Landell - live streaming for the masses

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Landell

Landell: Software to capture, record and stream audio and video in a simple way.

Why develop Landell?

- FISL - Free software event that holds over 7000 people every year.
- TV SL was using gst-launch command lines to stream the event, after having tried other softwares.
- They started developing a software in java as a test.

Landell

- GStreamer

- GTK+

- Python

- Ogg Theora + Vorbis

What does it do?

- V4L2, firewire DV, ximage, alsa, pulse, etc;
- Text overlay;
- Metadata;
- Previews and thumbnails;
- Picture-in-picture;
- Icecast and file outputs;
- Watermark;
- Filters and videobalance;
- Switch between sources;
- Multiple outputs with multiple encodings.

Filters and videobalance

- Filters are changed while playing.

- There was a negotiation problem when changing to a filter that has a different colorspace.

- Workaround is to remove and re-add colorspaces when removing the effects.

Multiple outputs

- Each registered encoder has video (resolution, framerate) and encoding configuration (quality, bitrate).

- For each output, you choose which encoder to use.

- Common case is to record in high quality and stream with lower configurations.

- Each output can be stopped independently.

Watermark and cairoimageoverlay

- Restrictions in using existent elements: changing file while playing, resizing.

- An element to do all of it is simpler: just get image from file and paint it using cairo.

- Great flexibility: able to resize, change file and position without stopping.

- Landell uses cairoimageoverlay, but is looking forward to svgoverlay.

Switching between sources

- At first, Input-selector didn't work with ximagesrc, because ximagesrc was using GST_FORMAT_BYTES.

- Landell just calls *set_format(gst.FORMAT_TIME)*.

- It worked well until we had to switch to a filesrc and implement picture-in-picture.

- Now Videomixer is used as the "input-selector".

What's next?

- Distribution between servers.

- Help GStreamer to help us.

- Make Landell more smart (detect supported resolution, choose configurations automatically...).

- Making it more reliable (not waiting for network).

- New features (Vignette, UI, etc).

Questions?

http://landell.holoscopio.com
http://git.holoscopio.com/git/sltv.git

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