LibreOffice:
What's New ?

Michael Meeks <michael.meeks@collabora.com>
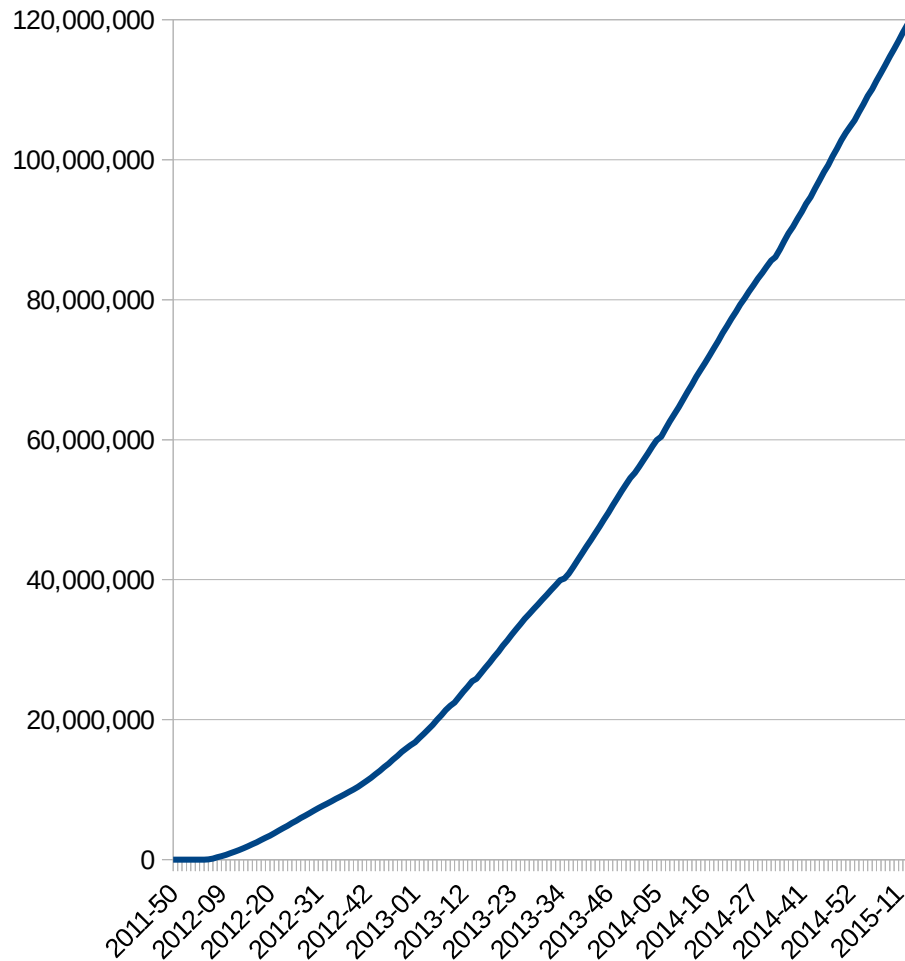
mmeeks, #libreoffice-dev, irc.freenode.net

*"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

Talk Overview

- New Statistics

- New things in 4.4 (shipping now)

  - Features

  - Quality

  - User Experience

- What's next: LibreOffice 5.0

  - Features, UX bits

- Android / Editing

- LibreOffice Online

- Conclusions / Questions.

Recent Developments
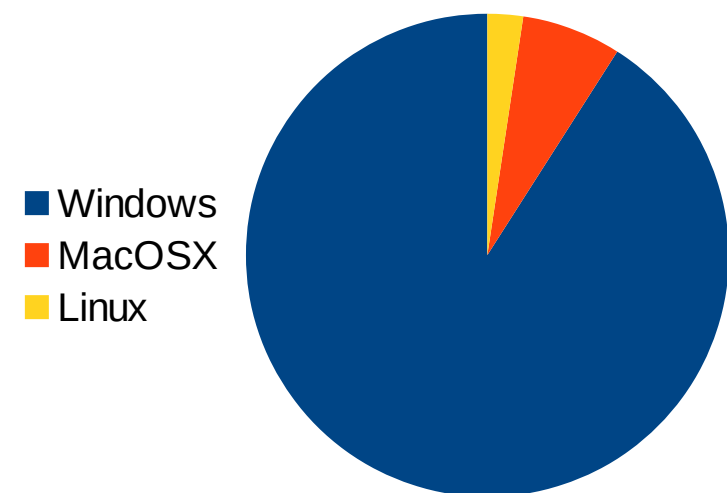
Total Unique IP Addresses Seen
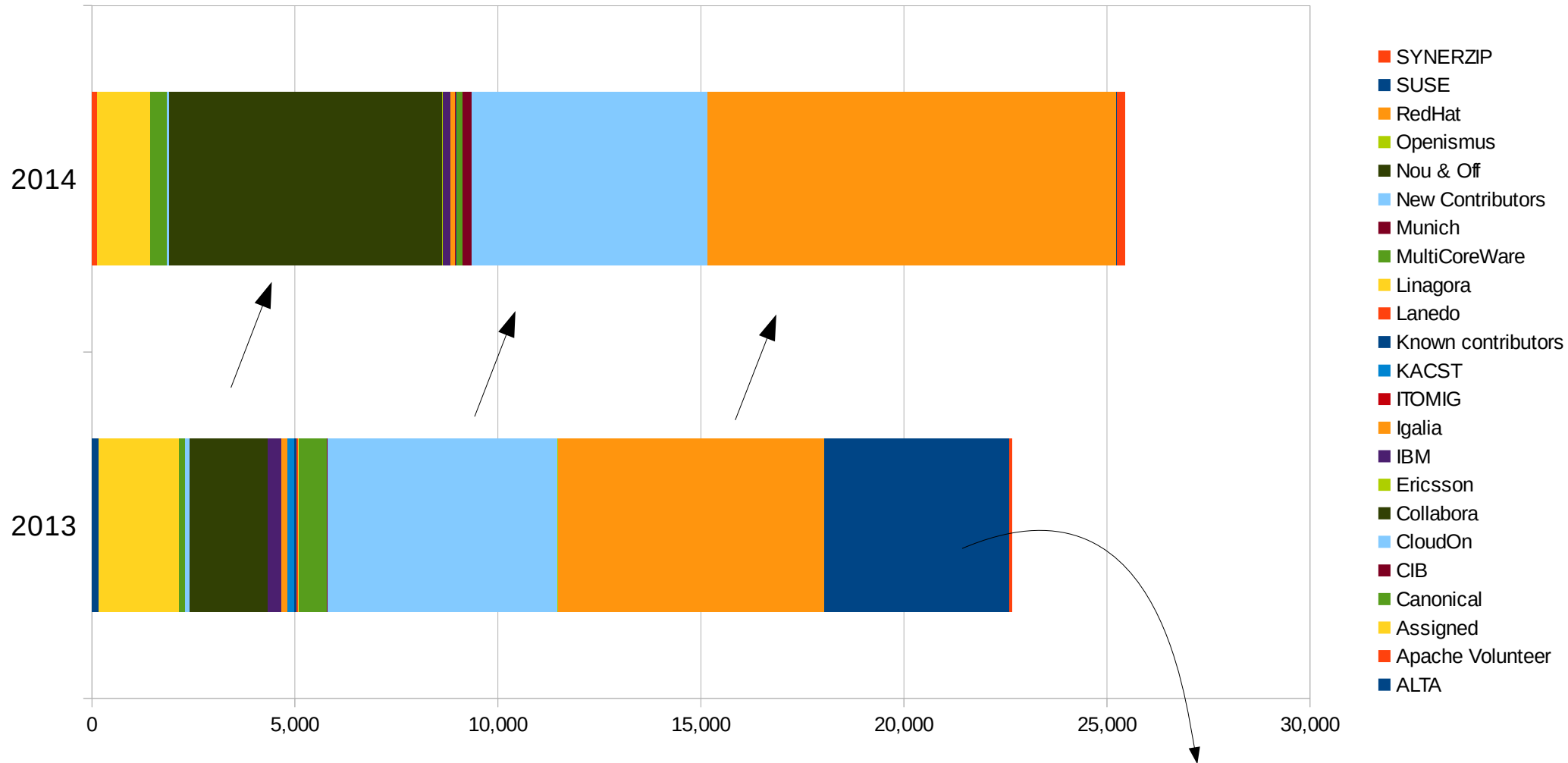
Tracking direct download Update Ping origins.

