# VideoLAN

## *A Unique Story*

*Jean-Baptiste Kempf*

*Friday, November 7, 2025*

# Kyber - VideoLAN - FFmpeg

**Jean-Baptiste Kempf**

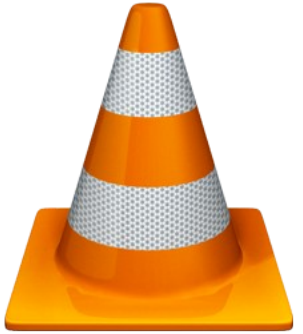
Let's connect on LinkedIn

- **VideoLAN**: President non-profit
  Dev & Maintainer of VLC, dav1d, libVLC, DVBlast, libdvdread/css, libbluray, x264, x265, mirrorbits, libspatialaudio, dav2d…
  Active member of AOM.
- **FFmpeg**: community member and member of CC.
- **Kyber**: Real-time Machine Control stack, used for robots, drones, remote desktop, cloud rendering and AI video agents.
- **Companies**: VideoLabs, FFlabs, CodecLabs, Klabs, eShot / Playruo and Kyber.
- Member of the **European Open Source Academy**

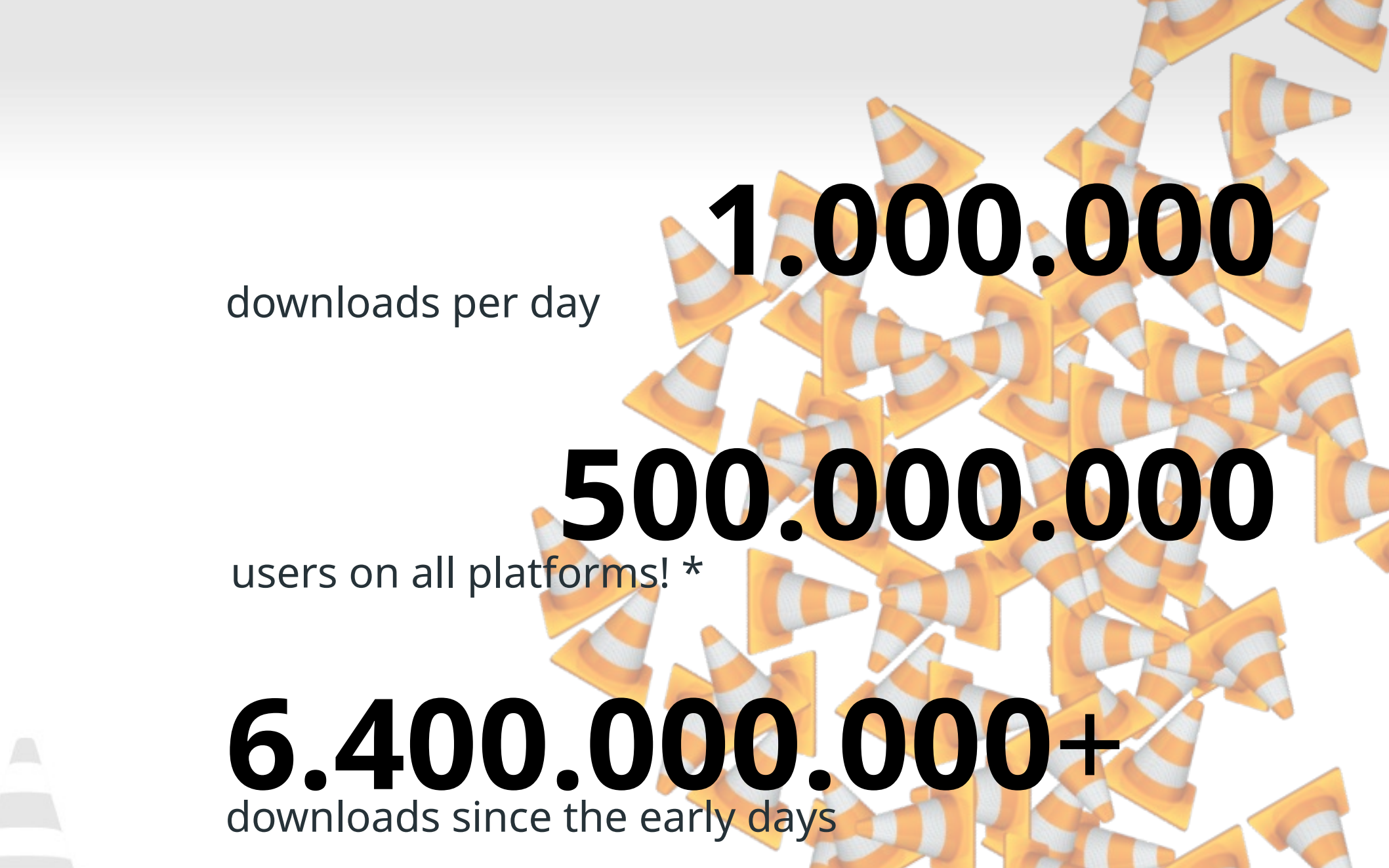
VideoLAN
ORGANIZATION

Ecole Centrale Paris

- **VideoLAN** is an open-source project and a **non-profit organisation**
- Creating popular software:
  - **VLC** media player
  - **x264** encoder, **dav1d** decoder
  - DVD, Bluray, Graphics & Codec libraries
- Core of the OSS Multimedia community
  - Hosting (FFmpeg, Matroska, libav)
  - Funding (libavcodec, OBS bounties)
  - Organizing multimedia events & conferences (VDD, FOSDEM meetup)
  - Working on standards (AOM/AV1, Matroska spec…)



The Cone



**1.000.000**

downloads per day

**500.000.000**

users on all platforms! *

**6.400.000.000+**

downloads since the early days

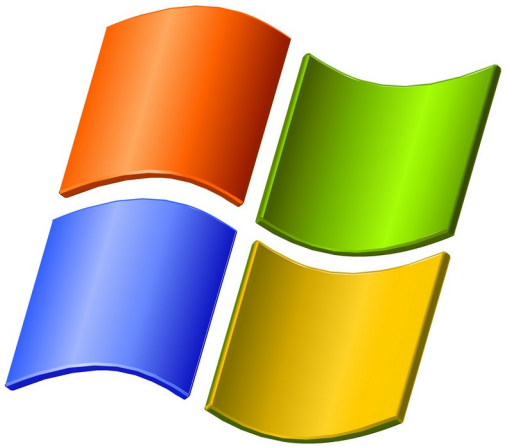
# *VLC today*

**VLC** is one of the most used software in the world

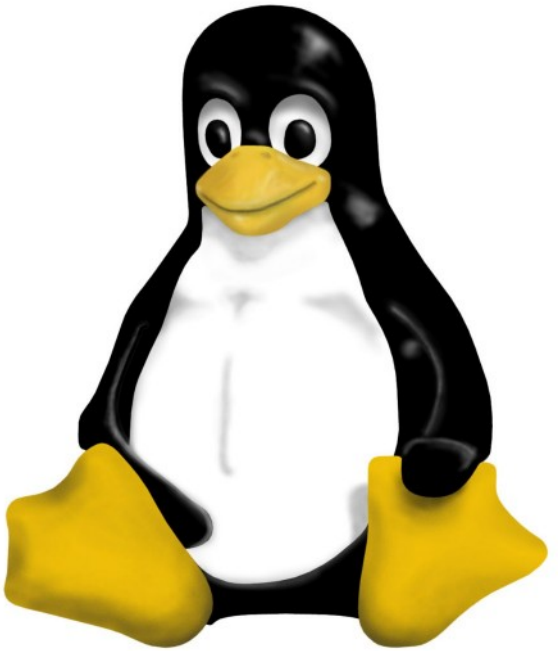
- **500 millions** active users
- **6,5 billion** downloads
- Very strong brand “the cone that plays all video”
- Strong community *(1000 contributors, 150 annually)*
- International team
- Excellent technology on all platforms

| | | | | | |
|---|---|---|---|---|---|
| **Active** | 430 m | 30 m | 30 m | 60 m + | 30 m |
| **Installed** | 700 m | 1/4 of macs | 60 m? | 260 m | 50 m |

DVD
AUDIO/VIDEO
MATROSKA
DIVX
VIDEO
SVCD
VIDEO
MPEG-II
COMPACT
disc
DIGITAL AUDIO
opus
mp3
dts
flac
free lossless audio codec
webm
xvid
codec
DOLBY
SURROUND
AVCHD
VCD
VIDEO COMPACT DISC
VLC



