



Collabora Productivity

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: GtkWidget
 - GtkWidget child → GtkWidget → custom ‘contents’: GtkWidget
- May also have a GtkWidget
 - GtkWidget 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/>

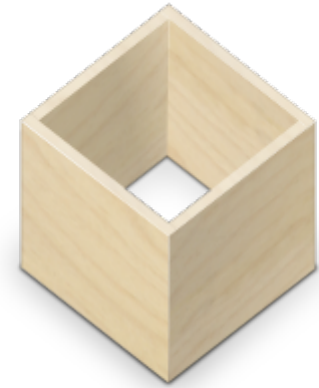
- based on the GNOME 3.24 runtime
- contains all localizations available for LibreOffice
- Beautiful, latest LibreOffice – easy to get & deploy.

Caveats:

- Clicking on hyper-links may not work [or now it does ? ...]
 - Corrollary - “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.



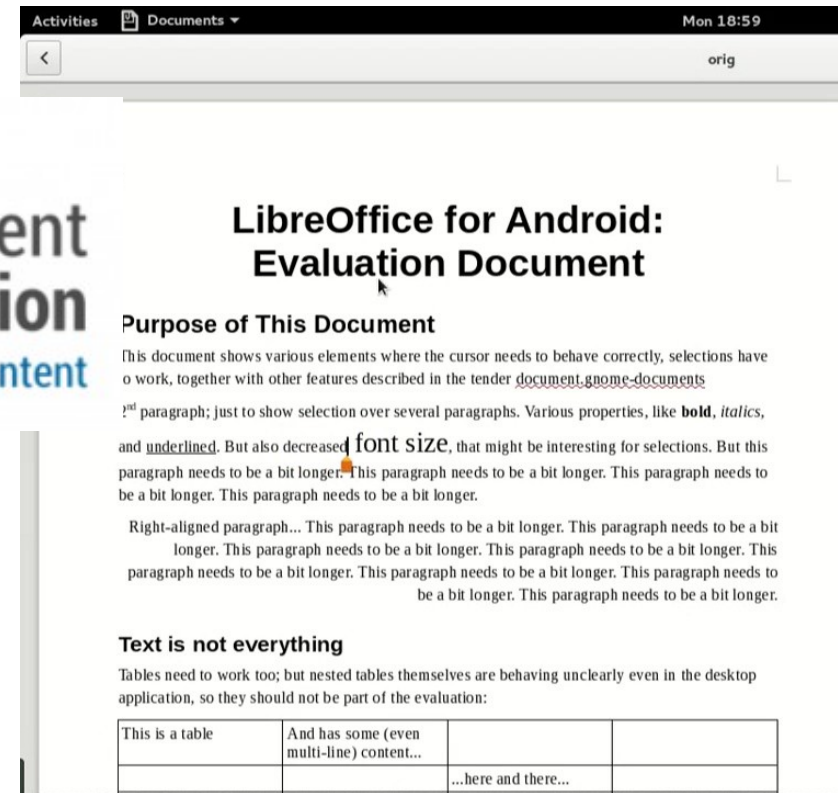
FLATPAK

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]



