Collabora & LibreOffice

Working together to make Open Source rock

Michael Meeks

General Manager michael.meeks@collabora.com





LibreOffice Conference **Bucharest 2023**

This is what the Lord says: "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





COLLABORA

- ~150 staff, Cambridge & Montreal
- our parent company 16 years old
- Leading Open Source Consultancy
- Parent company of:



- Spun out of SUSE in 2013
- ~48 staff
- 10 years old this month.
- Focused fully on Office / Online



Collabora's mission:

Make Open Source ROCK



FLOSS upwards from the bottom of the stack



Semiconductor



Digital Signage



Automotive



OEM























eg. Open Source Arm Mali GPU

Panfrost: initially a reverse engineered driver, now main-line, multi-gen support

& now embraced by Arm too ...

Driving open-ness.



Mali, the world's most shipped GPU at **8 billion** units to date (2022)



Collabora's Productivity subsidiary ...

Driving FLOSS goodness downwards from the top of the stack



Our bit ...



What we sell:



- Your Digital Sovereignty
 - "Your own private Office in the cloud"
- Develop, support, maintain, sustain
 - Built with LibreOffice technology
 - Highly scalable, interoperable, collaborative editing, in your browser
 - Service Level Agreement, L3 support
 - Product Management interaction
 - Go-to market via partners



- Branded version of LibreOffice
 - Foundation for Online
 - Annual release eg. CO 2023.05
 - PC / Mac / Linux



- Consultancy & Support services
 - Bespoke consultancy or
 - Pre-paid, fixed-price L3 bugpacks





Partners, OEMs, hosters - to market

FLOSS

- Anyone can install a Docker image & claim to be an expert
- It's cheap to do this badly, many save by not contributing
- Collabora Partners
 - Committed to integrating COOL
 - Committed to ensuring that users pay to support both the partner & up-stream development
 - We work hard to enable smart people to integrate Document freedom into their products & offerings





And many more 235 partners to choose from



Support in your language, near you



Integration and commercial support in

60 countries

- Contact me to become a partner
- Or checkout our Partner List if you're interested





- On-Premise
- Rolling Updates
- For testing and home use

Collabora for Business Supported Version up-to 99 users €20,00 / \$22.29 / £17.60 per user/year Request a Quote

- On-Premise
- From 20 to 99 users
- Supported
- LTS
- SLA
- Signed Security Updates
- Lifetime Maintenance
- Customer Portal Access
- Price: €20,00 / \$22.29 / £17.60 per user, per year

Collabora for Enterprise Supported Version for 100+ users Personalised volume discounts Request a Quote

- On-Premise
- 100+ users
- Supported
- LTS
- SLA
- Signed Security Updates
- Lifetime Maintenance
- Customer Portal Access
- Roadmap Input
- Integration Support
- Customisation
- Desktop Version
- Mobile Support
- Price: volume discounts, personalised to your requirements

https://www.collaboraoffice.com/subscriptions/



openDesk - great work from BMI ...

An open source consortium with numerous providers is working hard together with Dataport to build a Sovereign Workplace as a reference implementation to demonstrate that open source is a real alternative.

Public money - public code: checkout LibreOffice & COOL



















And now - back to the code:



Improving the awesome LibreOffice Technology

that we all build on - a few examples



We are pleased to contribute to core as part of the LibreOffice developer community

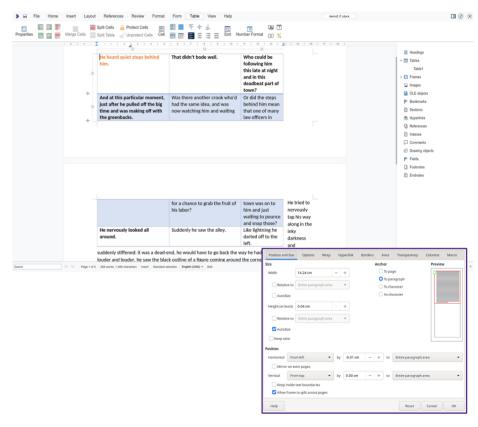
Interoperability improvements

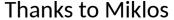
Bringing trillions of your documents into the light



Multi-page Floating Tables

- The top Writer issue
 - 38 duplicates (or so)
 - many now fixed.
 - Many CC's
 - A huge problem
- Significantly improves interoperability with tables that have been accidentally floated by users, and that span multiple pages.
- Lots of mis-designed Government forms – where tables are used for rendering borders are improved, and rendered better.

