LibreOffice:
Under Development

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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
Overview

- LibreOffice is under development
  - Things we've done recently / development status.
  - Android bits ...
- How to get involved in development
- LibreOffice as an ecosystem
  - Contributing constructively
- Conclusions
Recent Developments
Contributors ...
Commits: a unit of thought

Commits by affiliation vs. time.

- Xamarin
- Tata Consultancy Services
- SYNERZIP
- SUSE
- Sonicle
- SIL
- RedHat
- Openismus
- Nou & Off
- New Contributors
- Munich
- MultiCoreWare
- Linagora
- Lanedo
- Known contributors
- KACST
- ITOMIG
- Igalia
- IBM
- Ericsson
- Canonical
- Assigned
- CloudOn
- Apache Volunteer
- ALTA
UI re-work: complete in 4.4

• A huge extremely mechanical task:

• 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 ...

- Parallel to GPU compilation

\[
\text{Thread 1} \quad \text{Unzip, XML Parse, Tokenize} \quad \rightarrow \quad \text{Thread 2} \quad \text{Populate Sheet Data Structures.}
\]

\[=\text{COVAR(A1:A300,B1:B300)}\] → OpenCL code → Ready to execute kernels
Wall-clock time to load set of large XLSX spreadsheets: 8 thread Intel machine

Log Time / seconds

Lower is better Log plot

Calc 4.1.3
Calc
Reference
Hardware Enablement

“Make large spreadsheets calculate using OpenCL on the GPU”

• Largest re-factor of Calc internals ever.
  • Hundreds of unit tests for calc created.
  • Exposing the internals of the Spreadsheet to your GPU – use the right Compute Unit for the job at hand.
  • 30x → 500x speedup for large sheets.

• Result: thanks to engineers from:

AMD & Collabora
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...
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.
Fast Tiled Rendering in textures

Tablet display

LibreOffice / Android 4.x

A small table with an embedded image

This is a picture of our wedding; nice text flow going on around it, 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, tiled spline with drop shadow and gradient.

And chart of the week:

Persistant Sins

Jealousy
Pride
Lust
Idleness
Other platforms: Android

Work kindly funded by Smoose

What is LibreOffice?

Do more – easily, quickly

LibreOffice is a powerful office suite; its clean interface and powerful tools let you unleash your creativity and grow your productivity. LibreOffice embeds several applications that make it the most powerful Free & Open Source Office suite on the market: Writer, the word processor, Calc, the spreadsheet application, Impress, the presentation engine, Draw, our drawing and flowcharting application, Base, our database and database frontend, and Math for editing mathematics.
Android: ODF documents:

LibreOffice / Android Viewer.

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.

Persistant Sins

Jealousy
Pride
Lust
Idleness

Still lots of work to be done – but notice this beautiful Open Document Format file – rendering beautifully.
Android: ODP presentations
### Android: Spreadsheets ...

![Test Document]

**Table Format**

<table>
<thead>
<tr>
<th>SHEET</th>
<th>NAME AND SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td><strong>CELL FORM</strong></td>
</tr>
<tr>
<td>1.1.1</td>
<td>Sheet 1</td>
</tr>
<tr>
<td>1.1.2</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td><strong>CELL FORM</strong></td>
</tr>
<tr>
<td>1.2.1</td>
<td>Sheet 2</td>
</tr>
</tbody>
</table>

**Format Settings**

<table>
<thead>
<tr>
<th><strong>Bold</strong></th>
<th><strong>Italic</strong></th>
<th><strong>Strikeout</strong></th>
<th><strong>Subscript</strong></th>
<th><strong>Superscript</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Strikeout</td>
<td>Subscript</td>
<td>Superscript</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strikeout</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Single</strong></th>
<th><strong>Double</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>Double</td>
</tr>
<tr>
<td><strong>acc</strong></td>
<td><strong>acc</strong></td>
</tr>
<tr>
<td>ul</td>
<td>ul</td>
</tr>
</tbody>
</table>
Measuring your PC ...

- PC work performance is measured with *LibreOffice* since PC Mark 8.2
Quality: Unit Tests ...

- Stopping regressions from ~14k commits per release from escaping into user's hands
- 550 test commits since 4.1
Quality: Document load/save/validate tests...