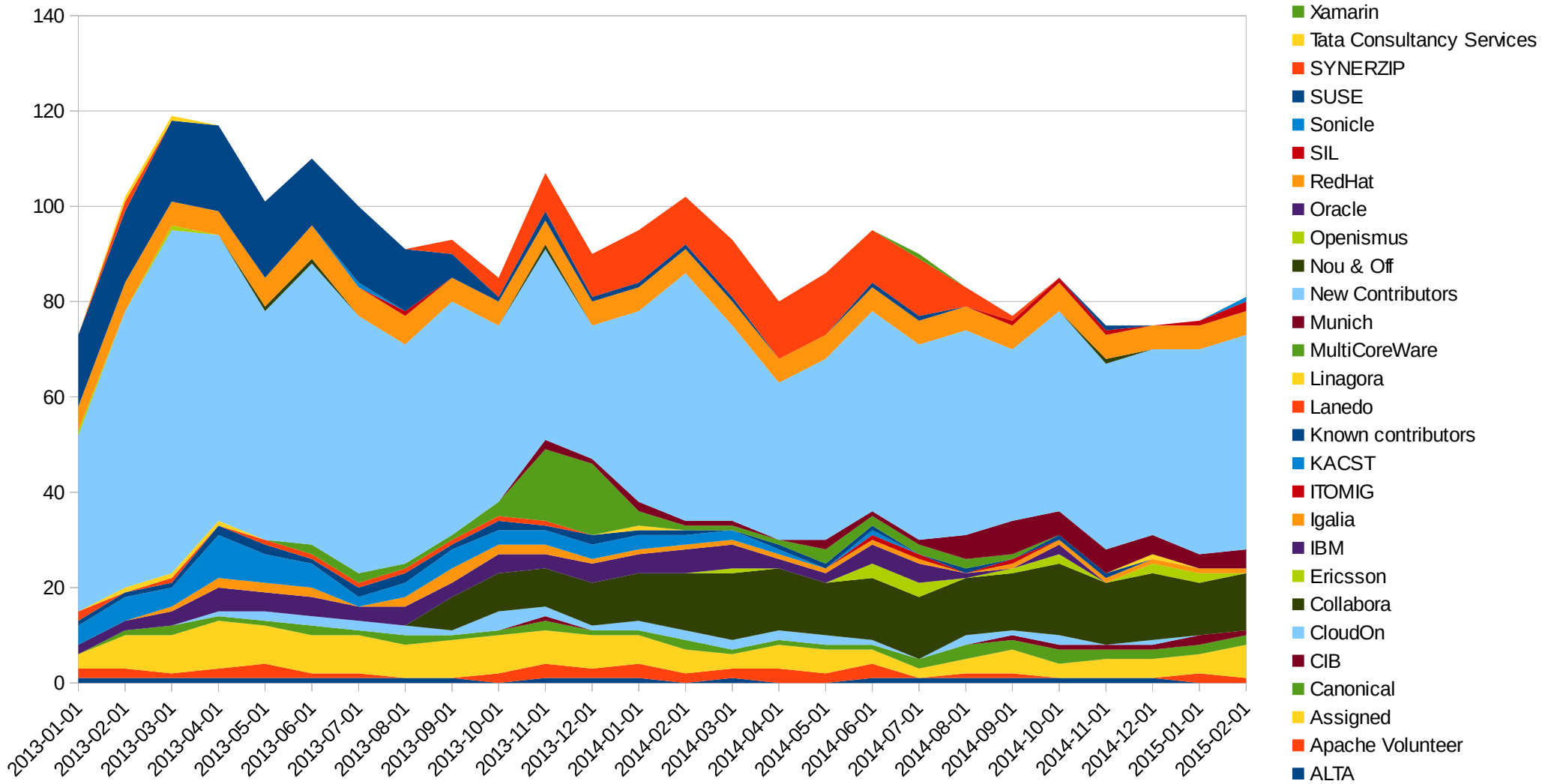Excludes all Linux Distributions downloads

~120m so far (+ Linux)

This time last year @ openSUSE con. was ~65m

■ Windows
■ MacOSX
■ Linux

2013 vs. 2014 commits by affiliation

Legend:
- SYNERZIP
- SUSE
- RedHat
- Openismus
- Nou & Off
- New Contributors
- Munich
- MultiCoreWare
- Linagora
- Lanedo
- Known contributors
- KACST
- ITOMIG
- Igalia
- IBM
- Ericsson
- Collabora
- CloudOn
- CIB
- Canonical
- Assigned
- Apache Volunteer
- ALTA

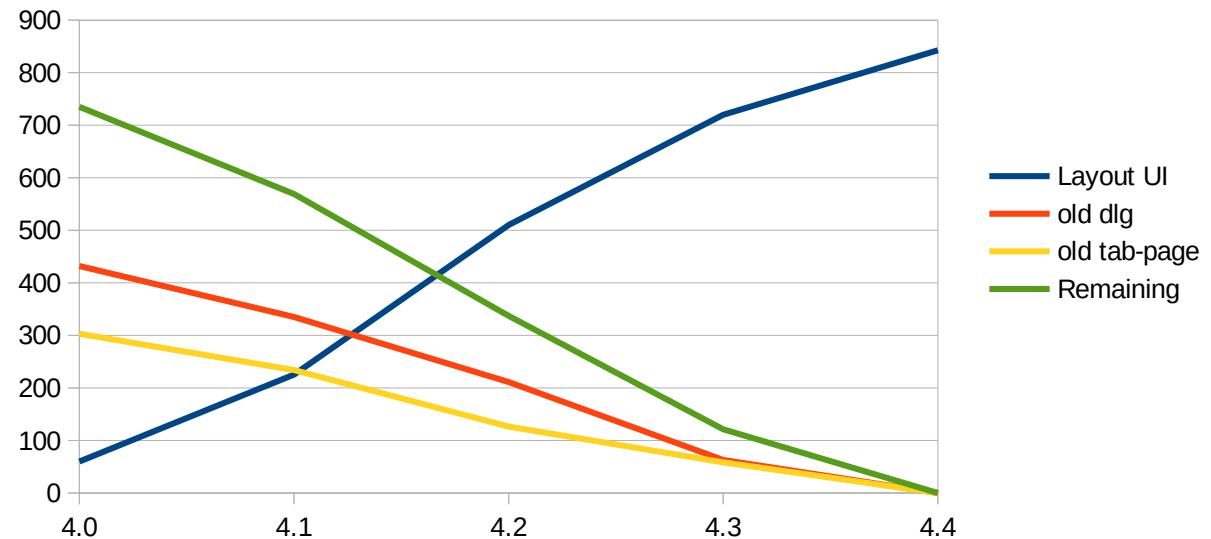X-axis: 0, 5,000, 10,000, 15,000, 20,000, 25,000, 30,000

Committers per month

A few 4.4 developments …

UI re-work: complete in 4.4

- A huge extremely mechanical task:

Progress on UI / dialog layout

- Layout UI
- old dlg
- old tab-page
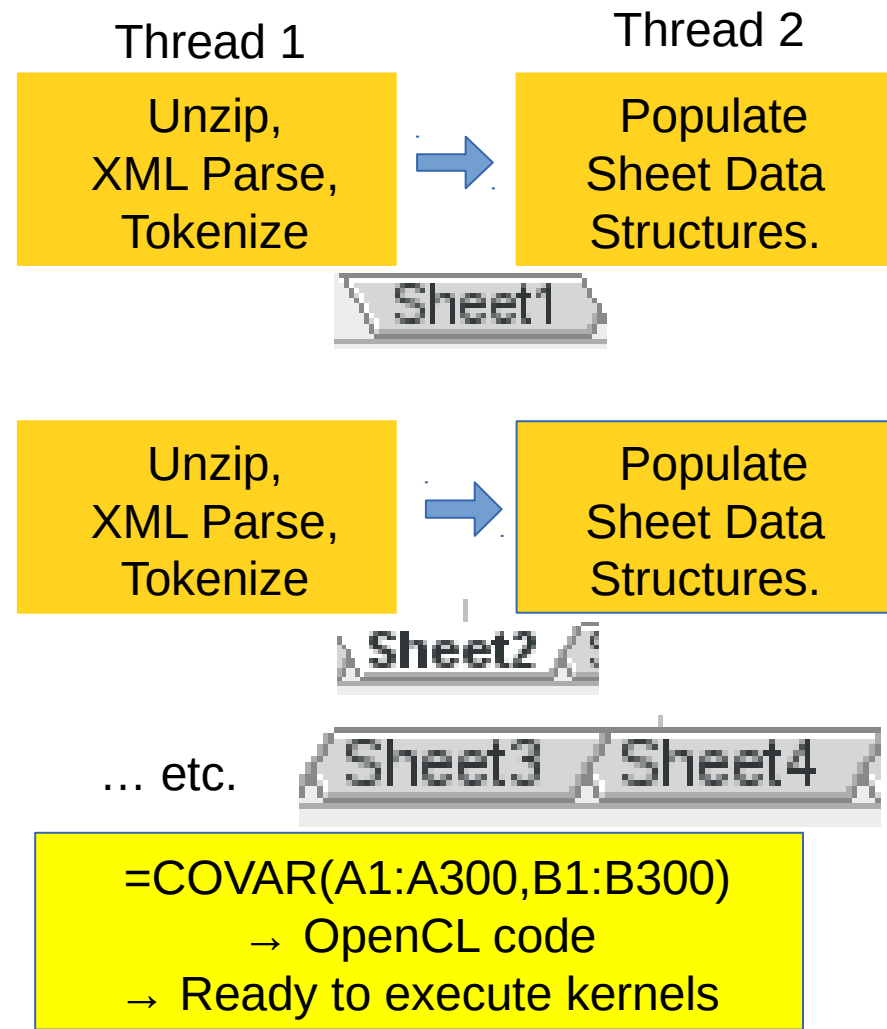- Remaining

- Clean UI

- Many thanks to:

*Caolán McNamara (Red Hat) - for his incredible work here, and also Szymon Kłos, Michal Siedlaczek, **Olivier Hallot (EDX)**, Andras Timar (Collabora), Jan Holesovsky (Collabora), Katarina Behrens, Thomas Arnhold, Maxim Monastirsky, Manal Alhassoun, Palenik Mihály, and many others ...*
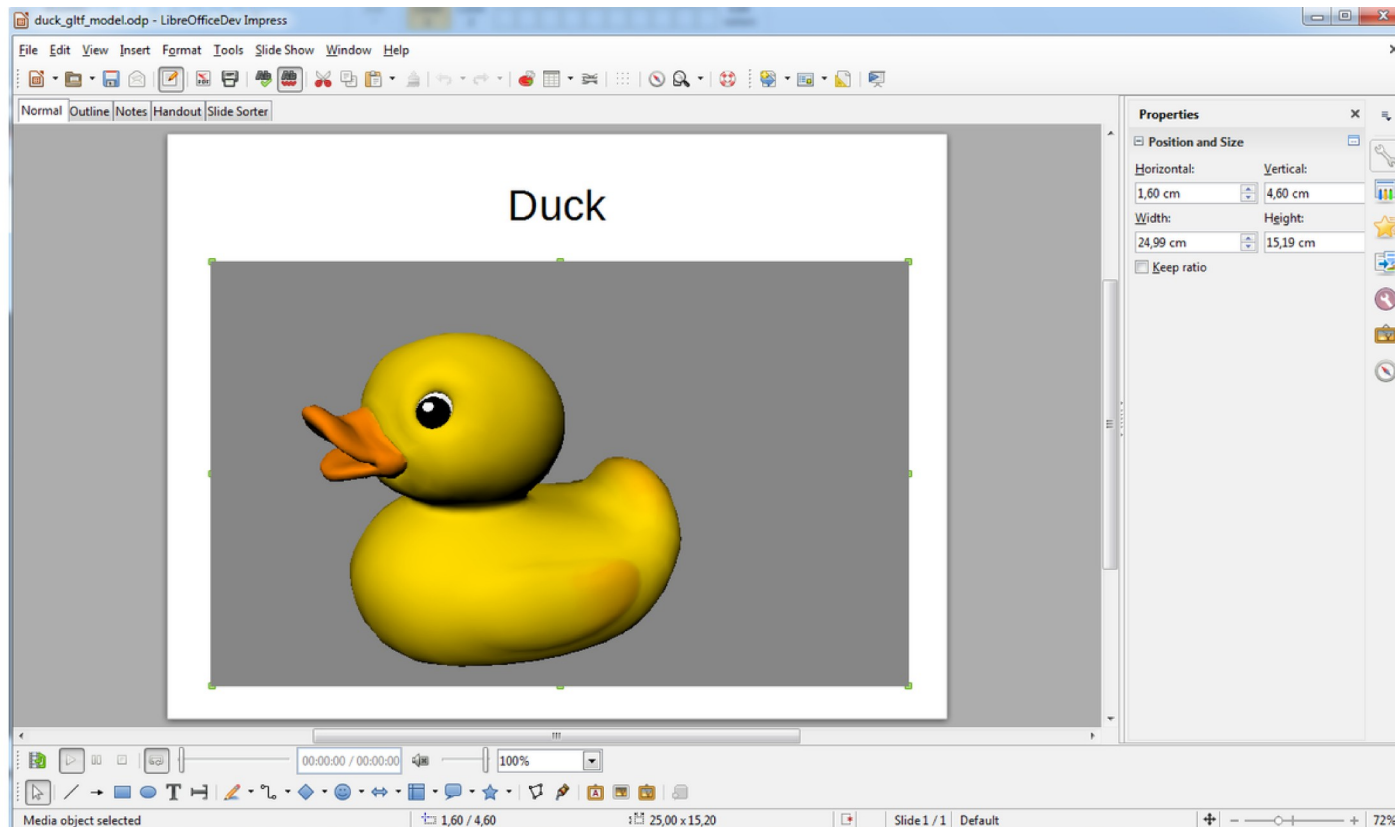
Parallelised XLSX loading
(boxes are threads).

- ## Split XML Parse & Sheet populate

- ## Parallelised Sheet Loading ...

| Progress bar thread |

- ## Parallel to GPU compilation

Thread 1

Thread 2

| Unzip, XML Parse, Tokenize | → | Populate Sheet Data Structures. |

Sheet1

| Unzip, XML Parse, Tokenize | → | Populate Sheet Data Structures. |

Sheet2

... etc.   Sheet3 Sheet4

| =COVAR(A1:A300,B1:B300)
→ OpenCL code
→ Ready to execute kernels |

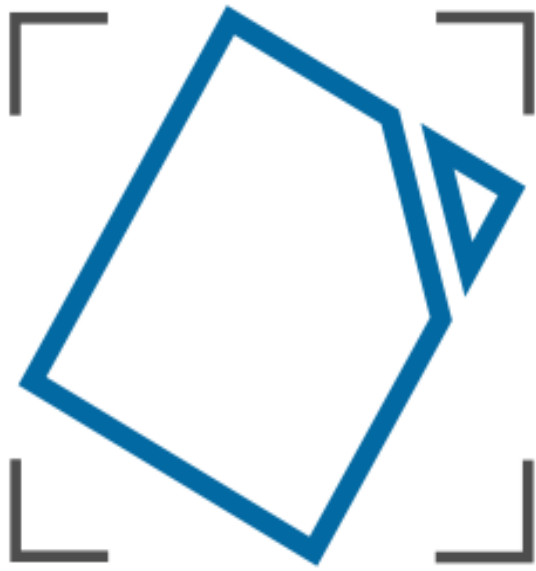# Using new Standards

- Importing, rendering & allow a walk-through of Khronos' Collada files:

Importing Non-standards
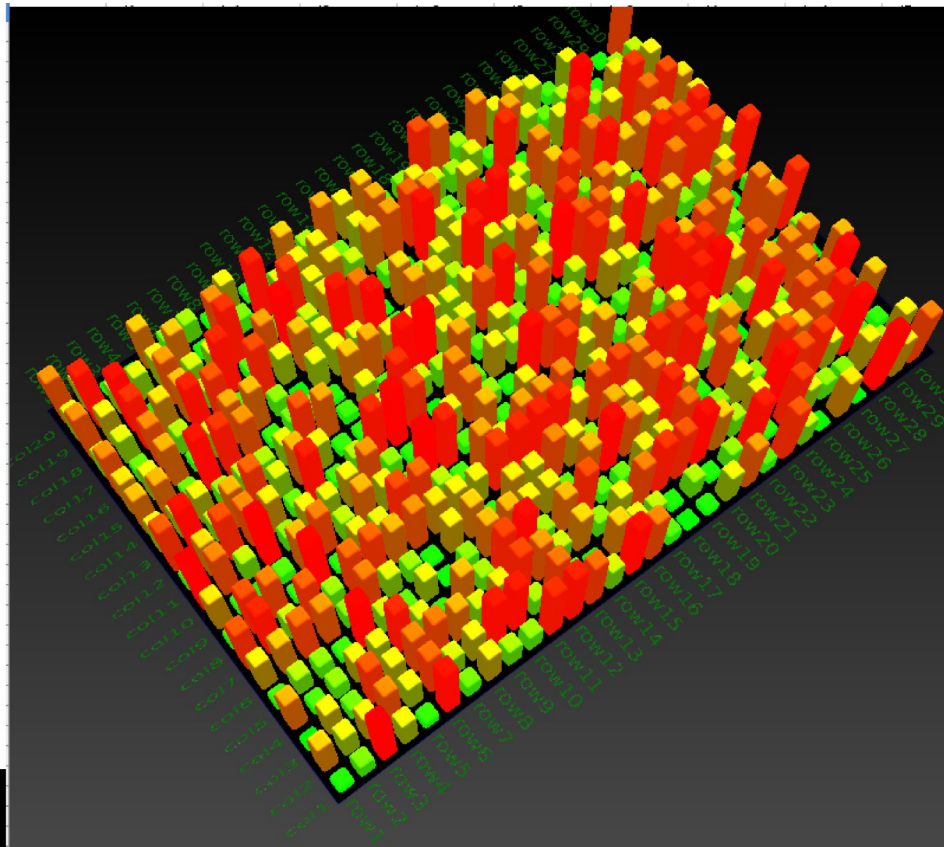
- A new project from April: Document Liberation

- Fits TDF's mission well.

- Home for re-usable, legacy un-documented proprietary file-formats

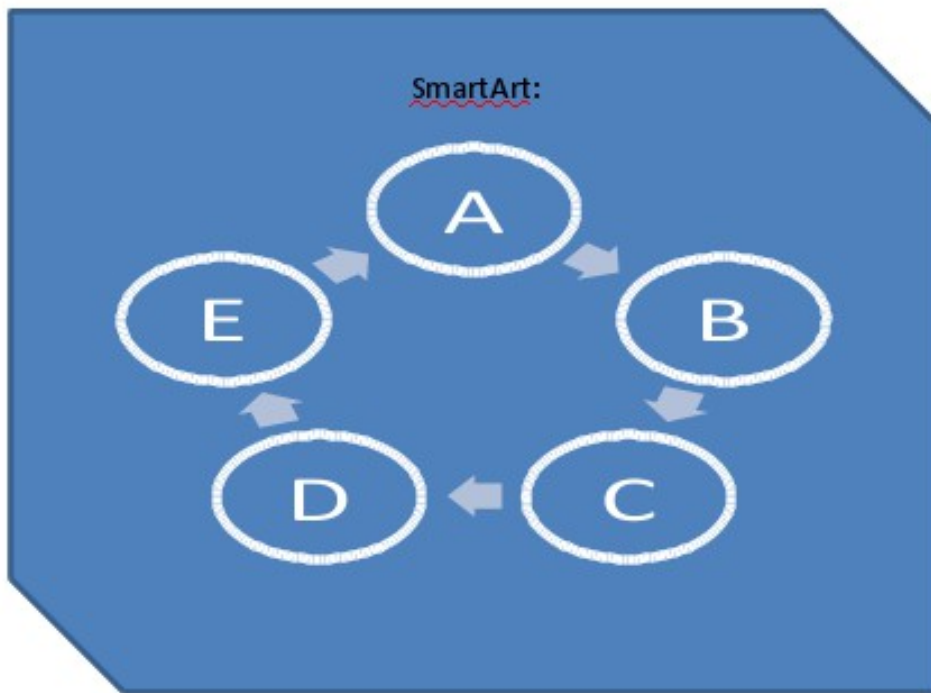 eg. Visio, Keynote, MS Publisher, MS Works, Corel Draw, Adobe Pagemaker...

Document Liberation

3D charting ...