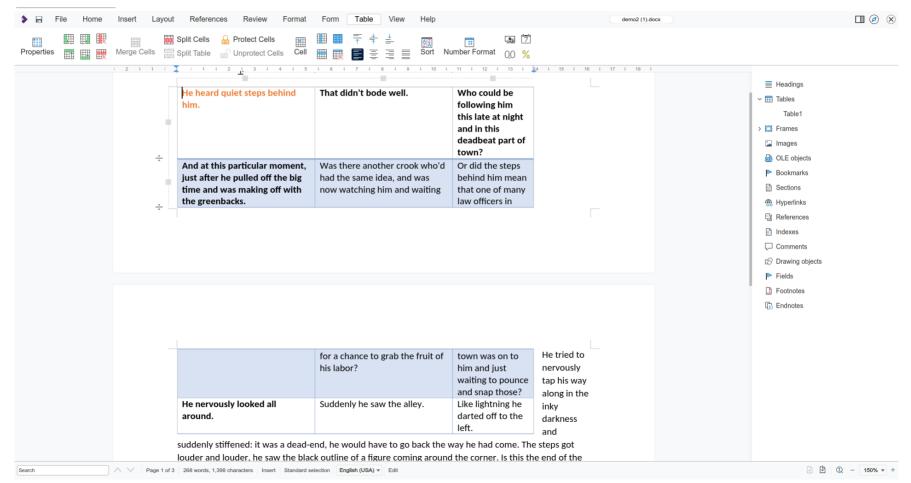






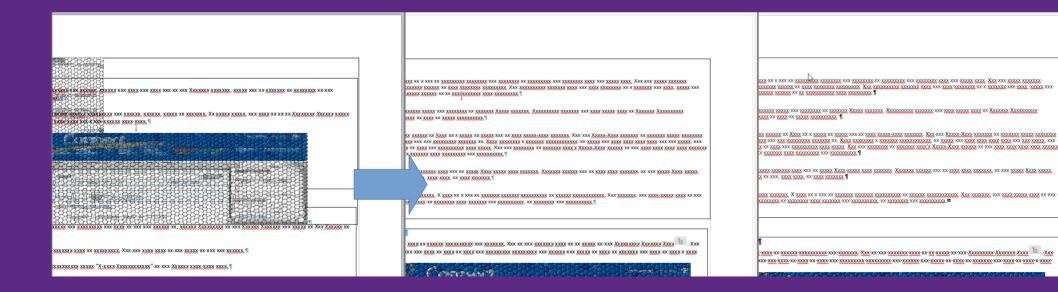


Multi-page Floating Tables





Complex DOCX document with several floating tables: bad, good and reference





Compact Pivot Tables

Calc Spreadsheets

 Preserve the compact view and layout of Pivot Tables created in Excel with a more compact layout avoiding the possibility of incorrect cell references.

K	L		М	N
Sum of Val	D	₩		
Row Label ₹	ddd		ddx	Total Result
⊟aaa		13	18	31
⊟bbb		10		10
ccc		10		10
⊟bbx		3	9	12
ссс		3		3
ссх			9	9
⊟bxx			9	9
ссх			9	9
⊟аах		15	11	26
⊟bbb		10	4	14
ccc		8	4	12
ссх		2		2
⊟bbx		5		5
ccc		5		5 5 7
⊟bxx			7	
ссх			7	7
⊟ахх		12	12	24
⊟bbb			5	24 5 5
ccx			5	5
⊟bbx		9	7	16
ссх		9	7	16
⊟bxx		3		3
ccc		3		3
Total Result		40	41	81





Compact Pivot Tables

Thanks to Dennis Francis

K	L	М	N	0	P
Sum of Val			D 🔻		
A	В	▼ C ▼	ddd	ddx	Total Result
aaa			13	18	31
	bbb		10		10
		ccc	10		10
	bbx		3	9	12
		ccc	3		3
		ссх		9	9
	bxx			9	9
		ссх		9	9
aax			15	11	26
	bbb		10	4	14
		ссс	8	4	12
		ссх	2		2
	bbx		5		5
		ссс	5		5 5
	bxx			7	7
		ссх		7	7
axx			12	12	24
	bbb			5	5 5
		ссх		5	5
	bbx		9	7	16
		ccx	9	7	16
	bxx		3		3
		ссс	3		3
Total Result			40	41	81



К	L	М	N
Sum of Val	D ▼		
Row Label ₹	ddd	ddx	Total Result
⊟aaa	13	18	31
⊟bbb	10		10
ccc	10		10
⊟bbx	3	9	12
ccc	3		3
ссх		9	9
⊟bxx		9	9
ссх		9	9
⊟aax	15	11	26
⊟bbb	10	4	14
ccc	8	4	12
ccx	2		2
⊟bbx	5		5 5 7
ccc	5		5
⊟bxx		7	
ссх		7	7
⊟axx	12	12	24
⊟bbb		5	5 5
ссх		5	
⊟bbx	9	7	16
ссх	9	7	16
⊟bxx	3		3
ссс	3		3
Total Result	40	41	81

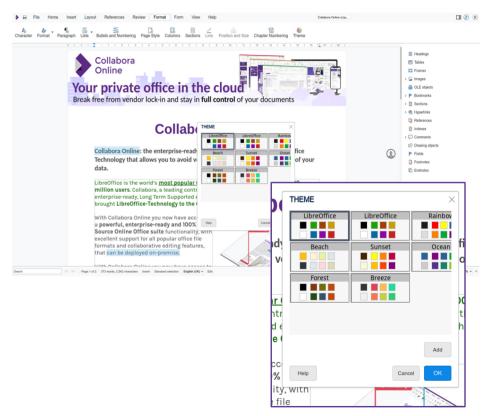


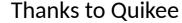


Document Themes

Controlling branding

 Document themes can be configured and applied to a whole document to easily change and re-purpose the appearance, giving it a consistent style and branding.







Title Subtitle

Title

Subtitle

1. Heading 1 - 1 / Paragraph Color

<u>Podcasting</u> operational change management inside of <u>workflows</u> to establish a framework. Taking seamless key performance indicators <u>offing</u> to <u>maximise</u> the long tail. Keeping your eye on the ball while performing a deep dive on the start-up mentality to derive convergence on cross-platform integration.

1.1 Heading 2 - 1

Leverage agile frameworks to provide a robust synopsis for high level overviews. Iterative approaches to corporate strategy foster collaborative thinking to further the overall value proposition. Organically grow the holistic world view of disruptive innovation via workplace diversity and empowerment.

1.1.1 Heading 3

Bring to the table win-win survival strategies to ensure proactive domination. At the end of the day, going forward, a new normal that has evolved from generation X is on the runway heading towards a streamlined cloud solution. User generated content in real-time will have multiple touchpoints for offshoring.

