Devnotes about aquacolors cws v1.1 / eric bachard (ericb@openoffice.org) / april 2006

Contributors to this cws : ericb, mox , pagalmes, joergB, ssa, pl, pjanik, obr

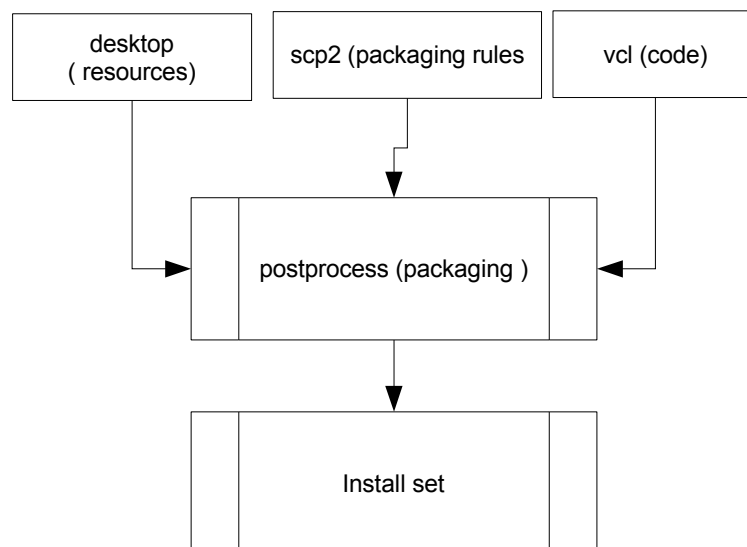Build concerned : Mac OS X , both Intel and PowerPC (milestone 156)

1) Objective

–   make possible to change the default UI colors for Aqua colors (or whatever other), and UI fonts on Mac OS X using a config file called macosxrc.txt,
–   describe the complexity
–   discovering vcl organisation.

Corresponding child workspace name : **aquacolors (**integrated into milestone m156)

2) Description of the tasks

4 parts : write code, build it, package it, install and test it

Modules concerned by modifications in the code :

```
┌──────────────┐   ┌──────────────────┐   ┌──────────────┐
│   desktop    │   │ scp2 (packaging  │   │  vcl (code)  │
│ ( resources) │   │      rules       │   │              │
└──────────────┘   └──────────────────┘   └──────────────┘
            │                 │                   │
            │                 ▼                   │
            │       ┌──────────────────┐          │
            └──────▶│ postprocess      │◀─────────┘
                    │ (packaging )     │
                    └──────────────────┘
                             │
                             ▼
                    ┌──────────────────┐
                    │                  │
                    │   Install set    │
                    │                  │
                    └──────────────────┘
```

2.1) write code

How modify UI colors and font ? After some research, things are defined in tools, and modified at runtime by vcl. The design used for modify UI is named « Integrator ». Several integrators are used in vcl, and one is for UI.

First tries have been made for kde and gtk, and the one we will implement does only concern macosx. So we have to
–   understand how it works for kde (e.g.)
–   implement the same design for macosx
–   create specific macosx configuration file, exactly adapted to MacOSXIntegrator object

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Concerned modules :

vcl : does contain source code for MACOSXIntegrator() :

– interface description will be located in vcl/unx/inc
– implementation will be located in vcl/unx/source/gdi

=> dtint.hxx, dtint.cxx and macosxint.cxx were initially proposed by Mox, adapting existing code from kdeintegrator, we have written the needed code for a MACOSXIntegrator()

Sources files concerned (all in vcl/unx, because we build using X11 (unx))

Headers :

=> vcl/unx/inc/dtint.hxx : add new member in DtIntegrator (DtType exactly) enumeration -> DtMACOSX

=> vc/unx/inc/macosxint.hxx : prototypes for Mac OS X integrator :

Implementation (all concerned files are in vcl/unx/source/gdi) :

Note : gdi means graphical display interface

=> vcl/unx/source/gdi/dtint.cxx :

At buildtime, add MACOSX case : we decided to systematically instantiate MACOSXIntegrator()

=> vcl/unx/inc/macosxint.cxx : same file than cdeint.hxx or kdeint.cxx (now deleted for another implementation by kendy)

Only built for MACOSX OS (both PowerPC and Intel) , this file does contain important parts :

- MACOSXIntegrator constructor
- MACOSXIntegrator destructor

– an array, for instance aTryFile[ ], containing config files as strings, in a **definite order :**

• First, read user config file content,
• second the default (system) config file, to replace an eventually missing user config file.

