Linux Gaming Unleashed: SteamOS, Proton, Bazzite, and More
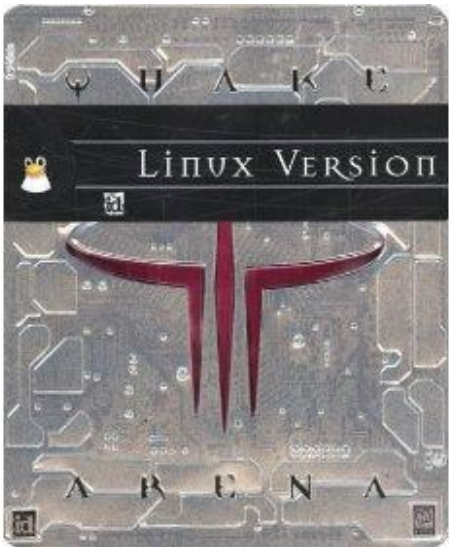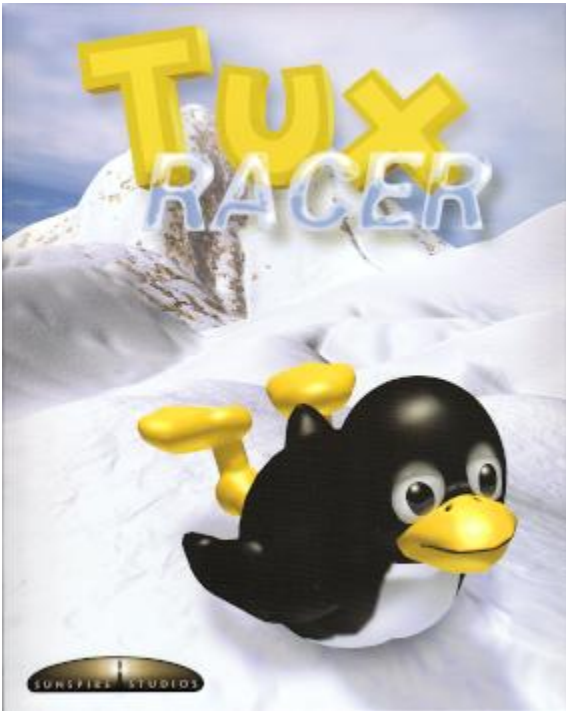
A QUICK HISTORY LESSON

TUX RACER
SUNSPIRE STUDIOS

LINUX ROCKS!
PENGUIN COMPUTING
LINUX ROCKS!

RAILROAD TYCOON II
GOLD EDITION
loki

DESCENT 3

MYTH II
SOULBLIGHTER
CD-ROM for Linux
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• HEAVY GEAR II   COMING SOON

LOOK FOR ADDITIONAL INFORMATION AT OUR
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loki

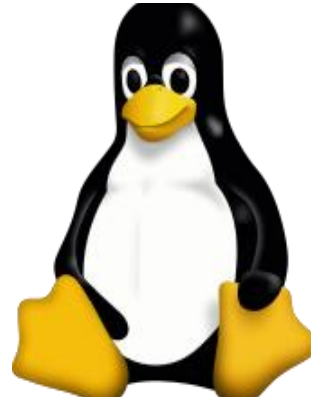# Early Linux Gaming

Early gaming battle over GPU
API was centered around
OpenGL and DirectX

Native Linux binary

For 3d needed OpenGL, no native DirectX for Linux

Needed a GPU that either was supported by the native kernel or lucky enough to get a card with 3rd party drivers for Linux (note in the past a lot of these drivers were either proprietary or lacking in features)

Wine

Early days of "emulating" Windows in Linux

Support was community driven and was really targeting getting things like Adobe, Macromedia, Office working in Linux (from what I remember, github issues didn't exist yet =P)

VS

A stumble with SteamOS 1.0, 2.0 and Steam Machines

- Initial push into Steam on Linux in 2013

- SteamOS based on Debian

- Limited support for native Linux games

- Was originally a push to move away from Windows

- Gabe Newell – "Linux and open source are the future of gaming"

- Steam Machines prototypes were shown off by a hand full of vendors including Alienware, Zotac, and a few others. Few were actually released.

- We did get the odd Steam Controller and the somewhat interesting Steam Link as part of that push.

Windows 10 End of Life is HERE! Don't discard that system just yet! Transform it into a Linux gaming system!

Rise of the APU

STEAMOS, STEAM DECK, HANDHELDS, AND MORE

SteamOS 3.0

This is where the fun begins.