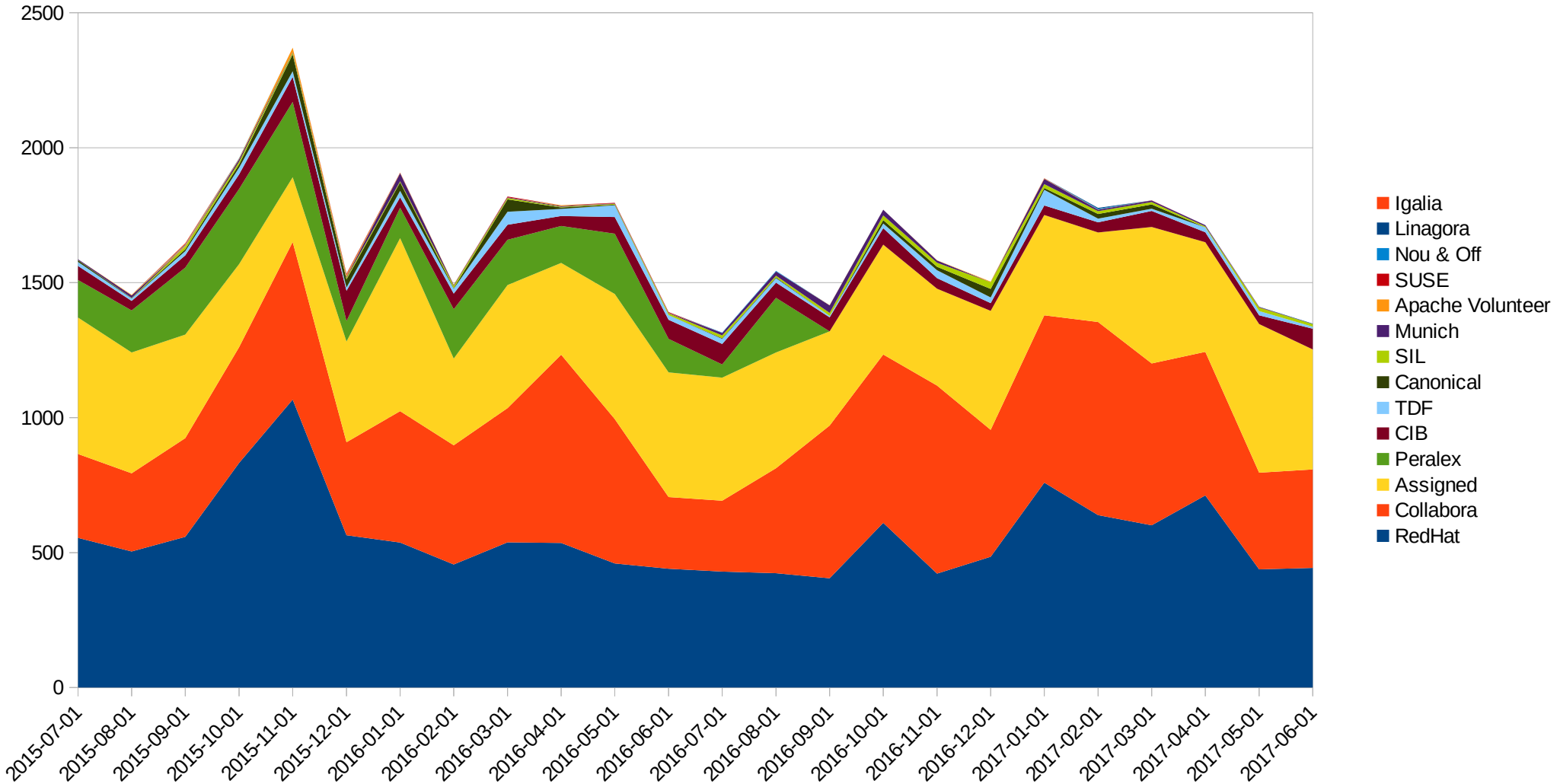
Editing

- 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

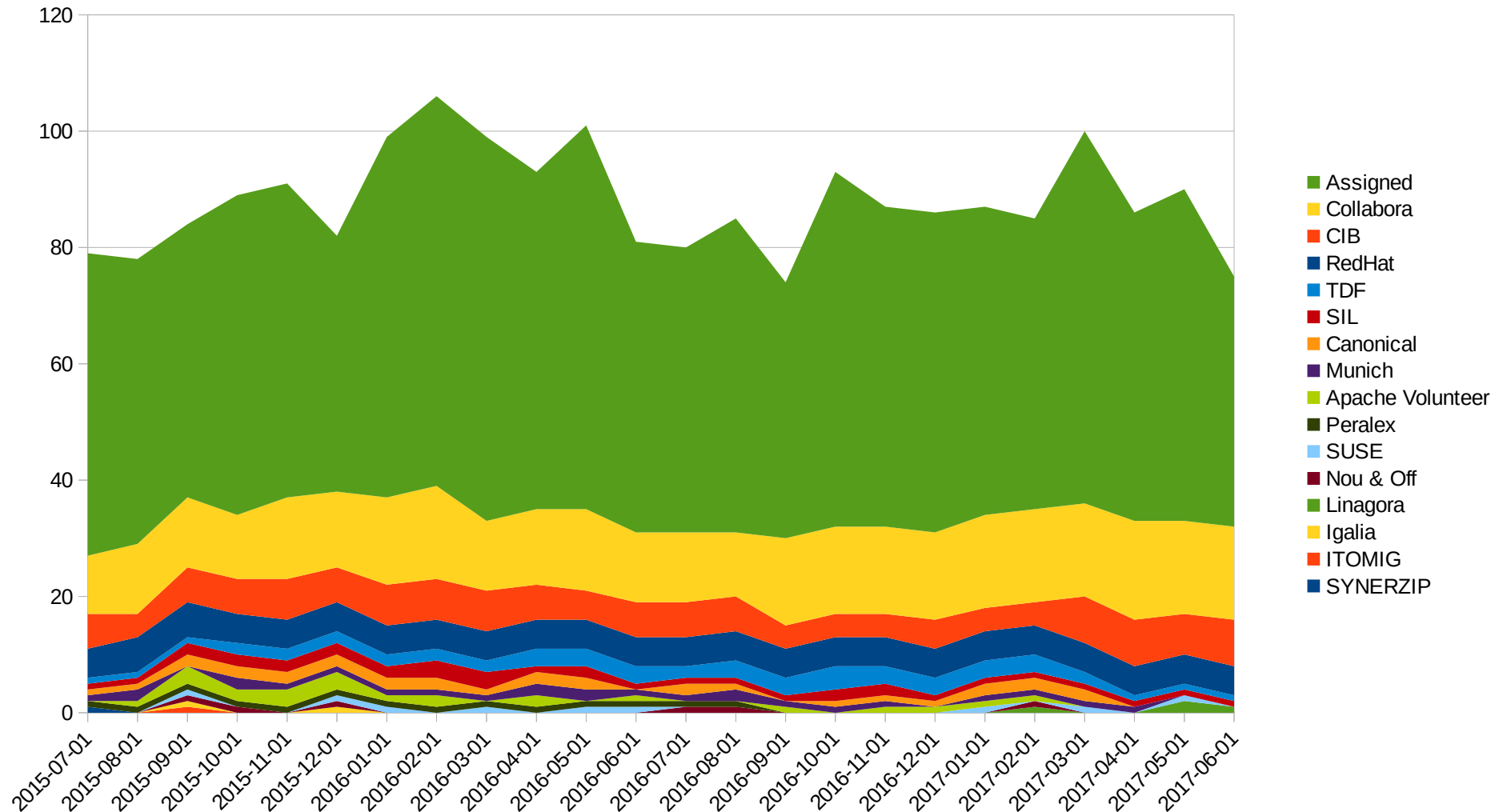
How many commits from whom ?