1.2 Heading 2 - 2

Capitalize on low hanging fruit to identify a ballpark value-added activity to beta test. Override the digital divide with additional glighthrough from DexObs. Nanotechnology immersion along the information highway will close the loop on focusing solely on the bottom line.

What?

Title Subtitle

Title Subtitle

1. Heading 1 - 1 / Paragraph Color

Podcasting operational change management inside of workflows to establish a framework. Taking seamless key performance indicators offling to maximise the long tail. Keeping your eye on the ball while performing a deep dive on the start-up mentality to derive convergence on cross-platform integration.

1.1 Heading 2 - 1

Leverage agile frameworks to provide a robust synopsis for high level overviews. Iterative approaches to corporate strategy foster collaborative thinking to further the overall value proposition. **Organically** grow the **holistic** world view of disruptive innovation via workplace diversity and empowerment.

1.1.1 Heading 3

Just a rectangle

Bring to the table win-win survival strategies to ensure proactive domination. At the end of the day, going forward, a new normal that has evolved from generation X is on the runway heading towards a streamlined cloud solution. User generated content in real-time will have multiple touchpoints for offsboring.

1.2 Heading 2 - 2

Capitalize on low hanging fruit to identify a ballpark value-added activity to beta test. Override the digital divide with additional <u>clicthrough</u> from <u>DexOps</u>. Nanotechnology immersion along the information highway will close the loop on focusing solely on the bottom line.

What?

Just a rectangle

Title Subtitle

Title Subtitle

1. Heading 1 - 1 / Paragraph Color

<u>Podcasting</u> operational change management inside of <u>workflows</u> to establish a framework. Taking seamless key performance indicators <u>offlig</u> to <u>maximise</u> the long tail. Keeping your eye on the ball while performing a deep dive on the start-up mentality to derive convergence on cross-platform integration.

1.1 Heading 2 - 1

Leverage agile frameworks to provide a robust synopsis for high level overviews. Iterative approaches to corporate strategy foster collaborative thinking to further the overall value proposition. Organically grow the holistic world view of disruptive innovation via workplace diversity and empowerment.

1.1.1 Heading 3

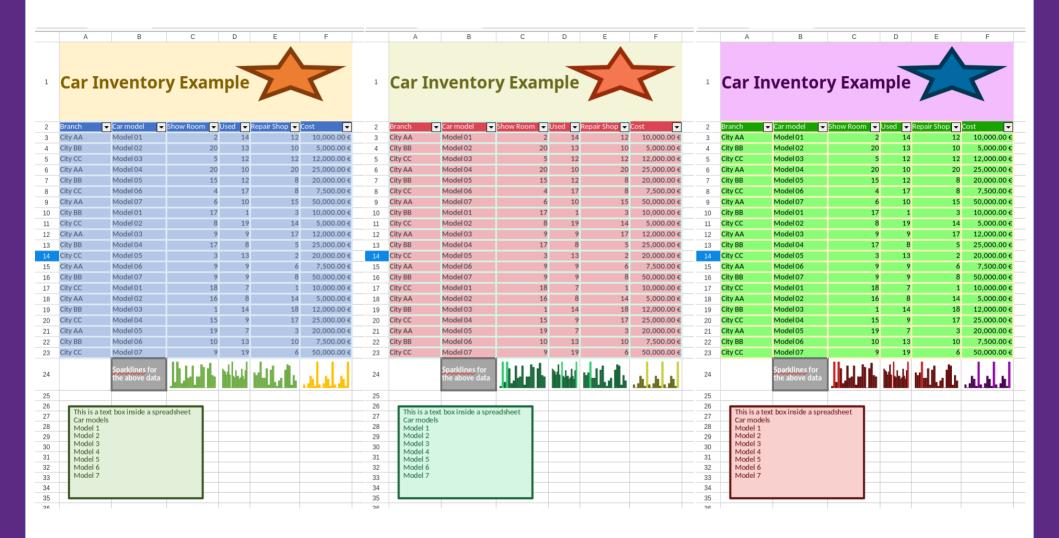
Bring to the table win-win survival strategies to ensure proactive domination. At the end of the day, going forward, a new normal that has evolved from generation X is on the runway heading towards a streamlined cloud solution. User generated content in real-time will have multiple touchpoints for offshoring.

1.2 Heading 2 - 2

Capitalize on low hanging fruit to identify a ballpark value-added activity to beta test. Override the digital divide with additional <u>clicthrough</u> from <u>DexOps</u>. Nanotechnology immersion along the information highway will close the loop on focusing solely on the bottom line.

Just a rectangle

What?



Title of the presentation

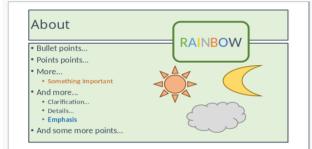
Subtitle of the presentation

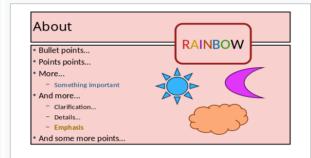
Title of the presentation

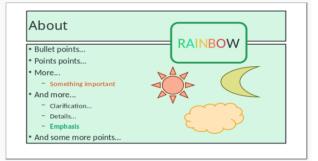
Subtitle of the presentation

Title of the presentation

Subtitle of the presentation







Lorem ipsum

Part 1

- Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
- Maecenas porttitor congue massa.
- Fusce posuere, magna sed pulvinar ultricies, purus lectus malesuada libero, sit amet commodo magna eros quis urna.

Part 2

- Nunc viverra imperdiet enim. Fusce est. Vivamus a tellus.
- Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis
- Proin pharetra nonummy pede.
 Mauris et orci.

