



# LibreOffice

The Document Foundation

## and GNOME ...

*What we're doing apart and together*

**Michael Meeks**

**michael.meeks@suse.com**

*“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*

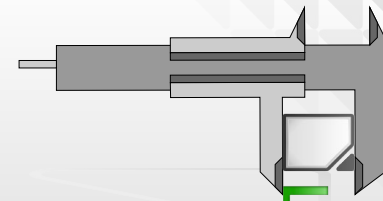


# The messages in a nutshell ...

- LibreOffice growth & execution
  - *improvements for developers*
  - *improvements for users*
- LibreOffice / GNOME integration
  - *current state & plans*
- LibreOffice relevance / future ...
- Conclusions

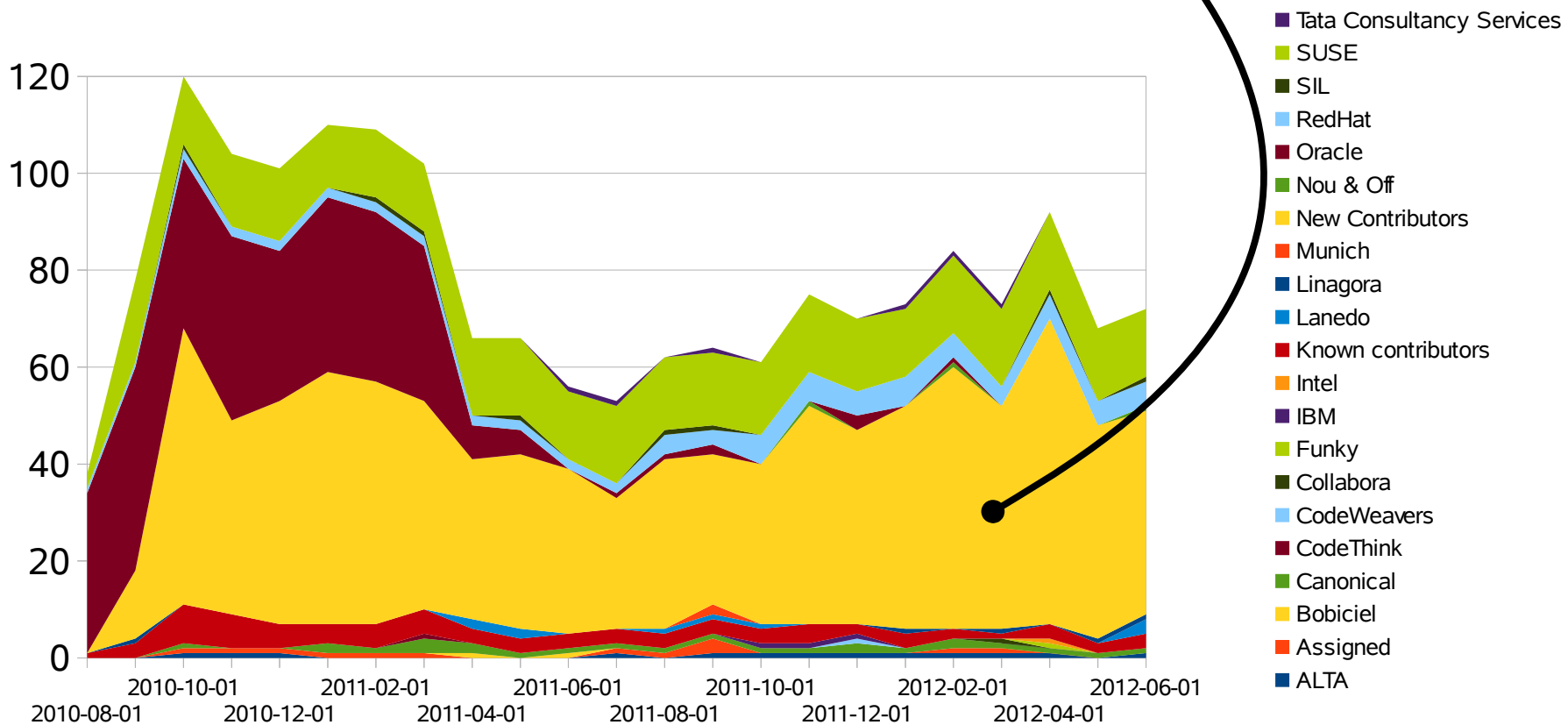
LibreOffice: more devs needed  
*perhaps this rings a bell ...*

# Including new contributors ...

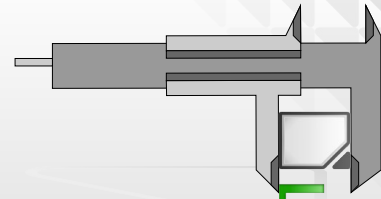


- Steadily diversifying and growing the team ...  
New guys since we launched

Number of distinct code committers active in each month



# Reliable out-of-master builds ...



tinderbox.libreoffice.org/MASTER/status.html

Tinderbox Status Page tree: MASTER

Created at: Sun Jul 29 03:55

Page Size: 1000  
Date: 2010-07-29 03:55



Find: sharepoint < Previous > Next Highlight all Match case Reached end of page, continued from top

Lots of big / fast /  
ccache enabled  
tinderbox slaves.

All major platforms

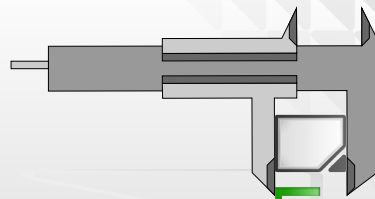
Building & up-  
loading binaries as  
well for QA.

Thanks to  
**Norbert Thiebaud**  
**Bytemark & more**

# Easy Hacks and patch submission

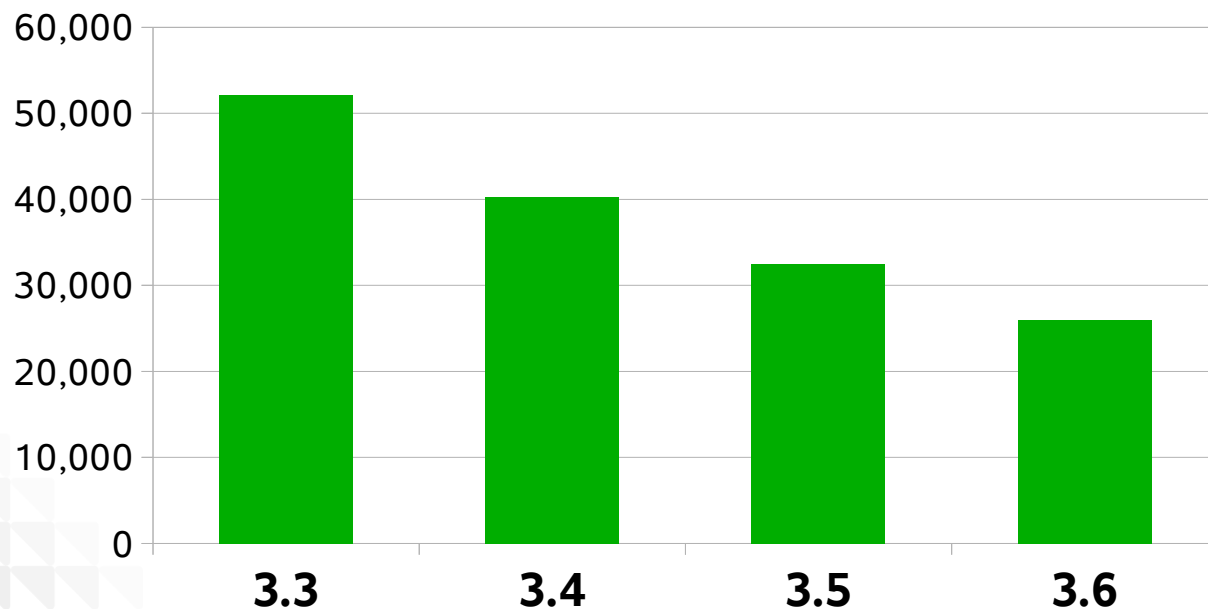
- ▼ Easy hacks page
  - ▼ Generated from simple whiteboard annotation in bugzilla
  - ▼ [http://wiki.documentfoundation.org/Development/Easy\\_Hacks](http://wiki.documentfoundation.org/Development/Easy_Hacks)
  - ▼ changes welcome !
  - ▼ *Thanks to **Bjoern Michaelsen** (Canonical) and others.*
- ▼ Gerrit - <https://gerrit.libreoffice.org>
  - ▼ Magic to turns an openID account (eg. Gmail)
  - ▼ Into no-ask git commit / push access to gerrit
  - ▼ Submit to patch queue backed by mailing-list
  - ▼ Code inclusion is: `git fetch / cherry-pick FETCH_HEAD`
  - ▼ Test build integration on it's way.
    - ▼ *Thanks to **Norbert Thiebaud, Bjoern Michaelsen, David Ostrovsky***

# Translating German Comments



- Makes things **significantly** easier for non-Germans ...
- **~26k lines** done - **~26k to go** > 50%...
- **If you read German – please help**
  - Lots of comment translators distracted by code hacking...

