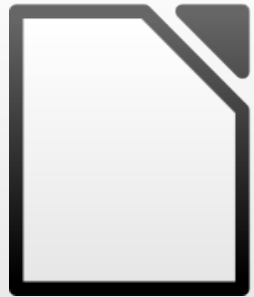


The wonderful world of:



LibreOffice

The Document Foundation

Or – *How we will fix your office suite*

Michael Meeks

michael.meeks@novell.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*



Overview & disclaimer ...

- I am not speaking for the Document Foundation
 - These views are mine, but you're welcome to borrow them.
- LibreOffice is better, and fun too
 - How is it going ?
 - What are we doing ?
 - Progress so far
- Check the license applies to **everyone**
 - More general legal interest
- LibreOffice appreciates your help
 - and/or ways to get involved
- Conclusions

What / Why of LibreOffice

What is LibreOffice / The Document Foundation

- ▼ Finally “doing it right”
 - ▼ vendor neutral, no code ownership aggregation
 - ▼ a real Free Software / hackers project
 - ▼ Volunteers + RedHat + Novell + Debian + Canonical + Google ...
 - ▼ **FSF** + OSI support, boycott + Novell support etc.
 - ▼ *Freedesktop* hosting
 - ▼ **LGPLv3+** / **MPL** for new code ...
- ▼ An idea – whose time has finally come ...
 - ▼ a beautiful, Office suite we can be proud of (in due course) backed by a real, open community
- ▼ Shipping now on Windows, Mac, GNU / Linux, *BSD etc.
- ▼ ODF enables trivial migration with your data ...

Why now ? Is it all Oracle's fault ?

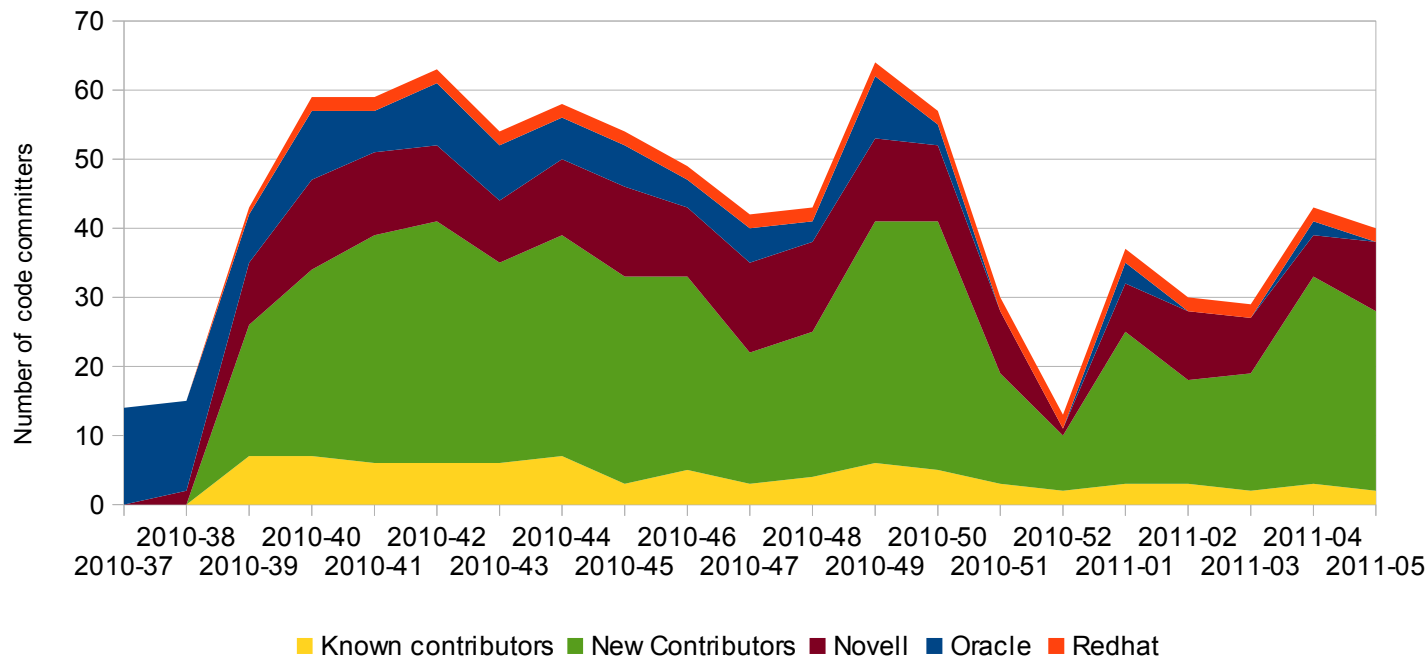
- ten years after the promise of a foundation ...
 - “a foundation is a great idea ... the time is not yet ripe ... perhaps in another three years” etc. etc.
 - Patience – a virtue, but not an inexhaustible resource.
- some truly fantastic 'opportunities' for improvement
 - Vendor neutrality / no copyright assignment barrier
- ~unrelated to Oracle – StarDivision have real autonomy
 - please don't hate them, they have hard problems
 - the 'community' has '~failed' them for many years
 - we have great friends & hackers there
- motivated by a **love of freedom**, not by hatred.
 - would love Oracle to join in with the fun.

Give up now !?!?? – the web will swallow us all ...

- The proliferation of web developers is amazing:
 - full function off-line == re-write all in Javascript
 - Best of luck with this project: 8 million lines later
 - eg. Conference WiFi & 3G is extremely cluttered
 - I would like to show you these slides today
 - but they are on a server I can't get to, *no DNS, no signal, no ...*
 - Rent vs. Buy - cloudness ? — *Buy Furcate, Rent Collectors ?*
- My Phone is an 80's super-computer anyway ...
 - *seen my vt220 app ?*
- WYSIWYG, page layout ~impossible in a CSS world
 - HTML5 / the Canvas may change this ... VNC/web etc.

