

Appendix E - New Features in Motif 2.0 and 2.1

This appendix provides a summary of the new features in Motif 2.1 and 2.0. It lists the new toolkit functions and widget classes in Motif 2.1 and 2.0, as well as any new resources added to existing widget classes. For more information on the functions and widgets, see the appropriate reference pages in Section 1, *Motif Functions and Macros*, and Section 2, *Motif and Xt Widget Classes*

The appendix also lists the new Motif Resource Manager (Mrm) functions and User Interface Language (UIL) data types in Motif 2.1. For more information on these functions and data types, see the reference pages in Section 3, *Mrm Functions*, and Section 6, *UIL Data Types*.

E.1 New Toolkit Functions

<code>XmComboBoxAddItem()</code>	Adds an item to a ComboBox.
<code>XmComboBoxDeletePos()</code>	Deletes an item from a ComboBox.
<code>XmComboBoxSelectItem()</code>	Selects an item in a ComboBox.
<code>XmComboBoxSetItem()</code>	Selects and makes visible an item in a ComboBox.
<code>XmComboBoxUpdate()</code>	Update the state of a ComboBox.
<code>XmContainerCopy()</code>	Copy selected Container items to the clipboard.
<code>XmContainerCopyLink()</code>	Copy links to selected Container items to the clipboard.
<code>XmContainerCut()</code>	Cut selected Container items to the clipboard.
<code>XmContainerGetItemChildren()</code>	Retrieve the logical children of a Container item.
<code>XmContainerPaste()</code>	Copy clipboard data into a Container.
<code>XmContainerPasteLink()</code>	Copy links to clipboard data into a Container.
<code>XmContainerRelayout()</code>	Force the relayout of Container items.
<code>XmContainerReorder()</code>	Sort the items within a Container.
<code>XmConvertStringToUnits()</code>	Convert a unit specification expressed as a string to an integral value.
<code>XmCvtByteStreamToXmString()</code>	Convert a byte stream representation to a compound string.
<code>XmCvtTextPropertyToXmStringTable()</code>	Convert a text property to a compound string table.
<code>XmCvtXmStringTableToTextProperty()</code>	Convert a compound string table to a text property.
<code>XmCvtXmStringToByteStream()</code>	Convert a compound string to a byte stream representation.

<code>XmDirectionMatch()</code>	Compare two <code>XmDirection</code> quantities.
<code>XmDirectionMatchPartial()</code>	Loosely compare two <code>XmDirection</code> quantities.
<code>XmDirectionToStringDirection()</code>	Convert an <code>XmDirection</code> type to a <code>XmStringDirection</code> type.
<code>XmDropDownGetChild()</code>	Get the specified child of a <code>DropDown</code> widget.
<code>XmFontListCreate_r()</code>	Create an <code>XmFontList</code> in a thread-safe manner.
<code>XmFontListEntryCreate_r()</code>	Create an <code>XmFontListEntry</code> in a thread-safe manner.
<code>XmGetScaledPixmap()</code>	Read a pixmap and scale it for printing.
<code>XmImCloseXIM()</code>	Close all input contexts associated with an X Input Method.
<code>XmImFreeXIC()</code>	Unregister all widgets associated with an X Input Context.
<code>XmImGetXIC()</code>	Create an X Input Context for a widget.
<code>XmImMbResetIC()</code>	Reset an Input Context.
<code>XmImSetXIC()</code>	Register a widget with an existing X Input Context.
<code>XmMultiListDeselectItems()</code>	Clear the selection state of items of a <code>MultiList</code> .
<code>XmMultiListDeselectRow()</code>	Clear the selection state of a specified row of a <code>MultiList</code> widget.
<code>XmMultiListGetSelectedRowArray()</code>	Returns NULL-terminated array of pointers to selected rows of <code>MultiList</code> .
<code>XmMultiListMakeRowVisible()</code>	Make row of a <code>MultiList</code> widget visible.
<code>XmMultiListSelectAllItems()</code>	Set the selection state on all rows of a <code>MultiList</code> .
<code>XmMultiListSelectItems()</code>	Set the selection state of items of a <code>MultiList</code> .
<code>XmMultiListSelectRow()</code>	Set the selection state of a specified row of a <code>MultiList</code> widget.
<code>XmMultiListToggleRow()</code>	Toggle the selection state of a specified row of a <code>MultiList</code> widget.
<code>XmNotebookGetPageInfo()</code>	Retrieve data about a <code>Notebook</code> page.
<code>XmObjectAtPoint()</code>	Find the widget most closely associated with a point.
<code>XmParseMappingCreate()</code>	Create a parse mapping object.
<code>XmParseMappingFree()</code>	Free a parse mapping object.
<code>XmParseMappingGetValues()</code>	Retrieve the values of a parse mapping object.
<code>XmParseMappingSetValues()</code>	Set the values of a parse mapping object.
<code>XmParseTableFree()</code>	Free an array of parse mapping objects.
<code>XmPrintPopupPDM()</code>	Issue a request to the <code>Print Display Manager</code> .
<code>XmPrintSetup()</code>	Initialize a <code>PrintShell</code> and X <code>Print</code> connection.
<code>XmPrintToFile()</code>	Print X <code>Print Server</code> data to file.
<code>XmRedisplayWidget()</code>	Synchronously force a widget to expose itself.