- Streaming data through calc and get high FPS, attractive 3D chart rendering

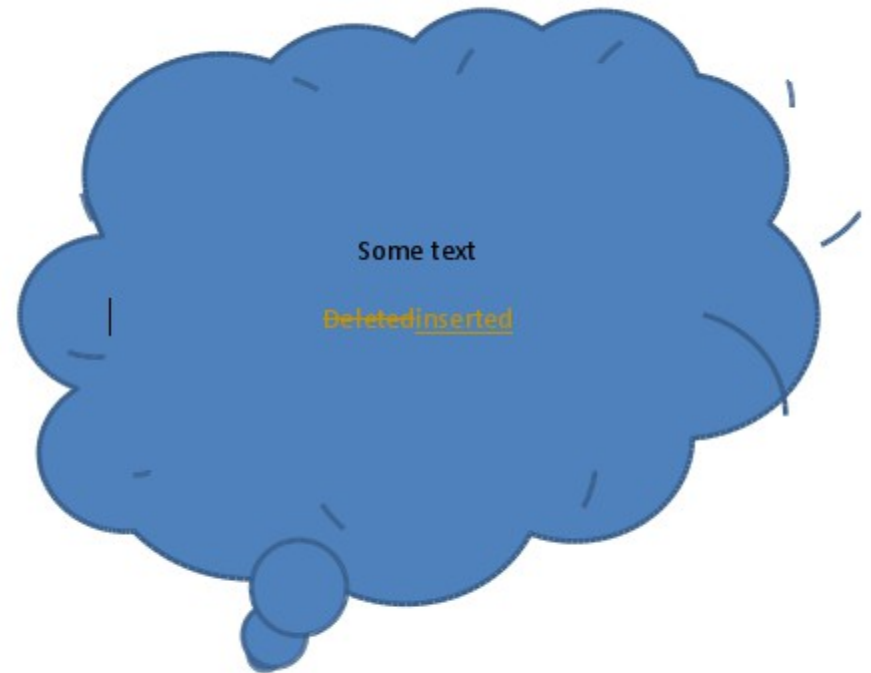# Writer / Text box shapes

"Fix Text Boxes !" - thanks to CloudOn

Embedded smart-art
object inside custom-shape

Red-lining in custom shape
text-boxes.

4.4 Other platforms: Android

Viewer kindly funded by Smoose

Measuring your PC ...

- PC work performance is measured with *LibreOffice* since PC Mark 8.2

Quality: Unit Tests ...

- Stopping regressions from ~12k commits per release from escaping into user's hands

42% of those added by Collabora

2,074 Automatic tests added last year
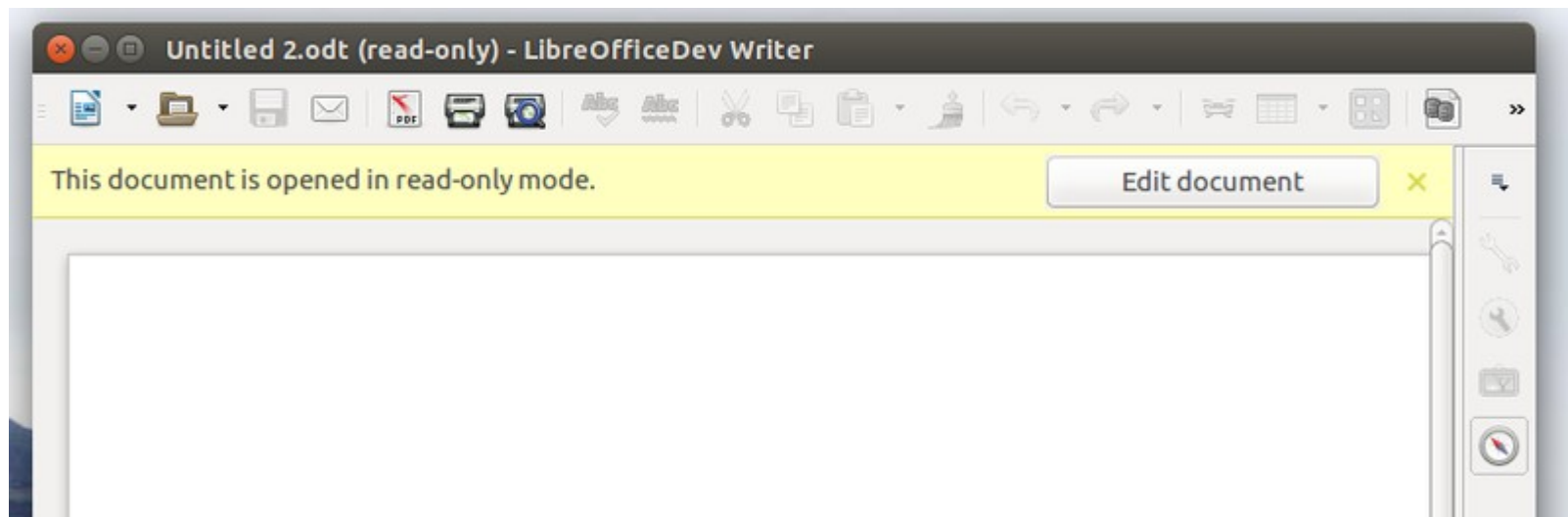
Quality: Document load/save/validate tests...

- 65k documents scraped from bugzillas
- All tests with paranoid debugging assertions on
- load all documents testing - ~0 issues
- Save testing of problem docs to all supported formats - ~100's of issues
  - Format validation testing – more issues …
- Also run Asan & Ubisan builds …
- Thanks to Caolan McNamara (RedHat) & Markus Mohrhard (Collabora) and …
- TDF donors who funded a 64CPU beast to run the complete set very regularly.

Quality: Other work ...

- Performance Testing
  - Profiling tinderbox publishing data
    - Thanks to Matus Kukan
  - 40+ profiles built for first-start, startup, load, save of various key file types.
  - Caught significant performance regressions before 4.3 – now fixed.
- Continuous Integration (Jenkins)
  - Thanks to Norbert Thiebaud
  - Catching and reducing breakage of master.
- Coverity score to ~zero
  - Thanks to Caolan McNamara & others ...

De-confusing read-only mode.

LibreOffice will now display an infobar to indicate visibly when a document is being opened in read-only mode. (Samuel Mehrbrodt, Joren De Cuyper)
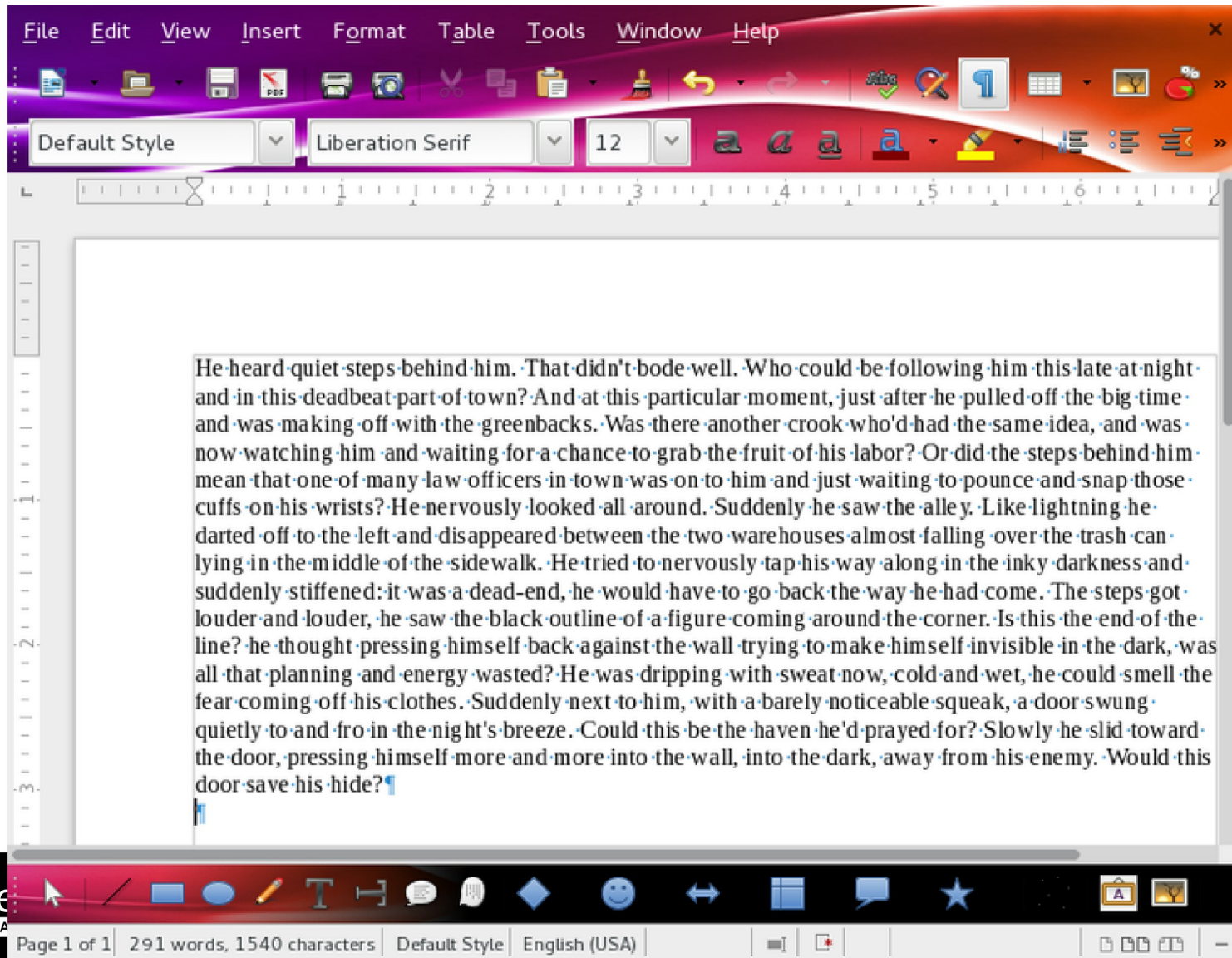
Making Prettification easier

