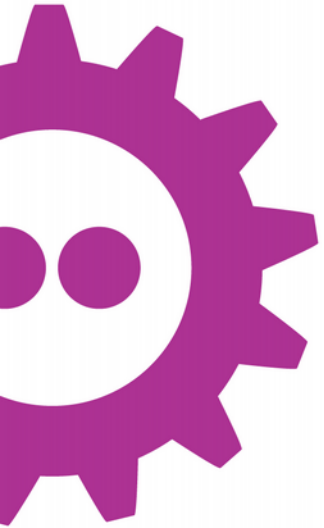




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Update on GStreamer for Embedded Devices



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03/02/2018

FOSDEM¹⁸

What did I do?

- GStreamer at Collabora since 2007
- Started with VVoIP: Telepathy & Farstream
- Helps our customers use GStreamer
 - Many embedded projects



What kind of embedded devices use GStreamer?



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Smart TVs & Set Top Boxes





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In-Flight entertainment

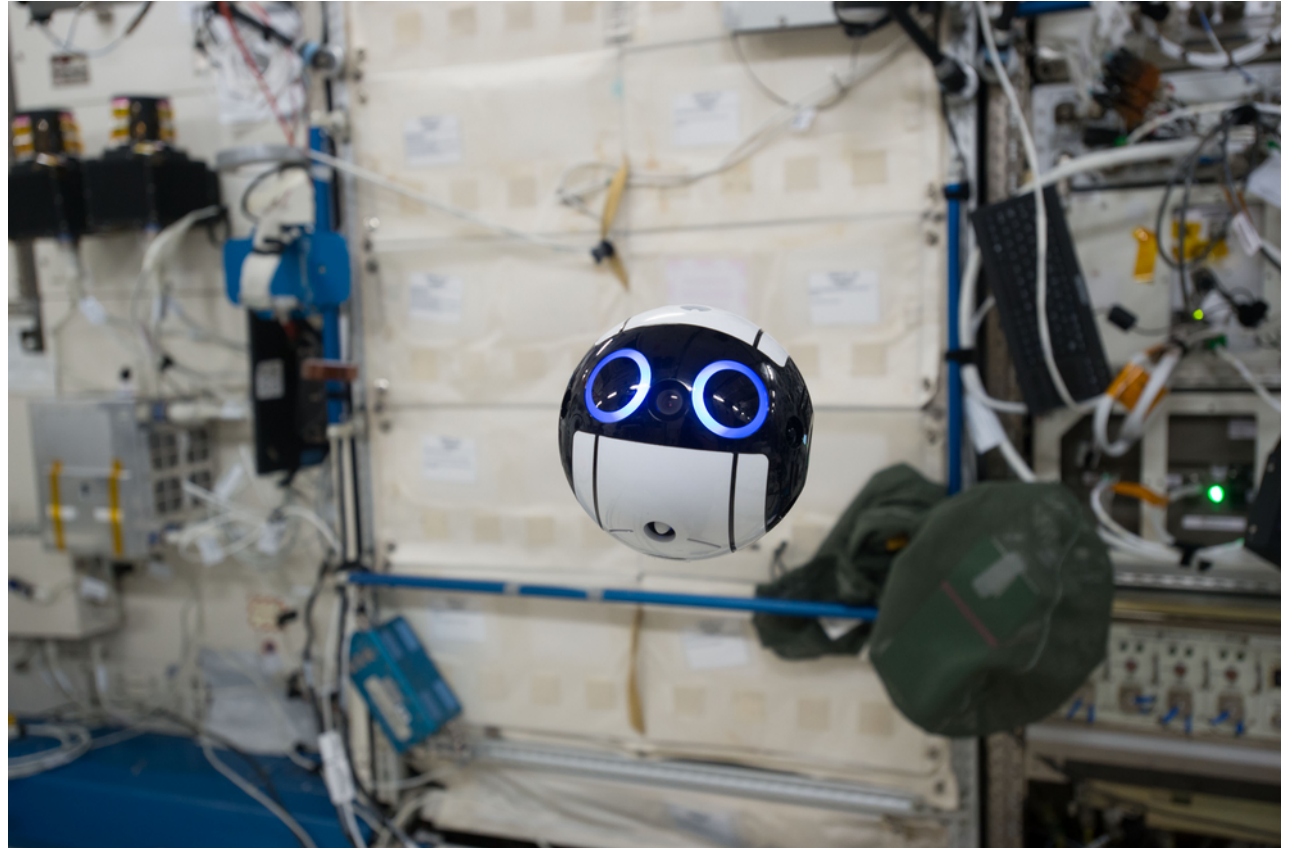




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Space Station





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The features



Improved DMAbuf support

- Better Zero-Copy support between subsystems
- “tee” now operates in zero-copy whenever possible

Video4Linux

- Not only Webcams
 - Also hardware codecs
- Video encoders
- Stable Element Names (v4l2h264dec, v4l2vp9enc, etc)
- Defaults to DMABuf Export
- Changing decoder resolutions at runtime
 - DASH / HLS



KMS Display output improvements (kmssink)

- Proposes DMAbuf pool
- Add Video-Overlay
- More
 - Formats
 - Devices
- Less
 - Bugs!



GStreamer OpenMAX IL integration

- Support for the Xilinx Zynq Ultrascale+ SoC + FPGA
- Tizonia
 - Some features from abandoned OpenMAX IL 1.2 draft
- Added more standard properties to the encoder
- OpenMAX is dead
 - Only for legacy (and Android)

OpenGL on Embedded

- Vivante EGL FB window system
 - Better performance with the i.MX6 Vivante proprietary drivers
- Moved into base and frozen API
- Added Mesa DMABuf Export Support



IPC Pipeline

- Allows splitting pipeline sinks into separate processes
- Master / Slave model
- Useful for terrible embedded APIs that only work with high privileges (root)



Little things

- RTP H.264/H.265 depayloader can copy directly into device memory
- rtspsrc uses the regular debug system!



Near future

- DRM modifiers
- GStreamer CI on embedded systems
- V4L2 stateless codecs?



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Any questions?

At Collabora, we're hiring!
<http://col.la/careers>

