

# LibreOffice: Development and Future ...

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*“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*



# Rough overview ...

- ▾ LibreOffice
  - ▾ What's going on
  - ▾ Why it rocks so
  - ▾ What's coming next ?
  - ▾ Things like that
- ▾ GNOME stuff
  - ▾ What's done, what's going on
  - ▾ Opportunities an ongoing work

Development new-stuff

# It's easy to get involved: no really !

- ▼ From basket case to:

*“LibreOffice is now ridiculously easy to build”*

[Karl Fogel](#) – (now working on “*Producing OSS*” (v2) ...)

- ▼ Credit to team on gnumake port & other cleanups:

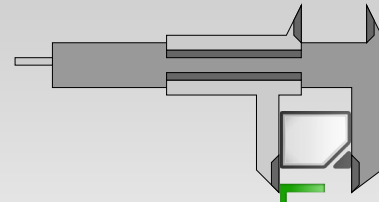
- ▼ *RedHat team are all here today: shake their hands.*

- ▼ We love people to contribute changes:

- ▼ We want your first patch to be non-controversial, and easy, so you're up-to-speed and included outright:

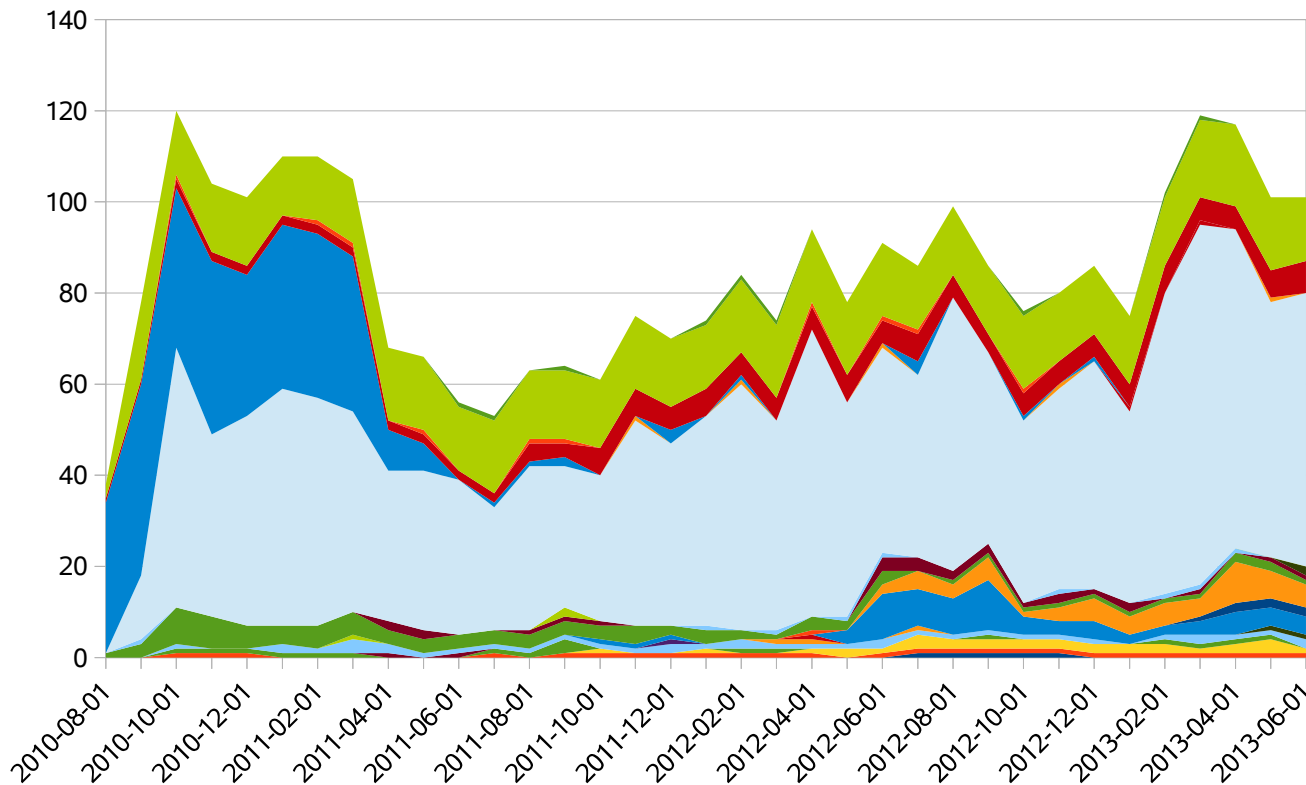
- ▼ [http://wiki.documentfoundation.org/Development/Easy\\_Hacks](http://wiki.documentfoundation.org/Development/Easy_Hacks)

# Good company to hack with:



- ▼ An extremely diverse, talented and interesting team of guys to develop with: translators, UX, docs, coders etc.
- ▼ Vast bulk of active code committers are volunteers:

Active code contributors per month



**Active Code contributors shown: ( just one part of the project ).**

- Tata Consultancy Services
- SIL
- Oracle
- Nou & Off
- Munich
- Linagora
- Known contributors
- Intel
- IBM
- Collabora
- CodeThink
- Canonical
- Assigned
- ALTA
- SUSE
- RedHat
- Openismus
- New Contributors
- MultiCoreWare
- Lanedo
- KACST
- Igalia
- Funky
- CodeWeavers
- CloudOn
- Bobiciel
- Apache Volunteer
- Aentos

# New developer training bits ...

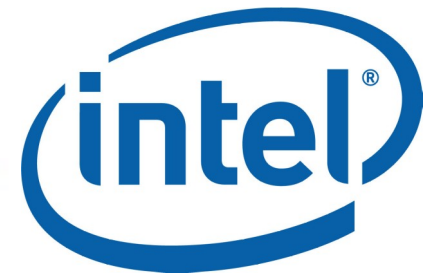
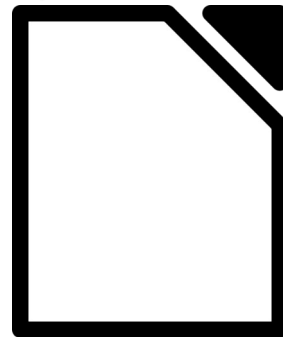
- ▼ gnumake overview documentation: 'make dump-deps-png'
  - ▼ Thanks to *David Ostrovsky* and *Peter Foley*
- ▼ Training slideware with code overview / basics:
  - ▼ Module overview:
    - ▼ <http://people.gnome.org/~michael/data/2013-07-26-libreoffice-code-structure.pdf>
  - ▼ Low-level types / utilities overview:
    - ▼ <http://people.gnome.org/~michael/data/2013-07-26-libreoffice-low-level.pdf>

# Large, fun and growing community

Many other contributors to enjoy working with:



# Supporters of LibreOffice: the Advisory Board



مدينة الملك عبد العزيز  
للعلوم و التقنية KACST



FREE SOFTWARE  
FOUNDATION

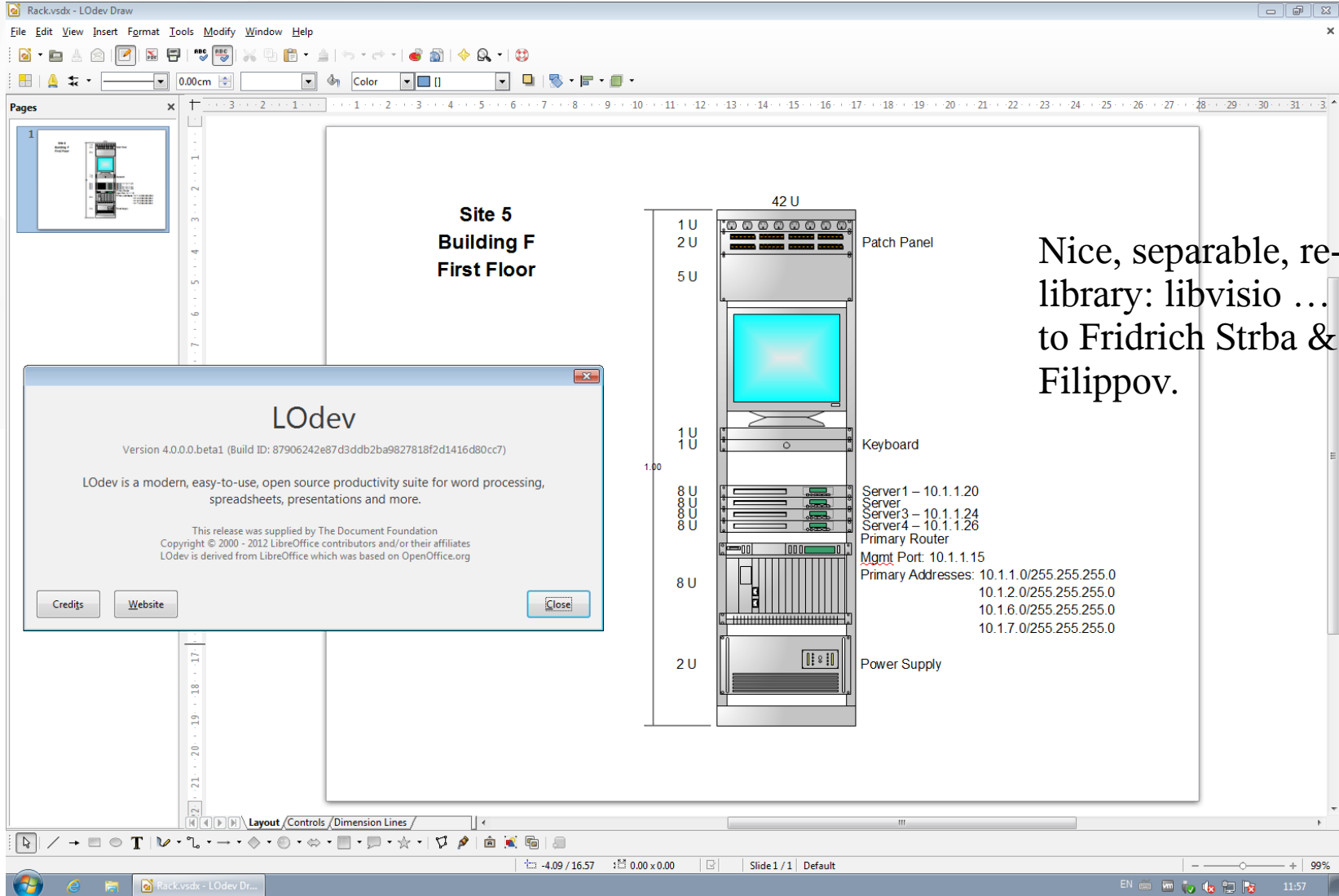




# LibreOffice 4.0 new stuff

*bits that didn't make last year ...*

# All versions Visio import (4.0)



Nice, separable, re-usable library: libvisio ... thanks to Fridrich Strba & Valek Filippov.

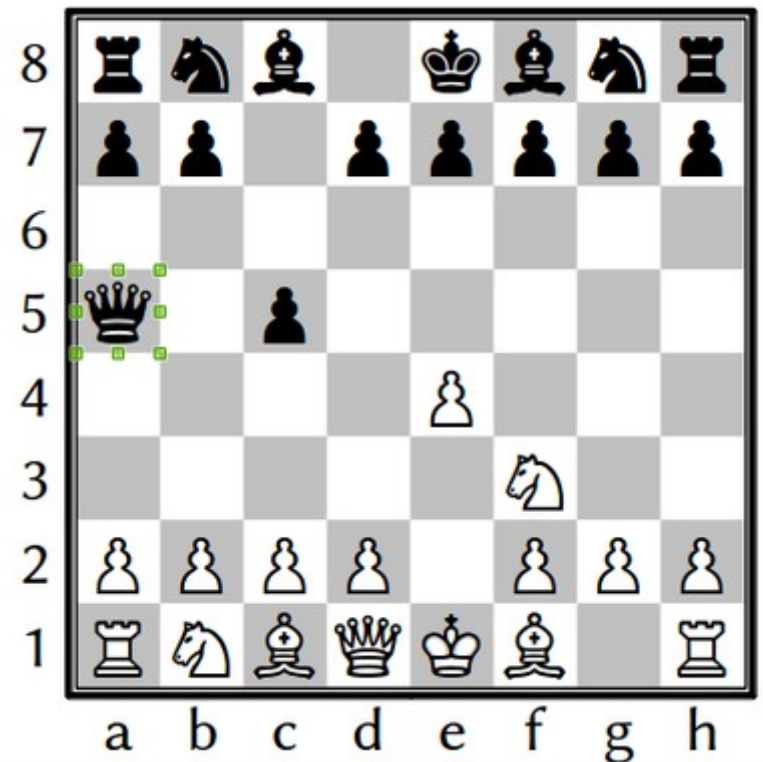
# Schools: LibreLogo integration ...



