



NewPipe

Porting an Android app to Sailfish OS

Fabio Giovanazzi & David Llewellyn-Jones & Jeroen Heijmans

FOSDEM • 31 January 2026



Fabio Giovanazzi / @Stypox

1. **Maintainer** of NewPipe and Dicio assistant
2. Member of **NewPipe e.V.** and MindsHub
3. Studying Computer Science at **ETH Zürich**
4. <https://stypox.org> / stypox@pm.me



David Llewellyn-Jones / flypig

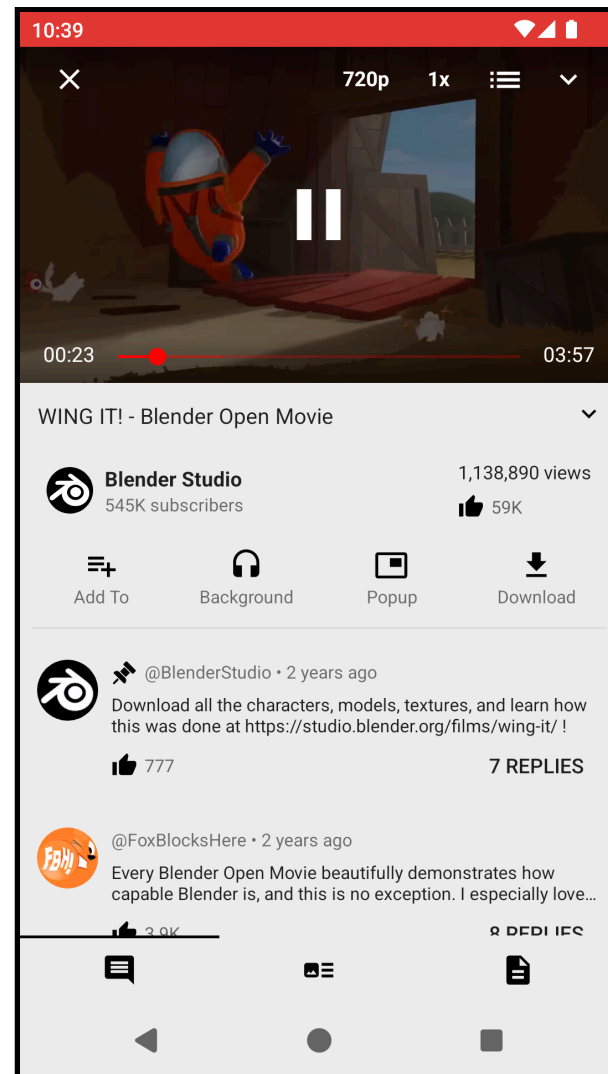
1. Ex-Jolla and die-hard **Sailfish OS** user
2. Met the NewPipe team at FOSDEM 2025
3. **Library-frontend split** piqued my interest
4. <https://flypig.co.uk>





What is NewPipe

4 / 20





Search and play videos

←

fosdem

×

⋮

1

So You Think You Know Git?

Scott Chacon

47:00

So You Think You Know Git - FOSDEM 2024

GitButler

1.6M views • 1 year ago

16

FOSDEM 2024

XWiki SAS

TRAVEL VLOGS

DAY 2

FOSDEM

19:11

FOSDEM 2023 - Day 2 - Back home (Brussels airport tour)!

DevWithZachary

84 views • 2 years ago

Kernel support for Mobile Linux: The missing 20%

FOSDEM

21:22

FOSDEM 2025 - Kernel support for Mobile Linux: The missing 20%

Luca Weiss

552 views • 11 months ago

FOSDEM

BGE

2025

On the Road

45:22

BGE On the Road Ep 6: FOSDEM 2025

La Brigata dei Geek Estinti

160 views • 11 months ago

FOSDEM 2025: Syd: An Introduction to Secure Application Sandboxing for Linux

25

FOSDEM 2025: Syd: An Introduction to Secure Application Sandboxing for Linux

Ali Polatel

WING IT! - Blender Open Movie

Blender Studio

⋮

▶

×

×

720p 1x ⋮ ▾

4

⏸

02:29 09:56 ⏏

Big Buck Bunny

Blender

1.2M subscribers

8,888,640 views

38K

+

🎧

🖥

↓

Add To

Background

Popup

Download

5 M

@5MadMovieMakers • 2 years ago

Next

Auto-enqueuing ☐

3

Big Buck Bunny

UHD 60fps

10:35

Big Buck Bunny

60fps 4K - Official ...

Blender

22M views • 11 years...

EVERYTHING WRONG WITH

Big Buck Bunny

10:50

Everything Wrong With Big Buck Bun...

Animation Sins

99K views • 5 years a...