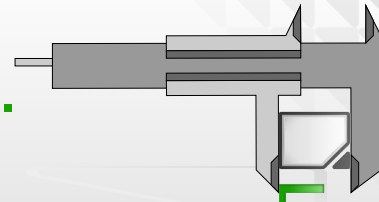
Detected lines of German comment



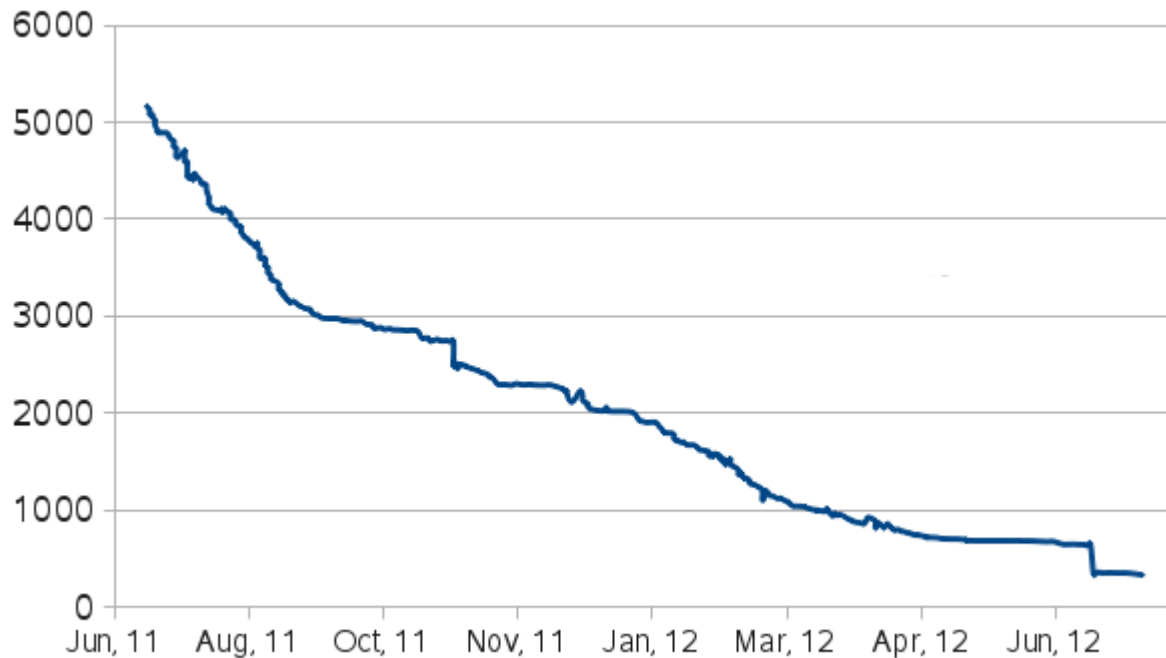
*With thanks to (recent translators):*

**Luc Castermans**  
**Philipp Riemer**  
**Julien Nabet**  
**Tomaž Vajngerl**  
**Jesso Clarence – Murugan**  
**Florian Reisinger**  
**Sebastian Spaeth**  
**Philipp Weissenbacher**  
**and many more !**

# Removing totally unused code ...



- ▶ Shrinking the LibreOffice's bloat footprint
- ▶ making real progress ... 5000+ methods to ~200
- ▶ One year of unused methods work:



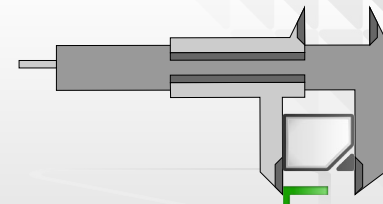
*With thanks to*  
**Caolan McNamara**  
**Michael Stahl**  
**(Redhat)**

**And particularly:**  
***Noel Grandin***

For working to complete  
the last two-hundred by  
porting away from custom  
templates to STL.

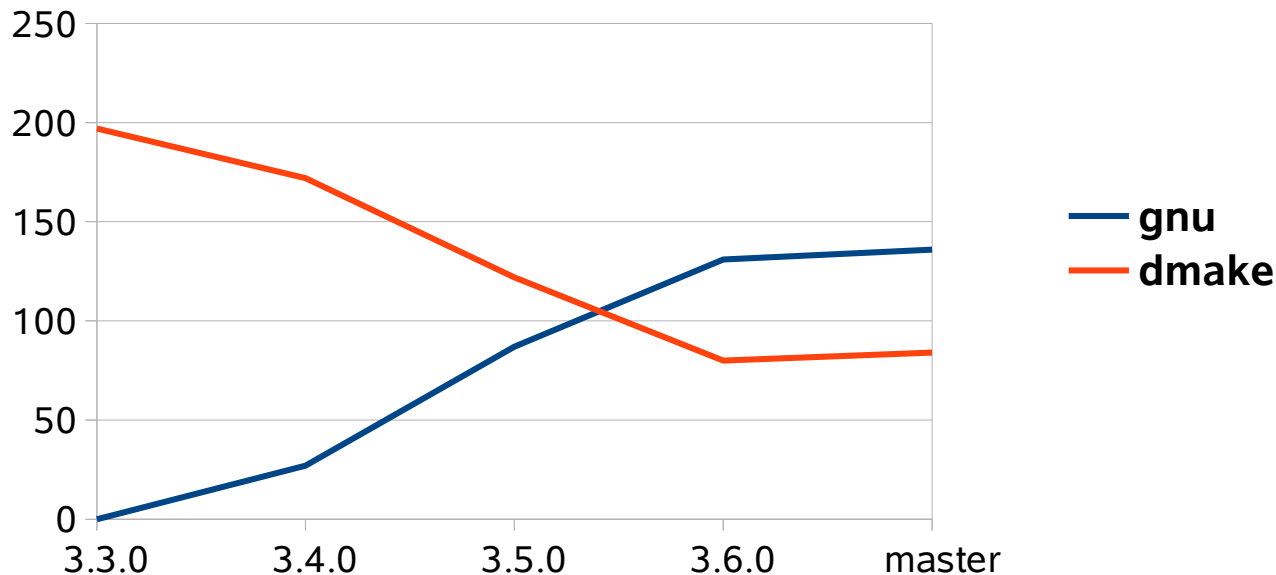


# Using a standard make tool (gnumake)



- ▶ Ongoing work to kill '**dmake**'
  - ▶ Faster, more standard & hack-able
  - ▶ Huge parallelism possible for builds on big-iron.
  - ▶ Enables library merging → one monster lib.

gnumake vs. dmake by module count



*With thanks to*  
**David Tardon**  
*(RedHat)*  
**Matúš Kukan**  
**David Ostrovsky**  
**Pierre-Eric**  
**Pelloux-Prayer**  
*(Lanedo)*  
**and more ...**

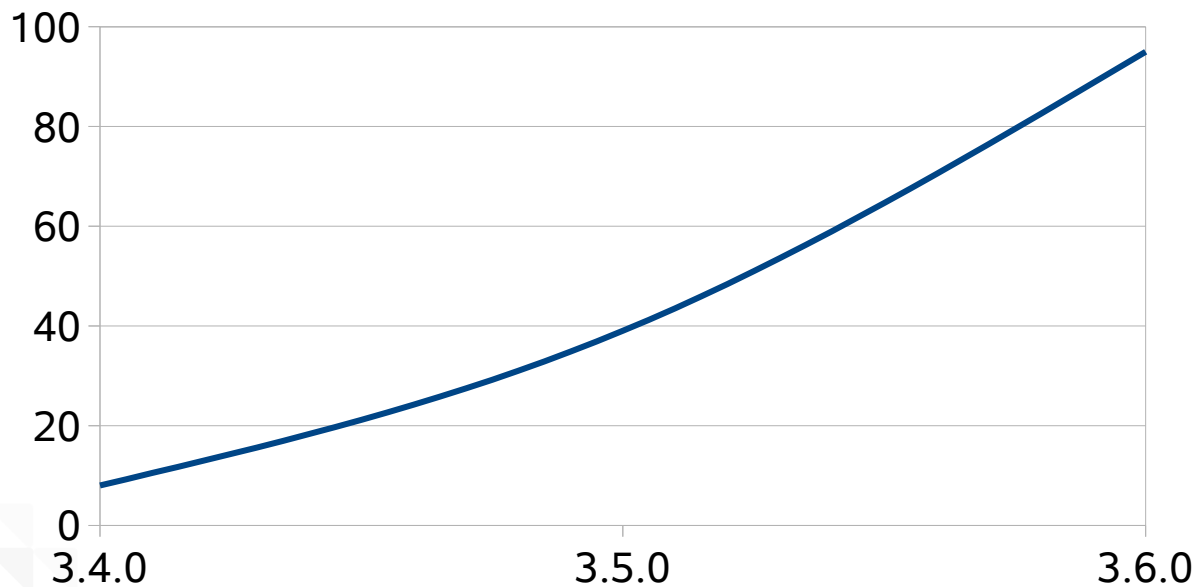
LibreOffice 3.6: more end-user love

# Unit testing for quality ...



- ▶ Improved quality through unit testing
  - ▶ Coverage & number of tests increasing rapidly
  - ▶ security regressions, document layout, formulae calcs etc.

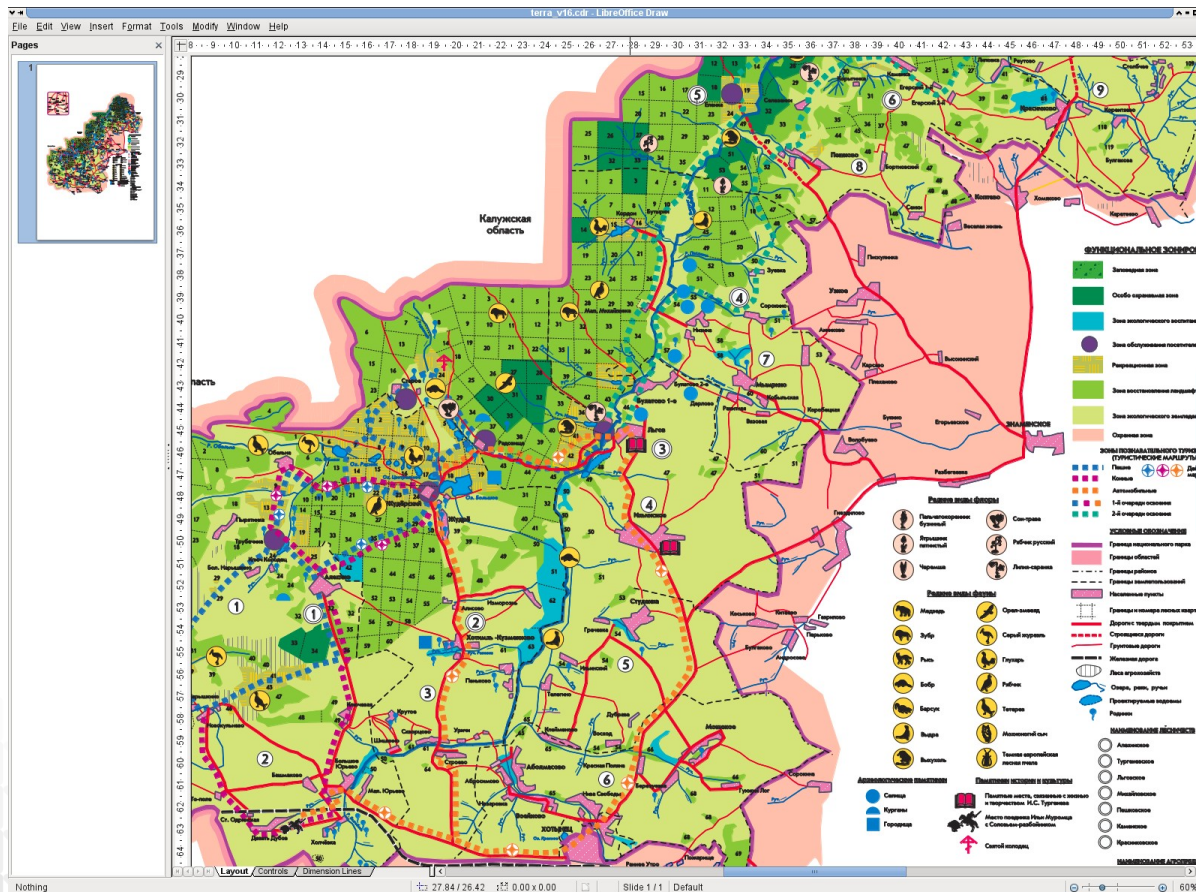
Count of types of gnumake enabled unit tests  
(each runs a battery of tests)



