



A lightweight, cross-platform GUI toolkit

Mark Hessling
QCOM Australia

2004 Rexx Symposium
Böblingen-Sindelfingen, Germany
May 5, 2004

(Thanks to **imc** for background image)



Introduction

- What is Rexx/DW ?
 - An external package of GUI functions
- Why ?
 - Rexx/Tk shortcomings
 - Dependencies too big (Tcl/TK 4-5mb)
 - Slow (Rexx-Rexx/Tk-Tcl-Tk-UI)
 - Ugly, outdated Look and Feel
 - Rexx/DW advantages
 - Dependencies small (dwindows 500k)
 - Fast (Rexx-Rexx/DW-dwindows-UI)
 - Native Look and Feel
 - Helped develop dwindows
 - “real” OS/2 support



Overview

- Widgets
 - The display objects that provide an interface to the user
- Event Handlers
 - The actions that happen when a user initiates an event



Program Structure

- Create interface
 - Build the user interface and define the links between widgets and callbacks
- `dw_main()`
 - The event dispatcher runs in an infinite loop
- Event Handlers
 - The Rexx subroutines that implement the callbacks



Program Example

```
/**/  
Call RxFuncAdd 'DW_LoadFuncs', 'rexxdw', 'DW_LoadFuncs'  
Call dw_loadfuncs  
  
win = dw_window_new(...)  
...  
Call dw_signal_connect..., 'CB1', 'u1', 'u2'  
...  
Call dw_main  
Return /* never gets here */  
  
CB1: Procedure Expose !REXXDW.  
Parse Arg sys1, u1, u2  
...  
Return 0
```



Widgets

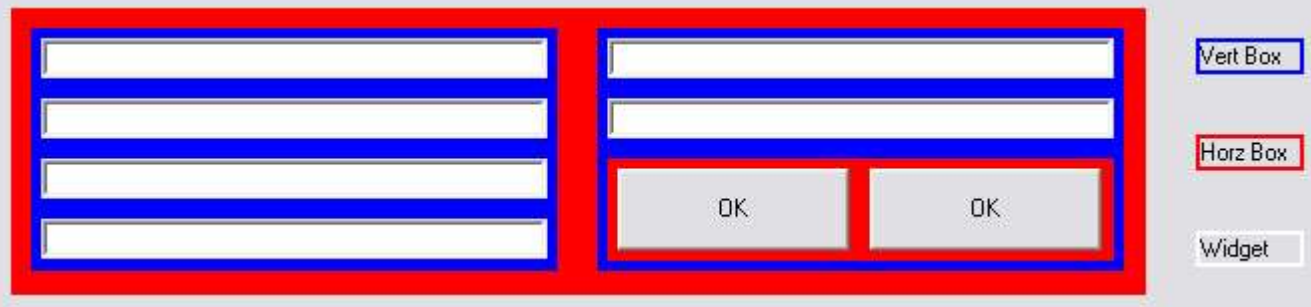
- UI Widgets
 - Entryfield, Combobox, Checkbox, Slider, Button, MLE
- Structural Widgets
 - Window, Box, Splitbar, Notebook, Container, Tree, MDI
- Low-level graphics Widgets
 - Renderbox, Pixmap
- Utility Widgets
 - Dialog, Browse



Event Handlers

- How they work
 - RexxCallback() API
 - Works without RexxCallback() but not well
- dw_signal_connect()
 - Ties an event on a widget to a Rexx subroutine
- Button widget and CLICKED_EVENT
 - User clicks button
 - dwindows catches event
 - dwindows calls Rexx/DW event handler
 - Rexx/DW calls RexxCallback() to execute Rexx subroutine

- Based on GTK+ packing
- Box orientation
 - Defines how the widgets within the box are aligned





“Constants”

- Available as variables with prefix of !REXXDW.!
- Use dw_variable() to change prefix
- Procedure Expose !REXXDW.
- !REXXDW.!DW_WORD_WRAP,
!REXXDW.!DW_HORZ



Examples

- rexxdw.rexx
 - Shows most widgets
- runregina.rexx
 - Used to run Regina sample programs; shown in Regina presentation
- QOCCA
 - Proprietary configuration management tool



Future Directions

- GUI version of THE
- Cross-platform IDE in conjunction with Brian Smith
 - Written in C
 - Use XML as “project” files
 - Develop for C or Rexx
 - Rexx debugger
 - THE as default editor
- Addition of “simple” interface
 - Currently Rexx/DW is low-level



Resources

- Rexx/DW home page:
 - <http://rexxdw.sourceforge.net>
- Dynamic Windows home page:
 - <http://dwindows.netlabs.org>

Rexx DW

Questions

?