20:09

Funniest CATS of the Year

CaD Animals

902K views • 1 week ...

35:14

I'm Building a Free Pallet House in 12...

Lesnoy

18M views • 6 month...



Downloads and playlists

← Downloads

≡

⏸

🗑

Pending

9.92%

⋮

Wayland + Rust.mp4

487.31 MB 48.36 MB/00:42 10.5...

Finished

100%

⋮

100%

⋮

Mashup _ NCS - Copyrigh

2.42 MB Jan 14, 2026

Open Movie.mp4

5.15 MB Jan 14, 2026

1

≡ Bookmarked Playlists

🔍

Essence of linear algebra

3Blue1Brown • YouTube

FOSDEM 2025 - Funding the ecosystem

FSFE • PeerTube

FOSDEM 2025

Mozilla Developer • YouTube

Free software

Mix – Avicii

YouTube • YouTube

Music

Official Blender Open Movies

Blender • YouTube

2

← FOSDEM 2025 - Fun...

🔍

🗑

⋮

FSFE

10 videos • ⌚ 5:06:23

The Free Software Foundation Europe (FSFE) co-organized this debuting devroom at FOSDEM 2025 on funding the FOSS Ecosystem. This devroom aims to bring together developers, maintainers, policymakers, entrepreneurs, donors and funders to explore various models and mechanisms for funding that...

Show more

Background

Play All

Popup

FOSDEM 2025 - What do maintainers need from funders and others? We asked M...

FSFE

FOSDEM 2025: 20 Years of Hacking the Funding of XWiki and CryptPad

FSFE

FOSDEM 2025: Storytelling, networking, and strategy: three keys to successful fundraising

FSFE

FOSDEM 2025: AMA with devroom organizers

FSFE

FOSDEM 2025: How do we get the European Union to invest in FOSS maintenance and se...

3



Subscription feed and multi-service

Subscriptions

Channel groups

+

NEW

All

Programming

The best channels

Subscriptions

39C3: Power Cycles
Subscriber count unavailable

Blender
1.2M subscribers

EEVblog
987K subscribers

Fairphone

1

What's New

Feed last updated: 1 hour ago

05:11

Bose employees...
for respecting ow...
Louis Rossmann
124K views • 4 days ago

16:00

EEVblog 1728 - AC Basics Tutorial Part 6 - Impedance, Conductance, Susceptanc...
EEVblog
12K views • 1 week ago

57:43

Hola 2026! — Blender Today LIVE #272
Blender
6.6K views • 1 week ago

41:31

Fast and Safe Image Decoding in Rust—
by Jonathan Behrens—Seattle Rust Use...
Rust Programming Language
1.7K views • 1 week ago

48:29

ere: Compiling Regular Expressions at Build-Time—by Kai Orita—Seattle Rust ...
Rust Programming Language
608 views • 1 week ago

