

The background is a dark blue gradient with various technical and scientific motifs. On the left, there are several circular gauges or dials with white scale markings and numbers. One prominent gauge has numbers ranging from 140 to 260 in increments of 10. A bright blue arrow points to the right from the 220 mark on this gauge. Another gauge below it has numbers from 250 to 260. In the center and right, there are more circular elements, some with scale markings and others with arrows. A teal arrow points upwards and to the left from the bottom right. The overall aesthetic is clean, modern, and technical.

WELCOME TO
THE CENTRAL
IOWA LINUX
USERS GROUP



NEWS

THE MONTH IN REVIEW

The background features a dark blue gradient with a subtle starfield. On the left side, there are several overlapping circular elements. A prominent one is a large circle with a scale from 140 to 260 in increments of 10. Other circles are smaller and some have dashed outlines or arrows, suggesting a technical or data-related theme.

WINDOWS MANAGERS

DECEMBER MEETING

CENTRAL IOWA LINUX USERS GROUP

ANDREW DENNER



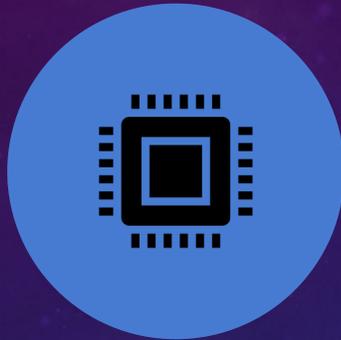
ABOUT ME

- Andrew Denner
- Twitter: @adenner
- Slides will be posted at <http://denner.co> later this week

SETUP—BAKING A RASPBERRY PI 4

- Specs are CPU – Broadcom BCM2711, Quad core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz
- RAM – 4GB LPDDR4-2400 SDRAM
- WiFi – 2.4 GHz and 5.0 GHz IEEE 802.11ac wireless, Bluetooth 5.0, BLE
- Ethernet – Gigabit
- USB – 2 USB 3.0 ports; 2 USB 2.0 ports
- GPIO header – Raspberry Pi standard 40 pin
- HDMI – 2 × micro-HDMI ports (up to 4kp60 supported)
- Display port – 2-lane MIPI DSI
- Camera port – 2-lane MIPI CSI
- Audio – 4-pole stereo audio and composite video port
- Storage – Micro-SD card slot for loading operating system and data storage
- Misc – H.265 (4kp60 decode), H264 (1080p60 decode, 1080p30 encode), OpenGL ES 3.0 graphics

THE DISTRO OF THE DAY—MANJARO LINUX



“MANJARO IS AN OPEN-SOURCE LINUX DISTRIBUTION BASED ON THE ARCH LINUX OPERATING SYSTEM. MANJARO HAS A FOCUS ON USER FRIENDLINESS AND ACCESSIBILITY, AND THE SYSTEM ITSELF IS DESIGNED TO WORK FULLY "STRAIGHT OUT OF THE BOX" WITH ITS VARIETY OF PRE-INSTALLED SOFTWARE.”



THANKS TO STEVEN HADLEY FOR THE ARCH RECOMMENDATION



[HTTPS://MANJARO.ORG/](https://manjaro.org/) IN OUR CASE I DOWNLOADED
[HTTPS://MANJARO.ORG/DOWNLOAD/ARM/RASPBERRY-PI-4/ARM8-RASPBERRY-PI-4-KDE-PLASMA/](https://manjaro.org/download/arm/raspberrypi-4/arm8-raspberrypi-4-kde-plasma/) (THE 64 BIT PI 4 VERSION)

FIRST LET'S BUILD THE SD CARD

- One nice thing is it is easy to flash the image.
- From my mac I used Etcher to make the image (<https://www.balena.io/etcher/>)
- Slightly annoying issue is the advertising that came with it while the image was being burned



Select image

img, iso, zip, and many more



Generic Mass-Storage Media (/dev/disk3)