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<code>XmRenderTableAddRenditions()</code>	Add rendition objects to a render table.
<code>XmRenderTableCopy()</code>	Copy a render table.
<code>XmRenderTableCvtFromProp()</code>	Convert a text property into a render table.
<code>XmRenderTableCvtToProps()</code>	Convert a render table to a text property.
<code>XmRenderTableFree()</code>	Free a render table.
<code>XmRenderTableGetRendition()</code>	Find a rendition object in a render table.
<code>XmRenderTableGetRenditions()</code>	Find a group of rendition objects in a render table.
<code>XmRenderTableGetTags()</code>	Retrieve all the rendition tags in a render table.
<code>XmRenderTableRemoveRenditions()</code>	Remove renditions from a render table.
<code>XmRenditionCreate()</code>	Create a rendition object.
<code>XmRenditionFree()</code>	Free a rendition object.
<code>XmRenditionRetrieve()</code>	Retrieve the values of a rendition object.
<code>XmRenditionUpdate()</code>	Set the values of a rendition object.
<code>XmScaleSetTicks()</code>	Place tick marks along the edge of a Scale.
<code>XmSimpleSpinBoxAddItem()</code>	Add an item to a SimpleSpinBox.
<code>XmSimpleSpinBoxDeletePos()</code>	Delete an item from a SimpleSpinBox.
<code>XmSimpleSpinBoxSetItem()</code>	Select an item in a SimpleSpinBox.
<code>XmSpinBoxValidatePosition()</code>	Validate a position in a SpinBox.
<code>XmStringByteStreamLength()</code>	Return the length of a byte stream representation of a compound string.
<code>XmStringComponentCreate()</code>	Create a component in a compound string.
<code>XmStringConcatAndFree()</code>	Concatenate two compound strings, and free the originals.
<code>XmStringDirectionToDirection()</code>	Convert an <code>XmStringDirection</code> type into an <code>XmDirection</code> type.
<code>XmStringGenerate()</code>	Generate a new compound string using the default parse table.
<code>XmStringGetNextTriple()</code>	Retrieve the type, length, and value of the next compound string component.
<code>XmStringIsVoid()</code>	Check if a compound string is empty of components.
<code>XmStringParseText()</code>	Convert a string into a compound string using a parse table.
<code>XmStringPeekNextTriple()</code>	Look ahead at the type of the next compound string component.
<code>XmStringPutRendition()</code>	Add rendition components around a compound string.
<code>XmStringTableParseStringArray()</code>	Convert an array of strings into an array of compound strings using a parse table.
<code>XmStringTableProposeTablist()</code>	Calculate an <code>XmTabList</code> for a compound string.