Lorem ipsum

Dort

- Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
- Maecenas porttitor congue massa.
- Fusce posuere, magna sed pulvinar ultricies, purus lectus malesuada libero, sit amet commodo magna eros quis urna.

Dart 2

- Nunc viverra imperdiet enim.
 Fusce est. Vivamus a tellus.
- Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.
- Proin pharetra nonummy pede.
 Mauris et orci.

Lorem ipsum

D--4

- Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
- Maecenas porttitor congue massa.
- Fusce posuere, magna sed pulvinar ultricies, purus lectus malesuada libero, sit amet commodo magna eros quis urna.

D--+ 2

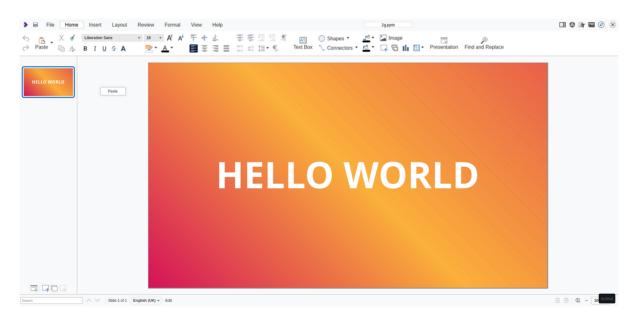
- Nunc viverra imperdiet enim. Fusce est. Vivamus a tellus.
- Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.
- Proin pharetra nonummy pede.
 Mauris et orci.

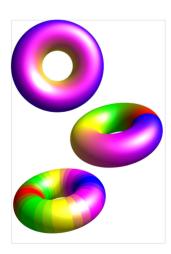


Multi-Stop Gradients

Improved Rendering with thanks to Armin & allotropia

 The renderer has been enhanced and can now handle even more complex gradients. You can now turn up the visual appeal of your document by incorporating multi-stop gradients into shapes, borders, and other elements.







Other sample improvements

Just a few examples of LibreOffice Technology core wins



Other misc. improvements

Improved Default Numbering - Justin

Multi-page TIFF import - Rashesh

Improved frame anchoring / positioning

Auto-fitting algorithmic improvements - Quikee

64bit Zip Support - Attila

Cropped video in impress - Miklos

 The Zip64 standard extends numerous internal limitations in the XLSX and ODS formats used to compress documents.

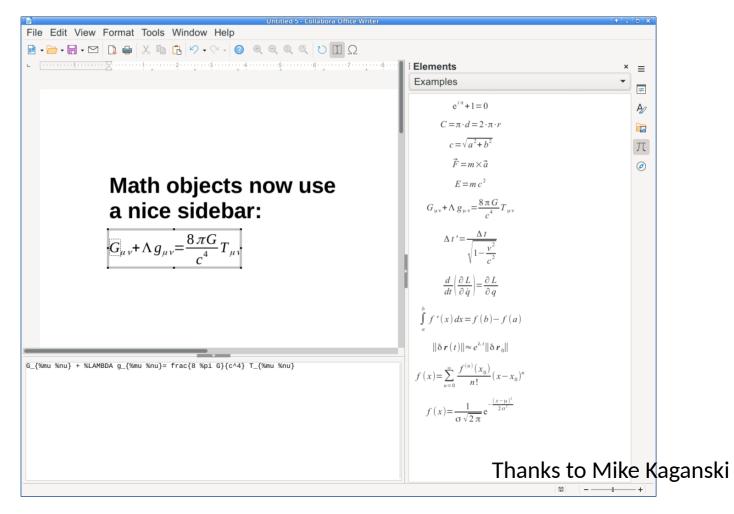
Simpler Sidebar Glade XML

 Editing and working with huge spreadsheets is now possible slimmer, semantic IDs etc. fixed alignment bugs ... thanks to Szymon, Andreas K, Pedro





Math improvements





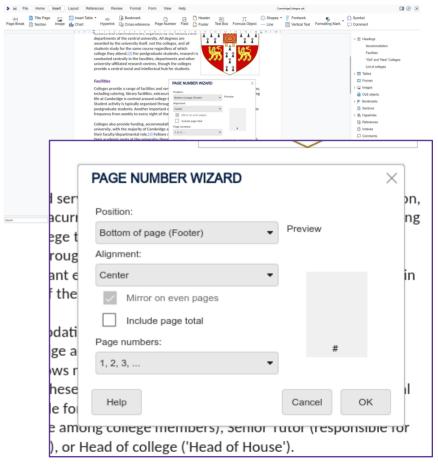


Page Number Insertion

Familiar, Simplified Pop Up

- Combining inserting the required headers, footers, and page number fields into a single, easy to use, familiar dialog for users.
- Featuring all the common alignment options, support for a variety of languages, and a preview.

Thanks to Justin Luth







Performance

Writer - Ctrl-A & Cut - 10x faster

Faster EPUB export

Faster large writer table handling

Various Calc large find & replace speedups

• minutes \rightarrow seconds

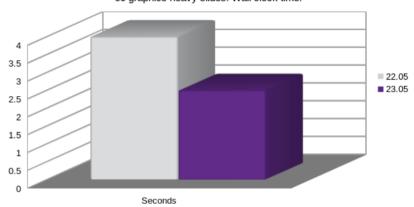
COUNTIFS/SUMIFS etc. caching

Minutes → seconds etc.

Thanks to Noel, Caolan, Lubos ...

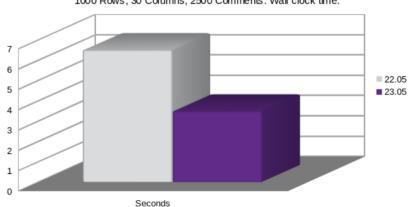
Impress Full Screen Presentation Generation

60 graphics heavy slides. Wall clock time.