Generic M...age Media

Change

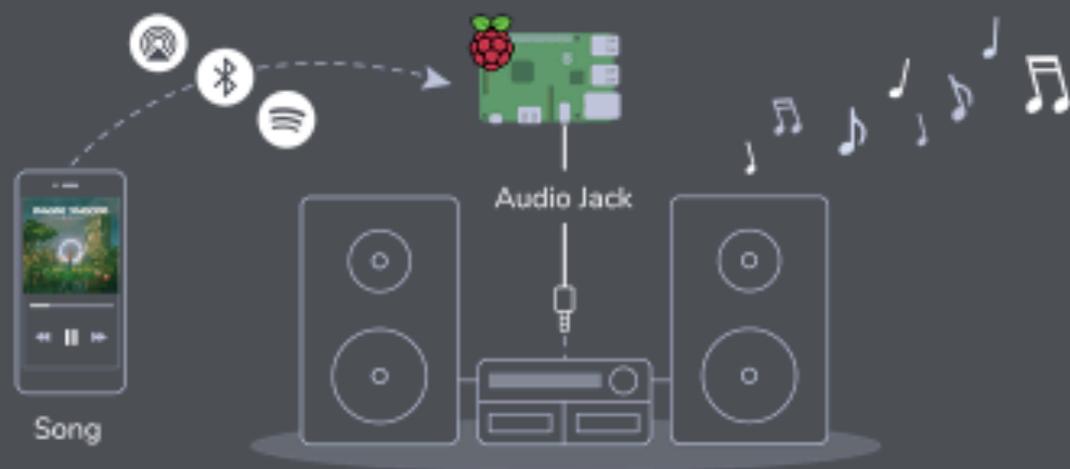
63.86 GB



Flash!



While you are waiting, check out our featured project



Bring your old speakers back to life!

Turn your old speakers or Hi-Fi into Bluetooth, Airplay and Spotify Connect receivers with a Raspberry Pi and this step-by-step guide

[View guide](#)



Manjaro....12.img 5.65 GB



Generic...e Media



3% Flashing



13.40 MB/s

ETA: 6m44s

Search Categories ↓ All Installed Updates

Featured

- Photo & Video
- Music & Audio
- Productivity
- Communication & News
- Education & Science
- Games
- Utilities
- Development

	Firefox Browse the World Wide Web extra	70.0.1-3.1	
	Blender 3D modeling, animation, rendering and post-production community	17:2.81.a-3	172.8 MB
	Cura The world's most advanced 3d printer software community	4.4.0-1	Install 90.7 MB
	GNU Image Manipulation Program 2.10.14-1 Create images and edit photographs extra		Install 110.1 MB
	Inkscape Vector Graphics Editor extra	0.92.4-9	Install 140.0 MB

Refresh databases
View History
Install Local Packages
Preferences
About

Cancel Apply →

Categories ↓ All Installed Updates

Featured Sort by Relevance

Photo & Video Remove 170.7 MB

Music & Audio Install 172.8 MB

Productivity Install 90.7 MB

Communication & N Install 110.1 MB

Education & Science Install 140.0 MB

Games

Utilities

Development

Cancel Apply →

Preferences

General Advanced **AUR** Cache

AUR is a community maintained repository so it presents potential risks and problems. All AUR users should be familiar with the build process.

Enable AUR support

Keep built packages in cache Allow Pacman to search and install packages from AUR

Check for updates from AUR

Check for development packages updates

Build directory: tmp

To delete: 0 files (0 bytes) Clean build files

Close

COUPLE OF REMINDERS OF PACKAGE MANAGEMENT

- Pacman is the best part of the Arch linux world
- -S install
- -R remove
- -Rs remove and remove deps
- To remove a package, its dependencies and all the packages that depend on the target package
 - -Rsc ****!!!! Dangerous
- Upgrade all -Syu
- Search -Ss
- Clean cache -r



ON WITH THE SHOW

PLASMA—KDE

- Built on QT5 and the plasma framework
- Improved support for Hi DPI displays
- Uses xorg but they are working on a wayland port
- Has full desktop suite
 - Krunner –Desktop search
 - Activities virtual desktops
 - Widgets called plasmoids
 - Dolphin windows manager
 - Spectacle screen shot
- Install for arch based linuxes:
`pacman -S plasma kde-applications`



Konqi
Search...

