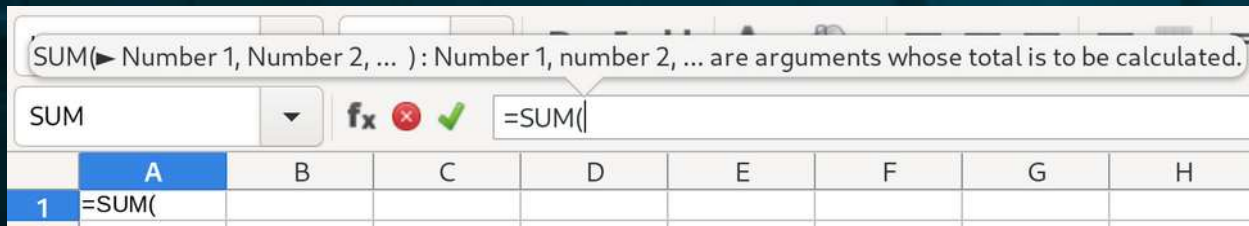


LibreOffice and Native GTK Widgets

Native Elements in 6.0

- File Dialog
 - Native for years
- Tooltips
- Popovers



- Menubar and menus
 - Context menus too

Steps towards Native Widgets

- UI Description Format
- Localization Format
- Incremental conversion to API supporting use of GTK widgets as VCL replacements.

Dialog Descriptions

- Add Widget Layout support to VCL
 - include/vcl/layout.hxx
 - GTK-alike VclGrid/VclBox etc
- Convert dialog description format To GtkBuilder UI Definitions
 - Our own .ui file loader
 - Able to use Glade to edit LibreOffice dialogs
 - Resulting in VCL widgetry described as UI Definitions

Localization

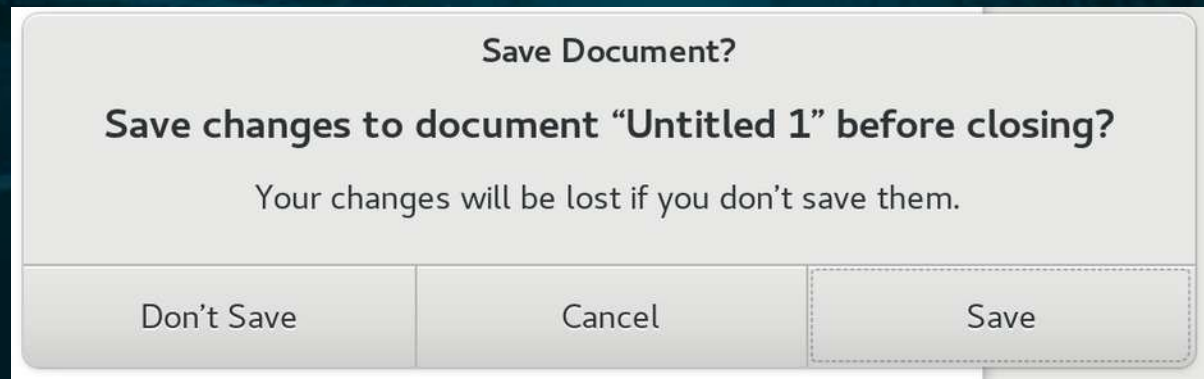
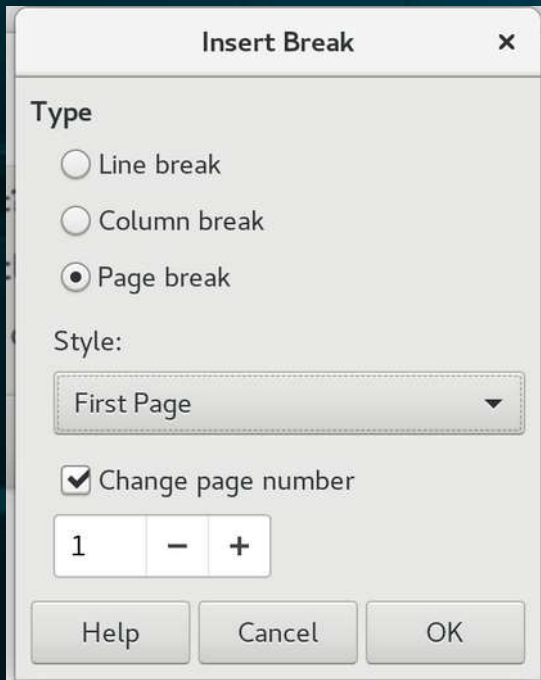
- Migrated to gettext for runtime localization
- converted 22000+ translation entries into gettext format
 - Write .mo files with gettext tooling
 - Read .mo files with boost::gettext
- Provides plural forms support