How is it going ... Extremely well, thus far

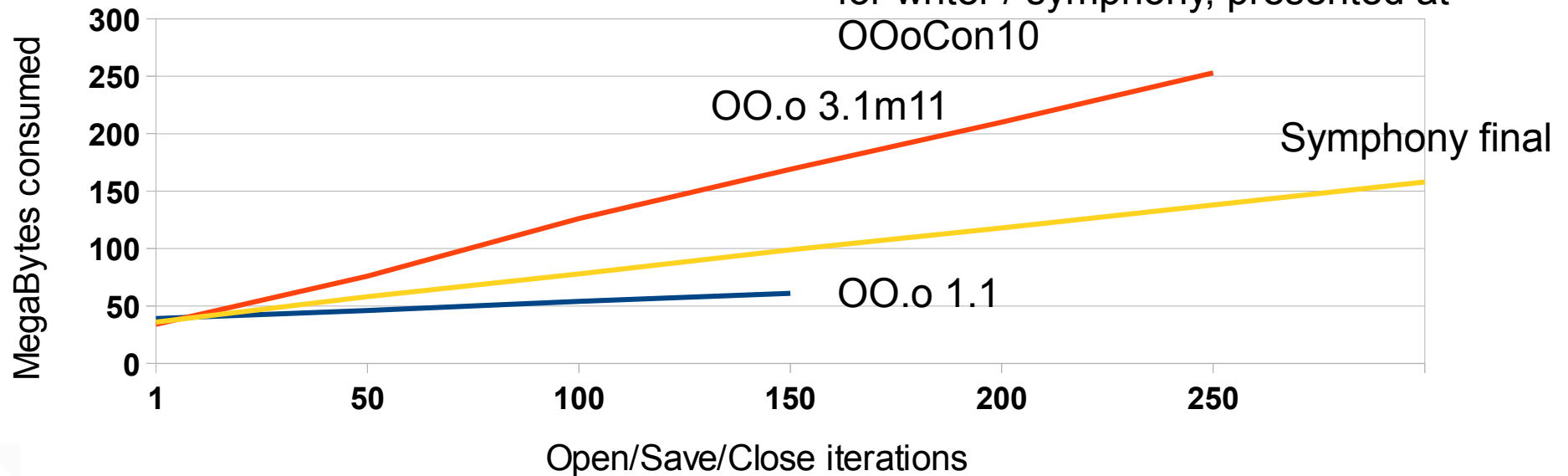
- ▶ **100+ entirely new code contributors with included patches, 50+ translators**
 - ▶ Around one new developer each day, and ½ a translator
- ▶ **Initial stable release: 3.3.0 out, 3.3.1 RC1 next week.**
 - ▶ Development apace on 3.4 – late March freeze, early May release.
- ▶ Sadly – Oracle won't join us in name (yet) ...
 - ▶ though they contribute indirectly.



What are we doing ?

- Pay down the vast technical debt we inherited
 - an ancient and gnarled, 20+yr old beast
 - organic growth, without refactoring, a lack of code review etc.
- eg. the opt-in approach to lifecycle management:
 - dozens of crashers on exit

Data from IBM of OO.o measurements for writer / symphony, presented at OOoCon10



What are we doing ? #2

- ▼ Translating the source code:

- ▼ 100k+ LOC of German comments, after 10 years of 'open'

- ▼ *Some virtually useless: (CUPS style)*

- ```
// Beschreibung: textuelle Beschreibung ermittel
String SwDocStyleSheet::GetDescription(SfxMapUnit eUnit)
```

- ▼ *Others somewhat more useful:*

- ```
|*      Wenn bereits ein passendes Format existiert, so wird dies  
|*      zurueckgeliefert.  
|* Ersterstellung      MA 22. Sep. 92  
|* Letzte Aenderung JP 08.05.98
```

- ▼ *And more that are useful (we think)*

- ▼ Fantastic “German comment detector” from Miklos

- ▼ Re-uses existing LO code for language detection :-)

- ▼ **Are you German ? can you read this ? ⇒ we need your skills !**

What are we doing ? #3 – Revision Control ...

- ▼ OpenOffice.org had a chequered history RCS wise
 - ▼ collab.net's CVS – multiple-hours to tag the repository ...
 - ▼ After years of pain – rejected *git* for temporary move to svn
 - ▼ Then moved to mercurial – history routinely lost

- ▼ Thus – a reliable workaround: the in-code RCS ...

- ▼ #if 0 – is your friend ! (good for 10's of kloc)
- ▼ If in doubt, just comment it out (huge chunks of code):

```
//UNUSED2008-05          if (nCount==1)
//UNUSED2008-05          return 0;    // leer
```

- ▼ Annotate sections you change carefully: etc. etc.

```
// --> OD 2005-12-12 #i27301# - use new type definition for parameter...
```

- ▼ LibreOffice – uses git [!]

- ▼ We bin insubstantial or un-necessary comments to improve readability.

What are we doing ? #4

- ▼ Making it easy to contribute
 - ▼ Google search: *libreoffice easy hacks*
 - ▼ Giving permission for change: *we value your changes!*
- ▼ Creating unit tests (run during build) – Caolan
 - ▼ Only the very beginnings of good unit tests
- ▼ Removing VOS (deprecated a decade ago) – **Norbert**
- ▼ Merging outstanding Debian, RedHat, Novell patch-sets
- ▼ Misc. community features eg. GSOC bits
 - ▼ RTF export, reducing code duplication, bug fixing – Miklos
 - ▼ In-line, interactive formula editing – Jonas
- ▼ Bug, warning, lint error, cppcheck fixing ...

An example ...

▸ John Lee Castle

- arrives on list to help debug a (star)basic crash
- 2 days later – first set of 'warning' patches merged
- Sadly beaten to the word-count feature, but ...
- digs in bugzilla to find & 1 week later fixes Issue 76852:

Opened: Wed May 2 12:28:00 +0000 2007

Run this Basic macro:

```
Dim s as single
```

```
s = 999999
```

```
print s      ' display : 999999
```

```
s = s+1
```

```
print s      ' display : 1      ***** incorrect ***
```

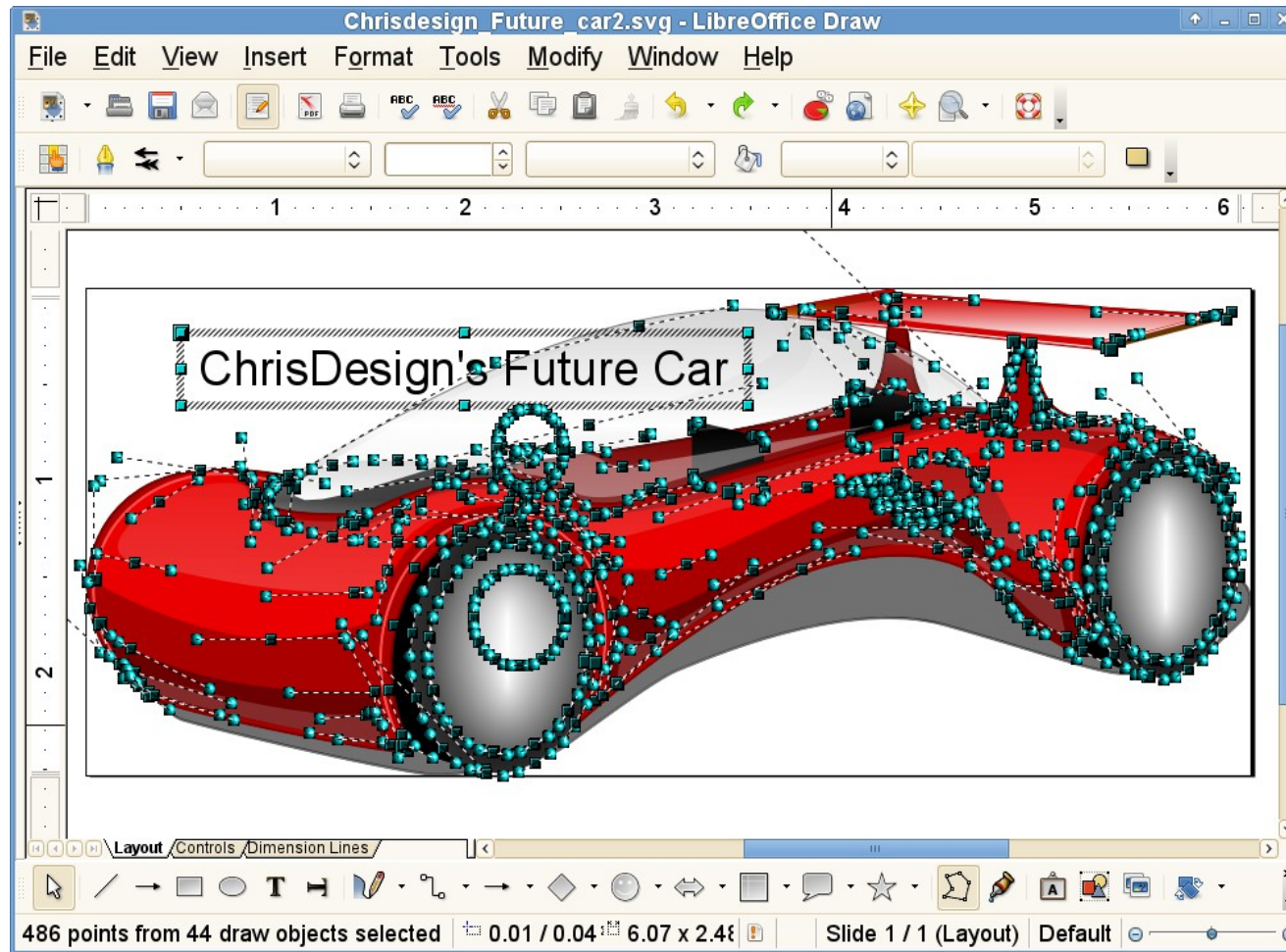
```
s = s+1
```

```
print s      ' display : 1.000001E6
```