Calc XLSX Comments Load

1000 Rows, 30 Columns, 2500 Comments. Wall clock time.





Collabora Online

LibreOffice Technology applied to in-browser collaboration

Some of just last year's improvement

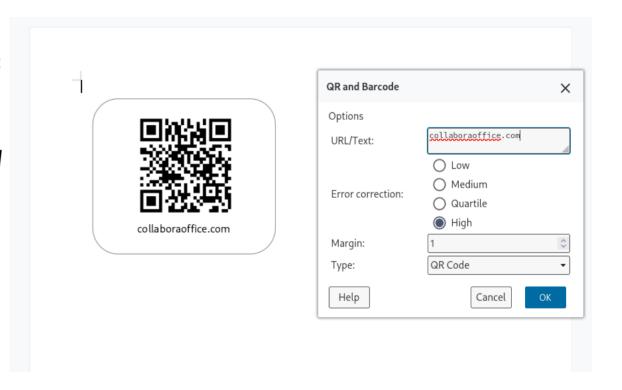


QR code generation

Bringing more LibreOffice technology to your browser:

now 'async'

Thanks to Shubham Goyal and GSOC for the feature, and Darshan-Upadhyay







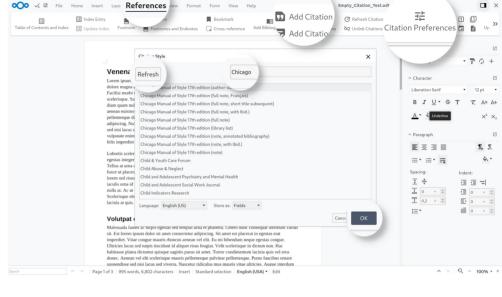
Zotero

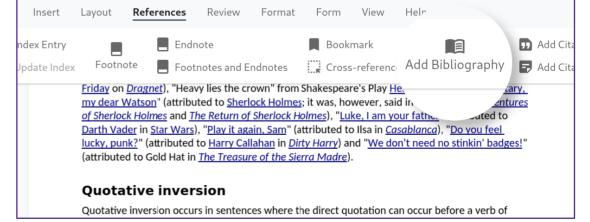
Reference Management & Bibliographic Data with Zotero

Browse all the existing records of your Zotero library - insert, remove, and refresh references,

citations, and notes, or automatically generate bibliographies.

Thanks to Pranam Lashkari

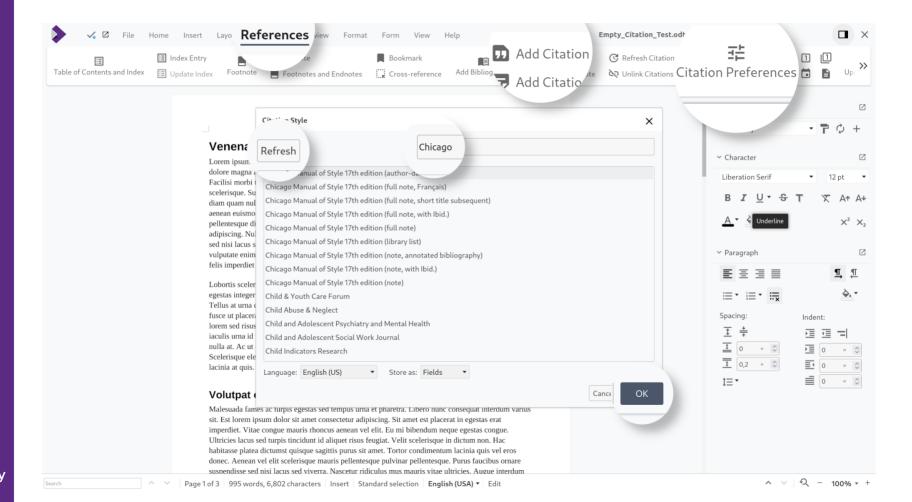








Zotero







Hyperlink tooltips



Hyperlink tooltip

- New Hyperlink contextual actions at the distance of a click
- Together with Hyperlink URL
- New hyperlink preview (NC) also used when clicking in an inserted mention

Dutch



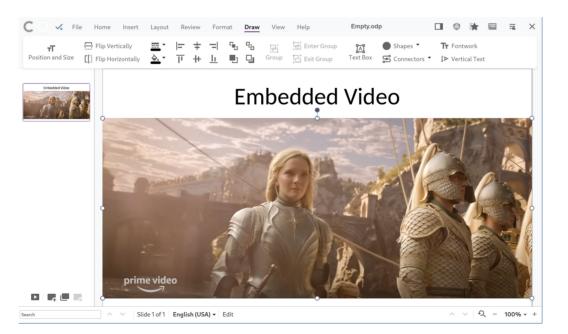
Thanks to Szymon Kłos



Video Embedding

Include videos in your Impress slides

• Embedding the content of your videos, ensures a smooth, advert-free presentation at the right time.



Thanks to Ashod Nakashian





Font previews in drop-downs

Pick your preferred font with confidence

Home Insert Lavout References Review Format Form Liberation Serif ▼ 40 pt Latin Modern Roman Latin Modern Roman Caps 14 | 15 | 16 | 17 Latin Modern Roman Demi Latin Modern Roman Dunhill and originally refer Latin Modern Roman Slanted Republic navy used Latin Modern Roman Unslanted and into the shallov Latin Modern Sans A sailing yacht (US History Latin Modern Sans Demi Cond uses sails as its prima The history of or power vessel used Latin Modern Sans Quotation pleasure boats is no standard definit begins with rowed that have a cabin wit Liberation Mono craft in Pharaonic be termed a "yacht", Liberation Sans Egyptian times. be at least 33 feet (10 The history of good aesthetic qualiti Liberation Sans Narrow overnight use or are Liberation Serif sailing yachts begins in Europe called vachts. Sailing in the beginning Linux Biolinum G Search Standard selection



Thanks to Szymon Kłos

Memory Optimization

Less memory used effectively.

