

# The LibreVR Project

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Remote from Lich, Hesse, Germany

# Nonfree: VRChat and Meta Quest



# Nonfree: SteamVR (PC)

- Many VR games including VRChat are Nonfree
- Windows is required, or Proton on GNU/Linux
- Modern graphics cards need firmware blobs
- Steam + modern GPU required to play VRChat
- Valve Index likely won't work with my Talos II
- Libre replacement: Monado and V-Sekai

# Nonfree: Oculus Quest Firmware

- Meta/Facebook account may be needed
- Uses Nonfree fork of Android with no root
- Root HACK exists, but not good enough for me
- Quest needs Nonfree drivers for GPU and WLAN
- No port of PostmarketOS or other GNU/Linux
- Bad SOC, no chance for Respects Your Freedom

# VR Development on RYF POWER9

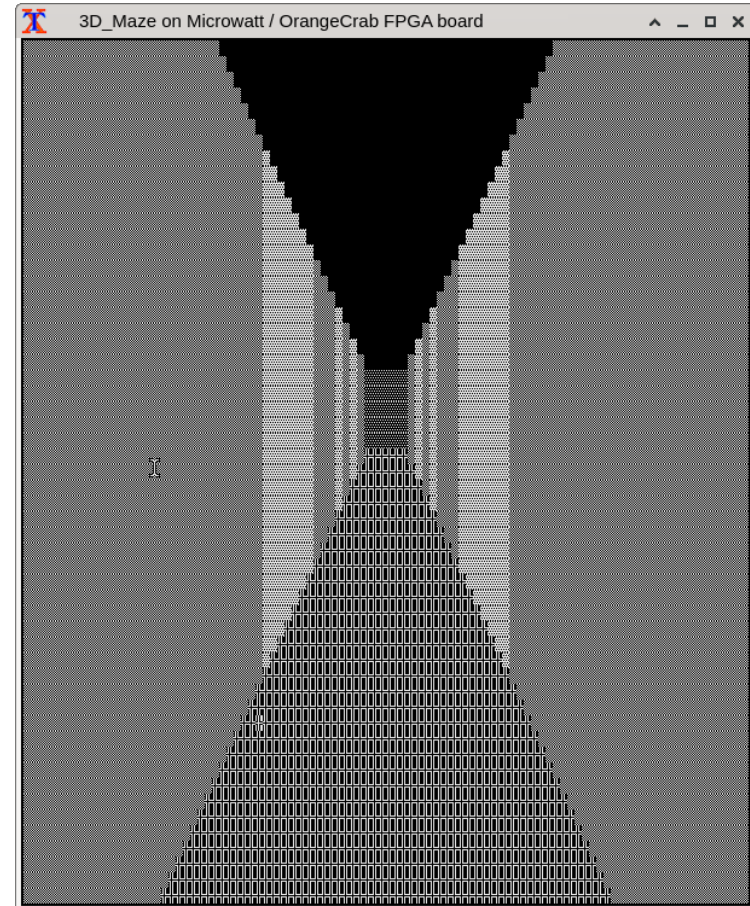
- SlimeVR server works out of the box
- SlimeVR driver not yet ported to OpenXR
- Godot3 works with OpenGL and AST2500 VGA
- Godot4 will work with Vulkan and OpenXR
- Monado can be compiled, mostly untested
- Vulkan only works using Debian SID currently

# Future LibreVR HMD

- Based on Meowality and Libre-SOC
- Libre-SOC has Vulkan drivers (Mesa, Kazan)
- Either using USB cable to PC or OpenWIFI
- Built-in BNO085 IMU for head tracking
- GNU Guix as package manager
- Stardust XR as VR Compositor / 3D Desktop

# 3D maze game on OrangeCrab

- Software rendering only
- POWER ISA, no SVP64 yet
- Tested using Microwatt
- Should work with Libre-SOC
- Talos II: OpenGL/Vulkan port
- Also runs on ARM and RISC-V



# Libre VR Games

- V-Sekai (The universal VR platform, Godot4)
- Neverball (runs on Librem5 with Cardboard)
- Minetest (Irrlicht, runs on Thinkpad X200)
- Veloren (written in Rust using Vulkan)
- Voice controlled GNU chess with V-Sekai
- OpenHMD port of 3D Maze Game as techdemo



# VR Middleware

- SlimeVR port needs more work for GNU/Linux
- Monado: port more non-Godot games
- CWiid for Wiimote as input device
- Network stack: decentralization and selfhosting
  - Bridge Godot to GUNet chat / PSYC2
  - Share game data using GUNet fs

# The End

- Git hosting on <https://codeberg.org/librevr>
- Thank you for listening