- Initial Release comes with Steam Deck only.
- Valve switches SteamOS to Arch
- Created Proton software:
  - A translation tool to run native Windows Games on Linux
  - a bundle of various projects: Wine, DXVK and VKD3D-Proton for handling translating DirectX API calls to Vulkan API for graphics
  - Valve released as opensource: https://github.com/ValveSoftware/Proton
- Moved to an immutable release
- Valve commits to supporting Arch upstream thru various projects and sponsorship

- Community provided experimental builds of Proton provided thru Proton-GE

- https://www.protondb.com/ created to track compatibility

SteamOS in 2025

- Starting in 2025 SteamOS is adding support for additional hardware
  - Official support for the Lenovo Legion Go S, thru a partnership with Lenovo
  - Unofficially supported ROG Ally, Ally X, and the original Legion Go
  - People have also found ways to install the Steam Deck image onto similar AMD based hardware
- Still no support for Nvidia GPUs
- Increased support by community for additional Game Launchers (GOG, EGS, etc)
- Compatible games continues to grow as more developers test and work to make sure their games work on Steam Deck

Chromebook Ready Games
- ▸ playable — 176

Deck Verified Games
- ▸ verified — 6,543
- ▸ verified or playable — 21,085

Games on ProtonDB
- ▸ recommended by three or more — 11,567
- ▸ recommended by two or more — 15,652
- ▸ recommended by at least one — 25,774

Performance Tests give edge to SteamOS over Windows

LOW / MEDIUM SETTINGS

	Legion Go S SteamOS	Legion Go S Windows
Cyberpunk	59	46
Helldivers 2	70	65
Doom Eternal	75	66
Spiderman 2	63	64
Witcher 3	76	66

BATTERY LIFE

- Legion Go S Windows - 55 Wh
- Steam Deck OLED - 50 Wh
- Legion Go S SteamOS - 55 Wh

Cyberpunk	
	1h 31m
	2h 6m
	1h 54m

Hades - Max FPS	
	1h 58m
	4h 33m
	4h 17m

Dead Cells - 60 FPS	
	2h 47m
	7h 8m
	6h 12m

BAZZITE: A GAMING-FOCUSED LINUX DISTRIBUTION

https://bazzite.gg

- Based on Fedora Atomic (Immutable)

- Built to provide a more complete desktop OS, while maintaining the SteamOS/Proton experience.

- Expanded Hardware Compatibility (including Nvidia driver support)

- Has wider support for additional handhelds and supports a HTPC Game Mode for booting directly into "game mode" for a couch experience.

- Kernel and OS modifications meant for a better gaming experience, liked support for HDR and Displaylink.

- Small Warning/Drama Alert – Project recently announced they would shut down if Fedora removed 32-bit compatibility/support. Fedora Project recently went back on recent proposal.

Mini-PCs Enter the Game

In 2025 we've seen a rise in AI Mini-PCs with beefed up specs that are actually pretty good for running Bazzite.

Mind you the prices can be a bit high depending on the build out. And upgradability can be pretty limited or non-existent

Additional Options

If you don't want to run a dedicated distro

- Lutris – program for accessing different game launchers
  - https://lutris.net/
- Steam and Proton/Proton-GE is available without Steam Deck/Bazzite

WARNINGS/ISSUES/LIMITATIONS

- Some online games have no compatibility or are removing support for SteamDeck and Linux.
- Among reasons cited is hacking and lack of desire to support.
- In many instances they are adding anti-cheat that is not compatible with Linux
- Many require kernel level access and don't want to deal with Linux Kernel modules.

- Some games (like Vanguard) have created Kernel level anti-cheat modules, which raises some serious privacy/security concern for the end user.

- IF you are dual booting Windows 11, MS keeps screwing with EFI. Along with the secure boot requirement has personally made updating Nvidia drivers a royal pain. (But Nvidia has made the drivers not great)
- Xbox Game Pass Does Not Support Linux.

CLOUD GAMING???

Not native Linux but options for steaming games.

- No native client
- Runs thru a supported supported browser (Chrome, Edge)
- Subscription based
- Some have gotten the Windows Client working with Lutris – Mileage may vary
- Unsupported on Linux based handheld, but some workarounds

- No native client
- Runs thru a supported supported browser (Chrome, Edge)
- Subscription based
- Unsupported on Linux based handheld, but some workarounds

- No native client
- Runs thru a supported supported browser (Chrome)
- Subscription and purchase thru platform, some free games included with
- Reportedly need to jump thru some hoops to spoof Windows in browser
- Unsupported on Linux based handheld, but some workarounds

Linux Dedicated Game Servers

Emulation

PS Nintendo, it's not illegal

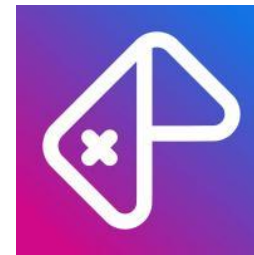# Native Linux – Console Emulators

RPCS3 – Playstation 3

PCSX2 – Playstation 2

Dreamcast

Switch

Looking for Easy Mode?
EmuDeck!

https://www.emudeck.com/

Legal Disclaimer

Downloading games that you do not own is illegal.

Again, Unlike what Nintendo thinks, Emulation is not illegal.

Mister FPGA

MiSTer Updates in 2025

DE10 Clones – MiSTer PI! Hardware for a fraction of the original DE10 price!

Sort of Linux, very cool FOSS project that allows you to use an FPGA system to emulator the physical hardware of some older systems.

Goes beyond just consoles, like the C64, ZX Spectrum, MSX, Amiga

Can be found on:
https://retroremake.co/pages/store

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