system with drivers is automated, and all the necessary components are packaged in the form of a ready- made wifibox package , which is launched at boot using the supplied rc service. (Including the transition to sleep mode is correctly processed.) The environment can potentially be applied to any WiFi cards supported on Linux, but has been tested primarily on Intel chips. They also tested the correct operation on systems with Qualcomm Atheros and AMD RZ608 (MediaTek MT7921K) wireless chips.

The guest system is launched using the Bhyve hypervisor, which grants access forwarding to the wireless card. Requires a system that supports hardware virtualization (AMD-Vi or Intel VT-d). The guest system is based on Alpine Linux, built on the Musl system library and the BusyBox utility set. The image size is about 30MB on disk and consumes about 90MB of RAM.

To connect to a wireless network, the wpa_supplicant package is used , the configuration files are synchronized with the settings from the main FreeBSD environment. The Unix control socket created by wpa_supplicant is forwarded to the host environment, which allows you to use the standard FreeBSD utilities for connecting and working with a wireless network, including the wpa_cli and wpa_gui (net/wpa_supplicant_gui) utilities.

In the new release, the mechanism for forwarding WPA to the main environment has been redesigned, which made it possible to work with both wpa_supplicant and hostapd. The amount of memory required for the guest system has been reduced. Support for FreeBSD 13.0-RELEASE has been dropped.

https://github.com/pgj/freebsd-wifibox/releases/tag/0.10.0

GIT 2.37 SOURCE CONTROL RELEASE:
06/28/2022

The release of the distributed source control system Git 2.37 is introduced . Git is one of the most popular, reliable, and high-performance version control systems that provides flexible non-linear development tools based on branching and merging branches. To ensure the integrity of the history and resistance to "backdating" changes, implicit hashing of the entire previous history in each commit is used, it is also possible to verify the digital signatures of the developers of individual tags and commits.

Compared to the previous release, 395 changes were accepted into the new version, prepared with the participation of 75 developers, 20 who took part in the development for the first time.

https://lore.kernel.org/git/xmqqy1xinf00.fsf@gitster.g/

RELEASE BITTORRENT CLIENT DELUGE 2.1:
06/29/2022

Three years after the last major branch, Deluge 2.1 multiplatform BitTorrent client was published , written in Python (using the Twisted framework), based on libtorrent and supporting several types of user interface (GTK, web interface, console version). The project code is distributed under the GPL license.

Deluge runs in client-server mode, where the user shell runs as a separate process, and all BitTorrent operations are controlled by a separate daemon that can be run on a remote computer. Among the features of the application are support for DHT (distributed hash table), UPnP, NAT-PMP, PEX (Peer Exchange), LSD (Local Peer Discovery), the ability to use encryption for the protocol and work through a proxy, WebTorrent compatibility , the ability to selectively limit the speed for certain torrents, sequential download mode.

https://github.com/deluge-torrent/deluge/releases/tag/deluge-2.1.0

THUNDERBIRD 102 MAIL CLIENT RELEASED:
06/29/2022

A year after the publication of the last major release , Thunderbird 102 mail client , developed by community forces

and based on Mozilla technologies, has been published . The new release is categorized as a long-term support release, with updates released throughout the year. Thunderbird 102 is based on the Firefox 102 ESR. The release is available as a direct download only , automatic upgrades from past releases to version 102.0 are not provided and will only be generated in version 102.2.

https://blog.thunderbird.net/2022/06/thunderbird-102-released-a-serious-upgrade-to-your-communication/

23RD UBUNTU TOUCH FIRMWARE UPDATE:
29.06.2022

The UBports project , which took over the development of the Ubuntu Touch mobile platform after Canonical pulled out, has published an OTA-23 (over-the-air) firmware update. The project is also developing an experimental desktop port of Unity 8, which has been renamed Lomiri.

Ubuntu Touch OTA-23 update is available for BQ E4.5 /E5/M10/U

Plus, Cosmo Communicator, F(x)tec Pro1, Fairphone 2/3, Google Pixel 2XL/3a, Huawei Nexus 6P, LG Nexus 4/ 5, Meizu MX4/Pro 5, Nexus 7 2013, OnePlus 2/3/5/6/One, Samsung Galaxy Note 4/S3 Neo+, Sony Xperia X/XZ/Z4, Vollaphone, Xiaomi Mi A2/A3, Xiaomi Poco F1 , Xiaomi Redmi 3s/3x/3sp/4X/7, Xiaomi Redmi Note 7/7 Pro. Separately, without the "OTA-23" tag, updates will be prepared for Pine64 PinePhone and PineTab devices. Compared to the previous version, support for Asus Zenfone Max Pro M1, Xiaomi Poco M2 Pro, Google Pixel 2 and Google Pixel 3a XL smartphones has been added.

https://ubports.com/

PACKJ - A TOOLKIT FOR DETECTING MALICIOUS LIBRARIES IN PYTHON AND JAVASCRIPT:
06/30/2022

The developers of Packj, which analyzes library security, have published an open command-line toolkit that allows you to identify risky constructs in packages that may be associated with the

implementation of malicious activity or the presence of vulnerabilities that are used to attack projects using the packages in question ("supply chain"). Packj supports checking packages in Python and JavaScript hosted in the PyPi and NPM directories (they also plan to add support for Ruby and RubyGems this month). The toolkit code is written in Python and distributed under the AGPLv3 license.

During the analysis of 330 thousand packages using the proposed tools, 42 malicious packages with backdoors and 2.4 thousand risky packages were identified in the PyPi repository. During the survey, static code analysis is performed to identify API features and the presence of known vulnerabilities noted in the OSV database is assessed . The API is parsed using the MalOSS package. Package code is analyzed for common patterns commonly used in malware. The templates were prepared based on the study of 651 packages with confirmed malicious activity.

It also identifies attributes and metadata that increase the risk of misuse, such as executing blocks via

"eval" or "exec", generating new code at runtime, using obfuscated code techniques, manipulating environment variables, misusing access to files, accessing network resources in setup scripts (setup.py), using typesquatting (assigning names similar to the names of popular libraries), identifying obsolete and abandoned projects, specifying non-existent emails and sites, lack of a public code repository.

https://github.com/ossillate-inc/packj

UNITY 7.6 CUSTOM SHELL STABLE RELEASED:
07/01/2022

The developers of the Ubuntu Unity project , which develops an unofficial edition of Ubuntu Linux with the Unity desktop, announced a stable release of the user shell Unity 7.6 . The Unity 7 skin is based on the GTK library and is optimized for efficient vertical space use on widescreen laptops. The code is distributed under the GPLv3 license. Ready packages are formed for Ubuntu 22.04.

The last major release of Unity 7 was published in May 2016, after that, only bug fixes were added to the branch, and support was carried out by a group of enthusiasts . In Ubuntu 16.10 and 17.04, in addition to Unity 7, the Unity 8 shell was included, translated to the Qt5 library and the Mir display server. Canonical originally planned to replace the Unity 7 shell, which uses GTK and GNOME technologies, with Unity 8, but plans changed and Ubuntu 17.10 returned to the regular GNOME with the Ubuntu Dock , and the development of Unity 8 was discontinued .

The development of Unity 8 was picked up by the UBports project, which develops its own fork under the name Lomiri . The Unity 7 shell was abandoned for some time, until a new unofficial edition of Ubuntu, Ubuntu Unity, was created on it in 2020. The Ubuntu Unity distribution is being developed by Rudra Saraswat , a 12 -year -old from India.

https://unity.ubuntuunity.org/blog/unity-7.6

WAYLAND 1.21 IS AVAILABLE:
07/01/2022

After six months of development , a stable release of the protocol, interprocess communication mechanism and Wayland 1.21 libraries is presented . The 1.21 branch is API and ABI backward compatible with the 1.x releases and contains mostly bug fixes and minor protocol updates. A few days ago , a bug-fix update of the Weston 10.0.1 composite server was made, which is being developed as part of a separate development cycle. Weston provides code and working examples for using Wayland in desktop environments and embedded solutions.

https://lists.freedesktop.org/archives/wayland-devel/2022-June/042268.html

WEBOS OPEN SOURCE EDITION 2.17 PLATFORM RELEASED:
07/01/2022

WebOS Open Source Edition 2.17 has been published, which can be used on various portable devices, boards and car infotainment systems. Raspberry Pi 4 boards are considered as the reference hardware platform. The platform is developed in a public repository under the Apache 2.0 license, and the development is overseen by the community, adhering to a collaborative development management model.

The webOS system environment is built using the OpenEmbedded toolkit and base packages , as well as a build system and metadata set from the Yocto project . The key components of webOS are the system and application manager (SAM, System and Application Manager), which is responsible for running applications and services, and the Luna Surface Manager (LSM), which forms the user interface. The components are written using the Qt framework and the Chromium browser engine.

https://www.webosose.org/blog/2022/07/01/webos-ose-2-17-0-release/

RASPBERRY PI PROJECT UNVEILS WI-FI-ENABLED PICO W BOARD:
07/01/2022

The Raspberry Pi Project has unveiled a new Raspberry Pi Pico W board, continuing the development of the miniature Pico board, equipped with a proprietary RP2040 microcontroller. The new edition is distinguished by the integration of Wi-Fi support (2.4GHz 802.11n), implemented on the Infineon CYW43439 chip. The CYW43439 chip also supports Bluetooth Classic and Bluetooth Low-Energy, but they are not included in the board yet. The cost of the new board is $6, which is two dollars more than the first option. Of the areas of application, in addition to sharing with Raspberry Pi computers, developing embedded systems and control systems for various devices, the Wi-Fi option is positioned as a platform for creating Internet of Things (Internet of Things) devices that interact over a network.

The RP2040 chip includes a dual-core ARM Cortex-M0+ (133MHz) processor with 264 KB of on-board RAM (SRAM), a DMA controller, a

temperature sensor, a timer, and a USB 1.1 controller. The board contains 2 MB of Flash memory, but the chip supports expansion up to 16 MB. For I / O, GPIO ports are provided (30 pins, of which 4 are allocated for analog input), UART, I2C, SPI, USB (client and host with support for booting from drives in UF2 format) and specialized 8 pins PIO (Programmable I / O state machines) to connect your own peripherals. Power can be supplied in the range from 1.8 to 5.5 volts, which allows you to use a variety of power sources, including two or three conventional AA batteries or standard lithium-ion batteries.

Applications can be created using C, C++, or MicroPython . The MicroPython port for Raspberry Pi Pico was prepared jointly with the author of the project and supports all the features of the chip, including its own interface for connecting PIO extensions. For development for the RP2040 chip using MicroPython, the integrated programming environment Thonny has been adapted . The capabilities of the chip are enough to run applications for solving machine learning problems, for the development of which a port of the TensorFlow Lite framework has

been prepared . For network access, they propose to use the lwIP network stack , which is included in the new version of the Pico SDKfor developing applications in the C language, as well as in the new firmware with MicroPython.

https://www.raspberrypi.com/news/raspberry-pi-pico-w-your-6-iot-platform/

RELEASE OF MULTIPLAYER 3D SHOOTER XONOTIC 0.8.5:
02.07.2022

Five years since the last release , Xonotic 0.8.5 is out, a free online 3D first-person shooter game focused on online play. The project is a fork of the Nexuiz game, created more than ten years ago as a result of a conflict between the key developers of the project and IllFonic, after the intention to commercialize the game development process. Of Xonotic's features, one can note good graphical capabilities, an advanced 3D engine, a variety of maps, and an abundance of game modes. The project code is

distributed under the GPLv3+ license.

The new game has improved gameplay, maps and player models have been updated, new sound effects have been added, more aggressive bots have been proposed, a new HUD (Heads-Up Display) pop-up panel has been implemented, the menu has been redesigned, and the level editor has been expanded. Duels are singled out as a separate type of game (a specific version of deathmatch with two players). There is also a completely rewritten web-interface for processing XonStat statistics . They also added two new levels: Bromine and Opium.

https://xonotic.org/posts/2022/xonotic-0-8-5-release/

FIREWALLD 1.2 RELEASED:
02.07.2022

The dynamically managed firewall, firewalld 1.2 has been released, implemented in the form of a wrapper over the nftables and iptables packet filters. Firewalld runs as a background process that allows packet filter rules to be

changed dynamically over D-Bus without having to reload packet filter rules and without dropping established connections. The project is already in use on many Linux distributions, including RHEL 7+, Fedora 18+, and SUSE/openSUSE 15+. The firewalld code is written in Python and distributed under the GPLv2 license.

To manage the firewall, the firewall-cmd utility is used, which, when creating rules, is based not on IP addresses, network interfaces and port numbers, but on the names of services (for example, to open access to SSH, you need to run "firewall-cmd --add -- service=ssh", to close SSH - "firewall-cmd --remove --service=ssh"). The firewall-config (GTK) graphical interface and the firewall-applet (Qt) applet can also be used to change the firewall configuration. Support for firewall management via D-BUS API firewalld is available in projects such as NetworkManager, libvirt, podman, docker, and fail2ban.

https://firewalld.org/2022/07/firewalld-1-2-0-release

WEBEXTENSION SUPPORT ADDED TO EPIPHANY WEB BROWSER (GNOME WEB):

02.07.2022

The Epiphany web browser developed by the GNOME project , based on the WebKitGTK engine and offered to users under the new name GNOME Web, has added support for WebExtension add-ons. The WebExtensions API allows you to create add-ons using standard web technologies and unifies the development of add-ons for various browsers (WebExtensions is used in add-ons for Chrome, Firefox and Safari). The add-on version will be part of the GNOME 43 release scheduled for September 21st.

That said, Epiphany has implemented only part of the WebExtension API so far, but this support is already enough to run some popular add-ons. Over time, support for the WebExtension API will expand. Development is ongoing with an eye to implementing the second version of the add-on manifest and ensuring compatibility with add-ons for Firefox and Chrome. In the unimplemented APIs, webRequest is mentioned, which is used in add-ons to block inappropriate content.

https://blog.tingping.se/2022/06/29/WebExtensions-Epiphany.html

SFC URGES OPEN SOURCE PROJECTS TO STOP USING GITHUB:

07/04/2022

The Software Freedom Conservancy (SFC), which provides legal protection for free projects and advocates compliance with the GPL license, has announced that it will stop all use of the GitHub code collaboration platform and urged developers of other open source projects to follow suit. The organization has also launched an initiative aimed at making it easier to migrate projects from GitHub to more open alternatives such as CodeBerg (powered by Gitea) and SourceHut , or to implement their own development services based on open platforms such as Gitea or GitLab Community Edition on their servers .

The SFC was inspired by the reluctance of GitHub and Microsoft to understand the ethical and legal intricacies of using free software source code as the basis for building a machine learning model in the commercial GitHub Copilot service. Representatives of the SFC tried to figure out whether the created machine learning model is copyrighted and, if so, who owns these rights and how they relate to the rights to the code on which the model is built. It is also not yet clear whether a block of code generated in GitHub Copilot and repeating the code from the projects used to build the model can be considered a derivative work, and whether the inclusion of such blocks in proprietary software can be considered a violation of copyleft licenses.

Microsoft has been evasive and has not provided legal analysis to support the legitimacy of its fair use claims. Attempts to obtain the necessary information have been made since July last year. Initially, representatives from Microsoft and GitHub promised to respond soon, but never did. Six months later, a public discussion of potential legal and ethical issues in machine learning systems was initiated, but Microsoft representatives ignored the invitation to participate in it. Ultimately, a year later, Microsoft representatives directly refused to discuss this issue, explaining that the discussion was pointless, since it was unlikely to change the position of the SFC.

https://sfconservancy.org/blog/2022/jun/30/give-up-github-launch/

PORTEUS 5.0 DISTRIBUTION RELEASED:

07/04/2022

The Porteus 5.0 live distribution, built on the Slackware Linux 15 and offering builds with Xfce, Cinnamon, GNOME, KDE, LXDE, LXQt, MATE and OpenBox user environments, has been published. The composition of the distribution is selected for minimal resource consumption, which allows you to use Porteus on outdated equipment. It features a high download speed. Compact Live images are offered for download, about 350 MB in size, built for the i586 and x86_64 architectures.

Additional applications are distributed in the form of modules. Package management uses its own

PPM (Porteus Package Manager) package manager, which takes into account dependencies and allows you to install programs from the Porteus, Slackware, and Slackbuilds.org repositories. The interface is built with an eye to the possibility of using it on devices with a small screen resolution. The Porteus Settings Centre's own configurator is used for configuration. The distribution is loaded from a compressed FS image, but all changes made during operation (browser history, bookmarks, downloaded files, etc.) can be saved separately on a USB drive or hard drive. When booting in 'Always Fresh' mode, changes are not saved.

The new version is synchronized with Slackware 15.0, the Linux kernel has been updated to version 5.18, and the set of BusyBox utilities in the initrd has been updated to version 1.35. The number of generated iso's have been increased to 8. To reduce the size of the image, the components for supporting the Perl language have been moved to the external module 05-devel. They added support for slackpkg and slpkg package managers. Support for installation on NMVe drives has

been added to the bootloader toolkit.

https://forum.porteus.org/viewtopic.php?f=35&t=10183

RELEASE OF ZABBIX 6.2:
07/05/2022

A new version of the free and completely open source monitoring system Zabbix 6.2 is out. The release includes performance improvements, flexiblility with auto-discovered hosts, detailed process monitoring, a significant improvement in monitoring the VMWare platform, new visualization and data collection tools, an expanded list of integrations and templates, and much more. The project code is distributed under the GPLv2 license.

Zabbix is a universal system for monitoring the performance and availability of servers, engineering and network equipment, applications, databases, virtualization systems, containers, IT services, web services, cloud infrastructure. The system implements a full cycle from

collecting data, processing and transforming it, analyzing this data to detect problems, and ending with storing this data, visualizing and sending alerts using escalation rules. The system also provides flexible options for extending data collection methods and alerts, as well as automation options through a powerful API. A single web interface implements centralized management of monitoring configurations and role-based distribution of access rights to various user groups.

https://www.zabbix.com/documentation/6.2/manual/introduction/whatsnew620

THE KDE PROJECT INTRODUCED THEIR FOURTH GENERATION OF KDE SLIMBOOKS:
07/05/2022

The KDE project introduced the fourth generation of ultrabooks, supplied under the KDE Slimbook brand. The product was developed with the participation of the KDE community in cooperation with the Spanish hardware vendor

Slimbook. The software is based on the KDE Plasma desktop, the Ubuntu-based KDE Neon system environment, and a selection of free applications Pons such as the Krita graphics editor, Blender 3D design system, FreeCAD CAD, and Kdenlive video editor. The graphical environment uses the Wayland protocol by default. All applications and updates shipped with the KDE Slimbook are thoroughly tested by the KDE developers to ensure a high level of environment stability and hardware compatibility.

The new series comes with AMD Ryzen 5700U 4.3 GHz processors with 8 CPU cores (16 threads) and 8 GPU cores (last series used Ryzen 7 4800H). The laptop is offered in versions with screens of 14 and 15.6 inches (1920x1080, IPS, 16:9, sRGB 100%). The weight of the devices is respectively 1.05 and 1.55 kg, and the price is 1049€ and 999€. The laptops are equipped with 250 GB M.2 SSD NVME (up to 2 TB), 8 GB RAM (up to 64 GB), 2 USB 3.1 ports, one USB 2.0 port and one USB-C 3.1 port, HDMI 2.0, Ethernet (RJ45), Micro SD and WiFi (Intel AX200). It is a pity that these do not have numpads, I'd love one, but cannot function without my numpad.

ORACLE LINUX 9 AND UNBREAKABLE ENTERPRISE KERNEL 7 AVAILABLE:
07/06/2022

Oracle has published stable releases of the Oracle Linux 9 distribution and Unbreakable Enterprise Kernel 7 (UEK R7), positioned for use in the Oracle Linux distribution as an alternative to the standard Red Hat Enterprise Linux kernel package. The Oracle Linux 9 distribution is based on the Red Hat Enterprise Linux 9 and is fully binary compatible with it.

For download without restrictions, installation iso images are offered - 8.6 GB and 840 MB in size, prepared for x86_64 and ARM64 (aarch64) architectures. For Oracle Linux 9, unlimited and free access to the yum repository with binary package updates with bug fixes (errata) and security issues is open. Separately maintained repositories with sets of Application Stream and CodeReady Builder packages are also prepared

for download.

In addition to the RHEL kernel package (based on the 5.14 kernel), Oracle Linux offers its own Unbreakable Enterprise Kernel 7, based on the Linux 5.15 kernel and optimized for Oracle industrial software and hardware. The kernel sources, including the breakdown into individual patches, are available in the public Oracle Git repository . The Unbreakable Enterprise Kernel is installed by default, positioned as an alternative to the regular RHEL kernel package and provides a number of advanced features such as DTrace integration and improved Btrfs support. Except for the additional kernel, the Oracle Linux 9 and RHEL 9 releases are completely identical in functionality.

https://blogs.oracle.com/linux/post/announcing-oracle-linux-9-general-availability

NIST APPROVES QUANTUM RESISTANT ENCRYPTION ALGORITHMS:
07/06/2022

The US National Institute of Standards and Technology (NIST) has announced the winners of the competition for crypto algorithms resistant to selection on a quantum computer. The competition was organized six years ago and is aimed at choosing post-quantum cryptography algorithms suitable for promotion as standards. During the competition, the algorithms proposed by international research teams were studied by independent experts for possible vulnerabilities and weaknesses.

The winner among the universal algorithms that can be used to protect the transmission of information in computer networks is CRYSTALS-Kyber, whose strengths are, a relatively small key size and high speed. In addition to CRYSTALS-Kyber, four more general-purpose algorithms have been identified - BIKE , Classic McEliece , HQC and SIKE , which need to be improved. The authors of these algorithms are given the

opportunity to update the specifications and eliminate shortcomings in the implementations until October 1, after which they can also be included in the finalists.

The need to develop and standardize new cryptographic algorithms is due to the fact that quantum computers, which have been actively developed recently, solve the problems of decomposing a natural number into prime factors (RSA, DSA) and discrete logarithm of points of an elliptic curve (ECDSA), which underlie modern asymmetric encryption algorithms by public keys and are not effectively solvable on classical processors. At the current stage of development, the capabilities of quantum computers are not yet enough to break the current classical encryption algorithms and digital signatures based on public keys, such as ECDSA, but it is assumed that the situation may change within 10 years and it is necessary to prepare the basis for the transfer of cryptosystems to new standards.

https://groups.google.com/a/list.nist.gov/g/pqc-forum/c/G0DoD7lkGPk

Lennart Pottering left Red Hat and joined Microsoft:

07/07/2022

Lennart Poettering, who created projects such as Avahi (an implementation of the ZeroConf protocol), the PulseAudio sound server, and the systemd system manager, left Red Hat, where he worked since 2008 and led the development of systemd. Microsoft is named as his new place of work, where Lennart's activities will also be related to the development of systemd.

Microsoft uses systemd in its CBL-Mariner distribution, which is being developed as a universal base platform for Linux environments used in cloud infrastructure, edge systems, and various Microsoft services.

In addition to Lennart, Microsoft also employs such well-known open source figures as Guido van Rossum (creator of the Python language), Steve Kost (founder of OpenStreetMap), Steve French (maintainer of CIFS/SMB3 subsystems in the Linux kernel) and Ross Gardler (VP of the Apache Foundation). Miguel de Icaza (creator of GNOME, Midnight Commander and Mono) and Daniel Robbins (creator of Gentoo) were employed at Microsoft, but have already left. This year, Christian Brauner, leader of the LXC and LXD projects, one of the maintainers of glibc and a contributor to systemd development, moved from Canonical to Microsoft .

https://www.phoronix.com/scan.php?page=news_item&px=Systemd-Creator-Microsoft

Release of SpaceVim 2.0:

07/07/2022

SpaceVim 2.0 project is presented, a distribution for the Vim text editor with a selection of plug-ins to support various programming languages and features inherent in integrated development environments. Plugins are grouped into sets with the implementation of certain features. For example, the Python developer kit includes deoplete.nvim, neomake, and jedi-vim plugins for code completion, syntax checking, and interactive documentation. Thus, the user only needs to select the required functionality without the need for a separate selection of plug-ins.