Code commits per month by affiliation

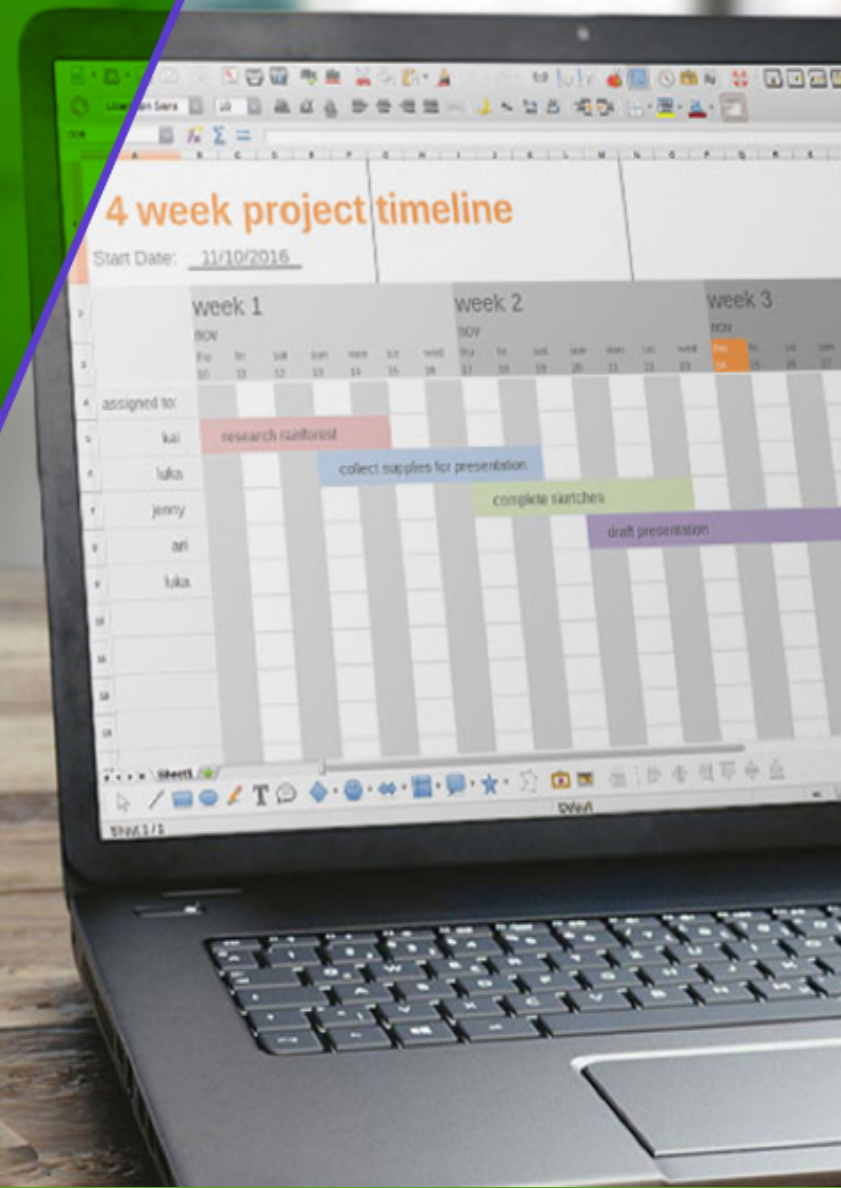


Who are the individuals ?