A one line fix !

New Features, distinctive to LibreOffice ...

Or: *why should I choose LibreOffice ?*



New Features, distinctive to LibreOffice ... #2

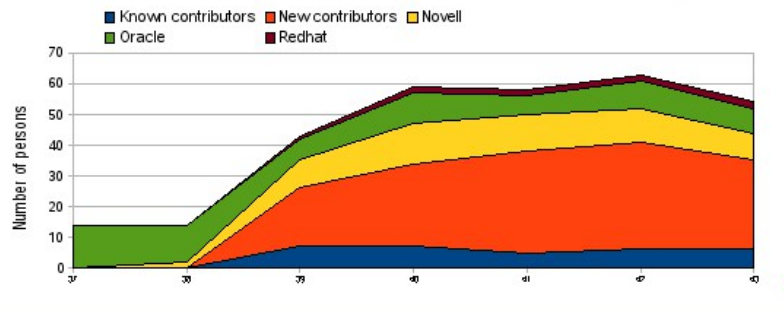
Bundling **existing**, useful extensions – instead of burying them ...

Current Slide (6 of 34)

How is it going ...

Extremely well / as of now:

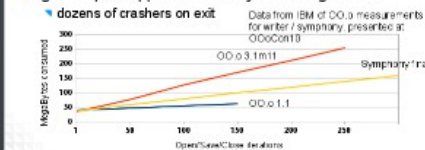
- 50 entirely **new** code contributors with included patches, 27 translators
- another 10+ arriving each week
- 100's of KLOC of real patch [3+million line diff to branch-point] (meaningless?)
- But – Oracle won't join us in name (yet) ... though they contribute indirectly.



Next Slide

What are we doing ?

- Pay down the vast technical debt we inherited
 - an ancient and gnarled, 20+yr old beast
 - organic growth, without refactoring, a lack of code review etc.
- eg. the opt-in approach to lifecycle management:

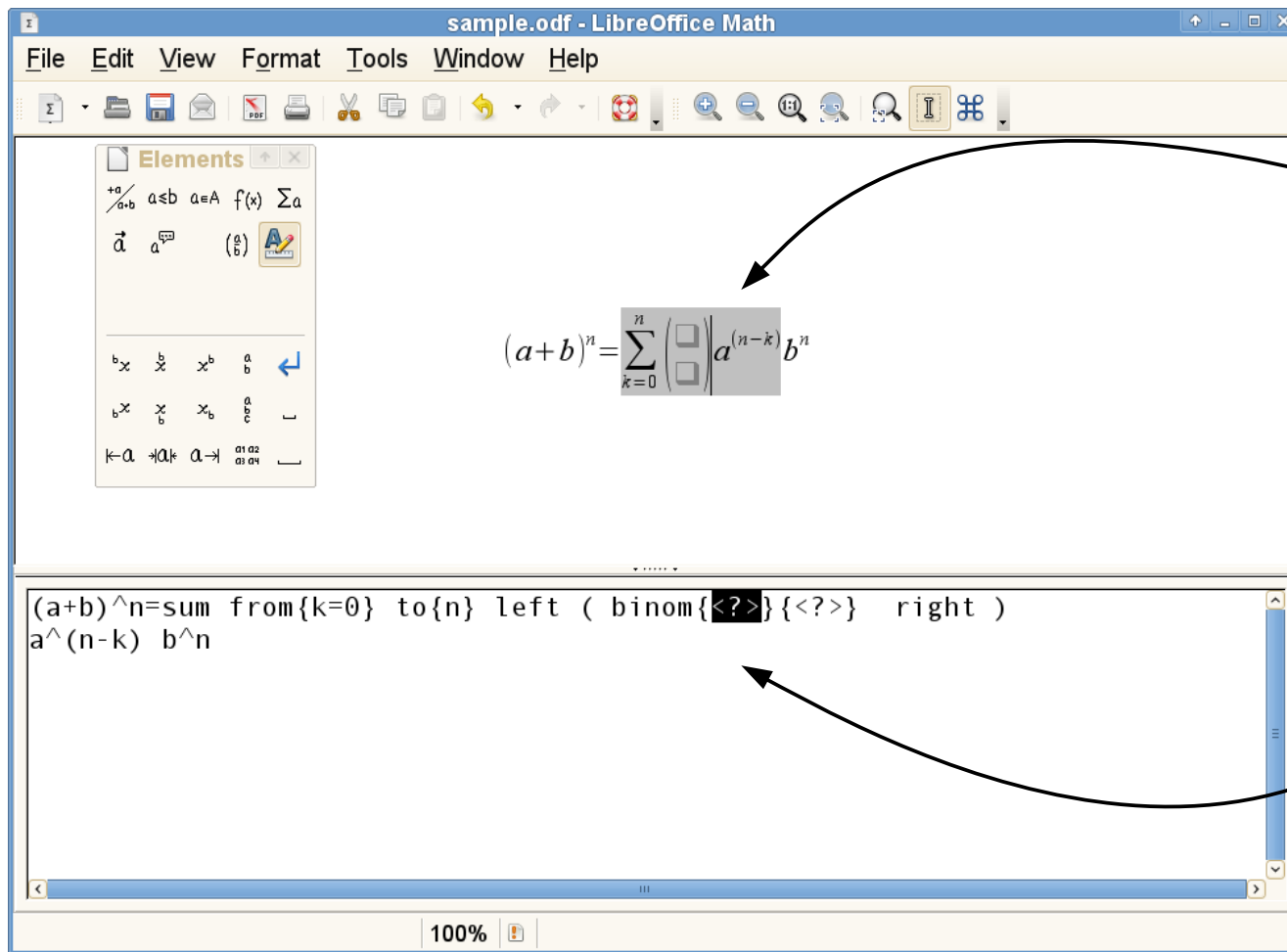


11:01:26
0:00:03



New Features, distinctive to LibreOffice ... #3

Experimental features, not perfect, but a taster: **In-line formula editing ...**