The new version offers new kits for developers using cmake, jr, jsonnet, octave, yang, haxe, postscript, teal, verilog and django. Support for Gitter and IRC has been added to the chat suite. Added new keyboard shortcuts. They also implemented a plugin for automatic saving plus added clipboard support for vim8 and implemented a scrollbar.

https://spacevim.org/SpaceVim-release-v2.0.0/

Ubuntu MATE distribution has generated builds for the Raspberry Pi:

07/07/2022

The developers of the Ubuntu MATE distribution, built on Ubuntu and offering a desktop environment based on the MATE project, have announced the

Full Circle Weekly News

Join our host Moss Bliss as he presents you with a short podcast (<10min) with just the news. No chit-chat. No time wasting. Just the latest FOSS/Linux/Ubuntu news.

RSS: http://fullcirclemagazine.org/feed/podcast

formation of builds for Raspberry Pi boards. The builds are based on Ubuntu MATE 22.04 release and are prepared for both 32-bit and 64-bit Raspberry Pi boards.

https://ubuntu-mate.community/t/ubuntu-mate-22-04-lts-for-raspberry-pi-is-out-now/25634

wxWidgets 3.2.0 graphical toolkit:
07/07/2022

Nine years after the release of the 3.0 branch, the first release of a new stable branch of the wxWidgets 3.2.0 cross-platform toolkit is presented, which allows you to create graphical interfaces for Linux, Windows, macOS, UNIX and mobile platforms. Compared to the 3.0 branch, there are a number of incompatibilities at the API level. The toolkit is written in C++ and distributed under the free wxWindows Library License approved by the Free Software Foundation and OSI. The license is based on the LGPL and is notable for allowing the use of its own terms to redistribute derivative works in binary form.

In addition to developing C++ programs, wxWidgets provides bindings for most popular programming languages, including PHP, Python, Perl and Ruby. Unlike other toolkits, wxWidgets provides the application with a truly native look and feel to the target system by using system APIs rather than GUI mimics.

https://wxwidgets.org/news/2022/07/wxwidgets-3.2.0-final-release/

Bacula 13.0.0 Available:
07/09/2022

Bacula 13.0.0 is out. The 12.x branch is omitted to separate version numbering between the free and commercial editions - the free version uses odd branch numbers, while the commercial version uses even ones. Bacula's free edition code is distributed under the AGPLv3 license, but excessive control over the development process and cutting functionality in favor of the commercial version a few years ago led to the creation of a fork - Bareos , which is actively developed and competes with Bacula.

https://www.bacula.org/bacula-release-13-0-0/

Microsoft introduces a ban on the sale of open source software through the Microsoft Store:
07/08/2022

Microsoft has made changes to the terms of use of the Microsoft Store catalog, which will be effective from next week. The most controversial change was the ban on profiting through the catalog from the sale of open source software or any other applications that are normally distributed free of charge. They introduced requirements aimed at combating third parties who profit from the sale of assemblies of popular open source programs.

The new rules are formulated in such a way that the ban on sale applies to all projects under open licenses, since the code for these projects is available and can be used to create free builds. The ban applies whether or not the account is associated with a direct

developer, and includes apps hosted in the Microsoft Store by core projects to support development financially. Microsoft officials say the decision was made because of the difficulty of identifying the true developers and the desire to protect users from the manipulation of open source software and the sale of programs that can be legally downloaded for free.

This is the reason for the Microsoft store after all, to choke out any competition?

https://sfconservancy.org/blog/2022/jul/07/microsoft-bans-commerical-open-source-in-app-store/

nDPI 4.4 Deep Packet Inspection Released:
08.07.2022

The ntop project, which develops tools for capturing and analyzing traffic, has published a release of the nDPI 4.4 Deep Packet Inspection Toolkit, which continues the development of the OpenDPI library. The nDPI project was founded after an unsuccessful

attempt to commit changes to the OpenDPI repository, which was left unmaintained. The nDPI code is written in C and distributed under the LGPLv3 license.

The system allows you to determine the application-level protocols used in traffic by analyzing the nature of network activity without reference to network ports (it can determine known protocols whose handlers accept connections on non-standard network ports, for example, if http is not sent from port 80, or, conversely, when some - they try to disguise other network activity as http by launching it on port 80).

Differences from OpenDPI come down to support for additional protocols, porting for the Windows platform, performance optimization, adaptation for use in real-time traffic monitoring applications (removed some specific features that slowed down the engine), the ability to build in the form of a Linux kernel module, and support for defining subprotocols .

In total, about 300 protocol and application definitions are supported, from OpenVPN, Tor, QUIC, SOCKS, BitTorrent and IPsec to Telegram, Viber, WhatsApp, PostgreSQL and Gmail, Office 365, Google Docs and YouTube calls. There is a server and client SSL certificate decoder that allows you to determine the protocol (for example, Citrix Online and Apple iCloud) using the encryption certificate. The nDPIreader utility is supplied to analyze the contents of pcap dumps or current traffic through the network interface.

https://www.ntop.org/ndpi/introducing-ndpi-4-4-many-new-protocols-improvements-and-cybersecurity-features/

DEBIAN 11.4 UPDATE:
07/09/2022

The fourth corrective update of the Debian 11 distribution has been published, which includes the accumulated package updates and fixes bugs in the installer. The release includes 81 stability updates and 79 security updates.

Of the changes in Debian 11.4, we can note the update to the latest stable versions of the apache2, clamav, postfix, network-manager, ganeti, libtgowt, nvidia-graphics-drivers, nvidia-persistenced, nvidia-settings, nvidia-xconfig, telegram-desktop, ublock packages -origin, usb.ids, wireless-regdb. They removed the elog and python-hbmqtt packages, which are unmaintained and have security and performance issues.

Installation builds will be prepared for download and installation from scratch, as well as live iso-hybrid with Debian 11.4. Previously installed and up-to-date systems receive the updates that are present in Debian 11.4 through the native update system. Security fixes included in new releases of Debian are made available to users as updates are released via the security.debian.org service.

https://www.debian.org/News/2022/20220709

RCLONE 1.59 RELEASED:
07/10/2022

The rclone 1.59 utility has been published, which is an analogue of rsync designed to copy and synchronize data between the local system and various cloud storages such as Google Drive, Amazon Drive, S3, Dropbox, Backblaze B2, OneDrive, Swift, Hubic, Cloudfiles, Google Cloud Storage, Mail.ru Cloud and Yandex.Disk. The project code is written in Go and distributed under the MIT license.

https://forum.rclone.org/t/rclone-1-59-0-release/31808

RELEASE OF LIBREBOOT 20220710, A COMPLETELY FREE DISTRIBUTION OF COREBOOT:
10.07.2022

After seven months of development, the release of free bootable firmware Libreboot 20220710 has been published. This is the fourth release in the GNU Project and is being touted as the first stable release (past releases have been marked as test releases as they require additional stabilization and testing). Libreboot develops a completely free fork from the CoreBoot project, providing a binary-free replacement for proprietary UEFI and BIOS firmware responsible for

initializing the CPU, memory, peripherals, and other hardware components.

Libreboot aims to create a system environment that completely dispenses with proprietary software, not only at the operating system level, but also at the boot firmware level. Libreboot not only cleans CoreBoot of non-free components, but also adds tools to make it easier for end users to use, creating a distribution that can be used by any user with no special skills.

https://libreboot.org/news/libreboot20220710.html

SeaMonkey 2.53.13 Released:
11.07.2022

The SeaMonkey 2.53.13 set of Internet applications has been released , which combines a web browser, an email client, a news feed aggregation system (RSS / Atom) and a WYSIWYG html page editor Composer within one product. The Chatzilla IRC client, the DOM Inspector web development toolkit, and the

Lightning calendar scheduler are offered as preinstalled add-ons. The new release brings fixes and changes from the current Firefox codebase (SeaMonkey 2.53 is based on the Firefox 60.8 browser engine, porting security-related fixes and some improvements from current Firefox branches).

https://blog.seamonkey-project.org/2022/07/11/seamonkey-2-53-13-is-out/

Audacious 4.2 Released:
11.07.2022

Audacious 4.2 is out , originally branched off from the Beep Media Player (BMP) project, which is a fork of the classic XMMS player. The release comes with two user interfaces: based on GTK and Qt. Builds are prepared for various Linux distributions and for Windows.

https://audacious-media-player.org/news/53-audacious-4-2-released

Release of Calibre 6.0:
11.07.2022

Calibre 6.0 is available , automating the basics of maintaining an e-book collection. Calibre offers interfaces for navigating the library, reading books, converting formats, synchronizing with portable reading devices, and viewing news about new products on popular web resources. The composition also includes a server implementation for access to your home collection from anywhere on the Web.

https://calibre-ebook.com/new-in/fifteen

GCC approves inclusion of Rust language support:
11.07.2022

The GCC Steering Committee has approved the inclusion of the gccrs (GCC Rust) implementation of the Rust compiler into the core GCC . After integrating the frontend, the standard GCC toolkit can be used to compile Rust

programs without the need to install the rustc compiler built using LLVM developments.

The developers of gccrs are encouraged to start working with the GCC change review and release teams to finalize and approve patches in terms of meeting the technical requirements for code being added to GCC. Assuming development of gccrs continues as planned and no unforeseen issues are identified, the Rust language front-end will be integrated into the GCC 13 release scheduled for May next year. The Rust implementation in GCC 13 will be in beta status, not yet enabled by default.

https://gcc.gnu.org/pipermail/gcc/2022-July/239057.html

Network Security Toolkit 36 released:
12.07.2022

After a year of development , the NST 36 (Network Security Toolkit) Live distribution has been published , designed to analyze network security and monitor operation thereof. The size of the

bootable iso image (x86_64) is 4.1 GB. A special repository has been prepared for Fedora Linux users, which makes it possible to install the framework of the NST project into an already installed system. The distribution is based on Fedora 36 and allows installation of additional packages from external repositories that are compatible with Fedora Linux.

The distribution includes a large selection of applications related to network security (for example: Wireshark, NTop, Nessus, Snort, NMap, Kismet, TcpTrack, Etherape, nsttracroute, Ettercap, etc.). To manage the security check process and automate the call of various utilities, a special web interface has been made, which also integrates a web frontend for the Wireshark network analyzer. The distribution's graphical environment is based on FluxBox.

https://sourceforge.net/p/nst/news/2022/07/nst-version-36-13232-released/

Up to 4 times faster implementation of memchr function proposed for Linux kernel:
12.07.2022

A set of patches with an optimized implementation of the memchr () function used to search for a character in an array is proposed for inclusion in the Linux kernel . Unlike the old version, which used a byte-by-byte comparison, the proposed implementation is built taking into account the full use of 64- and 32-bit CPU registers. Instead of bytes, the comparison is performed using machine words, which allows at least 4 bytes to be compared at a time.

When searching in large strings, the new version turned out to be about 4 times faster than the old one (for example, for strings of 1000 characters). For small strings, the efficiency of the new implementation is not as significant, but still higher than the original version. In the Linux kernel, the size of the strings processed in memchr() reaches 512 bytes. The performance gain for 512 byte strings, in a situation where the search character is at the end of the string, is 20%.

Testing the 5.18 kernel with the new "memchr()" variant for 32-bit and 64-bit architectures did not reveal any issues. The overall performance gain of kernel subsystems when using the optimized "memchr()" variant has not yet been evaluated, nor has the expediency of replacing the implementation been analyzed (the memchr() function call occurs 129 times in the kernel code, including in the code of drivers and file systems).

https://www.phoronix.com/scan.php?page=news_item&px=Linux-Kernel-Faster-memchr

Heroes of Might and Magic 2 open engine release - fheroes2 - 0.9.17:
12.07.2022

The fheroes2 0.9.17 project release is out, which recreates the Heroes of Might and Magic II game engine from scratch. The project code is written in C++ and distributed under the GPLv2 license. To run the game, the original game resource files are required, which can be obtained, for example, from the demo version of Heroes of Might and Magic II or from the original game.

https://github.com/ihhub/fheroes2/releases/tag/0.9.16

X.Org Server 21.1.4 update with security fixes:
12.07.2022

A corrective release of X.Org Server 21.1.4 is available that fixes two vulnerabilities in the Xkb extension handlers that allow you to escalate your privileges on the system if the X server is running as root, or execute code on a remote system if session redirection is used for access X11 using SSH. The vulnerabilities are caused by the lack of proper size checking in the ProcXkbSetGeometry (CVE-2022-2319) and ProcXkbSetDeviceInfo (CVE-2022-2320) request handlers, which can be exploited to write to a

memory area outside the bounds of the allocated buffer.

In the case of ProcXkbSetGeometry, there was no check for the size of the request fields, which allowed the client to cause an overflow by specifying a number of sections in the request that did not match the data actually sent. In the ProcXkbSetDeviceInfo handler, the vulnerability is caused by an incorrect order of function calls - the function for checking parameters was called after the function in which these parameters were used (the names of the functions were mixed up and the XkbSetDeviceInfo function included the code for checking, and XkbSetDeviceInfoCheck - for setting values).

https://lists.x.org/archives/xorg/2022-July/061036.html

Release of Tails 5.2 :
13.07.2022

Tails 5.2 (The Amnesic Incognito Live System), a specialized distribution, based on the Debian and designed for anonymous access to a network, has been released.

Anonymous exit to Tails is provided by the Tor system. All connections, except traffic through the Tor network, are blocked by default by the packet filter. Encryption is used to store user data in the save user data between runs mode. A 1Gb iso image has been prepared for download , capable of working in Live mode.

The new release was ready on June 28, as expected, but on July 13 due to the delay in the publication of a new stable version of the Tor Browser. As a result, the 13th alpha version of Tor Browser 11.5 (11.5a13-build2) is included in the release. Also included is an update to the Thunderbird 91.11.0 mail client. Tails 5.3 is scheduled to be released on July 26th.

https://forum.torproject.net/t/new-release-tails-5-2/3944

Red Hat appoints new CEO:
13.07.2022

Red Hat has announced the appointment of a new President and Chief Executive Officer (CEO). The new head of the company appointed Matt Hicks, who previously served as vice president of Red Hat products and technology. Mat joined Red Hat in 2006 and began working on the development team doing the work of porting code from Perl to Java. Later, Matt led the development of hybrid cloud technologies and became one of the leaders of the Red Hat OpenShift project.

Paul Cormier, the former president of Red Hat, who led the company after Jim Whitehurst, was transferred to the position of chairman of the board of directors (chairman) of Red Hat. Matt Hicks and Paul Cormier will report to Arvind Krishna, CEO of IBM, which took over Red Hat in 2019 but granted independence and the ability to operate as a separate business unit.

https://www.redhat.com/en/about/press-releases/red-hat-names-matt-hicks-president-and-chief-executive-officer

Updating a DogLinux Build to Check Hardware:
07/14/2022

An update has been prepared for a specialized build of the DogLinux distribution (a Debian LiveCD in the style of Puppy Linux), built on the Debian 11 "Bullseye" and designed for testing and servicing PCs and laptops. Includes applications such as GPUTest, Unigine Heaven, CPU-X, GSmartControl, GParted, Partimage, Partclone, TestDisk, ddrescue, WHDD, DMDE. The distribution allows you to check the performance of the equipment, load test the processor and video card, check SMART of HDD and NVMe SSD. The size of the Live image downloaded for USB drives is 1.14 GB

https://gumanzoy.blogspot.com/2021/05/liveusb-1100mb-doglinux-debian-11.html

386BSD, 30 years ago today:
14.07.2022

On July 14, 1992, the first working release (0.1) of the 386BSD operating system was published , which offered a BSD UNIX implementation for the i386

processors, based on the 4.3BSD Net / 2 developments. The system was equipped with a simplified installer, included a complete networking stack, a modular kernel, and a role-based access control system. In March 1993, out of a desire to make patching more open and unify support for various architectures, the NetBSD fork was formed based on 386BSD 0.1, and in June 1993, the FreeBSD project was founded on the basis of 4.3BSD-Lite 'Net/2' and 386BSD 0.1, which incorporates patches not included in 386BSD.

https://groups.google.com/forum/#!original/comp.unix.bsd/zA8Jl89HSRo/DqMzaUUZ7wYJ

Builds with LXQt 1.1 user environment prepared for Lubuntu 22.04:

14.07.2022

The developers of the Lubuntu distribution announced the publication of the Lubuntu Backports PPA , offering packages for installation in Lubuntu/Ubuntu 22.04 of the current release of the LXQt 1.1 user environment . Initial builds of Lubuntu 22.04 ship the deprecated LXQt 0.17 branch published in April 2021.

The Lubuntu Backports repository is currently in beta testing and is similar to the fresh KDE desktop repository maintained by the Kubuntu and KDE Neon developers. The official release of backports is scheduled for July 19, if no significant problems are identified.

https://lubuntu.me/jammy-backports-22-04-1-cft/

Tor Browser 11.5:

15.07.2022

After 8 months of development , a major release of the Tor Browser 11.5 is presented , which continues the development of functionality based on the Firefox 91 ESR branch . The browser is focused on providing anonymity, security and privacy, all traffic is redirected only through the Tor network. It is impossible to contact the system directly through the regular network connection, which does not allow the real IP of the user (in the case of a browser hack, attackers can access the system network settings, so products such as Whonix should be used to completely block possible leaks). Tor Browser builds are prepared for Linux, Windows and macOS

https://blog.torproject.org/new-release-tor-browser-115/

Chrome OS Flex operating system ready for installation on any hardware:

15.07.2022

Google announced the readiness of Chrome OS Flex for widespread use. Chrome OS Flex is a standalone variant of Chrome OS designed for use on desktops, not just devices that ship with Chrome OS natively, such as Chromebooks, Chromebases, and Chromeboxes.

Key areas of application for Chrome OS Flex include upgrading existing legacy systems to extend their lifecycle, reducing costs (for example, no need to pay for an OS and additional software such as antivirus), improving infrastructure security, and unifying software used by companies and educational institutions. The system is supplied free of charge, and the source texts are distributed under the Apache 2.0 free license.

The system is based on the Linux kernel, the upstart system manager, the ebuild/portage build toolkit, open components, and the Chrome web browser. The user environment of Chrome OS is limited to a web browser, and instead of standard programs, web applications are provided, however, Chrome OS includes a full multi-window interface, desktop and taskbar. As to virtualization mechanisms, layers are provided for executing programs from Android and Linux. It is noted that the optimizations implemented in Chrome OS Flex can significantly reduce energy consumption compared to using other operating systems (energy savings up to 19%).

Chrome OS Flex edition uses a verified boot process, integration with cloud storage, automatic installation of updates, Google Assistant, encrypted storage of user data, and mechanisms to prevent data leakage in case of device loss/theft. It provides tools

for centralized systems management that are the same as Chrome OS - access policies can be configured and updates can be managed using the Google Admin console.

Currently, the system has been tested and certified for use on 295 different models of PCs and laptops. Chrome OS Flex can be deployed by booting over the network or booting from a USB drive as well as in live mode. After evaluating the suitability of the new solution, you can replace the existing OS via network boot or from a USB drive. Stated system requirements: 4 GB RAM, x86-64 Intel or AMD CPU, and 16 GB internal storage. All user-specific settings and applications are synchronized on first login.

The product was created with the help of Neverware, acquired in 2020, who released the CloudReady distribution, which is a build of Chromium OS for legacy equipment and devices that were not originally equipped with Chrome OS. During the takeover, Google promised to integrate CloudReady's work into the core Chrome OS. The result of this was, Chrome OS Flex edition, will be supported in the same way

as Chrome OS support. Users of the CloudReady distribution will be able to upgrade their systems to Chrome OS Flex.

https://cloud.google.com/blog/
products/chrome-enterprise/
chromeos-flex-ready-to-scale-to-
pcs-and-macs

ARCAN DESKTOP ENGINE RELEASE 0.6.2:
16.07.2022

After a year of development, Arcan 0.6.2 desktop engine has been published , which combines a display server, a multimedia framework and a game engine for processing 3D graphics. Arcan can be used to create a variety of graphical systems, from user interfaces for embedded applications to self-contained desktop environments. Including the three-dimensional Safespaces desktop for virtual reality systems and the Durden desktop environment, that are being developed. The project code is written in C and distributed under the BSD license (some components under GPLv2+ and LGPL).

The new release continues the development of tools for remote work with a desktop over a network. Network access is provided by the "arcan-net" graphical server that implements the A12 protocol, which combines the capabilities of technologies such as mDNS (local service definition), SSH (interactive text shell), X11/VNC/RDP (interactive graphical shell), RTSP (multimedia streaming) and HTTP (resource download and state synchronization).

Arcan is not tied to a separate graphics subsystem and can run on top of various system environments (BSD, Linux, macOS, Windows) using pluggable backends. For example, you can it run on top of Xorg, egl-dri , libsdl and AGP (GL/ GLES). The Arcan Display Server can run X, Wayland and SDL2 based client applications. The key criteria used in the design of the Arcan API are security, performance, and debuggability. To simplify the development of interfaces, they propose to use the Lua language.

https://arcan-fe.com/2022/07/15/
arcan-0-6-2-its-all-connected/

T2 SDE 22.6 META DISTRIBUTION RELEASED:
16.07.2022

The T2 SDE 21.6 meta distribution has been released, providing an environment for creating your own distributions, cross-compiling and keeping package versions up to date. Distributions can be based on Linux, Minix, Hurd, OpenDarwin, Haiku, and OpenBSD. Of the popular distributions built on top of the T2 system, Puppy Linux can be noted. The project provides basic bootable iso images with a minimal graphical environment in versions with the Musl library (653MB) and Glibc (896MB). More than 2000 packages are available for building.

The new release adds support for arc, avr32, x32, and nios2 architectures, and brings the total number of supported hardware architectures to 22 (alpha, arc, arm, arm64, avr32, hppa, ia64, m68k, mipsel, mips64, nios2, ppc, ppc64-32, ppc64le, riscv, riscv64, s390x, sparc64, superh, x86, x86-64, and x32 Updated component versions, including GCC 11, Linux kernel 5.17.15, LLVM/Clang 14, GCC 12.1, and recent releases X.org, Mesa,

Firefox, Rust, GNOME and KDE.

https://www.mail-archive.com/t2@t2-project.org/msg04039.html

THE XFWM4 WINDOW MANAGER HAS BEEN PORTED TO WORK WITH WAYLAND:
07/17/2022

As part of the xfwm4-wayland project, an independent enthusiast is developing a version of the xfwm4 window manager, adapted to use the Wayland protocol and translated to the Meson build system. Wayland support in xfwm4-wayland is provided through integration with the wlroots library and provides basic functions for the Wayland-based composite manager. Xfwm4 is used in the Xfce user environment to display, decorate, and transform windows.