Code committers per month by affiliation

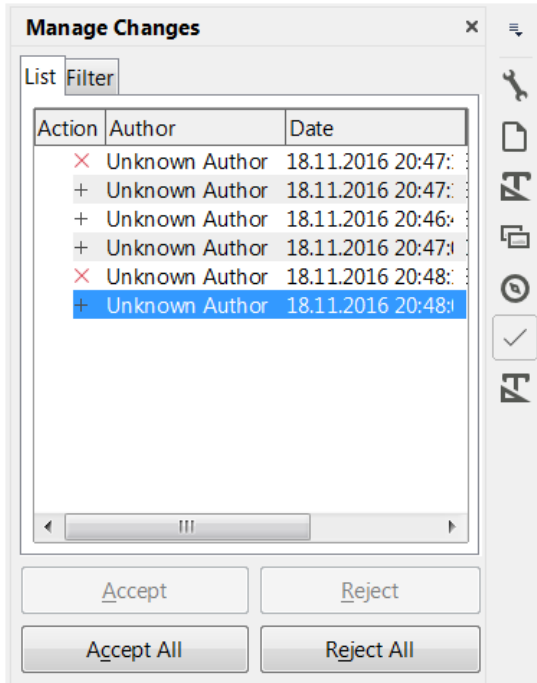


LibreOffice 5.4

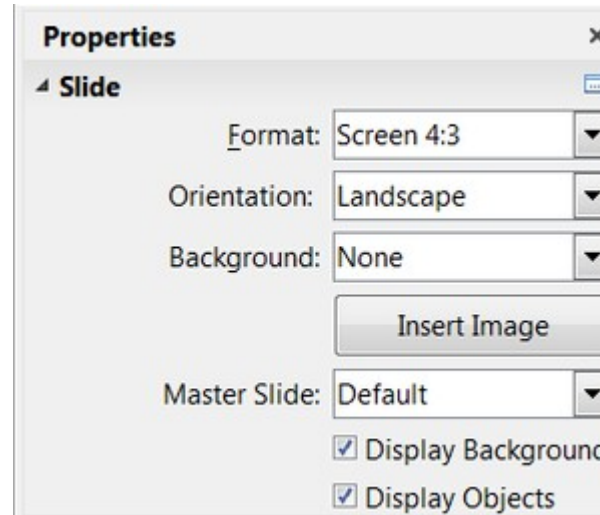


to 5.3 feature highlights:

Change Tracking side-bar

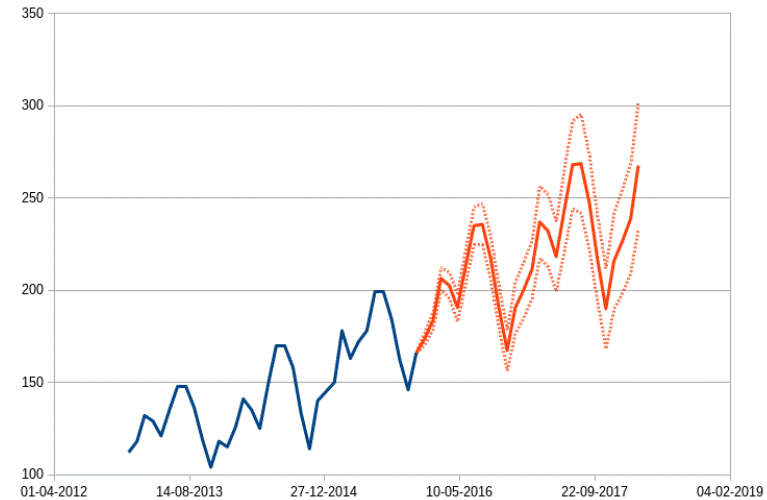


Slide properties & more side-bars

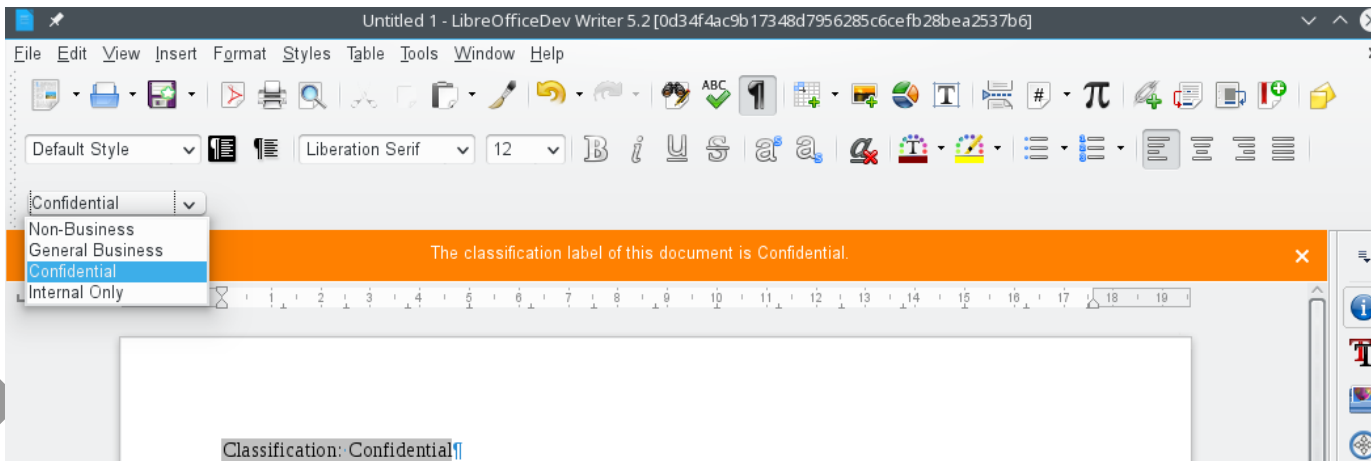


HarfBuzz cross-platform text layout – OpenType everywhere + Graphite; lots of text layout issues fixed.

