OpenMotif Development Team

OpenMotif 2.3.0 Beta Release Notes

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http://www.motifzone.net

OpenMotif 2.3.0 Beta Release Notes

The OpenMotif Development Group

Introduction

This document provides Release Notes for the Beta release of Open Motif 2.3.0. This contains information on what is new in Open Motif 2.3.0. Please see the COPYRIGHT.MOTIF file included with this release.

This is a Beta release of Open Motif 2.3, and it is not intended for any production use. Developers are urged to test existing applications against this release and report any bugs they may find. Developers are also encouraged to try out the new features including:

- Client-side anti-aliased fonts supported via XFT
- UTF-8 and UTF8_STRING atom support
- Ability to show text and pixmaps in Label, LabelGadget, and all derived widgets
- Support of PNG and JPEG image formats in the same way as XPM is supported

This document and the accompanying text files contain important information. Please read them carefully before starting the build and installation procedures.

Please see the file INSTALL.configure on how to build and install this product using the autoconf tools. This method is now fully supported and is the recommended build method. Previously, OpenMotif could be built using imake. However, with this release, this mechanism is deprecated.

Overview of OpenMotif

Open Motif 2.3 is an updated version of 2.2.4. This is a source code release. Pre-compiled versions are available for download at the MotifZone:

http://www.motifzone.net

After downloading this source distribution, it will need to be unpacked and compiled. The distribution contains the following items:

- libXm source code and include files
- Open Motif reference documentation (man pages)
- Utility libraries
- Demo programs

Open Motif 2.3 was built and tested on the following systems:

- Linux 2.6 (Red Hat Enterprise 3.0)
- Linux 2.6 (SuSe 9.1)
- Linux 2.4 (Red Hat Enterprise 2.1)
- Linux 2.4 (Red Hat Fedora Core 2)

Supported Systems:

- Red Hat Enterprise Linux 3
- Red Hat Enterprise Linux 4
- Red Hat Fedora Core 2
- Red Hat Fedora Core 3
- Red Hat Fedora Core 4
- SuSE Linux 9.1
- SuSE Linux 9.3
- SuSE Linux 10.0

Compatibility Notice:

- OpenMotif 2.3 is binary compatible with OpenMotif 2.2.x for applications that:
  - Only use standard OpenMotif widgets.
  - Use third-party widgets that have been written using the XmResolvePartOffsets interface for accessing Motif internal data structures.
- OpenMotif 2.3 is not binary compatible with applications that:
  - Use third party widgets that were not written using the XmResolvePartOffsets interface for accessing Motif internal data and are subclassed from any of the following: XmButtonBox, XmDropDown, XmDataField, XmMultiList, XmIconButton, XmLabelGadget, XmLabel, XmTabBox, XmTabStack, XmTextField.
  - Were compiled against either OpenMotif 2.1.30 or LessTif (any version).

New Features in OpenMotif 2.3.0

OpenMotif 2.3 has the following feature improvements:

- Client-side anti-aliased fonts supported via XFT
- UTF-8 and UTF8_STRING atom support
- Ability to show text and pixmaps in Label, LabelGadget, and all derived widgets
- Support of PNG and JPEG image formats in the same way as XPM is supported

Other Significant Changes in OpenMotif 2.3.0

Render Table
- Extended Render Table support to all widgets in OpenMotif.

Fast Subclassing
- Extended Fast Subclassing support to all widgets in OpenMotif.

Traits
- Extended the Traits in Table 1 to the corresponding widgets.

Table 1: Widget Traits

Widget Name	Trait
XmButtonBox	XmQTtakesDefault (uses)
XmDataField	XmQTtransfer (holds) XmQTaccessTextual (holds)
XmMultiList (Ext18List)	XmQTtransfer (holds)

Uniform Transfer Model (UTM)
- Extended UTM support to all widgets in OpenMotif.

VaCreate Functions
- Provided XmVaCreate (widget_name) and XmVaCreateManaged (widget_name) for all widgets.

Tool Tips
- Enhanced Tool Tips to take into consideration edges of the screen and relative positioning of the popup.
- Implemented ToolTips using the Motif 2.1 trait system.

General Cleanup
- Replaced obsolete function calls with appropriate alternatives.
- Reduced the number of compilation warnings.