EEVblog 1727 - REPAIR: Casio CT-X700
Keyboard

2

NewPipe

PeerTube

YouTube

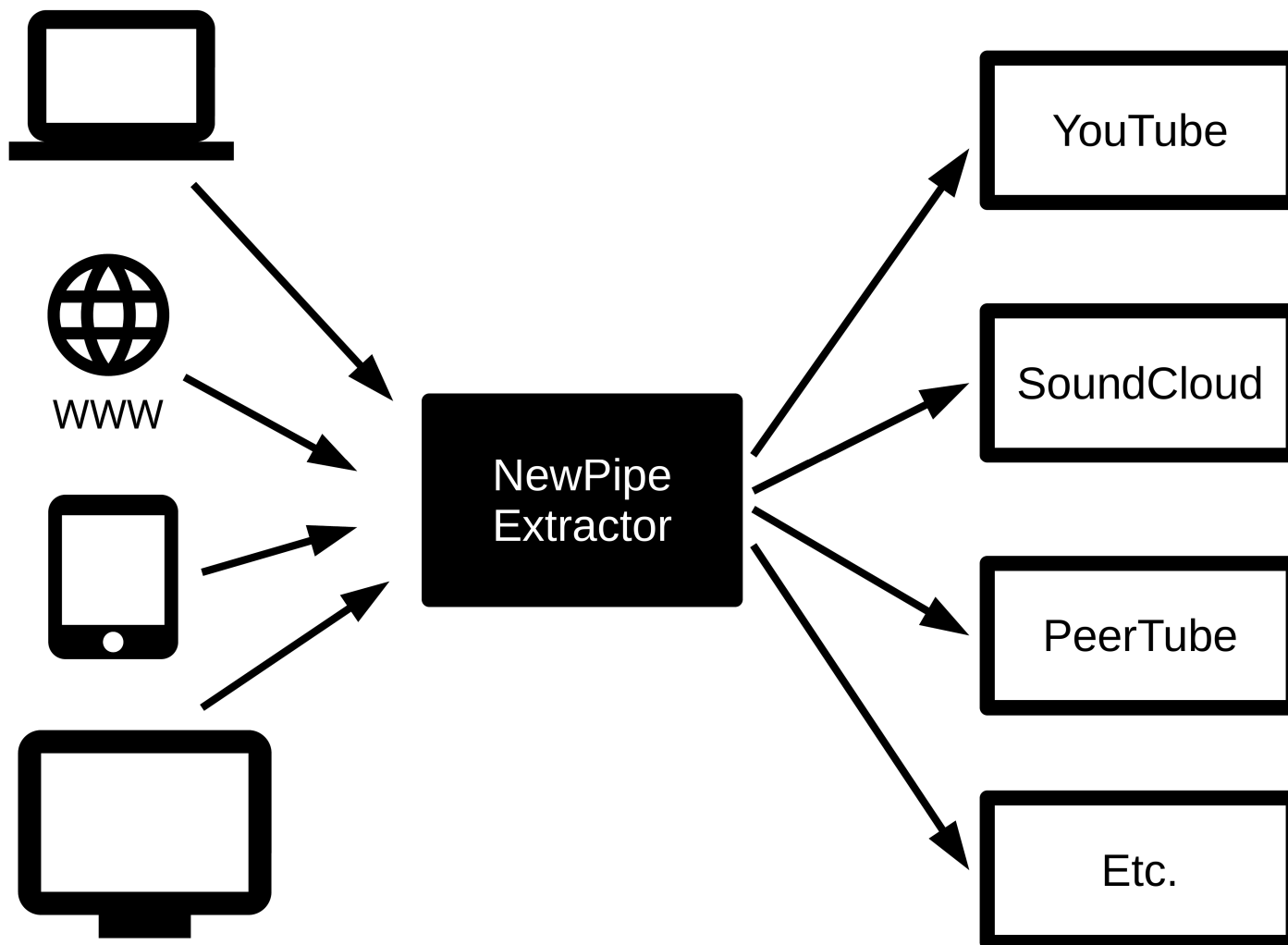
SoundCloud

media.ccc.de

FramaTube

Bandcamp

3






Scraping

9 / 20

fosdem

1



FOSDEM
@fosdermtalks • 26.6K subscribers
Talks from FOSDEM.

Subscribe

Inspector Console Debugger Network Style Editor Performance Memory Storage Accessibility Application

Filter URLs

Time	Method	Status	URL	Type	Size
200	POST	200	www.y... search?prettyPrint=false	fetch	79.55 KB

Headers Cookies Request Response Timings Security

Filter properties

JSON

```
{
  "responseContext": {
    "serviceTrackingParams": (4)[...],
    "mainAppWebResponseContext": {...},
    "webResponseContextExtensionData": {...}
  },
  "estimatedResults": "51494",
  "contents": {
    "twoColumnSearchResultsRenderer": {...}
  },
  "twoColumnSearchResultsRenderer": {
    "primaryContents": {...}
  },
  "primaryContents": {
    "sectionListRenderer": {...}
  },
  "sectionListRenderer": {
    "trackingParams": ...,
    "hideBottomSeparator": true,
    "targetId": "search-feed",
    "contents": [
      {
        "itemSectionRenderer": {...}
      },
      {
        "channelRenderer": {...}
      }
    ]
  },
  "itemSectionRenderer": {
    "trackingParams": ...,
    "contents": (25)[...]
  },
  "channelRenderer": {
    "channelId": "UC9NujImUbaSNKiWf2bdSFaw",
    "trackingParams": "CMUDENowGAEIewilwumz25ISaxUKRxoFHYLmNrs=",
    "title": "...",
    "navigationEndpoint": {
      "clickTrackingParams": ...,
      "commandMetadata": {...},
      "browseEndpoint": {...}
    },
    "thumbnail": {
      "thumbnails": (2)[...]
    },
    "descriptionSnippet": {
      "runs": (3)[...]
    },
    "shortBylineText": {
      "runs": (1)[...]
    },
    "videoCountText": {
      "simpleText": "26.6K subscribers",
      "accessibility": {...}
    }
  }
}
```

3



Community decisions

Buttons on top of thumbnail

- ✓ Accessible right away
- ✗ Partially hides thumbnail
- ✗ Makes the UI cluttered and complicated for new users
- ✗ Not much space available for e.g. both audio and video selectors
- ✗ Not accessible with autoplay