- Web Browser
Firefox
- System Settings
System Settings
- File Manager
Dolphin
- Advanced Text Editor
Kate
- Software Center
Discover
- Software Center
Discover
- Web Browser
Falkon
- Terminal**
Konsole
- Document Viewer
Okular

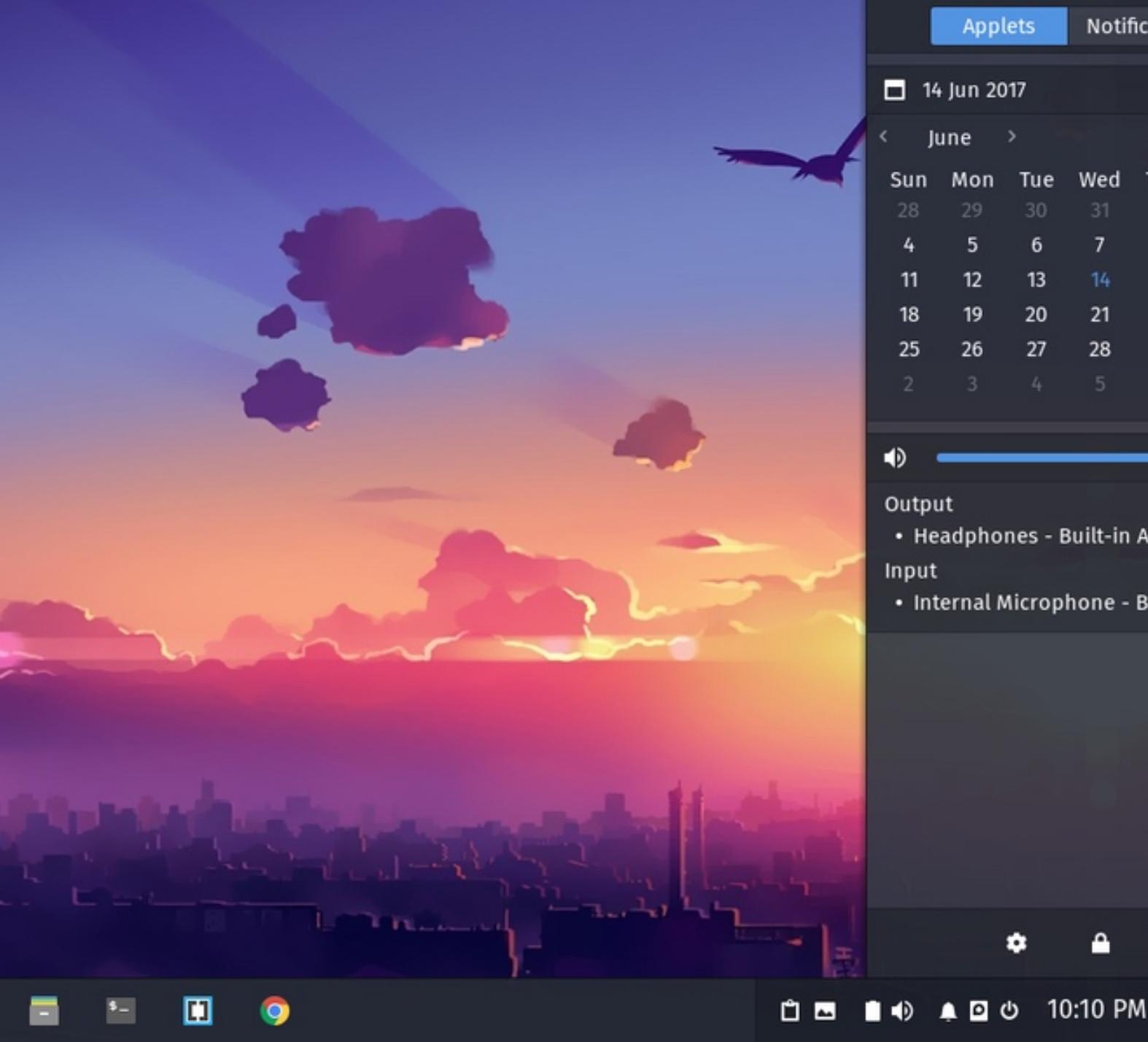
Favorites Applications Computer History Leave

- Recent Applications
 - Recent Documents
 - Development
 - Education
 - Games
 - Graphics
 - Internet
 - Multimedia
 - Office
 - Science & Math
 - Settings
 - System
 - Utilities
 - Lost & Found
 - Help
 - Power / Session
- Search...