Changes to Motif 2.1 and 1.x Widgets
The widgets in this section have been part of the Motif software distribution since at least Motif 2.1. The OpenMotif Development Team made the following changes to these widgets:

XmLabel
- Extended capability to display pixmap along with label string simultaneously.
- Added a resource named XmNpixmapTextPadding to specify the amount of space to be left between the pixmap and the label string.

XmLabelGadget
- Extended capability to display pixmap along with label string simultaneously.

XmPushButtonGadget
- Extended capability to display pixmap along with label string simultaneously.

XmTextField
- Used native wide character string function on FreeBSD 4.x and above.

Changes to Provisional Widgets

This section delineates the changes to the Provisional Widgets that were added in the OpenMotif 2.2 release. These widgets were incorporated to increase the functionality of OpenMotif and allow developers to build applications more easily with modern user interfaces. The Provisional Widgets include: XmButtonBox, XmColorSelector, XmColumn, XmDataField, XmDropDown, XmHierarchy, XmMultiList, XmPanedWindow, XmTabBox, and XmTabStack.

Note: None of these widgets are fully embedded into the Motif toolkit in the standard manner because of their provisional status.

XmButtonBox
- Supported for the trait XmQTtakesDefault.
- Added a "default_button" property.
- Standardized visuals.

XmColumn
- Removed XtVersionDontCheck from the source code.

XmDataField
- Removed XtVersionDontCheck from the source code.

XmDropDown (formerly XmCombinationBox2)
- Used internal String buffer for temporarily storing value of XmTextField, which has a String based interface for setting/getting value of field.
- Removed XtVersionDontCheck from the source code.
- Used the Motif 2.1 GrabShell for internal operation.
- Replaced XtAppWarningMsg with the more customary XmeWarning.
- Standardized _XmString handling performed on behalf of the constituent List.

XmMultiList (formerly XmExt18List)
- Added keyboard traversal.
- Supported extended selection, as well as worked with column data and column operations.
- Removed XtVersionDontCheck from the source code.
- Eliminated the use of deprecated XmString utilities for the construction of the find object label.
- Made the public interface XmString based.
- Constructed a fully working resource mirror. This would matter where an application dynamically queries the widget class in order to deduce the public interface to the component.
- Made synthetic resolution independent conversion of width/height resources.

XmTabStack
- Removed of XtVersionDontCheck from the source code.

Contributed Widgets

The following widgets have been labeled as "Contributed Widgets", and their use is discouraged.

- XmColorSelector - allows users to choose a color by either using a set of RGB sliders or choosing from a list of all colors available in the rgb database.
- XmIconButton - the extension of XmPushButton to support simultaneous display of labels and pixmaps rendering the Icon Button redundant.
- XmIconBox - redundant with XmButtonBox.
- XmFontSelector

Other Components of OpenMotif

This section summarizes the changes in the other components of OpenMotif.

Mrm (Motif resource manager) library
- There were no changes to Mrm in this release.

UIL (User Interface Language) compiler
- Extended the UIL compiler to support the Provisional Widgets.

WML (Widget Meta Language)
- Extended the WML to include support for the Provisional Widgets.

Mwm
- Restored support of multiscreen.

Demos & Test Programs
- Added examples from OSF/Motif Programmer's Guide chapters 5, 6,8,16, and 17.
- Added XmButtonBox, XmColorSelector, XmDropDown, XmPanedWindow, XmTree, and XmTabStack to appropriate demo programs.
- Replaced _Xm calls with Xme calls from XmButtonBox, XmColorSelector, XmDropDown, XmPanedWindow, XmTree, and XmTabStack in animate, airport, panner, and periodic.

QATS (Quality Assurance Testing Suite)
- There were no changes made to the QATS in this release.

Documentation
The official documentation for Motif has been published by Prentice Hall. Unfortunately, the source to this documentation is not available to the Open Source community to be extended and updated as OpenMotif evolves. In contrast, O'Rielly has released the Motif Programming Manual and Motif Reference Manual under the Open Publication license. The O'Rielly documents have become the basis for the official OpenMotif documentation. The Motif Reference Manual has been updated to reflect the current OpenMotif 2.3.0 API (including provisional widgets).

For postscript and PDF documentation (user's guides and reference manuals), see the URL:

http://www.opengroup.org/openmotif/docs/

The Man Pages have been updated as appropriate to reflect new APIs (e.g., VaCreate, Traits, Render Table support, etc.).