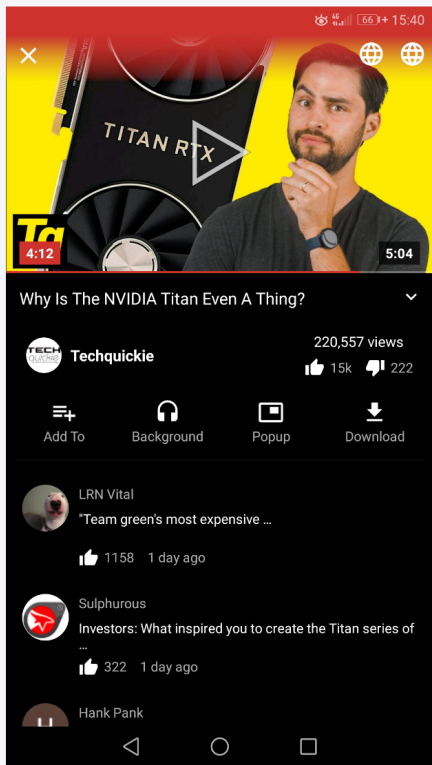
Swipeable row of buttons

- ✓ Easy to access
- ✓ Good-looking
- ✗ Not completely intuitive for all users, also probably difficult to find out
- ✗ Too many nested swipeable views
- ✗ Audio and video selectors would not fit

Current implementation, secondary control panel with dropdown button

- ✓ Not shown if not needed (which is expected for most users, thus not cl
- ✓ Space available to add, in the future, audio and video selectors with multiple actions such as play, play in external player, open in browser, share
- ✓ Intuitive even for new users since it is normal to have buttons that appear after tapping on something (see e.g. three-dot menu)
- ✗ Takes one more click to access, and worse on Android TVs
- 👤 @vkay94 this would probably integrate well with your stream segments, wouldn't it?