Intermediate API

- `include/vcl/weld.hxx`
- `Application::CreateBuilder` takes a `.ui` description and returns a `Builder`, either a `Builder` which generates GTK widgetry or VCL widgetry depending on your platform
- An API that exposes just what the `Application` part of LibreOffice needs from its widgetry
 - Limit the GTK use to just what VCL can do
 - Add occasional pieces to VCL to fill in missing gaps

Native in 6.1

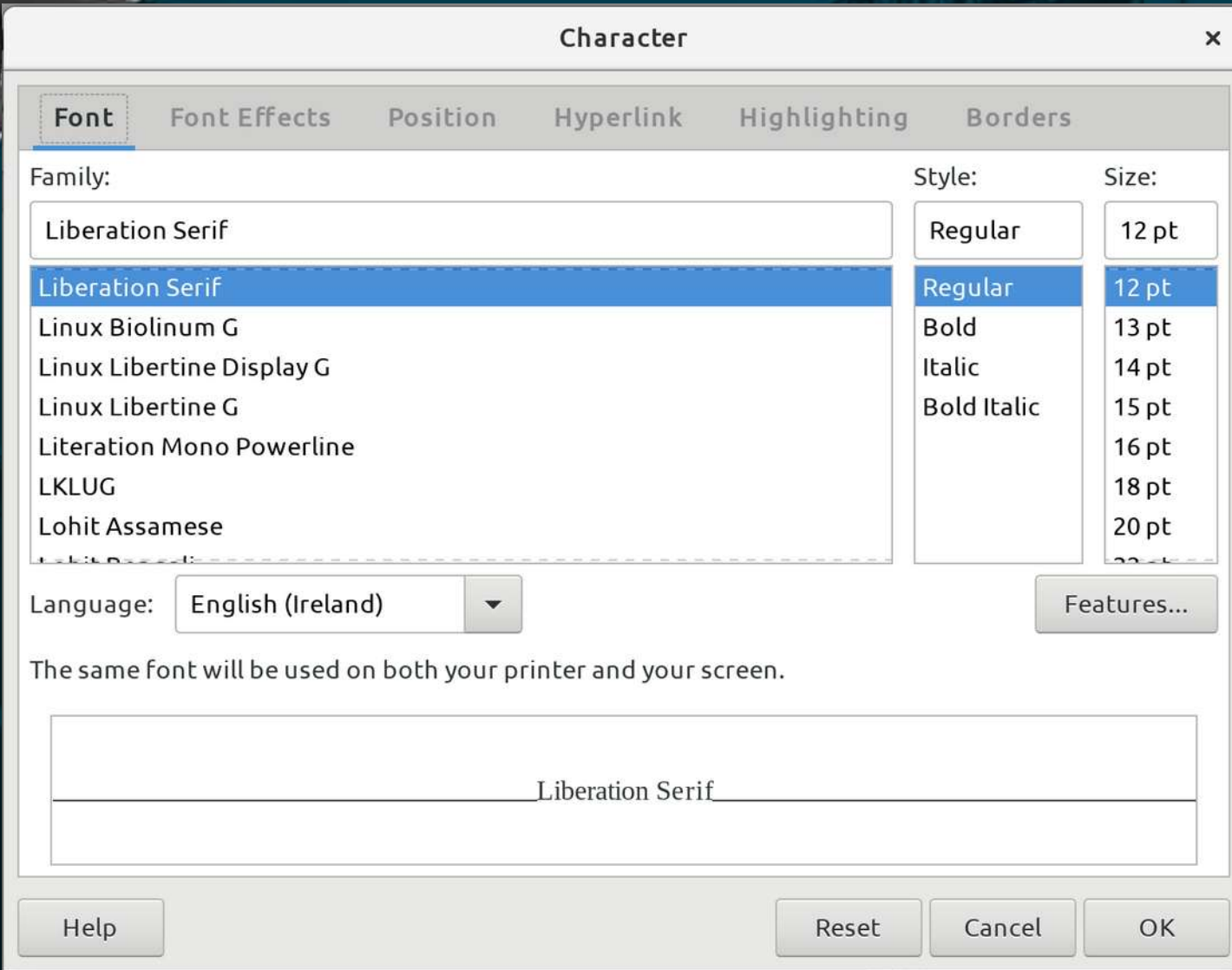
- Message Dialogs
- Handful of Simple Dialogs