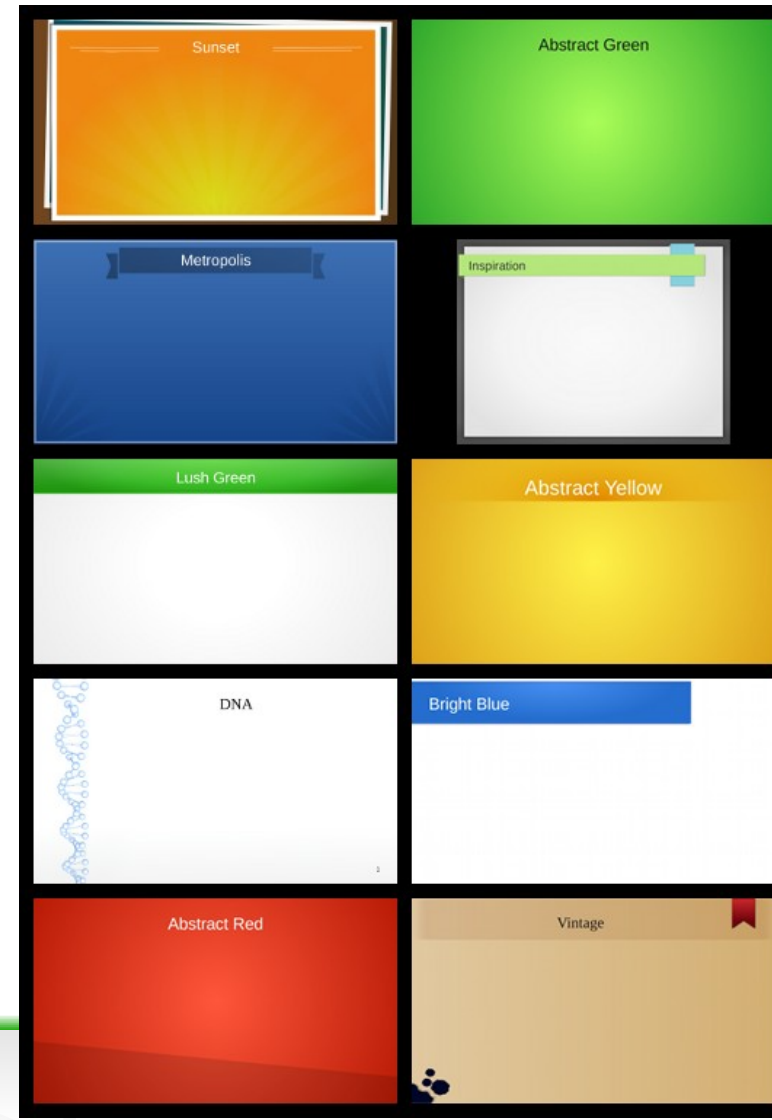
*With many thanks to*  
**Markus Mohrhard**  
*(above)*  
**Artur Dorda**  
**Daniel Bankstone**  
*(GSOC)*  
**Kohei Yoshida**  
**Miklos Vjana**  
*(SUSE)*  
**Caolan McNamara**  
**Michael Stahl**  
*(Redhat)*  
**And many more**  
**Who got tired of fixing**  
**The same bugs ...**

# 3.6 new feature selection ...

Corel Draw import (to ODF)  
*Fridrich Strba (SUSE)*

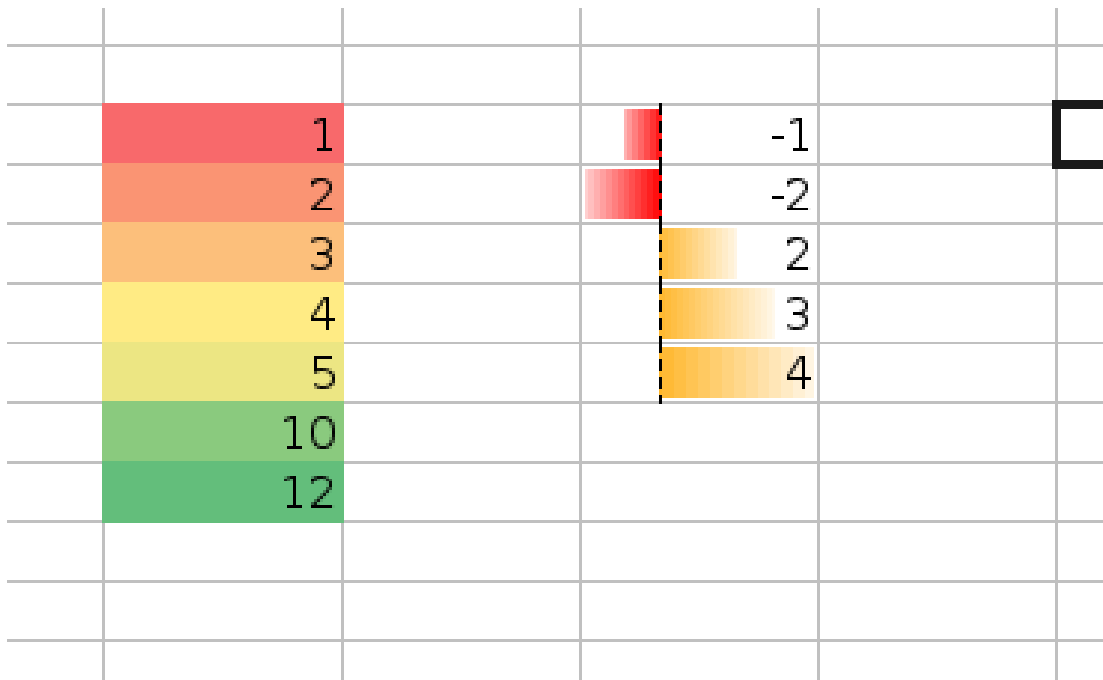


New Impress master-pages  
*Design team (several)*



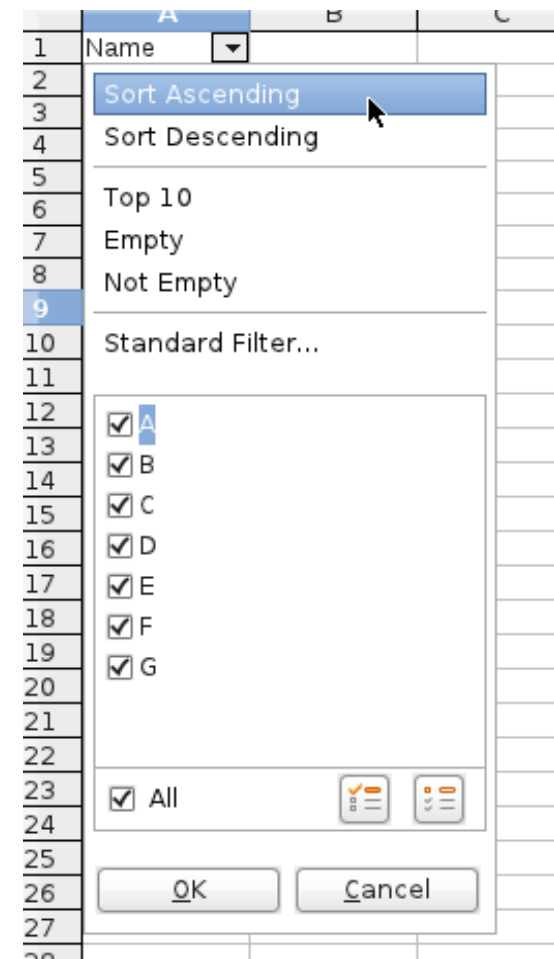
# 3.6 new features #2 ... (calc)

Calc: In-cell color bars  
*Markus Mohrhard*



Calc: much improved CSV import  
*Eike Rathke (RedHat)*

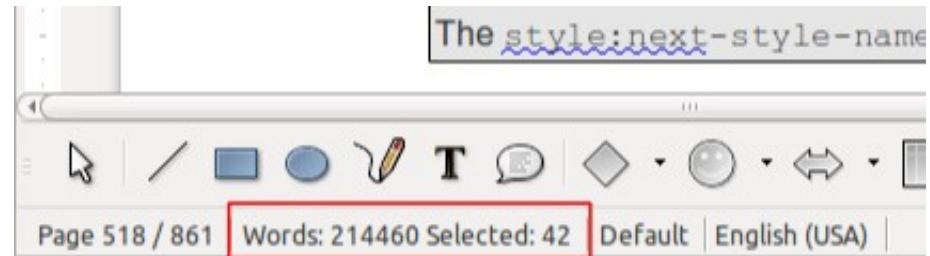
Calc: Ergonomic improvements  
*Kohei Yoshida (SUSE)*



