Rewriting the timeline
In this presentation, I will give some details on what lead us to rewrite large parts of Kdenlive’s code this year, the current status and planned features.
Kdenlive’s KDE3 version released
2008

KDE4 port
New contributors and features:
- audio and video scopes
- stopmotion
First presence of Kdenlive in Randa meeting, moving code to the KDE servers
2012

First refactoring attempt and fundraising
Growing a lot, gaining many users, gets hard to follow
Back to Randa meeting, further thoughts about a refactoring, starting KF5 port
Joining KDE Applications, first version to run on KF5, UI review and start of Kdenlive’s cafés
Coding sprint in Lausanne, introducing PPAs, Windows port, strengthening our community
Refactoring and Qml port of timeline
In all those years, code was added without a lot of attention for architecture and it became impossible to add advanced features without breaking everything.

Several discussions and ideas were proposed during the last years, but it’s only in 2017 that we really started to change the core timeline architecture.
Proposals elaborated during a Randa meeting
The problem: bad design, no separation between UI and functions
Simplified view of what we did, using a model/view approach
Mixed application, using QWidgets and Qml. Qml parts are highlighted in red.
With Qml, editing a few lines changes the layout without having to recompile
Demo of the new timeline in action
Cool but can we use it before 2020?

A nightly build AppImage CI should be ready by September, official release planned in December.
What's next?

What changes for the user in the next months
Stability is what users want. The changes allowed us to add testing to the code.
Features we will work on:

Advanced editing
Advanced trimming options, like lift, insert, overwrite
Advanced editing

Will make you work faster
Transitions workflow

Simplified transitions workflow
Overlapping clips will automatically make a transition of the overlap length
Effects workflow: instead of having to parse a long list of effect to adjust a clip.
We will have a built in dialog for every clip that directly allows to adjust most common options.
Sequence nesting will allow you to compact a sequence of clips.
In one item that you can move, add effects. And you keep the option to edit the original sequence.
Community is a core part of Kdenlive
We have monthly IRC cafés announced on our website
Kdenlive is made by people: coders, professional video editors
Akademy 2017 - Kdenlive

Timeline preview rendering is an outstanding feature of Kdenlive. It officially debuted in version 16.08. Preview rendering allows you to render parts of your complete timeline in the background, so you can smoothly play it back. This is especially useful when you work with complex track compositions or use effects that are computationally intensive. Instead of stuttering playback, you now get smooth playback. This way, you can check that your timing of keyframes and effects is working out nicely. And you don't need to leave Kdenlive, as you would need when rendering your timeline to an traditional video file.

Full-FPS Preview of Effect-Heavy Timeline Stuff

Raw source footage: a good example for Kdenlive's new timeline preview rendering is this: say, you have some FullHD source footage. Raw, your system easily plays this clip back at its original frame rate of 25fps. This isn't even a job for proxy clips on a decent system.

But you may have already suspected: this raw footage is in dire need of some serious processing before it can be shown to any audience...

Now let's get effects-heavy. For production, we need to da-fish this footage (action cam, you know). After defishing, we need some sharpening. And then, we also have to de-compress the tonal curve (ProTune, you know). Wait, there's more: saturation needs to be corrected too (again, ProTune).

With these innocent four effects applied, look at the playback rate: it's shown in the bottom right corner of the monitor: standard six frames per second it crawls.

Unfortunately, proxy clips don't help in this situation: proxy clips are low res and low quality variants of the source clips, we have any effects applied. So our effects will slow down also proxy clips considerably.

You need timeline preview rendering.
Kdenlive is a community and you can be part of it. Don't hesitate to join us in a café to make a first contact.

Thanks!