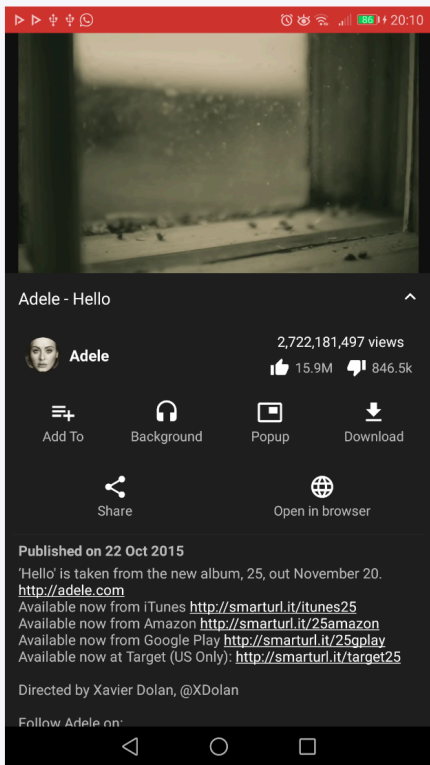
Buttons on top of thumbnail

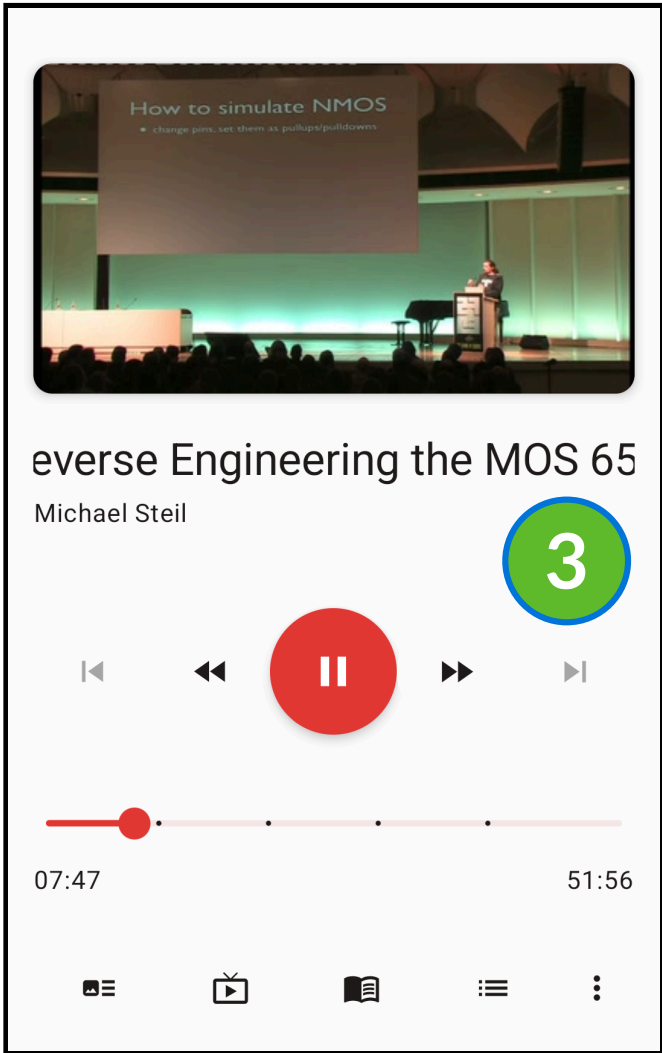
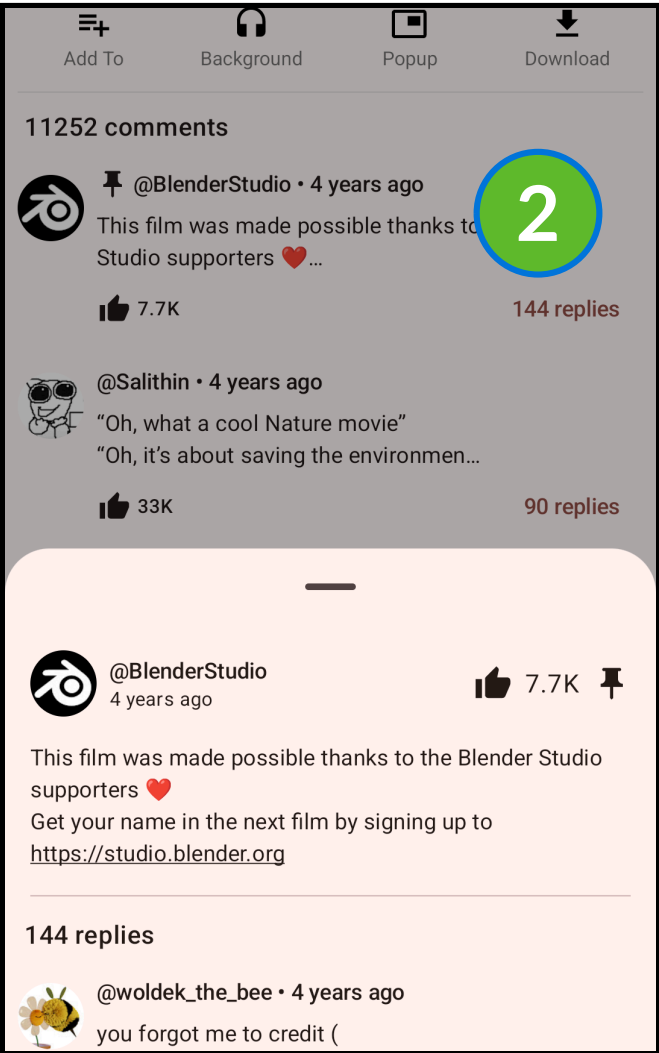
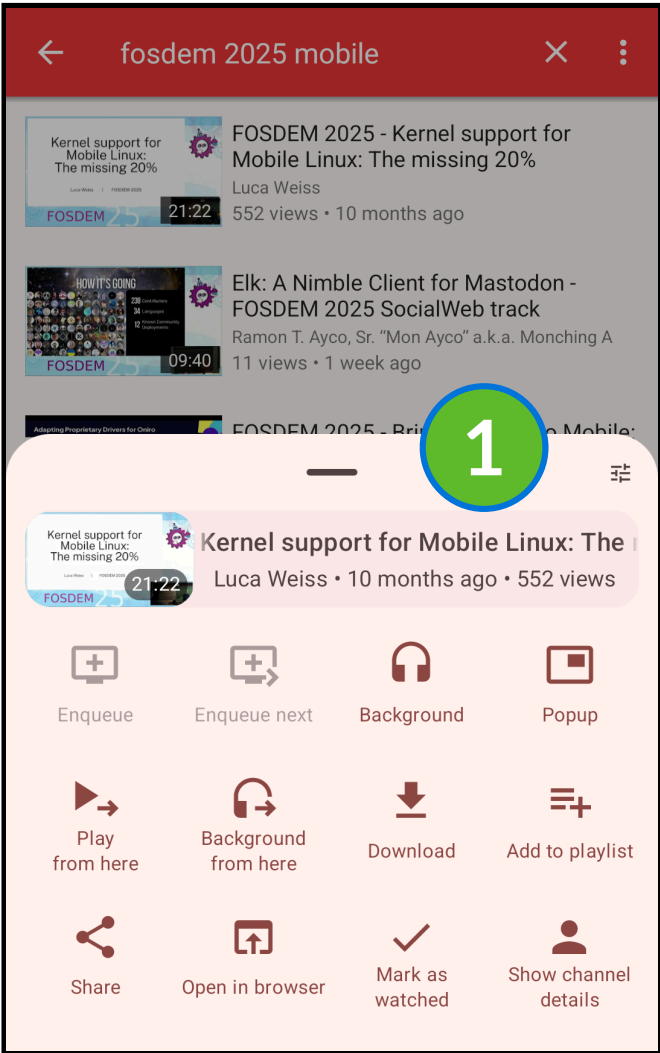


