LibreOffice & GNOME

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Collabora Productivity

“Stand at the crossroads and look; ask for the ancient paths, ask where the good way is, and walk in it, and you will find rest for your souls...” - Jeremiah 6:16
Overview

GNOME integration
- GTK3 / Wayland
- Gstreamer / Threading
- Flatpack

LibreOffice goodness
- Status update
- New things in LibreOffice 5.4
- LibreOffice Online
GNOME integration

Today I’m mostly a fraud:

Credits: Caolan McNamara
GTK3 / Wayland / Gstreamer etc.

Credits: Stephan Bergmann
Flatpack
LibreOffice – gtk3 usage

Dynamically becomes a gtk+ app under GNOME

- Top-level windows: GtkWindow
  - GtkGrid child → GtkEventbox → custom ‘contents’: GtkFixed
- May also have a GtkMenuBar
  - Gtk3 menubar and menus are native, also context menus.
- “Contents” widget:
  - Rendered using Cairo in-memory-surface
  - Built on existing ‘headless’ backend (cf. Online)
  - Maintains a back-buffer for immediate rendering
  - “draw” - blits from the back-buffer to destination surface.
  - HiDPI: gtk_widget_set_scale_factor / cairo_surface_set_device_scale
LibreOffice – OpenGL

GtkGLArea

- Manipulate into our GtkFixed when needed
  - gtk_gl_area_make_current / queue_render etc.
- GdkGLContext hidden behind our abstraction when needed
  - Re-worked code to use GL 3.2 core profile.
- Switched to using epoxy cross-platform from GLEW
  - Nicer implementation anyway.
  - GLEW: run-time dynamism, but still have to link to libGL [!]
  - Epoxy: drops that linkage ...
LibreOffice – GStreamer & Threading

GStreamer: GtkSink – the answer.

- Hides all of the awfulness wrt. X11 / Wayland
- Whack it into the GtkFixed – and we’re good.

Threading

- LibreOffice exposes scripting APIs used by multiple languages:
  - Python, Java, StarBasic (etc.) which expose threading ...
- LibreOffice exports toolkit / widget API left & right.
- Thank you for:
  - gdk_threads_enter/ leave maintenance !
- But what was this:
  - Date: Mon Oct 24 10:26:03 2016 +0200
  - gdk: Remove deprecated gdk_threads_set_lock_functions
FlatPak
LibreOffice.flatpak

https://www.libreoffice.org/download/flatpak/

- based on the GNOME 3.24 runtime
- contains all localizations available for LibreOffice
- Beautiful, latest LibreOffice – easy to get & deploy.

Caveats:

- Clicking on hyper-links may not work [ or now it does ? ... ]
  - Corollary - “On-line help” in your language: not reachable
    - Bundling it is not feasible size-wise either.
- No JRE bundled either
  - Java applets don’t work.

The ISV problem:

- Already extensively solved by LibreOffice cf. AppImage horrors ... also support Snaps.
Documents ...
LibreOfficeKit → GNOME Documents ...

** GNOME Documents / Viewing **

- View all of your documents:
  - Visio,
  - Corel Wordperfect,
  - MS Publisher, Apple Keynote/Numbers
  - Freehand, PageMaker, Callisto,
  - StarOffice binary, GSoC: QuarkXPress...

- We even render DOC[X], XLS[X], PPT[X]

** Editing **

- Functionality there: just turn it on ? (LOKDocView)
- Needs: Spreadsheet Row / Column headers / Formula bar etc.
- Rather easy / low-hanging fruit here ... Eager to encourage new editor UIs ...
LibreOffice Status
How many commits from whom?

Code commits per month by affiliation

- Igalia
- Linagora
- Nou & Off
- SUSE
- Apache Volunteer
- Munich
- SIL
- Canonical
- TDF
- CIB
- Peralex
- Assigned
- Collabora
- RedHat

Collabora Productivity
Who are the individuals?

Code committers per month by affiliation

- Assigned
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- SUSE
- Nou & Off
- Linagora
- Igalia
- ITOMIG
- SYNERZIP
to 5.3 feature highlights:

- Change Tracking side-bar
- Slide properties & more side-bars
- HarfBuzz cross-platform text layout – OpenType everywhere + Graphite; lots of text layout issues fixed.
- Improved chart trend-line / regression
- TSCP – document classification ...
- Multiple function status bar
Prettier & better text ...

- Consistent shaping cross-platform:

**Midnight Special, The.** Lightweight, less-threatening counterpoint to *Don Kirshner’s Rock Concert*, aired after *Tonight Show* on Friday nights in the seventies. Though made by network concessions to schlock mores, such as grating injections from announcer Wolfman Jack and the occasional appearance of an atrocious Bubblegum act like Bo Donaldson and the Heywoods, *The Midnight Special* nevertheless included egghead interstitial cinematic references to *Cinecittà*, *8½*, *2001: A Space Odyssey*. The late-night mainstay offered American viewers a chance to see David Bowie and Mick Ronson a
5.4 feature highlights:

- Pivot Chart feature
- Custom Watermark dialog
- Expanded chart palettes
- AutoText import from dotx
- Much improved EMF rendering
- OpenPGP signing of ODF under Linux.
Inspired by gtk/broadway/flatpak

Design

- HTML/JS in the browser
- LibreOfficeKit – in pre-initialized containers on the server
- WOPI protocol: Auth + Storage:
  - NextCloud, ownCloud, pydio, seafile, etc.

WYSIWYG on the go ... improved:

- Responsive UI in 5.4, Reduced B/W use, reduced memory footprint, Native comment rendering, re-written & simplified threading & socket code, and much more ...
Want to hear more: LibOCon in Roma

ROME - IT - MMXVII
CONFERENCE

11th-13th October ...

- CfP still open: until mid August. #
  - Come tell us how you made GNOME Documents rock harder ...
- Registrations are going on
Summary

- LibreOffice & GNOME
  - An awesome match for the Free Software Desktop.
  - Low hanging fruit for basic editing in Documents

- LibreOffice 5.4
  - Continuing to deliver excellence ...
  - Coming to your Cloud soon ...

- Thank you for your support!

Oh, that my words were recorded, that they were written on a scroll, that they were inscribed with an iron tool on lead, or engraved in rock for ever! I know that my Redeemer lives, and that in the end he will stand upon the earth. And though this body has been destroyed yet in my flesh I will see God, I myself will see him, with my own eyes - I and not another. How my heart yearns within me. - Job 19: 23-27