

Building graphical user interfaces with GLADE and Gtk+/GtkAda

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Please interrupt me *when* I'm speaking too fast
or otherwise am difficult to understand.

Questions are welcome at *any time* during the
talk.

LinuxDay/Cagliari 2004: GUI building with GLADE

Gtk+/GtkAda is a portable graphical user interface library. Applications written with Gtk+/GtkAda are - if you don't try hard to make it different - portable between MacOS X, most Unixes and MS Windows.

GLADE is a tool for creating graphical user interfaces using Gtk+/GtkAda.

The talk will be a live presentation of how one can create a simple application with a graphical user interface.

The task

Make a graphical user interface for proof-reading a spell checking dictionary. Given a string (hopefully a word) we want to ask the user

- if it is a correctly spelled word
- which class it belongs to (but only if it is correct)
- what its correct spelling is (but only if it is wrong)

The tools

- GLADE - the GUI builder
- GtkAda - the GUI library
- GNAT - the compiler
- Emacs - just a nice editor

Some traps

Not all distributions come with working versions of GLADE and GNAT. Debian works straight out of the box, while Red Hat requires use of some packages downloaded from a non-standard location. GLADE doesn't seem to work properly on Mac OS X.

First steps

- Starting the GUI builder
- Setting up a project
- Creating a window
- Adding layout tables, a *notebook* and some *buttons* to the window
- Building the project source
- Compiling the program

Adding a handler to a button

- Attaching signal handlers
- Updating the generated project source
- Editing the generated handler:

```
Gdk.Main.Gdk_Exit (Error_Code => 0); quits  
the program
```

Changing text in the GUI

- Adding a *label* and a *textbox* to the window
- Updating the generated project source ^a
- Editing the initialization routine to use the 1st command line argument to set the window title: `Ada.Command_Line.Argument (1)`

^a Notice that this doesn't destroy the handler we wrote before.

Radio buttons

- Extending an existing layout table
- Adding a group of radio buttons
- Adding a field to a window type
- Accessing a window object from a handler for one of its child widgets
- Writing the result to standard output

Extending the *notebook*

- Extend the *notebook* with an additional page
- Adding an editable text box
- Include data from the editable text box in the output

Extending the *notebook* (2)

- Using the "Forward" *button* to switch pages
- Showing and hiding pages
- Changing the initialization routine

Extending the *notebook* (3)

- One more page
- Showing and hiding it as appropriate
- Call "Done" when "Forward" doesn't change the page

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Links

- Starting point for GUI building with GLADE and Gtk+/GtkAda:
<http://libre.act-europe.fr/GtkAda/>
- Starting point for programming in Ada:
<http://www.adapower.com/?Command=Started>
- Newsgroup: `comp.lang.ada`