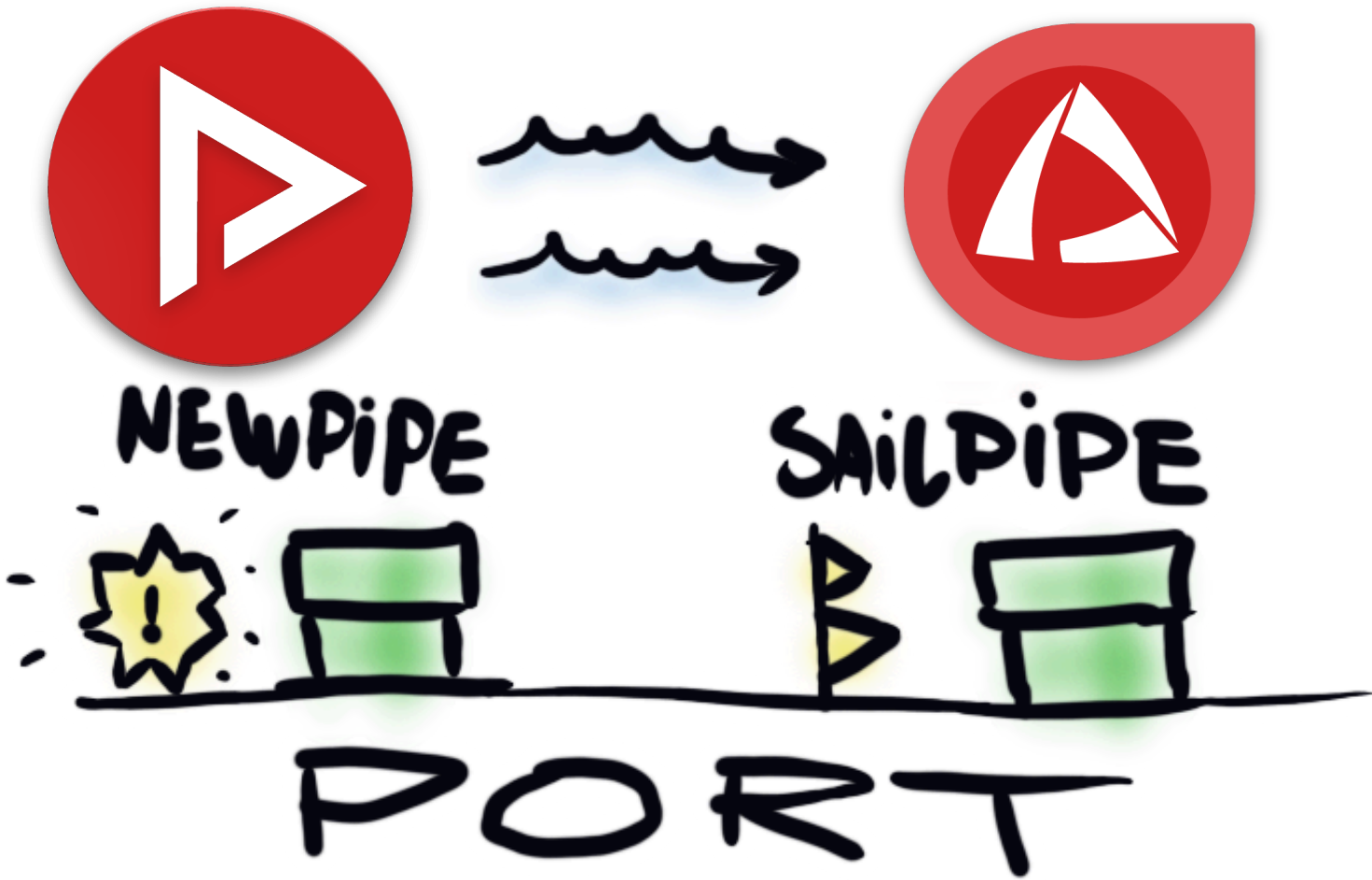
Swipeable row of buttons

Would look exactly like now (in 0.20.5)