A tiny Python implementation

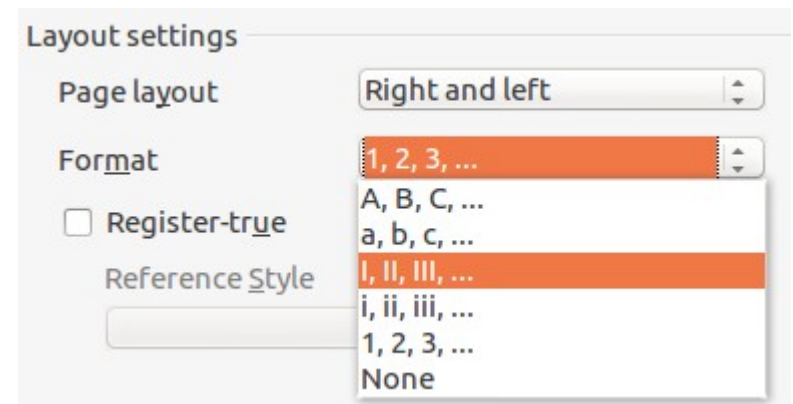
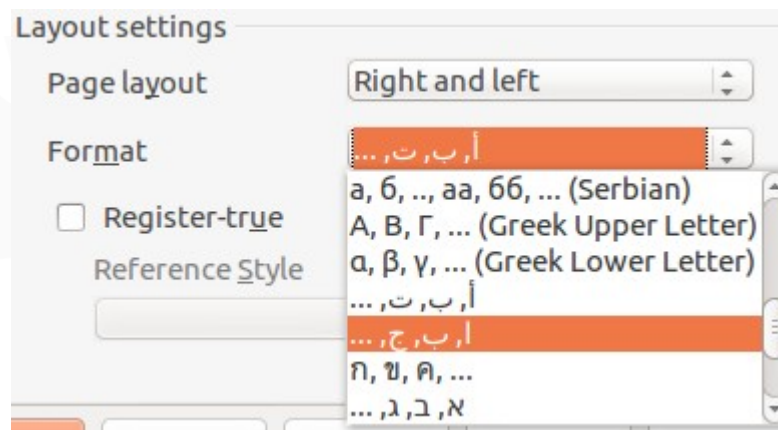
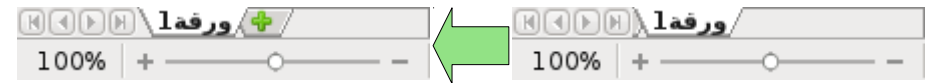
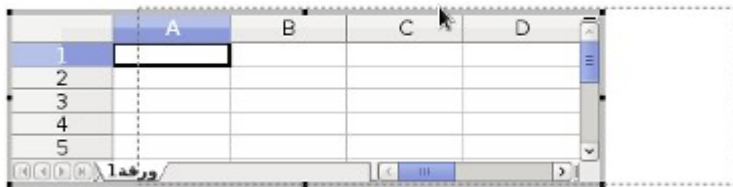
If schools teach 'typing' instead of programming: ensure they have no excuse: add a localised, pretty training language in the office-suite !

Thanks to Laszlo Nemeth



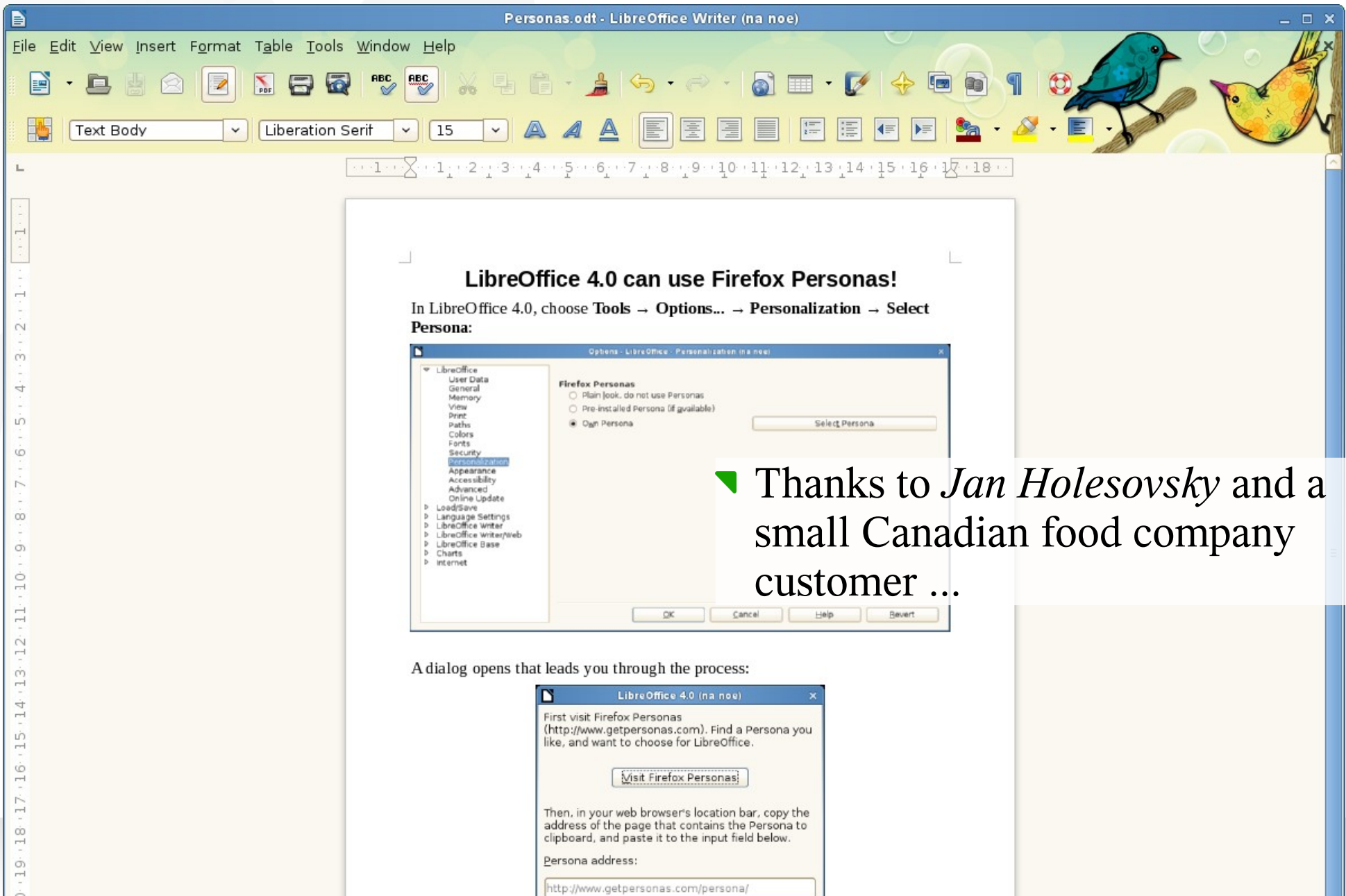
# Snapshots of the great work from KACST : Motah Getting Arabic & Right-To-Left right.

Funky OLE object dragging fixed.



And much more;  
see above link.

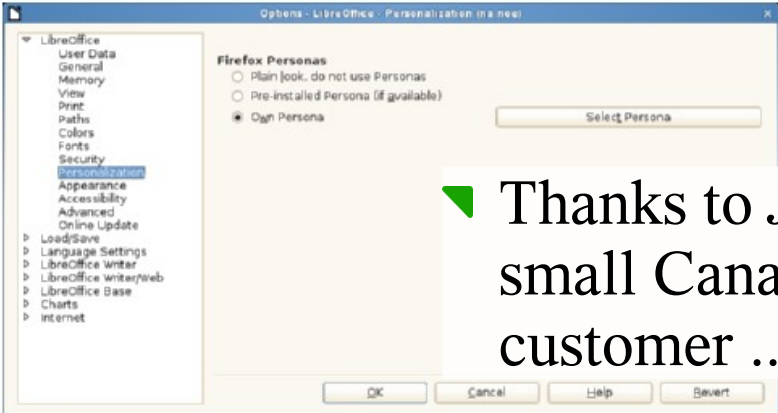
# Personas ... shared with Firefox



The screenshot shows the LibreOffice Writer interface with a document titled "Personas.odt - LibreOffice Writer (na noe)". The document content includes:

**LibreOffice 4.0 can use Firefox Personas!**


In LibreOffice 4.0, choose **Tools** → **Options...** → **Personalization** → **Select Persona**:



The dialog box shows the "Personalization" section selected in the left sidebar. Under "Firefox Personas", the "Own Persona" radio button is selected, and a "Select Persona" button is visible.

▼ Thanks to *Jan Holesovsky* and a small Canadian food company customer ...

A dialog opens that leads you through the process:



The dialog box contains the following text:

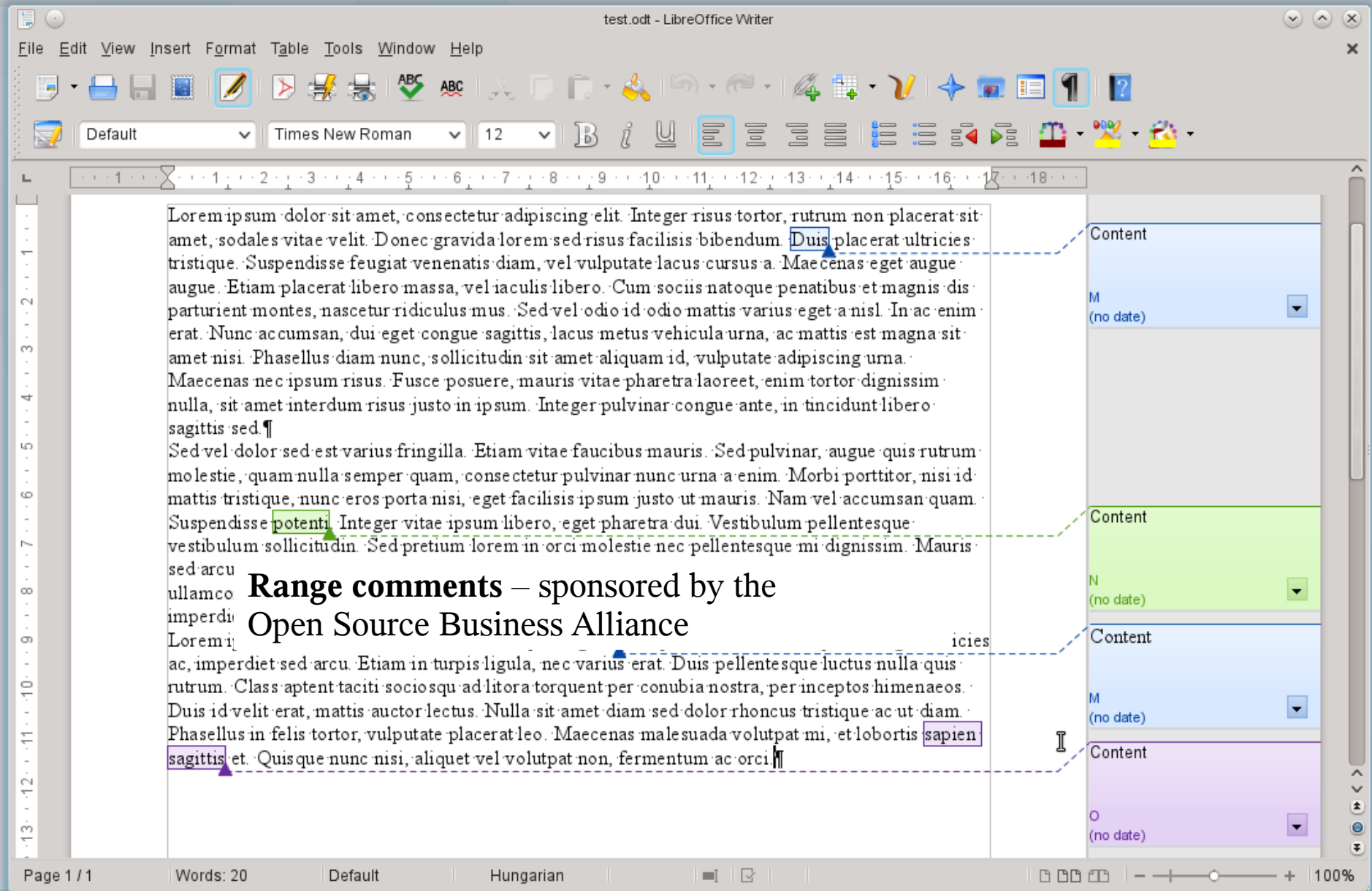
First visit Firefox Personas (<http://www.getpersonas.com>). Find a Persona you like, and want to choose for LibreOffice.

[Visit Firefox Personas](#)

Then, in your web browser's location bar, copy the address of the page that contains the Persona to clipboard, and paste it to the input field below.

Persona address:

# Interoperability lots of work ...



The screenshot shows the LibreOffice Writer interface with a document titled "test.odt". The document contains several paragraphs of Lorem Ipsum text. A central text block reads: "Range comments – sponsored by the Open Source Business Alliance". The text "Range comments" is highlighted in blue, "sponsored by the" in green, and "Open Source Business Alliance" in purple. Dashed lines connect these highlights to a sidebar on the right, which displays four comment entries, each with a colored header and a dropdown menu. The sidebar entries are: a blue header with "Content" and "M (no date)", a green header with "Content" and "N (no date)", a blue header with "Content" and "M (no date)", and a purple header with "Content" and "O (no date)". The status bar at the bottom indicates "Page 1 / 1", "Words: 20", "Default", "Hungarian", and "100%".