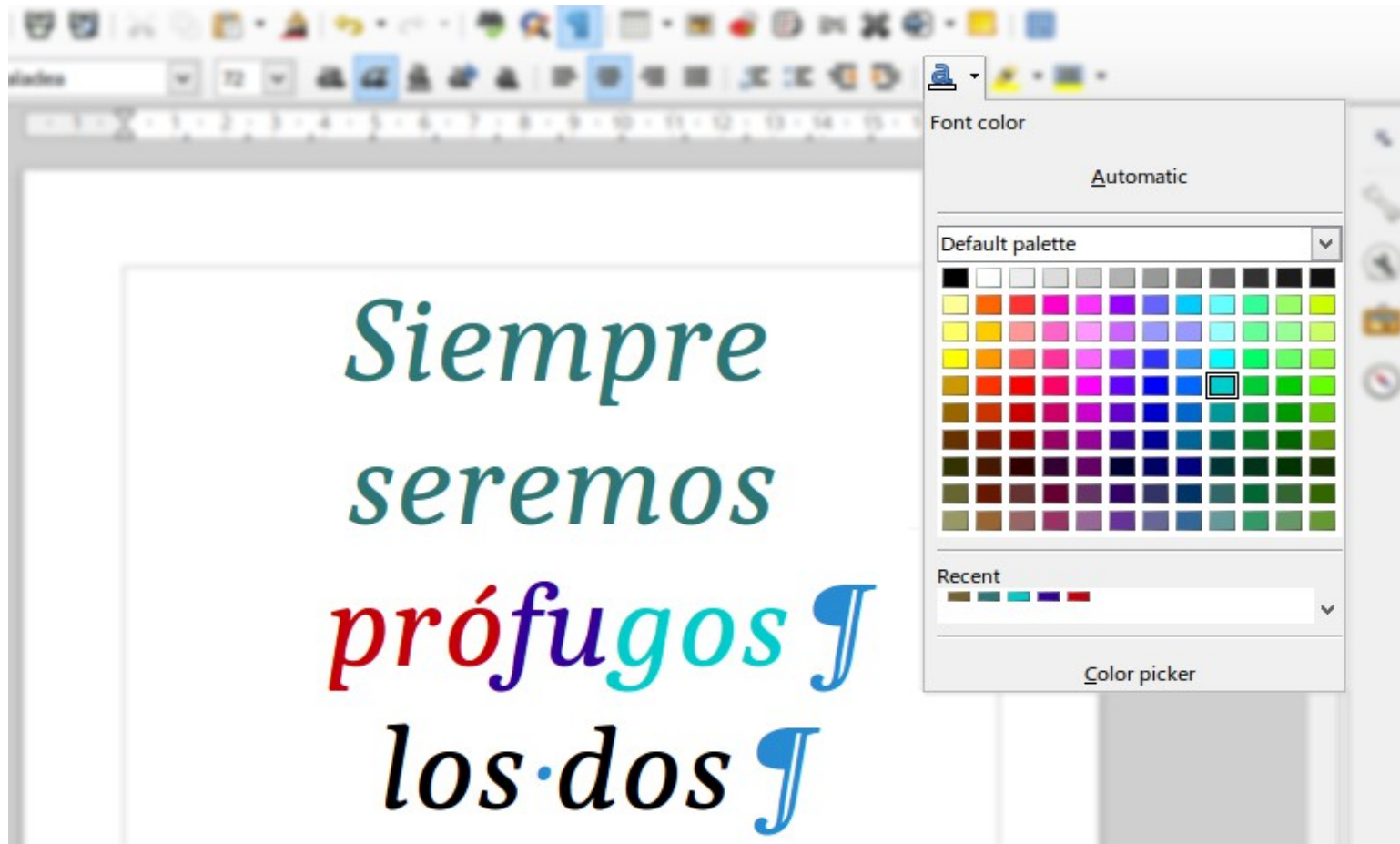Firefox theme browser. (Rachit Gupta, GSoC 2014)

Prettier themes ...

Firefox themes now apply also to bottom toolbars. (Michael Jaumann, LHM)

Better Colour / Palette mgmt.

New Color selector (Krisztian Pinter, GSoC 2014)

UX / Design example:

Inclusion of new buttons in the Track Changes toolbar, along with a new set of icons. (*Yousuf 'Jay' Philips*)

- *Jay – a model of contribution …*
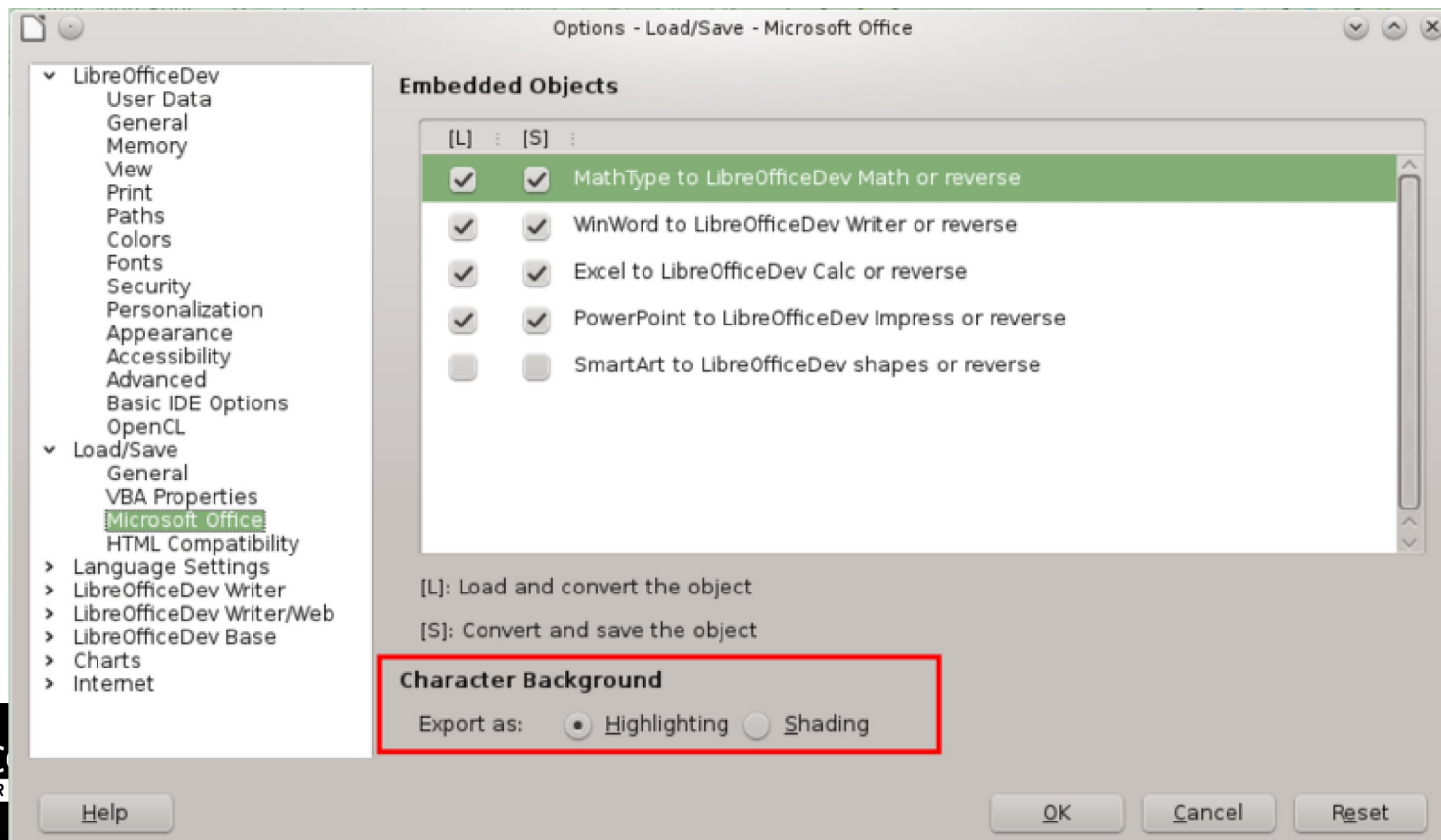 - Compatibility tests, to bug filing, to QA Triage, to UX work, to submitting patches in sub five months

The default behavior of the 'Accept Change' and 'Reject Change' commands has been changed so that it automatically jumps to the next change. (Samuel Mehrbrodt)

What's next: LibreOffice 5.0

LibreOffice
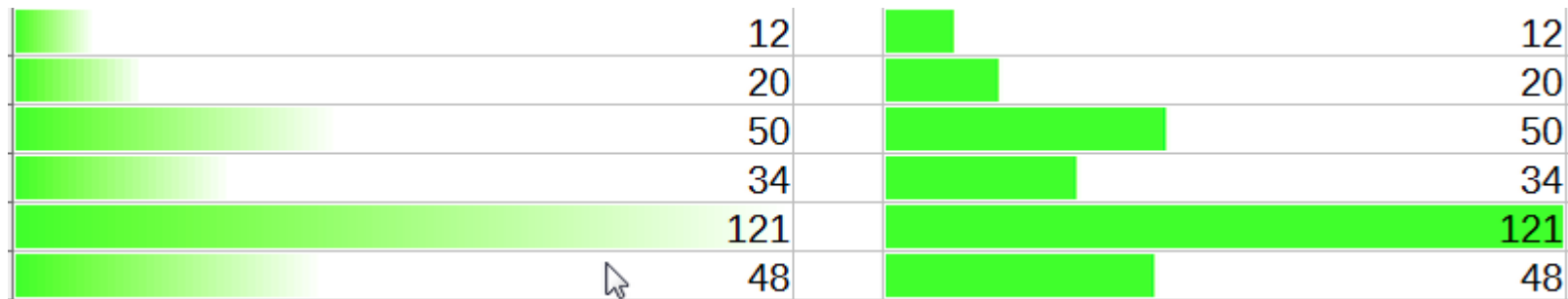from COLLABORA

Writer: Improved Interop. eg.