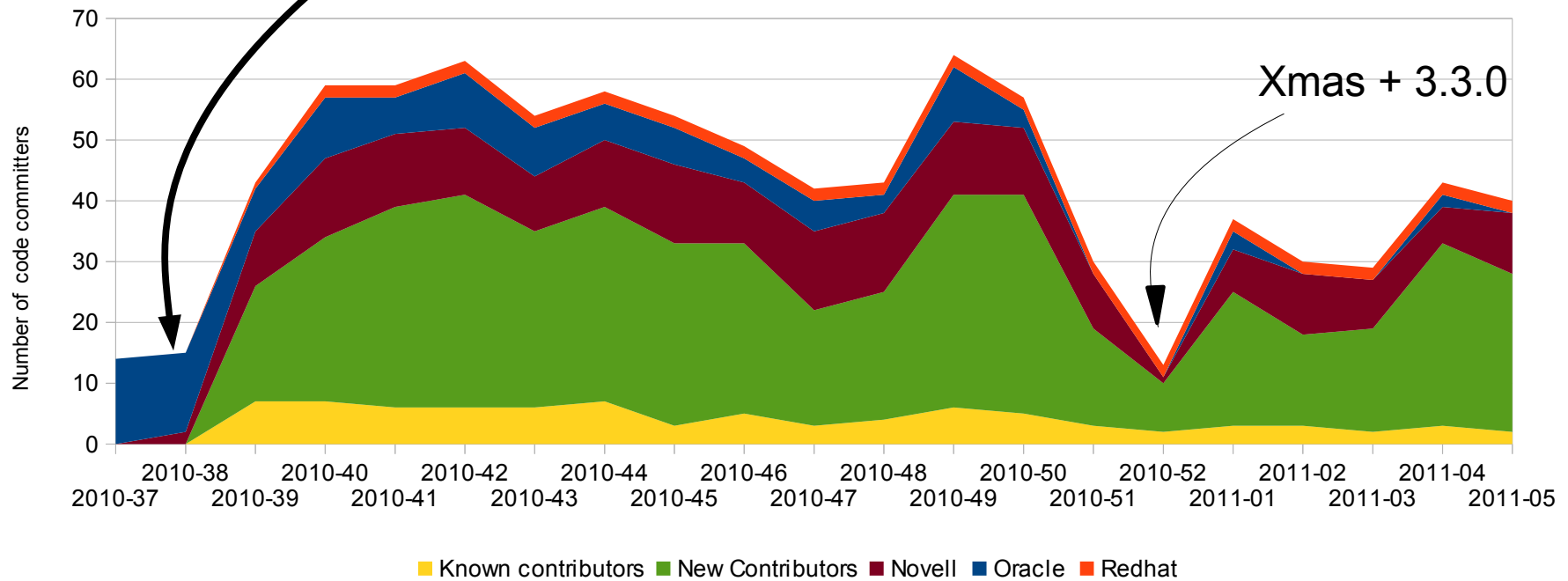
Click and edit here:

Not just here:

Thanks to Jonas Finneman Jensen, and Luke Dixon ...

Spot the launch date ...

*Day #1 nearly same code
Is it just an 'easy hacks' page ?*



This slide deliberately left blank

Check the license applies to everyone ...

Vendor neutrality / no assignment of ownership ...

- ▼ An emerging subtle threat to software freedom
 - ▼ Assigning ownership to companies
 - ▼ Not always 'copyright' – sometimes just a public domain contribution, leaving an exclusive corporate owner of the complete work.
 - ▼ Often assignment with a fall-back license: perpetual, irrevocable, worldwide, no-charge, royalty-free, unrestricted ...
- ▼ Why should I care ?
 - ▼ Traditionally people mostly cared about (Free) licenses (good)
- ▼ I will argue that you need to care about others' terms too
 - 1) Assignment creates a barrier of delay and conflict
 - 2) It disrupts a delicate hacker / suit-wearer balance
 - 3) It entrenches corporate control, and excludes competitors
 - 4) It creates FUD around free-software licenses & practices

Assignment creates a barrier of delay, and conflict

- ▼ Even in the (much more defensible) case of assignment to a well governed non-profit – there are (*historical*) problems:

Why are there two Emacsen? [xemacs and emacs]

Hysterical reasons. See the public flames if you must know. Currently the largest problems is that **Sun owns the copyright** for large part of the code. It is copyleft, but **they refuse to sign** over the changes to the FSF. Some people think it is good to have an Emacs variant where you **can contribute code without signing any papers**. Feel free to disagree.

- ▼ Ergo, **some, sometimes** think this is a bad thing.

▼ The Best of Strangers

- ▼ A brilliant research paper on privacy expectations
- ▼ Strong suspicion that handing people a dense and comprehensive legal paper to sign on day-zero can badly hurt trust.
- ▼ **Systemd**: “*We value your contributions and hence do not require copyright assignment*” - we welcome you as a peer ... immediately

Disrupting the Hacker / Suit balance ...