# Random Hybrid PDF / Flat ODF demo

- ▼ Hybrid PDFs are wonderful:
  - ▼ Embed the pristine ODF data streams alongside the PDF data
  - ▼ Viewable for anyone with or without LibreOffice as created
  - ▼ Editable at full fidelity with LibreOffice
    - ▼ *[ of course we import / allow some editing of non-hybrid PDF too ]*
- ▼ Flat ODF demo
  - ▼ Save a file – not as .odt but .fodt
  - ▼ Pretty-printed, easy to generate XML

# LibreOffice 4.1 new stuff

*A small flavour of what we just released ...*



# Font embedding for beauty & fidelity ...

## Embedded fonts test

Libre - Callibri	<b>Libre - Broadway</b>
Libre - Cambria	<b>Libre - Ariel Black</b>
<b>libre - Bauhaus</b>	LIBRE - CASTELLAR
<i>Libre - Blackadder</i>	<b>Libre - Berlin Sans FB</b>
<i>Libre - Vladimir Script</i>	Libre - Gill Sans MT
🔍 ⓘ 🚲 ✕ 📺	<b>Libre - Elephant</b>
<b>Libre - Jokerman</b>	<b>Libre - Impact</b>
<i>Libre - Lucida Cal</i>	<i>Libre - Magneto</i>
Libre - Old English T.	Libre - Playbill
<b>Libre - Rovie</b>	<b>LIBRE - STENCIL</b>
Libre - Sketchflow	<i>Libre - Vivaldi</i>

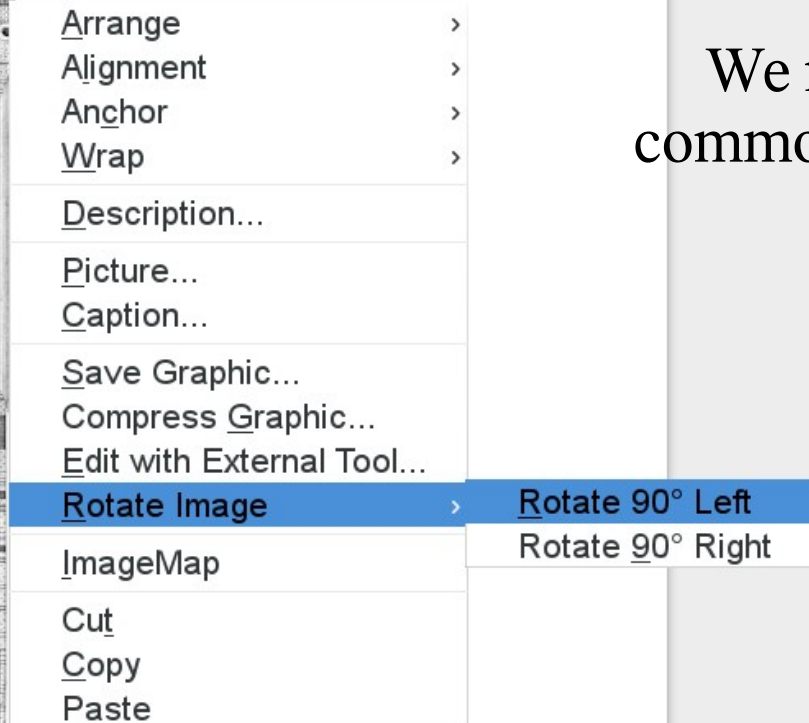
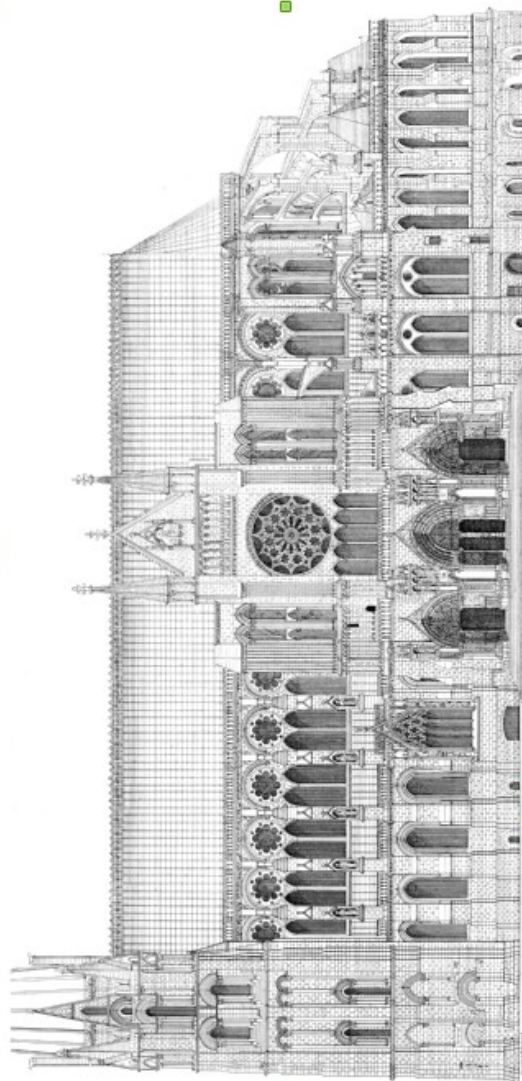
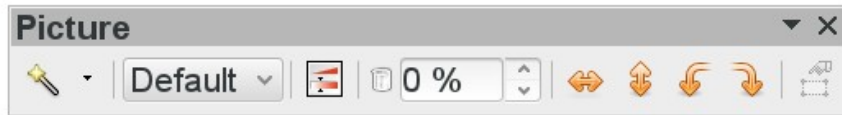
Import / export to ODF and OOXML  
- thanks to *Lubos Lunak, Noel Power, Radek Doulik* and the *Open Source Business Alliance*.

# Easy photo album deck building ...



Thanks  
to  
Gergő  
Mocsi

# UI tweaks / wins: 90 degree image rotation












Writer could not rotate images at all.

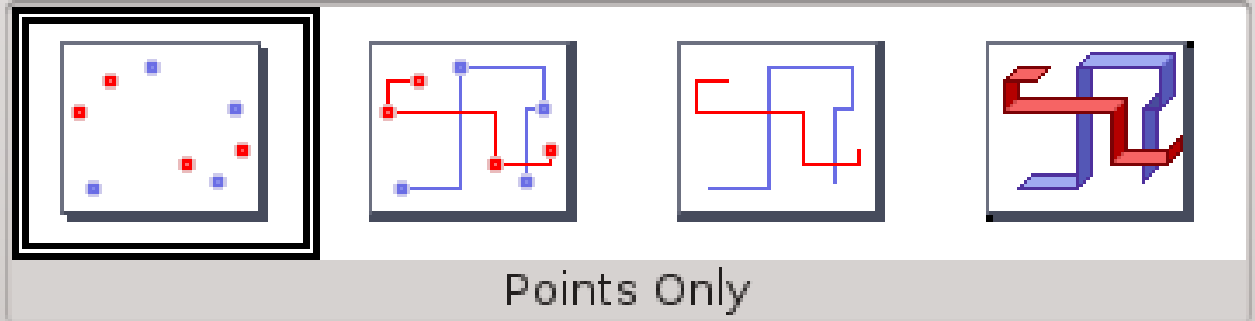
Thanks to *Tomaz Vajngerl*

We now do the common case easily.

# Stepped line scatter charting ...

## Choose a chart type

-  Column
-  Bar
-  Pie
-  Area
-  Line
-  XY (Scatter)
-  Bubble
-  Net
-  Stock
-  Column and Line



Points Only

Line type **Stepped** ▼

Properties...

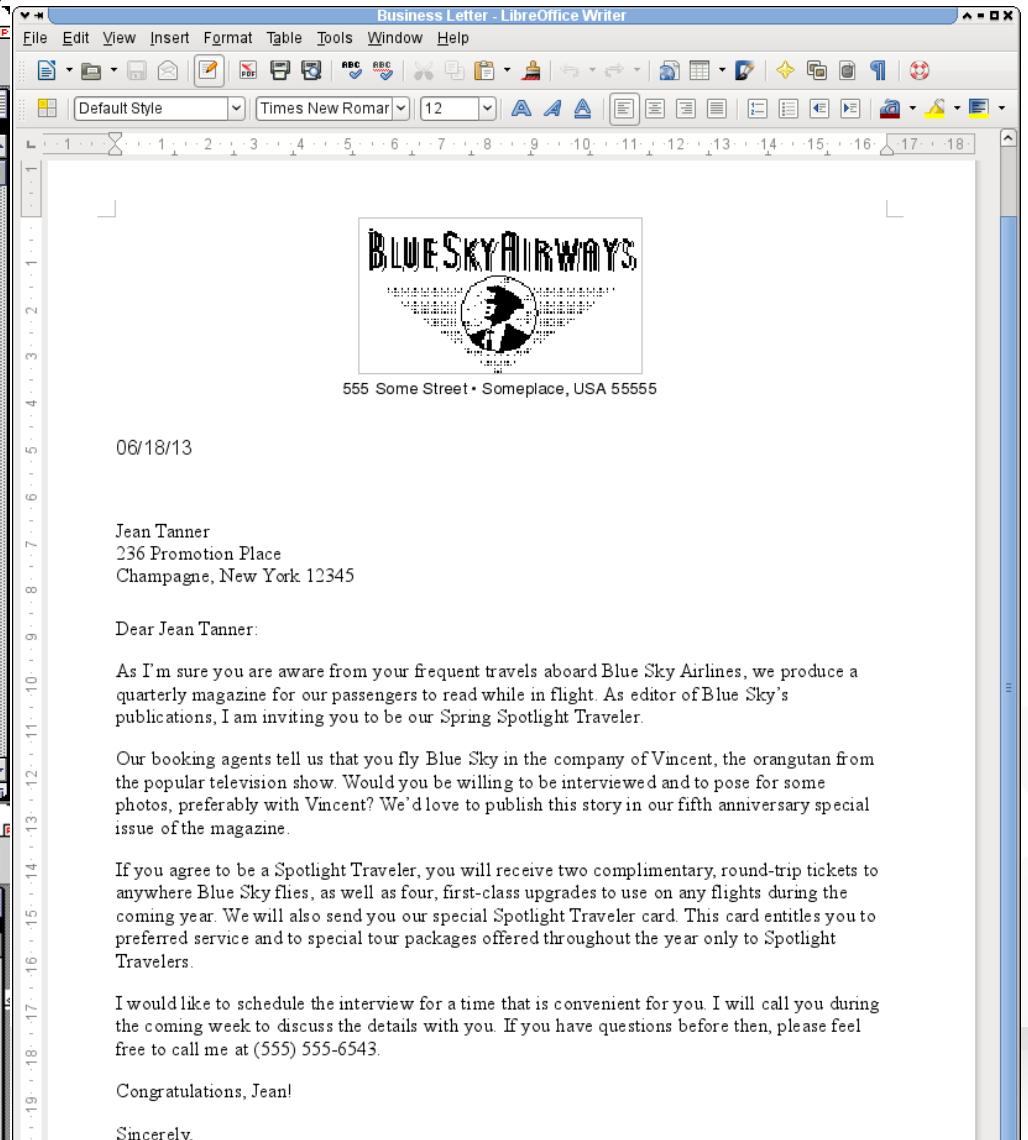
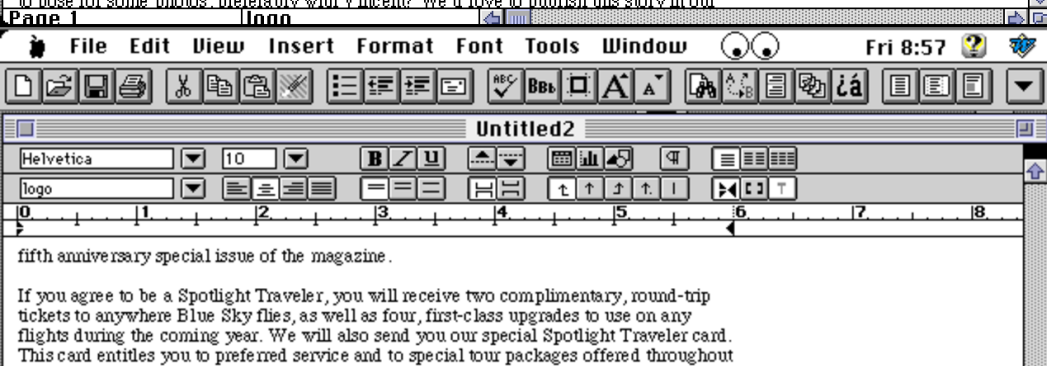
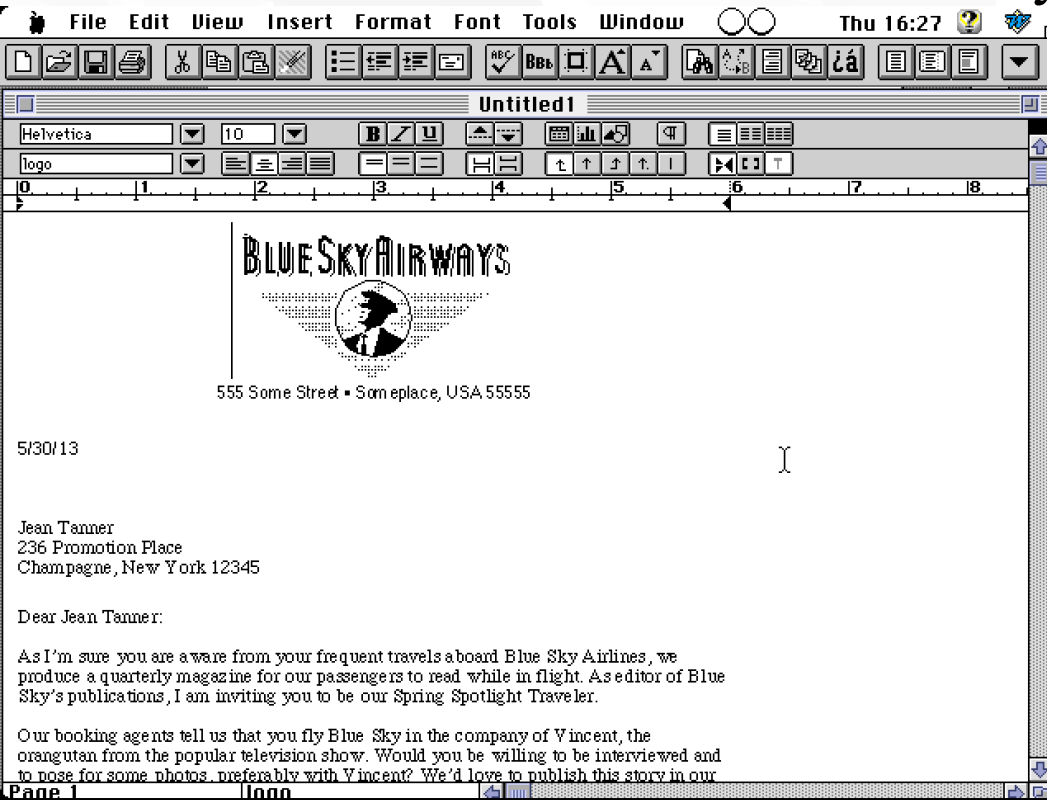
Sort by X values

