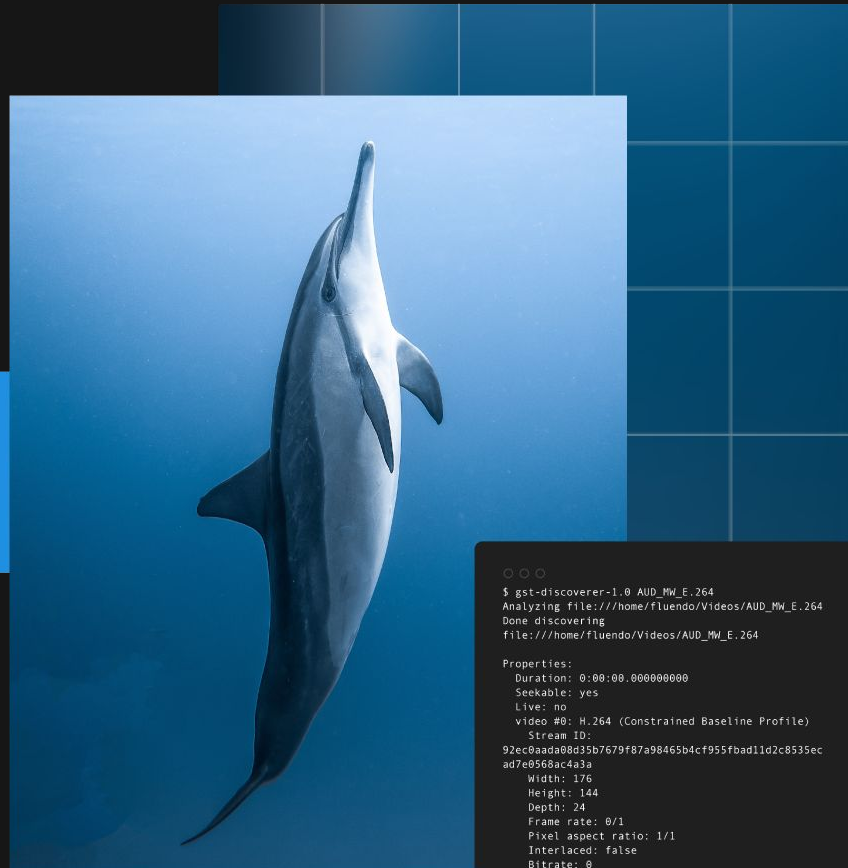


Last year's updates in Fluster

Montréal October 2024

Ruben González



```
○ ○ ○
$ gst-discoverer-1.0 AUD_MW_E.264
Analyzing file:///home/fluendo/Videos/AUD_MW_E.264
Done discovering
file:///home/fluendo/Videos/AUD_MW_E.264

Properties:
  Duration: 0:00:00.000000000
  Seekable: yes
  Live: no
  Video #0: H.264 (Constrained Baseline Profile)
  Stream ID:
92ec0aada08d35b7679f87a98465b4cf955fbad11d2c8535ec
ad7e8568ac4a3a
  Width: 176
  Height: 144
  Depth: 24
  Frame rate: 0/1
  Pixel aspect ratio: 1/1
  Interlaced: false
  Bitrate: 0
  Max bitrate: 0
```

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About Fluster

DONE during this year

Future

Appreciation

| About Fluster

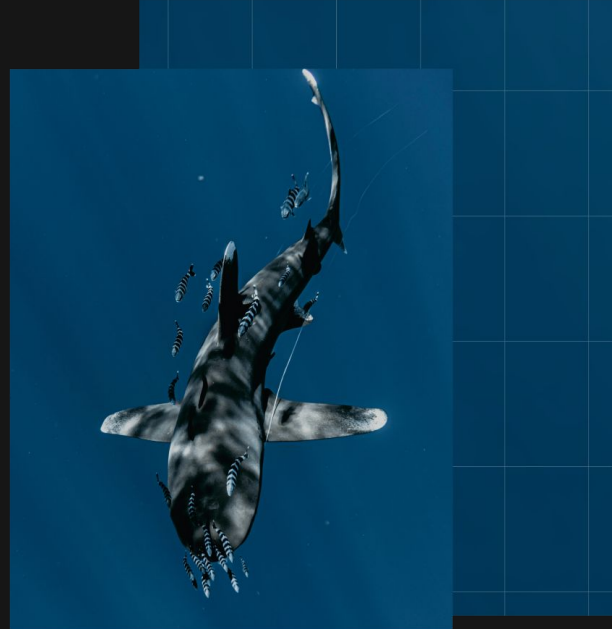
Fluster is a testing framework written in Python for decoder conformance
<https://github.com/fluendo/fluster>