<code>XmStringTableToXmString()</code>	Convert a compound string table into a compound string.
<code>XmStringTableUnparse()</code>	Convert an array of compound strings into an array of strings using a parse table.
<code>XmStringToXmStringTable()</code>	Convert a string into an array of compound strings.
<code>XmStringUnparse()</code>	Convert a compound string into a string using a parse table.
<code>XmTabCreate()</code>	Create a new <code>XmTab</code> object.
<code>XmTabFree()</code>	Free an <code>XmTab</code> object.
<code>XmTabGetValues()</code>	Retrieve the values of an <code>XmTab</code> object.
<code>XmTabListCopy()</code>	Copy an array of <code>XmTab</code> objects.
<code>XmTabListFree()</code>	Free an array of <code>XmTab</code> objects.
<code>XmTabListGetTab()</code>	Find an <code>XmTab</code> object within an array.
<code>XmTabListInsertTabs()</code>	Add <code>XmTab</code> objects to an array of tabs.
<code>XmTabListRemoveTabs()</code>	Remove <code>XmTab</code> objects from an array of tabs.
<code>XmTabListReplacePositions()</code>	Replace <code>XmTab</code> objects within an array of tabs.
<code>XmTabListTabCount()</code>	Return the number of <code>XmTab</code> objects in an array of tabs.
<code>XmTabSetValue()</code>	Set the value of an <code>XmTab</code> object.
<code>XmTextCopyLink()</code>	Copy a link to the primary selection into the clipboard.
<code>XmTextGetCenterline()</code>	Return the centerline of a vertically oriented text string.
<code>XmTextPasteLink()</code>	Copy a link from the clipboard selection at the insertion cursor.
<code>XmToggleButtonSetValue()</code>	Set the value of a tri-state <code>ToggleButton</code> .
<code>XmTransferDone()</code>	Signal the end of data transfer operations.
<code>XmTransferSendRequest()</code>	Transmit a multiple data transfer request.
<code>XmTransferSetParameters()</code>	Specify parameters for the next data transfer request.
<code>XmTransferStartRequest()</code>	Initiate a multiple data transfer request.
<code>XmTransferValue()</code>	Issue a data transfer request.

E.2 Obsolete Toolkit Functions

<code>XmFontListAppendEntry()</code>	Superseded by <code>XmRenderTableAddRenditions()</code> .
<code>XmFontListCopy()</code>	Superseded by <code>XmRenderTableCopy()</code> .
<code>XmFontListCreate()</code>	Superseded by <code>XmRenditionCreate()</code> and <code>XmRenderTableAddRenditions()</code> .
<code>XmFontListEntryCreate()</code>	Superseded by <code>XmRenditionCreate()</code> .
<code>XmFontListEntryFree()</code>	Superseded by <code>XmRenditionFree()</code> .

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XmFontListEntryGetFont()	Superseded by XmRenditionRetrieve().
XmFontListEntryGetTag()	Superseded by XmRenditionRetrieve().
XmFontListEntryLoad()	Superseded by setting the XmNloadModel of a rendition object.
XmFontListFree()	Superseded by XmRenderTableFree().
XmFontListGetNextFont()	Superseded by XmRenditionRetrieve().
XmFontListNextEntry()	Superseded by XmRenderTableGetRendition().
XmFontListRemoveEntry()	Superseded by XmRenderTableRemoveRenditions().
XmGetAtomName()	Superseded by XGetAtomName().
XmInternAtom()	Superseded by XInternAtom().
XmRepTypeInstallTearOffModelConverter()	Internally installed.
XmMainWindowSep1()	Superseded by XtNameToWidget().
XmMainWindowSep2()	Superseded by XtNameToWidget().
XmMainWindowSep3()	Superseded by XtNameToWidget().
XmMainWindowSetAreas()	Superseded by XtSetValues() of XmNhorizontalScrollBar, XmNverticalScrollBar, XmNworkWindow, XmNmenuBar, and XmNcommandWindow, resources.
XmScrolledWindowSetAreas()	Superseded by XtSetValues() of XmNhorizontalScrollBar, XmNverticalScrollBar, and XmNworkWindow resources.
XmStringCreateLtoR()	Superseded by XmStringGenerate().
XmStringGetLtoR()	Superseded by XmStringUnparse().
XmStringGetNextComponent()	Superseded by XmStringGetNextTriple().
XmStringGetNextSegment()	Superseded by XmStringGetNextTriple().
XmStringPeekNextComponent()	Superseded by XmStringPeekNextTriple().
XmStringSegmentCreate()	Superseded by XmStringComponentCreate() and XmStringConcat().