The developer has not yet decided whether to develop the port independently or as part of Xfce. If the project remains independent, it will use the name xfway, which was previously used by the same author to experiment with developing a composite server for Xfce running on top of the libweston library. In its current form, the xfwm4 port based on wlroots has not been completed, and compared to the previous attempt to create a composite server based on libweston, the new port still lags behind in functionality. At the same time, the port is actively developing, for example, support for switching windows using Alt + Tab was added a few days ago . Of the future plans , the provision of work in both Wayland and X11 is mentioned,

As for the official support for Wayland in Xfce, it is still stalling in place. In accordance with the plan published a year ago , they intend to achieve acceptable operation of the main applications in Wayland-based environments in the release of Xfce 4.18, and a full transition to Wayland is classified as a long-term plan. There were discussions about using libmutter or wlroots as options for adapting Xfce for Wayland, but ultimately the choice was made in favor of libmutter, as it is more familiar to developers working with GTK. Unlike the wlroots-based port, the libmutter-based solution will require the xfce4-panel and xfdesktop components to be integrated into the composite server.

https://lists.freedesktop.org/archives/wayland-devel/2022-July/042273.html

OPENSUSE PROVIDES FULL SUPPORT FOR THE NIM PROGRAMMING LANGUAGE:
18.07.2022

The developers of the openSUSE distribution have announced the start of initial support for packages related to the Nim programming language. Primary support means regular and prompt generation of updates corresponding to the current releases of the Nim toolkit. Packages will be generated for the x86-64, i586, ppc64le, and ARM64 architectures and tested against the openSUSE automated testing systems before publication. Earlier, the Arch Linux distribution came up with a similar support initiative for Nim.

The Nim language is focused on solving problems of system programming, uses static typing and was created with an eye on Pascal, C++, Python and Lisp. Nim source code is compiled into a C, C++, Objective-C, or JavaScript representation. Subsequently, the resulting C/C++ code is compiled into an executable file using any available compiler (clang, gcc, icc, Visual C++), which makes it possible to achieve performance close to C, if we do not take into account the costs of running the garbage collector. Similar to Python, Nim uses indentation as block separators. Metaprogramming tools and capabilities for creating domain-specific languages (DSLs) are supported.

https://news.opensuse.org/2022/07/14/os-reaches-first-class-support-for-nim/

AN EXPERIMENT TO IMPROVE THE EFFICIENCY OF THE CAT UTILITY:
18.07.2022

Ariadne Conill, creator of the Audacious music player, pioneer of the IRCv3 protocol, and leader of the Alpine Linux security team, has done research on how to optimize the cat utility that prints one or more files to standard output. To improve the performance of cat on

Linux, two optimizations have been proposed based on the use of the sendfile and splice system calls to directly copy data between file descriptors at the kernel level without a context switch to user space.

The base implementation, using traditional read and write calls resulting in a context switch, when copying a 4GB file from tmpfs showed a throughput of 3.6 GB/s. The sendfile-based variant increased performance to 6.4 GB/s, and the splice-based variant to 11.6 GB/s, i.e. turned out to be faster than the original version by more than 3 times.

https://ariadne.space/2022/07/17/how-efficient-can-cat1-be/

QUBES OS 4.1.1 UPDATE:
07/19/2022

An update of the Qubes 4.1.1 operating system is out, which implements the idea of using a hypervisor for strict isolation of applications and OS components (each class of applications and system services run in separate virtual machines). It requires a system with 6 GB of RAM and a 64-bit Intel or AMD CPU with support for VT-x c EPT / AMD-v c RVI and VT-d / AMD IOMMU technologies, an Intel GPU is desirable (NVIDIA and AMD GPUs are not well tested). The size of the installation image is 5.5 GB.

Applications in Qubes are divided into classes depending on the importance of the data being processed and the tasks being solved. Each application class (e.g. work, entertainment, banking) as well as system services (network subsystem, firewall, storage, USB stack, etc.) run in separate virtual machines that run using the Xen hypervisor. At the same time, these applications are available within the same desktop and are highlighted for clarity in different window frame colors. Each environment has read access to the underlying root FS and local storage that does not overlap with the storages of other environments; a special service is used to organize application interaction.

In the new release, only the update of the versions of the programs that form the basic system environment (dom0) is noted. A template for creating virtual environments based on Fedora 36 has been prepared. By default, the Linux 5.15 kernel is proposed. The Qubes 4.0 branch is scheduled to be demaintained on August 4, and users of the old branch are encouraged to switch to using Qubes 4.1.

https://www.qubes-os.org/news/2022/07/18/qubes-4-1-1/

RELEASE OF NEBULA GRAPH 3.2:
19.07.2022

The open DBMS Nebula Graph 3.2 has been released, designed to efficiently store large sets of interconnected data that form a graph that can have billions of nodes and trillions of links. The project is written in C++ and distributed under the Apache 2.0 license. Client libraries for accessing the DBMS are prepared for Go, Python, and Java.

The DBMS uses a distributed architecture without resource sharing, which implies the launch of independent and self-sufficient graphd query processing processes and storaged storage processes. The orchestration of data movement and the provision of meta-information about the graph is handled by a meta-service. To ensure data consistency, a protocol based on the RAFT algorithm is used .

https://github.com/vesoft-inc/nebula/releases/tag/v3.2.0

NOMENUS-REX 0.7.0 RELEASED:
20.07.2022

A new release of Nomenus-rex , a command-line utility for bulk file renaming, is available. It is configured using a simple configuration file. The program is written in C++ and distributed under the terms of GPL 3.0. Since the previous update, 6 days ago, the utility has acquired functionality, and numerous errors and shortcomings have been fixed.

https://github.com/ANGulchenko/nomenus-rex

Two more games from studio KD-Vision goes open:

20.07.2022

Following in the source code footsteps of the games such as "Vangers", "Perimeter" and "Moonshine", the source code of two more games by the KD-Vision studio (formerly KD-Lab) were published - "Perimeter 2: New Earth" and "Maelstrom: The Battle for Earth Begins ". Both games are built on the Vista Engine, an evolution of the Perimeter engine that supports water surfaces and other new features. The publication of source code is handled by the community of fans of KD-Lab games with the permission of the developers. The source code of the game are published under the GPLv3 license, game resources can be used from Steam.

https://github.com/KD-lab-Open-Source/VistaEngine

Release of the Qt Creator 8 development environment

22.07.2022

The Qt Creator 8.0 IDE has been released , designed to create cross-platform applications using the Qt library. Both the development of classic C++ programs and the use of the QML language are supported, in which JavaScript is used to define scripts, and the structure and parameters of interface elements are set by CSS-like blocks. Downloads are ready for Linux, Windows and macOS.

https://www.qt.io/blog/qt-creator-8-released

GameMode 1.7 is available:

22.07.2022

Feral Interactive has published the release of GameMode 1.7 optimizer, implemented as a background process that changes various Linux system settings on the fly to achieve maximum gaming application performance. The project code is written in C language and is distributed under the BSD license.

For games, it uses the special libgamemode library, which allows you to request the inclusion of certain optimizations that are not used by default in the system at the time of game execution. There is also a library option available to run the game in automatic optimization mode (loading libgamemodeauto.so via LD_PRELOAD when starting the game), without the need to make changes to the game code. The inclusion of certain optimizations can be controlled through the configuration file.

For example, using GameMode, power saving modes can be turned off, resource allocation and task scheduling parameters (CPU governor and SCHED_ISO) can be changed, input / output priorities can be rearranged, screen saver startup is blocked, various enhanced performance modes are enabled in NVIDIA and AMD GPUs, and NVIDIA GPUs are overclocked and run scripts with user-defined optimizations.

Release 1.7 introduces a new gamemodelist utility that allows you to view a list of processes associated with games running using the GameMode shared library. Instead of being tied to /usr/bin, paths to executable files are now defined through the PATH environment variable. For sysusers.d, the gamemode.conf configuration file is implemented, which creates a separate group for GameMode.

https://github.com/FeralInteractive/gamemode/releases/tag/1.7

vSMTP - mail server with built-in language for traffic filtering:

22.07.2022

The vSMTP project is developing a new mail server (MTA) aimed at providing high performance and providing flexible options for filtering and traffic management. The project code is written in Rust and distributed under the GPLv3 license.

According to developer - who published the test results, vSMTP is ten times faster than competing MTAs. For example, vSMTP showed

4-13 times higher throughput than Postfix 3.6.4 when sending 100 KB messages and establishing 4-16 concurrent sessions. High performance is achieved through the use of a multi-threaded architecture, in which asynchronous channels are used to communicate between threads.

vSMTP is being developed with a primary focus on high security, which is achieved through extensive testing using static and dynamic tests, as well as the use of the Rust language, which, if used properly, avoids many memory-related errors. Configuration files are defined in TOML format

https://github.com/viridIT/vSMTP/
blob/develop/benchmarks/
README.md#benchmarks

Apache OpenOffice 4.1.13 released:
22.07.2022

Apache OpenOffice 4.1.13 is available, which offers 7 fixes . Packages are prepared for Linux, Windows and macOS. The new release fixes for a vulnerability that has not yet been detailed, but

mentions that the problem is related to the master password. The new release has changed the method of encoding and storing the master password, so users are advised to backup their OpenOffice profile before installing version 4.1.13, as the new profile will break compatibility with previous releases.

https://cwiki.apache.org/
confluence/display/OOOUSERS/
AOO+4.1.12+Release+Notes

Release of Cine Encoder 3.5.4:
23.07.2022

The video converter Cine Encoder 3.5.4 is out. The program can be used to change HDR metadata such as Master Display, maxLum, minLum, and other parameters. The following encoding formats are available: H265, H264, VP9, MPEG-2, XDCAM, DNxHR, ProRes. Cine Encoder is written in C++, uses the FFmpeg, MkvToolNix and MediaInfo utilities to work, and is distributed under the GPLv3 license. Packages for major distributions include: Debian, Ubuntu, Linux Mint, CentOS,

Fedora, Arch Linux, Manjaro Linux.

https://github.com/CineEncoder/
cine-encoder

FFmpeg 5.1 multimedia package released:
23.07.2022

After six months of development, the FFmpeg 5.1 multimedia package is available, which includes a set of applications and a collection of libraries for operations on various multimedia formats (recording, converting and decoding audio and video formats). The package is distributed under the LGPL and GPL licenses, the development of FFmpeg is carried out adjacent to the MPlayer project .

https://ffmpeg.org/
index.html#news

The ban on the sale of open source software through the Microsoft Store has been lifted:
22.07.2022

Microsoft has amended the terms of use for the Microsoft Store to change the previously added requirement , which prohibits the catalog from profiting from the sale of open source software that is normally distributed free of charge. The change was made after criticism from the community and the negative impact of the change on the funding of many legitimate projects.

The motive for banning the sale of open source software in the Microsoft Store was to combat the fraudulent resale of initially free applications, but the Software Freedom Conservancy (SFC) has shown that open source software already has an effective tool to combat fraudsters distributing clones of popular programs - trademark registration and the introduction of a clause in the rules for their use prohibiting resale under the original name. At the

same time, users retain the possibility of paid distribution of their builds, but should not distribute them on behalf of the main project (depending on the rules adopted by the projects, delivery under a different name or adding a label indicating that the build is not official is required).

https://docs.microsoft.com/en-us/windows/uwp/publish/store-policies-change-history

THE OFFICIAL FULL CIRCLE APP FOR UBUNTU TOUCH - UPDATED!

Brian Douglass has updated his FCM app for Ubports Touch devices that will allow you to view current issues, and back issues, and to download and view them on your Ubuntu Touch phone/tablet.

INSTALL

Either search for 'full circle' in the Open Store and click install, or view the URL below on your device and click install to be taken to the store page:
https://uappexplorer.com/app/fullcircle.bhdouglass

HUGE thanks to Brian for this.
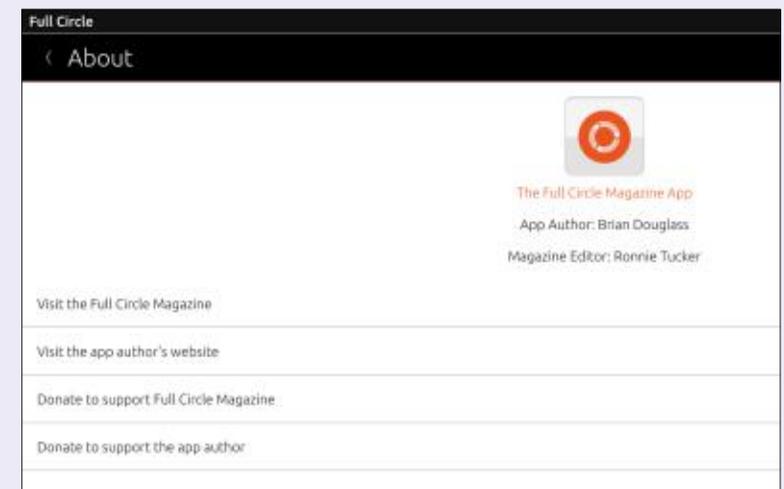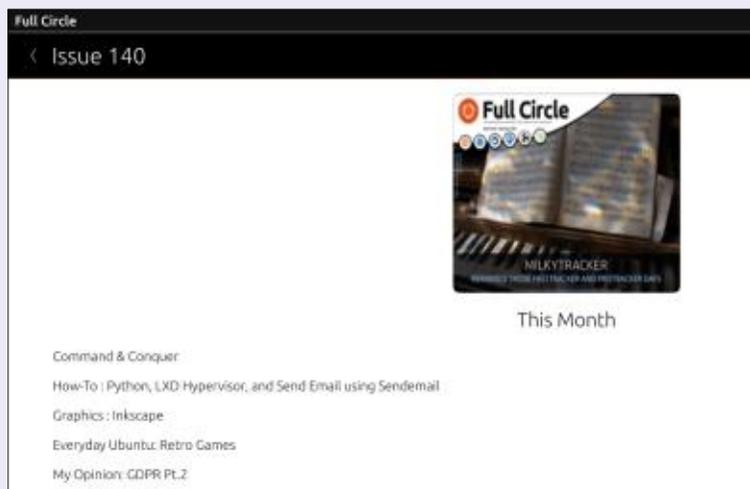
The VirtualBox Networking Primer
Connecting and Configuring Virtual Machines

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

COMMAND & CONQUER

Written by Erik

Welcome back to another issue of 'command and conquer'. As many of you may know, I'm on the lookout for a distribution to suit my old potato laptops. I think I have decided on XFCE for the DE. XFCE is simple and very customizable, and it has some nifty keyboard shortcuts built in. Want to learn them? Then read on as we will cover them in this issue.

Though some distributions use CTRL+Esc for the menu, with Xubuntu, you can use just the "super" key. The one with the little black-and-white Danish / Swedish / Norwegian / Finnish flag on it. ;o) Some keyboards have a context menu key on the right, that's the opposite side of the black-and-white flag, Stan, that you can use to bring up a context menu. However, if your keyboard does not have this key, you can use ALT+F1 to pop it into existence anywhere the mouse pointer is. However, this is not application specific, like a right-click, no matter what some may say. You can test this by right-clicking on the desktop and right-clicking in an application, then repeating it with

the key press. ALT+F2 (or super + r) should launch your finder – basically the search in your whisker menu. ALT+3 should bring up the whole whisker menu at your mouse pointer. CTRL+ALT+Esc are the Linux kill (xkill) keys. Your mouse pointer should change to indicate that xkill has been activated and

will kill any application you click it on.

For Thunar file manager, super + f will work, though on Xubuntu, super + e (for windows users) is also Thunar file manager, by default. My favourite Thunar shortcut is F4, for opening a terminal in the current

folder. On standard XFCE, super + e usually launches mousepad. Most people know that CTRL+ALT+t brings up a terminal, but on Xubuntu, super + t will also suffice. Media keys are a wonderful thing, but out-of-the-box Xubuntu can emulate these keys if your keyboard is lacking. Super + m will launch your mail reader (Thunderbird usually), and super +w
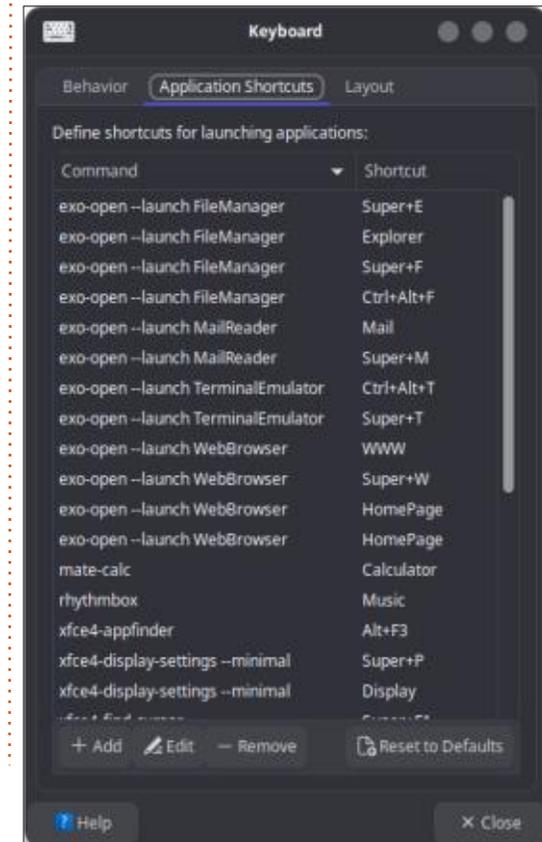
will launch your web browser. Super and F1 will ping your mouse pointer, so you don't lose it. At any time, you can go ahead and change any of these default bindings, in keyboard -> application shortcuts.

As I said, we are talking out-of-the-box here. You can also manipulate windows; most of you know ALT+F4 to close a window and ALT+TAB to switch windows, but do you know ALT+F9 to minimize a window? We know that F11 maximizes a browser or even some applications, but ALT+F11 will maximize things like Thunar; try it out. Would you like to send your current Thunar window to the 'bottom of the pile of windows you have open' and bring it back to the top? Then use ALT+SHIFT+PGDN. But wait! There's more. If you act now, for a limited time only, you can use ALT+SPACE to emulate clicking on the folder icon in the top-left of your Thunar window. Yes, you heard correctly, 100% mouse-free action with the push of two buttons! Now obviously browsers are not included here as browsers have their own shortcut keys, so do not try these when your browser has focus. That's right folks, browser shortcut keys sold separately. CTRL+n in Thunar, will

net you a new window and CTRL+t a new tab. For that to work in the standard terminal, you need the shift-key. CTRL+SHFT+t will get you another tab in XFCE terminal.

Remember that if you change things like your composter, things like ALT+Mouse wheel-up, will no longer zoom your display. Do not confuse it with CTRL+Mouse wheel-up that will increase the zoom inside an application that supports it. For instance, in Thunar, the folder icons will increase in size, but the text will not. Should you wish to move a window, that, say, went out of bounds with a screen swap, you can use ALT+left-click to move a window, without grabbing it by the title bar.

If you use workspaces, ALT+INS will increase the amount of workspaces, whilst ALT+DEL will decrease them. If you press the keys and nothing seems to be happening, add the workspace switcher to one of your panels.

Let's generalise for a second, usually CTRL is used in the "general" sphere. Things like: CTRL+o for open, CTRL+n for new, CTRL+q for quit. These keys should work in *most – not *all
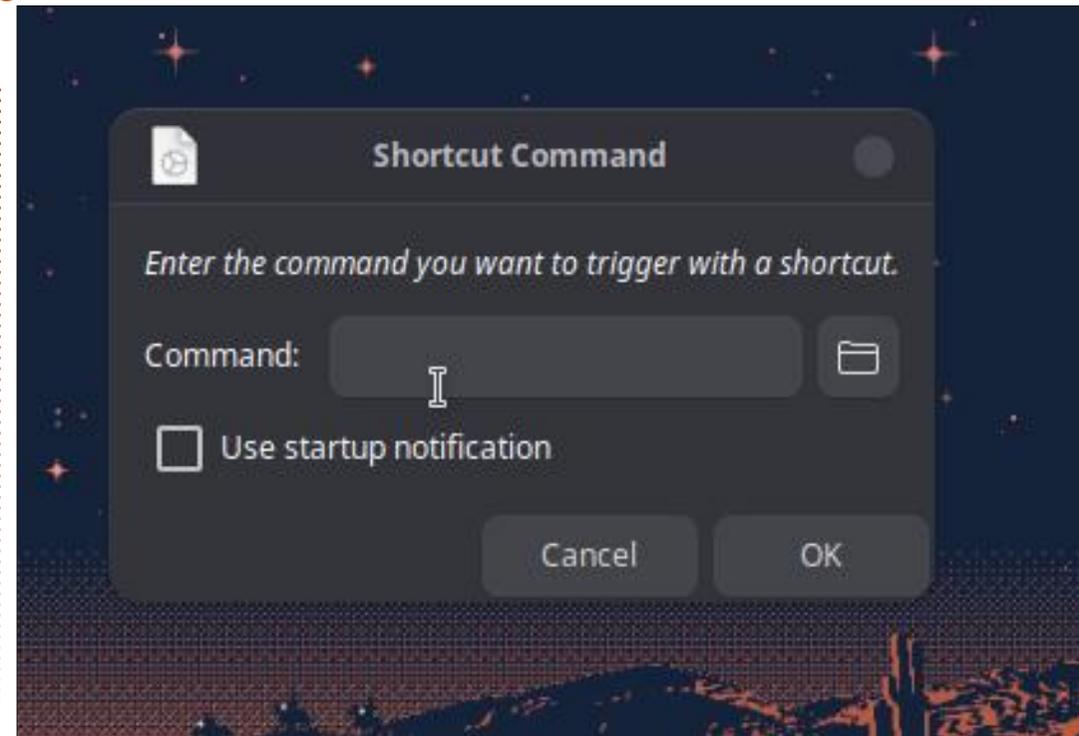
applications. CTRL+p to print, CTRL+s to save, CTRL+f to find, and the usual CTRL+c to copy, CTRL+v to paste, CTRL+x to cut, should get you almost all the way there. There is also CTRL++ to enlarge your view or CTRL+ - for the opposite, with CTRL+0 for "return to normal" should things get too big or too small, and don't forget CTRL+r to refresh (not F5). I did not forget CTRL+a for select all, or CTRL+z for undo, but redo is the odd one out as sometimes it is CTRL+y or CTRL+SHIFT+z. These are ones you should know, as they work in other operating systems too.

The default screenshot tool in XFCE is screenshooter, and it also has some shortcut keys, PRTSCR to take a full screen screenshot, and SHIFT+PRTSCR to allow you to select the area of the screen you would like to get a picture of.

And that is the short n' sweet of it, now to create your own. Open the keyboard app and navigate to 'application shortcuts'. Don't worry, we are on your side. If you see this little popup, and don't know what to do, let us help.