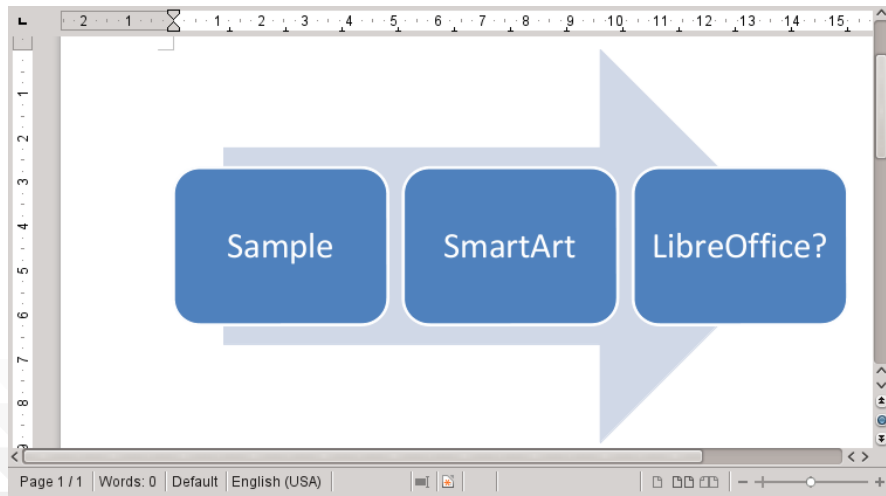
# 3.6 new features #3 ... Writer

As-you-type live wordcount  
in writer

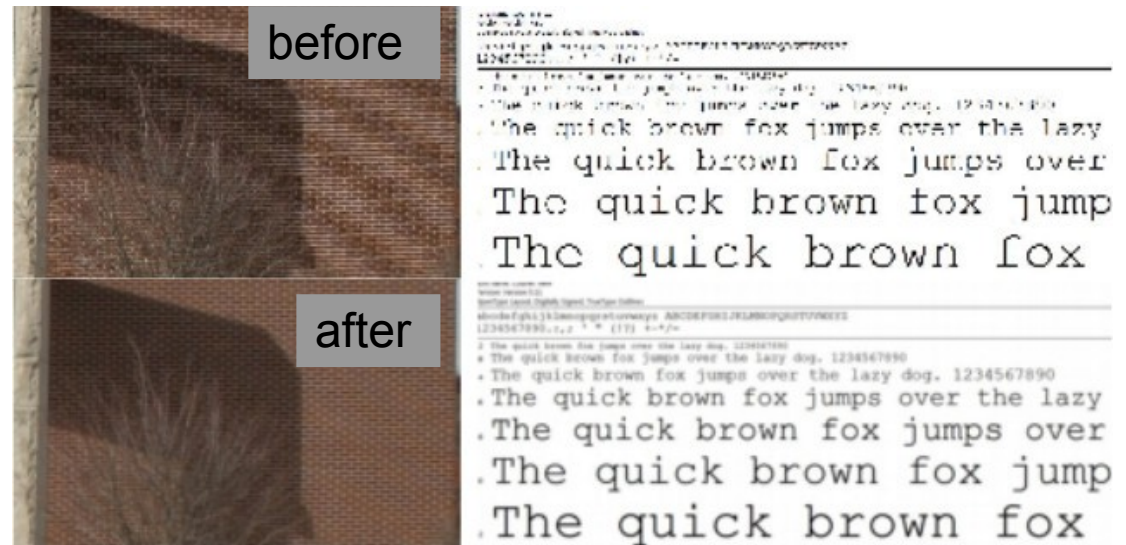
*Muhammad Haggag*



MS Word smartart import  
*Miklos Vjana (SUSE)*



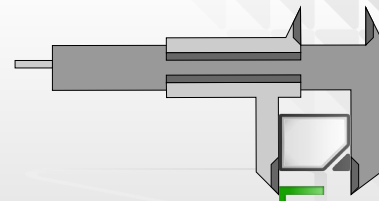
Much improved image scaling  
*Tomaž Vajngerl*



# And more features & fixes ...

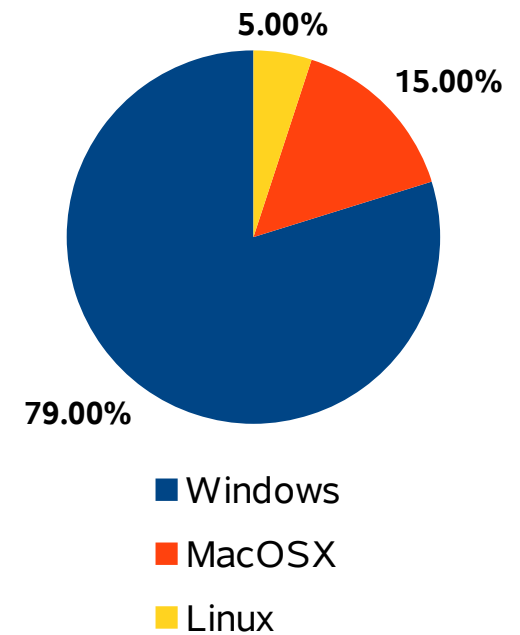
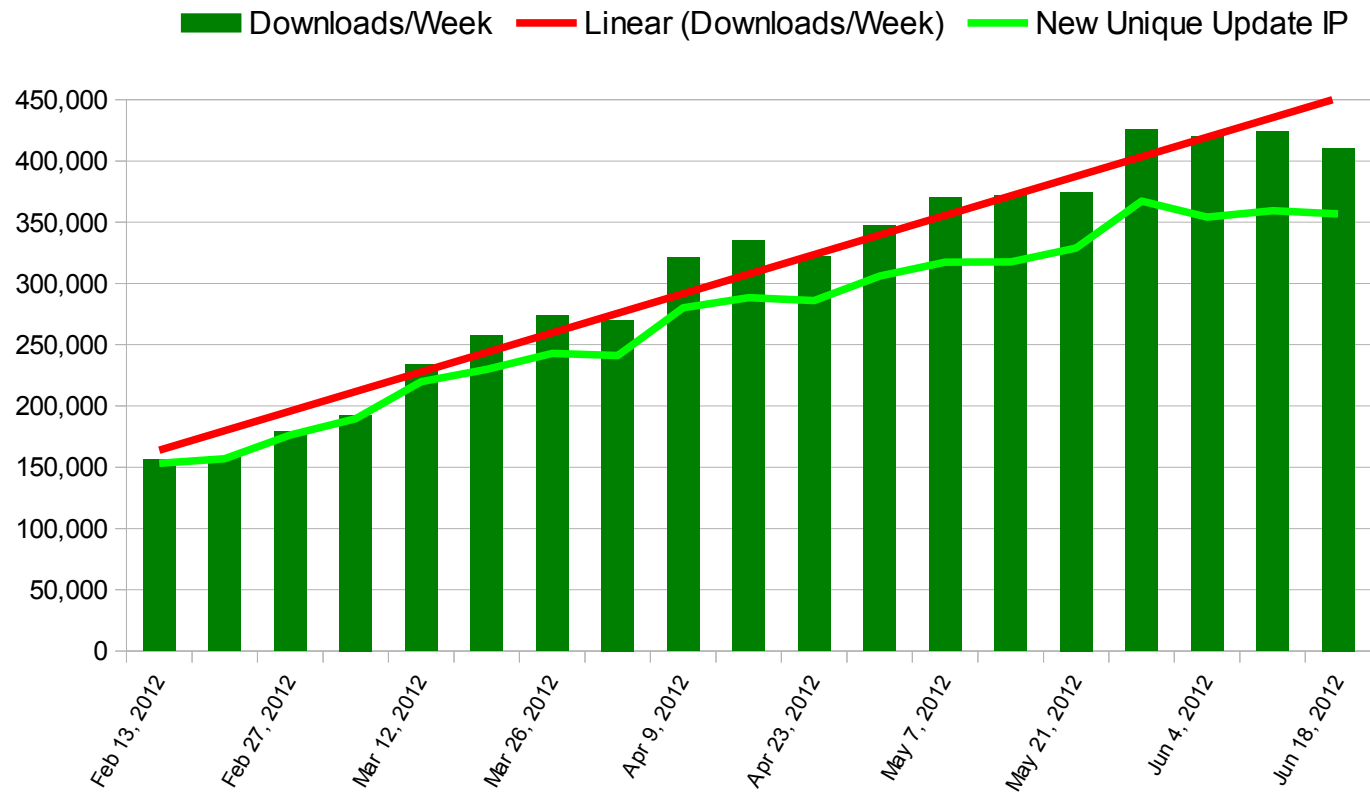
- ▶ **Pick the right display for projecting slides** (*me*)
- ▶ Add widescreen formats for slides (Rob Snelders)
- ▶ Basic IDE improvements (*Bence Tomcsik*)
- ▶ Update recent-documents more regularly (*Muhammad Haggag*)
- ▶ Allow edits on 'read only' documents (*Stephan Bergmann: RedHat*)
- ▶ X errorbars in scatter & bar charts (*Rafael Dominguez*)
- ▶ New spreadsheet functions (*Regina Henschel, Winfried Donkers*)
- ▶ Improved sheet naming (*Albert Thuswaldner*)
- ▶ Lots of UI work (*Mirek Mazel, Stefan Knorr, Jan Holesovsky*)
- ▶ Many new translations
- ▶ Hundreds of bug fixes
- ▶ **And many more features & hackers that can't be listed ...**

# Downloads / unique IP addrs ...



- Everyone's help with brand building much appreciated

### LibreOffice Direct Downloads per Week





LibreOffice and GNOME ...

