Gtk Marries Ada: The GUI Technology Revolution

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Overview

- History of GtkAda
- GtkAda Features
- Why Gtk Rather Than Other Toolkits?
- Why GtkAda rather than Gtk+?
GtkAda - History

- The GIMP
  - GNU Photoshop clone

- The Gtk+ library
  - Becomes independent

- GtkGlade: a Gtk+ GUI builder

- Gnome: a desktop manager

- GVD: the GNU Visual Debugger
GtkAda Features

- High-level binding to the Gtk+ library
  - object-oriented
  - type safety
  - small and efficient
- Highly portable
  - Unixes: Linux, Solaris, ...
  - Windows NT
- Native
GtkAda Features (2)

✓ Event handling

✓ Drawing services
  – Lines, rectangles, …
  – OpenGL (3D graphics)

✓ Style support

✓ Large set of widgets
GtkAda - Widget set

✓ Two types of widgets
  – containers and visual objects

✓ About 100 widgets are provided

✓ High-level widgets
  – notebook, text widget, tree, spin button, table, toolbar, ...

About 100 widgets are provided.
GtkAda - Screenshots

✓ Ctree
GtkAda - Screenshots (2)

 ✓ OpenGL
Why Gtk+?

✓ Portable
✓ Native
✓ Extensible
✓ Open Source
✓ Actively developped
✓ Thread-safe
Why Gtk+? (2)

✓ High level widgets
✓ Easy to use scrolling capabilities
✓ Wide range of users
✓ Very powerful layout capabilities
  – Complete set of containers
✓ Powerful and easy to use GUI builder
✓ Easy to bind
The GUI Builder

✓ Multi-language GUI builder
  – Language-independent save file (XML).
  – Code-generation specific to each language.
  – Dynamic loading of XML files
Why GtkAda?

✓ Compile time checks
✓ Real Object Oriented hierarchy
✓ Code readability
✓ Group most popular Gtk widgets
✓ Can create new types and extend widgets
✓ More extensive documentation
#!/usr/bin/env python

import gtk

def main(argc, argv):
    window = gtk.Window(gtk.WINDOW_TOPLEVEL)
    button = gtk.Button("Hello World")
    window.add(button)
    window.show_all()
    gtk.main()

if __name__ == '__main__':
    main(len(sys.argv), sys.argv)
GUI Builder Support with GtkAda

✓ Support built-in

✓ Takes advantage of object-oriented features.
  – Each widget generates its own code

✓ Generated sources
  – easy to read sources (generates new composite widgets)
  – sources can be modified and regenerated
GtkAda: a complete GUI Solution

✓ Portable
✓ Native
✓ Easy to use
✓ Safe
✓ Object Oriented
✓ Comes with a GUI builder
✓ Same look-and-feel