COMMAND & CONQUER

When you right-click on any menu item in the whisker menu, you will see "edit application". This is where you can copypasta the command you need from, into this little box prompting you for a "Command:". Once you click "OK", it will ask you for your key combination; be sure it does not overlap with any others beforehand and make sure you press correctly. If you made a mistake, you can always remove it with the "-" at the bottom, or if it was successful you should see something like this:

As you can see, my Cudatext shortcut is right at the top. Hooray! You are now well on your way to taming XFCE.
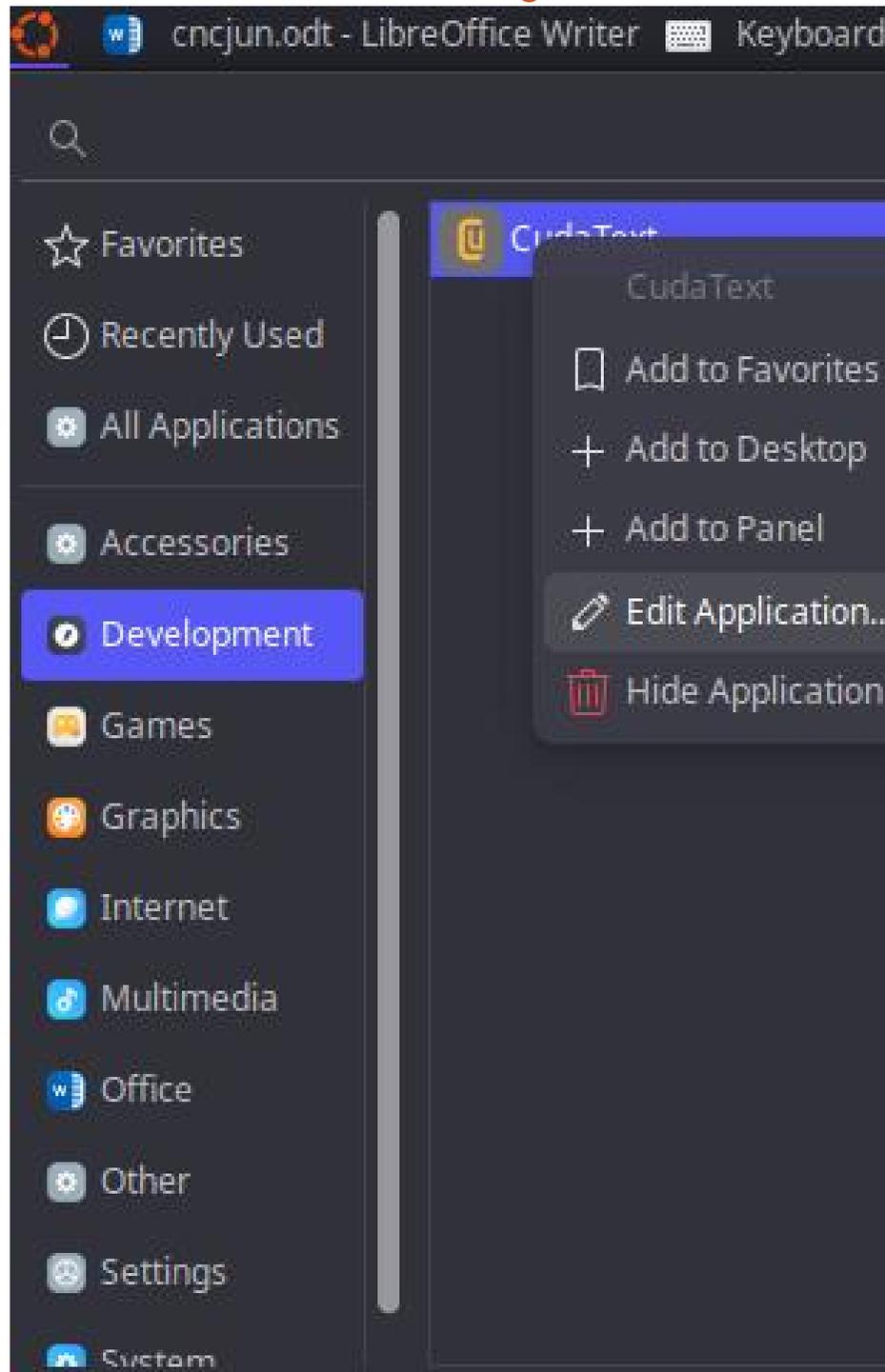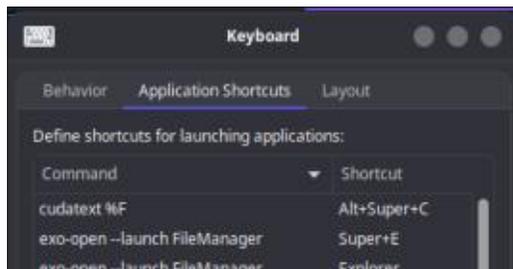
Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

Sorry about not being able to continue the topic last month, but we are back. Let's jump right into the project where we left on in issue #181. Here is what the latest version of the program looks like (image shown bottom right)

Just to remind you, there are three possible color settings for most widgets. A Selected Background color, an Active Background color, and an Inactive Background color. Here is how they work...

For the most part, this all pertains to the TNotebook Tabs, but have "carry overs" into most other widgets as well.
Select Background Color - The background color of the tab (widget) you are currently on
 Active Background Color - The background of the tab (widget) the mouse is hovering over
Inactive Background Color - The background of all other tabs (widgets)

Most of the action happens within the TNotebook. There are three main panels (all TLableframes (ttk::Labelframes)) that hold the widgets that we will need to make the project work. From left to right, we have the background colors, the foreground colors, and a small sampling of various widgets that will act as a preview, showing how the colors will look.

Taking a closer look at the background colors TLableframe (the foreground works almost exactly the same, except for dealing with the foreground colors), we'll concentrate on the background panel right now.

We have three static text
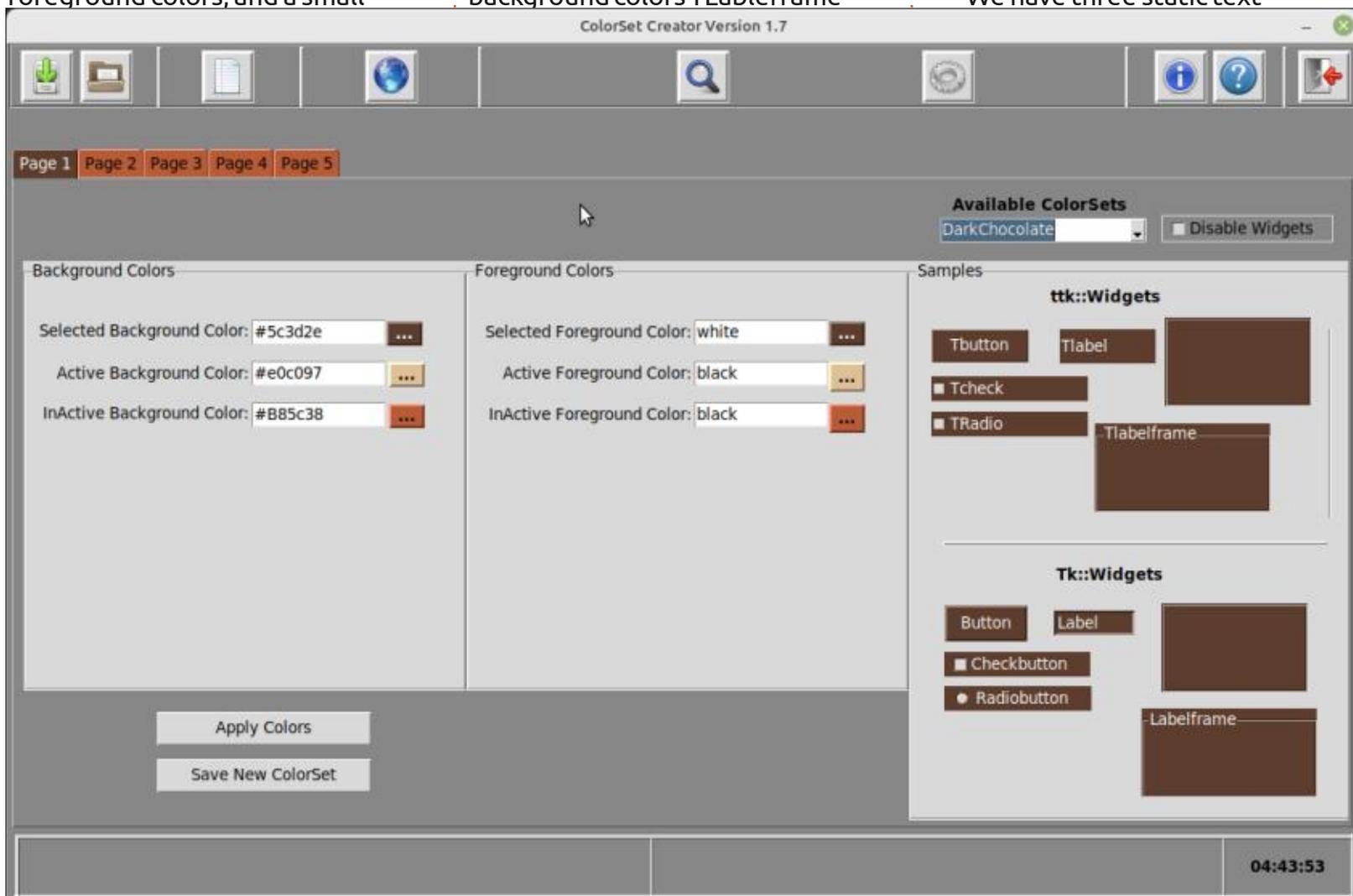
widgets (ttk::Labels), three Entry widgets (ttk:Entries), and three
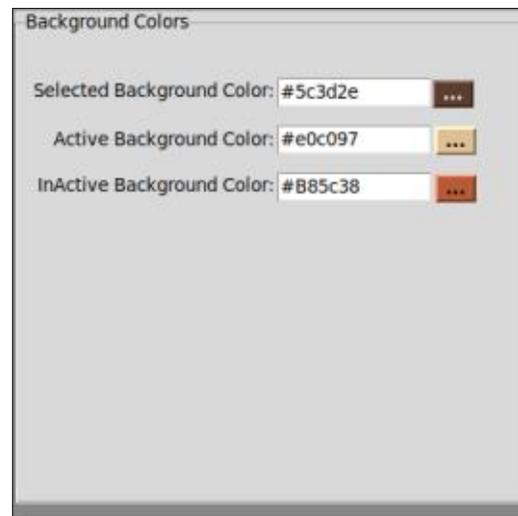
Buttons (Standard Tk::Buttons). Between the Entry widgets and the buttons, we can pick the colors we want to try. All three buttons have the same basic callback command function (lambda : on_bgColor(x) where x is the number of the button). This allows any of the three buttons to call the same function, with a different index, so the program knows which Button made the call. The buttons will call the ColorSelect dialog. If you know what color you want, you can put the color directly into the Entry box of the Labelframe or use the dialog. The dialog also lets you use the sliders or direct entry into the Entry box.

Here is what you need to use the ColorSelect dialog.
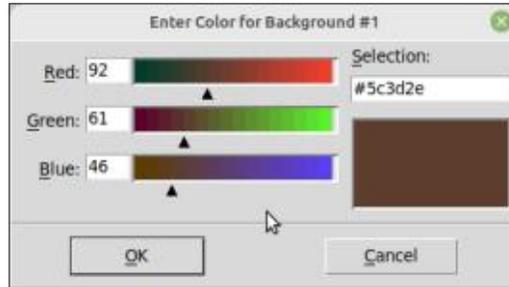
First, you need to import it from Tkinter.

```
import tkinter.colorchooser
as colorchooser
```

Then, when you want the colorchooser dialog to be shown, the syntax is:

```
result =
tkColorChooser.askcolor(color
, option=value, ...)
```

The parameters are:
Color - The initial color that the dialog will show. If you leave it blank, it will default to light gray.
Title - The title for the dialog window
Parent - The Toplevel form you wish the dialog to appear over. Usually, this would be your main form.

The return value comes back as

```
def on_bgColor(*args):

 global lastbg1, lastbg2, lastbg3, lastfg1, lastfg2, lastfg3
    if debug:
        print("ColorSetCreator_support.on_bgColor")
        for arg in args:
            print("another arg:", arg)
        sys.stdout.flush()
```

a tuple that comes in as (triple, color) – assuming the user clicks the Ok button. Triple is itself a tuple of (Red, Green, Blue) values (in the range of [0, 255]) and color is the regular Tkinter hex value object. If the user clicks the Cancel button, the return value will be (None,None).

When the dialog is shown, the user can use the sliders to create a color they like, enter a hex value (starting with "#") into the entry box, or enter one of the predefined Tkinter colors as a string (like "sky blue"). Any time you enter something into the entry box of the dialog, you MUST press the Enter key to "set" the information before you click the ok button (top right).

The TEntry widgets each have a textvar that allows the program to find the entered data simply and they are TEntry1Data, TEntry2Data and TEntry3Data. I've bound the three TEntry widgets to the same

callback function whenever a key is pressed on the keyboard and the widget is in focus. In this function, we are only looking for the <Return> key, Then we simply read the text var to see what the user has entered.

Now let's look at some of the code that is attached to the buttons. Remember, we call the code as on_bgColor(n) where n is the value we gave the button.

For the most part, the first portion of the code is generated by PAGE, showing each of the values passed into the function. I added the global statement and the if debug: portion of the code, so I can hide the value printout when I'm done with debugging.

Next we look at the argument being passed in (which is the number of the button) and get the last color that was assigned to that background color group from the

globals. This gives us the starting color for the Color Select dialog based on which of the three background colors we wish to work on.

We simply use an if statement to check the value passed in.

```
which = args[0]
if which == 1:
    colr = lastbg1
elif which == 2:
    colr = lastbg2
elif which == 3:
    colr = lastbg3
```

Simple enough, right? Now that we have the basic data, we can call the colorchooser dialog.

```
result =
colorchooser.askcolor(

  colr, title=f"Enter Color
for Background #{which}",
parent=root)
```

We set the starting color, the title of the dialog, and the name of the parent Toplevel so the dialog gets centered properly. The response from the user comes back

```
if result[1] != None:
    lastcolor = result[1]
    if which == 1:
        _w1.TEntry1Data.set(lastcolor)
        lastbg1 = lastcolor
        _w1.Button1.configure(background=lastbg1)
```

as the variable result.

Since the dialog returns two values (the first being a tuple containing R,G and B value, and the second returning the hex value of the color chosen), we need to check at least one of the two values. Tkinter doesn't allow for the RGB values to be used directly, so we want to check the hex value which comes in as the second value. In addition, the values can be either valid color values or two None values. I opted to check the second value, which is what we will be using to set the color if there is a value there. The first thing we to do is make sure that the user didn't click the Cancel button (bottom left).

If the returned value is not None, we then set the hex value into the TEntry widget and set the background color of the button to visually show the color that was chosen. The same code is basically used for the other two possible button/TEntry combinations. Then,

```
abspath1 = os.path.abspath('')
abspath2 = pathlib.Path().absolute()
abspath3 = pathlib.Path(__file__).parent.absolute()
localpath = os.path.dirname(os.path.abspath(__file__))
# 'cwd' stands for Current Working Directory
cwd = os.path.abspath(os.getcwd())
realpath = os.path.dirname(os.path.realpath(__file__))
print(f'Abspath1: {abspath1}')
print(f'Abspath2: {abspath2}')
print(f'Abspath3: {abspath3}')
print(f'LocalPath: {localpath}')
print(f'Current Working Directory: {cwd}')
print(f'Real Path: {realpath}')
```

finally we call the root.update() function just to make sure everything looks right (bottom right).

The Foreground color (the text color) is basically the same process, so we'll skip it here for this month. So here is what a simple color combination works out to be. Selected Background is Tab 1, Tab 2 is the Active background (where the mouse is hovering), and Tabs 3 through 5 are the Inactive Backgrounds.

In order to get the colors to

actually be applied to the widgets,
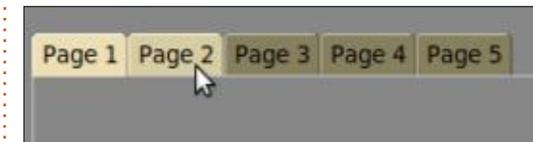
we need to apply the colorsets.

Looking back at the full image of the form, there is a button called "Apply Colors". This has a callback that simply calls a function called set_colors(). Since I originally designed this to deal with ttk widgets, we need to start by calling the ttk.Style() to get a default style structure.

```
    elif which == 2:
        _w1.TEntry2Data.set(lastcolor)
        lastbg2 = lastcolor
        _w1.Button2.configure(background=lastbg2)
    elif which == 3:
        _w1.TEntry3Data.set(lastcolor)
        lastbg3 = lastcolor
        _w1.Button3.configure(background=lastbg3)
root.update()
```

```
def set_colors():

    global lastbg1, lastbg2,
lastbg3, lastfg1, lastfg2,
lastfg3

    #
============================
====================

    style = ttk.Style()
```

In order to manipulate any of the styles for any of the ttk widgets, we have to modify the style.map structure. Since we want to change the TNotebook tabs first, we start there (top right).

Each ttk widget has a different set of states that can be set. These can include states like "Active", "Disabled", "Background" and more. You can see that we set the three background and three foreground color values above. What is not obvious from the documentation on ttk Style manipulation is the inactive state.

```
    style.map(
        "TButton",
        background=[
            ("active", lastbg2),
            ("disabled", "gray76"),
            ("readonly", "firebrick2"),
        ],
        foreground=[("active", lastfg2),
                    ("disabled", lastfg1),
                    ("readonly", lastfg3)],
    )
```

"Selected" and "Active" are all obvious, but there is the "!active" state, which is the inactive state (when the widget is just sitting there without the mouse doing anything around it).

As I said, every widget is different as to the states that it will support. For example, the TButton has an "Active", a "Disabled" and a "Readonly" state, all of which have separate attributes that can be set (bottom left).

Many of the ttk widgets also need to be configured, sort of like the "standard" Tk widgets do, to set many of the various attributes available. To do this, we need to create a "generic" style for that widget, then apply it using the style attribute. (Gets somewhat confusing, huh?.

We do this by using the

```
    style.map(
        "TNotebook.Tab",
        background=[("selected", lastbg1),
                    ("active", lastbg2),
                    ("!active", lastbg3)],
        foreground=[("selected", lastfg1),
                    ("active", lastfg2),
                    ("!active", lastfg3)],
    )
```

style.configure function, starting with our named style along with the widget, then set the attributes as we want them, then finally applying the style via the style attribute (bottom right).

You can do this with many of the "normal" attributes that you don't get to change within PAGE, since any ttk widget can have any style available. Imagine having 100 ttk widgets each with its own style. It can be done!

Enough theory for this month. Next month, we'll look at saving the colorsets into something that we can use and apply, and a way to write this information out so we can use it within other programs in a very simple way.

```
    style.configure("MyTButton.TButton",
                    background=lastbg1,
                    foreground=lastfg1)

    _w1.TButton3.configure(style="MyTButton.TButton")
```

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 .

BACK NEXT MONTH

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.

Tex was developed in the mid 1970s by Donald Knuth and published in 1978. "TeX was designed with two main goals in mind: to allow anybody to produce high-quality books with minimal effort, and to provide a system that would give exactly the same results on all computers, at any point in time" (Wikipedia: Tex). That meant the document and the typesetting instructions had to be written using only the standard 128 characters available in ASCII. Remember the first IBM-PC was not available until 1981. It came with 16KB of RAM, which was expandable to 256KB. For storage, the original IBM PC could house either one or two 320KB floppy disk drives. There were no PCs in 1978, so the first installations of Tex ran on PDP-10 machines, a mainframe computer popular in commercial settings and universities.

Remember Tex was designed for typesetting, and remember that, until IBM made CGA graphics cards available in 1981, computer monitors displayed only ASCII characters: text, numbers and a few special characters. Printers were also restricted in the same way until the development of Postscript (mid 1980s) and PDF (1992).

This brief history lesson is to point out the need for packages when using Tex. With very limited RAM available and the necessity for using only ASCII, Knuth had to develop a typesetting system that would be efficient and run consistently on mainframes from as many different manufacturers as possible. These limits (processing power and printing power) necessitated the use of packages, small independent sets of instructions that could be loaded only when required. The hardware limitations made Tex and LaTex modular.

Because this early design decision was forced upon Knuth by the hardware specifications available at the time, Tex is now remarkably flexible and relatively easy to expand. Need a new capability? Write a new package. For example, the American Mathematical Society has written several packages that are very useful when mathematical formulas are included in printed documents.. This set of packages can be identified by "ams" at the beginning of the package name.

Latex was developed more-or-less in parallel to Tex. Latex is designed to be a user-friendly layer on top of Tex. It is a set of macros for the markup functions of Tex, and leaves the layout functions to Tex. It was developed in the 1980s, the current version was released in 1994 and revised in 2020. Latex consists of a basic set of packages that all users of Latex can assume will be availabe, and minimal documentation. The Latex archive (https://www.ctan.org/pkg/latex) contains more details. CTAN is an enormous storehouse of packages (sets of Tex macros) which can be downloaded and added to your Latex / Tex files, and then made available for use with your documents.

What kind of document are you trying to write? Are you doing research in the physical sciences? There are 93 packages which include the word physics in their description at CTAN. There are 58 which use chemistry, but only 14 for astronomy. What about the life sciences? Packages using biology in their description are 23 in number, but only 1 for biochemistry. There are 750(!) for math, 62 labeled for geometry. You might want to narrow your search for an appropriate package, for example the term "integration" has 21 packages, probably some of these are in the total of 750 for mathematics. Turning to non-scientific packages, there is 1 which says it supports the work of pastors and priests, 28 for business, 1 for accounting, 2 for banking - including one that is specific for documents from the Czech National Bank.

If your document requires citations, there are packages for several different citation styles so the references in your document can conform to whatever style your school or publication requires. There are 5 packages for the MLA style, 17 for the Chicago style, and

53 for the APA style. Some of these packages will be obsolete as citation styles change from time to time. (Perhaps we should develop a package for FCM? <tongue firmly planted in cheek>).

If you find a package you would like to use at CTAN, what then? First, of course, you need to download it and unpack it. Then follow the installation instructions if there are any. Some packages have no installation instructions. Apparently the user is supposed to know how to install them. How the user, particularly inexperienced users, are to obtain this knowledge is not clear. Installing new Tex / LaTex packages can be a frustrating experience as you will learn in the rest of this article.

Some packages have good, clear, concise installation instructions. For example the installation instructions for the apa7 package say:
1. Create directory "config" next to the file apa7.ins
2. Run latex apa7.ins
3. Move/copy apa7.cls to the directory of your latex install or the directory containing your latex project.

As we will find out, these instructions are appropriate for installing apa7. They are not all you need to know in order to install and use APA citation styles in your documents. I selected APA because it is a very common citation style used at colleges, universities and in professional journals. I selected apa7 because it is tied to the most recent revision of the APA style standard. Whether you use APA (or any citation style), I hope you will learn from what I did. When you want to expand what you can do with LaTex by installing new packages, keep my experience in mind.

Having downloaded the apa7.zip package and then unzipping it there are these files: apa7.dtx, apa7.ins, apa7.pdf, README.txt. The README file has the installation instructions shown above. APA7.PDF contains documentation for this version of the APA style sheet – nothing to help with installation of the package. So I will follow the instructions.

1. In the apa7 folder in my default download folder, I made a folder called "config".
2. I opened a terminal window and ran latex apa7.ins. This generated

twelve txt files in the config folder: twelve files starting with apa7 and then a word denoting language: apa7american.txt, apa7british.txt, etc. It also added two files to the main apa7 folder: apa7.cls and apa7.log.
3. Then I am supposed to copy apa7.cls to the directory of my latex install or my project. I chose the project folder.
4. Once I had apa7.cls in the project file, I started a new Tex project (apa7test.tex) and added the apa7 package to the preamble. Then I compiled apa7test.tex using TexStudio.
5. Compiling apa7test.tex with apa7.cls in the same folder generated an error. The apa7.sty file could not be found. I moved the apa7.cls file to the installation folder (using sudo) and compiled it again.
   a. I did a search for *.cls files and discovered in my distribution *.cls files are stored in /usr/share/texlive/texmf-dist/tex/latex. Each cls file is stored in a separate folder. I have to make a folder apa7 in /usr/share/texlive/texmf-dist/tex/latex (/usr/share/texlive/texmf-dist/tex/latex/apa7) and then moved apa7.cls into that folder (using sudo).
6. Same error: cannot find apa7.sty.

What I learned is not obvious and not mentioned in the apa7 documentation. APA7 is simply an update to the original APA style sheet which is available by installing apacite. It is not a complete package, the original apacite package needs to be installed first. This oversight in the documentation is common with Tex packages; this kind of oversight is very frustrating for inexperienced users.