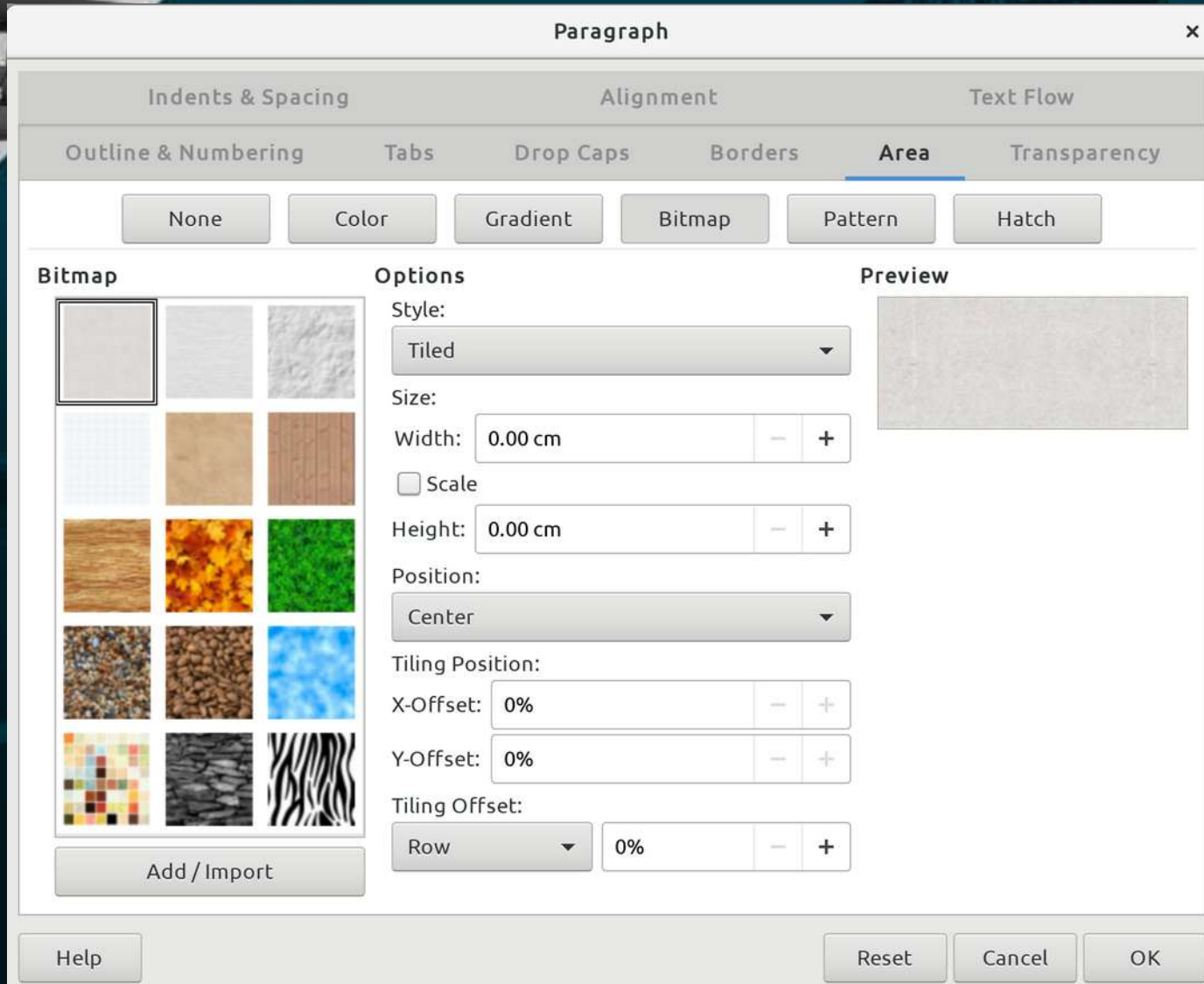
Native in 6.2

- 180 GenericDialogControllers
- 100+ Tab Pages
 - Tab pages get reused in multiple dialogs, so...
 - Scaffolding to detect whether the tab is in a native SfxTabDialogController or a vcl-based SfxTabDialog and react accordingly
- 41 SfxTabDialogControllers
 - Including the big ones, format character, format paragraph and format page, etc