X

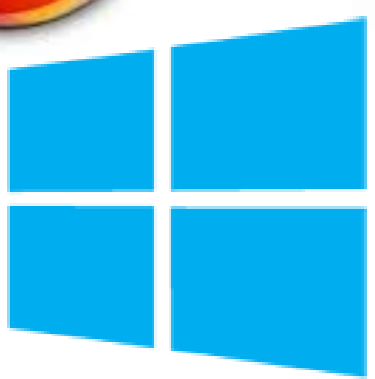


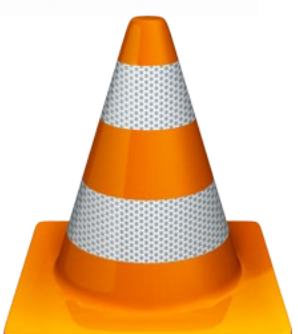
OS/2
OS/2
OS/2
OS/2

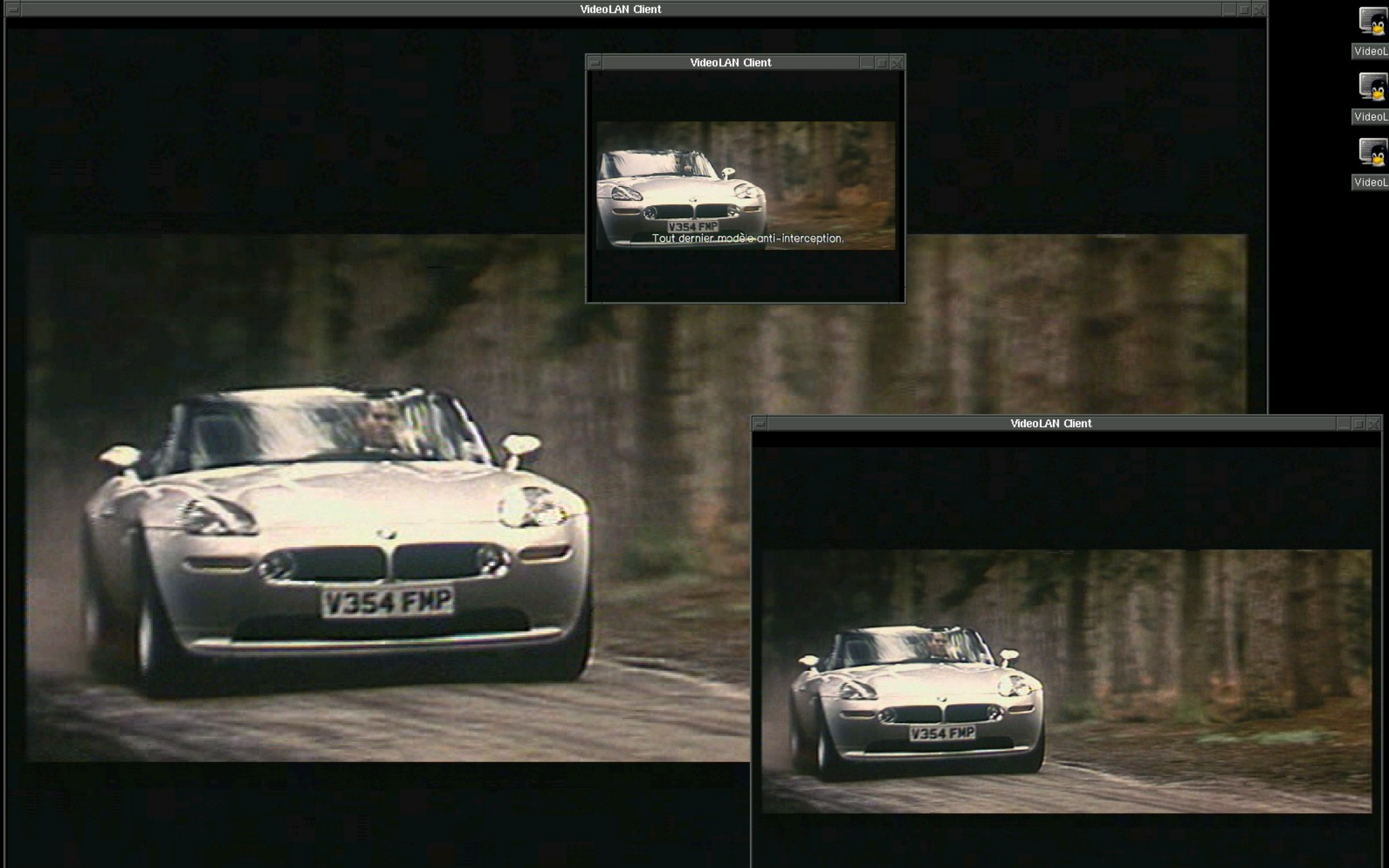
solaris

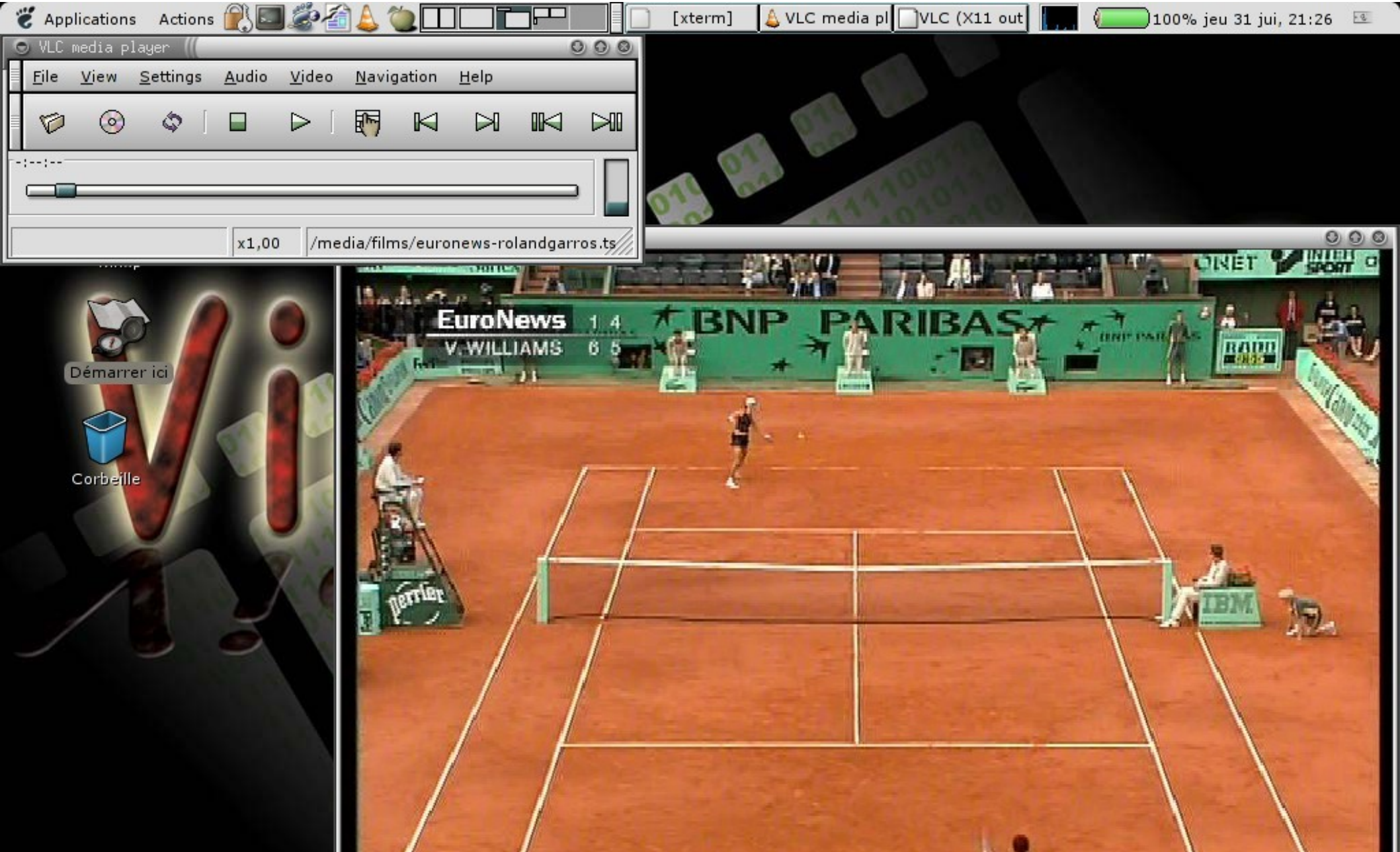
android

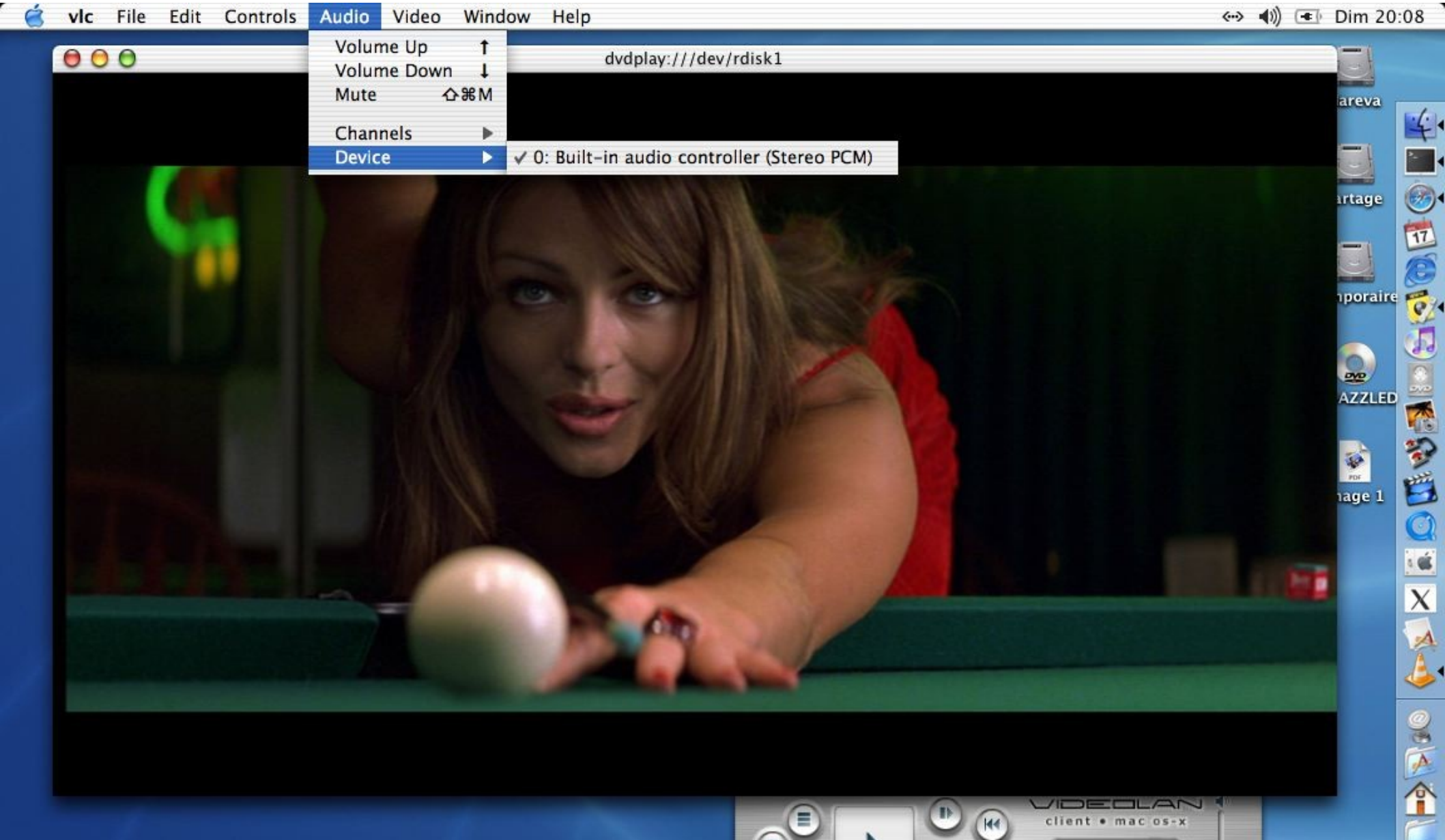
11

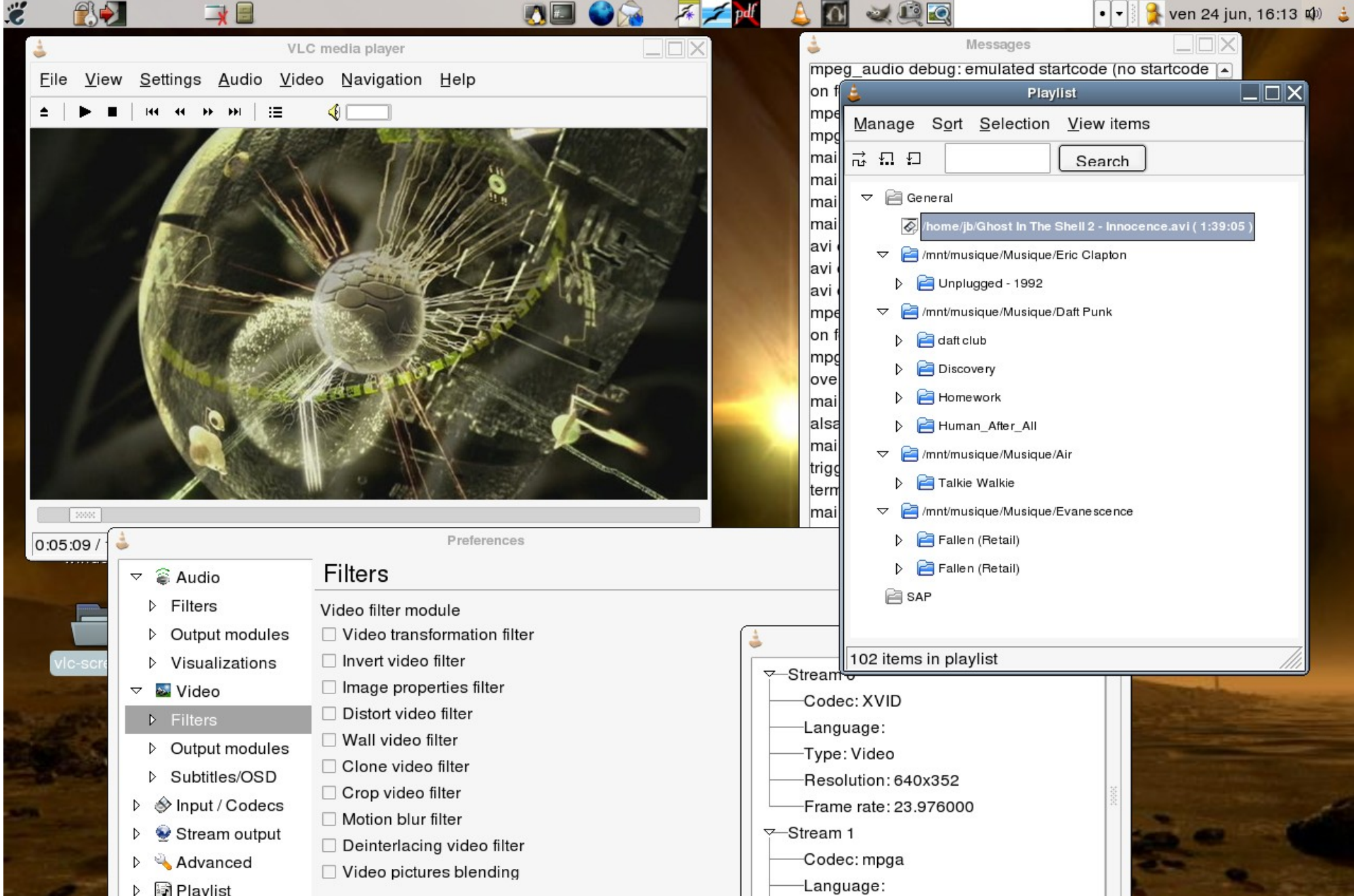


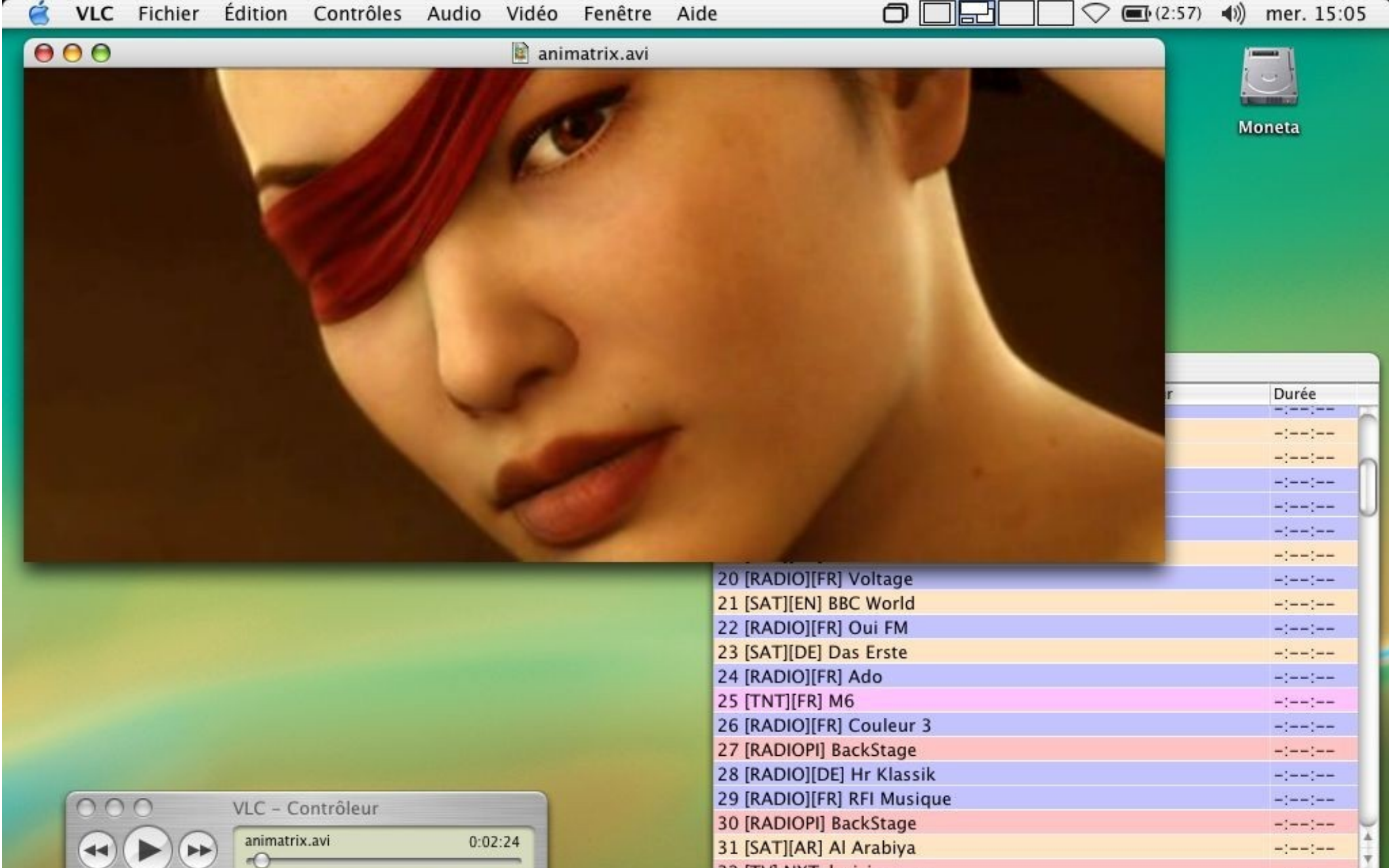



VideoLAN Client
VideoLAN Client
V354 FMP
Tout dernier modèle anti-interception.
VideoLAN Client
V354 FMP
V354 FMP
VideoL
VideoL
VideoL

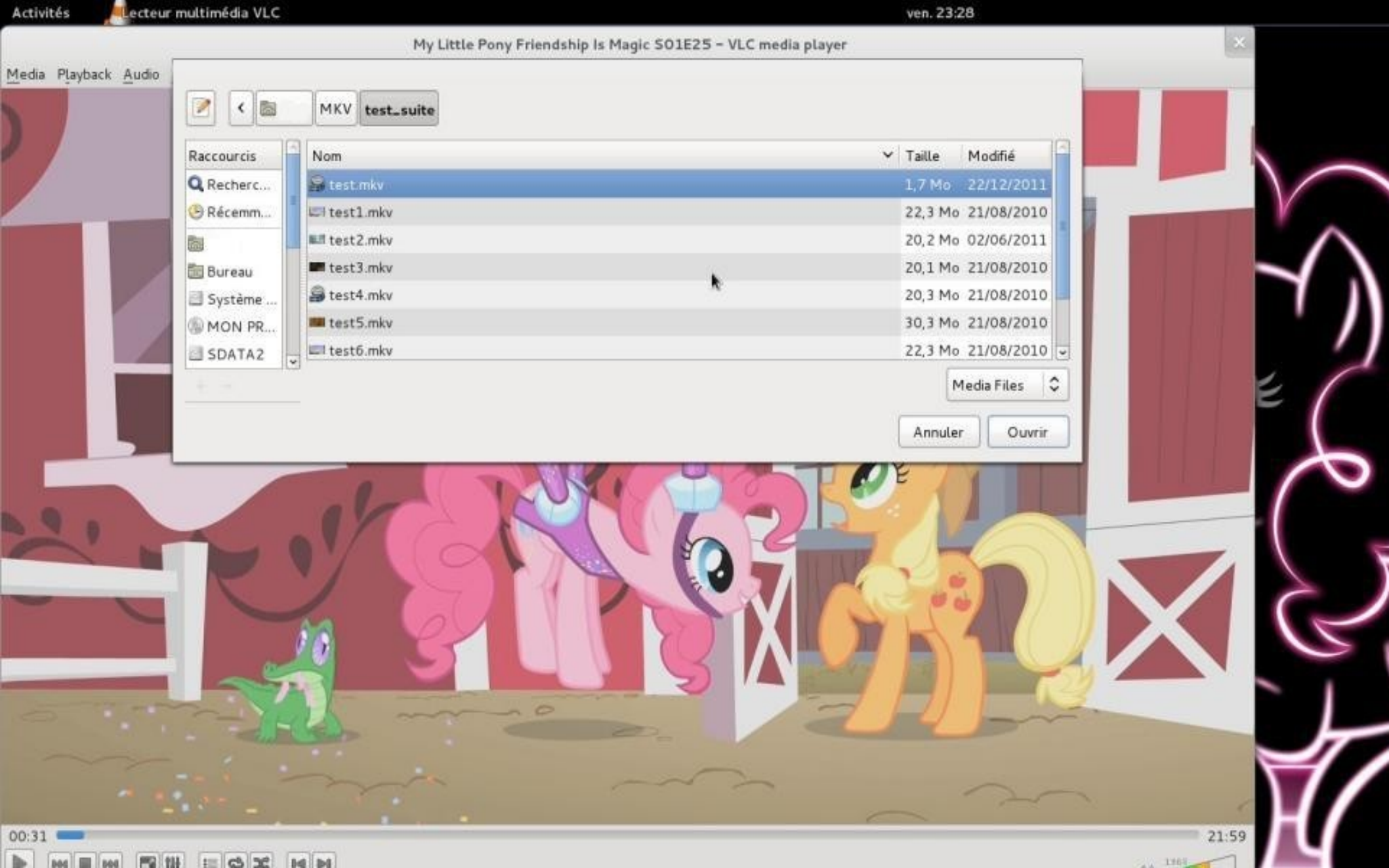

Applications
Actions
[xterm]
VLC media pl
VLC (X11 out
100% jeu 31 jui, 21:26
VLC media player
File
View
Settings
Audio
Video
Navigation
Help
-:--:--
x1,00
/media/films/euronews-rolandgarros.ts
Démarrer ici
Corbeille
EuroNews
V.WILLIAMS
BNP PARIBAS
perrier
IBM


vlc File Edit Controls Audio Video Window Help
Dim 20:08
Volume Up
Volume Down
Mute
Channels
Device
✓ 0: Built-in audio controller (Stereo PCM)
dvdplay:///dev/rdisk1
VIDEOLAN
client • mac os-x


ven 24 jun, 16:13
VLC media player
File View Settings Audio Video Navigation Help
0:05:09 /
Messages
mpeg_audio debug: emulated startcode (no startcode
Playlist
Manage Sort Selection View items
Search
General