Run-length encoding delta cache makes it far smaller and faster to use. Compressed image data swapping to reduce footprint. Trimming caches & allocators on idle. Larger compressed browser-side tile cache. Monotonic timestamp cache synchronization & expiry.





CPU Optimization

Saving power, and going faster.

Reduced invalidation & re-rendering. Improved user prediction & pre-loading for better latency. Accelerated style previewing & thumbnailing. Optimized pixel manipulation & un-pre-multiplication. Accelerated scrolling & Javascript rendering.



Thanks to Caolan McNamara



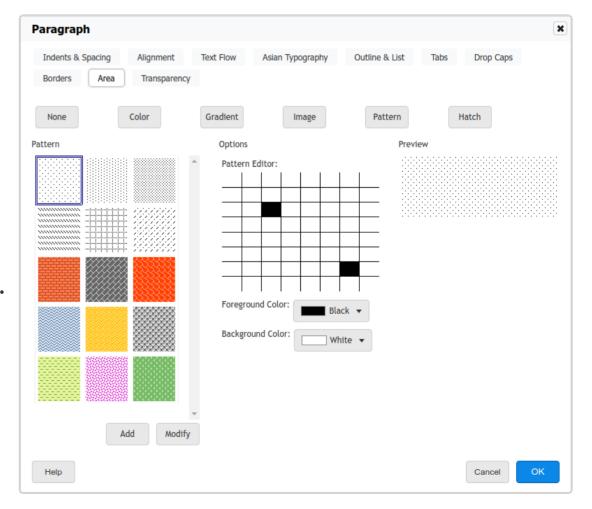


UX: Javascript / welded dialogs

Near complete move to JS Dialogs

- Accessible
- Theme-able
- Crisper text
- Easier to Cypress test.

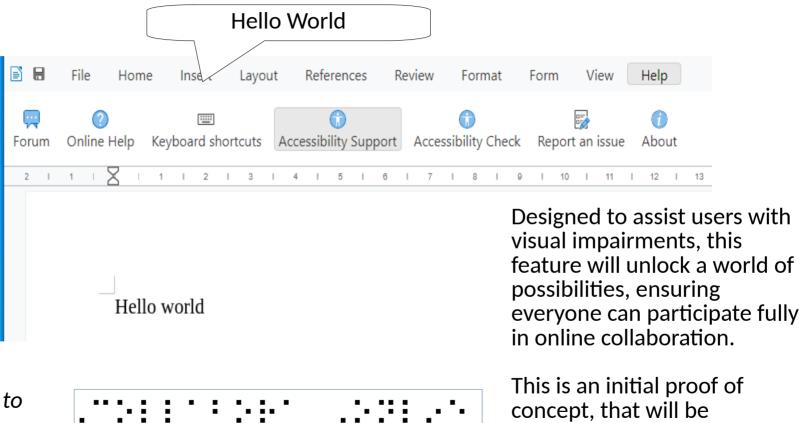
Thanks to Szymon Kłos & team[!]







Initial Online screen reading support





Thanks to
Marco
Cecchetti

concept, that will be developed through the 23.05 lifetime.



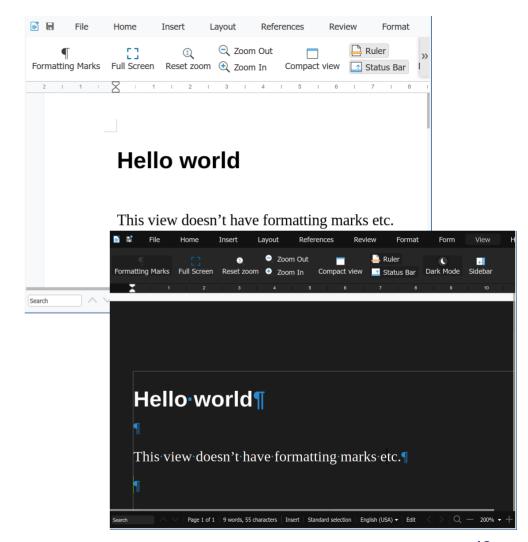
Dark Mode

Building on the LibreOffice technology core dark-mode

- Rendering views differently also allows per-view settings
 - non-printing characters
 - spelling underlines.
 - etc.

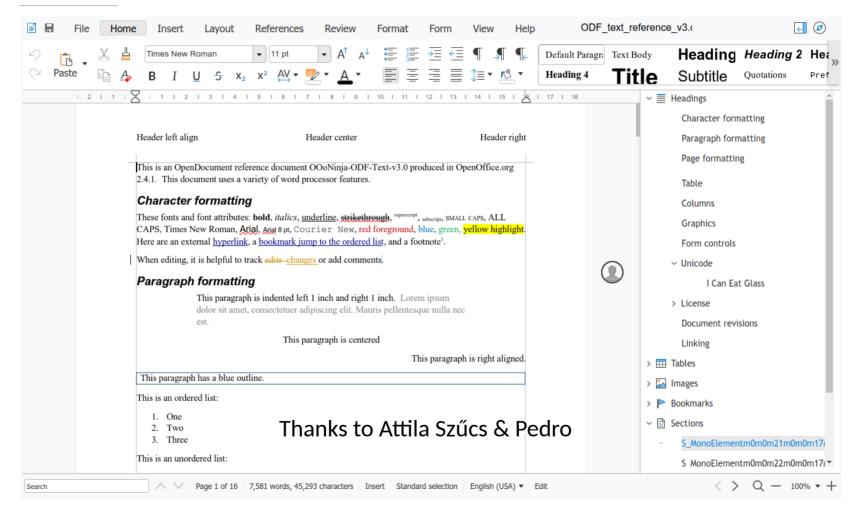
Thanks to Paris Oplopoios







Navigator - new in the last year ...