# Integration & work with GNOME

## ▼ **Schedule synchronization (for distros)**

- ▼ LibreOffice 3.6.2 – October 7<sup>th</sup>
- ▼ GNOME 3.6.1 – October 15<sup>th</sup>
- ▼ Ubuntu Q.Q – October 18<sup>th</sup>
- ▼ Fedora 18 – November 6<sup>th</sup>
  - ▼ ie. getting the best versions into users' hands ASAP

## ▼ **Pluggable technology re-use**

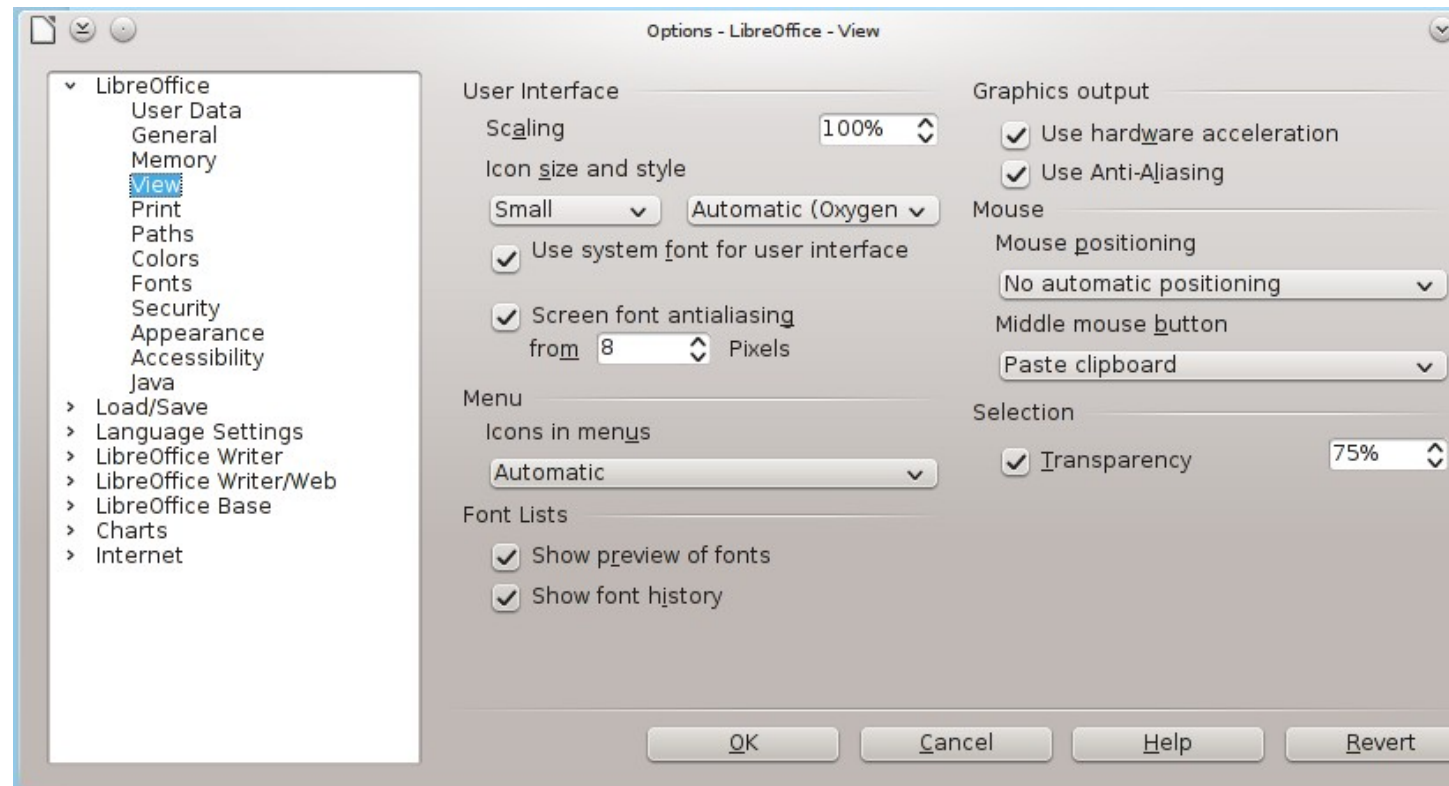
- ▼ Gnome-VFS or gio, Gconf, d-bus – screensaver hold-off API
- ▼ Evolution libebook / addressbook & send-mail integration
- ▼ All windows are GtkWindows, glib mainloop integration
- ▼ Gtk+ file dialog & GtkPrint integration
- ▼ Telepathy integration – coming ...

# gtk+ integration

- ▶ gtk+2 or gtk+3 (or KDE3, 4, Trinity, raw-X)... **run-time** pluggable
  - ▶ Lots of new gtk2+ integration fixes (*Ruslan Kabatsayev*)
    - ▶ Background rendering (cf. gradient), menu separators, tab prelight, lines & frames etc.

- ▶ gtk+3

- ▶ an improving prototype  
*thanks to:*  
*Cosimo Cecchi*
- ▶ gtk/broadway goodness
- ▶ Requires thread hooks / locking

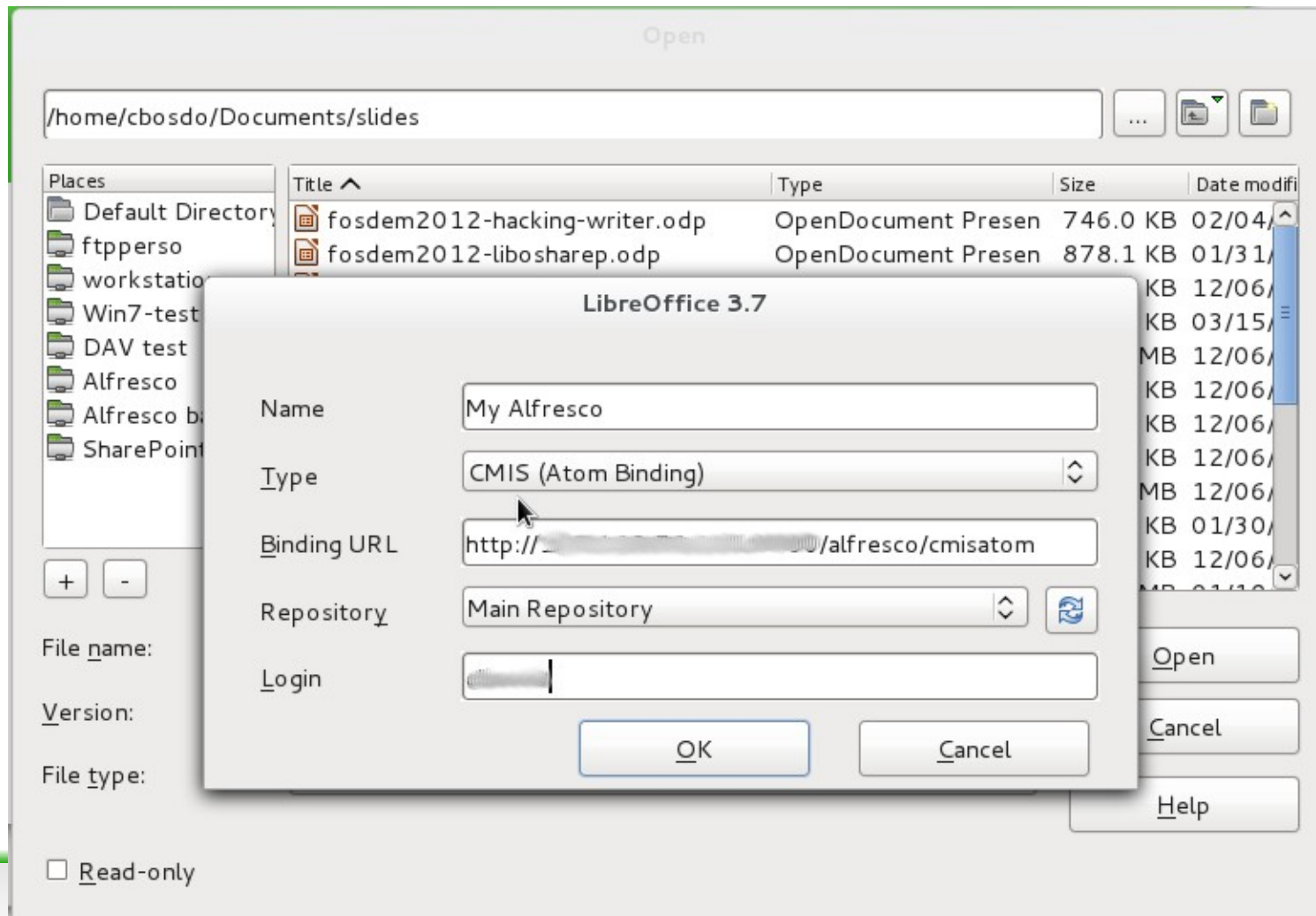


# UI / design re-use

- ▼ Tango icon theme
  - ▼ Updated to Mango / gnome-icon-theme for 3.6
  - ▼ Default artwork set across several platforms:
    - ▼ Win / Mac / GNOME
  - ▼ **Thanks** for the great work here !
- ▼ Existing VCL widget set – utterly awful.
  - ▼ toolkit layout support coming (*Caolan McNamara RedHat*)
  - ▼ re-using glade for dialog design / layout
  - ▼ will require lots of dialog code re-working / cleanup as we go.
    - ▼ a next-big-thing initiative ...

# Alfresco / Sharepoint integration

- The other way: re-use libCMIS in GNOME – GIO backend etc.
  - unpleasant check-out / check-in needs a good pattern ...