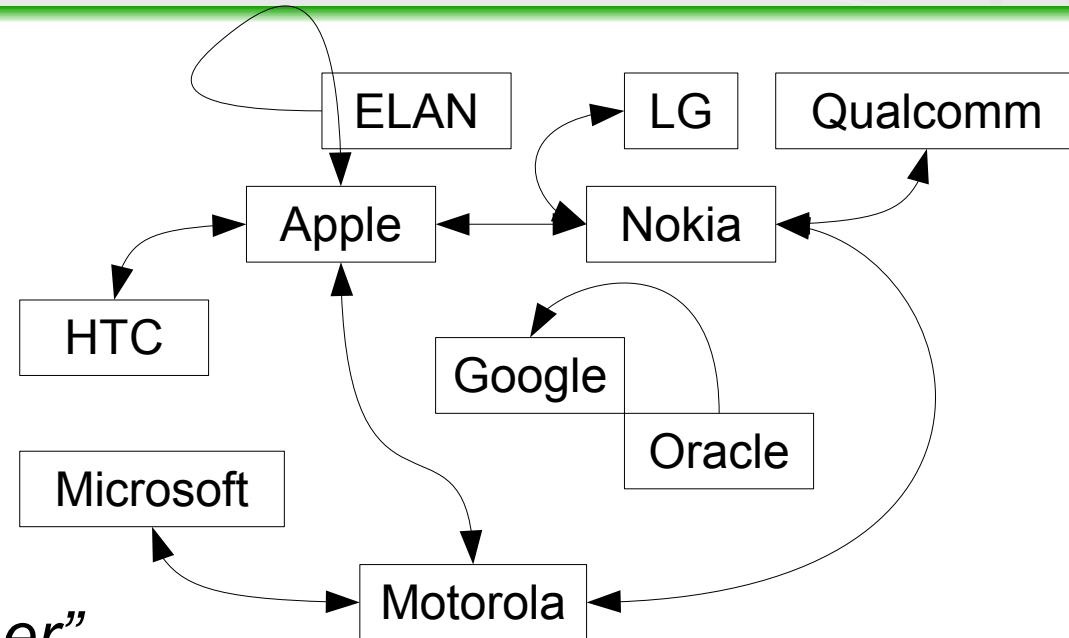
- This problem primarily created by suits:
 - Your pet project: is already owned by pointy haired boss
 - He doesn't listen to advice from Dilbert in linear time
- Technical and relational understanding diminish upwards
 - All that good work you did means nothing vs. hard \$
- Importing the P&L / competitive angst into our community
 - Many people I call friends at RedHat, no doubt our sales and business people compete aggressively
- Technology / stack decision making
 - Bad results from considering ownership / corporate alliances at a business level first ? *“This is our swamp ! We build here !”*
 - most inter-corporate agreements are confidential: death of community transparency ?

Entrenching corporate control: Excluding others ...

- ▼ **Disclaimer: this is a project I know – nothing – about.**
- ▼ The 'apparently' open project
 - ▼ **OpenSPARC** – ~GPLv2 licensed + 'Shared' CA
 - ▼ *All contributors to OpenSPARC are required to sign the Contributor Agreement ("CA") before contributing code to the community. This enables a single entity to **represent** the aggregated code base and gives the '**community**' **flexibility** to act as a whole to changing situations.*
- ▼ SPARC or OpenSPARC ?
 - ▼ Safest to proprietary license from Oracle ... ?
 - ▼ Needs a 'Welcome' sign with: “Academics, non-profits & partners welcome”

Entrenching corporate control: Excluding others

- Mobile Phone industry at patent war:
 - A vastly simplified view: of what is public



- The GPL is a great license
 - I like the collective *“in it together”* wrt. dangers of software patents
- Corporate Ownership: breaks the solidarity
 - If / as / when all these battles collapse in a blizzard of settlements – will you survive ? Perhaps only if you are 'liked' by the owner
- Good **example** of this in Sun / Microsoft settlement
 - StarOffice – or OpenOffice.org ?

Entrenching corporate control: 'Open' Core

- ▶ Open Core (according to Lampitt)
 - ▶ core is GPL: if you embed the GPL in closed source, you pay a fee
 - ▶ [optional tech-support for a fee]
 - ▶ “*annual commercial subscription includes: **Indemnity**, ...*”
- ▶ Claims of **special** “*Indemnity*” are suspect:
 - ▶ Anyone can offer indemnity on Free Software
 - ▶ RedHat & Novell & many others do, for code they do not own
 - ▶ The '**special**' piece, has to be the ability to avoid the license everyone else has to accept...
 - ▶ *Enabled by ownership assignment*
- ▶ How do you market & sell an 'indemnity' product ?

FUD around Free-Software licensing & practise ...

- ▼ So why would people ever sign such a thing ?
- ▼ Some great arguments:
 - ▼ *Copyright assignment enabled us to move from the GPLv2 to the GPLv3*
 - ▼ **Better written as: we chose a non-plus license because we can.**
- ▼ Re-licensing:
 - ▼ Plus-licenses: GPL or later version, MPL, CDDL ...
 - ▼ Non-Plus: Apache (use CLA), EPL etc.
 - ▼ So liberal no-one cares: BSD, MIT, X11, etc.
- ▼ The 'standing' chestnut ...
- ▼ Deep seams of jurisdictional nonsense:
 - ▼ “Upper Silesian tax law makes Free-software contribution a felony ... ergo we need a custom Silesian CLA to be safe”

FUD around Free-Software licensing & practise ...

- ▼ But we **do** have a contributor agreement
 - ▼ The license we use:
- ▼ A beautiful, fair symmetry:
 - ▼ **Inbound == Outbound** best in most cases
- ▼ I am not a Lawyer (sadly)
 - ▼ Richard Fontana (RedHat) who is, has a great talk on this:
 - ▼ <http://ref.fedorapeople.org/fontana-harmony.html>
 - ▼ Legal benefits of greater control sufficiently dubious to not justify harm done to the community by assignment
 - ▼ **Contributor Agreements seem to suggest that free software licenses are not good enough for the model.**
 - ▼ Ethical concerns: (unequal bargaining power)

More FUD: sustained investment ...

*“The only way companies can continue to invest in working on non-sexy projects is if they can **'own'** it”*

▼ **Or is it ?**

▼ Counter examples:

▼ almost our whole ecosystem is not owned by companies

▼ Linux, util-linux, udev, glibc, gcc, perl, python, Mozilla, Webkit, Apache, dbus, gtk+, GNOME, etc.

▼ *Personally ~all (cleanly written) software is quite sexy*

▼ **A counter-statement:**

▼ *“We must not let companies, who are uncertain of their continued investment, to exclude others from co-owning and building out key pieces of our stack”*

More FUD: the valuable MySQL model ...

“Sometimes the only way we can get Free software in a given space is to allow one company a monopoly of ownership and control there: We must not hurt the valuable MySQL model !

▼ **A counter-suggestion:**

*“We must not let companies wanting to dominate, own and exclude competitors from a part of our stack / ecosystem to **claim** they are doing something good for Free Software”*

- ▼ Consider where we could be with a true, organic alternative.
- ▼ The Sun acquisition dented the shine on this model too.

More FUD: no traction for non-CA projects

“If you look at projects with lots of traction, only assignment based projects are a success. We should be grateful to the companies that do all the heavy lifting (alone) there.”

▼ **A counter-suggestion:**

“Linux is the paradigmatic successful Free Software project. No corporate ownership aggregation. And there are many others. Indeed – a single company doing all the heavy lifting is a sign of risk, and failure is one acquisition away.”

Corporate Ownership trends ...

- ▼ (C) assignment projects get forked or re-written
 - ▼ xpdf → poppler, libart_lgpl → cairo, MySQL → MariaDB ...
- ▼ Evolution
 - ▼ Novell dropped (C) assignment -> LGPLv2/3
- ▼ Red Hat has dismantled several contribution agreements: SpaceWalk, FreeIPA, JBoss CLA under review, Fedora's is now optional
 - ▼ use in-bound equals out-bound in their place
- ▼ **GNOME** guidelines on assignment
 - ▼ demands outbound type requirements in CAs
 - ▼ patent licenses must apply to Free Software version
 - ▼ proprietary licenses must be non-discriminatory and be published



LibreOffice needs your help ...