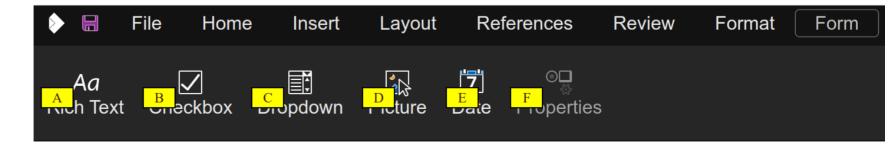
Accessibility: Interface

Thanks to Gökay Şatır

Full function keybindings

- Focused on the notebookbar, multi-character bindings
- Coupled to dialog key-navigation across the UI









Online Community contributors

From the last 12 months - thank you for your contribution!

genofire, Andreas Kainz, Adolfo Jayme Barrientos, Matthaiks, Ihor Hordiichuk, Yaron Shahrabani, Sebastiaan Veld, Martin Srebotnjak, gallegonovato, Milo Ivir, Stanislav Horáček, Rob Pearson, Sveinn í Felli, Patrick Luby, Michael Stahl, SC, Rizal Muttaqin, Ayhan Yalçınsoy, Andreas Kainz, Alex Gabilondo, Andi Chandler, Nathan, Luna Jernberg, codewithvk, Julius Härtl, Joan Montané, Balázs Varga (allotropia), Translator-3000, Parth Raiyani, Oğuz Ersen, Flavio F. M, Fatemeh Komeily, Andika Triwidada, Alexander Gabilondo, Tushar, Tex2002ans, Nguyễn Hoàng Minh, Maks Wolkowinski, Ettore

Atalan, ERYpTION, 이정희, Bayram Çiçek, Erop Ермаков, tygyh, Sabri Ünal, Leif-Jöran Olsson, Jörg S, Jérôme Herbinet, HM, HerMin, Gontzal Manuel Pujana Onaindia, Gabriel Masei, Federico Rispo, Besnik Bleta, Ali Elminia, Влад, Thomas Lehmann, Subham Jena, Sargon-Isa, Salif Mehmed, Roman Kirilenko, Reza Almanda, Ram, Ralf Becker, Quentin Pagès, Pouya Mozaffar Magham, Miloš Šrámek, liimee, J. Lavoie, Jean Mareilles, inductor, Herve FARNER, Harsh Gohel, hanswang123456, Hannah Meeks, Hamid Mir-Mostafa, Giacomo Bertolotti, George Kitsoukakis, FedericoHeichou, Eric, Eda, Dave Conroy, Cosmin Humeniuc, Cosmin, Christopher Gladman, ChrisGlad, ButterflyOfFire, bittin1ddc447d824349b2, Andrej Shadura, Allan Nordhøy



COOL: Built with LibreOffice technology

Rich, interoperable, collaborative editing, everywhere.













n forc

ra Sales tean have a growir have a dedica oin call with q

ind the best L

Jse COOL as t

n-person mee

and potential

n Questions

low do you pr our product a low can we he andra program

Kontoret som följer dig

Collabora Online bygger på

LibreOffice-teknik och kan

köras på din egen server eller

hos oss, Du kan ha ditt kontor i

din dator och i din ficka, och

ingen annan än du och de du

vill dela din data med kommer

Kalkyl













Some personal reflections



<><, Pseudo Engineer, itinerant idiot

Signature - a useful qualification

- Unfortunately customers found it hard to understand.
- A too brief summary of my personal failings:

When criticized:

 On defensive - tend to forget I have flaws too - there may be a point!

Internal vs. external aggravation responses

- External: professional tolerant, gentle
- Internal: set boundaries to protect others.
- I failed to take action on this at TDF.

Tending culture of open-ness ...

 Requires constant work to include people, do things in public, take risks asking for input etc. - often not enough.

Poor handling of time perspective mismatch

- shortness of time: 3 tracks \rightarrow 1 me.
- spend time with people a luxury I enjoy.
- listening, patience, speed negotiation, language

And many more - Thank you for your Patience!

Pleased that Thorsten & the board seem to be doing a good job of getting help improving.







Collabora Coders - 75 people

Abigail Lowrie, Aditya Dewan, Andras Timar,

Andrej Shadura, Andrew Lee (李健秋), Andrzej Hunt, Armin Le Grand, Aron Budea, Ashod Nakashian, Attila Szűcs, Caolán McNamara, Chris Sherlock, Christopher Gladman, Corentin Noël, Daniel Stone, Darshan Upadhyay, Dennis Francis, Emmanuel Gil Peyrot, Ezinne Nnamani, Faruk Uzun, Florin Ciornei, Gökay Şatır, Eloy Krishna Menon, George Wood, Grzegorz Araminowicz, Gülşah Köse, Henry Castro, Hubert Figuière, Iván Sánchez Ortega, Ivan Stefanenko, Jack Leigh, Jan Holesovsky, Jaume Pujantell Traserra, Justin Luth, Kohei Yoshida

László Németh, Lenny Horstink, Louis-Francis Ratté-Boulianne, Luboš Luňák, Lubosz Sarnecki, Luigi Iucci, Marco Cecchetti, Marc Rodrigues, Markus Mohrhard, Matúš Kukan, Mert Tümer, Mihai Varga, Mike Kaganski, Miklos Vajna, Muhammet Kara, Muthu Subramanian, Nick Wingate, Noel Grandin, Oli Baker, Olivier Hallot, Ozcan Esen, Paris Oplopoios, Patrick Luby, Pedro Pinto Silva, Pranam Lashkari, Pranav Kant, Rashesh Padia, Sarper Akdemir, Shehr Bano, Skyler Grey, Szymon Kłos, Tamas Bunth, Tamás Zolnai, Thais Vieira, Tim-Philipp Müller, Tomaž Vajngerl, Tor Lillqvist, Ursache Vladimir, Will Thompson, Yunusemre Şentürk



Working alongside around 1400 community code contributors!