With thanks  
to *Eric*  
*Seynaeve*

# Legacy binary doc reverse engineering → ODF

## Microsoft Word for Mac 5.1 ...

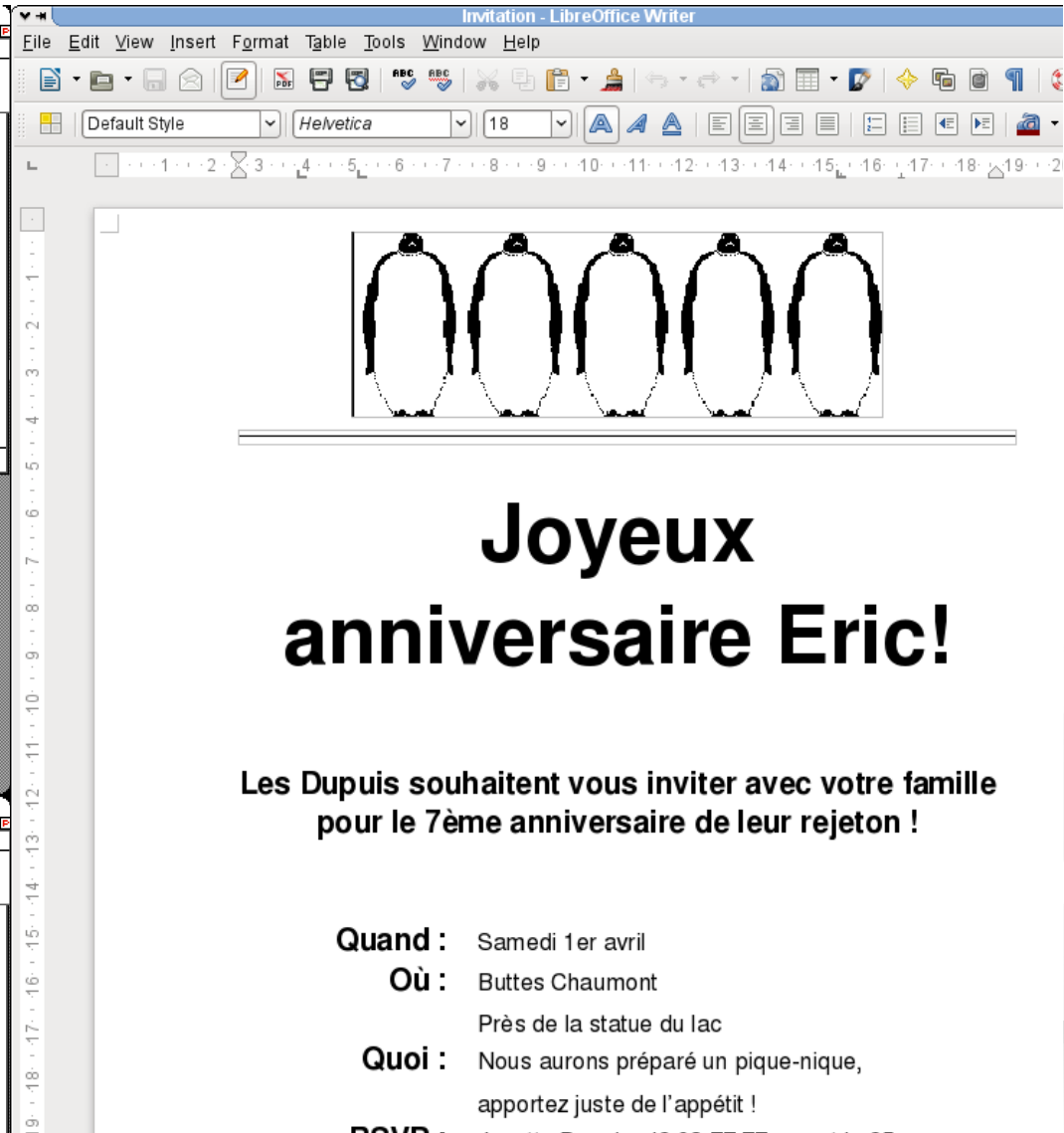
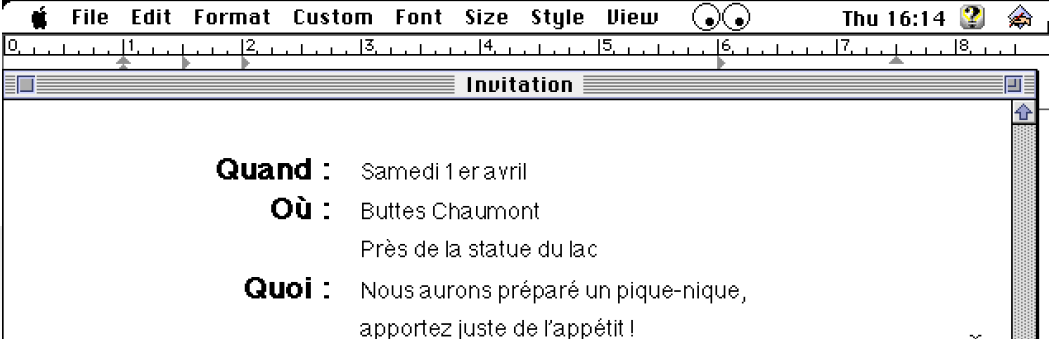
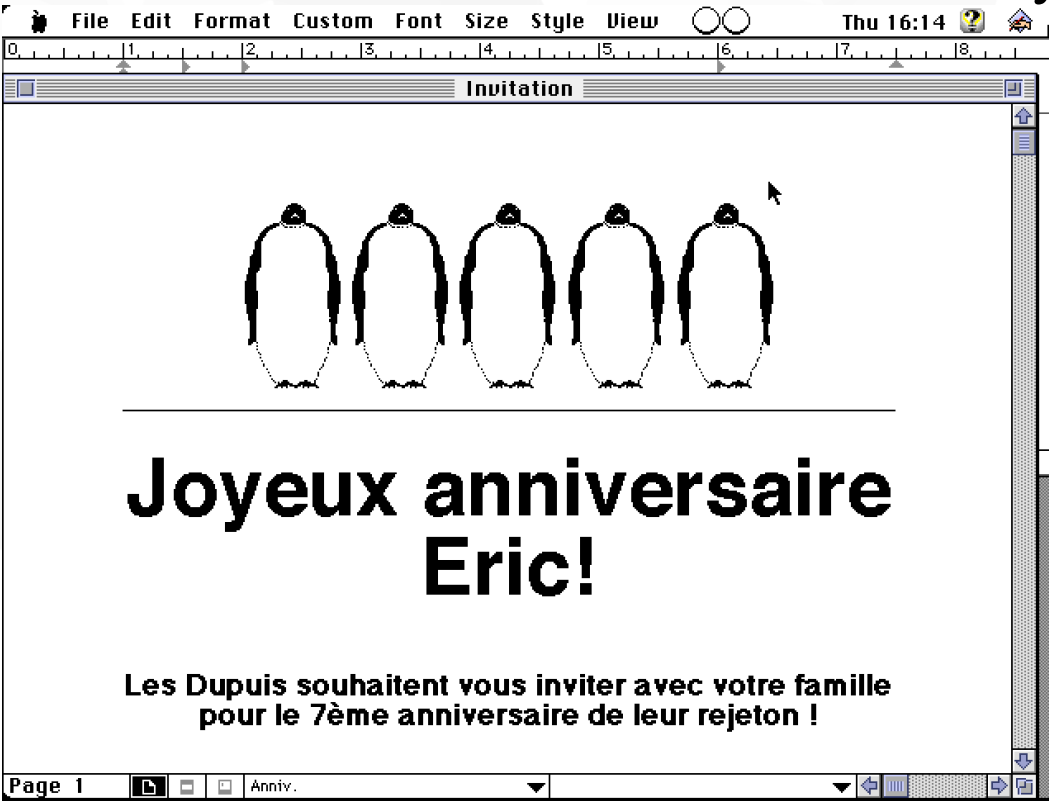
With many thanks to *Laurent Alonso* & libmwaw



# Legacy binary doc reverse engineering → ODF

## Write Now 4.0

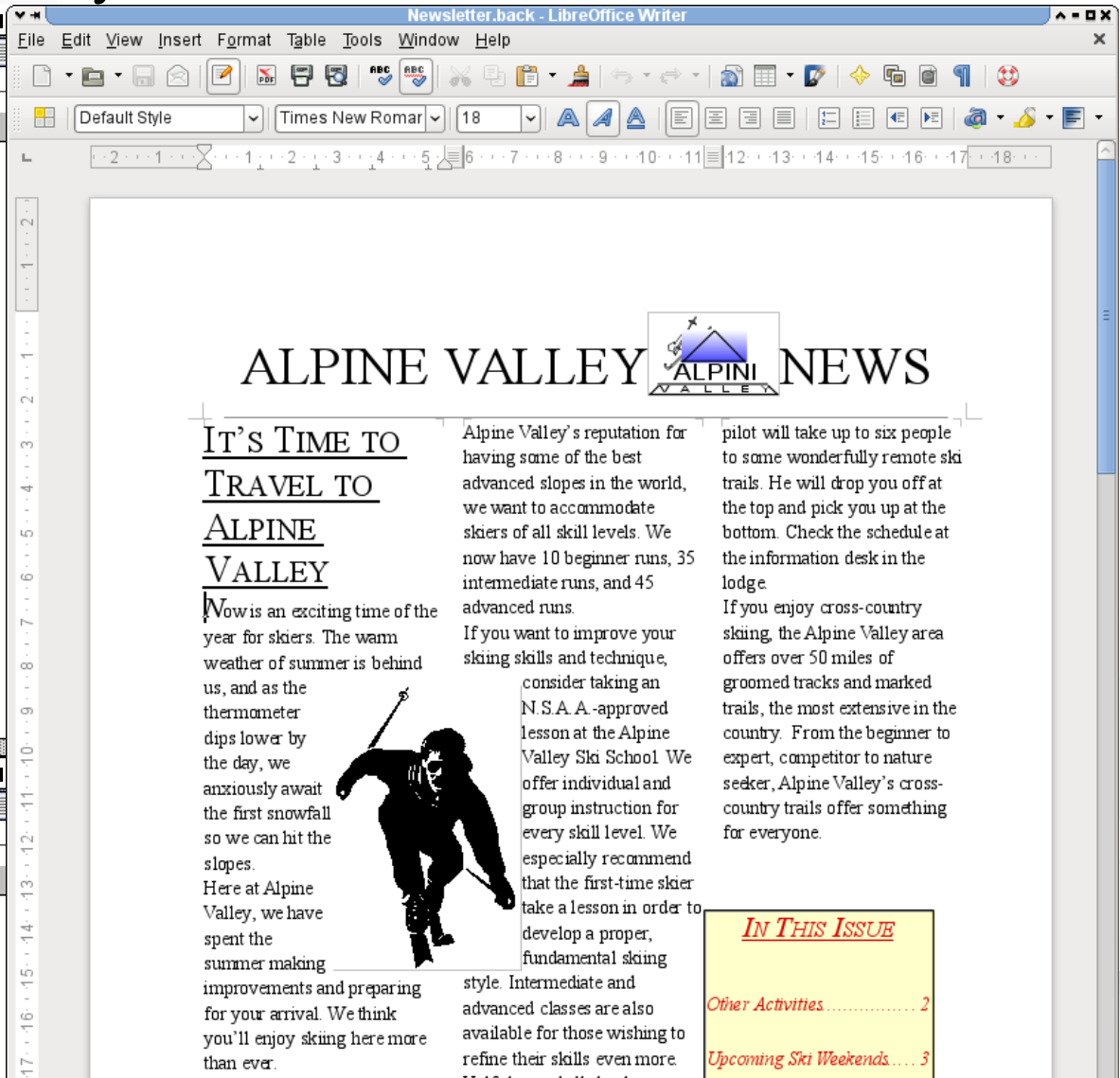
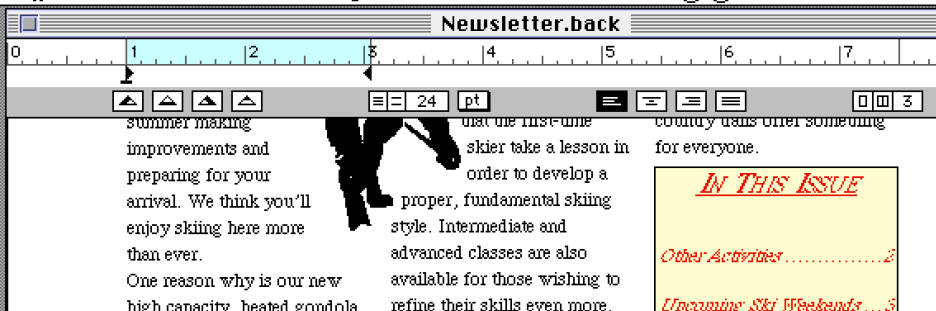
With many thanks to *Laurent Alonso & libmwaw*