New Features, distinctive to LibreOffice ... #4

Migration – sadly much of the corporate world is infected with VBA ...

The screenshot displays the OpenOffice.org Calc interface. The window title is "hypocycloid-demo - OpenOffice.org Calc". The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, and Help. The toolbar contains various icons for file operations, editing, and charting. The font settings are set to Arial, size 10. The active cell is A29, and the formula bar shows a function $f(x)$ with a summation symbol Σ and an equals sign $=$.

The main workspace is divided into three sections:

- Favorite 1:** A panel on the left with buttons for "Next >", "< Previous", "More Info", "Random", and "Add to Favorites".
- Parameters:** A section with three input fields and their corresponding values: "a: 243", "b: 973", and "t: 963".
- Chart:** A large green line chart on a black background, showing a complex, multi-lobed shape resembling a stylized flower or a hypocycloid curve.

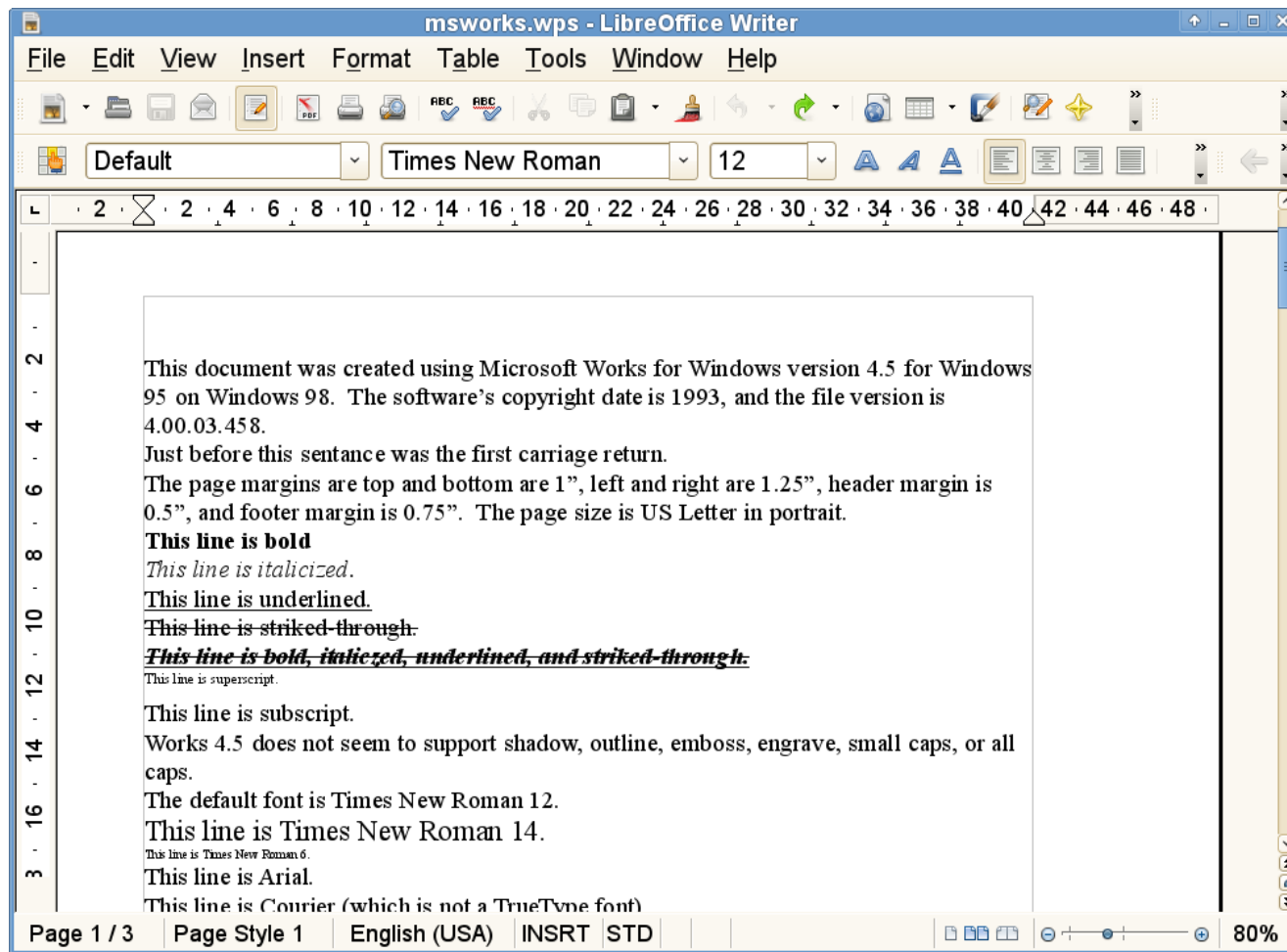
On the right side of the chart, a column of numerical data is displayed, ranging from 242.82 at the top to 650.00 at the bottom. The bottom status bar shows "Sheet 2 / 3", "PageStyle_Chart", "125%", "STD", and "Sum=0".

Can you: mirror / translate ...

- Mirrors: always room for more...
 - mirrors@documentfoundation.org
 - We are small: 11Gb per release vs. 76Gb
 - and getting smaller
 - free up 65Gb on your server ?
 - We use (the excellent) mirrorbrain
- Translators: l10n@libreoffice.org
 - we have a no-language-favoritism policy
 - we bundle all active and completeish translations
 - quick release: see the result of your labour in your own lifetime

New Features, distinctive to LibreOffice ... #5

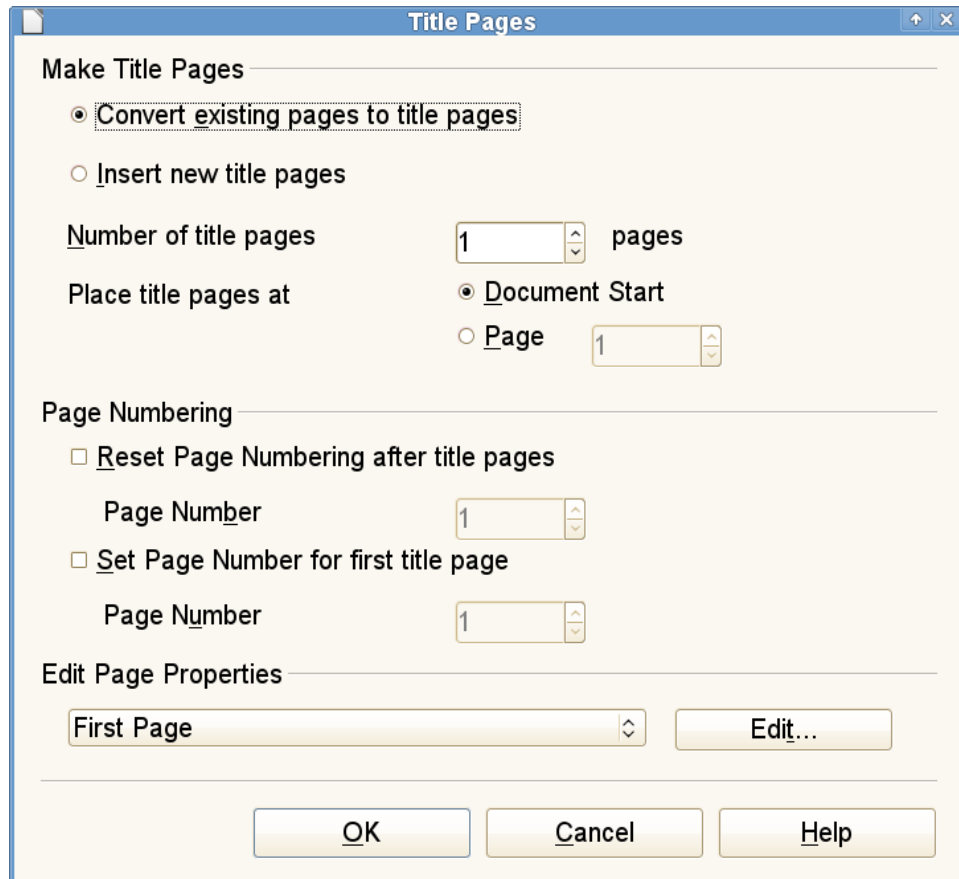
Import your legacy Microsoft Works files – and move to ODF ...