GNOME (3)

- Originally was acronym for “GNU Network Object Model Environment” but not really anymore
- First released in March 1999 Gnome 3 dates to 2011 and has modern desktop layout
- Originally disliked: "The developers have apparently decided that it's 'too complicated' to actually do real work on your desktop, and have decided to make it really annoying to do" —Linus
- By 2013 “things had gotten much better in the past year” but noting that “they have extensions now that are still much too hard to find; but with extensions you can make your desktop look almost as good as it used to look two years ago”

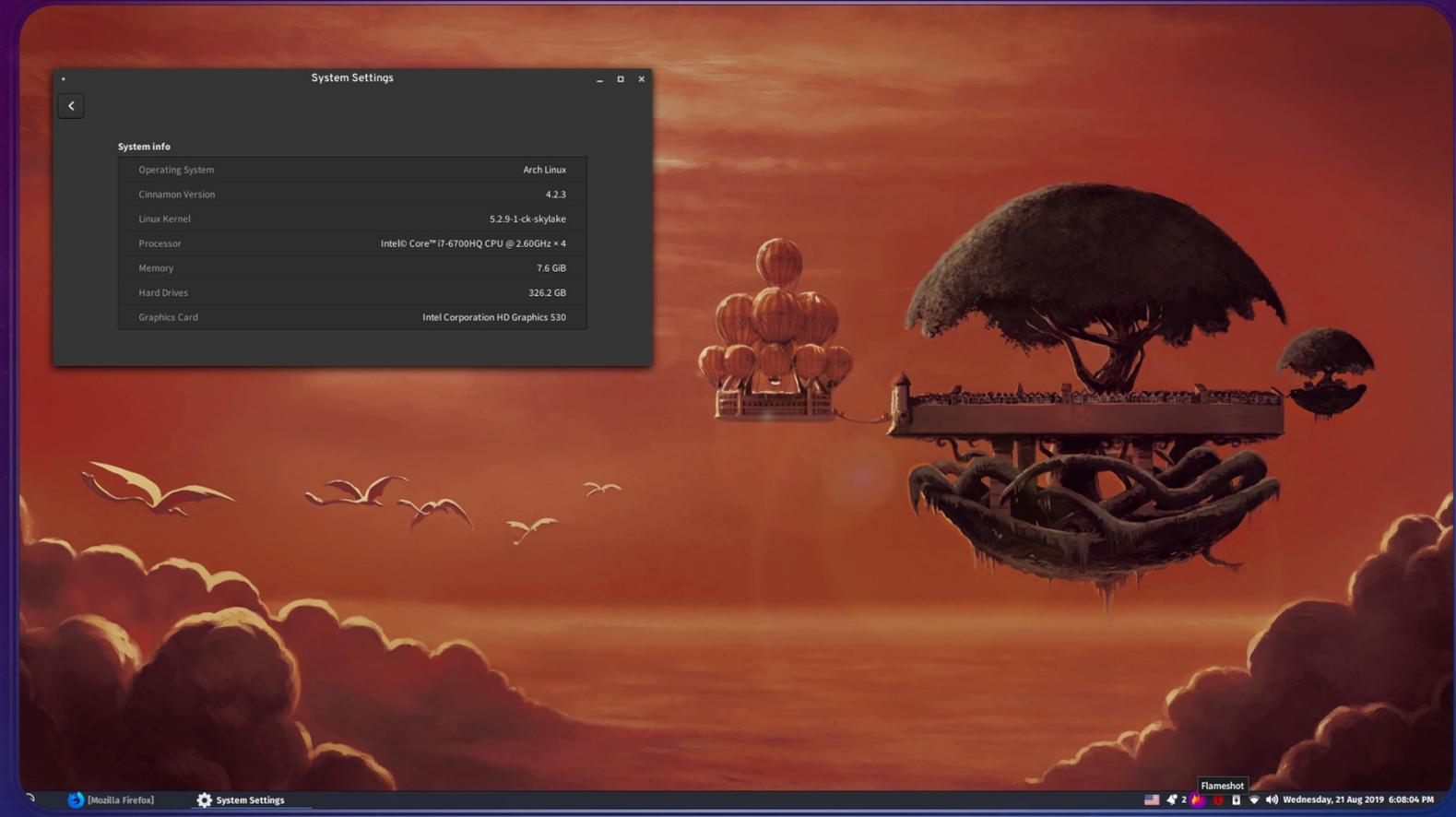


BUDGIE DESKTOP

- Developed by the Solus project using Gnome tech (gtk+)
- Simplicity elegance minimalism and elegance
- Install `pacman -S budgie-desktop`