- Systematic document conversion testing,
- Fixing, and improvement

55k Complex documents tested for each release
Quality: 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.
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 Cuypers)
Making Prettification easier

Firefox theme browser. (Rachit Gupta, GSoC 2014)
He heard quiet steps behind him. That didn't bode well. Who could be following him this late at night and in this deadbeat part of town? And at this particular moment, just after he pulled off the big time and was making off with the greenbacks. Was there another crook who'd had the same idea, and was now watching him and waiting for a chance to grab the fruit of his labor? Or did the steps behind him mean that one of many law officers in town was on to him and just waiting to pounce and snap those cuffs on his wrists? He nervously looked all around. Suddenly he saw the alley. Like lightning he darted off to the left and disappeared between the two warehouses almost falling over the trash can lying in the middle of the sidewalk. He tried to nervously tap his way along in the inky darkness and suddenly stiffened: it was a dead-end, he would have to go back the way he had come. The steps got louder and louder, he saw the black outline of a figure coming around the corner. Is this the end of the line? he thought pressing himself back against the wall trying to make himself invisible in the dark, was all that planning and energy wasted? He was dripping with sweat now, cold and wet, he could smell the fear coming off his clothes. Suddenly next to him, with a barely noticeable squeak, a door swung quietly to and fro in the night's breeze. Could this be the haven he'd prayed for? Slowly he slid toward the door, pressing himself more and more into the wall, into the dark, away from his enemy. Would this door save his hide?
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)
Becoming a core Developer ...
Why LibreOffice?

- Some projects are beautiful and “done”
  - Little scope for radical improvement without tons of hard work
- Some projects have a tiny user-base of 5 guys
  - Little scope for glory & impact
- LibreOffice is none of these:
  - Easy to get involved via Easy Hacks
    - Leading you through your 1st contribution with code pointers etc.
  - Lots of scope for big improvements for 80m+ users
  - Non-Hierarchical: lots of room at the top: ESC etc.
  - Starting your 'own thing' is ultra lame & lonely.
Make a difference ...

• LibreOffice is a big project
  • But the teams are remarkably small.
  • Easy to make your mark.
    – Marcos Paulo de Souza (from Brazil)
    – A big impact on 'Math' – equation editor.
  • We're a friendly bunch.
  • Great prep. For Google Summer of Code
• Remarkably few people do much of the work in the world ...
  • You should be one of them & see the world ...
3x students: an example

I'm not sure if I'm missing something but what should be a simple task just doesn't want to work. I'm trying to add a drop shadow to a UIView in iOS 6. I'm using storyboards and auto layout. I'm drawing the UIView in the storyboard and programmatically setting its...
LibreOffice Economics 101:
do it yourself;
or get someone else to
A startling and crucial realisation

TINMF: There Is No Money Fairy

- Some projects have them: Firefox, Ubuntu

  • So – there is no big pool of idle developers to fix your issue, urgently for you – right now!

  • But what about The Document Foundation (TDF)
TDF Employees ...

Florian Effenberger
Executive Director

Christian Lohmaier
Release Engineer

Alex Werner
Sysadmin

Sophie Gautier
Admin, NLP, Certification etc.

Italo Vignoli
Certification

Robinson Tryon
QA

No Developers
Some advice from TDF

"The Document Foundation encourages large organizations deploying LibreOffice to do so in conjunction with a support partner, who can carefully assess specific requirements, help manage migration and provide bespoke fixes for identified issues. Purchasing LibreOffice support from a TDF partner also provides enterprises with an indirect means to contribute financially to the project, thereby funding its development, improving its stability, and accelerating its growth."

cf. release-notes
To: security@documentfoundation.org
Subject: [tdf-security] how to recover this libre office corrupted file?

We have a big problem, in our business, many documents, created with libre office v 4.2.2 results corrupted, There is a tool to recover files?

Here is a file that we want to recover (see email attachment)

Can you help us?

Thank you

IT R&D – Manager

• **Diagnosis:**
  • Wrong E-mail list (security bug reporting)
  • User is using the wrong (too 'fresh') version of LibreOffice for an enterprise.
  • Users cannot expect free community support to their timeline …
  • A rare experience – but it happens …
Entitlement Culture

- People argue that someone else should pay for them:
  - Where is my service?
  - Where is my training?
  - Where is my free support?
    - E-mail & phone & bugzilla!
  - “We pay in bug reports”
    - Why is my bug not fixed?
- Real complaints yesterday:
  “Why should I pay for badges?”

Cost: sub $1 ...
And its antidote ...

- I went to a Charitable Boarding School:
- On-leaving; we were given this charge:
  "I charge you never to forget the great benefits that you have received in this place, and in time to come according to your means, to do all that you can to enable others to enjoy the same advantage ..."
  - We do a lot to improve LibreOffice for all
    - how about you?
Mitigating Interoperability Issues
Deployment: worst practise

First segment the users

Power users

Normal users

The problem

MS

OOXML

LibreOffice
Deployment: best practise

First identify problem areas.

Everyone installs LibreOffice, And use high fidelity ODF document interchange. Cleanup minor document import issues once.

Some users have over-complex macros / integrations and can't (yet) migrate.

Power users share ODF documents externally, and use Microsoft Office for the remaining tough-nut documents.
Hybrid PDFs contain both the PDF (for those without LibreOffice), and the complete ODF document for those with it.

LibreOffice also allows limited import & edit of PDFs.
Reaching Enterprises

• There is a complete commercial support solution for you in Brazil
• There is nothing stopping you deploying LibreOffice today.
Conclusions

• LibreOffice is under development
  • Progress is fast
  • 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 …
      • See me or Olivier / Eliane / visit our booth at the end

• 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