Native in 6.2



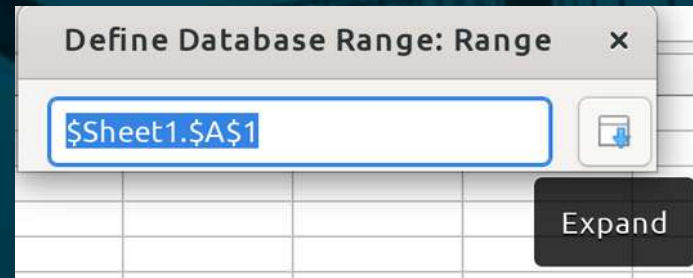
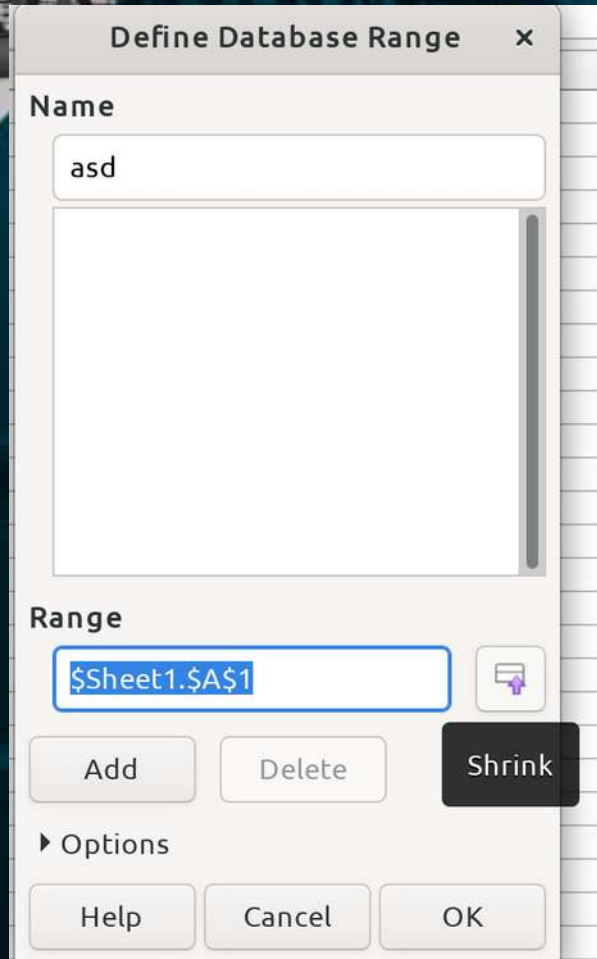
MultiLevel Notebook: 6.2



Native in 6.3

- 266 GenericDialogControllers
- 160+ Tab Pages
- 48 SfxTabDialogControllers
- No direct use of VCL TabDialog or MoreButton remain

Calc Range Selector Dialogs



Contour Editor

Contour Editor

Font Information for LiberationSerif

Misc. Metrics Sub/Super Panose Charsets

Win Ascent: 1825 Is Offset

Win Descent: 443 Is Offset

Really use typo metrics

The specification already says that the typo metrics should be used to determine line spacing. But so many programs fail to follow the spec. that MS decided an additional bit was needed to remind them to do so.