/home/jb/Ghost In The Shell 2 - Innocence.avi ( 1:39:05 )
/mnt/musique/Musique/Eric Clapton
Unplugged - 1992
/mnt/musique/Musique/Daft Punk
daft club
Discovery
Homework
Human_After_All
/mnt/musique/Musique/Air
Talkie Walkie
/mnt/musique/Musique/Evanescence
Fallen (Retail)
Fallen (Retail)
SAP
102 items in playlist
Preferences
Audio
Filters
Output modules
Visualizations
Video
Filters
Output modules
Subtitles/OSD
Input / Codecs
Stream output
Advanced
Playlist
Filters
Video filter module
Video transformation filter
Invert video filter
Image properties filter
Distort video filter
Wall video filter
Clone video filter
Crop video filter
Motion blur filter
Deinterlacing video filter
Video pictures blending
Codec: XVID
Language:
Type: Video
Resolution: 640x352
Frame rate: 23.976000
Stream 1
Codec: mpga
Language:


VLC Fichier Édition Contrôles Audio Vidéo Fenêtre Aide
(2:57)
mer. 15:05
animatrix.avi
Moneta
Durée
20 [RADIO][FR] Voltage
21 [SAT][EN] BBC World
22 [RADIO][FR] Oui FM
23 [SAT][DE] Das Erste
24 [RADIO][FR] Ado
25 [TNT][FR] M6
26 [RADIO][FR] Couleur 3
27 [RADIOPI] BackStage
28 [RADIO][DE] Hr Klassik
29 [RADIO][FR] RFI Musique
30 [RADIOPI] BackStage
31 [SAT][AR] Al Arabiya
VLC - Contrôleur
animatrix.avi
0:02:24