After I downloaded and unzipped apacite, I then gave the command text apacite.ins. (This instruction is often used as a precursor to installing Tex / LaTex packages.) There are now 24 files in the apacite folder instead of the 4 I started with. These files need homes; they have to be moved to appropriate folders in the tex hierarchy of folders.

Each user will have to find where the files with a particular extension are stored in their distribution. Most or all will be in the same part of the directory tree. Search for the extension to find the location. Then move the appropriate file into the location. Then repeat. In my download/apacite folder, there are eight

extensions which need to be relocated. Where they will go depends upon your distribution.

I know this article has not had much "hands-on" material for you to follow. Next month, I will return to my usual hands-on, step-by-step stuff with an expansion of Erik's work about images in documents. Some of you have probably watched some or many of the instructional videos about LaTex available online. Many of them are specific about what packages need to be included in order to do particular tasks. Erik used three packages in the articles he wrote: graphicx, subcaption and lipsum. Packages can be used to extend LaTex, to give it capabilities the standard install does not have, to update its features, to do specific tasks. When I look at images next time, I will need to use the graphicx package.

As always if you have comments, or questions, or have a specific topic you want me to deal with, please send an email. I will respond to the best of my ability.

Robert has been involved with computers since dBase IV and Novell Netware 2. He recently retired from over twenty years teaching computer skills to college students.

One interesting aspect of the new 'Live Path Effects' Selector dialog is a small toggle at the right of the toolbar, labelled "Show Experimental". Turn this on, and your collection of LPEs will be augmented by a few others, each with a classic cherry bomb as its icon.

The cherry bomb has a long history in computer interfaces as a means to indicate something has gone wrong – the most famous instances being in the crash dialog of earlier MacOS releases, and to indicate boot problems on the Atari ST (whose GEM interface took rather a lot of "inspiration" from MacOS). In the case of Inkscape, however, it serves as a warning that using these LPEs is risky. Not only are they likely to be buggy, but there's also no guarantee that images you create using them will be supported in future versions. Generally, therefore, I recommend leaving the Show Experimental switch disabled – unless you wish to engage in the selfless act of actually trying the experimental LPEs in order to provide some useful feedback to the developers. Definitely don't use them for real work though.

The good news is that the best LPEs can, in time, be promoted out of the "experimental" stage and into the suite of fully supported effects. Such is the case with the Boolean Operation effect, which was experimental in version 1.0, but received enough polish and stability fixes to make it to the big time in Inkscape 1.1.

BOOLEAN OPERATION

I'm going to assume that anyone reading this is already familiar with the existing boolean operations in Inkscape, found under the Path menu. If not, then you may wish to have a read of part 7 of this series, from way back in FCM #67! In short, boolean operations take two paths and manipulate them in different ways – such as joining them together into a single object (the "union" operation), cutting the shape of one out of the other ("difference") and keeping just the parts where they overlap ("intersection"), or where they don't overlap ("exclusion").

Using these operations from the Path menu is as simple as selecting two paths and then choosing the appropriate menu entry. You may also need to alter the stacking order of your paths, depending on the operation you're performing, as some of them produce different results if the roles of first and second operand are reversed. Inkscape uses the z-index of the paths to determine which is which.

With LPEs, things aren't quite so simple when multiple paths are required. You can't just select your two paths and add the effect. Instead, you have to begin by selecting your first operand path and add the Boolean Operation LPE to it in the normal manner. This will bring up the effect's parameters:
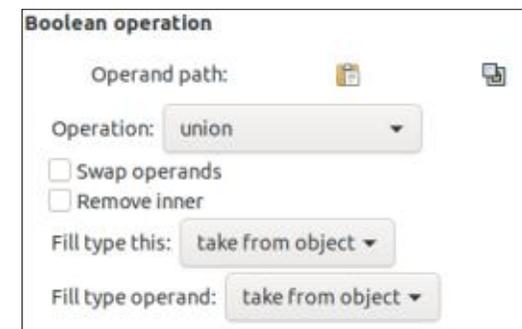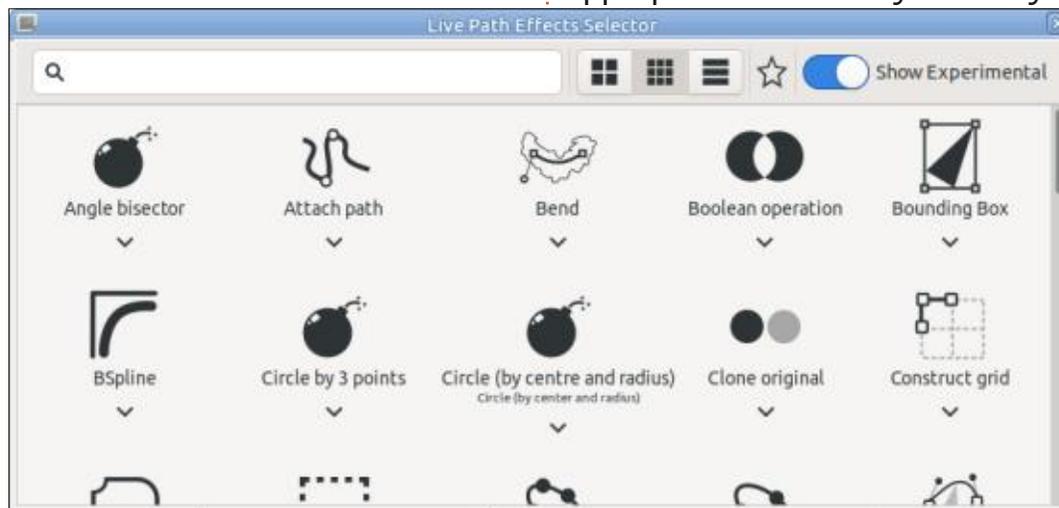
With just one path, a boolean operation won't do anything, so we need to add the second operand. This is done with the usual complex

and frustrating method of copying it to the clipboard and "linking" it into the LPE:

1. Select the second operand path on the canvas. This will de-select the first one, so you'll lose access to the LPE parameters.
2. Copy the selected path to the clipboard (Ctrl-C).
3. Re-select the first operand path in order to re-enable the LPE parameters.
4. Click on the "Link to item" button in the LPE controls (the one that looks like a clipboard).

Note that you're not actually pasting the second path into the LPE, but rather using this convoluted technique in order to add a reference to the path – a "link" in the terminology used in LPEs. That means you are still free to make changes to the second path, and don't need to go through this rigmarole each time: the link is live, so changes propagate automatically.

With two paths added, the actual result will largely depend on the value selected in the "Operation" pop-up menu. The "Swap operands" checkbox can be used to change Inkscape's notion of which order the operands should
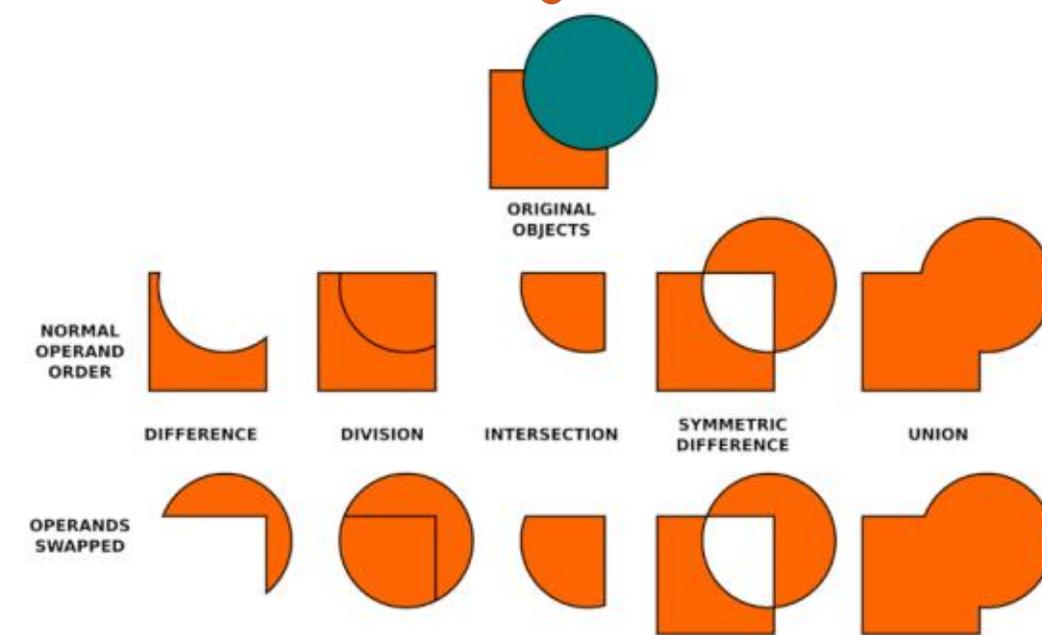
be applied in (equivalent to swapping the z-index order when using the traditional boolean path operations). For some cases this will have no effect on the output. The image below gives you an idea of how these two controls work when applied to a pair of simple shapes.

At the top of the image is the original pair of paths. In each case, the LPE was applied to the orange square, with the teal circle being linked via the clipboard. The columns below show the effect of applying each operation, with the top object being the default output, and the bottom one showing the effect of ticking the

"Swap Operands" checkbox.

The results are fairly self-explanatory, especially if you're already familiar with the standard boolean operations in Inkscape. It's worth noting that the operation referred to in the LPE as "Symmetric Difference" is, as far as I can tell, the equivalent of Path > Exclusion. I have no idea why the developers opted for different names, as it just adds unnecessary confusion.

One significant difference between the historical boolean operations and this LPE is with the output from the Division operation.

With the old-style path operations the result is a pair of objects which can be dragged apart. You can see this in the image below, which shows the original objects, the immediate result of the Path > Division operation, and the effect of dragging the top-right object away.
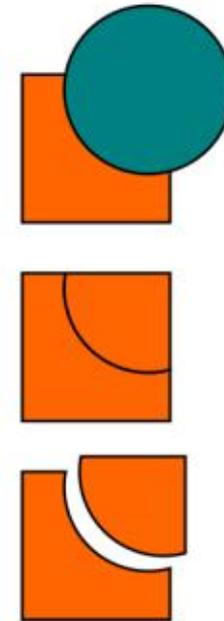
With the LPE version, the initial output looks similar, however trying to move the top-right part actually just changes the position of the second operand path. In order to separate the parts (i.e. to actually divide them), you have to take the additional step of "fixing" the LPE by using Path > Object to

Path. Of course, once you've done that, you no longer have the benefit of any "liveness", so you may as well have just used the older approach in the first place.

Moving on with the parameters for the effect, next we have a checkbox labelled "Remove Inner" – but only if you're using version 1.1. This checkbox only had an effect on some operations that were ultimately removed from this LPE for the 1.1 release due to stability issues, so there's no need to consider it further. It's been removed entirely from Inkscape version 1.2.

The last two parameters concern the fill rule which is applied to each path. The first pop-up governs the path that the LPE is applied to, while the second is for the one added via the clipboard. Fill rules are one of the more obscure parts of vector graphics, and essentially set the rules for how complex paths with self-intersections or sub-paths should be treated when applying the fill color. You may have encountered them via the toggle buttons in the Fill & Stroke dialog (see part 95 of this series, in FCM #155).

In this image, you can see what happens when I turn the original objects into complex paths with several sub-paths. The top image shows the objects with no LPE applied (with the "evenodd" fill rule applied via the Fill & Stroke dialog). The second image shows the effect of applying the "Symmetric Difference" (aka Exclusion) effect with both pop-ups set to "non-zero"; the third is the same but with them both set to "even-odd".

In my experience, the "positive" option just makes the objects disappear, but that might simply be an effect of the paths I'm using. The "take from object" option honours the setting in the Fill & Stroke dialog, so, in this case, the output is the same as the bottom image. My advice is to leave these pop-ups set to "take from object", and only fiddle with them if you have complex paths and aren't getting the result you would like in terms of the areas being filled.

As we've seen, the Boolean Operation effect will accept only two paths: the first operand (on which the LPE is applied) and the second operand (added via the clipboard). This is unlike some other LPEs which allow you to add multiple linked paths into a list. This is a shame, because some boolean operations could easily be extended to multiple objects, while others could simply treat a list of paths as a sequence of operands, applying them one at a time to the output from the previous operation. Instead, should you wish to apply multiple boolean operations using this LPE, you'll have to add several instances of it to your effects list. In itself, this

isn't a problem, but you can quickly end up with a series of entries, all just labelled as "Boolean operation", which can make it hard to keep track of what each operation is for.

Personally, I'm more likely to stick to the old-fashioned boolean operations. While it's great to have a "live" version of these, allowing for subsequent tweaks and changes, the means of applying them is a little fiddly (as with all multi-path LPEs, to be fair), and their liveness means that they not only require more processing power to display, but are also more likely to expose bugs in the implementation (I suffered several hard crashes while creating the screenshots for this article!). LPEs also aren't recognised by other applications, or web browsers, so although the output should look the same in theory, you get a better guarantee of that with the older operators that make permanent changes to the underlying paths.

SLICE

For many use cases, the Slice LPE will likely give a better result than the Boolean Operation effect

in Division mode. As noted above, this mode does not actually produce separate objects until you "fix" the effect. The Slice effect, on the other hand, does split your object into two separate parts that can be moved, and even styled, independently of each other. It is limited to splitting along a straight line, however, so the "square and circle" example I used for Division can't be replicated using Slice.

It's a pretty easy LPE to use. Just select your object and add the effect. The object will be broken into two with a vertical split down the middle, and the two parts can be moved and styled separately, as shown in this simple example of applying the Slice LPE to a star.
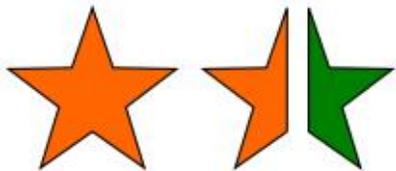
The parameters for this effect are pretty simple, too.
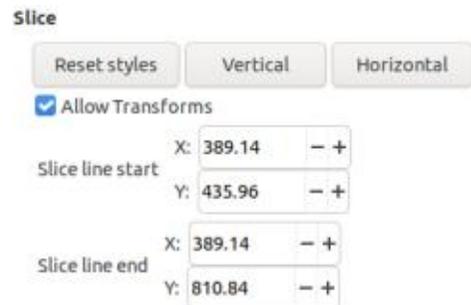
The three buttons do exactly what you would expect from their labels:
• Remove any style changes that have been applied to the individual parts
• Use a vertical slicing line
• Use a horizontal slicing line

I've used the term "slicing line" to indicate that this is a straight line, not an SVG-style path that could have corners and curves. But you're not limited to horizontal and vertical slicing: the coordinate boxes below can be used to set any start and end points for the line, allowing angled slicing lines to be used as well. In practice, nobody is likely to fill in the numbers here, though, as you can switch to the Node tool (F2) in order to move and rotate the slicing line on-canvas instead. This approach makes it easy and intuitive to adjust the line to suit your needs.

The "Allow Transforms" checkbox is a vital part of this effect – and one you'll most likely want to leave enabled all the time. If this is unchecked then you won't be able to move the individual parts around (nor skew, scale or rotate them). They'll stay in their original

location, relative to the source path, which may be useful if you want to style only parts of the shape differently, but don't want to adjust their positions. For most people, however, slicing a path implies a need to move the pieces around, for which this needs to remain checked.

If you do want your shape cut into more than two parts you can apply the Slice effect more than once. Here's how our star looks with an additional set of angled slicing lines applied to each half, and a bit more variation in the styling.

Of course, the Slice LPE can be combined with other effects. Here are our earlier complex paths, with the Boolean Operation effect applied ("Symmetric Difference" mode, "even-odd" for both operands), followed by a pair of Slice effects to produce four

complex paths, each with a different fill color.

After several months, we're now finished with the new LPEs that were added in Inkscape 1.0 and 1.1 (and that's without considering the experimental ones!). But we're not quite done yet: next month, I'll take a look at some important new features that were added to an existing LPE, before moving on to the new extensions that were added in version 1.0.

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**

UPDATE FROM INKSCAPE.ORG

IMPORTANT RELEASE OF INKSCAPE VERSION 1.2.1 FIXES DATA LOSS AND CRASH ISSUES

We've just resolved some critical issues in Inkscape 1.2 that were identified by our community. If you're currently using Inkscape 1.2 then this is an important update to install on your device.

It provides a fix for a number of critical bugs in the 1.2 release:
• drawing data about filters, markers, gradients and more, now saves to file after performing a simple sequence of copy-paste-undo with the Export dialog open;
• startup is smoother when many fonts are installed, and
• rasterized (filtered) objects now show up on any page of a multipage document exported to PDF.

This release brings back the built-in ability to open PostScript/Encapsulated PostScript (.ps / .eps) files with Inkscape on macOS.

Improvements were also made to user interface translations and documentation translations.

Linux users using the snap packaging format will once again be able to import and export images. Windows users will now see the correct Inkscape version image on install, while users of macOS 10.13-10.15 will be able to open extensions without them crashing.

BACK NEXT MONTH

Richard 'Flash' Adams lives in rural north Alabama and has been a computer support technician, a business analyst, a software salesman, a sales analyst, a QC team lead, and is now disabled/retired. He enjoys reading, NFL football, computer and video games, cooking, and playing with Baby, his cockatiel. Feedback and suggestions are welcome at acer11kubuntu@gmail.com.

contents ^

BACK NEXT MONTH

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 .
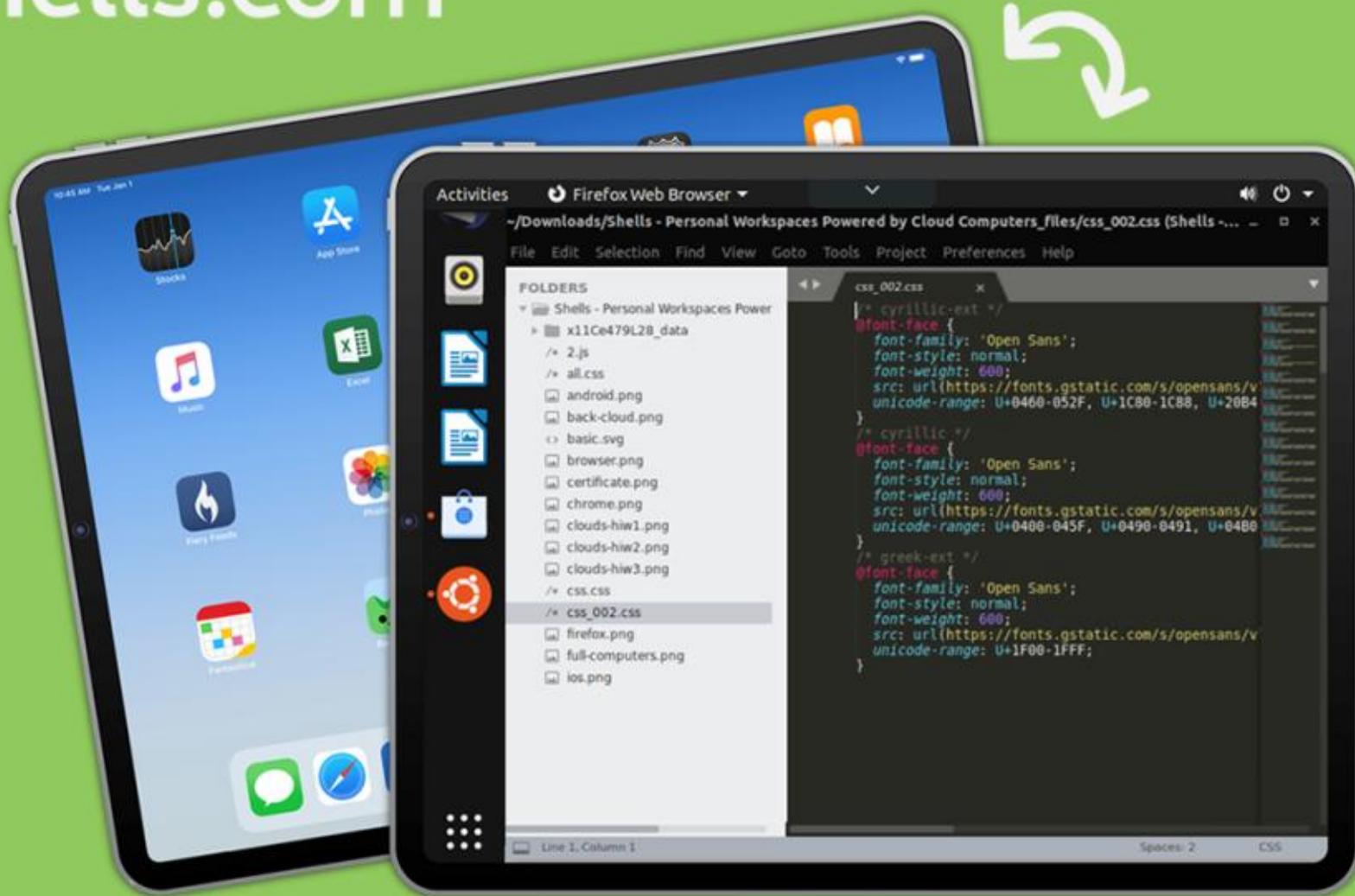
Linux on Your iPad

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

Ubuntu Touch is the privacy and freedom-respecting mobile operating system by UBports. Today we are happy to announce the release of Ubuntu Touch OTA-23, the very latest update to the system! OTA-23 will become available for the following supported Ubuntu Touch devices over the next week:

Asus Zenfone Max Pro M1
BQ E4.5 Ubuntu Edition
BQ E5 HD Ubuntu Edition
BQ M10 (F)HD Ubuntu Edition
BQ U Plus
Cosmo Communicator
F(x)tec Pro1
Fairphone 2
Fairphone 3
Google Pixel 2 and 2 XL
Google Pixel 3a and 3a XL
Huawei Nexus 6P
LG Nexus 4
LG Nexus 5
Meizu MX4 Ubuntu Edition
Meizu Pro 5 Ubuntu Edition
Nexus 7 2013 (Wi-Fi and LTE models)
OnePlus One
OnePlus 2
OnePlus 3 and 3T
Oneplus 5 and 5T
OnePlus 6 and 6T
Samsung Galaxy Note 4 (910F, 910P, 910T)
Samsung Galaxy S3 Neo+ (GT-I9301I)
Sony Xperia X
Sony Xperia X Compact
Sony Xperia X Performance
Sony Xperia XZ
Sony Xperia Z4 Tablet (LTE or Wi-fi only)
Vollaphone and Vollaphone X
Xiaomi Mi A2
Xiaomi Mi A3
Xiaomi Mi MIX 3
Xiaomi Poco F1
Xiaomi Poco M2 Pro
Xiaomi Redmi 3s/3x/3sp (land)
Xiaomi Redmi 4X
Xiaomi Redmi 7
Xiaomi Redmi Note 7 and 7 Pro
Xiaomi Redmi 9 and 9 Prime
Xiaomi Redmi Note 9, 9 Pro, 9 Pro Max and 9S

The Pine64 PinePhone and PineTab are updated independently of the rest of these devices. The stable channel for the PinePhone and PineTab will not receive an update labeled "OTA-23".

What's new?

This release of Ubuntu Touch is still based on Ubuntu 16.04.

• Initial support for FM radios (@mardytardi): If you own any of those devices: BQ E4.5, BQ E5, Xiaomi Note 7 Pro - you are lucky: Connect your headphones, download the FM Radio App and enjoy the show. Several improvements are planned, and consider it more like a proof of concept. Also it will not work on other devices since the kernel needs a few options set. More devices to come…

• Messaging App (@lduboeuf): Some smaller improvements for MMS handling for bigger attachments. Also text messages with special characters from the HTML specification (&, <, >) are no longer truncated.