# Legacy binary doc reverse engineering → ODF

## Mac Write Pro 1.5

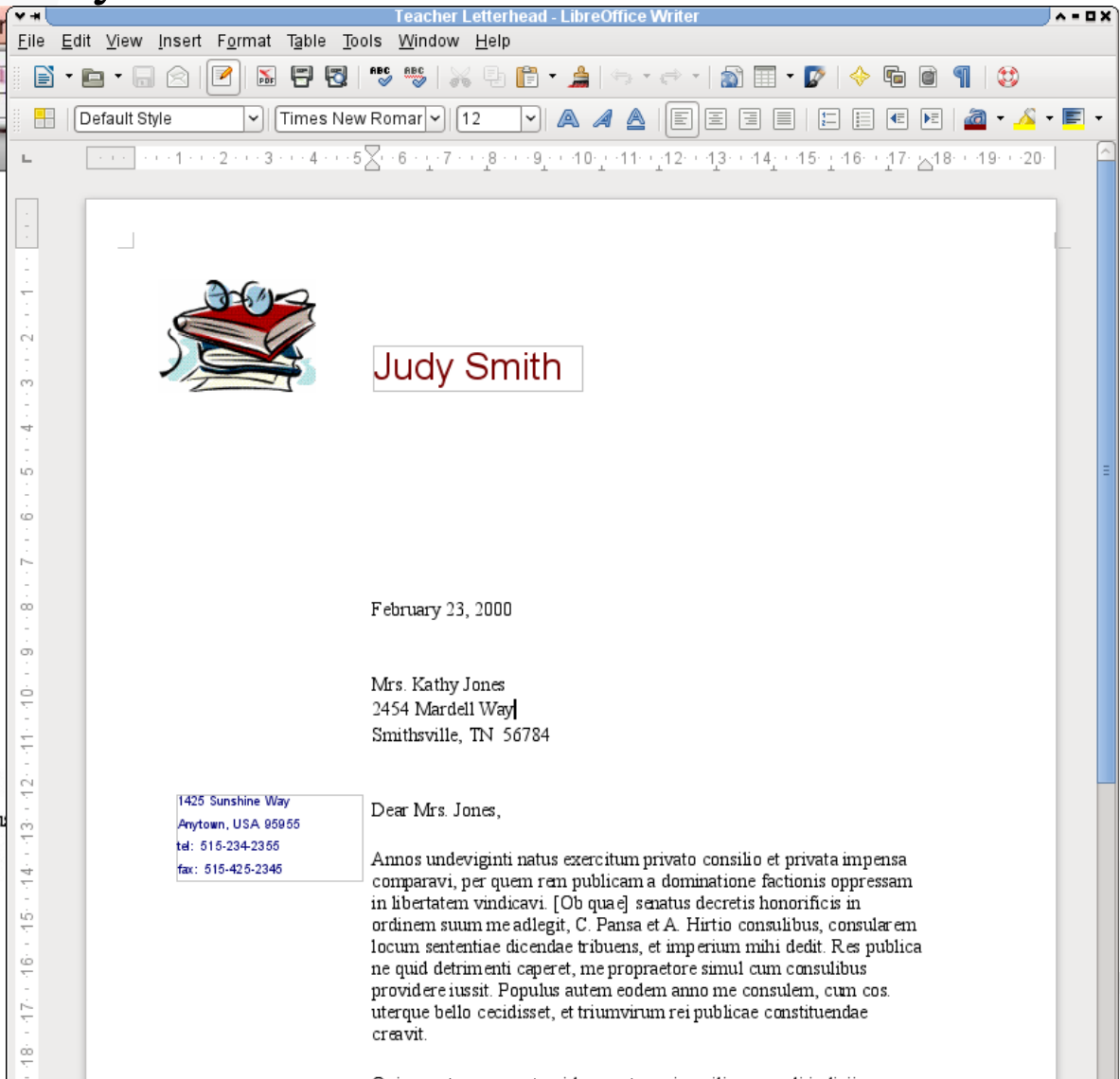
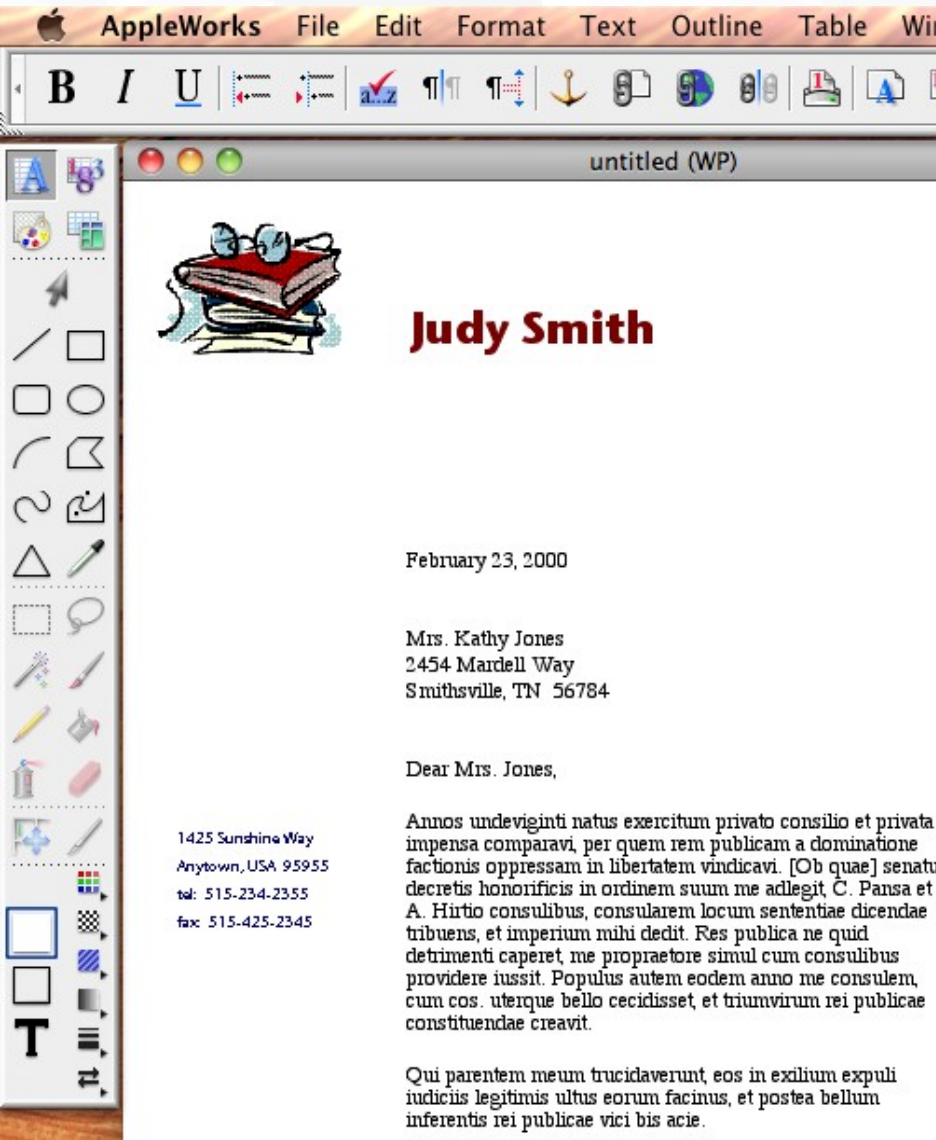
With many thanks to *Laurent Alonso & libmwaw*



# Legacy binary doc reverse engineering → ODF

## AppleWorks 6.0

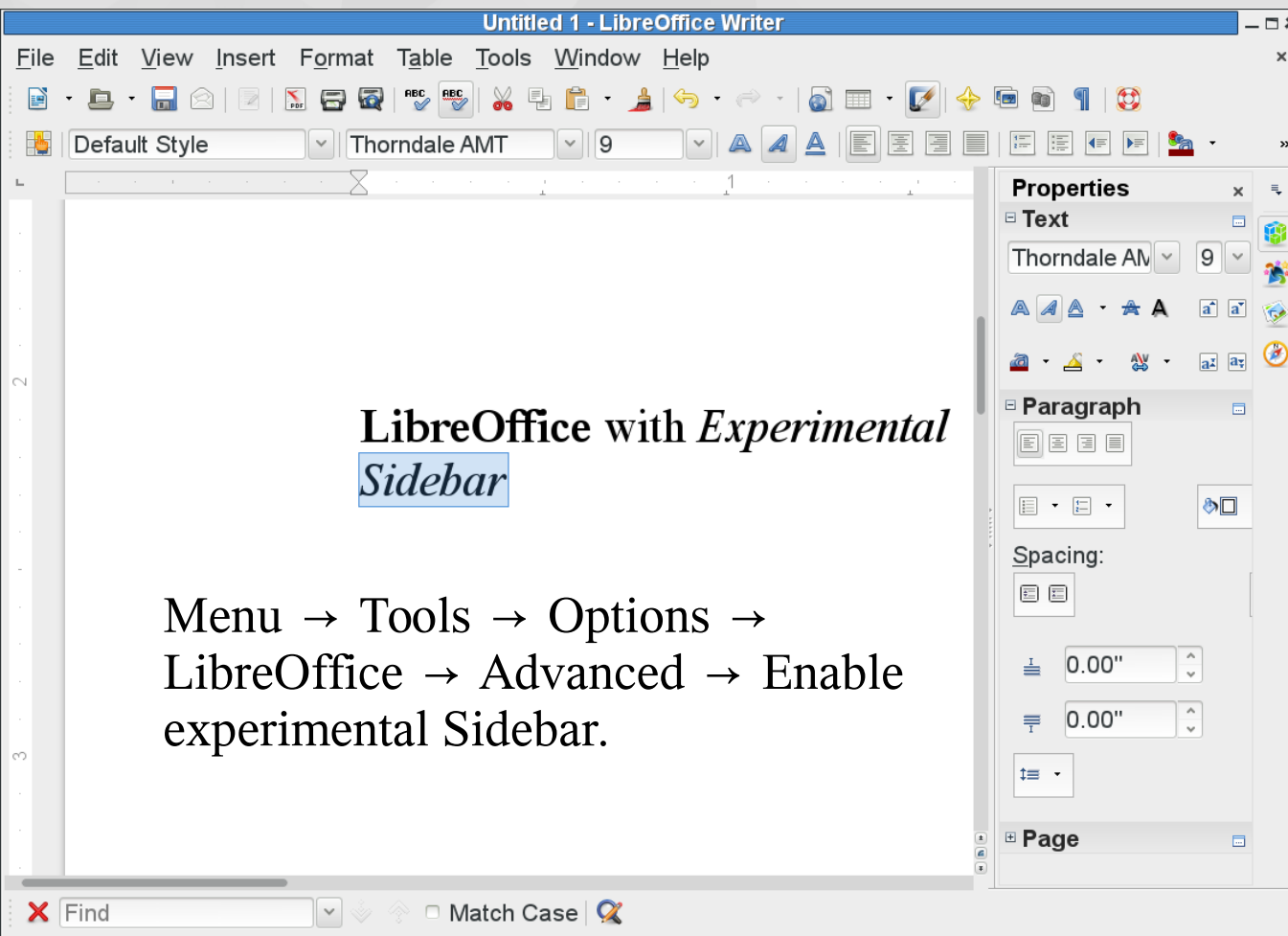
With many thanks to *Laurent Alonso* & libmwaw



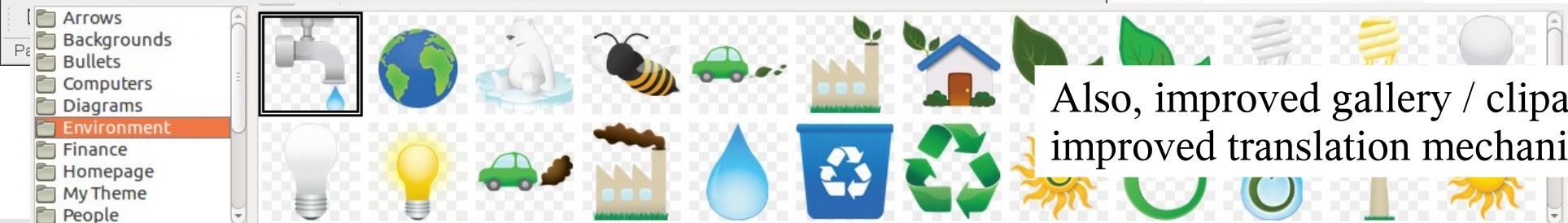
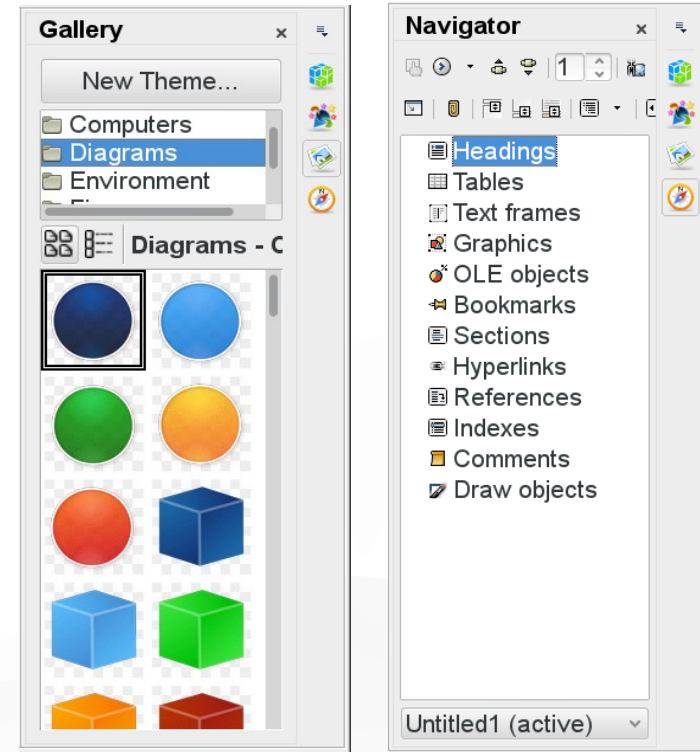


# Sidebar from IBM / AOO (Experimental)

Various tabs ... embed existing gallery & navigator conveniently.