E.3 New Widget Classes

XmComboBox	A widget which combines text input with list selection.
XmContainer	A general purpose manager for providing grid, tree, or free-format layout of IconGadget children.
XmGrabShell	A popup shell which grabs the keyboard and pointer.

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XmIconGadget	A gadget which supports labelled pixmaps.
XmNotebook	A layout widget which displays one child at a time.
XmPrintShell	An interface to the X11R6 Xp X Print utilities.
XmSimpleSpinBox	A widget which cycles through a set of choices.
XmSpinBox	A widget which controls cycling through possibly multiple sets of choices.

E.4 New Resources in Existing Widget Classes

VendorShell	XmNbuttonRenderTable XmNinputPolicy XmNlabelRenderTable XmNlayoutDirection XmNtextRenderTable XmNunitType
XmArrowButton	XmNdetailShadowThickness
XmBulletinBoard	XmNbuttonRenderTable XmNlabelRenderTable XmNtextRenderTable
XmDrawingArea	XmNconvertCallback XmNdestinationCallback
XmDisplay	XmNdefaultButtonEmphasis XmNenableBtnITransfer XmNenableButtonTab XmNenableDragIcon XmNenableEtchedInMenu XmNenableMultiKeyBindings XmNenableThinThickness XmNenableToggleColor XmNenableToggleVisual XmNenableUnselectableDrag XmNenableWarp XmNmotifVersion XmNnoFontCallback XmNnoRenditionCallback XmNuserData
XmFileSelectionBox	XmNdirTextLabelString XmNfileFilterStyle XmNpathMode

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XmFrame	XmNframeChildType
XmGadget	XmNbackground
	XmNbackgroundPixmap
	XmNbottomShadowPixmap
	XmNhighlightPixmap
	XmNlayoutDirection
	XmNtopShadowPixmap
XmLabel	XmNrenderTable
XmList	XmNhorizontalScrollBar
	XmNmatchBehavior
	XmNprimaryOwnership
	XmNrenderTable
	XmNselectColor
	XmNselectedPositionCount ¹
	XmNselectedPositions ²
	XmNselectionMode
	XmNverticalScrollBar
	XmNdestinationCallback
XmManager	XmNlayoutDirection
	XmNpopupHandlerCallback
XmMenuShell	XmNbuttonRenderTable
	XmNlabelRenderTable
	XmNlayoutDirection
XmPanedWindow	XmNorientation
	XmNlayoutDirection
XmPrimitive	XmNlayoutDirection
	XmNconvertCallback
	XmNpopupHandlerCallback
XmRowColumn	XmNtearOffTitle
XmScreen	XmNbitmapConversionModel
	XmNcolorAllocationProc
	XmNcolorCalculationProc
	XmNinsensitiveStipplePixmap
	XmNuseColorObject
XmScrollBar	XmNeditable
	XmNsliderVisual
	XmNslidingMode
	XmNsnapbackMultiple

1. Erroneously given as XmNselectPositionCount in 2nd edition.

2. Erroneously given as XmNselectPositions in 2nd edition.

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XmScrolledWindow	XmNautoDragModel
	XmNscrolledWindowChildType
XmScale	XmNeditable
	XmNrenderTable
	XmNshowArrows
	XmNsliderMark
	XmNsliderSize
	XmNsliderVisual
	XmNslidingMode
	XmNconvertCallback
XmText	XmNtotalLines
	XmNdestinationCallback
XmTextField	XmNdestinationCallback
XmToggleButton	XmNdetailShadowThickness
	XmNindeterminateInsensitivePixmap
	XmNindeterminatePixmap
	XmNtoggleMode
	XmNunselectColor