Can you: hack ? libreoffice@lists.freedesktop.org

- ▶ Ultra elite programming skill not necessary
 - ▶ Plenty of entry level problems; cf. [Easy Hacks](#) page
- ▶ A language you can help with is there:
 - ▶ C, C++, Java, Python, Perl, Basic, shell, XSLT, Web* ...
- ▶ Tons of new simple tasks, and heavy lifting too
- ▶ Lots of easy hacks: (a tiny sample):
 - ▶ removing pointless comments
 - ▶ porting from Java → python and Java → C++
 - ▶ kill 3 of 4 duplicate base64 impls.
 - ▶ remove dead / un-called code
 - ▶ fix cppcheck warnings
 - ▶ remove obsolete macros
 - ▶ remove thousands of multi-second sleeps from QA tooling
 - ▶ help thread the spreadsheet recalculation engine
 - ▶ write unit tests
 - ▶ stop battery sapping timer leaks
 - ▶ improve localisation tooling

New Features, distinctive to LibreOffice ... #?



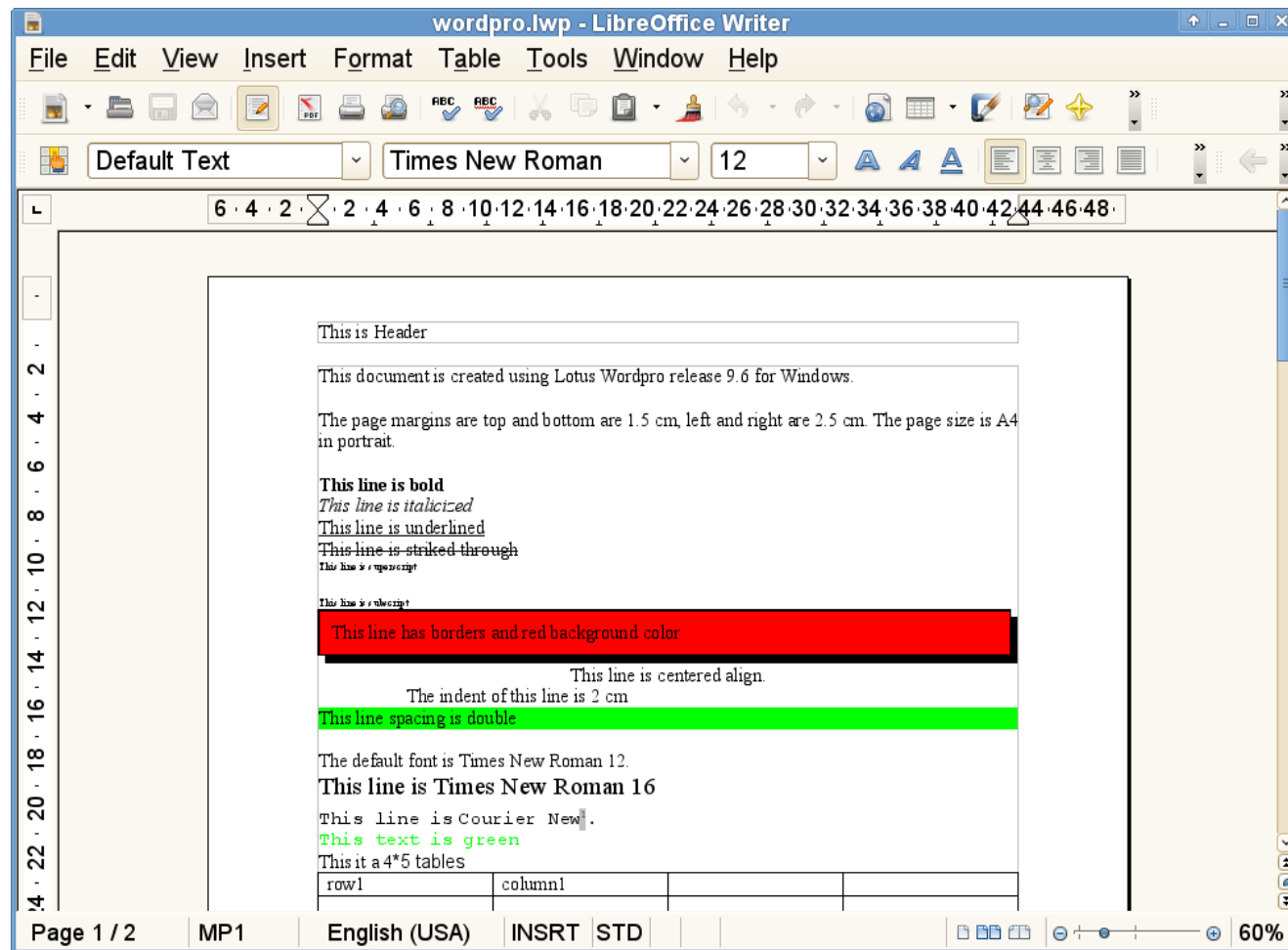
- ▶ Styles are a wonderful, clean way of document markup
- ▶ Getting a title page and correct numbering right, was a top writer UI disaster – but then ...

Can you: Integrate ?

- ▶ Help LibreOffice talk to your software / web service
 - ▶ don't write an extension no-one will discover
 - ▶ instead help integrate your software / service
 - ▶ DMS, CMS, Web Office suite, CRM system, etc.
- ▶ LICENSE is L(esser)GPLv3
 - ▶ competing with MS Office – we need to be.
- ▶ Do you have an existing extension you would like integrated ?
 - ▶ May require some consistency work & C++

New Features, distinctive to LibreOffice ... #6

Import your legacy Lotus Word Pro files – and move to ODF ...



Are you: German, or in Academic ... ?