144%


Activités
Lecteur multimédia VLC
ven. 23:28
My Little Pony Friendship Is Magic S01E25 - VLC media player
Media Playback Audio
MKV
test_suite
Raccourcis
Recherc...
Récemm...
Bureau
Système ...
MON PR...
SDATA2
Nom
Taille
Modifié
test.mkv 1,7 Mo 22/12/2011
test1.mkv 22,3 Mo 21/08/2010
test2.mkv 20,2 Mo 02/06/2011
test3.mkv 20,1 Mo 21/08/2010
test4.mkv 20,3 Mo 21/08/2010
test5.mkv 30,3 Mo 21/08/2010
test6.mkv 22,3 Mo 21/08/2010
Media Files
Annuler
Ouvrir
00:31
21:59

# Volunteers

VideoLAN

# *Association VideoLAN*

## Creation

- 2009, decided in the VDD '08
- Libre/**Free Software** and **Multimedia**

## Members

- VLC's core developers
- FFmpeg developers
- Important members

## Supports

- Hardware for development
- Travel, Servers, Legal
- VideoLAN Dev Days

# Project collaboration

- Teams meeting twice per year
  - FOSDEM
  - VideoLAN Dev Days
- Using git since early 2007
- Use of trac, phpBB and mediawiki
  - Move to gitlab
- IRC and Mailing Lists
- Simple rules of collaboration and consensus
- Very early Code of conduct

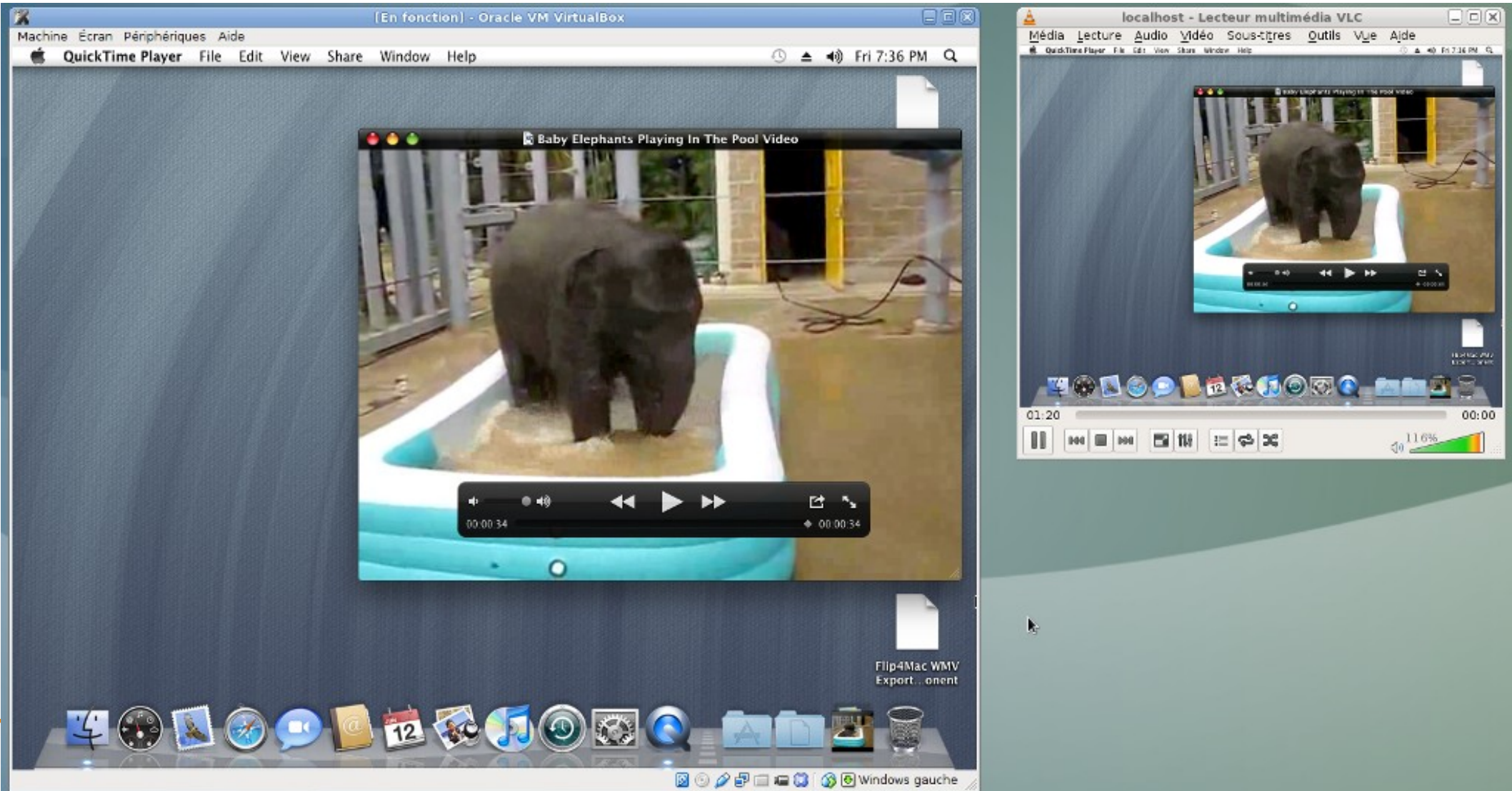
## VLC Contributors

- Core Team 5~15 people
- 1000 over the lifetime
- 150 per year

## Decisions

- Maintainable! **Code quality is KING!**
- Technical and standard compliant
- 0 marketing, 0 legal
- Code = > Power
- Consensus or Fork

# VNC & Remote Desktop

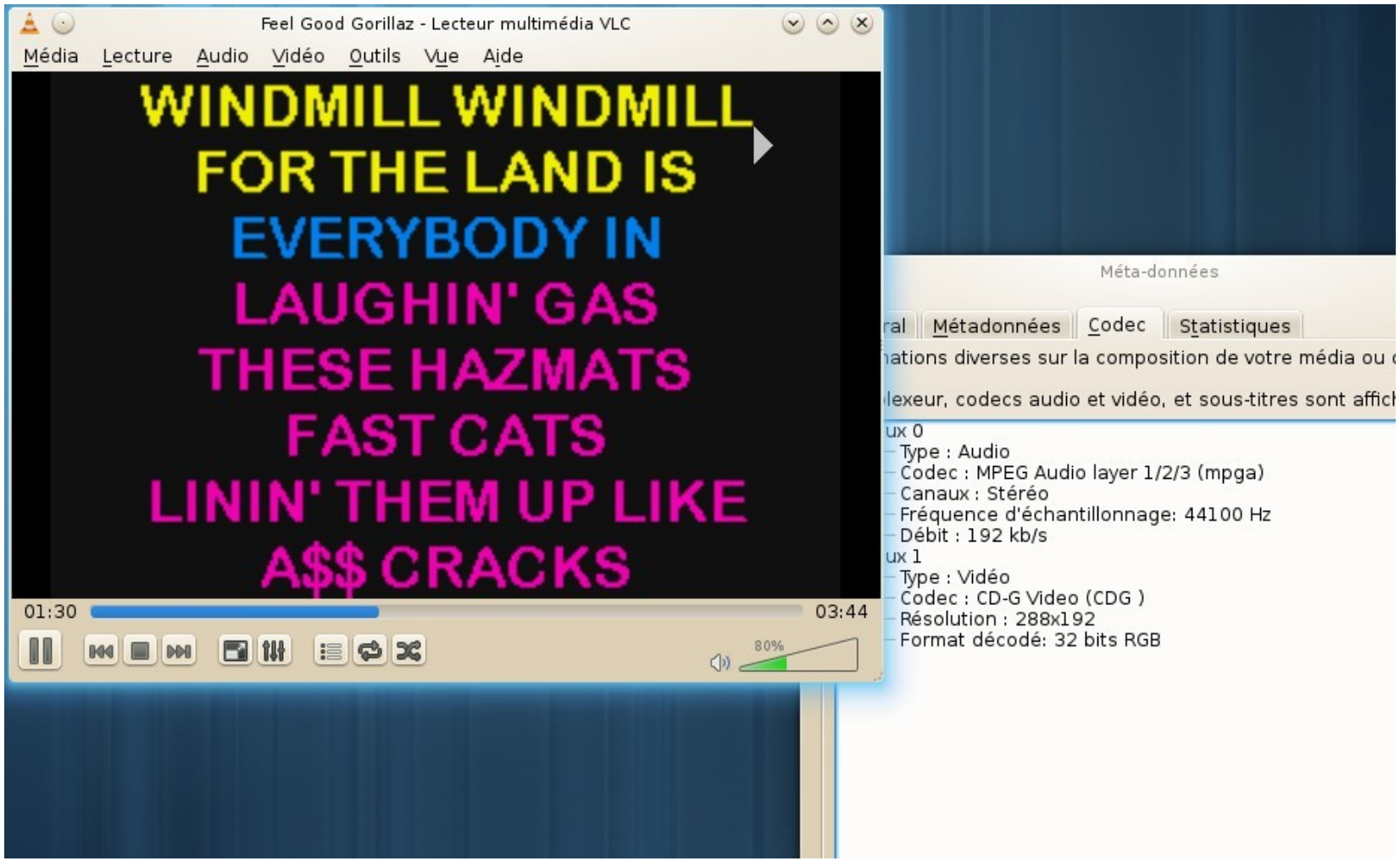


# Mosaic

Mosaïque
freebox TV
2 FRANCE 2
3 FRANCE 3
5 FRANCE 5
6 EURONEWS
7 ARTE
8 DIRECT 8
9 W9
11 NT1
12 NRJ 12
13 LCP
14 FRANCE 4
16 RTL9
17 AB 1
18 TV5
19 PARIS PRE...
20 BLOOMBERG
21 CNBC
22 FRANCE Ô
23 DEMAIN !
25 CNN
Sélection
OK Valider
Précédent
Suivant