# Future integration bits ...

- Lots of interest in re-using LibreOffice' rendering core
  - Android / iOS, efficient web-office viewer
  - GNOME / Documents
- **liblibreoffice**
  - ripped out rendering core
  - exposing all our crazy filter goodness to 'Documents'
  - in-doc meta-data extraction / editing (?)
  - editing / touch support behind an input abstraction ...
    - scope for an Epiphany style simpler native UI
- Indexing helpers to replace tracker's built-in
  - performance work to get up / down quicker.
- Harfbuzz integration underway (*Khaled Hosney*)

# LibreOffice future & relevance

*or a selection of features we're working on for 3.7 / 4.0*

# Proprietary → ODF continues

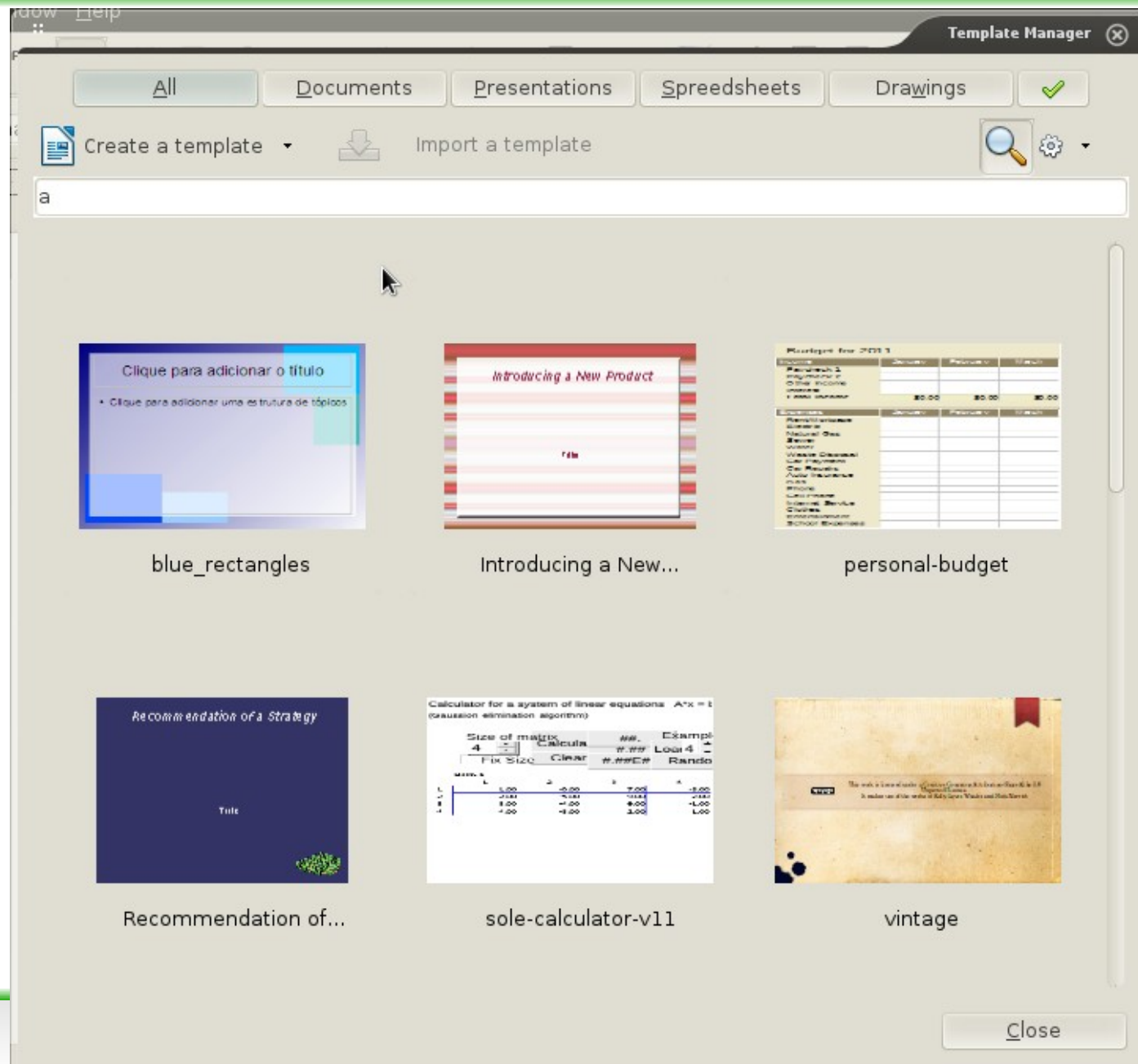
Wordperfect, Works, Visio, Corel Draw ...

The screenshot shows a presentation slide in a software interface. The slide features a central image of a child's hands holding yellow daffodils. To the right of the image is a yellow box with the text: "Развивать коммуникативность. Формировать основы нравственных знаний." Below the image is another yellow box with the text: "Партнёрские способы взаимодействия взрослого и ребёнка." To the right of this box is a third yellow box with the text: "Обучение детей средствам общения через игру." Below that is a fourth yellow box with the text: "Усвоение социальных норм и правил поведения." At the bottom left of the slide is an illustration of a man in a white lab coat pointing at a green chalkboard. To the right of the slide is a large white box with the text: "Microsoft Publisher import thanks to Brennan Vincent (GSOC) Valek Filippov Fridrich Strba". The software interface includes a menu bar (File, Edit, View, Insert, Format, Tools, Modify, Window, Help), a page number indicator (1-30), and a status bar at the bottom showing "Layout / Controls / Dimension Lines", "16.49 / -2.03", "0.00 x 0.00", "Slide / Default", and "116%".

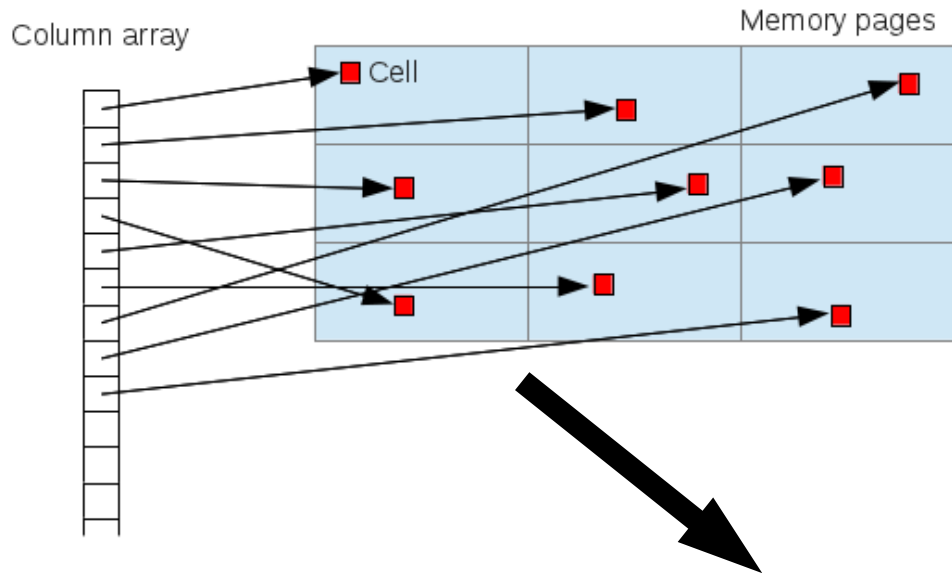


# New Template UI ...

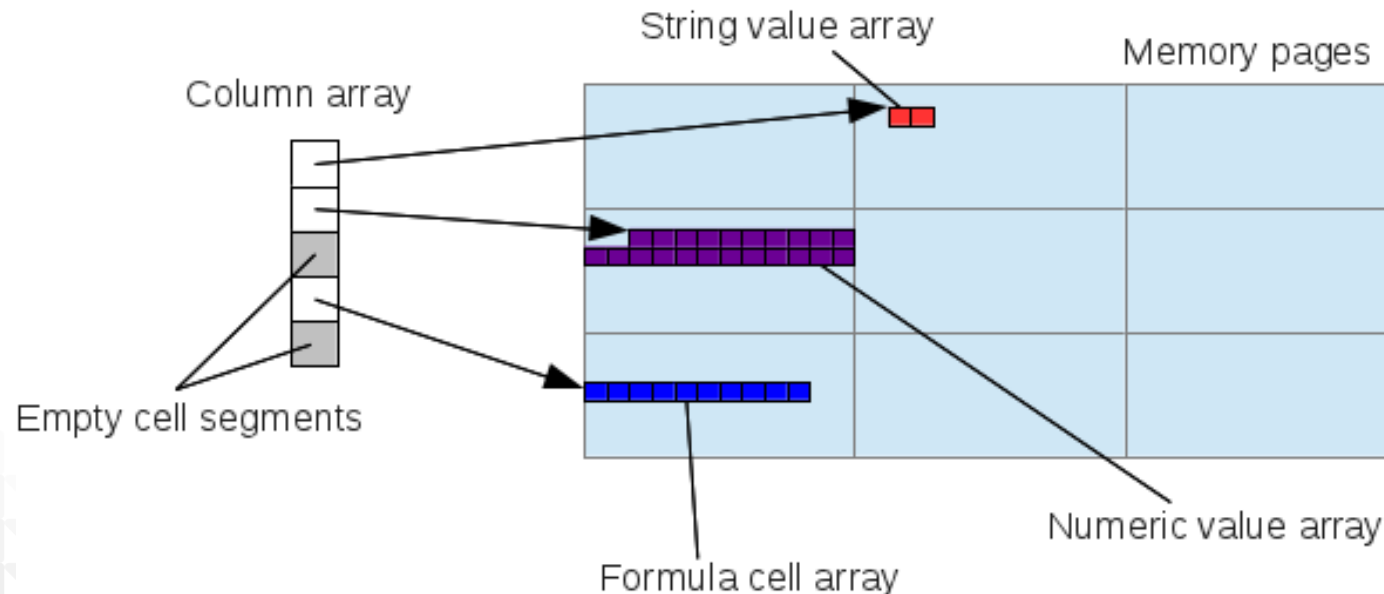
- Thanks to *Rafael Dominguez (GSOC)* & *Design team*
- Making template selection and search prettier & simpler.



