Ten Years of Qstuff*

Is it good enough already?

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Ten Years of Qstuff* (1)

Good Software Takes Ten Years. Get Used To it.

— Joel Spolsky, 2001
http://www.joelonsoftware.com
writing good applications is hard.

writing good graphical applications is harder.

writing good graphical audio applications is harder still.

writing good graphical audio & MIDI applications is an exercise in masochism.

– Paul Davis, 2003

“Some Things You May Not Have Thought About When Writing an Audio Application”

LADC2003@ZKM-Karlsruhe
2003-2004 The Dawn of Qstuff*

- **QjackCtl**
  - qjackctl.sourceforge.net
  - jackaudio.org

- **Qsynth**
  - qsynth.sourceforge.net
  - fluidsynth.org

- **Qsampler**
  - qsampler.sourceforge.net
  - linuxsampler.org
2005-2007 Enter Qtractor

Officially presented to the masses on LAC2007@TU-Berlin

*Techno-boy bedroom studio*, anyone?
(still after a decade? :-))

Notable milestones:

2008  DSSI, native VST, Tempo-map
2009  LV2
2011  TYOQA
2008-2011 Sideworks

- **QXGEdit**
  qxgedit.sourceforge.net

- **QmidiCtl**
  qmidictl.sourceforge.net

- **QmidiNet**
  qmidinet.sourceforge.net
2012-2015 Proto-toys

a.k.a. The Vee-Ones

- **synthv1**
  synthv1.sourceforge.net

- **samplv1**
  samplv1.sourceforge.net

- **drumkv1**
  drumkv1.sourceforge.net
Who is behind Qstuff* ?

Hobby work of one lone-wolf developer
me, rncbc a.k.a. Rui Nuno Capela

a gift economy player ;-)
But why?

Just for fun
The motive . . .
  Long time enthusiasm on electronic music
The skill . . .
  A half-life on programming (20y+)
The moment . . .
  An extraordinary alignment event occurred in the whole Universe . . .

So, that was it! (and still is ;-)
Back to Qtractor...

qtractor.sourceforge.net

Beta already!

Fully functional (no not-implemented-yets)

What You See Is What Is Working

Still W.I.P. … just not that hard anymore ;)

Open for Business (no money involved)

users, developers, players, nurturers . . .
**Featuritis (1)**

Multi-track audio and MIDI sequencing and recording.

Developed on pure Qt4 C++ application framework (Qt5 ready!).

Uses JACK for audio and ALSA sequencer for MIDI, as multimedia infrastructures.

Traditional multi-track tape recorder control paradigm.
Featuritis (2)

Audio file formats support: OGG (libvorbis), MP3 (libmad, playback only), WAV, FLAC, AIFF and many, many more (libsndfile).

Standard MIDI files support (format 0 and 1).

Non-destructive, non-linear editing.

Unlimited number of tracks per session/project.

Unlimited number of overlapping clips per track.
Featuritis (3)

XML encoded session / project description files (SDI).

Point-and-click, multi-select, drag-and-drop interaction (drag, move, drop, cut, copy, paste, paste-repeat, delete, split, merge).

Unlimited undo / redo.

Built-in mixer and monitor controls.

Built-in connection patch-bay control and persistence (a-la QjackCtl ;)).
Featuritis (4)

LADSPA, DSSI, native VST and LV2 plug-ins support.

Unlimited number of plug-ins per track or bus.

Plug-in presets, programs and chunk / configurations support.

Unlimited audio effect send / return inserts per track or bus.

Loop-recording / takes.
Featuritis (5)

Audio / MIDI clip fade-in/out (linear, quadratic, cubic).

Audio / MIDI clip gain / volume, normalize, export.

Audio / MIDI track and plugin parameter automation (dynamic curves, sample&hold, linear and spline modes).

Audio clip time-stretching (WSOLA-like, librubberband).

Audio clip pitch-shifting (librubberband).
Featuritis (6)

Audio clip seamless sample-rate conversion (libsamplerate).

Audio / MIDI track export (mix-down, merge).

Audio / MIDI metronome bar / beat clicks.

Unlimited tempo / time-signature map.

Unlimited location / bar markers.
Featuritis (7)

MIDI clip editor (matrix / piano roll).

MIDI instrument definitions (a-la Cakewalk\textsuperscript{tm} (*.ins)), SoundFont (*.sf2) and MIDI Names XML (*.midnam) files also supported.

MIDI controller mapping / learn / assignment (mixer and plug-in parameters).

MIDI system exclusive (SysEx) setups.
Featuritis (8)

JACK transport sync master / slave.
JACK session support.
NSM (Non Session Management) support.
MMC control surface enabled.
MIDI Song Position cueing support.
Configurable keyboard shortcuts.
Screenshot!
Evil Flow Diagram (1)

Input Bus \(\rightarrow\) monitor \(\rightarrow\) Track \(\rightarrow\) Monitor \(\rightarrow\) Output Bus

- \(R\) = Record
- \(M\) = Mute
- \(S\) = Solo

\(=\) Volume / Pan

Plug-ins

...
Evil Flow Diagram (2)
Evil Flow Diagram (3)
Send / Return Inserts
Aux-Send Inserts

Aux Send

SendGain

Track / Bus 1

Output Bus 2
What's still missing?

Not in any particular order:

- MIDI Time Code / SMPTE
- Auto-cross fading
- JACK-MIDI
- OSC Interface
- Integrated scripting (angelscript ?)

Your suggestion(s) here!
Shortcomings...

In some particular order:

- Connecting audio outputs to own inputs.
- No automation for buses.
- No freeze of MIDI / Instrument tracks.
- No post-fader plug-in inserts.
- No MIDI track aux-sends.
- No MIDI controller shortcuts, but MMC, SPP for transport.

Your complaint(s) here!
**Q & A**

**Ten Years of Qstuff***

*Is it good enough already?*

All of Qstuff* are free / open-source software; you can redistribute it and / or modify it under the terms of the GNU General Public License version 2 or later.

It is being possible through the knowledgeable, direct and / or indirect collaborative efforts of the Linux Audio Developers and Users communities.

Thank you all.