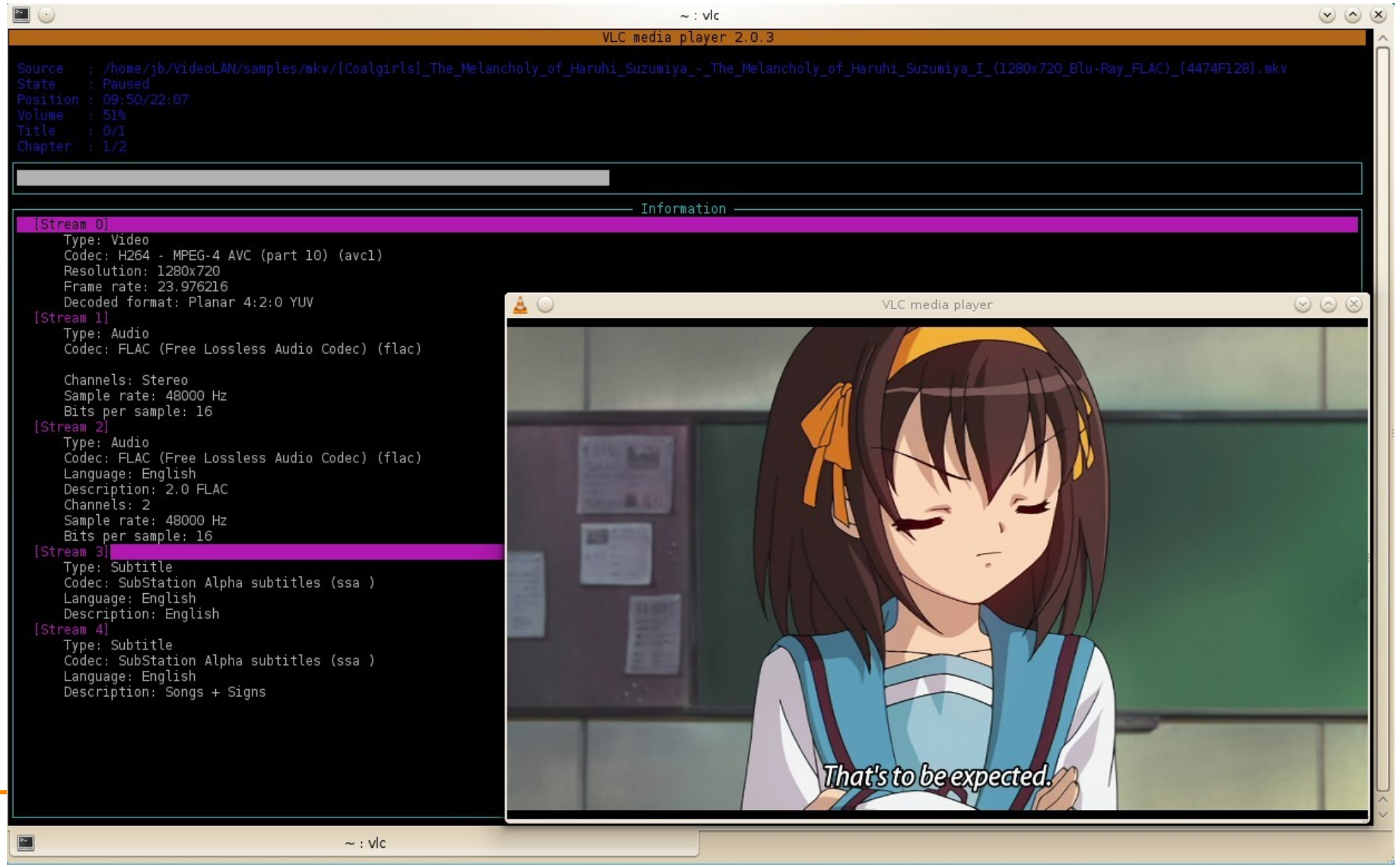
# *Wall display (1 to N split)*

# Karaoke & MIDI

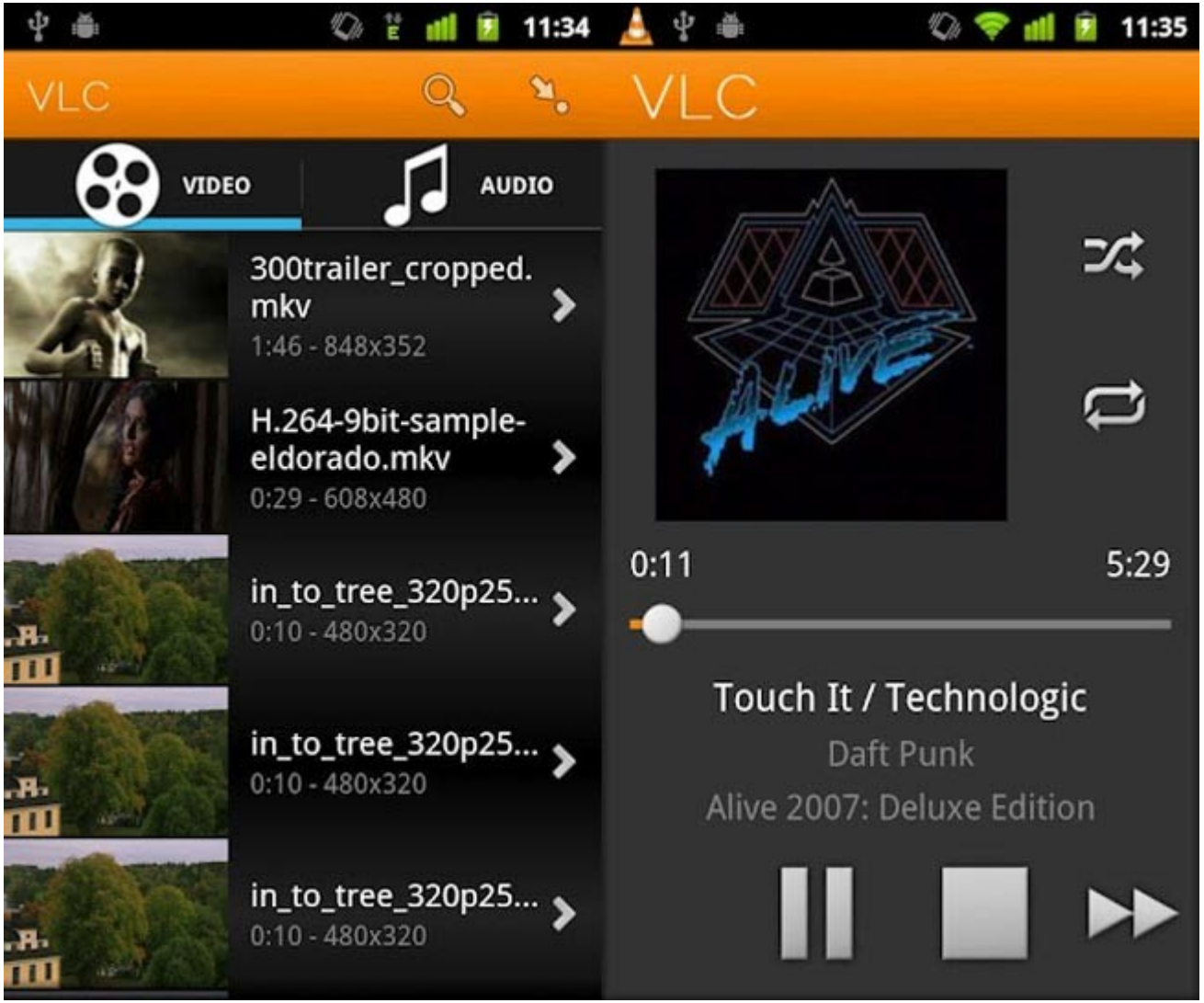


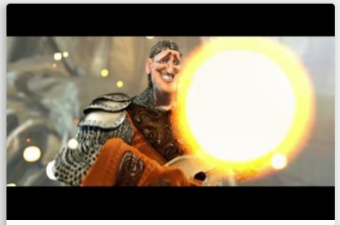
32:46
46:06
85%

# Console & headless



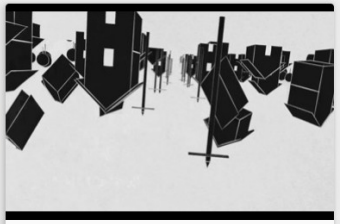
# Libcaca


11:34
11:35
VLC
VLC
VIDEO
AUDIO
300trailer_cropped.mkv
1:46 - 848x352
H.264-9bit-sample-eldorado.mkv
0:29 - 608x480
in_to_tree_320p25...
0:10 - 480x320
in_to_tree_320p25...
0:10 - 480x320
in_to_tree_320p25...
0:10 - 480x320
0:11
5:29
Touch It / Technologic
Daft Punk
Alive 2007: Deluxe Edition