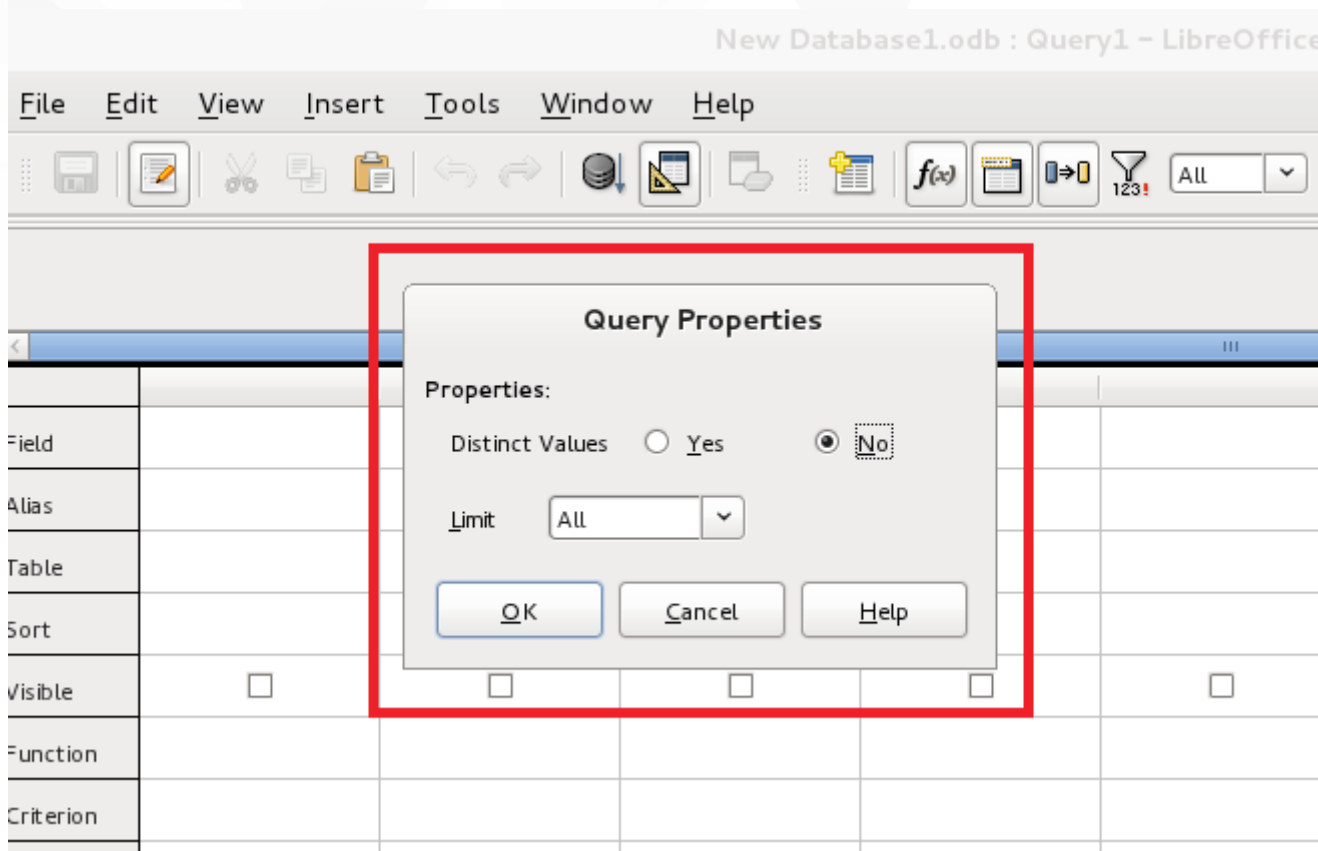
Menu → Tools → Options → LibreOffice → Advanced → Enable experimental Sidebar.



Also, improved gallery / clipart & improved translation mechanism

# Many Base improvements: finally getting some love ...

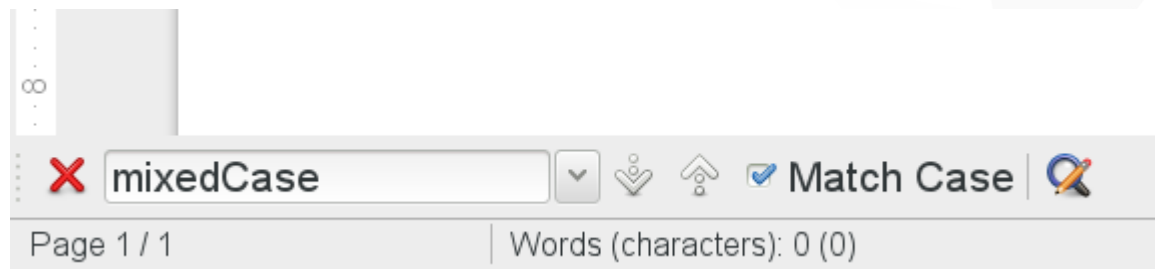
Limit and Distinct values support: with thanks to *Tamás Zolnai*



Also significant work cleaning / debugging base & lots of work on eg. Nanosecond timestamps from many thanks to *Lionel Elie Mamane*

# Other misc. flavours:

- ▼ GStreamer 1.0 support (as well as 0.10)
- ▼ ~3000 bug fix patches ( 400 from @apache)
  - ▼ cf. ~5000 open bugs @ fdo
- ▼ 10k commits since 4.0
- ▼ Lots of incremental interoperability wins.
- ▼ Ctrl-F search bar: close + match case thanks to *Andrzej Hunt & Joren De Cuypere*



LibreOffice 4.2 new stuff ...  
*the deep, speculative future (6 months out)*

# Lots of great work from GSOC

- ▼ Windows / VLC integration (if present)
  - ▼ Better codec support than windows → use it.
    - ▼ Thanks to *Minh Ngo*
- ▼ Firebird database: move from HSQLDB
  - ▼ Significant speedups, thanks to *Andrzej Hunt*
- ▼ libCMIS connector for Google Docs
  - ▼ Thanks to *Cuong Cao Ngo*
- ▼ And much more ...

# Much improved Android Impress remote

With thanks to *Artur Dryomov*


3G 1:30 3G 1:31 3G 1:24

Slide 3 of 12 5 minutes remaining

Slide 3 of 12 5 minutes remaining

Connection

Рефлекторная деятельность мозга



Мышление

1

2

3

4

5

6

7

8

9

10

11

12

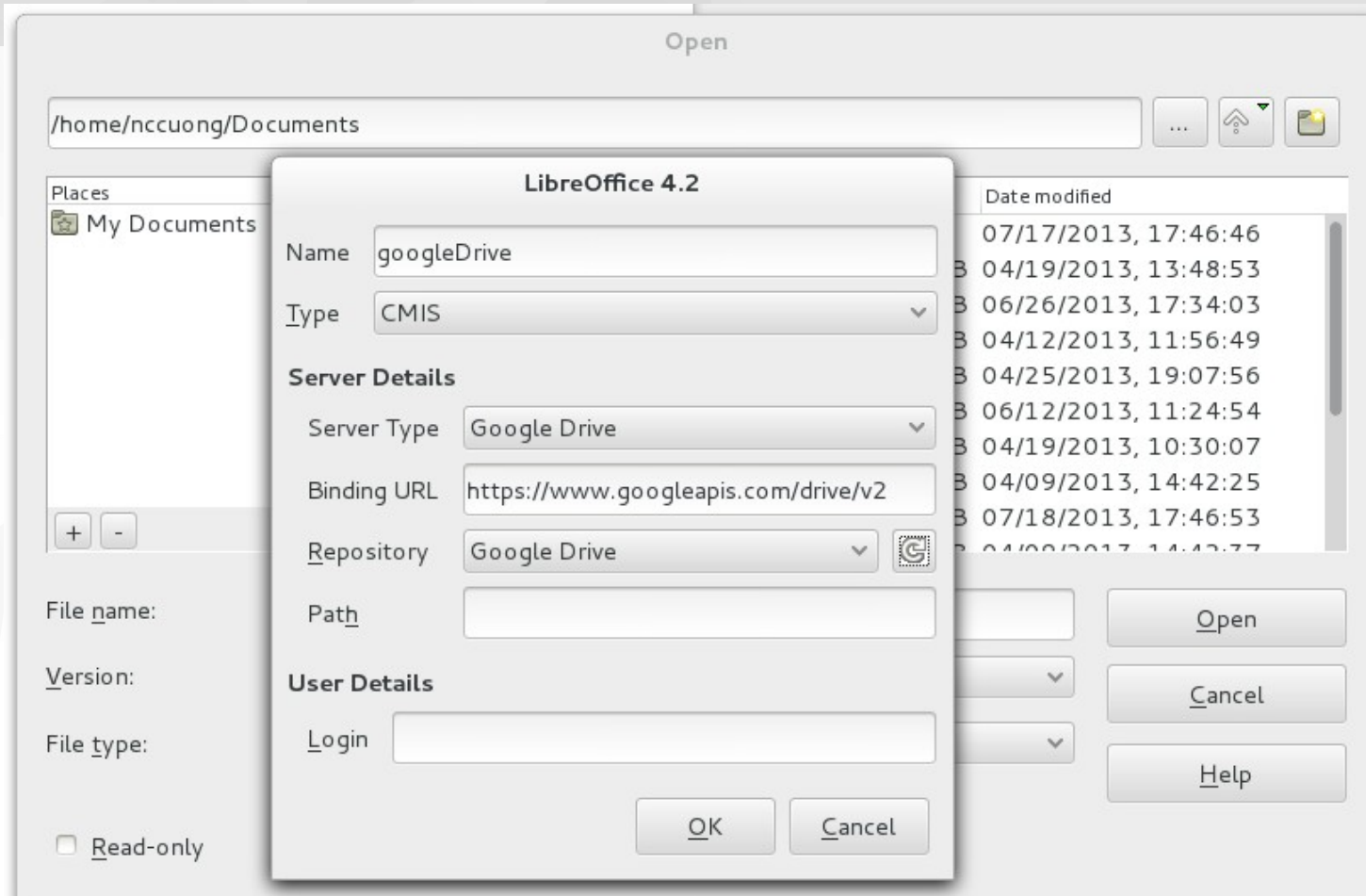
### Connection failed

Make sure you enabled remote control. Go to "Tools → Options → LibreOffice Impress → General" in LibreOffice Impress.

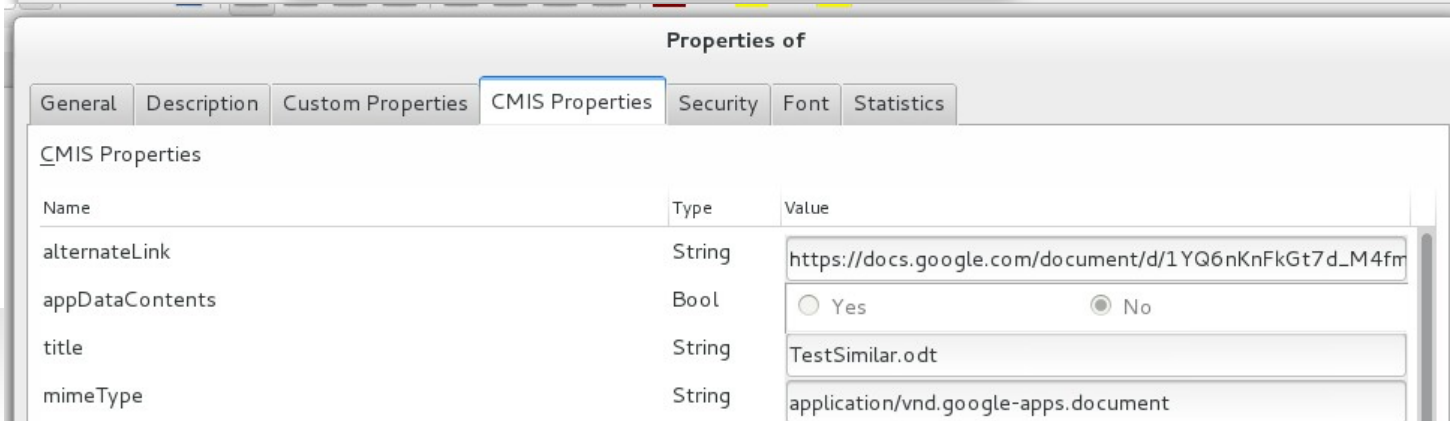
You should enable experimental features at "Tools → Options → LibreOffice → Advanced" as well.