Word compatible text highlighting thanks to Zolnai Tamás (Collabora)
* Both highlighting and shading are preserved during import / export of Microsoft Word documents.
* New compatibility option to specify how to export LibreOffice character background to Microsoft Office file formats: as highlighting or as shading.
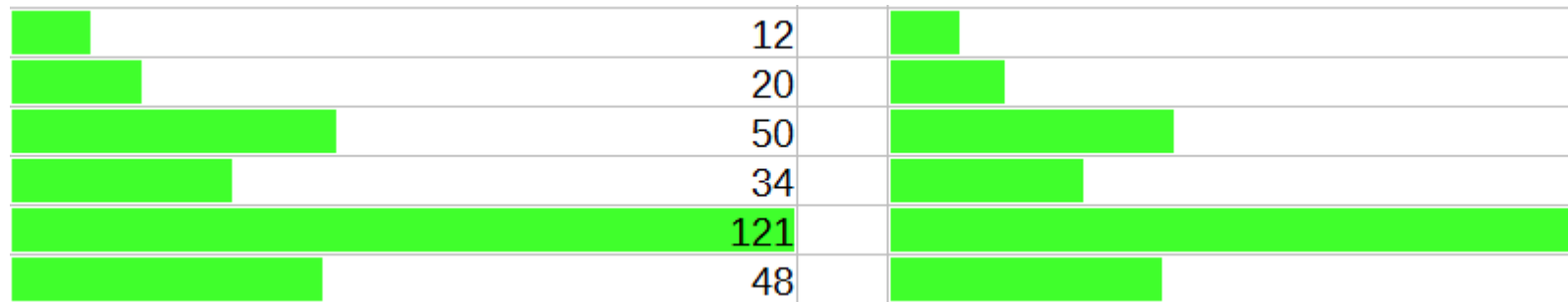* To use this option, go to Tools ▶ Option ▶ Load/Save ▶ Microsoft Office.

Calc: Conditional Formatting

Data bars in conditional formatting can now have a solid background thanks to Katarina Behrens (CIB)

Data bars can be displayed without showing their underlying values thanks to Katarina Behrens (CIB)

Calc: Pivot Tables

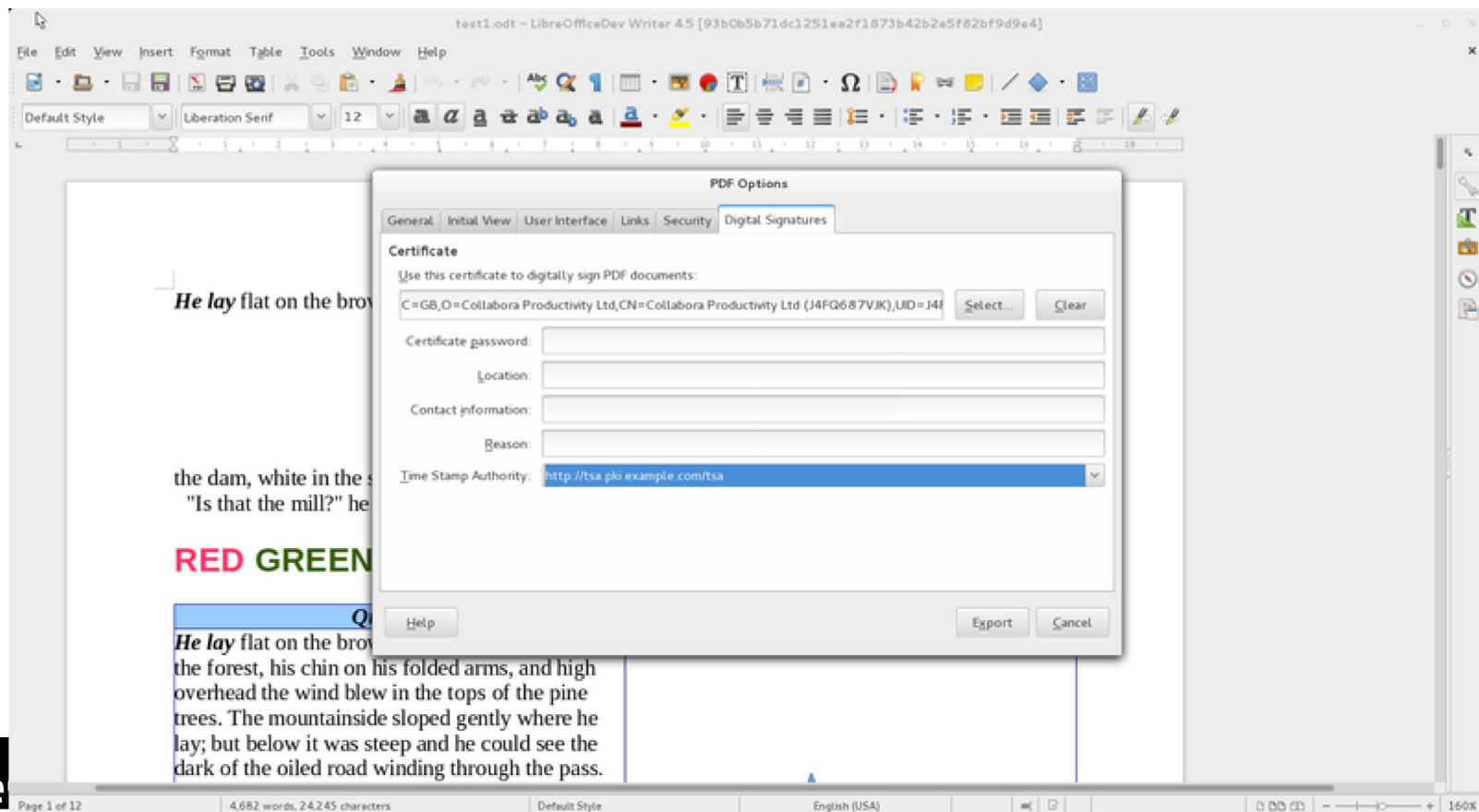Item labels in Pivot Tables now can be repeated (Deena Francis)

Row Labels	Sum of Price(Dollar)
⊟ France	150312
⊟ North	70386
Apple	17334
Banana	17622
Orange	12108
Pear	23322
⊟ South	79926
Apple	15708
Banana	29568
Orange	12924
Pear	21726
⊟ UK	117666
⊟ East	79926
Apple	15708
Banana	29568
Orange	12924
Pear	21726
⊟ West	37740
Apple	5000
Banana	8100
Orange	15610
Pear	9030
Grand Total	267978

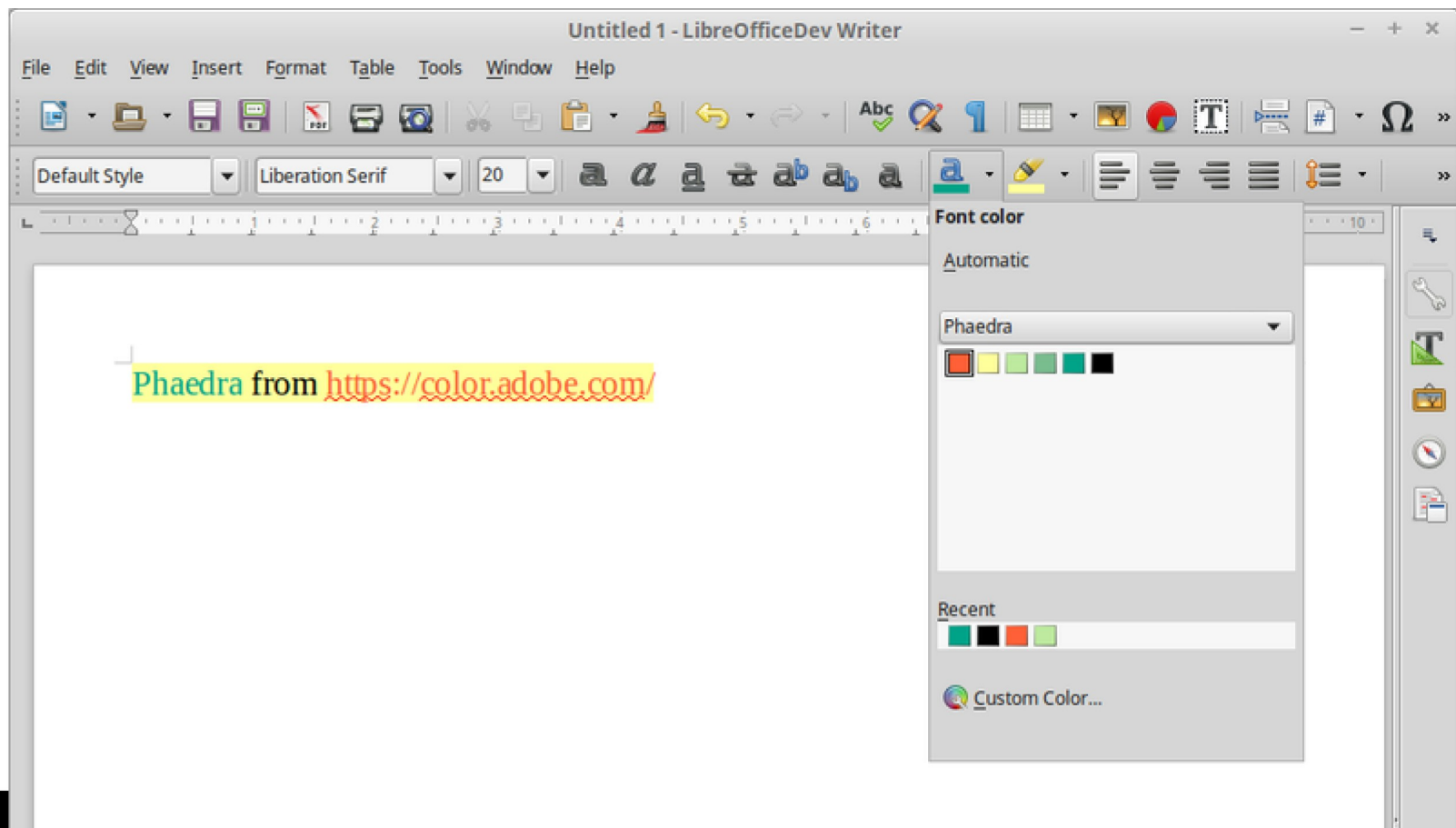| Country	Region	Product	Sum of Price(Dollar)
⊟ France			150312
France	⊟ North		70386
France	North	Apple	17334
France	North	Banana	17622
France	North	Orange	12108
France	North	Pear	23322
France	⊟ South		79926
France	South	Apple	15708
France	South	Banana	29568
France	South	Orange	12924
France	South	Pear	21726
⊟ UK			117666
UK	⊟ East		79926
UK	East	Apple	15708
UK	East	Banana	29568
UK	East	Orange	12924
UK	East	Pear	21726
UK	⊟ West		37740
UK	West	Apple	5000
UK	West	Banana	8100
UK	West	Orange	15610
UK	West	Pear	9030
Grand Total			267978