# Calc scalability / number crunch ...



- ▶ Drug-bust on the internal calc data structures
- ▶ Reduced memory size
- ▶ Threading / block dependencies
- ▶ Much faster calculation
- ▶ Thanks to *Kohei Yoshida (SUSE)*



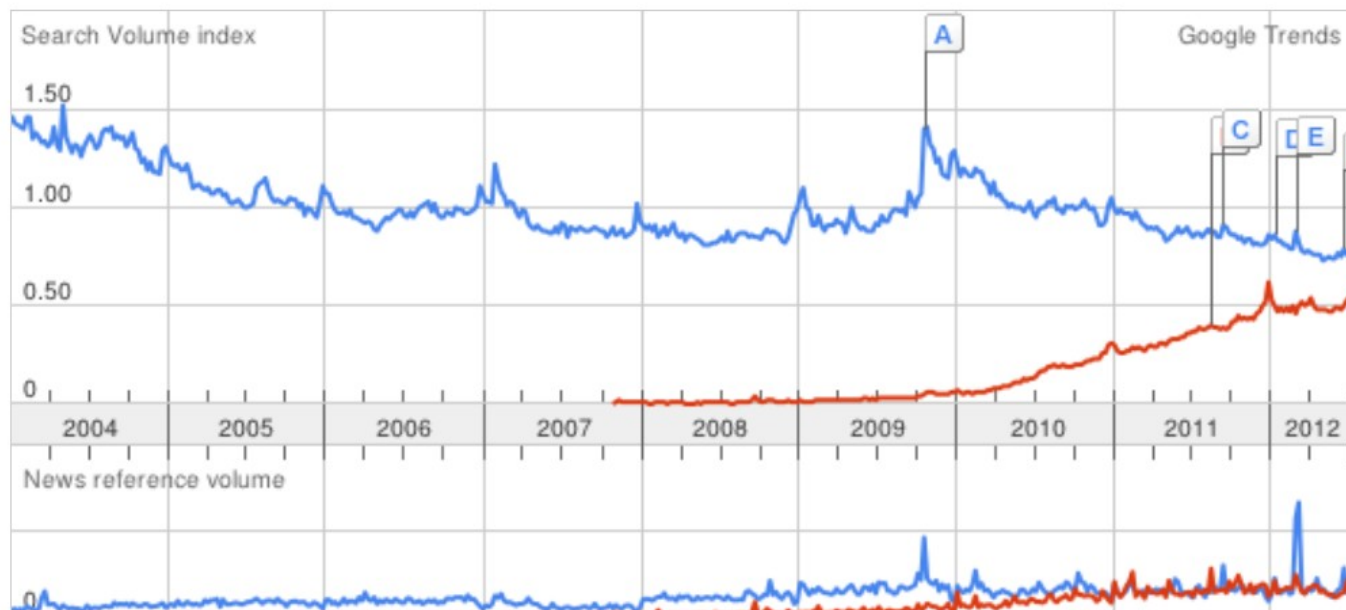
# **Android & mobile platforms** (something in your pocket)

# Who did all of this ?

- ▶ I'm a fraud ! The real work & glory should be addressed to:  
Tor Lillqvist's hours of toil
- ▶ Why do it ? - futures ...

windows

1.00 android 0.10



The man himself ...

Thanks to:  
<http://trends.google.com/>

File Edit View Insert Format Table Tools Window Help



# LibreOffice / Android

Editable in-place ... hack.

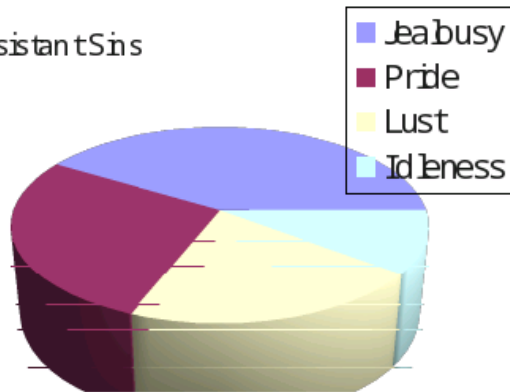
A small table with an embedded drawing.



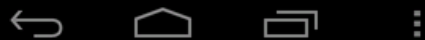
This is a picture of our wedding with some nice text flow going on around it, of course you can edit a custom contour as well as having a crude ellipse, which makes for a very nice look. Below it is an alpha blended free-hand, filled spline with drop shadow and gradient.

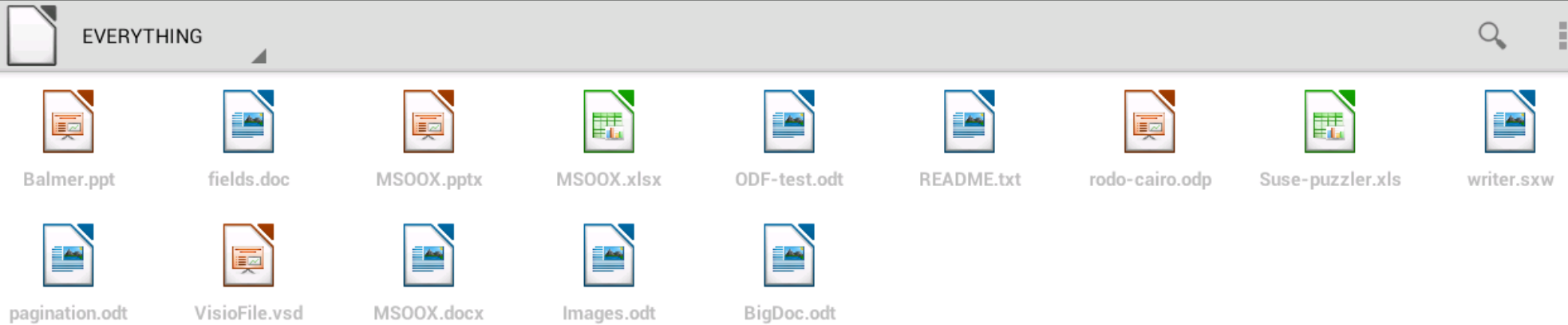


PersistentSins



The UI is not ideal even for a desktop.  
 This is a proof of porting / concept hack not the headline





- *Iain Billett's GSOC project*
  - an android viewer app ...
  - with a document collection manager / shell

## DocumentLoader

*He lay* flat on the brown, pine-needled floor of the forest, his chin on his folded arms, and high overhead the wind blew in the tops of the pine trees. The mountainside sloped gently where he lay; but below it was steep and he could see the dark of the oiled road winding through the pass. There was a stream alongside the road and far down the pass he saw a mill beside the stream and the falling water of the dam, white in the summer sunlight.  
"Is that the mill?" he asked.

RED GREEN BLUE YELLOW MAGENTA TURQUOISE

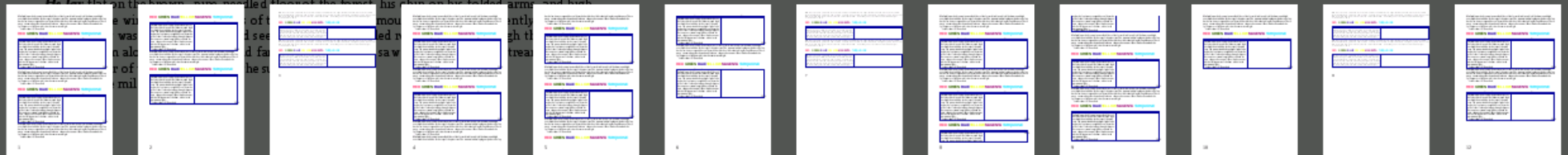
Quotation	Year
<i>He lay</i> flat on the brown, pine-needled floor of the forest, his chin on his folded arms, and high overhead the wind blew in the tops of the pine trees. The mountainside sloped gently where he lay; but below it was steep and he could see the dark of the oiled road winding through the pass. There was a stream alongside the road and far down the pass he saw a mill beside the stream and the falling water of the dam, white in the summer sunlight. "Is that the mill?" he asked.	1940

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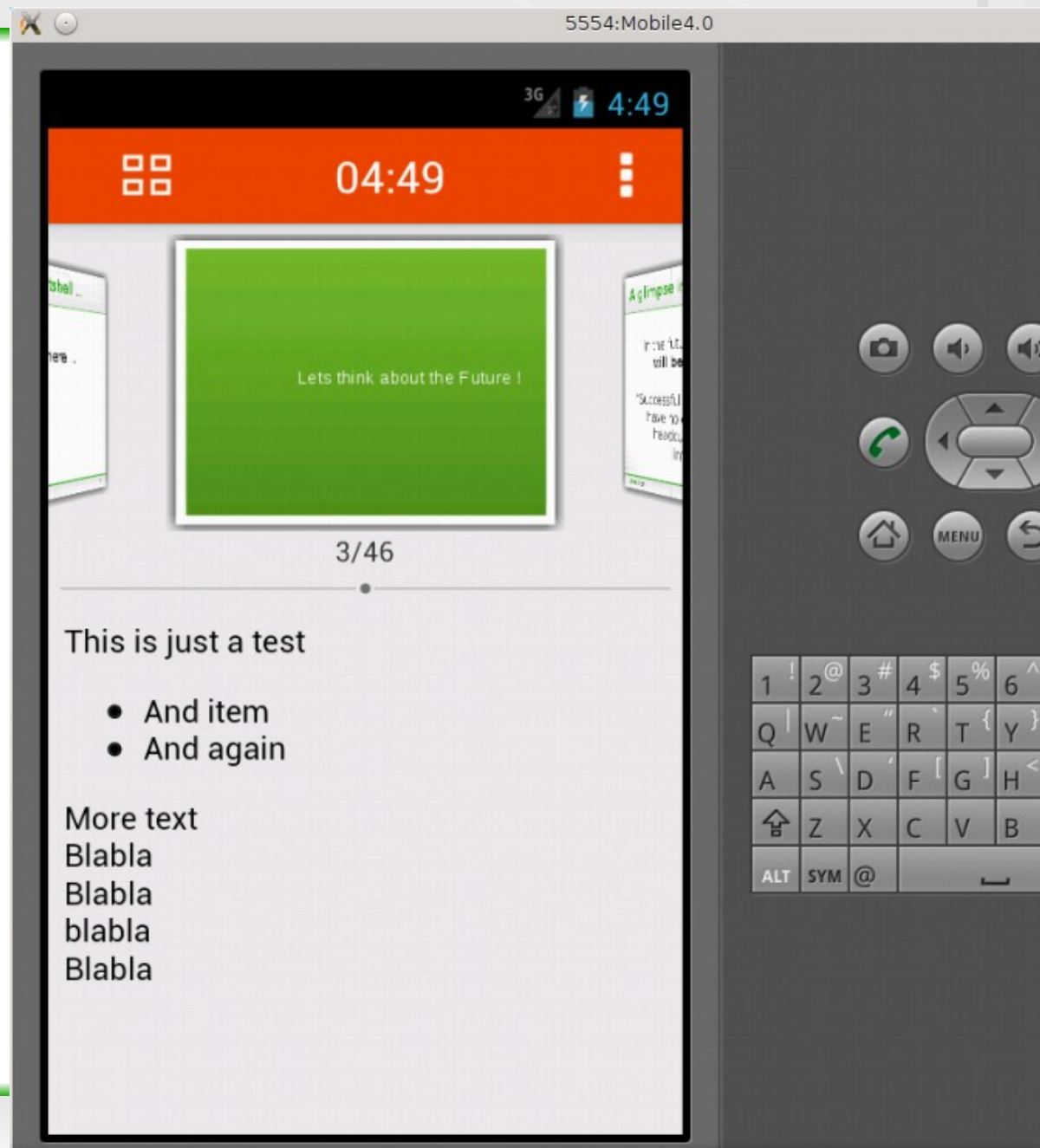
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- Pages are rendered to textures by something like a 'liblibreoffice'
- The Java native app renders textures / page numbnails etc.