Typo Ascent: Is Offset

Typo Descent: Is Offset

Typo Line Gap: 307

HHead Ascent: 1825 Is Offset

HHead Descent: -443 Is Offset

HHead Line Gap: 87

VHead Column Spacing: 0

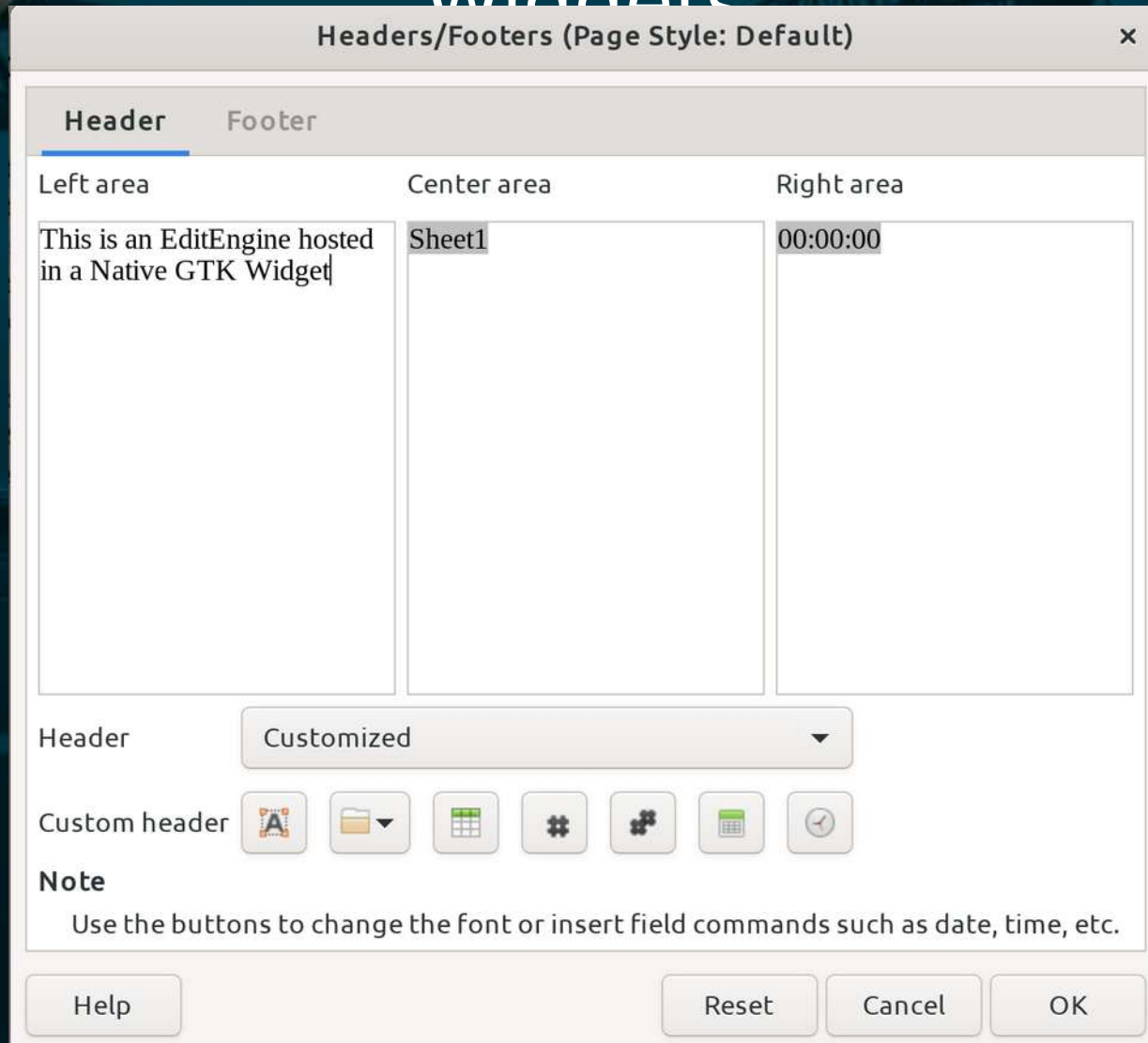
Capital Height:

X Height: 940

OK Cancel

4.14 " / 6.44 " | 10.83 " x 7.99 "

EditEngines in Native Widgets



Drag and Drop

Pivot Table Layout ×

Filters:

1

Available Fields:

1
2
3

Column Fields:

Data

Row Fields:

3

Data Fields:

Sum - 2

Drag the Items into the Desired Position

▶ Options
▶ Source and Destination

Help Cancel OK

Native in 6.4

- 290 GenericDialogControllers
- 48 SfxTabDialogControllers
- 170+ Tab Pages
 - All tabs hosted in converted dialogs, so remove that scaffolding
- No direct use of VCL ProgressBar, FixedLineHyperlink, ImageControl, RoadMap or SpinButton remain

Native in 6.4: Native Assistants

Insert Address Block

Select Starting Document

Select Document Type

Insert Address Block

Create Salutation

Adjust Layout

Insert Address Block

1. Select the address list containing the address data you want to use. This data is needed to create the address block.
Select Different Address List...
Current address list: EvolutionLocal
2. This document shall contain an address block

<Title> <First Name> <Last Name> <Address Line 1> <ZIP> <City>	<Title> <First Name> <Last Name> <Address Line 1> <ZIP> <City> <Country>
---	--

More...
 Suppress lines with just empty fields
3. Match the field name used in the mail merge to the column headers in your data source.
Match Fields...
4. Check if the address data matches correctly.

```
< not yet matched >  
< not yet matched > < not yet matched >  
< not yet matched >  
ZIP City
```