LibreOffice from COLLABORA

PDF signing & Time-stamping ...

Export to PDF now supports the Time-Stamp Protocol (IETF standard RFC 3161). The address of a Time-Stamp Authority can be specified in the security options of PDF settings (Tor Lillqvist, Collabora) – thanks to **Wilhelm Tux & donors** for a successful crowd funding !

Core: .ase Color Palettes

Support for reading Adobe Swatch Exchange (.ase) color palettes. Handles CMYK, RGB, and grayscale color models. LAB colors are not yet supported, and are replaced by black during import. (Chris Laplante)
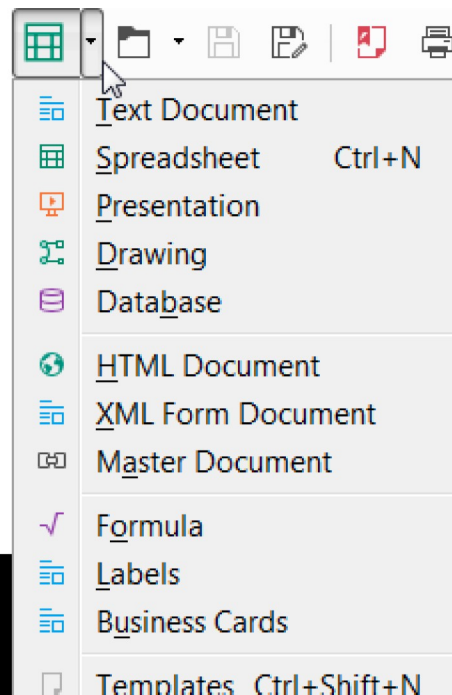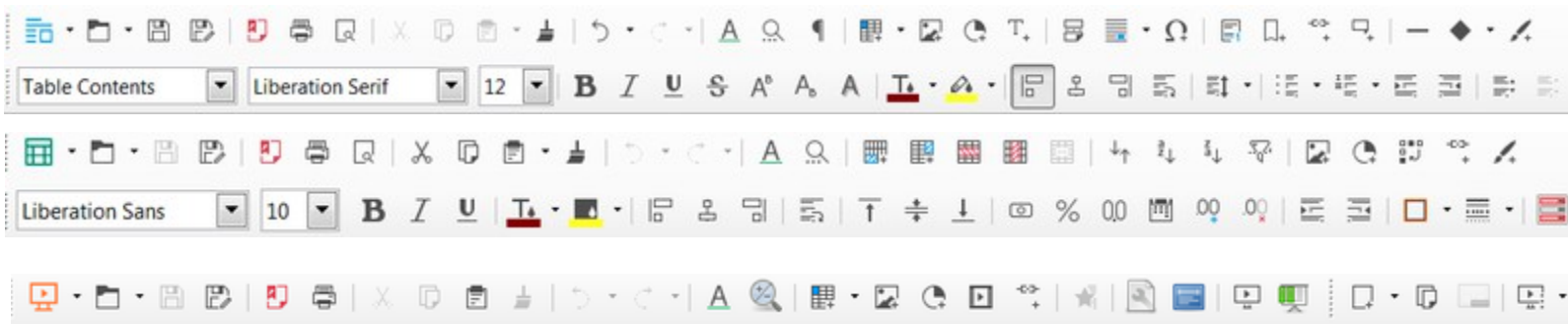
Misc. Features

- Handle differences between the OOXML spec. and what is written / read by MSO2007 thanks to Markus Mohrhard
- Simplification of Calc sheet controls thanks to Tomaž Vajngerl (Collabora)
- Much improved Scientific / Engineering number Formatting: thanks to Laurent BP, Eike Rathke (Red Hat)
- Minimum and maximum bar lengths for data bars thanks to Benjamin Ni
- Lots of HiDPI fixing thanks to Tomaž Vajngerl (Collabora) & Darcy Beurle
- The obsolete, StarOffice-inherited option "Use system font for user interface" was removed. LibreOffice will always use the system's font to display its user interface elements. Thanks to: Julien Nabet and Caolán McNamara (Red Hat).

GUI: Breeze Icon Set

Thanks to: Uri Herrera (Nitrux, S. A.), Andreas Kainz (KDE e. V.), Jonathan Riddell (Kubuntu), Jan Holešovský (Collabora), Yousuf Philips, and Andrew Dent.
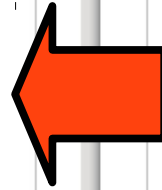
OpenGL rendering ...

- Talking directly to the Hardware via OpenGL shaders a nice win

  - Lets us improve quality -and- performance – particularly image scaling. Thanks to Collabora's: Matus Kukan, lfrb, Lubos Lunak, Jan Holesovsky ...

- Moving to deferred rendering, aiming to have double-buffered rendering for 5.0

  - Thanks to Munich students: Jennifer Liebel & Tobias Madl for nailing 'Idle' handlers.

After: with GL rendering

Before: old rendering

Improved Sidebars:

LibreOfficeKit

- A very simple C & C++ API for LibreOffice
  - Exposes file-format filters
    - Ideal for indexing / extraction: "convert * → HTML"
  - Exposes tiled rendering
    - Convert document fragments → Images
  - Exposes editing / selection events
    - Convert Editing → event flow in each direction.
- A very simple ~header-only API – no linking
  - fully abstract: fn pointers, opaque structs etc.
  - No sockets opened, no plugins / simple init.
  - Global error messages.
- LibreOffice Online, Android, 'loconv' built on this.

New Platform bits for 5.0 ...

- Native windows 64bit - thanks to David Ostrovsky (CIB),

  - Also mergedlibs on Windows to improve cold-start: linking ~much of the app into 1x DLL instead of many.

- Android / Editing

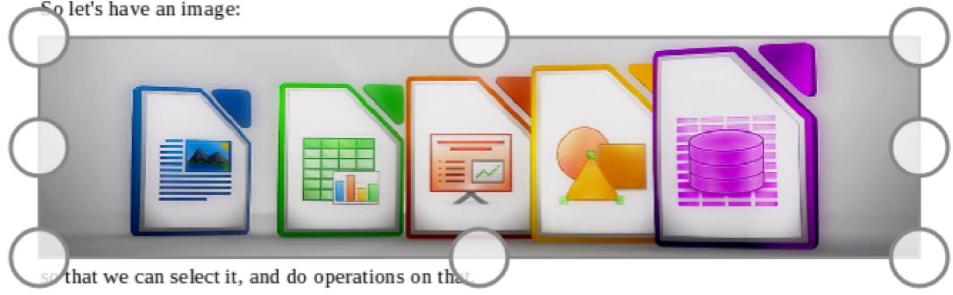- Online

Android / Editing

Android Editing Work ...

- Infrastructural work for tiled editing funded by TDF & our donors.
  - Also implemented OwnCloud remote-file-system plugin.
    - Done by Collabora & Igalia
- Not creating a perfect UI, but infrastructure for document editing.
- Built on previous Viewer Work from Collabora / Smoose.

The numbered list is on the second page:

1. First.
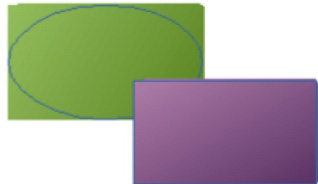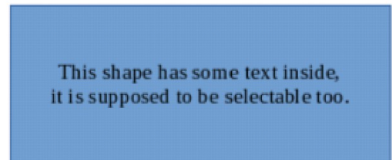2. Second.
3. Third!

We need to support images too

So let's have an image:

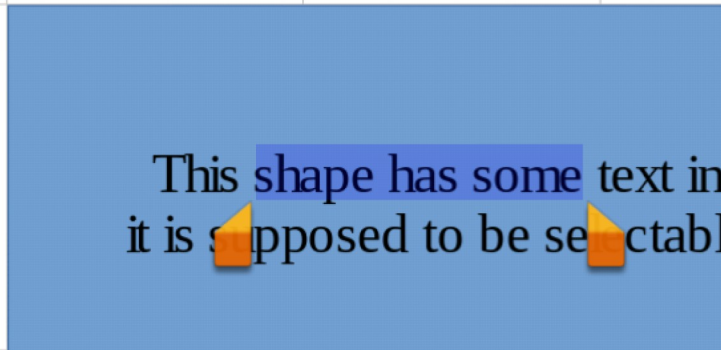so that we can select it, and do operations on that.