• Jingpad A1 (@fredldotme): Support hardware video decoding in the Media Player App.

• Wireless display support (@fredldotme): Finally some efforts were successful to fix Aethercast protocol to allow setting up an external display for your device and work like on a desktop. Note that also here, not all devices can support this, so it needs to be enabled by the porter for each device separately. We are still working on a final list. Also this needs a compatible Miracast adapter, and behold, not all of them are really "compatible"! It might need a few tries to find the right one.

• Snappy backlight dimming (@Flohack): Now all devices brighten and darken the screen in the same amount of time, regardless of ambient lighting. This makes the device quickly accessible, and also prevents "pocket dialling" when the screen is too slow to turn off, but the user has already stowed it away.

Bugs and issues fixed

• External display improvements (@fredldotme): Indicator scaling is now correct on external screens, the launcher and app drawer do not disappear any more when operated with the mouse.
• Sound playback during entering and exiting sleep was choppy for some devices (@fredldotme)
• WiFi nags user for already known passwords and creates new connections randomly (@Pekkari)
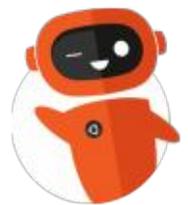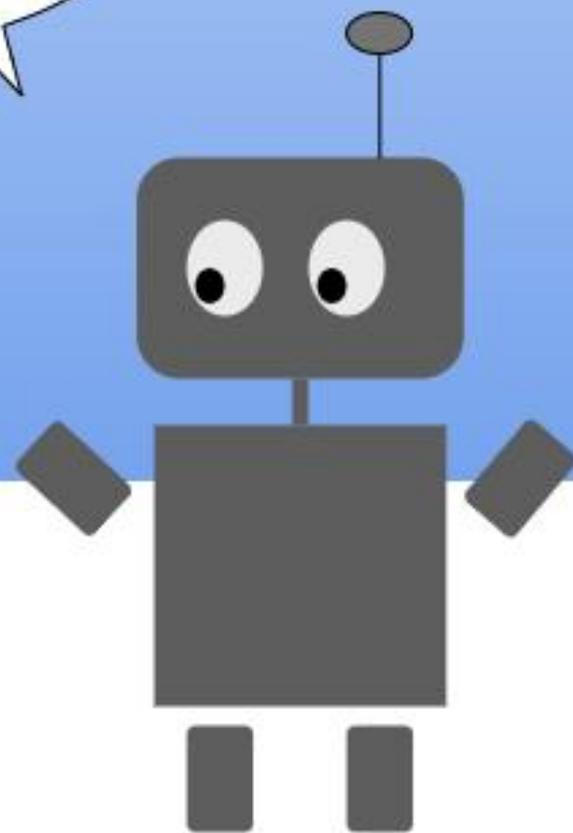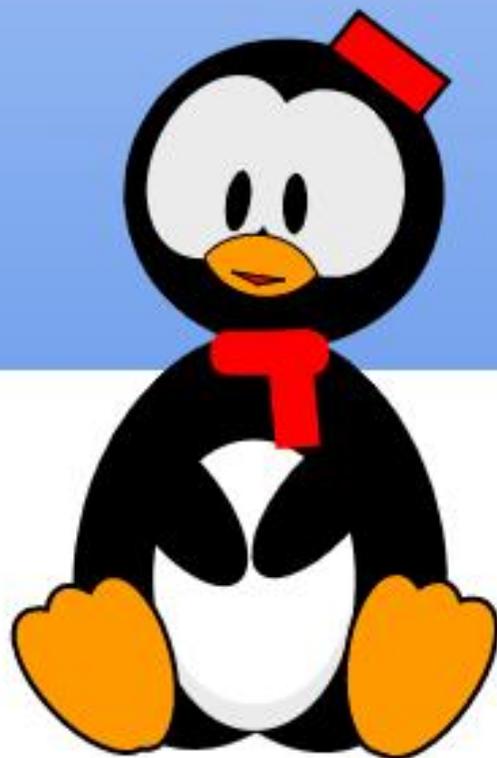
MY STORY

Written by Pat H.

Like many other people, I had my first experience with Linux completely by chance. It was in 2005.

I was in the military at the time, working on an airbase in the freight section, because I'd been detached from my usual unit for three months.

Some colleagues and I talked often about computers when we had a free moment with not too many loads to prepare: how to "boost" Windows XP, the little things that would allow you to customize it, the joys of its crashes, and so forth... Until a member of the Air Force personnel came up to us and said, "Tomorrow, I'll bring you something that will floor you!...". And then he left, leaving us there full of questions and with our insatiable curiosity!

The next day, he showed us a CD in his hand and said, "If you've never seen a Live OS, be ready to be flabbergasted..." and he put the CD in a computer, but turned off the computer!... Because I didn't understand, I asked him what he was doing and he answered, "it's now that the magic begins!!" And he restarted the machine.

Then, in front of our eyes, there were lines and lines of writing in a language that I would call "gobbledygook", when suddenly, Kaella Knoppix, version 2, appeared. He gave us the details and then demonstrated the Linux OS to us.

We were well and truly flabbergasted!!!

That simple CD could make a computer work, came with all the necessary software, and was free... It WAS almost magic! With Windows you had to buy (or pirate...) all the software you needed to do things. But, the CD came with everything and everything worked!

I had found that experience very cool and, every time I could, I put the CD in and had fun discovering it all. But my father's death, which occurred only a short time afterwards, put an end to my stint on the airbase, as well as to my Linux experience. And I went home, carrying with me a copy of the operating system that I had just discovered.

But I admit to having forgotten Linux a bit. I went back to my laptop with XP... A year and a half later, I learned that, when they were renewed, most of the computers of the unit would be delivered with a customized version of Ubuntu 8.04, created by the computer department, instead of Windows. The administrative services weren't too happy when they learned that, because the personnel would be forced to think about things and that's something that can be quite difficult! Their habits and reflexes would be shaken up in front of the screen.

Then, suddenly, the name of Linux reminded me of something!!!

Because I was curious to see what this Linux, which would soon destroy our certainties, looked like, I found myself in the act of downloading Ubuntu 7.04, because it was the version that had just come out. I burned it to a CD (yes indeed, a CD – it was less than 700 Mb!) and there it was, opening on my laptop.

That operating system truly thrilled me. Since I wanted to test it for real, I bought a hard drive and took out the one with Windows on it so I could install Ubuntu. Finally, after several months, when I was really tired of exchanging hard drives, and also because I wanted to keep Windows for games, I decided to do a dual-boot install with my XP, in spite of a few little persisting problems (especially with the WiFi).

Unfortunately, the laptop broke down rather quickly (the operating system wasn't at fault, it was a problem with power to the motherboard...) and I took advantage of that to buy a Sony Vaio VGN-NR38E. As soon as I'd bought it, along with a license for Windows, I took out the original hard drive and left it on a shelf to wait for the warranty to expire. (Later, after I got rid of Windows, it helped me test various systems.) I

MY STORY

replaced that hard drive with one on which I installed my favorite OS. Everything worked except for the Sony memory stick reader, and the diode of the WiFi, neither of which was handled, so it was nothing serious.

I installed each of the LTS versions as they came out, one after the other, and I tested the intermediate systems with DVDs. I also tried loads of Linux distros, from Arch, through Debian, and even to ToutouLinux.

Doing so, just for the fun of it, I got a bit of experience in installing operating systems, without knowing that, a few months later, my work would be completely upset. Of course, in a career, and, what's more, a career in the military, changes are frequent (transfers, changing services or orientation…). I certainly didn't think that my fun would be good for me professionally, and yet I found myself working in one of the services where the computer is king: the secretariat of my unit!

It was in 2009 that the first computers with Ubuntu (version 8.04) arrived and were made available for everyone. There I was,

working on a system which I already knew well, contrarily to my comrades… I was in for a bad disappointment, however: the version used in my work, that had been adjusted by the house programmers, while it worked correctly, had been overly restricted. It gave Linux a false image: slow, freezing every so often, taking tons of time to open documents or the email, etc. Both the hardware and the system were at fault.

My colleagues complained bitterly about the system; they were certainly getting a bad idea of Ubuntu. Being a firm believer in Linux, I was forced to fight to convince them that the "civilian" version was much more powerful. I would use my personal computer to show them everything you could do with it and prove that they didn't need a proprietary system that cost a fortune. And, when I heard somebody say something like "Sometimes it breaks down or no longer does what I want it to," my favorite answer was that they might well complain about a system they'd paid for and that wasn't working well (you know exactly what I was referring to…), but they had no right to complain about

something that was totally free! My reasoning was foolproof!

And so, for a few years, shortly after a new official LTS version came out, we were given our "house adjusted" version. The last one I got was the 18.04, because, afterwards, my military career came to an end.

Throughout that time, I tried to give people a maximum of knowledge of that system (Ubuntu) and show that it offers everything that one expects from an OS, with everything necessary already installed, functional, easy and, especially, free. My Sony died in 2015 and I bought the next machine (that is still in use) without an operating system, so that I wouldn't have to pay for a proprietary system that I wouldn't use (I no longer play games on the computer…). It has Ubuntu on it and nothing in the world would make me change that…

I must admit that, in spite of everything, sometimes it's necessary to have a proprietary system, if only for the updates of things like the GPS or the systems installed in our cars. For that, I borrow the laptop with Windows 10

that my daughter got from her high school and Bob's your uncle!!

Although, from time to time, you still have to "look under the hood", Linux, and particularly Ubuntu, are becoming more and more reliable and powerful. I say that because, after all, one can be disoriented at times. The proof is that only Linux Mint, Zorin or MX Linux 21 can make my Brother multifunction laser color printer work, but neither Ubuntu nor Debian. After different tests, when the printer or the scanner wouldn't work, I changed the OS. I didn't try to dig for reasons why that machine is not correctly installed, it's simpler (and more fun) to discover another OS and test the printer with that.

That's why I have Mint 20.3 on my desktop machine and it suits me fine… Maybe the next version of Ubuntu will be able to handle my printer… I can't wait to try it!

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.

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

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

TRANSLATIONS

If you would like to translate Full Circle into your native language please send an email to ronnie@fullcirclemagazine.org and we will either put you in touch with an existing team, or give you access to the raw text to translate from. With a completed PDF, you will be able to upload your file to the main Full Circle site.

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.

Released on 21 April, 2022, this new long term support version (LTS) of Lubuntu is the eighth one with the LXQt desktop, and the 25th overall release, depending on how you count them.

The development cycle of three standard releases since the last Lubuntu LTS, leading up to this LTS version, have seen very few changes. It is most notable for what has been removed more than what has been added!

Most Lubuntu users stick to the LTS versions and this new release will be the one that they will use for the next few years. It comes with three years of support, until April 2025, although the next LTS version is scheduled for April 2024.

INSTALLATION

I downloaded Lubuntu 22.04 LTS via bittorrent from the official website. The download is now up to 2.4 GB in size, which is 500 MB bigger than the last release – Lubuntu 21.10 was 1.9 GB. There is no explanation for this but, oddly,

the latest releases of Ubuntu and Xubuntu are also larger by 500 MB.

I carried out a SHA256 checksum from the command-line on the downloaded ISO file to ensure I had a good download and it checked out fine.

I next used a USB stick equipped with Ventoy 1.0.73 to boot to Lubuntu 22.04 LTS for testing, and later for installation on two computers. Ventoy makes testing Linux distributions really easy: once the stick has Ventoy installed on it, you can just copy and paste the ISO

file onto the stick and Ventoy takes care of the rest at boot-up. It even allows multiple Linux distributions on the same stick and gives a choice at boot-up.

A Lubuntu installation is via Calamares, a nice operating system installer that is actually so user friendly that even first time users will feel confident installing Lubuntu using it.

SYSTEM REQUIREMENTS

When the LXQt desktop was

introduced with Lubuntu 18.10, the developers stopped publishing minimum system requirements. I installed this release on a desktop computer with a 3.3 GHz dual-core processor and 6 GB of RAM, and it ran very smoothly.

NEW

This Lubuntu release uses LXQt 0.17, based on the Qt 5.15.3 toolkit. Lubuntu 22.04 LTS uses the new Plymouth boot screen that was introduced in Lubuntu 20.10, which adds an elegant and modern look to the boot procedure.

The Lubuntu manual found on the official website has been extensively updated and is a real boon for new users. It should be your first stop for help.

There have been some application changes, described below, but otherwise there is not a lot new in Lubuntu 22.04 LTS and this is how it should be. Users want a well-tested and stable LTS version and so the development should

take place in the three "standard" releases of the development cycle. The LTS should be very similar to the last release, with everything tested and working, and Lubuntu 22.04 LTS matches this pattern.

SETTINGS

This release has a choice of eight wallpapers, including a new "Jammy Jellyfish" default wallpaper by Danist Soh. If your hardware is RAM limited, you may want to check the file sizes on some of the provided wallpapers, as some are very small and others are huge. The largest wallpaper image provided is 6.5 MB while the smallest is 26.2 KB! You can, of course, also use your own favorite wallpaper.

For settings, there are 19 window color schemes, 13 icon sets, ten LXQt themes, and two cursor styles to choose from. The many user customization options available allow you to make your desktop look the way you like.

APPLICATIONS

Some of the applications included with Lubuntu 22.04 LTS are:
2048-qt 0.1.6 simple lightweight game*
Bluedevil 5.24.4 bluetooth connector
Discover Software Center 5.24.4 package management system
FeatherPad 1.0.1 text editor
Firefox 99.0.1 web browser**
ImageMagick 6.9.11.60 image editor*
Kcalc 21.12.3 calculator
KDE partition manager 21.12.3 partition manager
LibreOffice 7.3.2 office suite, Qt interface version
Lubuntu Update Notifier 0.4 software update notifier*
LXimage-Qt 0.17.0 image viewer*
LXQt Archiver 0.4.0 archive manager*
Muon 5.8.0 package manager*
Noblenote 1.2.0 note taker*
PCManFM-Qt 0.17.0 file manager*
Qlipper 5.1.2 clipboard manager*
qPDFview 0.4.18 PDF viewer*
PulseAudio 15.99.1 audio controller

Qtransmission 3.00 bittorrent client, Qt interface version*
Quassel 0.14.0 IRC client
ScreenGrab 2.2.0 screenshot tool*
Skanlite 21.12.3 scanning utility
Startup Disk Creator 0.3.13 (usb-creator-kde) USB boot disk maker
VLC 3.0.16 media player*
Wget 1.21.2 command line webpage downloader
XScreenSaver 5.45 screensaver and screen locker*

* indicates the same version used in Lubuntu 21.10.
** supplied as a snap, so version depends on the upstream package manager

It is in the default applications provided that most of the changes
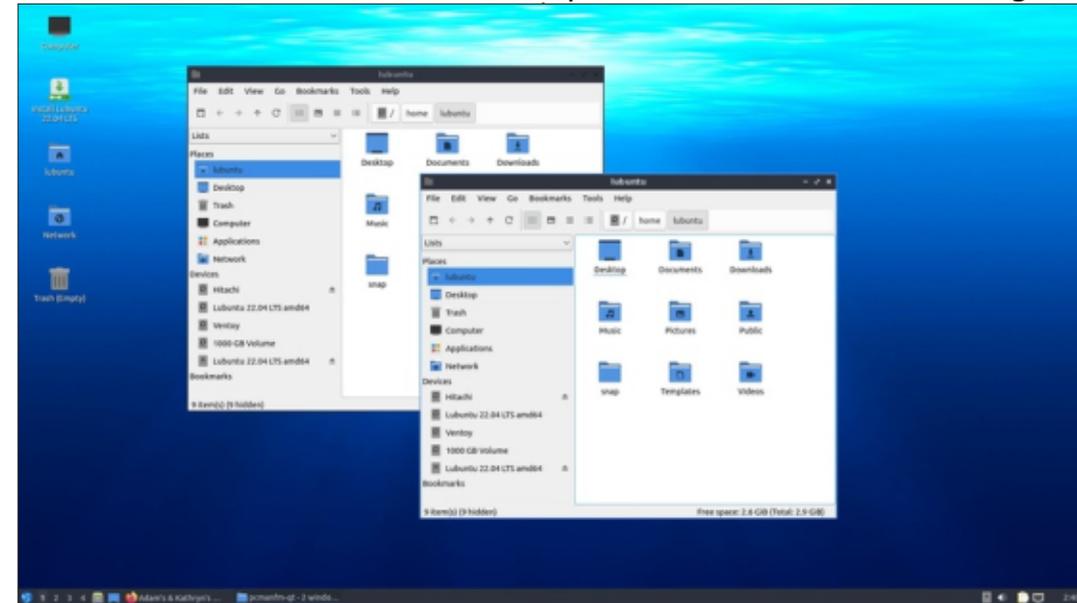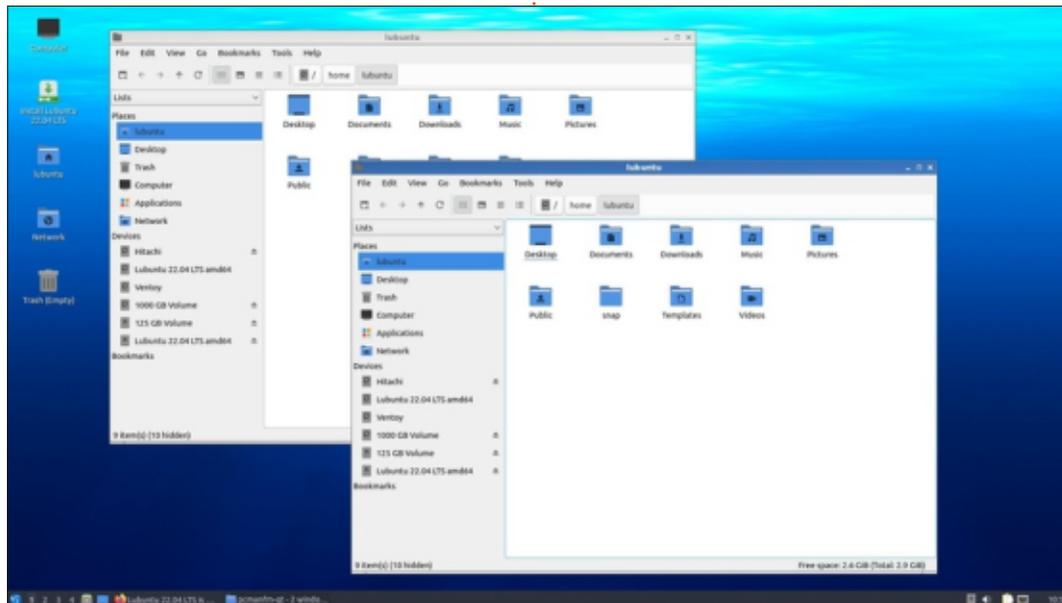
have occurred in this Lubuntu development cycle, starting with the LXQt Archiver, which replaced Ark back in Lubuntu 21.04.

In this release, the Trojitá email client, the K3B CD/DVD burning application, and the fcitx input method framework have all been removed. I think the case for not including a default CD/DVD burning application is pretty obvious, as it has been a decade since most new computers came with optical drives. Removing the email client is an interesting move, perhaps the developers figure that most people use webmail these days? Or perhaps more people prefer the GTK-based Mozilla Thunderbird email client, but the developers

didn't want to offer it by default on a predominantly Qt-based operating system?

Naturally, if you miss any of those deleted applications, you can install them from the repositories using the included Discover Software Center, the Muon package manager, or from the command-line.

Of course, the outstanding question for Lubuntu 22.04 LTS is "*will Firefox be included as a snap package?*" The Ubuntu developers, in conjunction with Mozilla, moved to Firefox being a snap package in Ubuntu 21.10 – primarily to simplify Mozilla's support across the Linux universe. The repositories for that

release retained the .deb version of Firefox as well, though, and that gave the developers of all Ubuntu flavors, including Lubuntu, a choice for their 21.10 version. The Lubuntu developers decided to leave Firefox as a .deb file for 21.10 but, as expected, the Firefox .deb was omitted from the 22.04 LTS repositories forcing the issue. It remained to be seen whether the Lubuntu developers would switch to the snap version or do something else, such as change browsers or compile Firefox themselves from source. So, with this release, the issue has been decided, Lubuntu 22.04 LTS uses the Firefox snap package.

The main complaints about

snaps are slow opening times and inconsistent system theme uptake. The Lubuntu developers do seem to at least warn users about the snap, though, writing "*please note: The change of Firefox to snap package, results in the browser being slower to start. It does not impact execution or subsequent runs during that session. The reason for this is the setting up of the confined environment in which snaps run, and decompress the squashfs, with privacy and security benefits. This is very noticeable on the first run especially with live media.*"

In my testing, I found Firefox takes about three seconds to open but this is not really any slower than the .deb version.

I installed Lubuntu 22.04 LTS on two computers and, for some reason, on one Firefox picked up the system Qt theme and on the other it picked up the dark GTK theme. The latter was solved for Firefox and also the other GTK applications which I had installed by going to the main menu > Preferences > LXQt Settings > Appearance > Set GTK themes > GTK 2 and GTK 3 themes > Arc-Lighter.

Overall, the snap version of Firefox works fine and, once you have the theme sorted out, most users won't notice the difference between the snap and the previous .deb implementation. After working with it, I have to admit I am happy with the snap version.

CONCLUSIONS

Lubuntu 22.04 LTS is a really solid and trouble-free release, with only a few small changes since the last LTS. Almost all that is new in this development cycle has been in aesthetics and applications. Users will like the non-existent learning curve over the last LTS version, just replace 20.04 LTS with 22.04 LTS and go!

EXTERNAL LINKS

Official website:
https://lubuntu.me
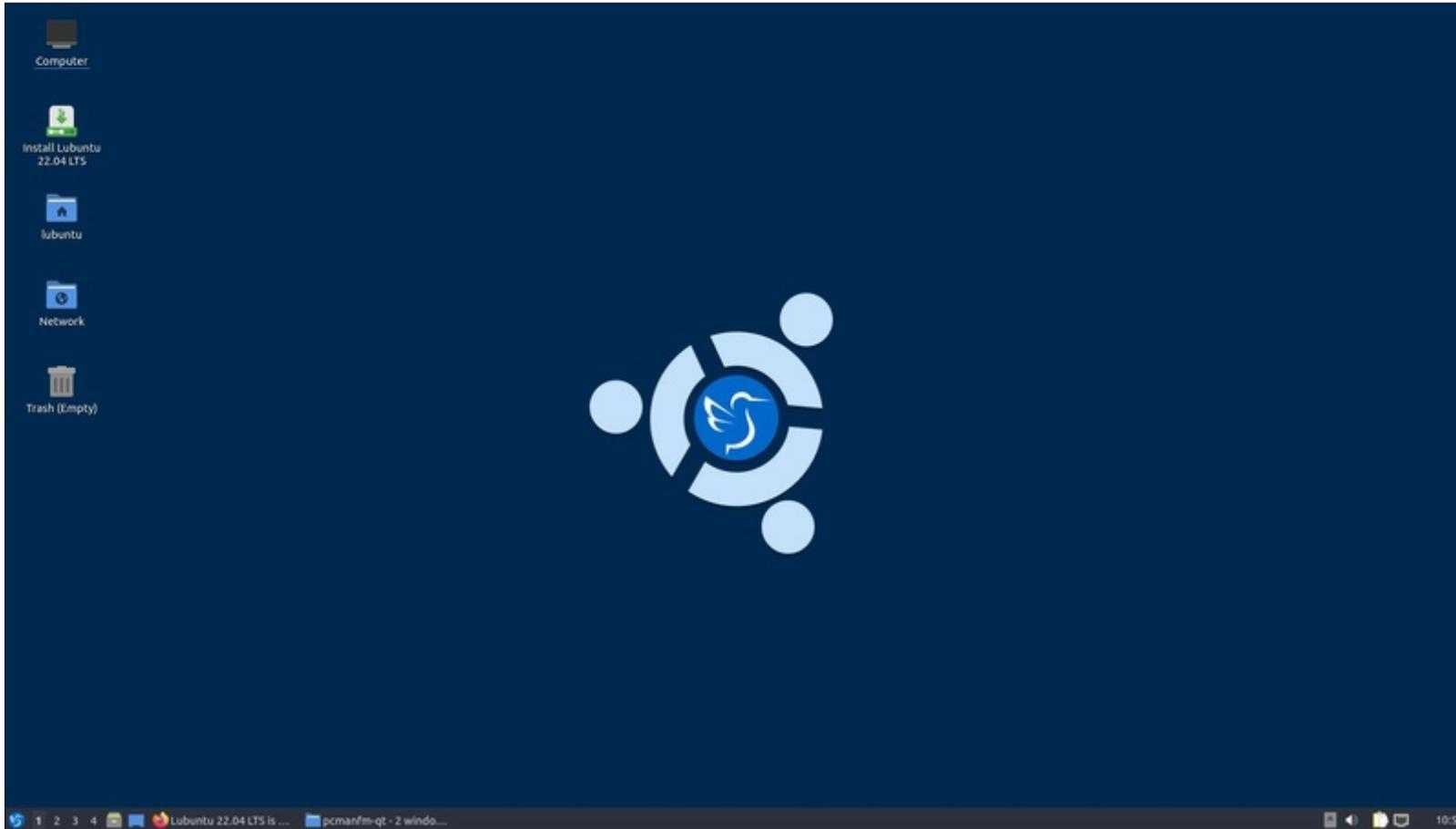
Adam Hunt started using Ubuntu in 2007 and has used Lubuntu since 2010. He lives in Ottawa, Ontario, Canada, in a house with no Windows.