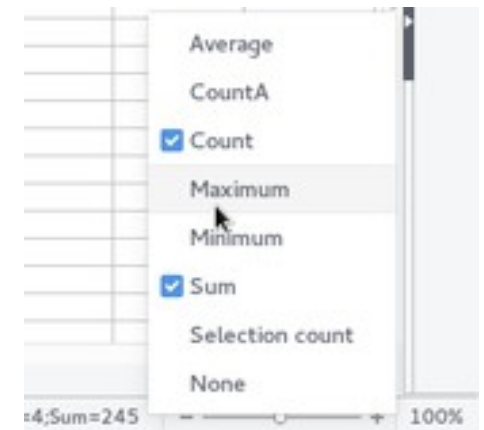
Improved chart trend-line / regression



TSCP – document classification ...

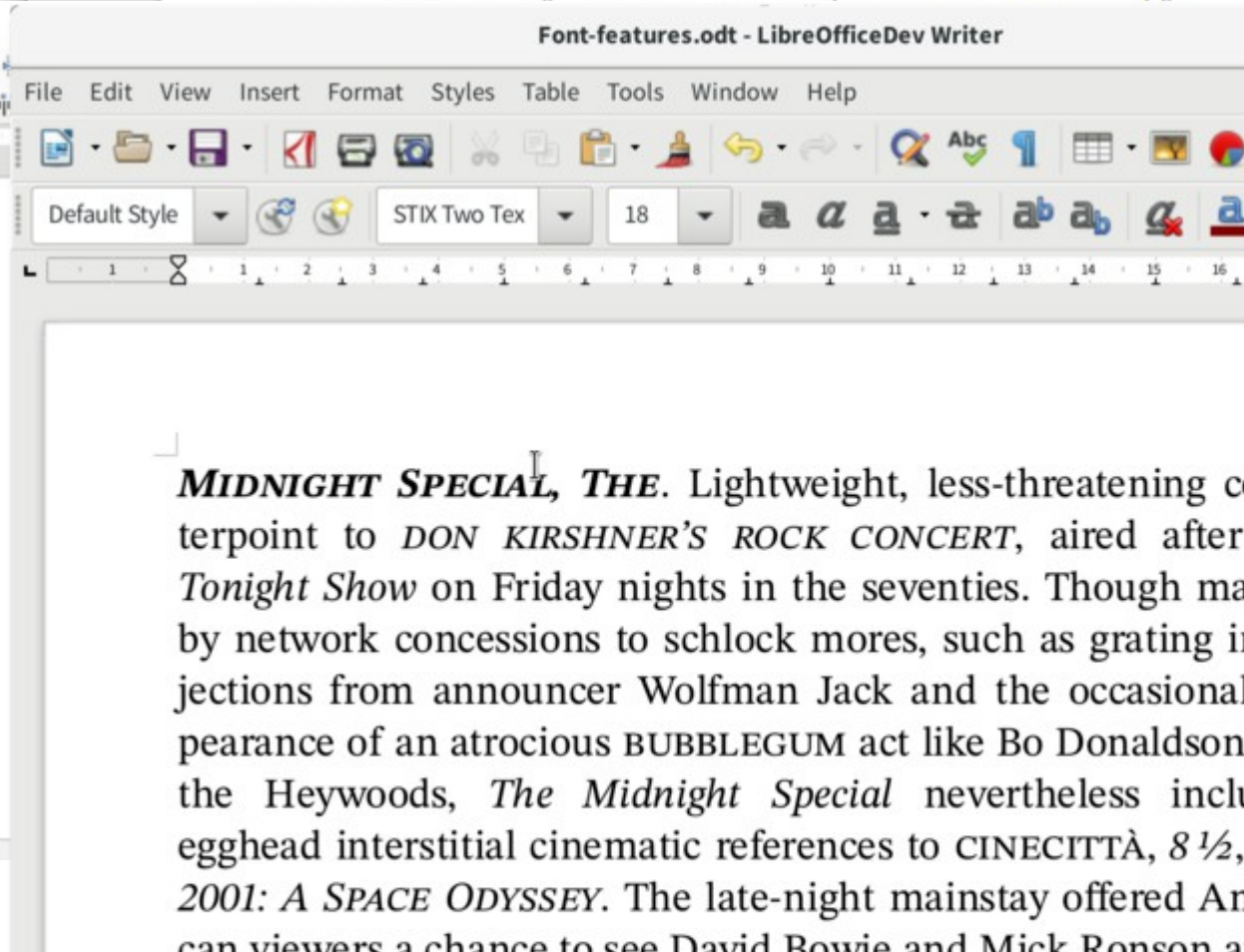
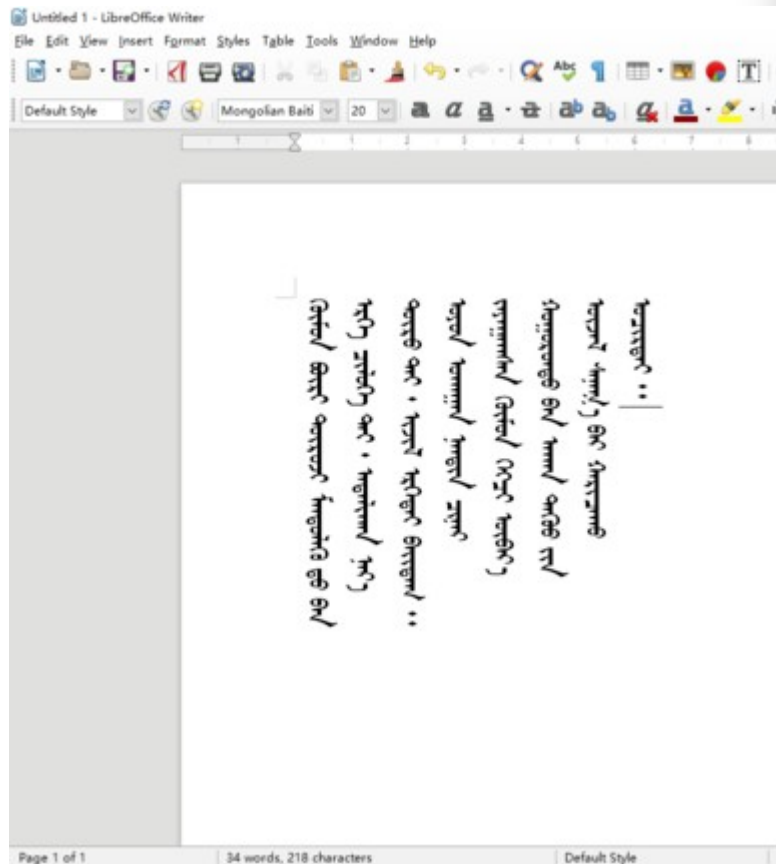
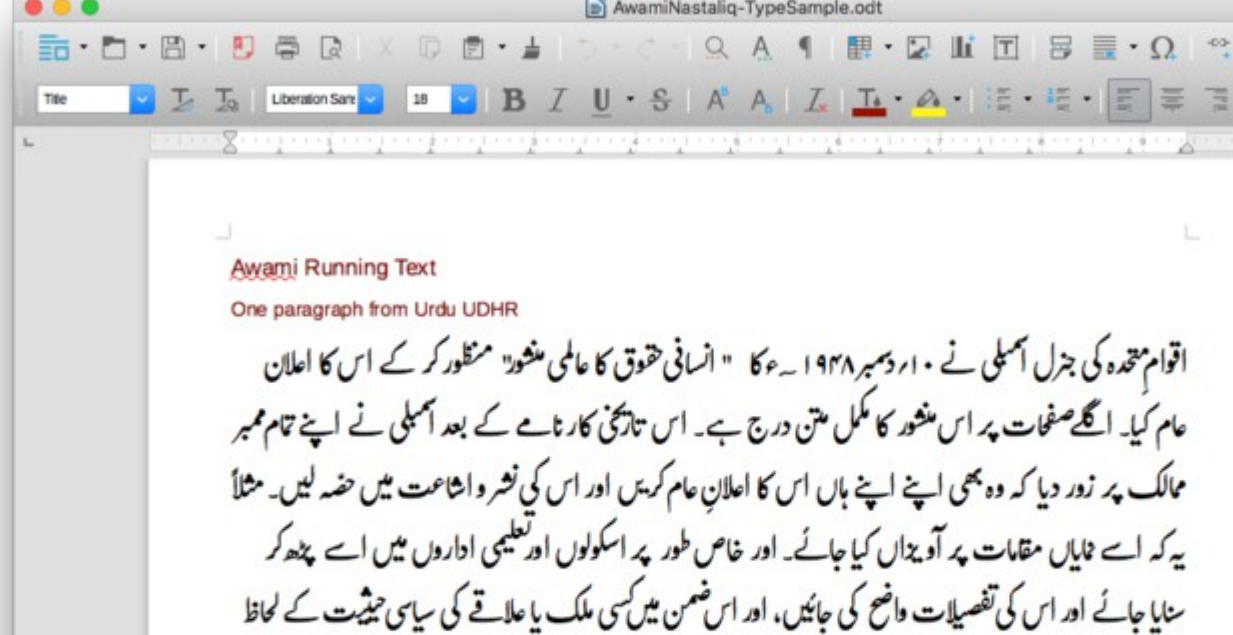