Oh, and shapes too:

Let's have a shape with text; we need to be able to select the text inside the shape, but also the various individual shapes too:

This shape has some text inside, it is supposed to be selectable too.

And this is all for Writer

As much as the above looks as trivial use cases, internally they mean that basically everything has to work, and in fact much more documents (and more complex ones) will work too. This one is just easy to evaluate & test the development against.
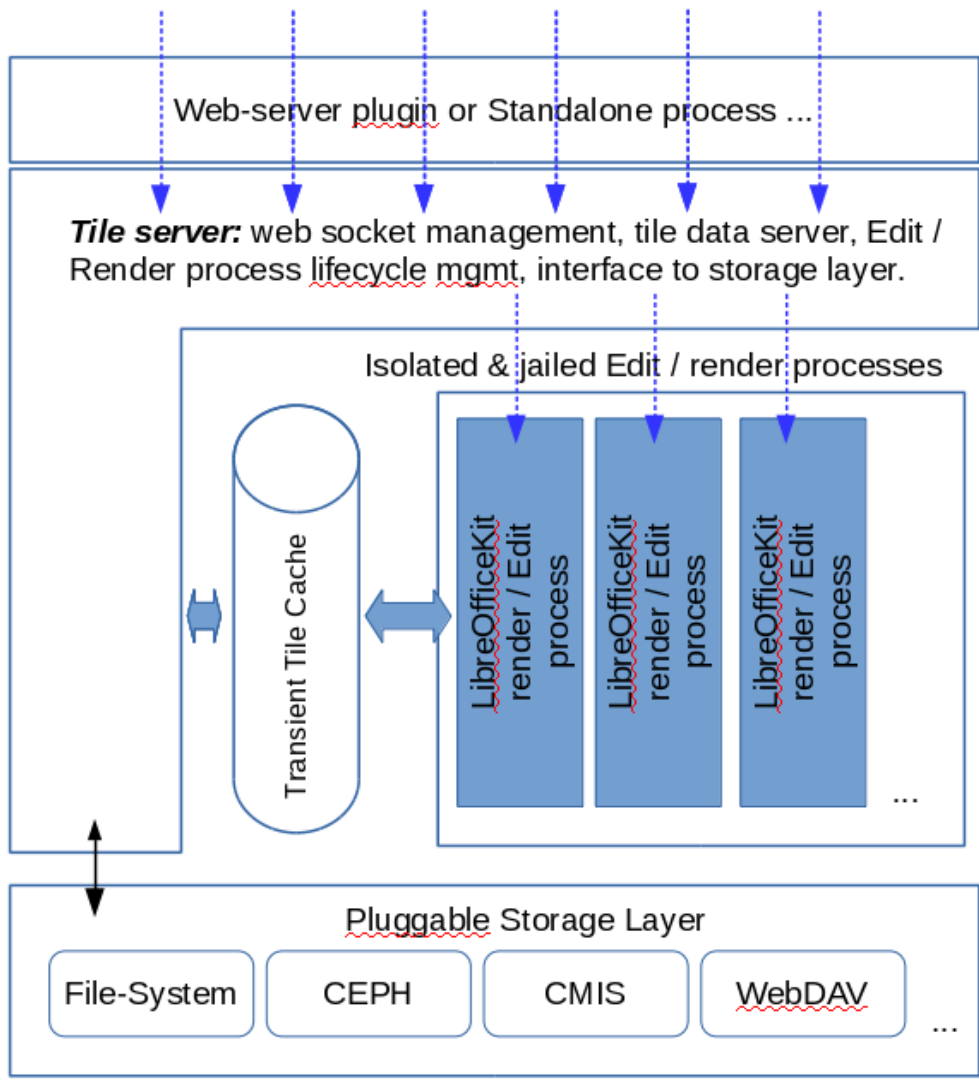
ation Document

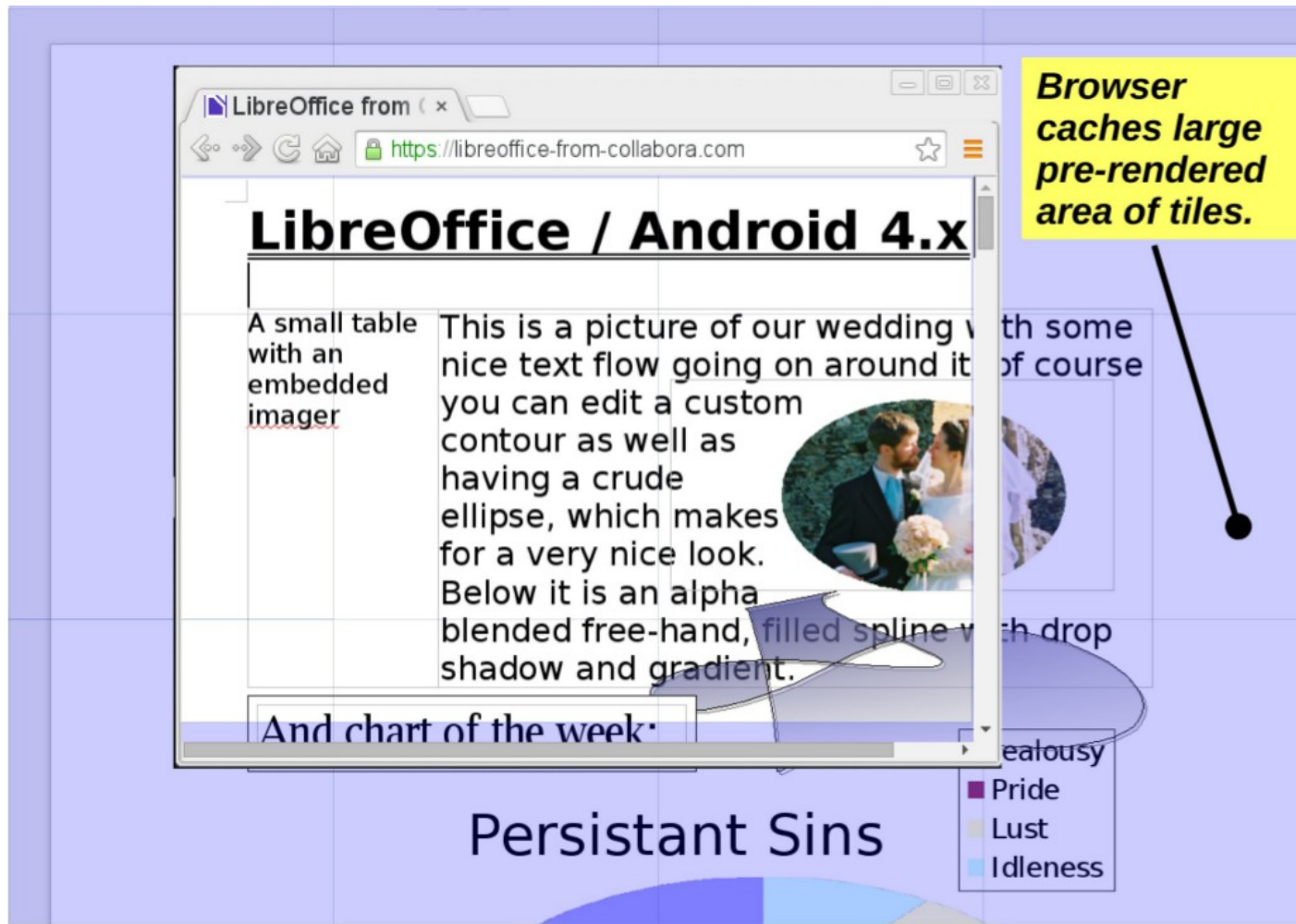This shape has some text ins it is supposed to be selectabl

LibreOffice Online

Architecturally ...

LibreOffice On-Line Architecture Sketch.

Web-server plugin or Standalone process ...

Tile server: web socket management, tile data server, Edit / Render process lifecycle mgmt, interface to storage layer.

Isolated & jailed Edit / render processes

Transient Tile Cache

LibreOfficeKit render / Edit process

LibreOfficeKit render / Edit process

LibreOfficeKit render / Edit process

...

Pluggable Storage Layer

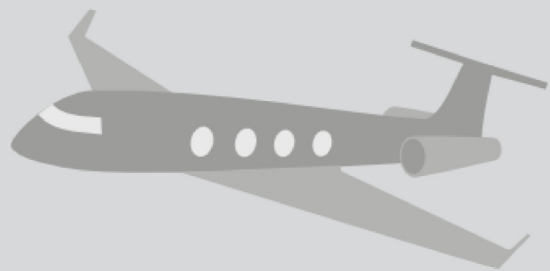File-System | CEPH | CMIS | WebDAV | ...

- Strong process isolation in chroots
- Tile caching, to release LibreOffice processes
- Javascript front-end based on Leaflet.

Tiles cached in client

A completing puzzle ...

- LibreOffice Online, Windows, Mac, Linux, Android → something for everyone

- Supported & Developed by Collabora

- Checkout Nou & Off – partner stand ...

Commercial support in

21
countries

Be in Cambridge: May 21-23

The first ever UK, LibreOffice Hackfest will take place in the city of Cambridge (UK) on May 21st to 23rd (Thur / Fri / Sat).

The venue is on Collabora office.

Dates coincide with a fine beer festival.

Conclusions

- LibreOffice is under development
  - Progress is fast
  - But we need your help ...
    - Become part of an exciting story that is still at the beginning: our best days are ahead of us …
    - Lots of opportunities to contribute …
- Thanks to all who support us in the Free Software Community – we can't do it without you.
- Thanks to all who engage constructively in the ecosystem to support and fund our work.

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