Document: 1 ↶ ↷

Help < Back Next > Cancel Finish

Native in 7.0

- 290 GenericDialogControllers
- 48 SfxTabDialogControllers
- 170+ Tab Pages
- No direct use of VCL Dialog, CloseButton, HelpButton, MetricField, MetricBox, CurrencyField, NumericBox, PatternBox, CurrencyBox, DateBox, TimeBox, LongCurrencyBox, SvTabListBox, SvHeaderTabListBox
- All Dialogs and Assistants complete
- Native elements in Toolbar and Sidebar

Toolbar and Sidebar Elements

Native Menubar (6.0)

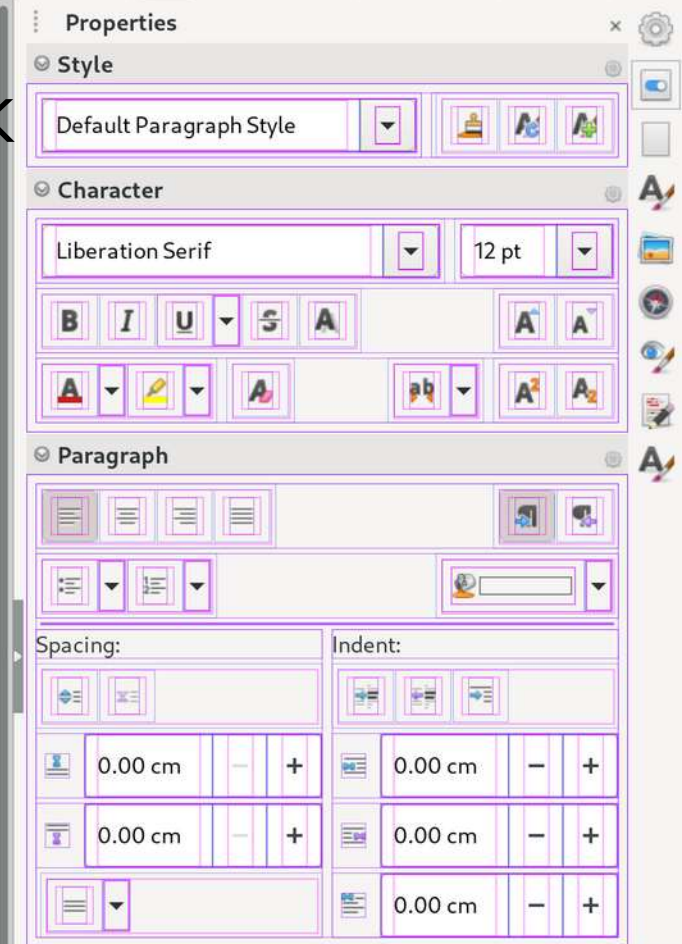
Hosted GTK Widgets

Everything else is VCL, pretending to be GTK.
Ultimately drawing onto a single "OooFixed" widget.

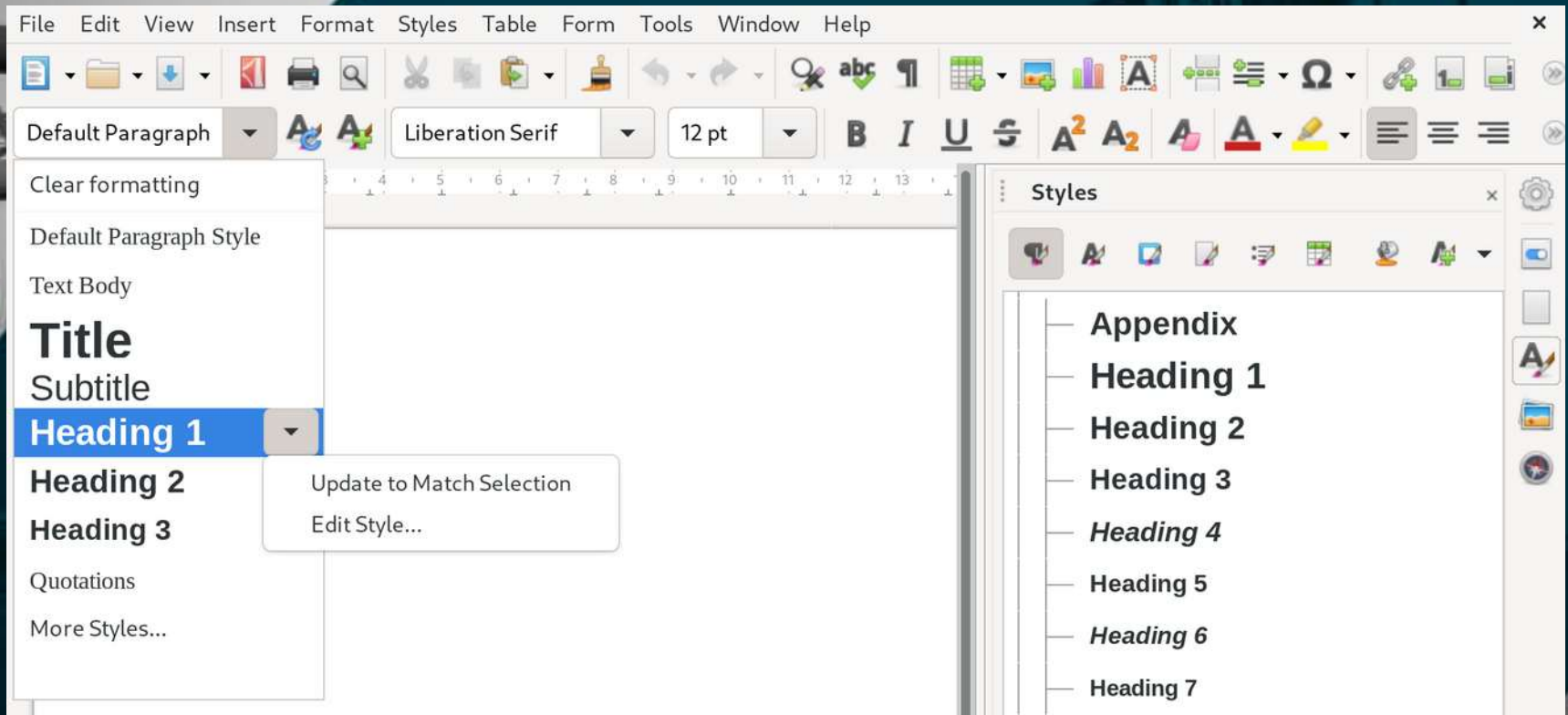
Toolbar and Sidebar Elements



- Contents of each Panel Pane are GTK
 - Parent Pane is VCL
 - “Style” “Character” headings and gear buttons
- Toolbar ItemWindows are GTK
 - Parent Toolbar is VCL



Custom Cell Renderers



- GtkTreeView and GtkComboBox with custom cell renderers
- GtkComboBox dropdown with overlay to add GtkButton

Base Contents

File Edit View Insert Tools Window Help

Database

Tasks

- Create Report in Design View...
- Use Wizard to Create Report...

Description

Reports

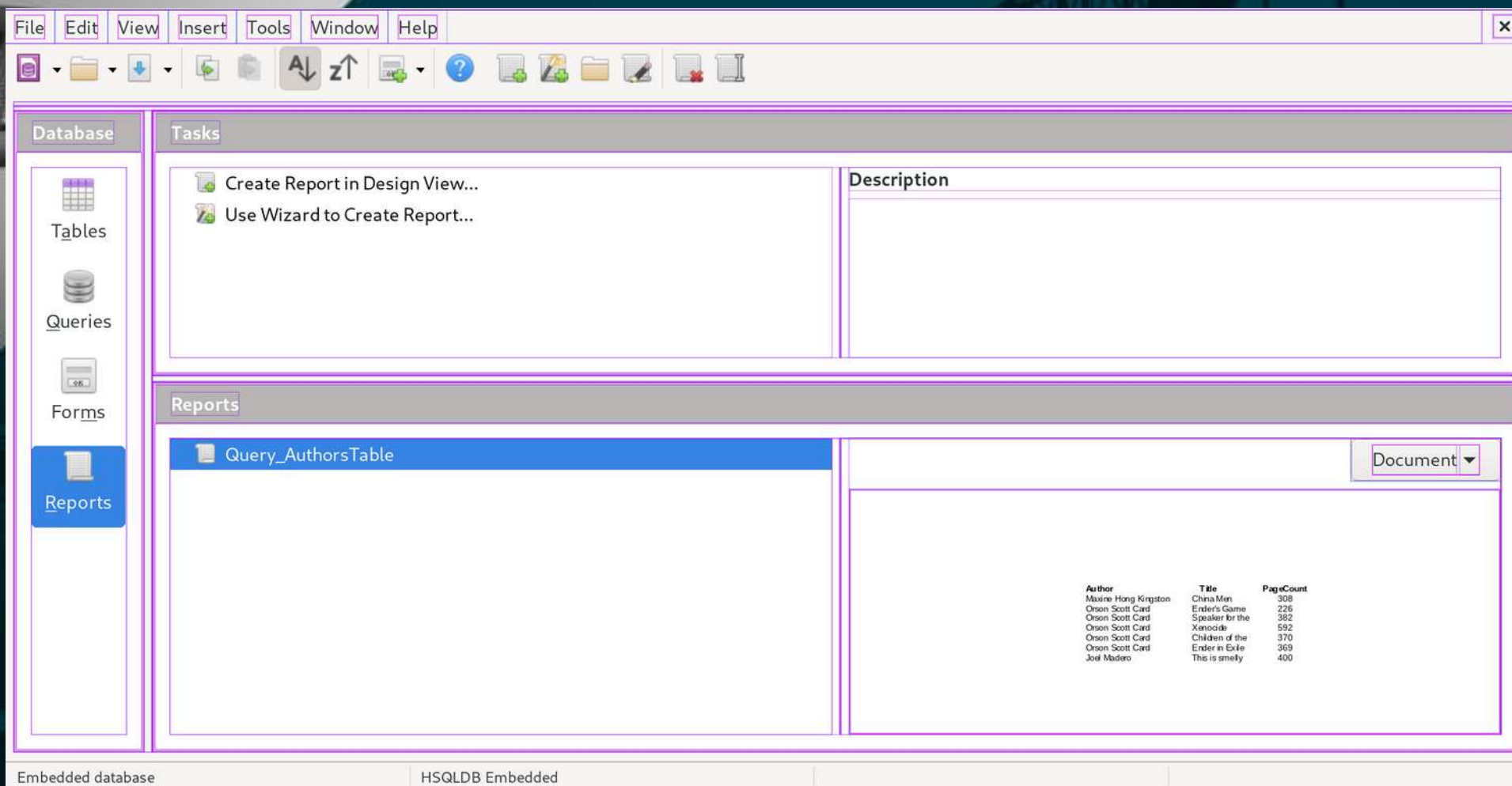
Query_AuthorsTable

Document ▾

Author	Title	PageCount
Masine Hong Kingston	China Man	308
Orson Scott Card	Ender's Game	226
Orson Scott Card	Speaker for the	382
Orson Scott Card	Xenocide	592
Orson Scott Card	Children of the	370
Orson Scott Card	Enter in Exile	369
Jost Madero	This is smety	400

Embedded database | HSQLDB Embedded

Mostly Native GTK Widgets



- Only VCL statusbar and toolbar

Incremental Conversion

- Converted each taskwindow content individually
 - An “InterimItemWindow” is a `vcl::Window` which hosts a `GtkContainer`
 - Manages VCL ↔ GTK tab traversal and focus
- Once all taskwindow contents converted, convert taskwindow itself
 - Removing the lower set of InterimItemWindows and move it a layer higher
- TaskWindows hosted in another VCL Container
 - Rinse and repeat
- → Single toplevel InterimItemWindow

GDK DEBUG=interactive

- Real GTK Widgets
 - └ So GtkInspector works

Objects Statistics Resources CSS Visual General

Properties

GtkTreeView — treeview

Property	Value	Type	Defined At
margin-end	0	gint	GtkWidget
margin-left	0	gint	GtkWidget
margin-right	0	gint	GtkWidget
margin-start	0	gint	GtkWidget
margin-top	0	gint	GtkWidget
model		GtkTreeStore	GtkTreeView
name		char*	GtkWidget
no-show-all	TRUE	gboolean	GtkWidget
opacity	0.600000	gdouble	GtkWidget
parent	0x731a880	GtkScrolledWindow	GtkWidget
receives-default	TRUE		
reorderable	TRUE	gboolean	GtkTreeView

Opacity for Widget

0.60 - +

The opacity of the widget, from 0 to 1

Next Steps

- Calc Input Bar
 - In progress, some DnD aspects are blocking
- Base's Relationship Pane
 - Hosts child widgets on a DrawingArea-alike widget
- Bibliographic Editor Pane
 - A complex mix of vcl and awt APIs
- Start Center
 - Avoided because it was complexly custom themed
 - This has changed though (tdf#136555)
- Join those panel islands together
 - Like the Base example

End, Thanks