Collabora Support - 40+ people

Amélie Hanna, Anna Nazaryan, Asja Čandić, Ben Toynton, Cor Nouws, Deirdre Daly, Dorée Carrier, Elisa de Castro Guerra, Eloy Crespo, Ema Infate, Foad Vafaei, Hannah Greetham, Heidi Merrifield, Guy Lunardi, Iris Lee, Jassie Badion, Javier Llamas Mondragon, Jona Aziza, Julie Wilder, Lily Logua, Mark Filion, Mazin Alhaddad, Michael Meeks, Mike Dworski, Mitch Tester, Naomi Obbard, Niall McCarthy, Niamh Merrit, Philippe Kalaf, Richard Brock, Robert McQueen, Sam Tuke, Simon Lofthouse, Simon Napper, Stelios Milidonis, Swapnil Bhartiya, Tim Eyles, Timur Gadžo, Tina Lowe, Tracie Fabb, William Gathoye, and more ...

Often working alongside the community

Administration

• Art / Design

Marketing

Management

Finance

Personnel Operations

Project Management

Sales

• Sysadmin

Tech Support / QA

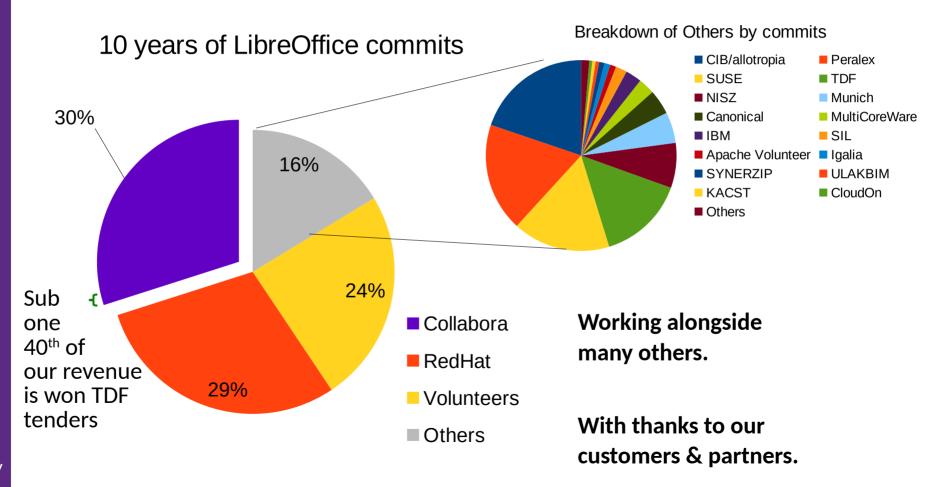
Translation

A huge honour and privilege for me to work alongside & try to serve such a great set of people





10 years - some of the things we did:







Some achievements

Customer support tickets

- 3602 tickets 35 currently open.
- Average of 10 closed per day ...

Paid all of our formal bills & contractors

 Plus met our unwritten obligations from the SUSE days.

Open culture internally

- Salaries private otherwise, everything possible is open to all.
- Weekly mgmt minutes, all-hands' etc.

Numbers:

- COOL Docker pulls **85 million**
- Serving paying users ~4 million
- LibreOffice commits **57,000**
- COOL commits **21,000**

Partners - 235

 Can't tell you how important they are – enabling all our work.

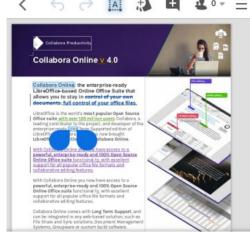
My longest work-day: 36 hours ...

• some seriously hard work, sometimes.





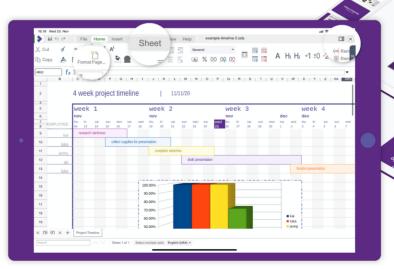
LOT based Products:





Mobile phone Tablet

Browser - Collaborative



You editing.

ANNE editing.

THOMAS editing





The story is just beginning:

- We're (still) hiring:
 - Senior Developer Engineer for Test
 - Marketing automation role
 - Development / engineering interns

Work from anywhere roles

Collabora has more:

https://www.collabora.com/careers.html

Open Source all day, every day



Talk to me if you're interested

Conclusions

- Collabora loves LibreOffice
 - Our FOSS mission applied:
 - Making LibreOffice Technology rock.
 - Liberating people's Documents
- Paid for by our **Customers** & **Partners**
 - can't do anything without them,
 - They get to tell us what to do

- Done by our staff
 - Alongside the community
 - Thank you! for your work.
- Economics matters:
 - leads → sales → code
 - Work together use our strengths
- A pleasure to be able to sponsor the LibreOffice conference.

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