As part of our series focusing on Linux distributions from outside the Debian-Ubuntu family, this time around we are going to look at SliTaz GNU/Linux.

SliTaz is a very lightweight distribution that is aimed at older hardware, much like Puppy Linux, but with some interesting differences that make it worth a close look.

BACKGROUND

SliTaz has been around for a while. Its first release was on 22 March, 2008, so it is a fairly mature project.

The current version is SliTaz 5.0, a rolling release that has a new version available each week made from incorporated updates.

SliTaz 5.0 had a protracted development period, over six years, starting in 2014, with the release on 23 February, 2020.

SliTaz is an independent Linux distribution, meaning it is not based on another distribution. It is developed by the SliTaz GNU/Linux Association, a non-profit organization based in Switzerland. Anyone can join and become a supporter. The developers working on it come from all over the world, so it is a truly global project.

The unusual name comes from: Simple, Light, Incredible, Temporary Autonomous Zone. That is a reference to the 1991 book T.A.Z.: The Temporary Autonomous Zone by the anarchist writer and poet, Hakim Bey, which is the pen name of Peter Lamborn Wilson. The
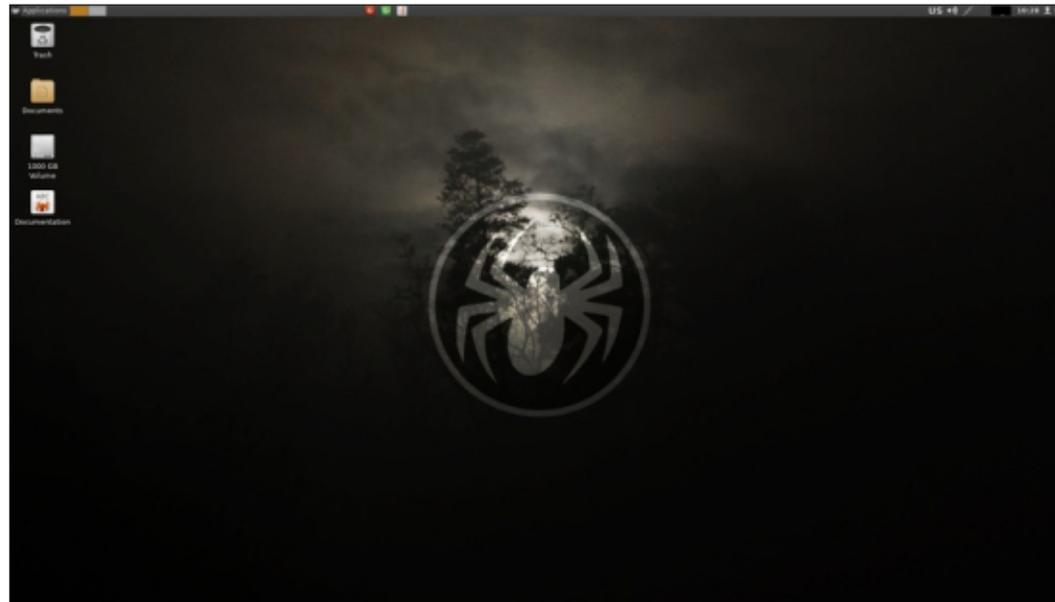
book deals with socio-political tactics in creating temporary spaces to elude the formal structures of control. I think that undercurrent probably accounts for SliTaz's spider logo and its dark, brooding, post-apocalyptic-looking wallpaper selection.

GETTING SLITAZ

The official website offers a number of different versions of SliTaz in 32-bit and 64-bit, core and desktop. The main download offered is the current 32-bit

desktop version of SliTaz 5.0, which is a very small 53.6 MB. To put that size in perspective, the FossaPup 9.5 version of Puppy Linux is 409 MB, and that is a lightweight distribution too! Those compare to the current version of Ubuntu at 2.9 GB, making SliTaz basically 2% of the download size of Ubuntu. It is hard to believe that you can get a complete desktop operating system in 53.6 MB, but SliTaz proves that you can.

Downloads are via http only, no bittorrent, and no https either, so your browser will probably warn you about insecure downloads like Firefox did when I ran the download. You could use wget from the command-line, too. Due to the small file size, it doesn't take long to download.

Make sure you run an MD5 checksum to ensure the download is good. MD5 sums are provided, but not the more secure SHA256 sums, which would be better.

I used Ventoy 1.0.71 to run SliTaz from a USB stick. Once

Ventoy is installed on the stick, installing SliTaz is as easy as copying and pasting the ISO file with your file browser. Ventoy takes care of the rest at boot-up, and it worked perfectly.

SliTaz doesn't support UEFI, so the boot has to be in a non-UEFI environment.

System requirements

There are no release notes for SliTaz 5.0, but 4.0's notes indicate it needs 192 MB for the desktop version, although a text version can be run with 48 MB of RAM. That all means that SliTaz is perfect to run on that old Windows XP hardware you have been using as a doorstop. Like Puppy Linux, SliTaz loads into RAM, making even old computers feel very light and quick.

I tested SliTaz on a nine year-old desktop PC with a dual-core 3.3 GHz processor and 6 GB of RAM and it ran very fast.

Running SliTaz

I will admit that I had low expectations for SliTaz. Most lightweight Linux distributions tend to be quirky, odd, and lack things found on more fully-featured desktop distributions. I thought that the tiny download did not portend great things, but I will admit that I was pleasantly surprised!

When it first boots up, SliTaz 5.0 shows a creepy-looking spider logo and post-apocalyptic wallpaper. It really looks like Wednesday Addams' desktop. But wait, that panel at the top looks oddly familiar and, yes, turns out to be LXpanel. A quick adjustment sets it to the bottom of the screen. The file manager turns out to be PCManFM, a fully featured file browser. A check of the packages shows that SliTaz is running the venerable LXDE desktop, the same as Lubuntu used – up until its transition to LXQt with the release of Lubuntu 18.10 in October 2018. Once you get past the wallpaper, SliTaz has a friendly familiarity to it.

For anyone who has used LXDE, this will all seem familiar, and for those new to this desktop, it is simple and intuitive, with everything on a single menu.

With LXDE, SliTaz has lots of settings available. The OpenBox 3.6.1 window manager has eight window color schemes, and there are 15 themes and three wallpapers to choose from so it is easy to customize.

Unlike in Puppy Linux, where the user is always "root", SliTaz boots up in a limited user account, naturally enough named "Tux". Root privileges are useful for some
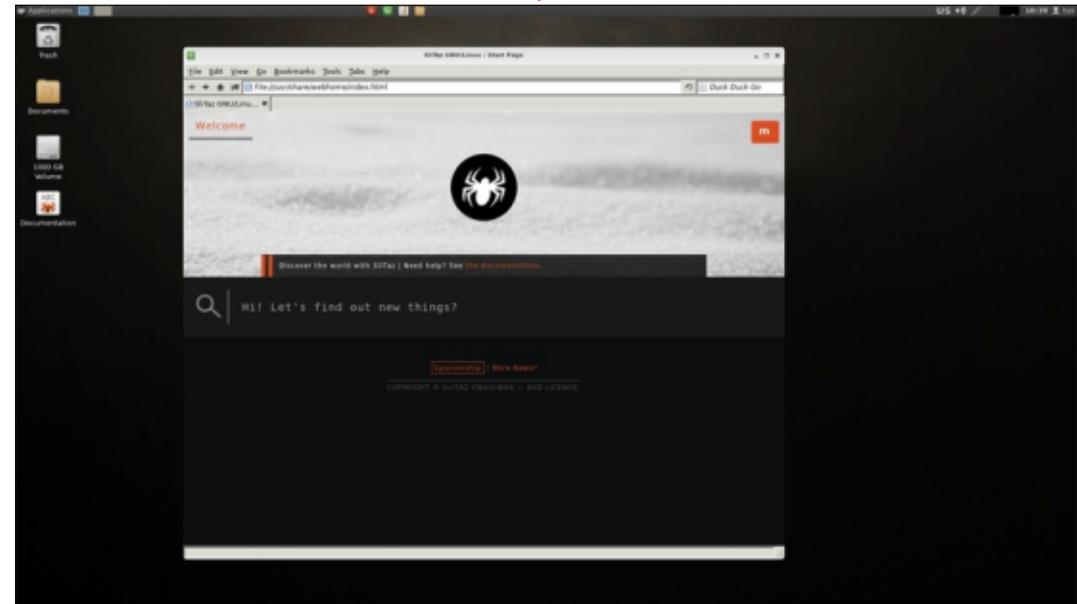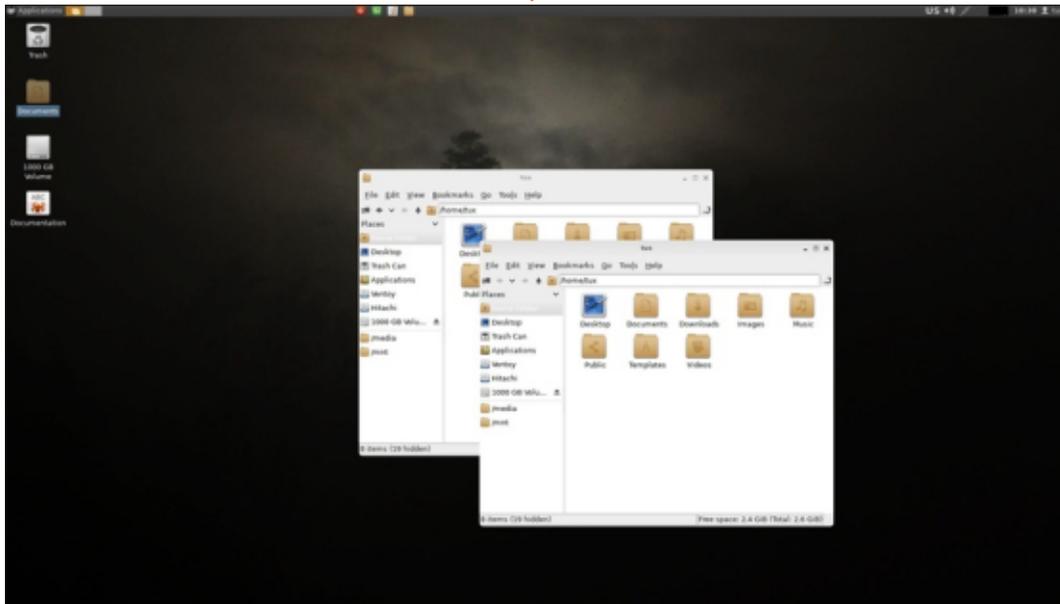
tasks, though, and can be gained directly in some applications or through opening an application through a terminal with "sudo". The default root password is "root".

With the whole operating system loaded into RAM, SliTaz is blazingly fast. No need to wait while applications open, it's already there.

SliTaz can be booted from a USB stick or other medium, and just run in RAM, even on a computer with no hard drive, but it can also be installed conventionally and booted into RAM from a hard disk.

APPLICATIONS

Where SliTaz saves on download size is not so much on the system side, as in the applications, since it doesn't come with a lot. Here are some of what is included:
ALSA Player 0.99.81 audio player
ePDFview 0.18 PDF reader
GPicView 0.2.5 image viewer
Leafpad 0.8.18.1 text editor
Midori 0.5.2 web browser
mtPaint 3.49.25 image editor
Nano 4.8 text editor
PCManFM 1.3.1 file manager
TazPanel 638 system and package manager
TazWeb 209 web browser and video player
Xterm 356 terminal emulator

It comes with 18 games from the webgames package, plus nanochess.

There is no word processor, no email client, no webcam, nor even a screenshot tool. The good news is that it has a well-stocked repository of applications in a unique SliTaz format (.tazpkg), and a really remarkable tool for managing them, TazPanel.

TazPanel really does everything. Aside from installing and removing packages, it also allows installing SliTaz to your hard drive, managing updates and hardware, some settings and many other features. It is an impressive bit of gear and was developed especially for SliTaz.

TazPanel even has a toggle switch to allow you to use it as "root", after entering the root password.

While it comes with two lightweight web browsers, the SliTaz repositories have more fully-featured browsers, like Firefox, available. Likewise, LibreOffice is in the repositories, as well, along with 4,967 other packages. It even has some rare applications, like the Tesseract command-line Optical Character Reader.

SliTaz 5.0 uses the BusyBox 1.31.1 collection of Unix utilities, and currently has Linux kernel 3.16.55. This is an older kernel released on 4 March, 2018, so don't expect SliTaz 5.0 to run on
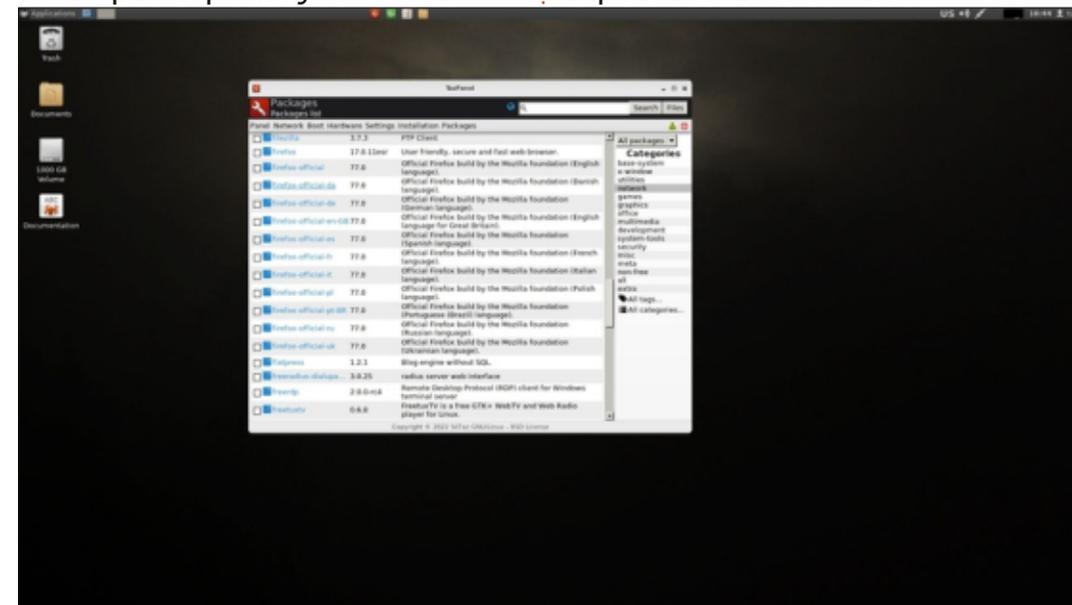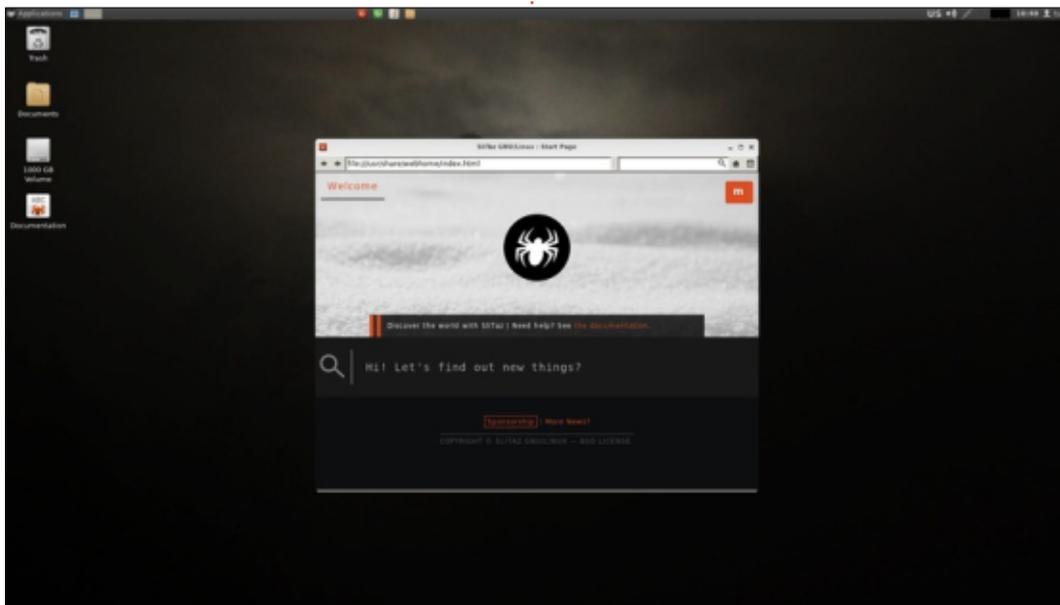
hardware newer than that vintage.

The combination of a small download with very few default applications, and a well-stocked cupboard of software that can be easily installed, is actually a very smart way to go. It makes the download small, of course, but also reduces clutter – you just install what you need and don't have to spend time removing a lot of cruft or put up with cluttered menus.

Between TazPanel and the settings available, it is quick to customize SliTaz and make it look and work like you want. You can even brighten up the gloomy post-apocalyptic color scheme, if you like.

Conclusions

SliTaz turned out to be a nice surprise in a small package.

It is clear from going through the tools and menus, as well as using it, that a great deal of care has been put into this distribution, making it really look and work like a full-featured Linux distribution, all in a lightweight package suitable for older hardware.

SliTaz really is the Linux distribution to get that old computer back into service!

External link

Official website:
https://slitaz.org/en/
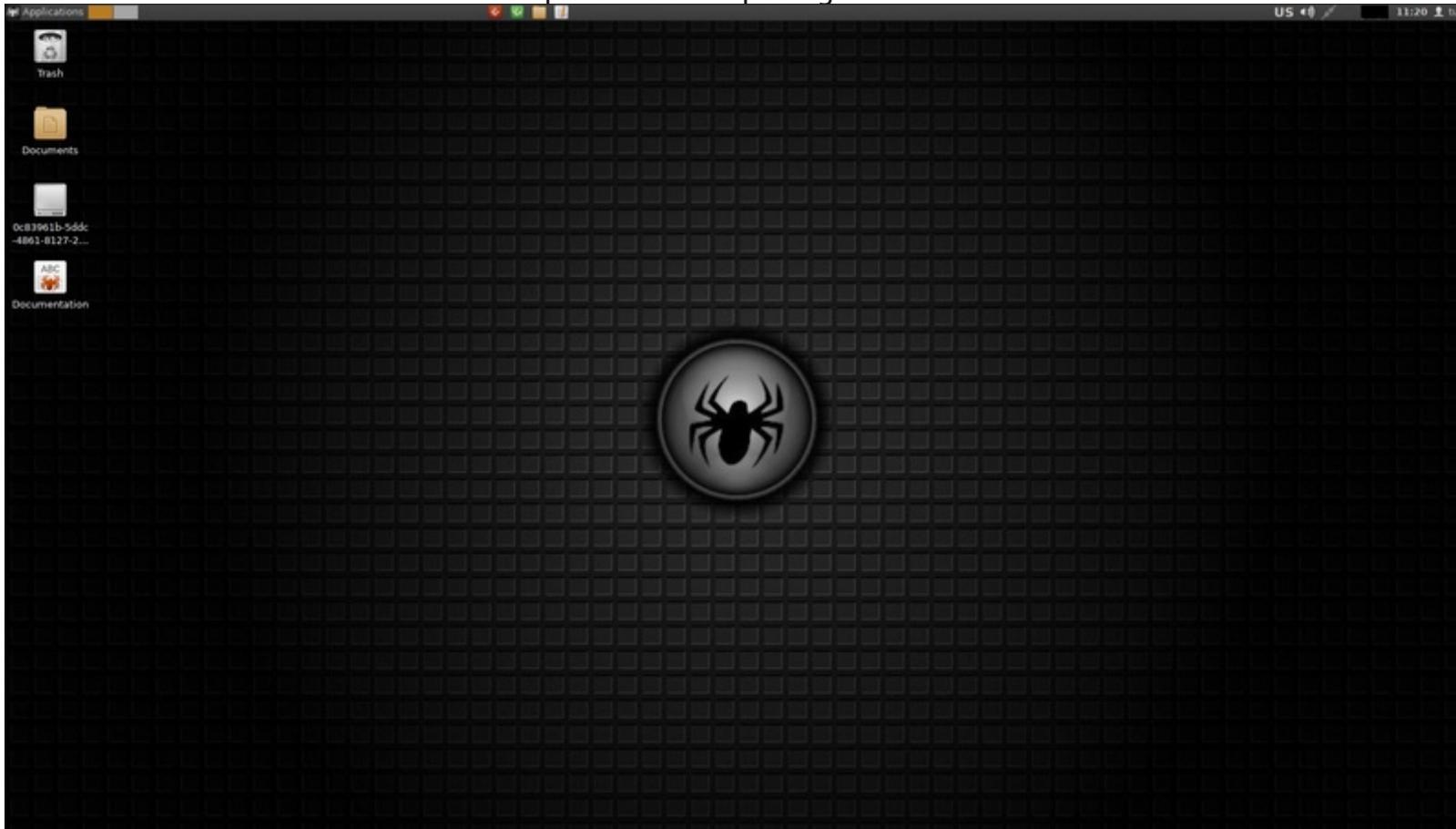
Adam Hunt started using Ubuntu in 2007 and has used Lubuntu since 2010. He lives in Ottawa, Ontario, Canada, in a house with no Windows.