Build Environment
The Build environment was migrated to the Auto Tools in OM 2.2.3. The following changes were implemented in OpenMotif 2.3.0:

- Migrated configure script to new and improved automake 1.6 and autoconf 2.52.
- Removed acconfig.h as it is deprecated and not needed.
- Reworked AC_DEFINE's to work as autoconf directs (and not need acconfig.h).

Bug Fixes

Although not a major focus of this release, the following bugs were fixed in OpenMotif 2.3.0:

- XmScrolledWindow: Segmentation fault on PageUp/Down in XmMainWindow
- Bug #1155
- #1121 (TabBox translation error) - removed locking of the clipboard from XmClipboardRetrieveStart()
- #1283 (TabBox translation error)
- #1249 (XmCombo crashes program when resized)
- #1286 (XmDataField error with XmALIGNMENT_END)
- #1211 (Crash on setting XmNlabelPixmap in a ToggleButtonGadget)
- #1264 (Crash in PutDSToStream due to bug in _XmResizeHashTable)
- #1276 (Changing AddMode in XmList selects/deselects items without callback)
- #1196 (Free memory read in XmIm.c/draw_separator())
- #1193 (MWM crashes when restarting by a session manager)
- #1202 (MWM crashes when duplicating a window menu containing f.circle_up)
- #1186 (Invalid replacing XmList selected items)
- #1214 (Cannot set a string to XmTextField with XtSetValues when XmNmodifyVerifyCallback is set)
- #1279 (XmTextGetSelectionPosition returns incorrect values after deleting selection)
- #1269 (popup menus fail on Tarantella/VNC)
- #1262 (Entering Esc key before pulldown menu realized crashes)
- #1268 (XmCvtXmStringToCT improperly handles empty string)
- Added DataField.h and TabBox.h to XmAll.h
- Added synthetic resolution independent conversion of width/height resources to ExtendedList for MultiList
- Added wide character string value of search string to ExtendedListCallbackStruct
- Made DropDown using XmGrabShell instead of TopLevelShell
- #1260 (option menu changes screen's focus to 'None')
- #1258 (XmDataField: data out-of-bounds bug in df_FindPixelLength)
- #1257 (XmTextField: "Character xxx not supported in font" errors, bug in multibyte code)
- #1256 (Problem with XmNsingleSelectionCallback in XmMultiList widget)
- Fixed incorrect XmRenderTableToProp() behavior appeared in RendToProp test
- Fixed incorrect XmClipboardCopyByName() behavior appeared in CutPaste2 test

Filing Bug Reports

If you find a reproducible bug in any of the Open Motif libraries or code, or an error in the documentation, please reference the BUGREPORT file and/or submit a bug report online at the Open Motif Development zone:

http://bugs.openmotif.org

The listing for the status of submitted bugs is maintained there.

Change Log

2.3.0 November 2005
This release.

2.2.4 October 2004
a. Fixed vulnerabilities in libXpm code [CVE numbers CAN-2004-0687 (integer overflows), CAN-2004-0688 (stack overflows), CAN-2004-0914 (multiple vulnerabilities), and CAN-2005-0605(buffer overflows)].
b. Fixed compilation under SUSE 9.1.
c. Fixed building procedure under FreeBSD.
d. Fixed building procedure in order to make it usable with new versions of autoconfig.

2.2.3 August 2002
a. uil support for the new widgets was finished along with demonstrations in the periodic demo.
b. Several bugs were fixed.
c. Automake building was supported in an object directory.

2.2.1 January 29, 2002
a. The Test directory that contained the automated tests was mentioned in the Release Notes but absent from source distribution. The reference in the Release Notes was removed. The Tests are still available from the CVS tree.
b. Due to an oversight, imake support was not included in distribution. It was added back in this update.
c. If an older version of Open Motif was installed, the Autoconf build would pick up the older #include files and fail. The Autoconf configuration files were updated to use the proper #include files.
d. Formatting errors in doc/man/man3/Makefile.am were corrected.
e. The directory demos/unsupported/motifshell contained no source code but was mentioned in configure.in. The proper source code was placed in this directory.
f. ToolTip.c and SlideC.c were included in config.h twice. The extra reference was removed.
g. The demos for the new widgets were originally placed in the directory demos/programs/newwidgets. To maintain consistency, they were moved to demos/programs.
h. The Releases Notes specified the incorrect resource names for enabling tooltips and specifying the string. These typos were corrected.
i. Compatibility note for user-developed widgets was added to Release Notes.

2.1.30 January 28, 2002
Initial Release