850 METERS.mp4

1min 1280x720



ALB - The Road.mp4

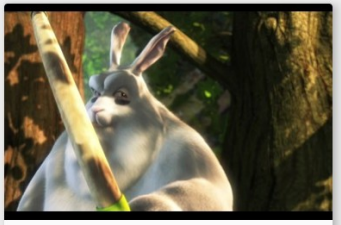
3min 1280x720

Amazonia.mp4

30s / 2min 1280x720

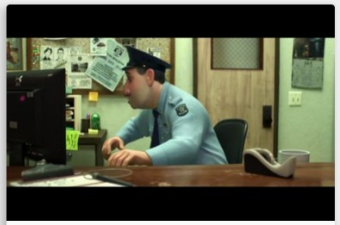
Ambition.mp4

6min 1280x720



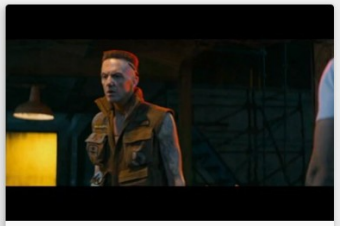
Big Buck Bunny.mov

3min / 9min 1280x720



Big Hero 6.mp4

2min 1280x720

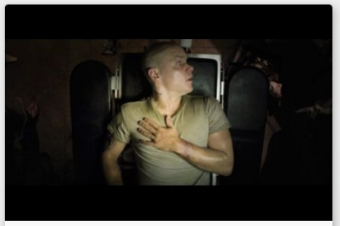


CHAPPIE.mp4

1min / 1min 1920x1080

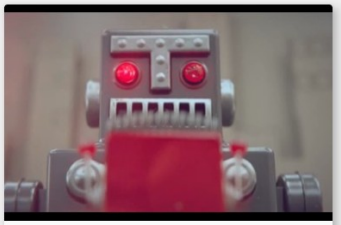
dog_meme_avi_hd720.mp4

28s 1280x720



Elysium.mp4

2min 4096x1716



IDIOTS.mp4

4min 1280x720

Le vent se lève.mp4

1min 1280x720

Mad Max Fury Road.mp4

2min 1920x1080

Offscreen Colonies.mp4

3min / 3min 1280x540

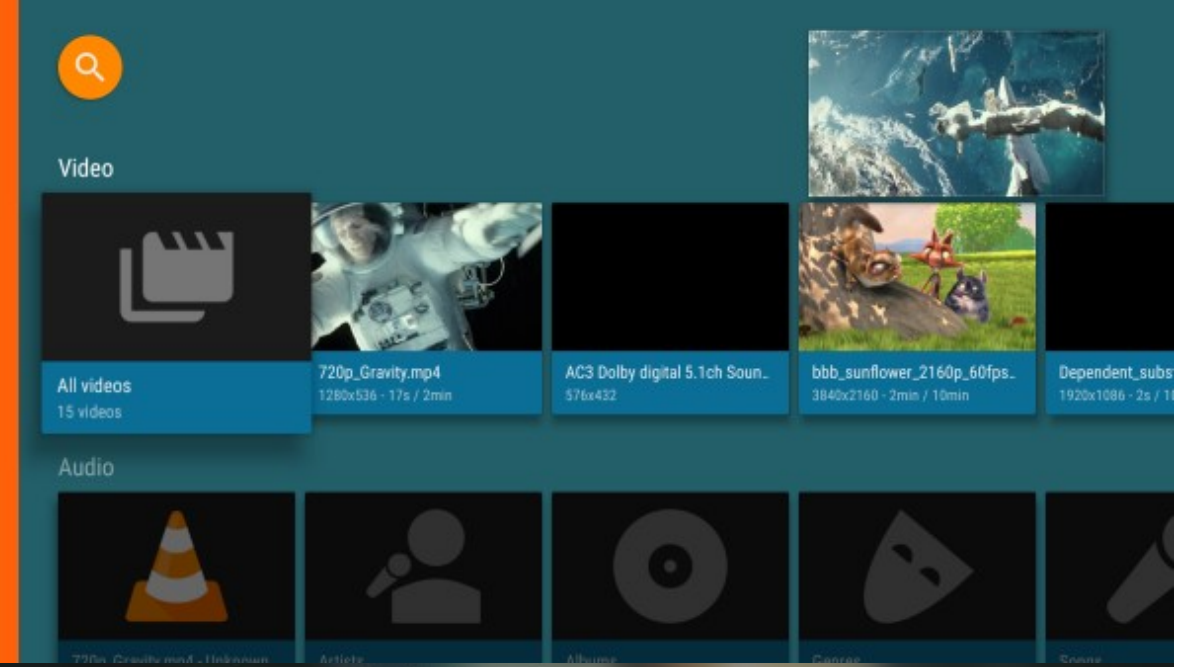
Oggy et les Cafards - 00

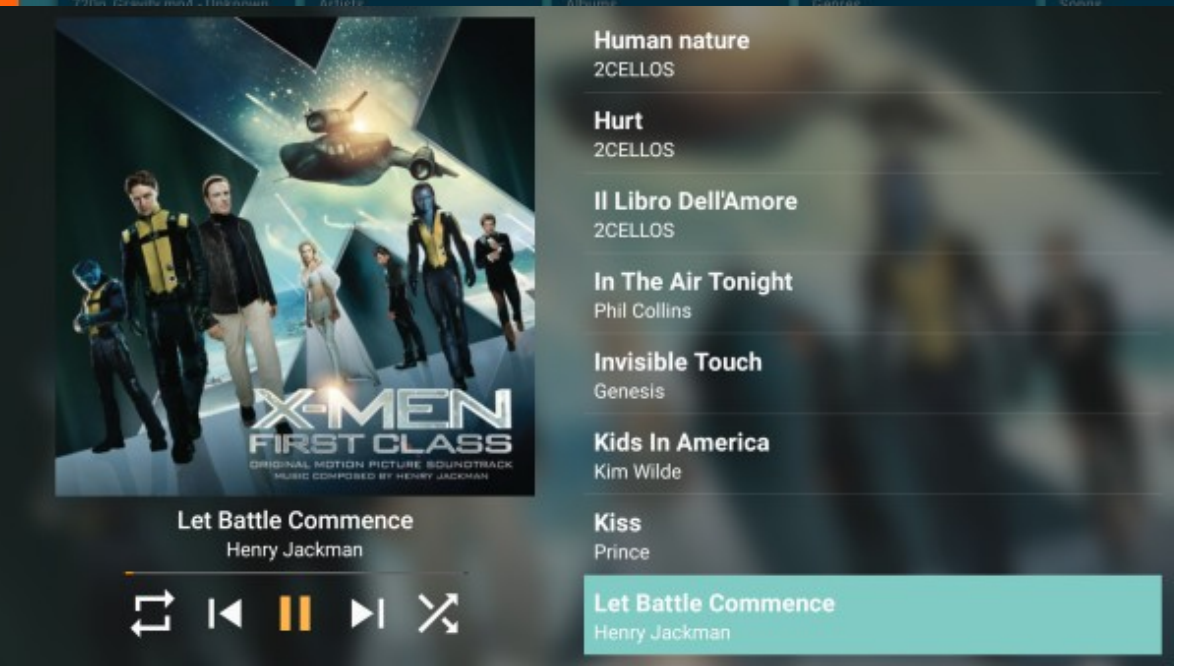
5 videos

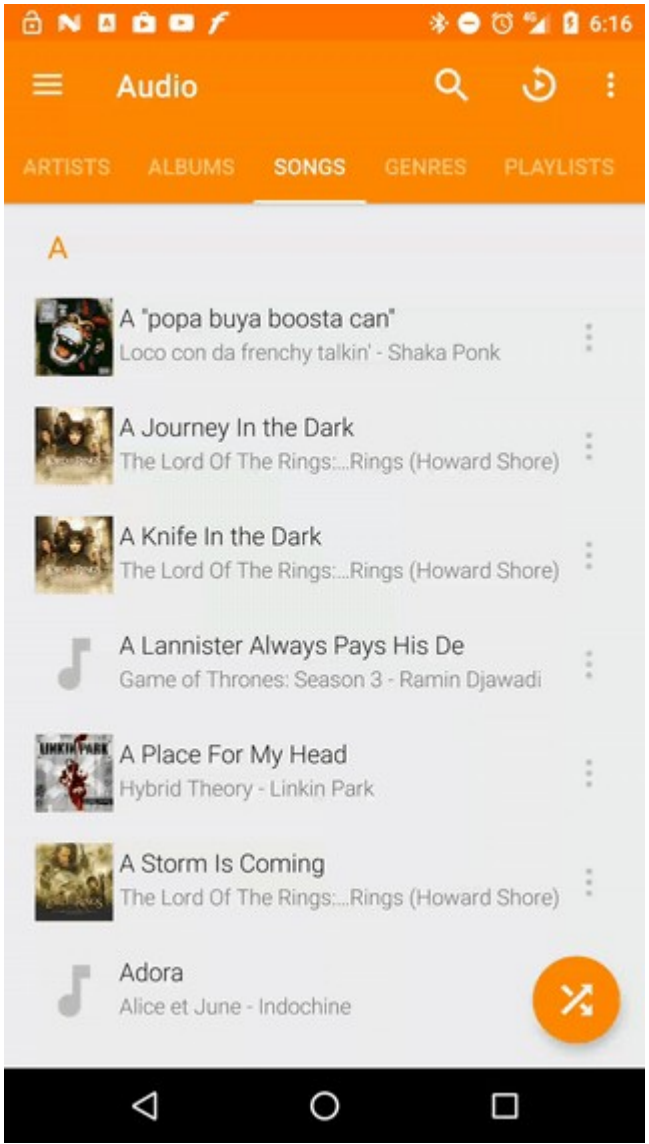
OMEGA.mp4

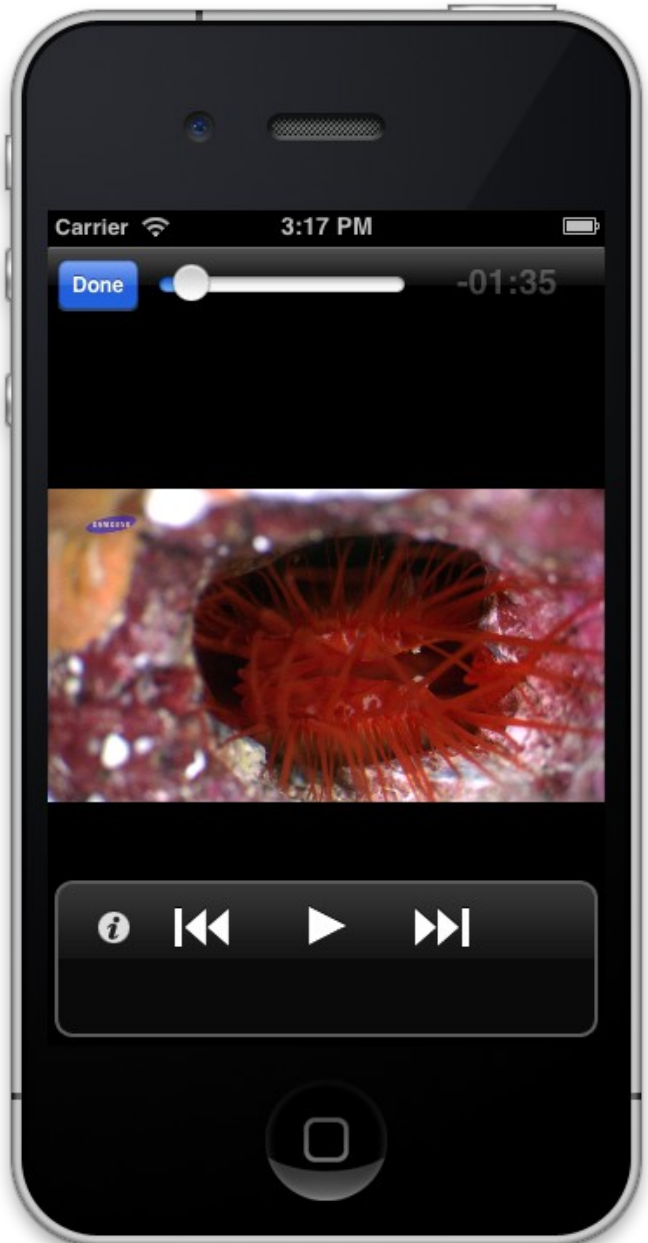
18min 1280x720

# Android


Video
All videos
15 videos
720p_Gravity.mp4
1280x536 - 17s / 2min
AC3 Dolby digital 5.1ch Soun..
576x432
bbb_sunflower_2160p_60fps..
3840x2160 - 2min / 10min
Audio


X-MEN
FIRST CLASS
Let Battle Commence
Henry Jackman
Human nature
2CELLOS
Hurt
2CELLOS
Il Libro Dell'Amore
2CELLOS
In The Air Tonight
Phil Collins
Invisible Touch
Genesis
Kids In America
Kim Wilde
Kiss
Prince
Let Battle Commence
Henry Jackman

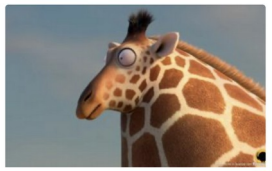

6:16
Audio
ARTISTS
ALBUMS
SONGS
GENRES
PLAYLISTS
A
A "popa buya boosta can"
Loco con da frenchy talkin' - Shaka Ponk
A Journey In the Dark
The Lord Of The Rings:...Rings (Howard Shore)
A Knife In the Dark
The Lord Of The Rings:...Rings (Howard Shore)
A Lannister Always Pays His De
Game of Thrones: Season 3 - Ramin Djawadi
A Place For My Head
Hybrid Theory - Linkin Park
A Storm Is Coming
The Lord Of The Rings:...Rings (Howard Shore)
Adora
Alice et June - Indochine


Carrier
3:17 PM
Done
-01:35

Carrier
12:49 PM
100%
About
VLC
Edit
[CCCP]_Mega_Audio_Test
01:12 - 79.9MB - 656x464
[CCCP]_Mega_Lossless_Audio_Test
00:56 - 105.4MB - 672x464
480p_ 2
01:42 - 127.7MB - 720x480
HD
Avril Lavigne - Iris (Feat goo goo dolls) Legendado
04:53 - 83.2MB - 1280x720
Avril Lavigne & Goo Goo Dolls Iris live
05:31 - 14.0MB - 320x240
fernsehkritik83
07:47 - 57.6MB - 640x352

15:05

Video



ROLLIN WILD Giraffe what if animals were round

NEW 00:40

End Game - Trailer

NEW 02:23

Ambition - Trailer

NEW 06:39

Amazing 4K sample (QHD, 120 Mbit s)

00:42

Video Audio Playlists Network Settings

15:12

Audio

Artists Albums Songs Genres

Unknown Album

Unknown Artist

Free the Universe

Major Lazer

glory - Single

BAND-MAID

GreateST HITs

Stu

Daydreaming / Choose me - Single

BAND-MAID

Toxic Waste

Municipal Waste / Toxic Holocaust

Video Audio Playlists Network Settings

Detail
9:37
vimeo
21:48
All Files
9:36
Spinning Wheel 1
Test
vimeo
All Files
Music Albums
TV Shows
Now Playing

# All Home Videos

05 Carola Nitz TALK [720p]
**15:17 (253.7 MB)**

bbc_hd_audio_sync
**01:30 (21.3 MB)**

h264_odd_dimensions
**00:04 (396 KB)**

Olli Schulz - Phase [720p]
**04:36 (62.1 MB)**

Spinning Wheel
**04:12 (15.1 MB)**

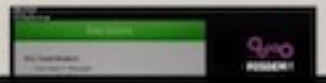
stream_high_pcr_1920x1080p50_10mbps
**05:02 (322.3 MB)**