In depth presentation done last year in A Coruña:


<https://indico.freedesktop.org/event/5/contributions/246/>

DONE during this year

Test Suites | Decoders | Features



New Decoders

- **FFmpeg-AV1-CUDA**: FFmpeg AV1 CUDA decoder
- **FFmpeg-AV1-VDPAU**: FFmpeg AV1 VDPAU decoder
- **FFmpeg-H.264-CUDA**: FFmpeg H.264 CUDA decoder
- **FFmpeg-H.265-CUDA**: FFmpeg H.265 CUDA decoder
- **FFmpeg-H.265-v4l2m2m**: FFmpeg H.265 v4l2m2m decoder
- **FFmpeg-VP8-CUDA**: FFmpeg VP8 CUDA decoder
- **FFmpeg-VP9-CUDA**: FFmpeg VP9 CUDA decoder
- **FFmpeg-VP9-VDPAU**: FFmpeg VP9 VDPAU decoder
- **GStreamer-AV1-dav1d-Gst1.0**: GStreamer AV1 dav1d decoder for GStreamer 1.0 
- **GStreamer-H.264-Vulkan-Gst1.0**: GStreamer H.264 Vulkan decoder for GStreamer 1.0
- **GStreamer-H.265-Vulkan-Gst1.0**: GStreamer H.265 Vulkan decoder for GStreamer 1.0
- **GStreamer-H.266-VVdeC-Gst1.0**: GStreamer H.266 VVdeC decoder for GStreamer 1.0 
- **ccdec-AV1**: AV1 cros-codecs decoder

Also Fluendo decoders for LC-EVC and VVC.
(FFmpeg V4L2 Request API decoders in draft)
(Bye bye GStreamer 0.10)

NEW

New Test Suites

- **JCT-VC-3D-HEVC:** JCT-VC HEVC 3D Extension (27)
- **JCT-VC-SHVC:** JCT-VC HEVC Scalable High Efficiency Video Coding Extension (69)
- **JVT-Professional_profiles_V1:** JVT professional profiles version 1 for H.264 (38)
- **JVT-SVC_V1:** JVT SVC version 1 for H.264 (185)

(AV1 ARGON VECTORS in draft)

CI

- DONE:
 - **GStreamer:** V4L2 stateless decoders:
 - https://gitlab.freedesktop.org/gstreamer/gstreamer/-/merge_requests/5434
- WIP:
 - **GStreamer:** SW decoders
https://gitlab.freedesktop.org/gstreamer/gstreamer/-/merge_requests/5415
 - **Mesa:**
 - https://gitlab.freedesktop.org/mesa/mesa/-/merge_requests/26113

Packages

- **PIP:**

```
pip install git+https://github.com/fluendo/fluster.git
```

- **Debian/Ubuntu:**

```
apt install fluster
```

<https://packages.ubuntu.com/mantic/fluster> <https://packages.debian.org/bookworm/fluster>

- **Arch:**

```
yay -S fluster
```

<https://aur.archlinux.org/packages/fluster>

| Other Features

- External test suites

```
fluster --test-suites-dir /opt/custom_tsd_1:/opt/custom_tsd_2 run ...
```

- Performance improvement (ffmpeg: Use md5 muxer)
- `parsebin` and `typefindfunctions` for any codec
- Better fluster CI
- Bugfixing