# GDrive integration (via libcmis)

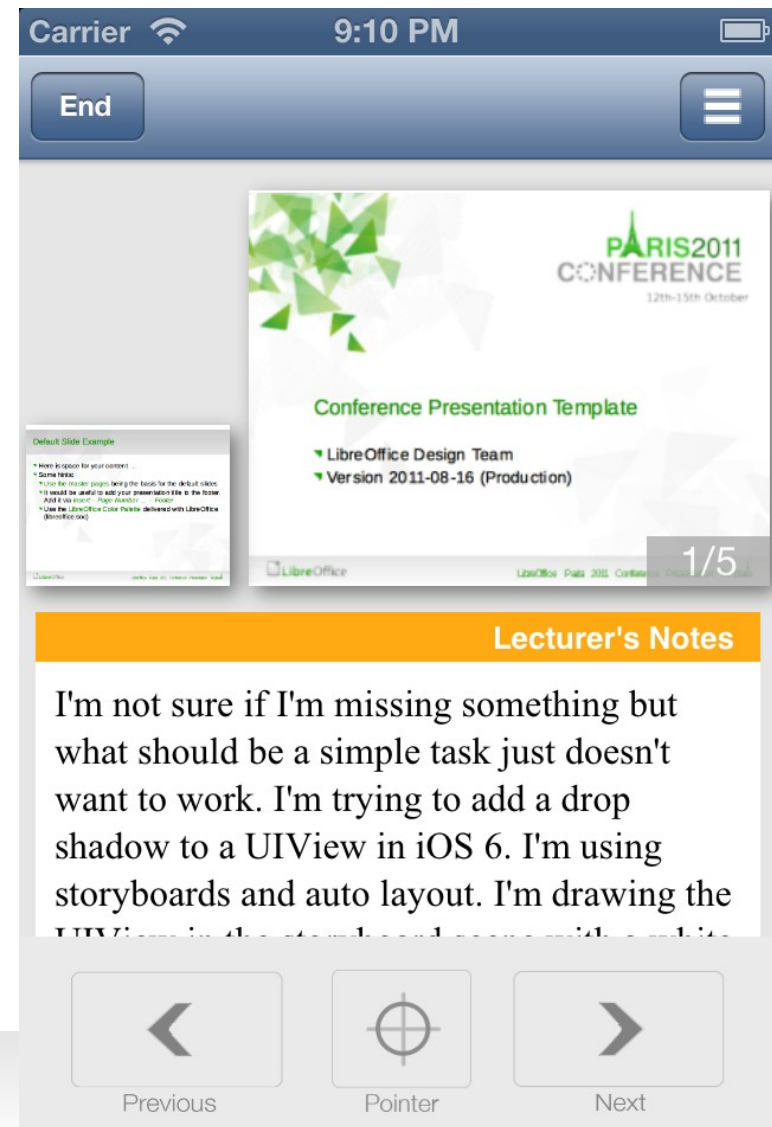


With  
thanks to  
*Cuong  
Cao Ngo*



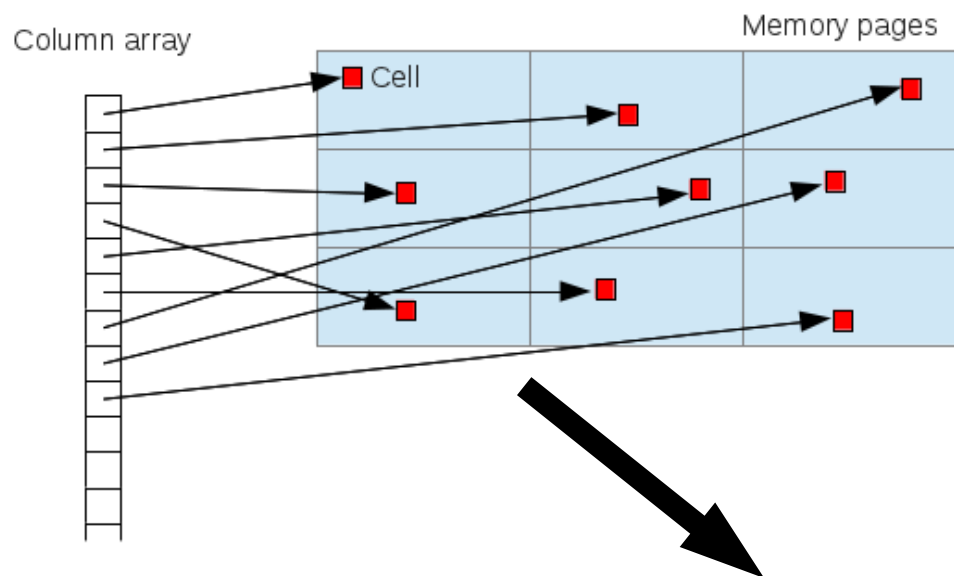
# Initial iOS Impress remote control

With thanks to *Siqi Liu* – sign up for the Beta

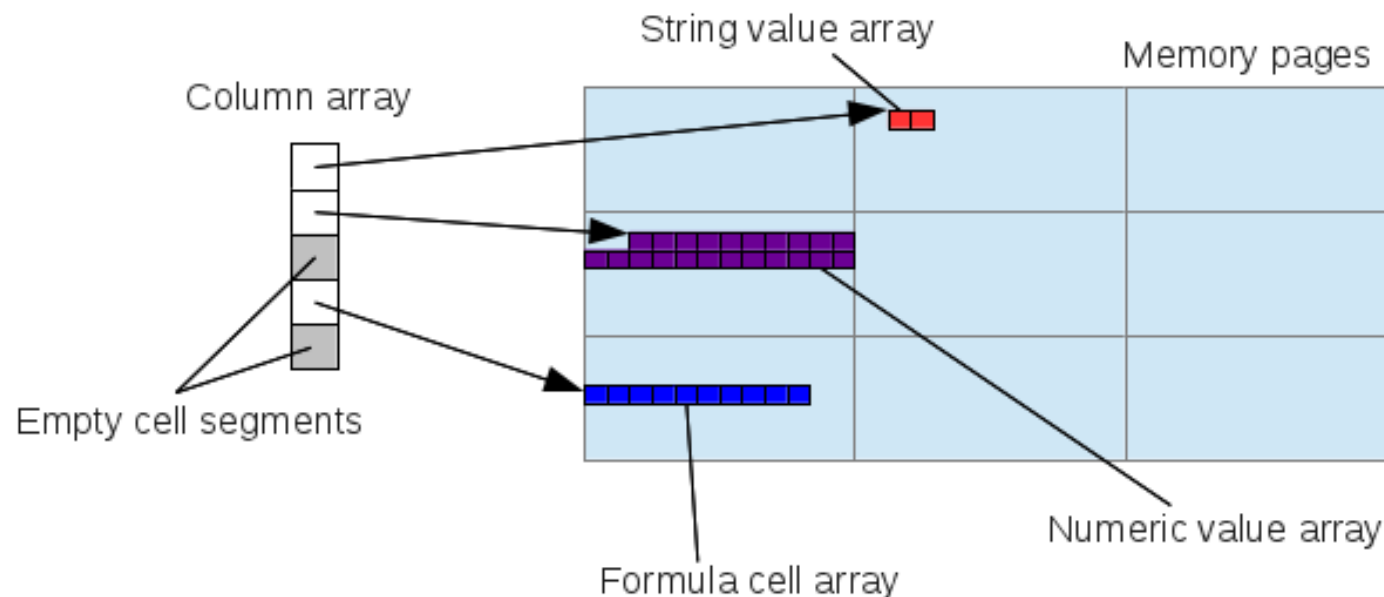




# Re-factor & OpenCL enable calc core

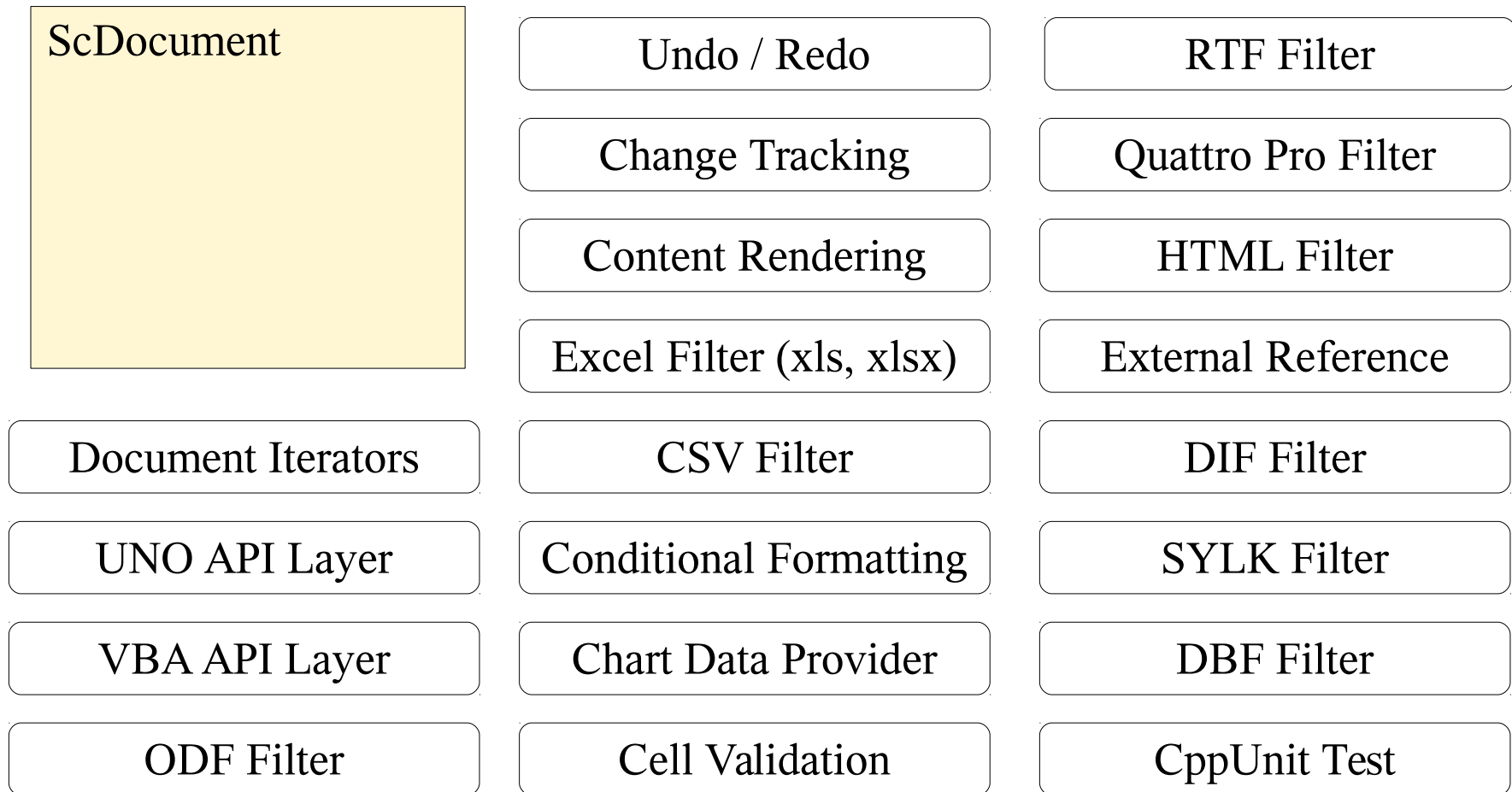


- ▼ Drug-bust on the internal calc data structures
- ▼ Reduced memory size
- ▼ Much faster calculation
- ▼ OpenCL for ultimate speed ...
- ▼ Thanks to AMD ! (and)  
*Kohei Yoshida (SUSE), MultiCoreWare*



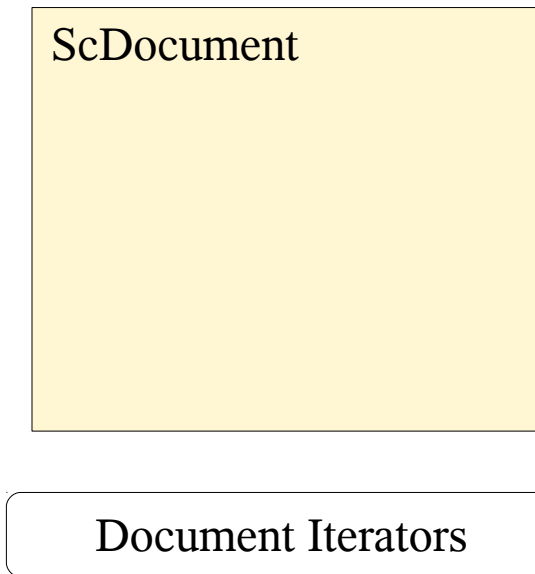
# Abstraction of Cell Value Access

ScBaseCell Usage (Before)



# Abstraction of Cell Value Access

ScBaseCell Usage (After)



A milestone of the code is landed in 4.1  
Hopefully without significant perf. impact  
The major speedups / savings & OpenCL come for 4.2

**Biggest calc core re-factor in a decade+**

Dis-infecting the horrible, long-term, inherited structural problems of Calc.