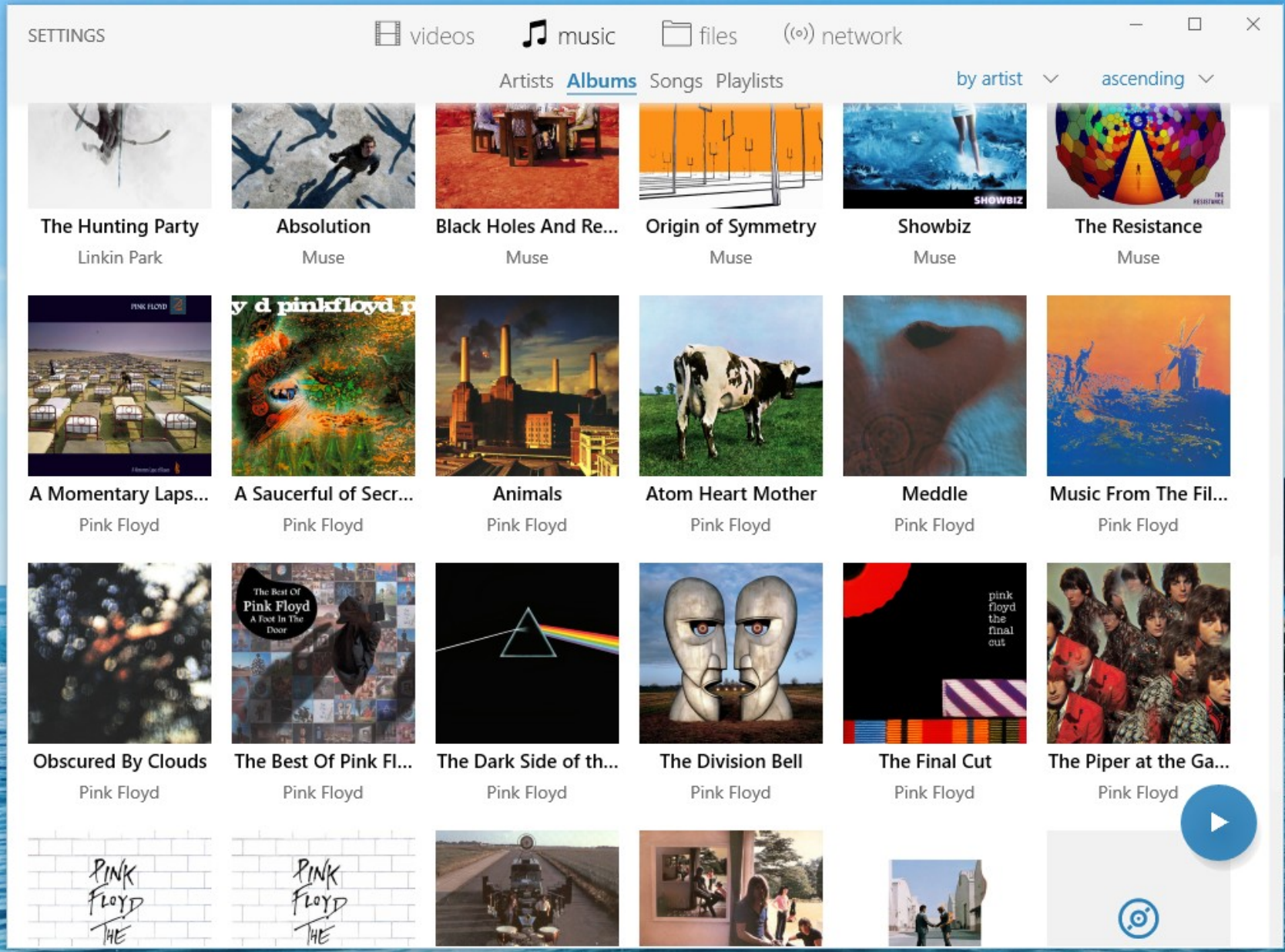
stream_main_pcr_1280x720p50_5mbps
**05:17 (218 MB)**

tears_of_steel_1080p
**12:14 (583.8 MB)**

underground_train
**00:26 (12 MB)**

vimeo
**21:48 (101.3 MB)**



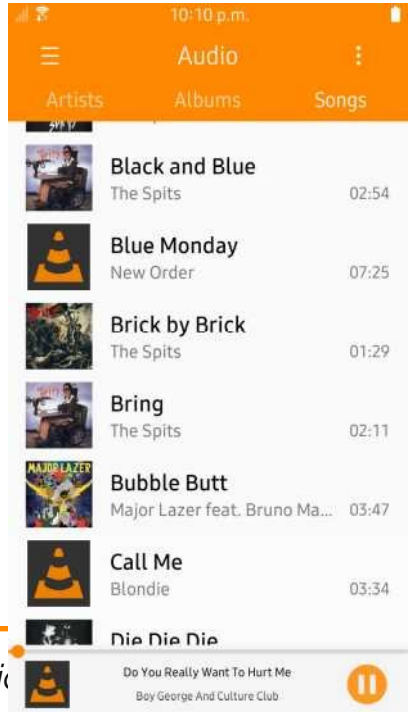

SETTINGS
videos
music
files
network
Artists
Albums
Songs
Playlists
by artist
ascending
The Hunting Party
Linkin Park
Absolution
Muse
Black Holes And Re...
Muse
Origin of Symmetry
Muse
Showbiz
Muse
The Resistance
Muse
A Momentary Laps...
Pink Floyd
A Saucerful of Secr...
Pink Floyd
Animals
Pink Floyd
Atom Heart Mother
Pink Floyd
Meddle
Pink Floyd
Music From The Fil...
Pink Floyd
Obscured By Clouds
Pink Floyd
The Best Of Pink Fl...
Pink Floyd
The Dark Side of th...
Pink Floyd
The Division Bell
Pink Floyd
The Final Cut
Pink Floyd
The Piper at the Ga...
Pink Floyd

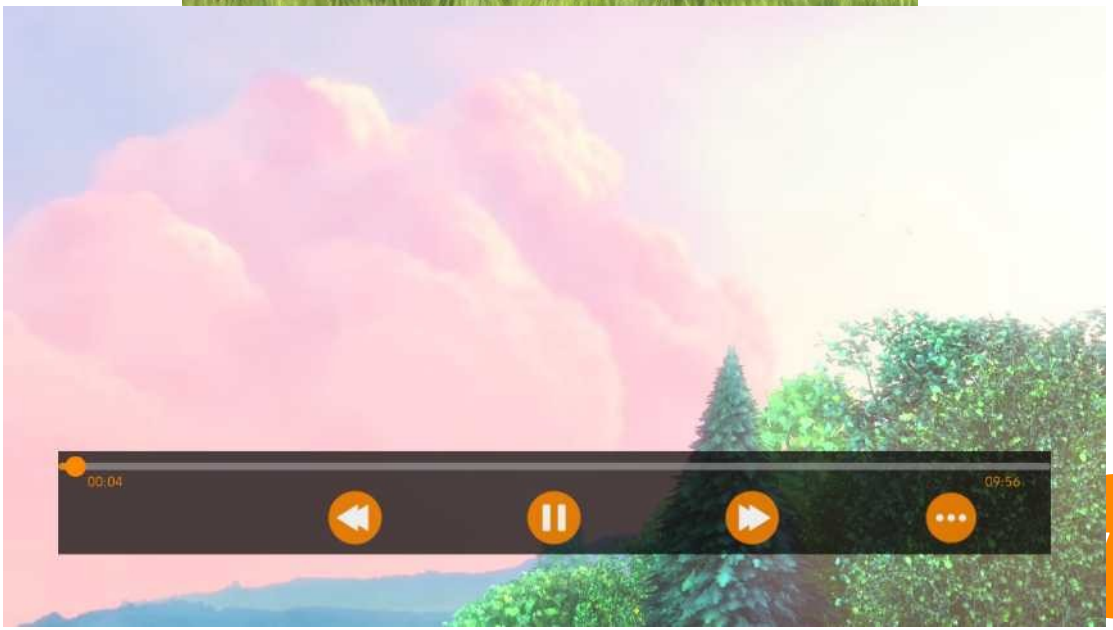
# 3.0.0 Tizen

VLC for Tizen

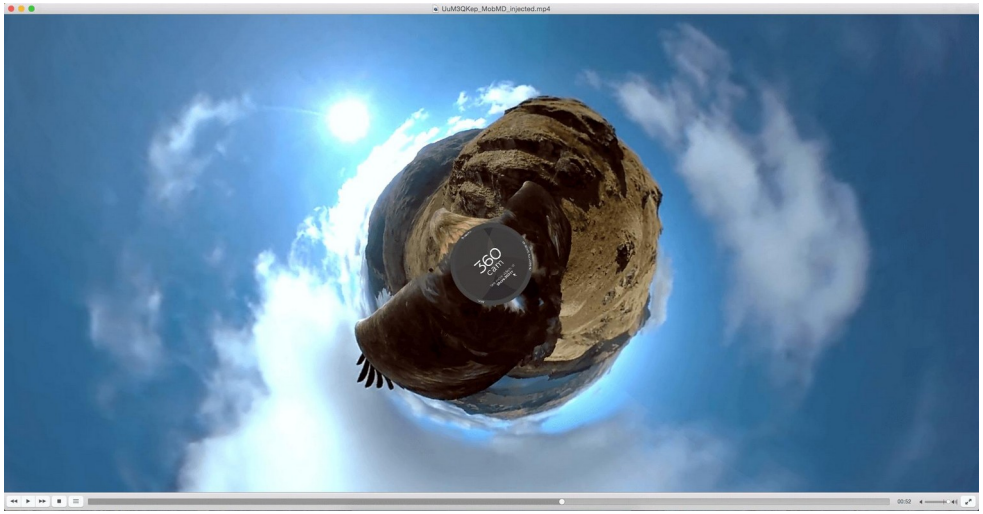
ഇതാ പിടി.
നിങ്ങക്ക് സോസേജ് കിട്ടി,
നിങ്ങക്ക് പാൻകേക്ക്,

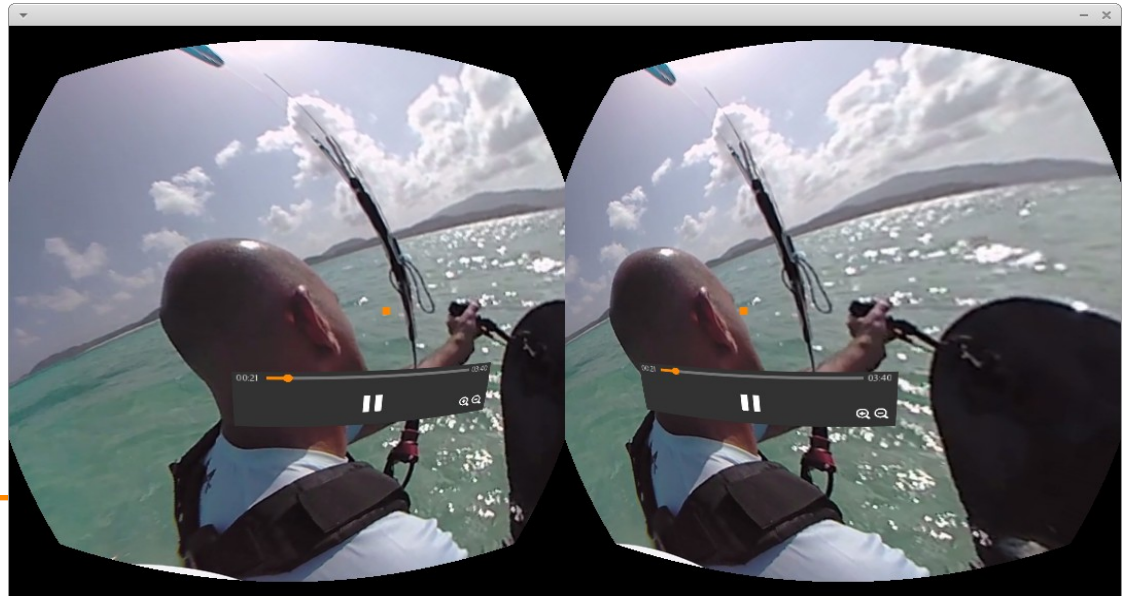
10:11 p.m.
Video
Baby on a swing.MOV
00:40 1920x1080
KUNG FURY Official Movie....
31:02 1280x720
Samurai Jack - s1e02_ The...
23:42 720x480
anamorph.mkv
01:21 720x576
bbb_1080p_h264.mov
09:56 1920x1080
big_buck_bunny_720p_h...
09:56 1280x720
lip-sync-ex.mp4
03:59 1280x720
rotate.3gp
00:04 640x480