# Android remote control ...

- Thanks to *Andrzej J. R. Hunt (and GSOC)*
- Use your smart-phone as a powerful remote control
  - see your notes
  - switch slides
  - up-load your slides ?





# Android remote control ...

5554:Mobile4.0

- ▶ Pretty slide sorter / selector
- ▶ Clock / count-down etc.
- ▶ Potential future work
  - ▶ accelerometer / laser pointer ?
  - ▶ fuse with viewer code to allow projection from a tablet ?
- ▶ Should ship in 3.7/4.0

Lets think



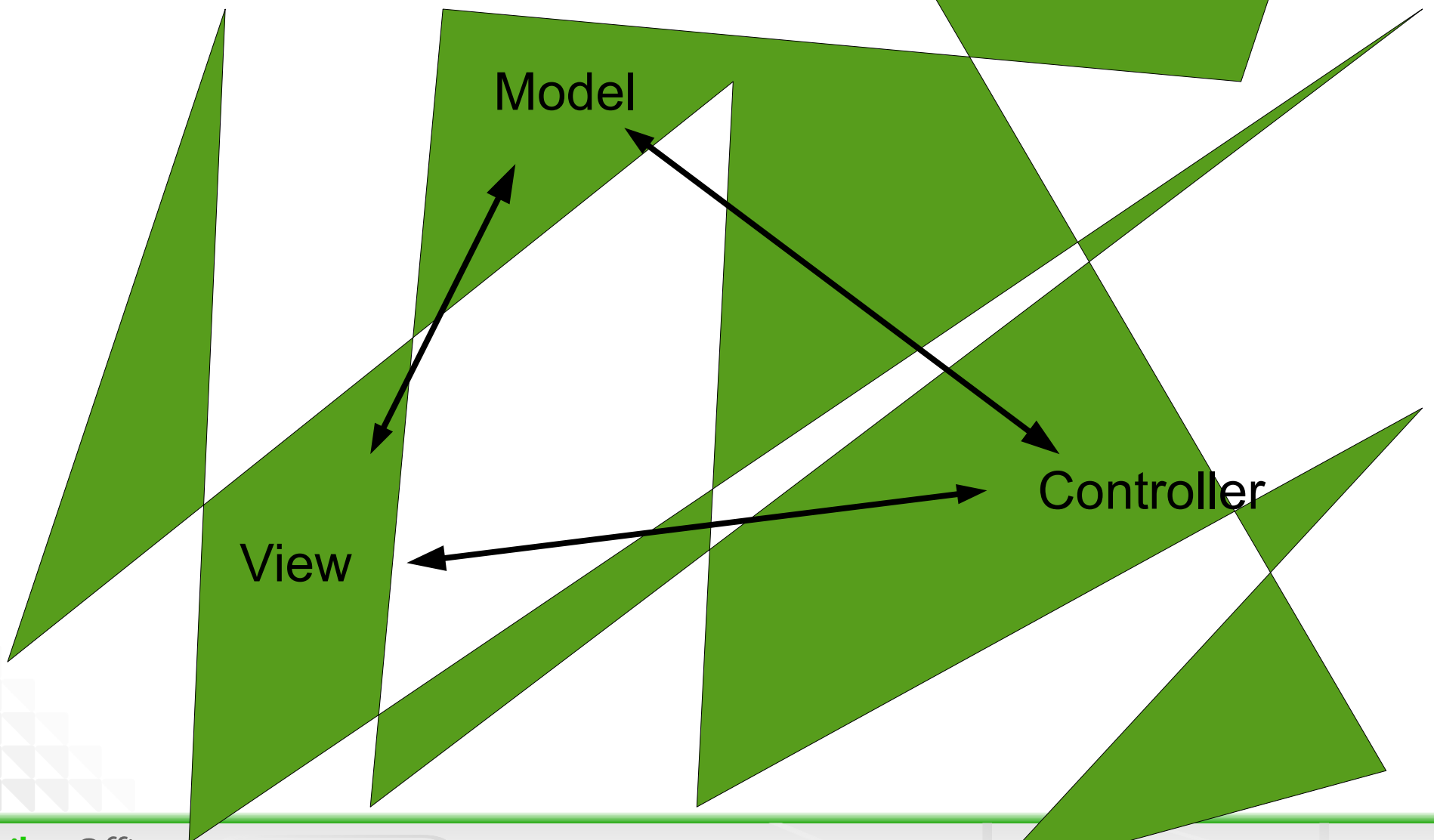
# **Interactive Collaboration**

*with a rare view of our architecture*

# Actual simplified internals diagram

Not quite the amusing:

```
class ModelViewController { ... };
```

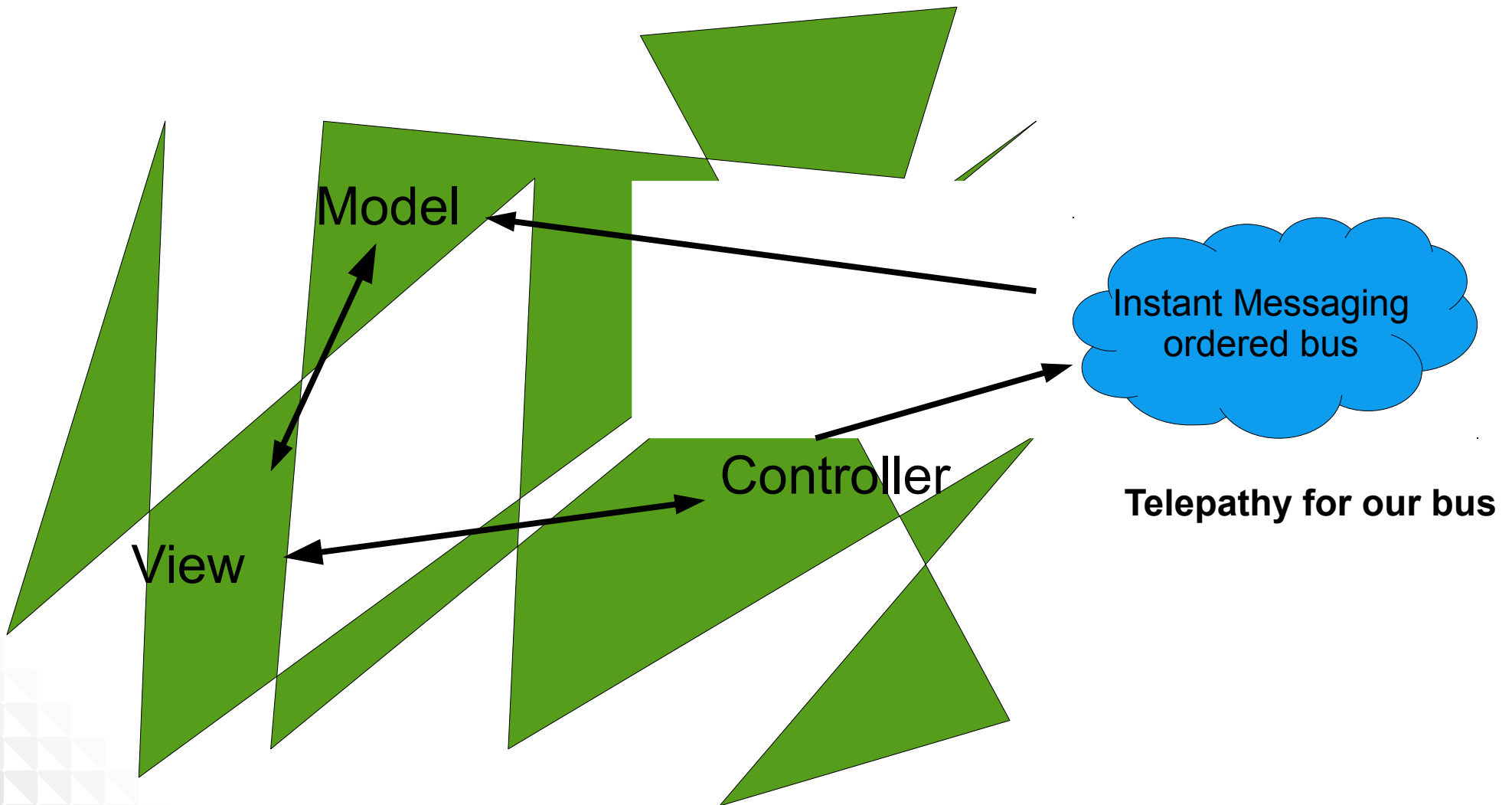


# So what can we do ?

- Make some hard up-front design decisions:
  - Ordering is King
    - It doesn't matter what you do **but**
    - **always** do everything, everywhere in the same order, on every client – and we will have consistent documents.
  - Interactive conflicts can be dealt with by users as they occur: both edit the same cell, and see who wins ...

# Collaboration prototype design:

By no means perfect but functional.



# Some consequences ....

- Constraints:
  - cell editing is applied asynchronously ...
    - eg. enter “foo” in A1
      - edit sent to the IM bus
    - user moves to another cell
      - apply all messages from IM bus in order
      - “foo” entered into A1 ...
  - Potential latency issue
- Implementable is feasible in linear time
  - No blue-sky monster re-work necessary ...
- **DEMO – Thanks to:**
  - Matus Kukan (GSOC), Will Thompson (Collabora),  
Eike Rathke (RedHat), Michael Meeks (SUSE)*

# Conclusions ...

# LibreOffice & GNOME Conclusions



- **LibreOffice is growing & executing**
  - Improving for developers: still lots to do ...
  - 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*

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