Moving on to real shared formulae & fixed up referencing.

Should yield even more memory & performance wins for large sheets.

Lots of new unit tests being created for the first time for the calc core.

LibreOffice and GNOME ...

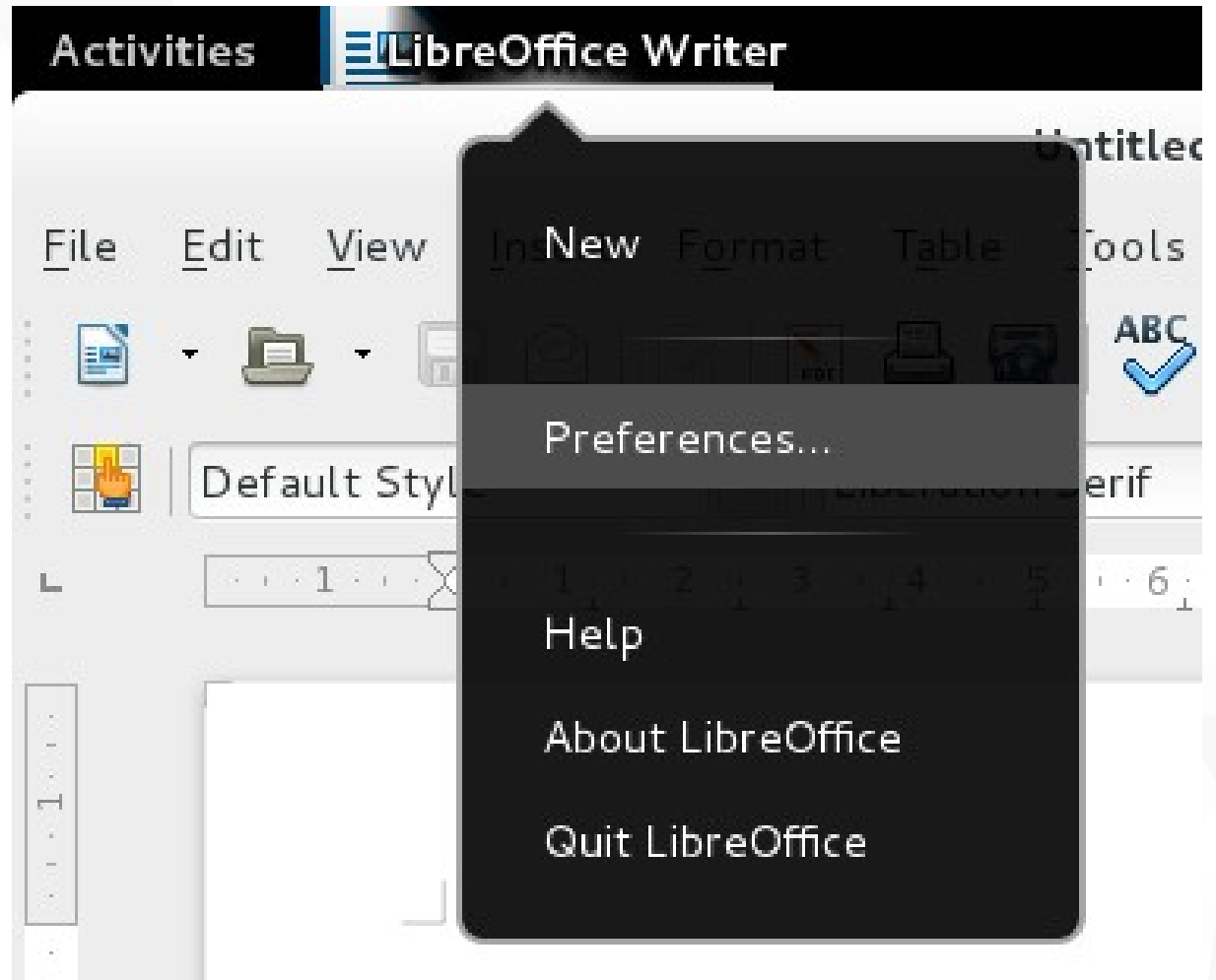
# Integration & work with GNOME

- ▼ Schedule Synchronisation
  - ▼ our .2 release matches the 6 monthly GNOME / distro release cadence.
- ▼ gnome\_vfs & gio integration
- ▼ gconf\_ - no dconf yet (volunteers appreciated)
- ▼ d-bus (screensaver hold-off API / dbus menu pieces)
- ▼ Evolution libebook / addressbook & send-mail integration
- ▼ All windows are GtkWindows, glib mainloop integration
- ▼ Gtk+ file dialog & ~GtkPrint integration
- ▼ Harfbuzz re-use ...
- ▼ Telepathy integration – coming ...
- ▼ And more ...

# GNOME app menu integration

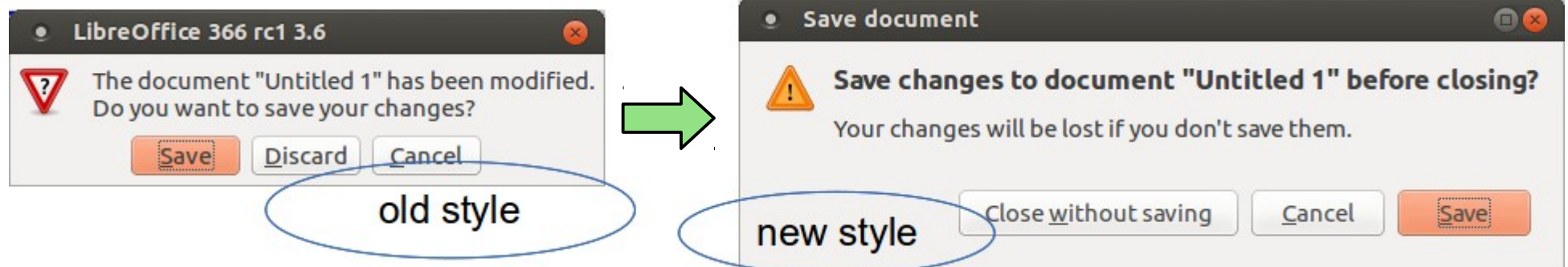
Thanks to *Caolan McNamara*

- Also GMenu integration thanks to *Canonical* and *Antonio Fernandez at Aentos*



# VCL / Layout integration ...

- ▼ LibreOffice continues to use it's internal VCL toolkit
  - ▼ With backends for gtk2, gtk3, KDE3, KDE4, TDE, raw X etc.
  - ▼ Thanks to *Caolán McNamara, Krisztian Pinter, Jack Leigh, Alia Almusaireae (KACST), Katarina 'Bubli' Behrens, Abdulaziz A Alayed (KACST), Jan Holesovsky, Faisal M. Al-Otaibi (KACST), Abdulmajeed Ahmed (KACST), Andras Timar, Manal Alhassoun (KACST), Bubli, Albert Thuswaldner, Olivier Hallot, Miklos Vajna, Abdulelah Alarifi (KACST), Gokul Swaminathan (KACST), Rene Engelhard, and others.*
  - ▼ 335 dialogs (~50%+) moved to GtkBuilder / glade edited .ui files.
  - ▼ Hope to allow (optional) use of native widgets in the future [ **gtk+3** ]



# LibLibreOffice – prototype:

- ▼ A tiny static library
  - ▼ At run-time, dynamically links / exposes LibreOffice functionality
- ▼ An abstract & much simplified programming interface:

```
class LibLibreOffice {  
    virtual bool initialize (const char *installPath) = 0;  
    virtual LODocument *documentLoad (const char *url) = 0;  
};  
LibLibreOffice *lo_init (const char *install_path);
```

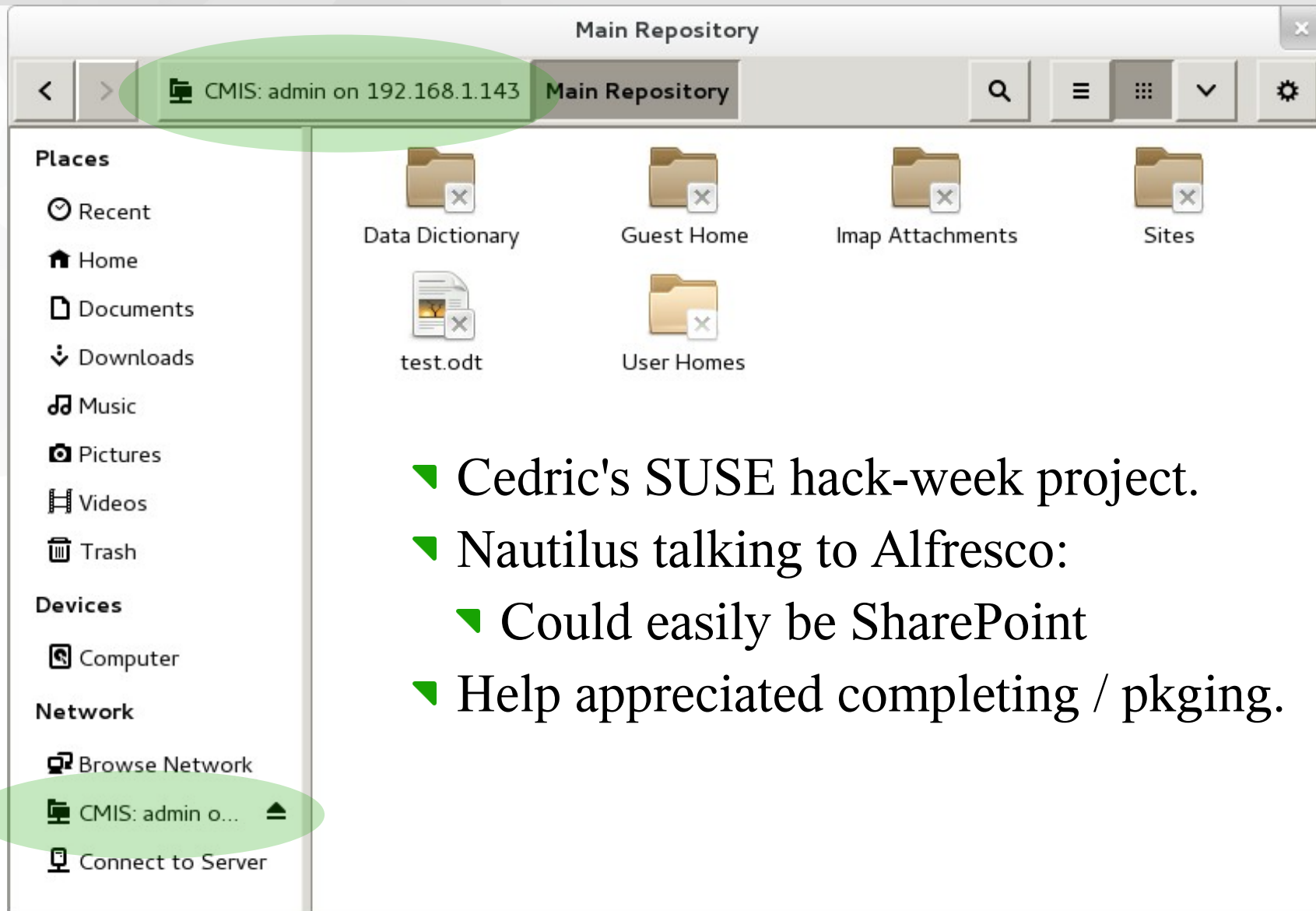
- ▼ GNOME / Documents:
  - ▼ Currently re-spawns (via a python script 'unoconv') a LibreOffice process to do PDF conversion → evince.
  - ▼ Significant setup / tear-down costs → better to link *libreoffice* ?
  - ▼ Ultimately hope to have a tiled document renderer for 'Documents';



# libCMIS integration in GNOME

- ▼ libCMIS – standalone library (thanks to *Cedric Bosdonnat*)
  - ▼ <http://sourceforge.net/projects/libcmis/>
- ▼ Uses new “Content Management Interoperability Services” (CMIS) std.
  - ▼ <http://en.wikipedia.org/wiki/CMIS>
- ▼ Implemented by many servers:
  - ▼ MS Sharepoint 2010+. Alfresco + in the cloud, EMC Documentum, IBM doc mgmt. systems, Nuexo, OpenCMS, SAP HANA, etc.
- ▼ Already have a prototype GVFS backend:
  - ▼ <http://cgit.freedesktop.org/~cbosdo/gvfs-cbosdo/>
  - ▼ Help **much** appreciated to finish & get that into a ship-able state ...
- ▼ libcmis – also talks to Google Docs.

# libCMIS integration in GNOME #2



- ▼ Cedric's SUSE hack-week project.
- ▼ Nautilus talking to Alfresco:
  - ▼ Could easily be SharePoint
- ▼ Help appreciated completing / pkging.

# LibreOffice & GNOME Conclusions



- **LibreOffice is growing & executing**
  - Really improved a lot for developers
  - Improving for users: still a long way to go ...
- **LibreOffice works well with GNOME**
  - We want to integrate better with all our platforms
- **LibreOffice has ambitious future plans**
  - We need new hackers to accelerate them ...
- **Thanks for all of your help and support !**
  - **we rely on you**, to prove the power of Freedom with us.
  - to get people **excited** about Free Software they use ...
- **Please do get involved** and help us ...

*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*