10:10 p.m.
Audio
Artists
Albums
Songs
Black and Blue
The Spits 02:54
Blue Monday
New Order 07:25
Brick by Brick
The Spits 01:29
Bring
The Spits 02:11
Bubble Butt
Major Lazer feat. Bruno Ma... 03:47
Call Me
Blondie 03:34
Die Die Die
Do You Really Want To Hurt Me
Boy George And Culture Club


00:04
09:56

# VLC VR





# New CTL support

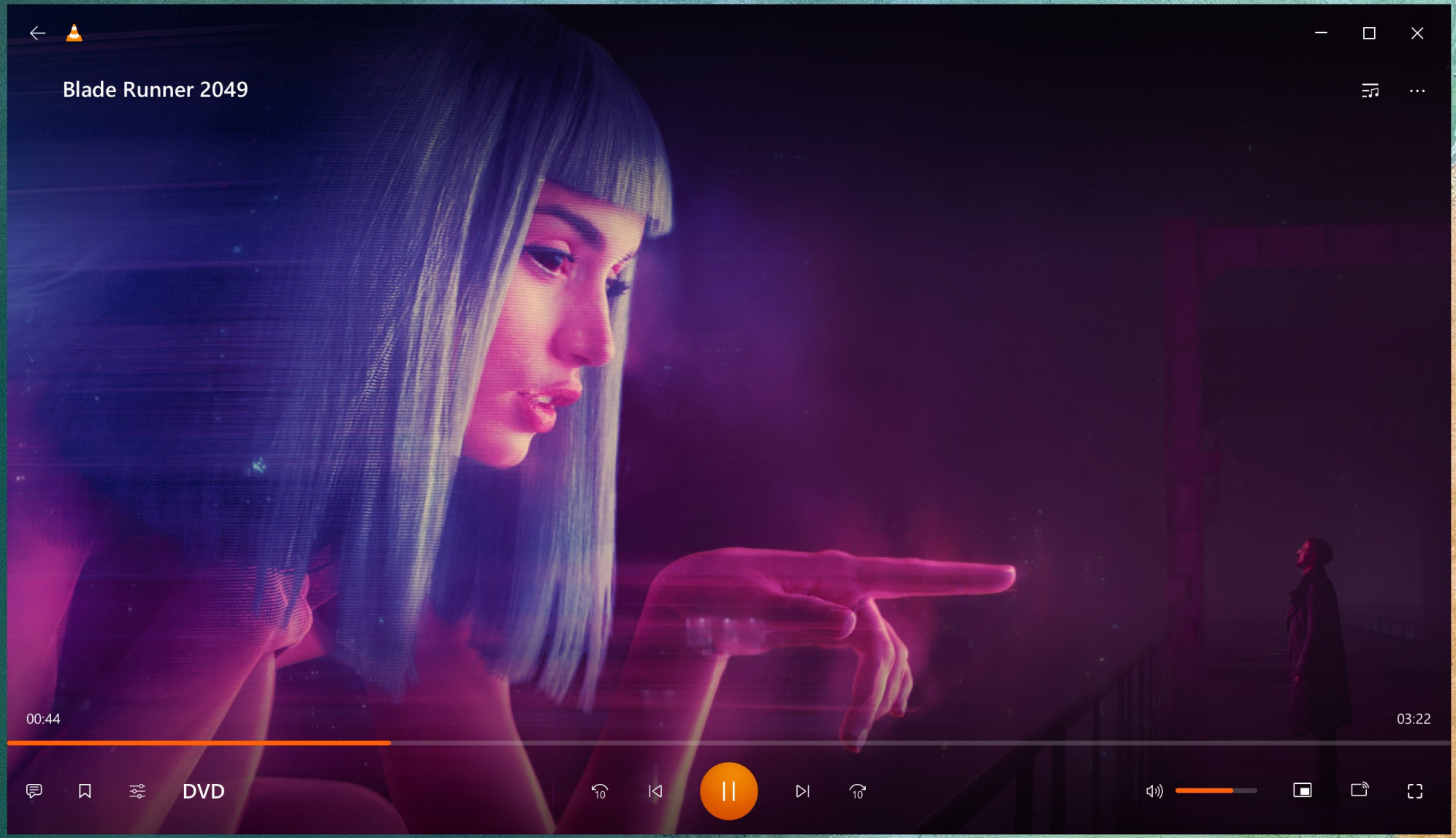
# *New CTL support (2)*

# 3.0 numbers

- **Vetinari**
- 18000 commits
  - 3600 Android
  - 2800 WinRT
  - 2300 iOS
- A bit long to come (!)
- One **very** strong release
- Focus on Mobile convergence, as announced, previously
- libVLC, and libVLC++, and bindings
- 1900+ bugs closed

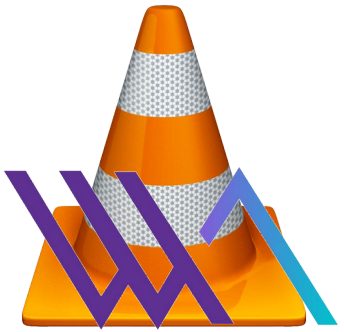
# *3.0 highlights*

- **HW decoding** on by default everywhere
- **360 video** and **3D** Audio
- Network shares browsing (+passwords)
- Common codebase
- **10bits** / 12bits / **HDR** support
- Audio **HDMI** rework passthrough
- **HTTP/2**
- Lots of new formats (adaptive, subtitles)
- OpenGL and Wayland *(part 1)*
- New subtitle rendering stack
- **Chromecast**


Blade Runner 2049
00:44
03:22
DVD

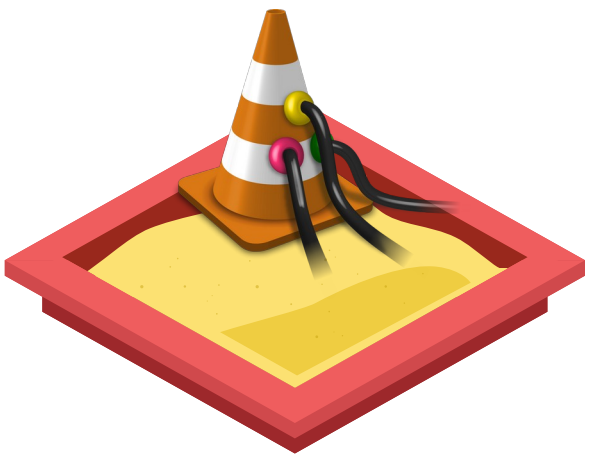
# What's Next

- **VLC.wasm**
  - Html5 video suxx
  - Flash Server + Player was nice
  - VLC inside a browser with WebAsm
  - Ads, more format support, fast, evolutive



WEBASSEMBLY

- **Hardening VLC**
  - VLC security is hard
  - No hardened player
  - Better streaming solutions
  - Important cost

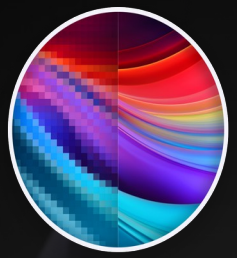


# What is Kyber ?

Best in class remote control platform

## Lowest Latency

Patented Network Protocol based on QUIC, to allow the lowest network latency with the highest reliability



## High Quality

Predictive model for network degradation
Video Codec optimizations
Model for upsampling video quality trained by content type

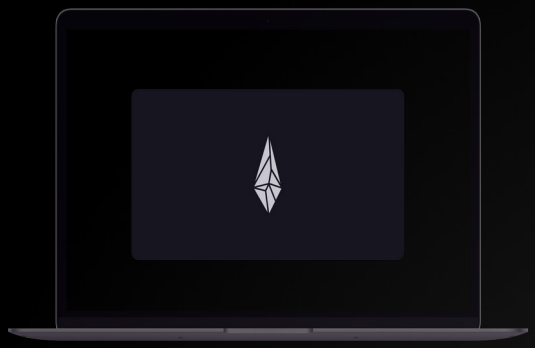
## Universal

Core built upon VLC and FFmpeg open-source tech, with comprehensive codec support for any environment

## Flexible

A cross-platform solution for any type of machines & OS
(VM, drones, robots, computers)
Extensible SDK

Client

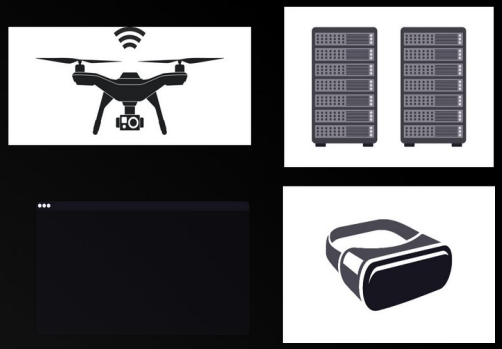


Kyber SDK +
QUIC
Patent pending

control inputs

streamed A/V

Server



## Any OS or browser

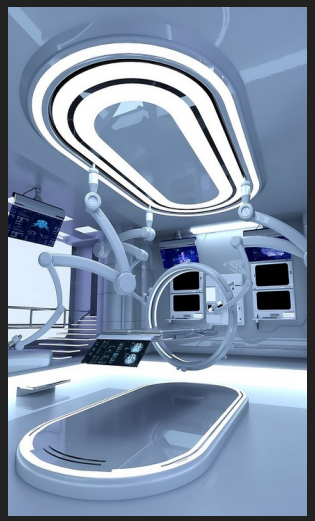
Embeds A/V stream and I/O support in any app or in a browser window

## 8ms down to glass-to-glass

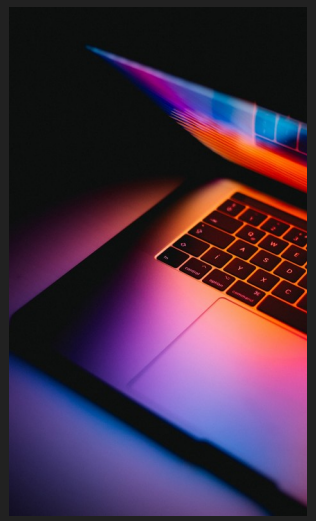
## Any input or software

Windows / Mac / Linux / Android
Captures the raw A/V output, entire OS or isolated app

# Kyber will unlock use cases in multiple verticals



Robotics

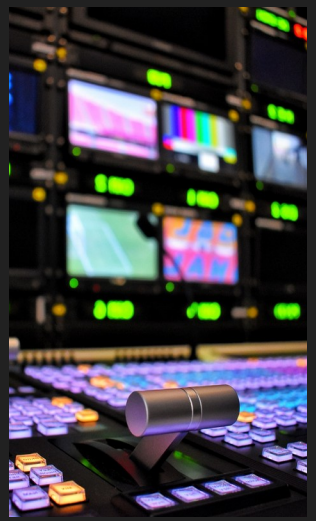


Remote Desktop

Cloud Gaming

Remote Drones

AR/VR



Live Production

# VLC AI-Powered Subtitles & Real-Time Translation

Demo at Las Vegas CES 2025

**Also available at ACM Mile High Video!**

**VLC** introduced a feature that uses AI to provide real-time subtitles and translations for any video.

This feature:

- Runs entirely offline, ensuring privacy and accessibility without relying on cloud services.
- Supports more than 120 languages, enhancing the multimedia experience for global audiences.
- Based on Whisper.cpp and SeamlessM4T models in C++ as VLC modules

# VLC IAMF: A Revolution in Audio Immersion

VLC now supports the Immersive Audio Metadata Format (IAMF), developed in collaboration with Google, Samsung, and the Alliance for Open Media.

Key features include:

- Cinema-quality spatial audio for AR/VR platforms, smart TVs, and mobile devices.
- Native support across all VLC platforms.
- Open-source implementation, democratizing high-quality audio experiences.

These announcements underline VLC's commitment to innovation, accessibility, and open standards.

Thanks!
Questions?
VLC