Secondary control panel



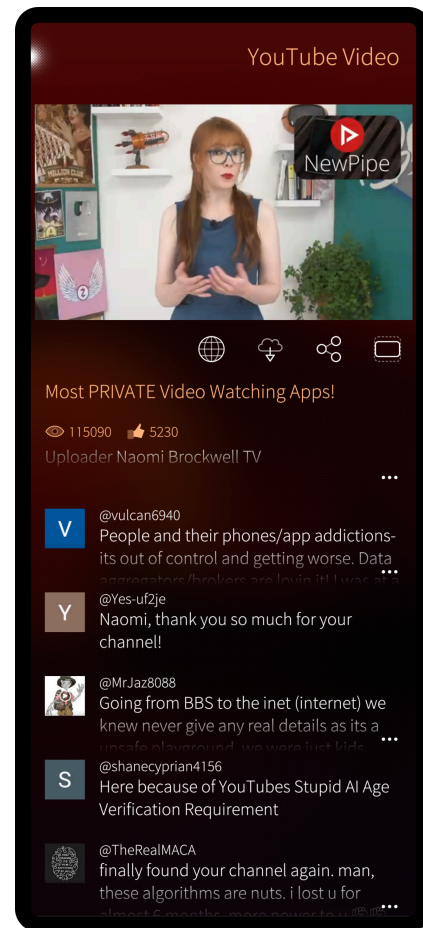






Java on Sailfish OS

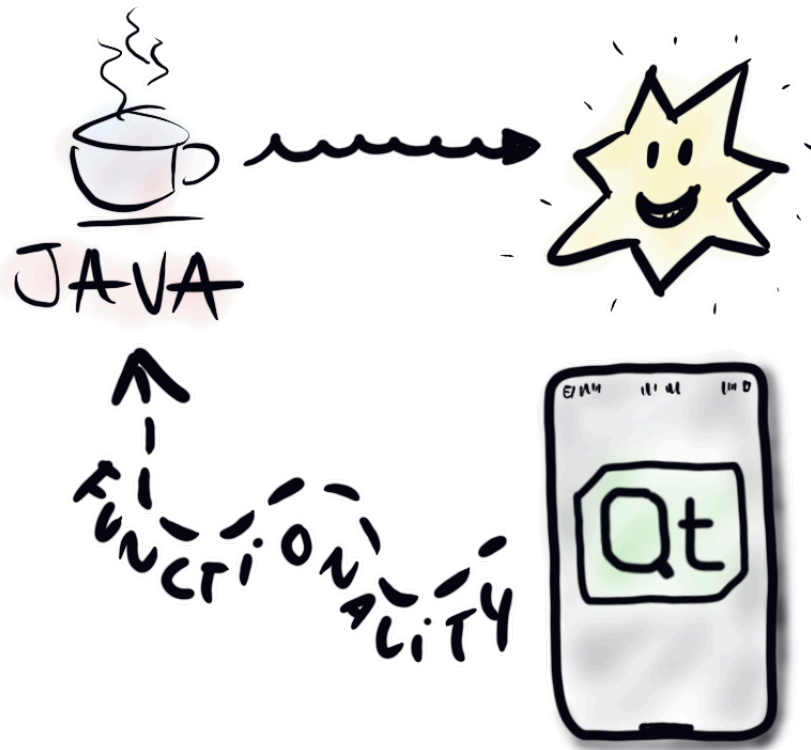
1. No Java runtime
2. Thigg developed Sailing-to-Coffee
3. Built on GraalVM
4. Functionality exposed using JNI
5. Some restrictions