- ▶ Professors: study LibreOffice:
 - ▶ The last extant Free Software 'component' system
 - ▶ We have the best component model (UNO)
 - ▶ A paper: “*The Death of Component Based Software: Free Software is the magic bullet for code re-use.*”
- ▶ Students: Google Summer of Code is coming soon !
- ▶ German:
 - ▶ We have major source code translation problems

// CebIT Hack – muss noch optimiert werden!

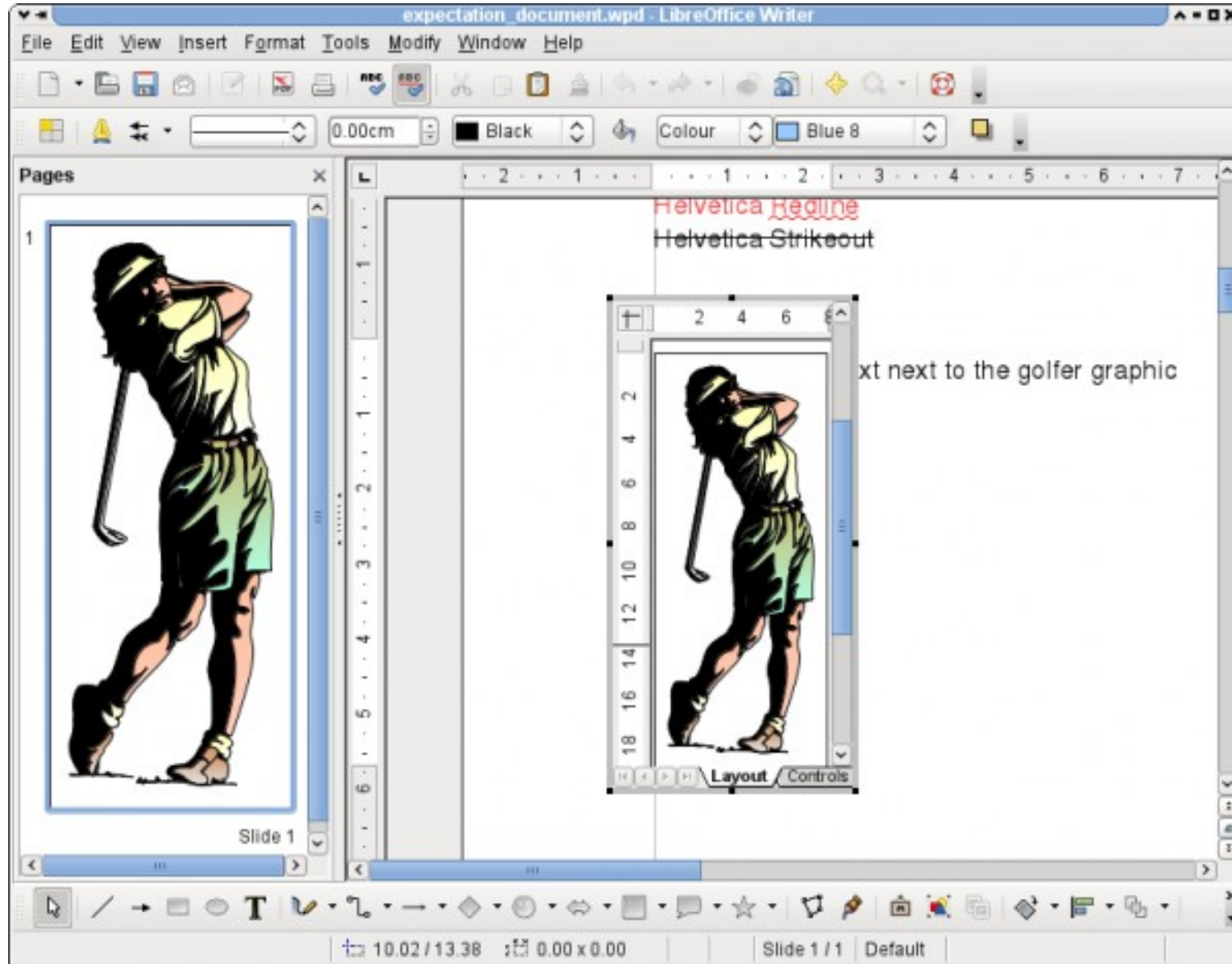
// Wenn Sie das lesen koennen, dann haben Sie eine Waschmaschine gewonnen!

// Alles hat ein ende, nur die wurst hat zwei – cf. impl_getWurst

// Manta-Hack:

New Features, distinctive to LibreOffice ... #7

Import much more of your legacy Wordperfect files – and move to ODF ...



Are you: A user ? room for you too ...

- File good bugs
 - Clear description; not - *it doesn't work*
 - Things that are obvious to you are not to everyone
 - We have to *find* the feature ourselves.
 - Sample documents: should exist, and be *minimal*
 - ie. what is the smallest possible bug document
- Bug triage – hunting duplicates, poking 'bad' bugs
 - Help us out – we have some wonderful QA guys
- Test team
 - Downloading and testing release candidates
 - Using the latest snapshots, running QA testtool...

New Features, distinctive to LibreOffice 3.3.0 ... #8

Embed real multimedia under linux ... with multi-slide audio ...

GStreamer multimedia ...



What we're working on now:

- Scaling development: slicing big problems:
 - Easier build, cross compilation, hourly snapshots
 - Layout for dialogs, new gnu-make build system, etc.
- Making the code suck less
 - **In build test** / better QA test-tool
 - Less redundant cruft
 - Improved performance, less memory & fewer leaks
- Smaller download footprint, with more features included
- Moving bottom up ... clean code → clean UI → features
 - User interface cleanups
 - Bug fixing ...

New Features, distinctive to LibreOffice 3.3.0 ... #9

Beautiful mime-type icons ...



A roadmap to the future ...

- ▼ A time based release train ...
 - ▼ ie. *check the release notes on the point-zero release*
 - ▼ Releasing incremental stable updates monthly
 - ▼ Enterprise users need not upgrade
- ▼ Synchronise with the wider Free Software distros / desktops
 - ▼ <http://wiki.documentfoundation.org/ReleasePlan>
- ▼ Rapid fire:
 - ▼ 3.3.0 – Jan 25th, 3.3.1 – Feb 20th, 3.3.2 – Mar 20th, ...
 - ▼ stability through quick user feedback / fixing / iterations
 - ▼ 3.4.0 – May 10th ish, ...
- ▼ ie. a normal Free Software project.

Conclusions ...

LibreOffice conclusions ...

- ▶ Aspire to a big, diverse, vigorous, vendor neutral, Linux (kernel) like community
- ▶ Be ungrateful to corporate controlled projects:
 - ▶ positively discriminate, and assist others ...
- ▶ Strike a **dis-proportionate** blow for freedom
 - ▶ LibreOffice will have a **hundred million users**
 - ▶ get people **excited** about Free Software they use ...
 - ▶ Try an '**Easy Hack**' - get stuck to the tar-baby ...
- ▶ Thanks for all of your help and support !
 - ▶ **we rely on you**, to prove the power of Freedom with 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