

VLC 4.0



VLC Development

- Community software, started as a students project
- Developed via Mailing List + Git
 - Moving to **own** Gitlab very soon
- User feedback via forum, Trac (moving to Gitlab), reddit
- Continuous Integration via Jenkins (moving to Gitlab)
 - Builds on all platforms
 - Test suite checks on Linux

VideoLAN

- Non-profit based in France (no software patents)
- 30+ members (FR, DE, UK, USA, RU, etc)
- Relies on donations
 - Organize Video Dev Days
 - Organize developer workshops on a topic
 - Participate in events worldwide (NTTW)
 - Take part in Alliance for Open Media (not free)

VideoLabs

- Company created in France by j-b (20+)
- Specialized in multimedia OSS, especially VLC
- Develops VLC for iOS, Android, UWP (with medialibrary)
- Develops libvlcsharp (C#), VLC in Unity
- Handles commercial partnerships (8K demo)
- videolabs.io

FFLabs

- Same principle as VideoLabs for FFmpeg
- Created in France/Germany by j-b (no software patents)
- Core developers involved:
 - Michael Niedermayer
 - James Almer
 - Thilo Borgmann
 - Anton Khirnov

me

- Started working on VLC in 2003 (SVN)
- Work full time at Videolabs since 2015
 - Windows (port, video output, hardware support)
 - Matroska
- Maintain D3D11 VA in FFmpeg

VLC Code

- Coded in C (95%), C++(4.9%), Lua (0.1%), Rust (0%)
- GPL/LGPL versions
- Contribs (75%)
 - dvdread
 - dvdnav (DVD menus)
 - dvdcss (DVD decryption)
 - bluray
 - dav1d (AV1 decoder)
 - x264 (H264 encoder)

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 - spatialaudio (Ambisonic encoder/decoder)

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 - dvbpsi (DVB PSI parser)
 - spatialaudio (Ambisonic encoder/decoder)
 - microdns (mDNS resolver)

VLC Player

VLC "Plays It All" motto

- module based
- relies on FFmpeg (or libav)
- relies on other libs if FFmpeg doesn't
- live555 de-facto standard
- libmatroska demuxer
- Lua scripting

VLC 4.0

- Windows 7+, macOS, Linux, OS/2
- Android, iOS, iPadOS, tvOS, Android TV, UWP/Xbox1
- Raspberry Pi
- French ISP Set Top Boxes (VideoLabs)
- 10200 commits since 3.0

VLC 4.0

It's 3.0 plus:

- New UI on Windows/Linux with Medialibrary
- More hardware acceleration
- Better libvlc integration
- More formats support
- LOTS of bugs fixed
- Can read old Quicktime files on latest macOS
- Airplay (?)
- Javascript scripting (?)

VLC 4.0

It's 3.0 minus:

- old UI on Windows/Linux
- Windows XP/Vista support
- macOS 10.7-10.10 support
- Linux requires gcc5 or clang 3.4 (C++14)

User Interface

- Using Qt+QML
- More modern looking
- Navigation via Audio/Video Medialibrary
- Can be used without the Medialibrary

Hardware Acceleration

- Rework internals to allow more GPU filters
- Use less memory
- Use less memory copies
- 8K HEVC demo at Roland Garros (Xeon / NVIDIA)
- GPU-based encoding (coming soon)
- Better 10/12/16-bit / 4:4:4 or 4:2:2 rendering
- Support NVIDIA custom API

libVLC

- Use VLC engine in other software (Android, iOS, UWP)
- No User Interface
- Usable from C, C++, Obj-C, C# (anything that can use DLL)
- Integrate in other UI
- Integrate in 3D rendering (OpenGL, D3D11, D3D9)
- No medialibrary
- Read file/stream to stream, transcode, create thumbnails

Common Vulnerabilities and Exposures

- HackerOne (European Commission - DIGIT)
- More involved in CVE issues
 - libbml CVE 1.5 it was fixed and merged (shitstorm)
- Manage CVE for contribs

Questions ?