CINNAMON

- Gnome fork from the Mint distro
- X-apps:
 - Xed is a text editor based on Gedit/pluma
 - Xviewer is based on Eye of GNOME
 - Xreader is a document viewer based on Evince/Atril
 - Xplayer is a media player based on GNOME Videos (Totem)
 - Pix is an image organizer based on gThumb
- Install pacman –S cinnamon



System info	
Operating System	Arch Linux
Cinnamon Version	4.2.3
Linux Kernel	5.2.9-1-ck-skylake
Processor	Intel® Core™ i7-6700HQ CPU @ 2.60GHz × 4
Memory	7.6 GiB
Hard Drives	326.2 GB
Graphics Card	Intel Corporation HD Graphics 530

MATE

- Long live Gnome2
- Named after yerba mate
- Backronym: MATE Advanced Traditional Environment
- "We consider MATE yet another desktop, just like KDE, Gnome 3, Xfce etc... and based on the popularity of Gnome 2 in previous releases of Linux Mint, we are dedicated to support it and to help it improve. The most popular Linux desktop was, and arguably is, Gnome 2."
- Install `pacman -S mate mate-extra`

MATE APPLICATIONS



CAJA (BOX) – FILE
MANAGER (FROM
NAUTILUS)



PLUMA
(QUILL/FEATHER/PEN
) – TEXT EDITOR
(FROM GEDIT)



ATRIL (LECTERN) –
DOCUMENT VIEWER
(FROM EVINCE)



ENGRAMPA (STAPLE)
– ARCHIVE MANAGER
(FROM ARCHIVE
MANAGER)



MATE-TERMINAL –
TERMINAL
EMULATOR (FROM
GNOME TERMINAL)



MARCO (FRAME) –
WINDOW MANAGER
(FROM METACITY)



MOZO (WAITER) –
MENU-ITEM EDITOR
(FROM ALACARTE)



Computer



yuchen's Home



Network Servers



Trash

System Monitor

System Processes Resources File Systems

 **yuchen-XPS-13-9360**

"Ubuntu"

Release 18.04.1 LTS (Bionic Beaver) 64-bit
Kernel Linux 4.15.0-42-generic x86_64
MATE 1.20.1

Hardware

Memory: 7.5 GiB
Processor: Intel® Core™ i5-7200U CPU @ 2.50GHz × 4

System Status

Available disk space: 102.2 GiB



ENLIGHTENMENT

- Enlightenment, also known simply as E, is a compositing window
- “the original eye-candy window manager.”
- Install pacman –S enlightenment

Main

- Applications >
- Navigate... >
- Run Everything
- Take Screenshot
- Desktop >
- Windows >
- Lost Windows >
- Enlightenment >
- Settings >
- System >

Accessories >

Games >

Graphics >

Internet >

Sound & Video >

Office >

System Tools >

Amazon

Firefox Web Browser (Web Browser)

Remmina (Remote Desktop Client)

Thunderbird Mail (Mail Client)

Transmission (B&T Torrent Client)