Multiple function status bar



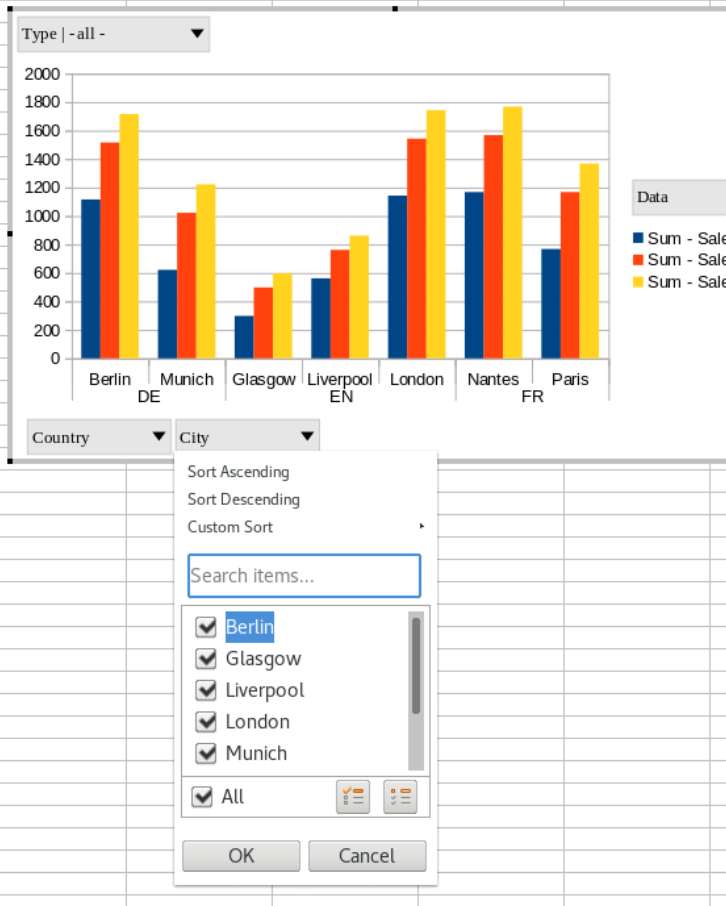
Prettier & better text ...

- Consistent shaping cross-platform:

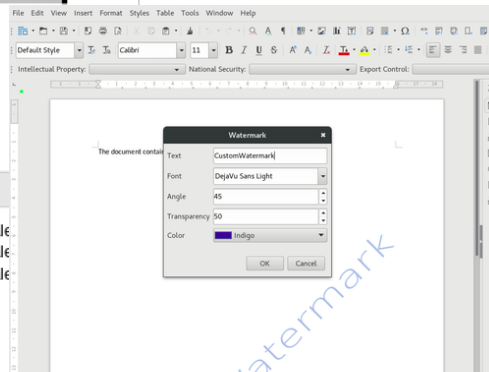


5.4 feature highlights:

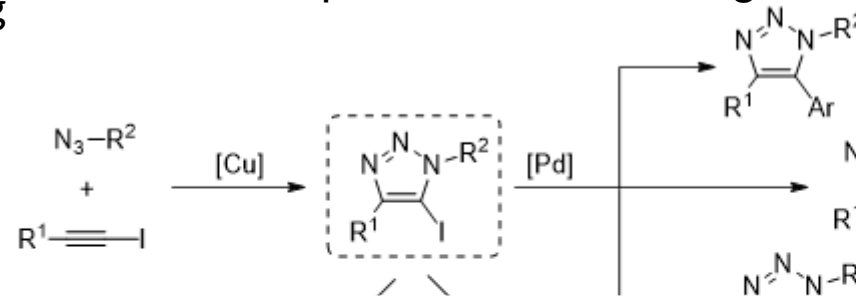
Pivot Chart feature



Custom Watermark dialog



AutoText import from dotx
Much improved EMF rendering

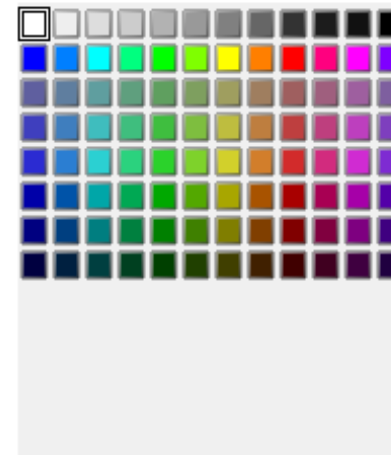


Expanded chart palettes

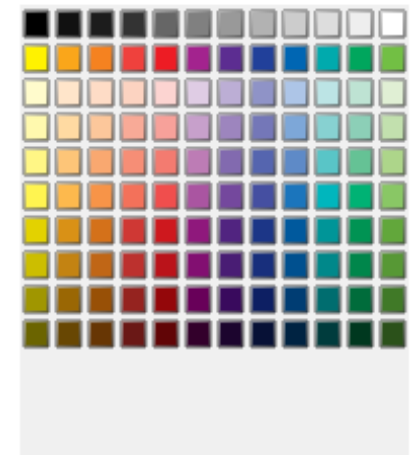
LibreOffice 4.3



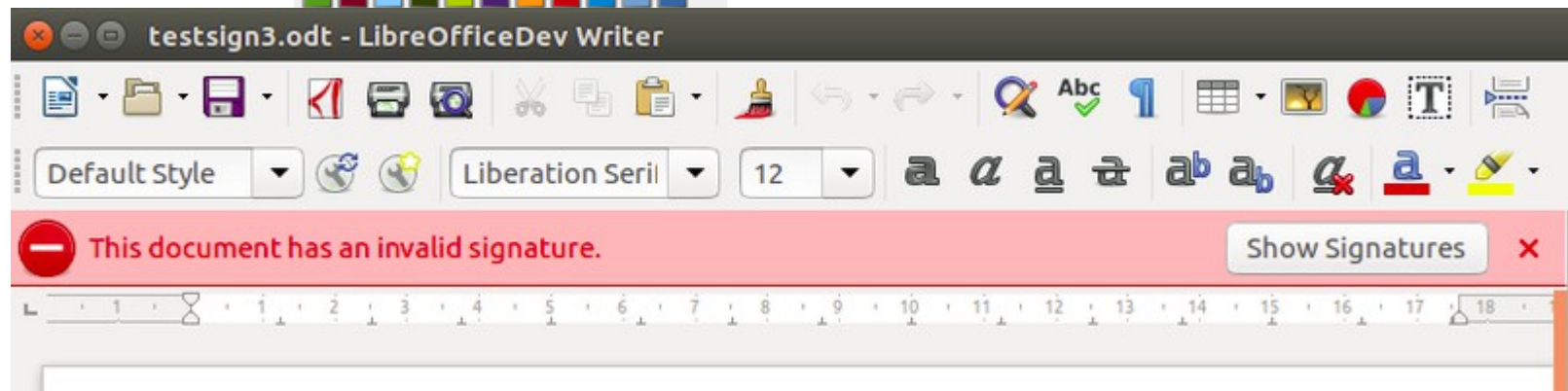
LibreOffice 5.3



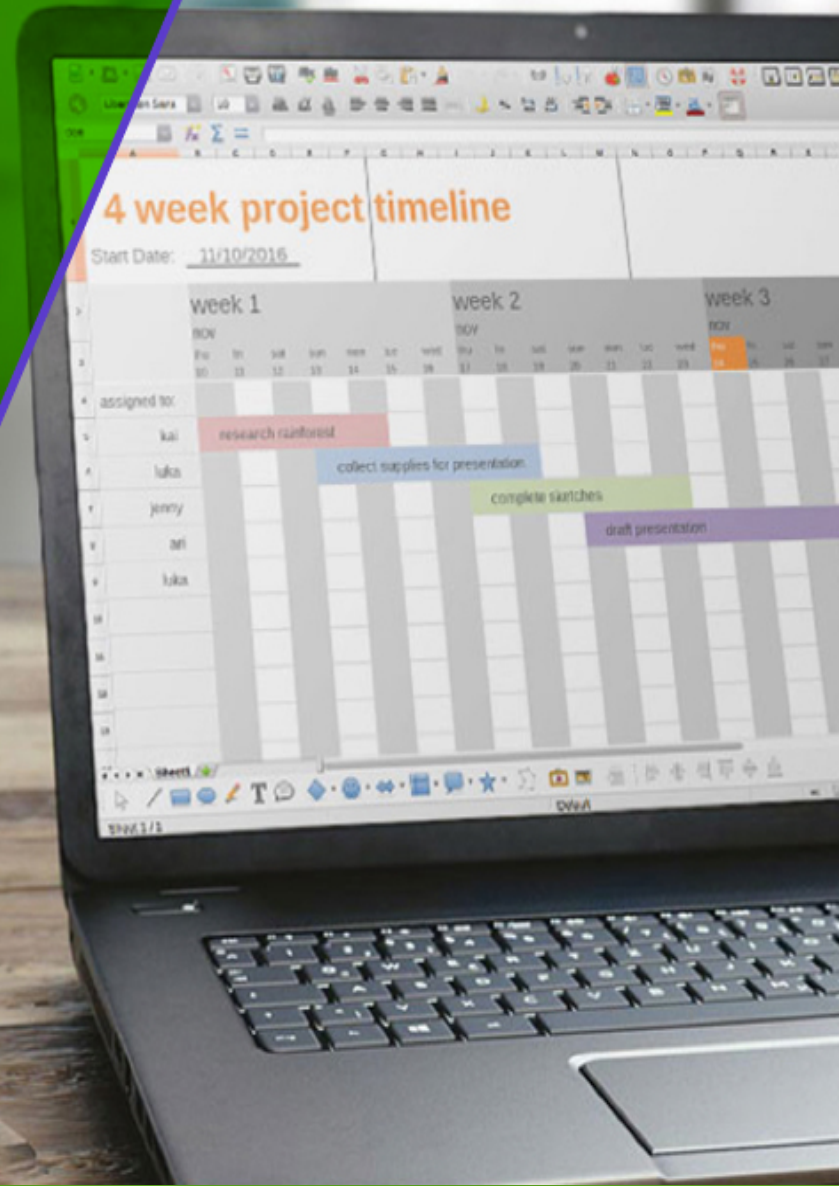
LibreOffice 5.4



OpenPGP signing of ODF under Linux.



LibreOffice Online



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