Linux Distribution’s State of Gaming
A Case Study of Fedora Workstation

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About the speaker

**Works as**
Objective Representative for the Fedora Websites and Apps, Fedora Council
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**Presented and written**
Talks/workshops around videogaming on GNU/Linux distributions in various conferences
Numerous articles around testing videogame performance on GNU/Linux distributions

Source:
https://fedoramagazine.org/fedora-workstations-state-of-gaming/
https://youtu.be/to-bXY95S9Pw
https://youtu.be/u9JawHYSR0
To get started with the presentation

Lettuce ask ourselves these three questions
Which three questions you say?

- Is it **popular**?
- Is it **convenient**?
- Is it **performant**?
Yes, it certainly is POPULAR*

Emulation
- PPSSPP
- RetroArch
- Nestopia

Operating systems
- Batocera Linux
- Lakka
- Retropie

Consoles
- NES Classic Edition
- Android Phones
- Steam Deck

*Conditions apply LOL
Yes, it certainly is CONVENIENT*

More config based installs
- Barebones WINE
- RetroArch

Little config based installs
- Lutris
- Bottles

Least config based installs
- Android Phones
- Steam Deck

*Conditions apply LOL
Yes, it certainly is **PERFORMANT***

Supported videogames perform in an average at least **15-30% better*** than other operating systems.

Near native speeds are achieved with the use of **virtualization** of a hardware.

Source:
https://fedoramagazine.org/fedora-workstations-state-of-gaming/
But wait a minute, if it is popular, convenient and performant

Why do you have those asterisks there?
Popular but with a tiny market share

- Market share of around 1.38%* in recorded gaming usage
- Other uses go unaccounted for in no telemetry
- Third-party devs with tiny native builds for Linux distributions

Source: https://www.gamingonlinux.com/steam-tracker/
Hesitant with the popularity

for a valid reason

“Umm... Linux Gaming is nice and all but all my friends actually play their videogames on Windows so I can’t quite... Sorry!!!!”

Person Unknown
Some Battle Royale fan

“Noo... I tried to install the videogame, tried to run it right after and bam... the stupid anti-cheat does not let me through!!!!”

Player Anonymous
Some Racing enjoyer

Source:
I have been an evangelist for videogaming on GNU/Linux distributions and the people that I am quoting here are real people.
Convenient but difficult at the same time

- Few videogames run as is without any major tweaking for running.
- Some videogames need extensive config for them to work the way they should.
- Few videogames do not work because the devs do not want them to.
Uncomfortable with the convenience

for a valid reason

“Look, I tried to follow through all the steps that you mentioned - but there is so many of them and I barely get some time to play”

Person NoName
Some Adventure fan

“I am gonna settle for the performance because I do not want to keep trying DXVK releases and WINE versions to tailorfit this”

Player Redacted
Some Stealth enjoyer

Source:
I have been an evangelist for videogaming on GNU/Linux distributions and the people that I am quoting here are real people.
Performant but takes time to be one

- One WINE distribution can run comfortably some videogames.
- The same WINE dist will not work at all for other videogames.
- Some publishers do not support execution on modified env.
Unsatisfied with the performance

for a valid reason

“Woah... Look at these framerates! This almost twice as much as I get on other devices but what is with this artifacting?”

Person Who
Some Action fan

“You know, there used to be a native version of the videogame created for Linux distributions but they pulled it out!”

Player Stranded
Some Strand-type enjoyer

Source:
I have been an evangelist for videogaming on GNU/Linux distributions and the people that I am quoting here are real people.
But hold on a sec! If it is all complains now

Have we not been doing a good work?
Quite the opposite actually, to be honest

The community has been doing a great job
But with the silver lining and all

There are things that we can do better
Establish reliable userbase metrics for developers

[1 of 6] (Helps popularity)

- People know about those who play videogames with Steam PC and Steam Deck.
- Do they know about those who play on Lutris, Bottles or emulators?
- Is telemetry really as bad as we make it sound or can we do something?
Account for the feedback and promote participation

[2 of 6] (Helps *popularity*)

- The users should be able to decide what advancements a tooling should have.
- An empathetic perspective of the users would help understand the requirements.
- If people are heard and communicated to, they would be more inclined to contribute.
Evaluate the usability of the tools we have

[3 of 6] (Helps *convenience*)

- It does what it is supposed to do - why bring about a change to our tooling?

- If it is not easy to find or easy to make, we cannot expect people to work on it for videogames.

- Can we make it convenient so that people can focus only on their videogames?
Abstract the complex but open for the curious

[4 of 6] (Helps convenience)

- Having the ability to customize from the get-go is cool for those who need it.
- But show those dials to folks who want things easy and you might scare them away.
- It is important to strike the balance between what is simple and what is complicated.
Package as much tools and services needed

[5 of 6] (Helps performance)

- Drivers, Codecs, Kernel Modules, Services, Shaders and everything else in between!
- People are here to play videogames and not build software from source.
- Availability of support natively paves way for user retention in a GNU/Linux distro.
Build standard workflows to test and quantify conduct

[6 of 6] (Helps performance)

- A standard benchmarking workflow would be able to reliably test videogames.
- Helps detecting frame rate inconsistencies and visual artifacting even in apparent goodness.
- If people know that distributions provide for a better experience, they would use it.
Now let us look into how things are

In our case study of Fedora Workstation
Platform of choice to extend your own

- Projects like Nobara Workstation have extended the base Fedora Linux provides.
- Meaningful additions ensure that it becomes accessible for folks to play their videogames.
- Heavily popular among developers working on the Bottles and Lutris for the leading-edge nature.
Required tooling are readily available

- The open-source AMD drivers work out of the box and RPM Fusion repos provide for NVIDIA drivers.

- Bottles is available as a Flatpak and Lutris is available as an RPM package in official repos.

- The default GNOME desktop keeps the workflow smooth and unintrusive.
Consistently performant across the board

- Supported videogames work extremely well with configurations done right and in a modular manner.

- The latest and greatest versions of kernel and the software are made available for trying out.

- Customizable enough to further minimize the footprint to dedicate resources to videogames.
Thank you!

We would love to answer your questions.

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