Future

Roadmap



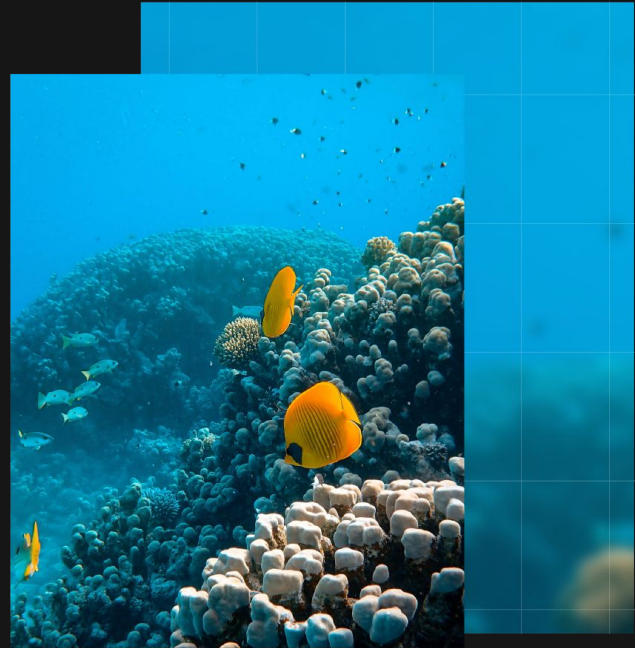
NEW

| Future

- External decoders
- More GStreamer CI
- Test for parsers
- WebCodecs
-

Appreciation

Thank you



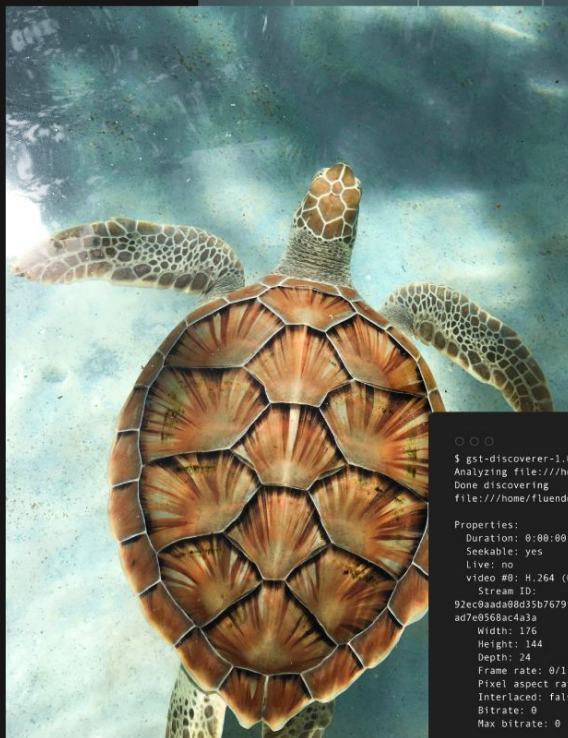
Appreciation

- Alexander Stein
- Benjamin Gaignard
- Carlos Bentzen
- Carlos Falgueras García
- Daniel Almeida
- David Rosca
- Detlev Casanova
- Jonas Karlman
- Maciej Sabiniok
- Michalis Dimopoulos
- Nicolas Dufresne
- Rubén Sanchez
- Stéphane Cerveau
- Víctor Manuel Jáquez Leal



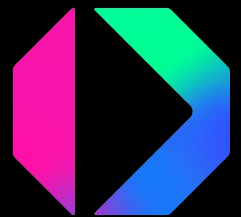
Stop taking risks.
Start finding **solutions.**

Thank you!



```
$ gst-discoverer-1.0 AUD_MM_E.264
Analyzing file:///home/fluendo/Videos/AUD_MM_E.264
Done discovering
file:///home/fluendo/Videos/AUD_MM_E.264

Properties:
Duration: 0:00:00.000000000
Seekable: yes
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video #0: H.264 (Constrained Baseline Profile)
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fluendo