The Recursive Book Of Recursion - Ace the coding interview with Python and Javascript
Al Sweigart

Publisher: No Starch Press
Release Date: August 16, 2022 (on Amazon.com USA)
Pages: 328
ISBN: 978-1718502024
Price: $39.99 (Preorder on Amazon.com USA)
Website: https://nostarch.com/recursive-book-recursion

Over the years, this is the 14th book review that I've done. How book reviews are handed out is pretty straight forward. If there is an author who has a speciality that fits a particular book, Ronnie usually asks that author if they would be willing to review that book. Sometimes, he will approach all of us and make a blanket offer. Usually, I try to leave book reviews for topics other than Python to the other authors. When the book is on Python, and the offer goes out to everyone, I usually respond to Ronnie privately and say if no one else wants to do it, I'd be happy to. I got the offer, so I jumped on the chance.

As most of you know, Al Sweigart is one of my favorite Technical authors. I'm guessing that at one time or another, I've read just about every book that he's written on Python, and have read many of his blog postings. I've never been disappointed.

This book, however, made my face contort into "huh?" mode. The subtitle is "Ace the coding interview with Python and Javascript". "Both Python AND Javascript?" my mind thought. Well, like I said, I've never been disappointed, so why not?

David Beazley (Author of Python Cookbook and others) wrote the foreword for Al's new book. I decided to borrow a short segment from his chapter…

"In my unbridled excitement to say more about recursion, I originally wrote this foreword in the form of a few short stories involving friends who'd applied recursive thinking in different ways but achieved a similar result. First, there was the story of Ben, who learned about recursion, took it too far, and somehow managed to disappear off the face of the earth under mysterious circumstances after committing the following Python code into production:

```
result = [(lambda r: lambda
n: 1 if n < 2 else r(r)(n−1)
+ r(r)(n−2))(

(lambda r: lambda n: 1 if n <
2 else r(r)(n−1) + r(r)(n−2)))
(n)
```

```
for n in range(37)]"
```

This sums up the issue with totally understanding the topic of recursion. You just might disappear from the face of the earth!

On to Al's new book.

Al states in the section "Who is this book for?":
"*This book is for those who are intimidated or intrigued by recursive algorithms. Recursion is one of those topics that seems like black magic to beginner programmers or freshman computer science students. Most recursion lessons are hard to follow and make the subject seem frustrating, even fearsome. For these readers, I hope that this book's direct explanations and ample examples can help make the topic finally click.*"

After reading through a few chapters, I came across Chapter 10 - File Finder. I presented a function that recursively checks a folder and all subfolders for MP3 files many years ago in the Beginning Python series of articles here in Full Circle,

so that immediately grabbed my attention.

The way he presents the topics (at least in Chapter 10) is to provide the full code of the example, then explain each section of the program afterwards. The File Finder type of program at first glance looks to be very simple and straightforward. However, when you dig into the code, it can turn into one of those projects that can cause a programmer to end up cross-eyed within a few pages. However, in true Al Sweigart style, he is not only able to present the project, but to explain it well – all in less than 14 pages.

I have to admit, I have felt for a long time that I had a pretty good handle on the subject of recursion, but deep down inside, I had a desire to learn more. Thanks to Al Sweigart's new book, I think I'm far better informed than I was before. I will re-read this book a couple more times, just to add to the knowledge.

Table of Contents:

LETTERS

Join us on:

facebook.com/
fullcirclemagazine

twitter.com/#!/fullcirclemag

linkedin.com/company/full-
circle-magazine

ubuntuforums.org/
forumdisplay.php?f=270

FULL CIRCLE NEEDS YOU!

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

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

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

Q&A

Compiled by EriktheUnready

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, back in the day when Visual Basic 6 arrived on the scene, my boss sent us on a course at Damelin College. It's not that we really programmed anything, we used Visual Basic for making front-ends. When I say this I mean you click a button instead of physically flipping a switch. This in turn flipped on or off a PLC rule. The only advantage this had over a physical switch is that it logged "when". (Basically, proving operator error.) At this course, there were a bunch of guys – I suspect they were like day labourers, as they were the blinken lights-type. Looking back, I should have objected to these guys in a non-basic (not as in visual basic, mind you) course, but hindsight is 20-20 vision. The problems manifested right away when the instructor said "click on the VB6 icon on your screen". Mice were lifted onto CRT monitors and buttons were clicked. This was the red flag I should have tossed my toys at, as it basically took them 5 weeks to master the mouse in the 6-week course, ruining it for everyone else. The large company behind them and the college's greed, kept them in pace. Out of our 400-page curriculum, we did "tic-tac-toe" and nothing else. Even though those of us managing to complete the exam got our certificates, the whole thing was a sham. I have started with a new company and we have unlimited access to Udemy. Now that I can freely look at things, I find many (if not most!) of the courses are rehashed Youtube videos, or old book chapters 1-3. Not a single original thought between them. Guys, don't be afraid to leave 1-star reviews and demand a refund. Look through the video's as soon as you have ordered your course and immediately demand a refund if it fits the rehashed horseradish criteria. Don't feel you need to finish the course, find another. Don't feel because you learned "something" it was worth it, that is what some of the sharks prey on.

_____

Q: I tried to install FreeCAD 0.20 in Jammy Jellyfish, but it has not been updated yet. I am not really a fundie, so help me get the decent version set up please?

A: I found a forum post on that here: https://forum.freecadweb.org/viewtopic.php?t=59647 - it seems it was released on the 14th, remember Ubuntu needs to test it first before just adding it to the repo. That said, you can always grab the appimage so long or add a PPA: https://launchpad.net/~freecad-maintainers/+archive/ubuntu/freecad-daily

Q: I need to upgrade my crappy computer. I have WattOS running (based on Ubuntu), but I need newer software to run on here. The forums are online, but when you try to access them, there is a "not acceptable" error message. If I just add the Ubuntu repositories, can I update?

A: Probably not. WattOS has been discontinued for a while. Maybe look at Linux Lite as a replacement? I don't know how energy efficient it is, but it is lighter than standard Ubuntu.

Q: What are your thoughts on 'http://www.pixeluvo.com/' ?? Is it worth the $34 ?? In the documentation, it says it can do it all with a brush, The Fx Brush Tool allows you to paint the effect of some common filters onto an image. This can be incredibly useful for touching up photos or applying effects in very specific portions of an image. The filters you can currently use to paint with are: Saturate, Desaturate, Colorize, Blur, Sharpen, Surface Blur, Boost Detail,

Q&A

Boost Clarity, Smooth Skin. Simply select the desired effect, adjust the effect settings in the options bar, then paint with the filter directly onto the image.

A : Honestly, $34 is easy for someone earning dollars or euros, but way too expensive for other people living outside those zones, so I would not know, as that is more than I am willing to pay for software. If you are in one of those zones. I'd say go for it. From what I can see on the website, it looks like a nice program.

Q : I upgraded Ubuntu all the way from 16.04, right up to 20.04. All seemed well until I tried to log in and it would not let me. I went and changed the password, thinking I made a slip-up with the typing, but I still can't log in. <removed> is what I can gleam. Either that or my login is in a loop?

A : You are out of space. Delete something. I suggest removing old kernels and doing a sudo apt autoclean and autoremove. Maybe look at Stacer once you are back in to keep it clean?

Q : Hey, I wanted to try 22.04 and did 'update-manager -d'. I then saw: "Welcome to the Ubuntu 'Jammy Jellyfish' development release", and I was like: Huh? Seeing "This release is still in development." has me wondering maybe I installed the wrong version?

A : Man pages, young person! update-manager has the -d for a reason. It is short for "devel-release". Don't blindly copypasta things if you are unsure.

Q : I recently got a Radeon RX570 card off gumtree, second–hand, and then after my last update, I am seeing red vertical lines on my screen. I tried my brother's screen and it is the same. How can I go back to before this update? I don't want to reinstall as there are things I want to keep.

A : I tried to fix your question as it made no sense what you wrote: Red lines down the screen are not usually software related. Take your card out and re-seat it in your slot. You can use an eraser to clean the contacts on the card. Also swap your cable, it could be a bad solder.

Also check that everything is plugged in tightly. Lastly, boot off an install disk and *if the red lines are still there, it is not software. Problem is, guys mine crypto with those and they run at 100% capacity all the time, they are bound to wear out.

Q : My bluetooth on my Ubuntu machine suddenly switched from headphones to the bluetooth soundbar downstairs. How can I avoid this in future as it puts me in a bad light?

A : "A bad light"??? Stop watching porn? Remove the soundbar from the Bluetooth window.

Q : I have LL 20.04 installed, and it seems to want to remove my Nvidea drivers. If I do a sudo apt autoremove it lists the drivers and I did that before and had no display. Help?

A : Don't remove them. This will come right down the line. Linux lite 6.0 was released last week and there are bound to be bugs.

Q : Hai, I started learning PHP and wanted to install codelite as per the book, but it says it does not exist. I know it does, as I installed it on the debian VM we were given in college. The problem is that the VM is too locked down for my liking and I want to do my own thing.

A : It's muddy waters, it needs an extra repository, see here: https://docs.codelite.org/downloads/download/#ubuntu-debian – just follow these instructions, it should then install normally.

Q : OK, I'm not gonna lie, I sort of fell asleep at my desk and may have pressed something I should not have, if you know what I mean. My file explorer is now without the tree view on the side. It's not so much of an issue as I have the full path set up on top, but I'd like to see it again.

A : It's right there in the hamburger menu (Show sidebar) if you use "files", but you did not say which DE you are using. Let me know which version, then we can take it from there as there are a lot of file managers out there.

Q&A

Q : I uninstalled the snap store as I don't want slow software, plus I have only a 128GB WD SSD in my laptop. It is a first gen i5 so it is rather slow. The issue I have now is that I have no GUI way to install software. Even trying sudo apt install chromium does not work.

A : Sorry for cutting that, the rest was not relevant. You do know there are other software stores out there, you do not have to use only one. Here is a nice list: https://askubuntu.com/questions/339697/are-there-alternatives-to-software-center

They may not all work, but AppGrid does, I tested it.

Q : I have std Ubuntu 20.04, and I tried installing cuda, then got this gem: The following packages have unmet dependencies:
 cuda : Depends: cuda-11-7 (>= 11.7.0) but it is not going to be installed
E: Unable to correct problems, you have held broken packages.

A : You will need to fix your error first, try apt-get autoclean and apt-get update and apt-get upgrade first, followed by apt-get -f install .

Just Google "how to fix broken packages Ubuntu" if the above does not work for you.

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.

Website: https://www.lexaloffle.com/pico-8.php
Price: Varies
Blurb: "*PICO-8 is a fantasy console for making, sharing, and playing tiny games and other computer programs. It feels like a regular console, but runs on Windows/Mac/Linux. When you turn it on, the machine greets you with a command line, a suite of cartridge creation tools, and an online cartridge browser called SPLORE.*"

Why are we reviewing this only now? Well, we got this only now, thanks to Ronnie Tucker for the review copy.

I'm going to start this off by saying it is ugly. Lawd, it is, but it is the most fun you can have with your computer, making it do silly stuff, or with your clothes on.

You literally start with bupkis, even the "manual" is a little text file. This really reminds one of an 8-bit computer startup screen. I want to start typing; LOAD ""

Anyway, moving right along, this little toy is a diamond in the rough. Though the screen resolution is only roughly that of the Atari 2600 console from the late '70s, I would have loved for it to be at least double what it is, as I have never been one for fat graphics (you will understand when you see a M and a N or a U and a W). Seriously, if the resolution was better, imagine putting this on a hand-held FPGA or Raspberry Pi Zero with one of those Waveshare LCDs, and you can load up your own games as well as those of your friends? Poof! Mind blown.

So what do you need to get started? They recommend Lua, as the syntax is Lua-like. No, don't stop reading, you don't NEED it, it is only recommended. You see, the little fantasy console has more than one face. You can make games, you can make pixel art, and you can make music, tracker style, and then share it with a friend.

GRAPHICS

Let's cover my grumble first: you press escape to get to the editor and the graphics editor is the little "mask" that looks like General Grievous from Star Wars. Now it is simply a matter of painting with dots. You have a limited color palette, but don't let that stop you. Your characters can be any size, as long as they are multiples of 8 (you do not have to do any maths either, though to this day I can tell what the value of a line in graph paper is just by looking at it, so it's not all bad). You have 8x8 pixel blocks that you can slap together to make bigger sprites or drawings. Note: it is quick, I made a simple penguin in 20 seconds. If I repeat that to the other side, I can have a simple waddle animation in less than a minute! That contributes to the charm of this title, the raw speed that you can get going. The limitation is the 128x128 display.

You can make graphics and sound without typing a single line of code. Easy to pick up, quick to learn, what is not to like?

SOUND

Let me tell you about the music side. It is split into two parts, the sound editor and the pattern editor. In the sound editor you "draw" your sound and hit the spacebar to hear what it sounds like. Instead of me telling you how it works, the fun is in the finding out. One quickly learns what is high or low pitched, playing with the speed button, but also in the way you draw your sound sample. There are also triangle waves, square waves, saws, and noise for your pleasure. I am not ashamed to say I spent a whole morning in bed playing with JUST the sound module. Just when you think you

UBUNTU GAMES
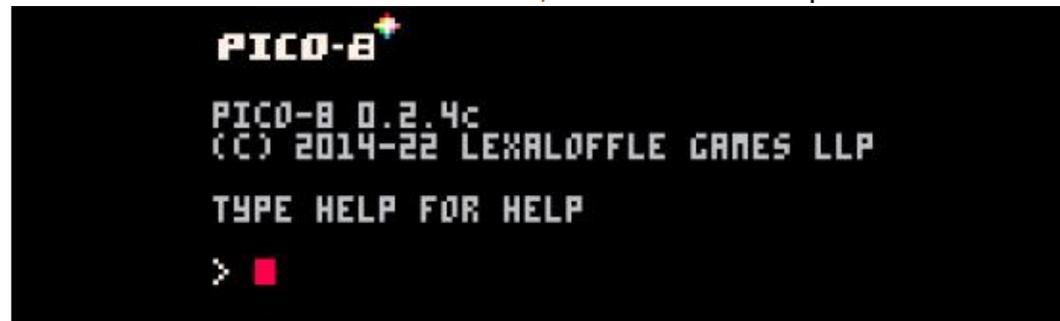
have it figured out, there is something else that catches your fancy.

Once you have made your sounds or instruments, you can go and "paint" them in the song editor. You will be surprised at how untalented you are. Oh wait, that's only me. I have the musical capabilities of a snail. However, the joy here is the farting around. OK, apparently I am 8 as I made some fart sounds and amused myself with those (also I managed to use 'fart' in an article without trying to be vulgar; bonus points?). Meow....

PROGRAMMING
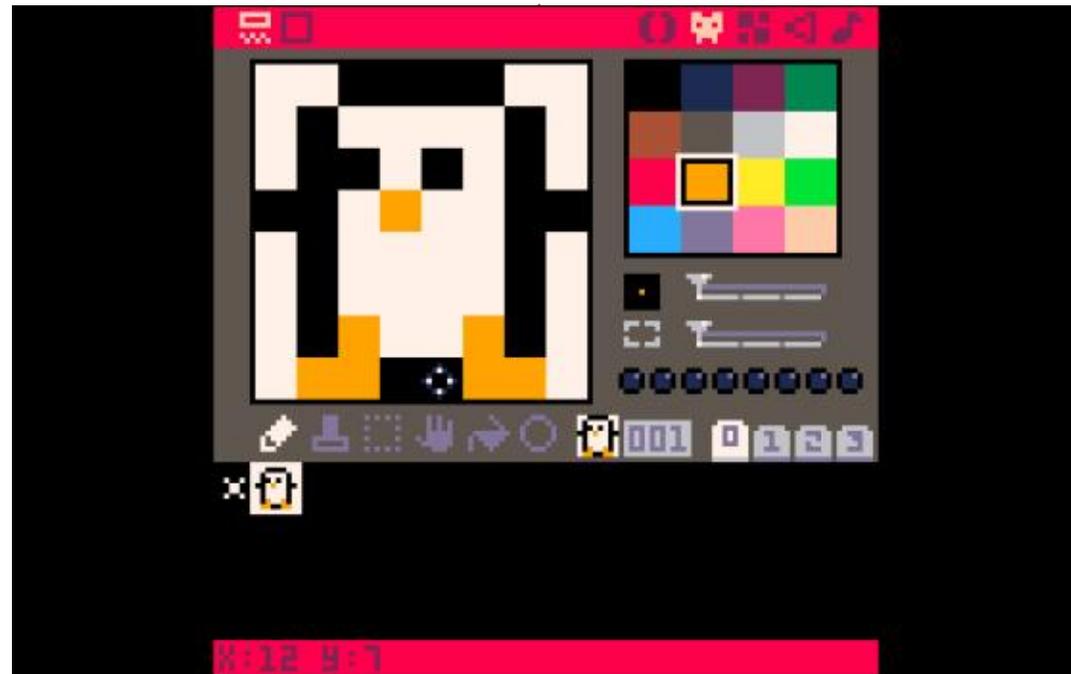
Now for the coding side. You are covered with all the basics like variables, loops and functions, but you are limited to 256 characters. Again, this is where the ugly part pokes its head in, as you can code in only capital letters and letters lookalike. Look at the word "VOLUME" in the preceding screen shot. This really stresses out my peepers. The idea here is that by limiting the sounds, the sprites and the code, you start getting innovative to do more than the toy was designed for. And indeed, we see this in retro gaming and demo scenes all the time, where guys will unroll a loop to gain more speed, or

make sprites that can be used over and over with just a simple colour change (the bushes and the clouds in Mario, for instance). The bonus here is that you can grab a completed game and roll your peepers over the code. This is by far the best way of gaining an understanding if you are a non-programmer.

This brings me to the "SPLORE" command. This is a software store where you can grab a game or music or demo made by someone else. The whole game is in that one image file. I don't know why, but this makes me smile. You can also simply copy your little picture to

that old 16/128MB SD card or thumb drive you have no use for, and fit quite a few games on there. Anyone can publish their game and have others play your game or music or demo. Yes, there is already an active demo scene for the Pico-8. I think I learned more about programming this week, than my whole life so far. I will DEFINITELY be spending more time with this. I encourage anyone to get this and learn something new. Yes, I know it's ugly, but if you make only one purchase this year, software-wise, I recommend this. Call it an educational toy for the kids and claim it yourself, the top tier in adulthood.
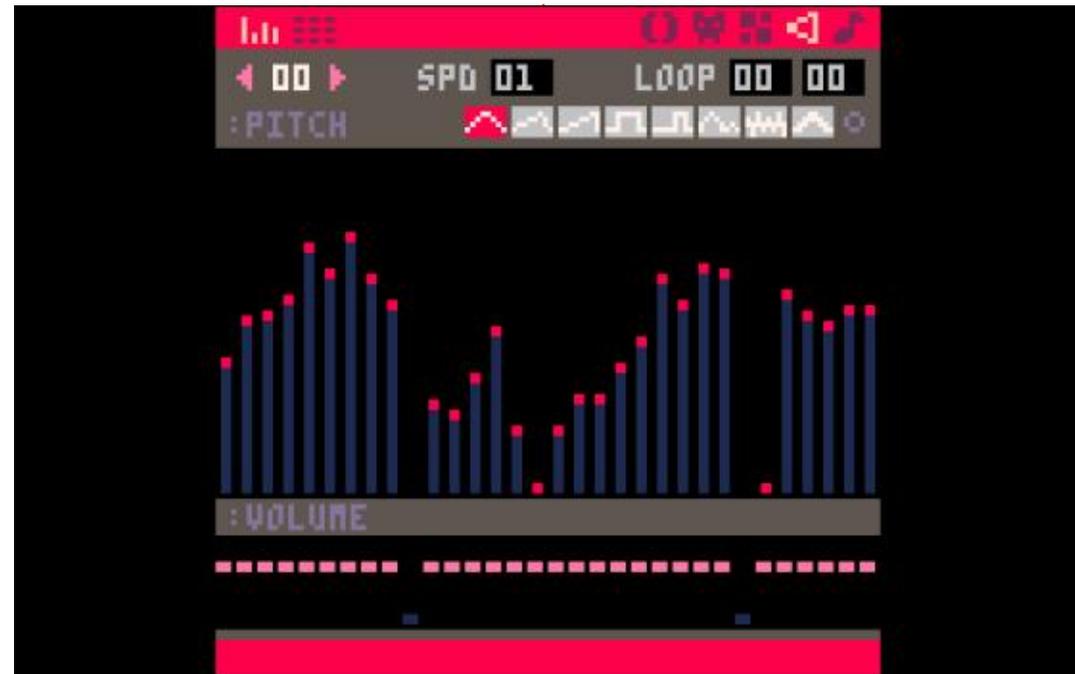
PATRONS

Monthly Patrons

Alex Crabtree
Alex Popescu
Andy Garay
Bill Berninghausen
Bob C
Brian Bogdan
CBinMV
Darren
Dennis Mack
Devin McPherson
Doug Bruce
Elizabeth K. Joseph
Eric Meddleton
Gary Campbell
George Smith
Henry D Mills
Hugo Sutherland
Jack
Jason D. Moss
Joao Cantinho Lopes
John Andrews
John Malon
John Prigge
Jonathan Pienaar
Joseph Gulizia
JT
Kevin O'Brien
Lee Allen
Leo Paesen
Linda P

Mark Shuttleworth
Moss Bliss
Norman Phillips
Oscar Rivera
Paul Anderson
Paul Readovin
Rino Ragucci
Rob Fitzgerald
Robin Woodburn
Roy Milner
Scott Mack
Sony Varghese
Taylor Conroy
Tom Bell
Tony
Vincent Jobard
Volker Bradley
William von Hagen

Single Donations

2021:
Floyd Smith
Dale Reisfield
Jan Ågren
Linda Prinsen
melvyn smith
Frits van Leeuwen
Raymond Mccarthy
Robert Kaspar
Frank Dinger
Ken Maunder

Brian Kelly
János Horváth
Ronald Eike
John Porubek
Hans van Eekelen
Kees Moerman
Jon Loveless
Jim Hibbard

2022:
Frits van Leeuwen
Marcus Carlson
Louis W Adams Jr
Linda Prinsen
James Flanagan
Peter Horlings
Patrick Martindale
Frank Dinger
János Horváth
Dan Prizner
TODD WINTERS

HOW TO CONTRIBUTE

FULL CIRCLE NEEDS YOU!

A magazine isn't a magazine without articles and Full Circle is no exception. We need your opinions, desktops, stories, how-to's, reviews, and anything else you want to tell your fellow *buntu users. Send your articles to: articles@fullcirclemagazine.org

We are always looking for new articles to include in Full Circle. For help and advice please see the **Official Full Circle Style Guide**: http://bit.ly/fcmwriting

Send your **comments** or Linux experiences to: letters@fullcirclemagazine.org
Hardware/software **reviews** should be sent to: reviews@fullcirclemagazine.org
Questions for Q&A should go to: questions@fullcirclemagazine.org
Desktop screens should be emailed to: misc@fullcirclemagazine.org
... or you can visit our **site** via: fullcirclemagazine.org

FCM#184
Deadline:
Sunday 07th Aug. 2022.
Release:
Friday 26th Aug. 2022.

For the Full Circle Weekly News:

You can keep up to date with the Weekly News using the RSS feed: http://fullcirclemagazine.org/feed/podcast

Or, if you're out and about, you can get the Weekly News via Stitcher Radio (Android/iOS/web):
 http://www.stitcher.com/s?fid=85347&refid=stpr

and via TuneIn at: http://tunein.com/radio/Full-Circle-Weekly-News-p855064/

Getting Full Circle Magazine:

EPUB Format - Most editions have a link to the epub file on that issue's download page. If you have any problems with the epub file, email: mobile@fullcirclemagazine.org

Issuu - You can read Full Circle online via Issuu: http://issuu.com/fullcirclemagazine. Please share and rate FCM as it helps to spread the word about FCM and Ubuntu.

FCM PATREON : https://www.patreon.com/fullcirclemagazine