I’m excited to announce the release of VLC 1.0!
1,000,000 downloads per day

450,000,000 users on all platforms! *

2,800,000,000+ downloads since the early days
VLC 3.0

What did we put in 3.0
• **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
• New subtitle rendering stack
• One last thing: **Chromecast**
Platform support

- **Windows**
  - XP → 10 RS3
- **macOS**
  - 10.7 → 10.13 64bits
- **Android**
  - Android 2.3 (API-10) → 8.0 Oreo (API-4212)
- **iOS**
  - iOS 7 → iOS 11
- **Linux**
  - All distributions
നാവ പീനി.
ഭാരമുള്ള ഇനക്കാറി,
നാവയിൽ പെരുമകക്കാണ്.
New CTL support
3.0.0 Android TV

Audio

SING

ARTISTS

ALBUMS

SONGS

GENRES

PLAYLISTS

- 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
3.0.0 Tizen
VLC Subtitles support

Image based

- DVD subtitles, including HD-DVD
- Blu-ray subtitles
- DVB subtitles
- DivX subtitles
- Vobsub files
- CVD
VLC Subtitles support

Text based

- SRT (subrip)
  - Extensions (\an, \h, \h)
  - Similar: mpl2, dks, aqt, mpsub, smi, microdvd, jacosub, vplayer
- SSA/ASS
- Teletext (full rendering + subtitles)
- Closed-Captioning: EIA-608/EIA-708 (sic!)
  - Including Rollup
- TTML
  - EBU-TT, EBU-TT-D, SMPTE-TT, ISMC-1
- ARIB B24, SCTE-27, STL
- SCC, SBV, Kate, USF
Complaints

• New Standards
  - WebVTT
    • SRT, but not really
  - TTML
    • Which one?
    • Not even all the features of SSA
  - New does not mean better!
  - Ignore things that were done before
  - Big Mess

• VLC 3.0
  - Support both, or some part of those.
    • EBU-TT-D should be complete
• Standards in multimedia are borderline insane
  – Design by committee
    • MPEG...
  – Mafia-style patents enforcement
    • Dolby, MPEG-LA...
  – NIH syndrom
  – Broadcasters forget the real world...

• VLC implementation
  – Reverse engineering
  – Samples based
Generic complaints about new formats

- Not done for streaming
  - Created for the web, with separated files.

- No care about non-browser implementations
  - Every implementation is in JS...

- Timings
  - Timing overlaps make some cases very complex to implement, or even impossible the streaming and make duplication of data necessary
  - Timings inside samples makes retiming impossible without reparsing the whole bitstream
  - Lots of overhead in samples, notably for empty samples
  - Timings can DropFrame

- Different payload format or base timing requires reparsing on remux
• Based on the worst format
  - SRT...

• Web Browser
  - Stylings are done in CSS → full CSS requirement
  - Requirement for a DOM representation, a CSS parser, but also a CSS rules management
  - CSS inheritance for little needs
  - Requirement for support of `::cue()` selectors, who are de-facto functions `::cue(params)` which requires to extend existing engines (Not even supported by Firefox)

• Positioning system makes no sense
  - Mix of anchors, scroll windows and coordinates
  - Clear after-thought

• RTL layout
  - Almost as bad as positioning
  - After-thought, once again...

• Incomplete
TTML

• TTML
  - Which one:
    • Profiles
  - XML
    • Because we’ve had soo much success with other XML formats…
  - W3C
    • Both TTML and WebVTT are W3C standards…
  - Every feature under the world
    • Most of them makes no-sense, and I can’t understand them
      - 8 #length-*, #markerMode…, 6 #styling, #clockMode…, stuff that are just 608 backports…
    • Except Ruby…

• VLC
  - Need to support all :-}
• TTML rants
  - XML
  - XML header makes probing very hard, unless you load a big chunk of the document
    • It’s even worse with comments allowed
  - Namespaces are hard <tt <tt:tt <foo:tt

• Sizes
  - Mix between screen in % and fixed font size or fixed font size and region in % makes rendering very hard to predict (notably cuts)
  - depending on the system-font or the video resolution
  - Mix between %, cell and pixels
  - Baseline size depends on the font → layout is hard, notably for for zones and positioning

• Image profiles
  - Seriously?
  - Specific to one video resolution, and will be lost, of course, after reencoding and so on

• Image profile only not enforced
  - Suggests people will mix images and text profiles

• Timings
  - Multiple relative or absolute timings: smpte-time, wall-clock-time, media-time

• SMPTETT stores id in prefix # (notation jQuery/javascript)
  - Not valid for XML internal node reference
  - Cannot be verified or transformed with XSL easily
Thanks!

Questions?