A lightweight, cross-platform GUI toolkit

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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    • Ugly, outdated Look and Feel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

```plaintext
/**/
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
Packing boxes

- Based on GTK+ packing
- Box orientation
  - Defines how the widgets within the box are aligned
Available as variables with prefix of !REXXDW.!
Use dw_variable() to change prefix
Procedure Expose !REXXDW.
!REXXDW.!DW_WORD_WRAP, !REXXDW.!DW_HORZ
Examples

- rexwdw.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:  

- Dynamic Windows home page:  
  - http://dwindows.netlabs.org