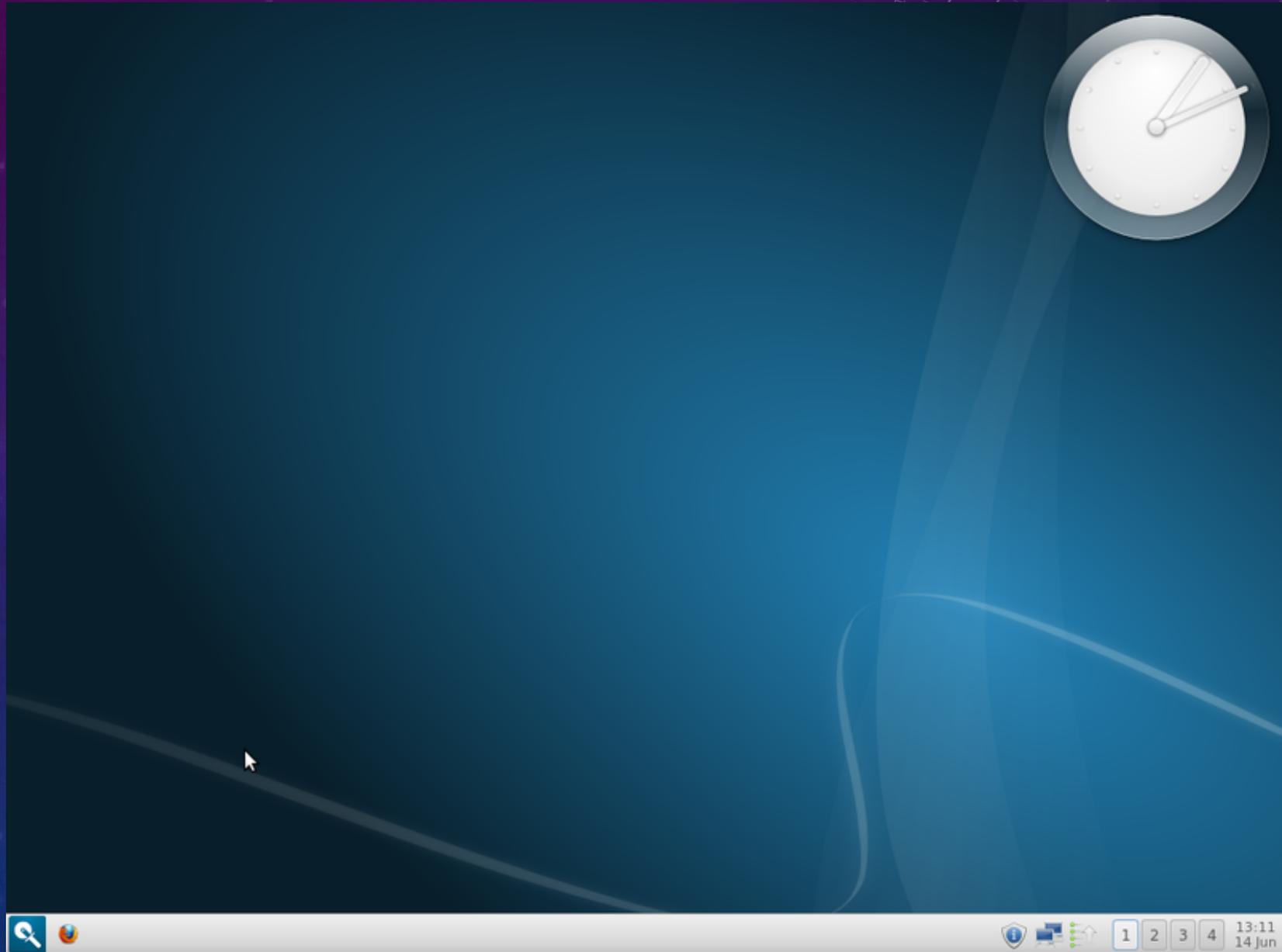


LXDE

- Lightweight X11 Desktop Environment
- Low requirements good for old hardware
- Using gtk+2 toolkit
- Originally released by Hong Jen Yee ("PCMan") in 2006
- Install `pacman -S lxde`

LXQT

- Formed by merger of LXDE and Razor Qt projects
- "tailored for users who value simplicity, speed, and an intuitive interface."
- Yet another low resource windows manager
- Install `pacman -S lxqt`



XFCE

- Lightweight desktop based on gtk 2 and 3
- Install pacman `-S xfce4`

Desktop

Set desktop background and menu and icon behavior

Background Menus Icons

Wallpaper for my desktop



Select First Color



Hue: 33 Red: 96

Saturation: 28 Green: 84

Value: 38 Blue: 69

Color name: #605445

Cancel OK

Folder: desktop-base Style: None

Color: Solid color Apply to all workspaces

Change the background in minutes: 10 Random Order

Help Close

Parole Media Player

Media Playback Audio Video Tools Help

Audio Track: English Subtitles: und Close



Playlist (12 items)

- Batman - Gotham Kni... 1:15:59
- Dead-Space-Aftermat... 1:12:17
- Dead_Space_Downfall... 1:14:24
- 5 Centimeters Per Sec... 1:02:59
- A family guy - osama ... 03:25
- Batman - Chase_Me-... 06:23
- Batman - Under the R... 1:15:50**
- Cosmos_Laundromat_... 12:10
- Father and Daughter -... 08:08
- Day Night.avi 05:47
- big_buck_bunny.mov 09:56
- Another (ANIME) - 01 ... 25:00

00:08 1:15:50

Old Well Farm. Ridge and fur...