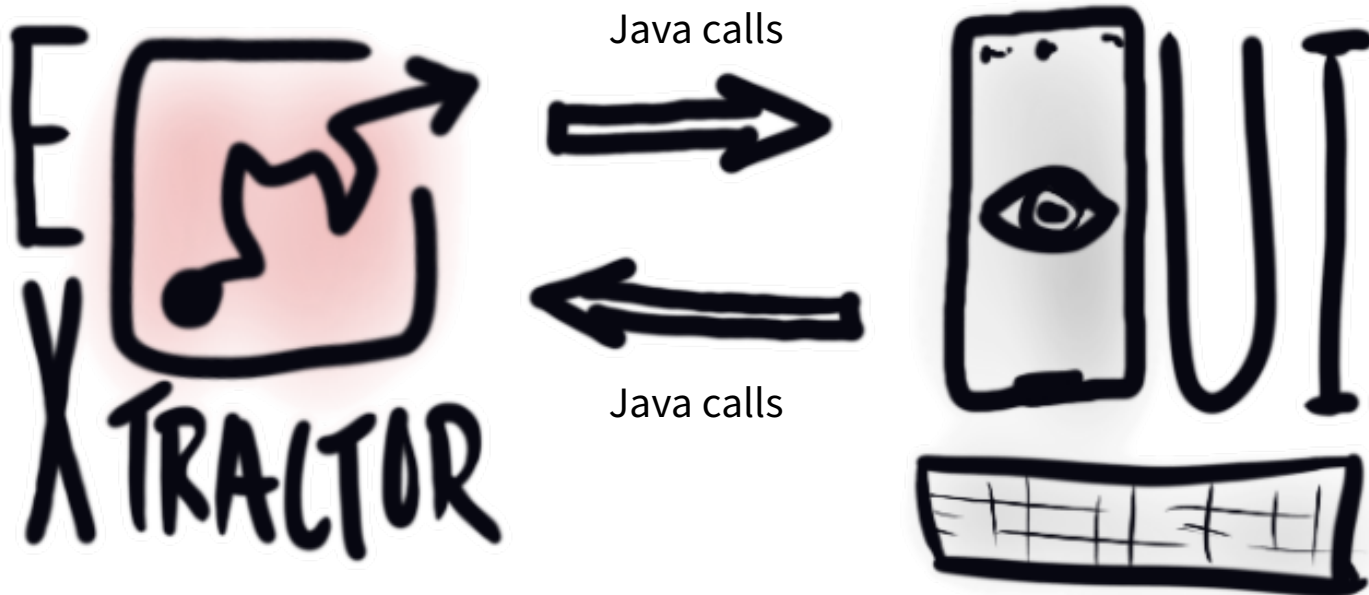




Implementation

1. NewPipe Extractor code
2. Exposed through Sailing-to-Coffee shim
3. Consumed by Qt user interface
4. UI pure Sailfish, functionality pure NewPipe





58 993 lines Java
182 lines JS

67 374 lines Java
15 527 lines Kotlin
76 764 lines XML
147 lines JS



257 lines Java

JSON

JSON



lines QML
3 385



lines C++
10 112

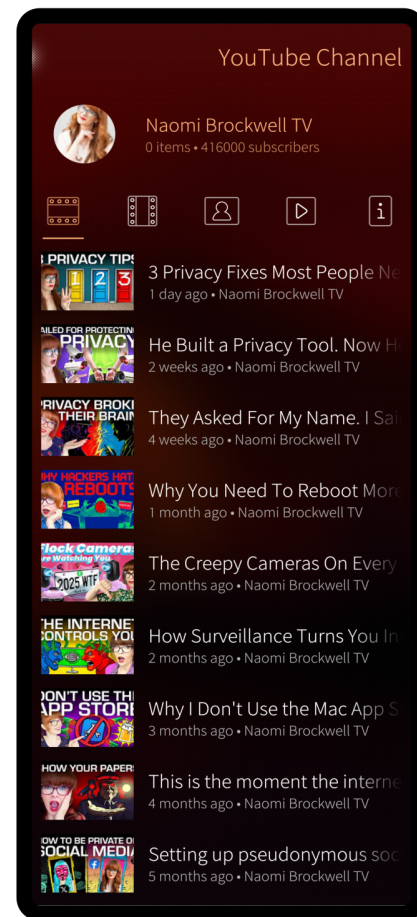
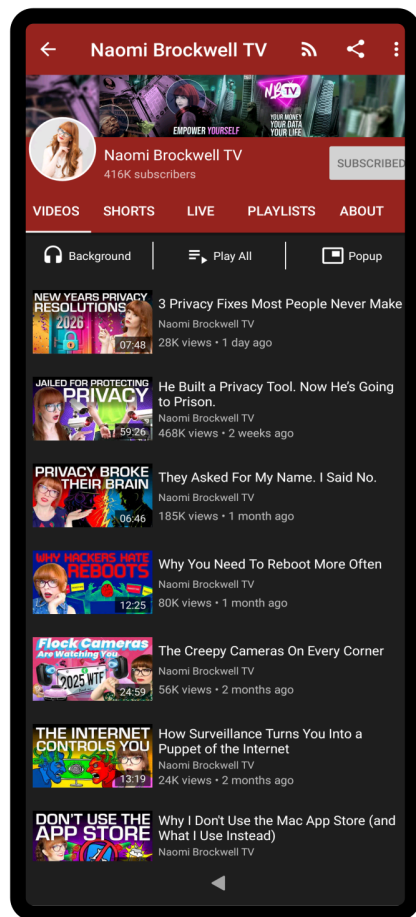


Plain Sailing?



✓ PERFORMANT

✓ SAILFISH OS NATIVE






Benefits

1. Shared functionality
2. No compromise on look-and-feel
3. Good performance

Drawbacks

1. Clear functional separation
2. GraalVM is aarch64 and x86 only
3. Extractor needed some small patches

SHARING! 
 LOOK & FEEL:
 NO COMPROMISES
 PERFORMANT


SEPARATION 
 TIP aarch64/x86
 JAVA CHANGES 



NewPipe e.V.

1. Promotes libre and accessible software for **digital media**
2. Handles bureaucracy, hiring and **donations**

You can participate too!

<https://newpipe-ev.de/join>



Links

Further info is on the talk page:



