Bringing your GNOME application up-to-date

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Modernising your GNOME application

Overview

- 6-month development cycle
- new features every 6 months
- also new deprecations
GtkSearchBar

- New widget in GTK+ 3.10
- Hidden until needed
- Revealed when typing a search term, or when manually activated
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**Summary**

**GtkStack**

- New widget in GTK+ 3.10
- Simple replacement for *GtkNotebook*, when combined with *GtkStackSwitcher*
- Animated transitions between stack pages
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**Summary**

**GtkListBox**

- New widget in GTK+ 3.10
- Simple replacement for `GtkTreeView`, when used for lists of widgets
- Very good for upto 100 items, and no need for cell renderers!

GtkStock

- Deprecated in GTK+ 3.10
- A good way to have standardised icons and associated (and translated) text
- Replacement icons can use the `name` property of `GThemedIcon`
- No replacement for text, which must be retranslated
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GtkAction and GtkUIManager

- Deprecated in GTK+ 3.10
- The modern replacement is a combination of GAction, GMenu and GtkActionable
- Application menus need the new action interfaces
- No replacement for tooltips, which used to be associated with each GtkAction
Composite widget templates

- Added in GTK+ 3.10
- Very powerful way to define custom widgets in 
  `GtkBuilder` files
- Nearly all code to setup UIs can be moved to XML
- Support is built-in to Vala as a language extension
GObject private data rework

- Added in GLib 2.38 (same time as GTK+ 3.10)
- Private data inside an object can be more hidden
- Private struct no longer needs to be exposed in the header file
- Predefined macro to make type definition easier:
  
  G_DEFINE_TYPE_WITH_PRIVATE
Header bars

- Added in GTK+ 3.10, used in dialogs in 3.12
- Client-side decorated window title bars
- Very good at reducing vertical height of windows
- https://wiki.gnome.org/Design/HIG/HeaderBars
Header bars in dialogs
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Summary

Popovers

- Added in GTK+ 3.12
- A hybrid of a dialog and a menu
- Good for linking dialog-type controls to a single widget, like a popup menu

https://wiki.gnome.org/Design/HIG/Popovers
GtkFlowBox

- Added in GTK+ 3.12
- A flexible grid, designed to replace GtkIconView
- Very good for displaying lots of similarly-sized content, such as photos

GNotification

- Added in GLib 2.40 (the same time as GTK+ 3.12)
- A built-in way to create notifications
- Avoid a dependency on libnotify
- https://wiki.gnome.org/Design/HIG/Notifications
GApplication command-line handling changes

- Added in GLib 2.40 and GTK+ 3.12
- Makes single-binary DBusActivatable applications possible
- One step closer to application bundles
- https://wiki.gnome.org/HowDoI/DBusApplicationLaunching
GtkInspector

- Added in GTK+ 3.14
- Easy and highly flexible run-time debugging of GTK+ applications
- Still under active development
- https://wiki.gnome.org/Projects/GTK+/Inspector
Further resources

- Mailing lists, https://mail.gnome.org/
- Wiki, https://wiki.gnome.org/HowDoI
- IRC,
  https://wiki.gnome.org/Community/GettingInTouch/IRC
- https://developer.gnome.org/
Settings management

- **GSettings** is the API in GIO used for storing user preferences.
- Settings are stored in dconf on Unix, the registry on Windows.
- Very fast at reading.
- **GAction** can be backed by a setting.
Compiled resources

- **GResource** is the API in GIO for loading built-in data resources
- Avoid loading GtkBuilder files and other internal resources from `/usr/share/package`
- Use `glib-compile-resources` to generate sources, which are then built into your binary
- Use `gresource` to examine binary files for included resources