Colors

Color selection icons

Rotation

Rotation icons

Format

lennart - File Manager

File Edit View Go Help

DEVICES

- File System
- Debian 9.3.0 i386 1
- 178 GB Volume
- 274 GB Volume
- 144 GB Volume
- 69 GB Volume
- 107 GB Volume

PLACES

- lennart**
- Desktop
- Trash

NETWORK

- Browse Network

lennart Pictures Animation-Anime

Abandoned house in Rita Blanca National Grassland.jpg	Farmland near Tilton on the Hill - UK.jpg	Fort Reno - OKLAHAMA	Governors Mansion 2012-09-26.jpg
Old Well Farm. Ridge and furrows	sky-Dusk arrives where Elk Meadow, Yosemite National Park	Smoke over Elk Meadow, Yosemite National Park	Yosemite National Park

16 items (1.3 MB), Free space: 14.1 GB

SUGAR

- OLPC distro intended for kids and educational
- Defaults to one task at a time
- Install pacman –S sugar sugar-fructose
- The graphical interface itself constitute the **Glucose** group.
- Base activities are part of **Fructose**.
- **Sucrose** is constituted by both Glucose and Fructose and represents what should be distributed as a basic sugar desktop environment.
- Extra activities are part of **Honey**.

DEEPIN

- Based off of the Chinese deepin distro based on Qt
- Lead by Wuhan Deepin Technology Co., Ltd
- Allegedly has security vulnerabilities (https://bugzilla.opensuse.org/show_bug.cgi?id=1136026#c1)
- High cpu usage but has improved

THE ONE THAT GOT AWAY ☹️ WINDOW MAKER

- Lightweight windows manager for X Windows
- Emulates NeXTSTEP GUI as an Open Step compatible GUI
- Unfortunately can't demo because it won't build for ARM

```
Downloading make (4.2.1-4)...
Downloading bison (3.4.2-2)...
Downloading automake (1.16.1-2)...
Downloading groff (1.22.4-2)...
Downloading guile (2.2.6-1)...
Checking keyring...
Checking integrity...
Loading packages files...
Checking file conflicts...
Checking available disk space...
Installing flex (2.6.4-3)...
Installing fakeroot (1.24-2)...
Installing guile (2.2.6-1)...
Installing make (4.2.1-4)...
Installing bison (3.4.2-2)...
Installing automake (1.16.1-2)...
Installing groff (1.22.4-2)...
Running post-transaction hooks...
Arming ConditionNeedsUpdate...
Updating the info directory file...
```

```
Building windowmaker...
```

```
==> ERROR: windowmaker is not available for the 'aarch64' architecture.
```

```
|
```


A person is shown from the side, sitting at a desk and typing on a laptop. The scene is dimly lit, with a dark, semi-transparent overlay covering the entire image. Overlaid on this background are various technical and data-related graphics, including circular gauges with numerical scales (e.g., 40, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260), circular arrows indicating rotation or flow, and dashed lines. The overall aesthetic is modern and tech-oriented.