To retrieve the config file names, the final choice was to use a key in profileitem_ooo.scp :

Choosen keys (completely defined in scp2/source/ooo/profile_item.scp, around lines 567) :

MacOSXIntegrationUserFile for the user config file, located in ~/Library/Application Support/OpenOffice.org 2.0/user directory, and named macosxrc.txt

MacOSXIntegrationDefaultFile for the default file, located in
<Ooo_Install_Dir>/presets , and using the same name macosxrc.txt

Result : at first launch, these keys are written into <Ooo_Install_Dir>/program/sofficerc.

– a method MACOSXIntegrator::GetSystemLook() is used to read the config file content and fill the correct colors.

At runtime, rtl::Bootstrap method will read them, and return the keys, completing the array aTryFile[]

2.2) build time

- (building desktop) copy macosxrc at good place : choice made to put macosxrc.txt is desktop/macosx/source/misc

- macosxrc text file is put inside desktop/macosx/source/misc
+ the makefile copy it in output tree desktop/unxmac*.pro

- prj is modified :

new rule in prj/build.lst including new makefile in desktop/macosx/source/misc
new rule in prj/d.lst do deliver macosxrc in solver/..../bin

- build macosxint (building vcl).

Precaution : only build macosxint on Mac OS X => vcl/unx/source/gdi/makefile.mk has been modified too.

 – Build a correct package list including macosxrc file => scp2 fille_ooo.scp had to be modified to include macosxrc.txt

scp2 [me]

macosxrc is delivered in solver/bin

-> file_ooo.scp does contains a section to put the file at good place :

+#ifdef MACOSX
+File gid_File_Bin_Macosxrc
+   TXT_FILE_BODY;
+   Dir = gid_Dir_User;
+   Name = "macosxrc.txt";
+   Styles = (PACKED, WORKSTATION);
+End

-> means macosxrc is correctly packaged, only on MACOSX builds

2.3) packaging

really include macosxrc.txt => in postprocess (nothing to do)

2.4) Installation and runtime

Installation : no change, modifications are transparent for user

[help from JoergB, Pierre Andre Galmes, Oliver Braun, implementation : me]

In runtime, while launching, OpenOffice.org searchs first :

~/Library/Application Support/OpenOffice.org 2.0/user/macosxrc.txt file, and if not found, or does not contain [General] section, searchs for : <Ooo_Install_Dir>/presets/macosxrc.txt (always usable)

When found, libvcl + libvclplug instantiate MacOSXInt object, colors are read from config file, and used for User Interface (UI).

As already explained in code section, instead of hardcode the filename in macosxint.cxx, we will create a "Key", sort of global variable, that bootstrap process can return easely.

To create this key, an entry must be created, to add MacOSXIntegrationFile key in sofficerc

Necessary modifications (in scp2) :

scp2/source/ooo/profileitem_ooo.scp [me]

#ifdef MACOSX

```
ProfileItem gid_ProfileItem_Soffice_Macosxrc
    ProfileID = gid_Profile_Soffice_Ini;
    ModuleID = gid_Module_Root;
    Section = "Bootstrap";
    Order = 5;
    Key = "MacOSXIntegrationUserFile";
    Value = "${$ORIGIN/bootstraprc:UserInstallation}/user/macosxrc.txt";
End

ProfileItem gid_ProfileItem_Soffice_Macosxrc2
    ProfileID = gid_Profile_Soffice_Ini;
    ModuleID = gid_Module_Root;
    Section = "Bootstrap";
    Order = 6;
    Key = "MacOSXIntegrationDefaultFile";
    Value = "${$ORIGIN/bootstraprc:BaseInstallation}/presets/macosxrc.txt";
End
```

First launch :

sofficerc, created while the first installation, will contain a key called " MacOSXIntegrationFile ",
and this key will contain :

MacOSXIntegrationFile=${$ORIGIN/bootstraprc:UserInstallation}/user/macosxrc

Using this mechanism, at first user install, macosxrc file will be put in " ~/Library/Application Support/OpenOffice.org 2.0/user "

At every start of OpenOffice.org MACOSXIntegrator will search in sofficerc the key, using rtl::Bootstrap::get()

Possible Improvements:

1) Retrieve system colors... (any suggestion)

2) Implement changes on the fly as Philip Lohmann suggested :

"... ericb: Changing colors on the fly in OOo or the desktop ? To make OOo read the system settings again, simply call SendInternalEvent(pThis, NULL, SALEVENT_SETTINGSCHANGED) on your SalDisplay - pThis is a pointer to a live SalFrame. this will cause SalFrame::UpdateSettings (and hence DtIntegrator::GetSystemLook) to be called again. ...."