USER SUBMITTED DESKTOPS

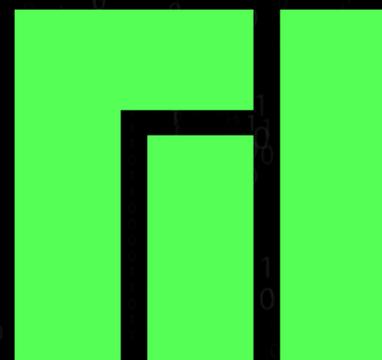
```
oath-toolkit-2.6.2-7 osinfo-db-20190920-1 seabios-1.12.1-1 snappy-1.1.7-1 spice-0.14.2-1
virglrenderer-0.8.0-1 virt-install-2.2.1-2 xmlsec-1.2.29-1 yajl-2.1.0-2 bridge-utils-1.6-4
dnsmasq-2.80-4 openssh-netcat-1.195_2-1 qemu-4.1.1-1 vde2-2.3.2-13 virt-manager-2.2.1-2
virt-viewer-8.0-2
```

```
Total Download Size: 37.39 MiB
Total Installed Size: 193.99 MiB
Net Upgrade Size: 193.27 MiB
```

```
:: Proceed with installation? [Y/n] y
```

```
:: Retrieving packages...
```

```
bridge-utils-1.6-4-x86_64 15.5 KiB 222 KiB/s 00:00 [#####] 100%
virglrenderer-0.8.0-1-x86_64 191.2 KiB 1124 KiB/s 00:00 [#####] 100%
seabios-1.12.1-1-any 162.6 KiB 957 KiB/s 00:00 [#####] 100%
jemalloc-1.5.2.1-1-x86_64 326.3 KiB 1920 KiB/s 00:00 [#####] 100%
snappy-1.1.7-1-x86_64 23.5 KiB 5.73 MiB/s 00:00 [#####] 100%
vde2-2.3.2-13-x86_64 201.2 KiB 2.11 MiB/s 00:00 [#####] 100%
celt0.5.1-0.5.1.3-4-x86_64 47.2 KiB 7.68 MiB/s 00:00 [#####] 100%
spice-0.14.2-1-x86_64 329.3 KiB 968 KiB/s 00:00 [#####] 100%
qemu-4.1.1-1-x86_64 6.9 MiB 1275 KiB/s 00:06 [#####] 100%
yajl-2.1.0-2-x86_64 35.8 KiB 11.7 MiB/s 00:00 [#####] 100%
boost-libs-1.71.0-4-x86_64 2.2 MiB 1357 KiB/s 00:02 [#####] 100%
xmlsec-1.2.29-1-x86_64 679.1 KiB 1130 KiB/s 00:01 [#####] 100%
libiscsi-1.19.0-1-x86_64 115.6 KiB 1445 KiB/s 00:00 [#####] 100%
gtksourceview4-4.4.0-1-x86_64 919.0 KiB 1184 KiB/s 00:01 [#####] 100%
dnsmasq-2.80-4-x86_64 329.1 KiB 1233 KiB/s 00:00 [#####] 100%
osinfo-db-20190920-1-any 133.9 KiB 1539 KiB/s 00:00 [#####] 100%
libosinfo-1.6.0-1-x86_64 254.4 KiB 1413 KiB/s 00:00 [#####] 100%
augeas-1.12.0-1-x86_64 545.2 KiB 1298 KiB/s 00:00 [#####] 100%
netcf-0.2.8-7-x86_64 53.5 KiB 7.46 MiB/s 00:00 [#####] 100%
glusterfs-1:7.0-3-x86_64 927.5 KiB 925 KiB/s 00:02 [#####] 26%
```



```
neomatrixjr@ManjXUSB
```

```
OS: Manjaro 18.1.4 Juhraya
Kernel: x86_64 Linux 5.4.2-1-MANJARO
Uptime: 4h 27m
Packages: 1108
Shell: bash 5.0.11
Resolution: 1920x1080
DE: Xfce4
WM: Xfwm4
WM Theme: Matcha-sea
GTK Theme: Matcha-dark-azul [GTK2]
Icon Theme: Papyrus-Maia
Font: Noto Sans 10
Disk: 11G / 239G (5%)
CPU: Intel Core i7-5600U @ 4x 3.2GHz [64.0°C]
GPU: Mesa DRI Intel(R) HD Graphics 5500 (Broadwell GT2)
RAM: 1262MiB / 7852MiB
```

```
[neomatrixjr@ManjXUSB ~]$
```

```
[0] 0:sudo*
```

CPU Usage

```
CPU0 4%
CPU1 5%
CPU2 6%
CPU3 18%
```



Disk Usage

Disk	Mount	Used	Free
sdb1	/boot	0%	299MB
sdb2	/	4%	212GB

Memory Usage

```
Main 12% 937.2MB/8GB
Swap 0% 0.0B/0B
```

Temperatures

```
acpitz 29C
coretemp_core0 62C
coretemp_core1 66C
coretemp_packageid0 66C
dell_smm_ambient 44C
dell_smm_cpu 56C
```

Network Usage

```
Total RX: 2.2 GB
RX/s: 1.2 MB/s
```

```
Total Tx: 118.5 MB
Tx/s: 48.6 KB/s
```

Processes			
Count	Command	CPU%▼	Mem%
1	xfce4-scr...	3.8	0.3
1	remmina	1.5	2.3
1	pacman	1.2	0.4
1	gotop	0.7	0.1
1	xfce4-ter...	0.5	0.7
2	avahi-dae...	0.5	0.0
1	Xorg	0.4	1.1
1	openvpn	0.2	0.1
1	xfwm4	0.1	1.2
1	tmux: ser...	0.1	0.0
1	xfce4-pan...	0.0	0.6
1	panel-9-p...	0.0	0.6
1	scsi_tmf_2	0.0	0.0

```
"neomatrixjr@ManjXUSB:" 15:56 17-Dec-19
```

THE YEAR IN REVIEW