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Config file content :

[Aqua]
background=244,244,244
foreground=0,0,0
selectBackground=52,112,204
selectForeground=255,255,255

[Graphite]
background=244,244,244
foreground=0,0,0
selectBackground=94,106,121
selectForeground=255,255,255

[General]
background=244,244,244
foreground=0,0,0
#selectBackground=52,112,204
selectBackground=52,112,204
selectForeground=255,255,255
#font=Andale Mono,Andale Sans UI
#cursorFlashTime=0

Comments :

=> only [General] section is usefull, the rest is there as reminder.

User can either choose Aqua or Graphite or whatever colors scheme, respecting :
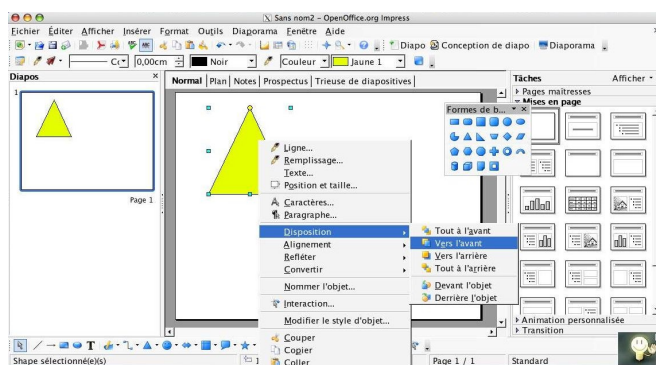
To comment a line, simply use : #

colors are decimal between 0 and 255

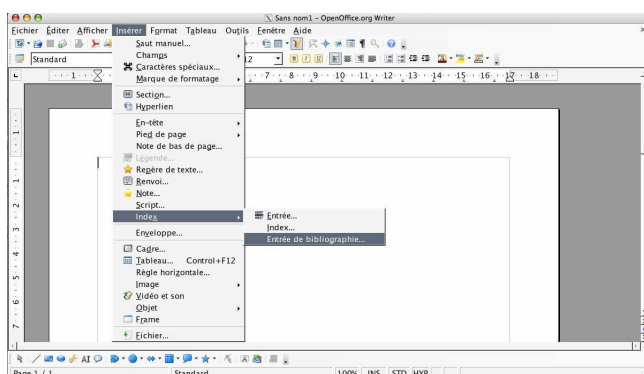if font is commented, default is used for User Interface
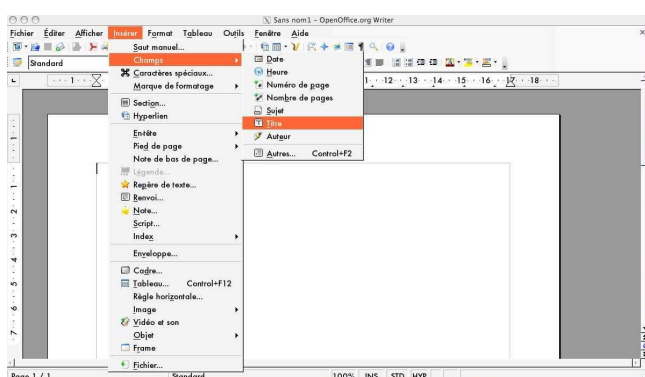
Some examples of customization :

Aqua theme :

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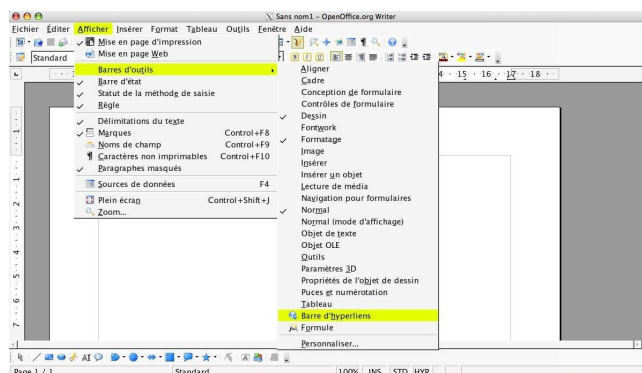
Graphite theme :

« Orange » theme using Futura font as UI font :

Yellow theme (selectBackground=230,255,0) and black (selectForeground=0,0,0) :

Crédits

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Translation : soon (french)

Historique des modifications **:**

Version	*Date*	*Commentaire*
1.0	18/04/06	First version
1.1	22/04/06	Add some infos about write code, not very clear

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Appendix

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