MiscFindPanel

Inherits From: Panel : Window : Responder : Object

Declared In: MiscFindPanel.h

Class Description

The find panel provides an user interface to text searching and replacing facilities within applications. Text fields, radio buttons, and switch boxes are provided to allow the user to control the parameters of a

search or replace-type operation; buttons are provided to actuate the various operations.   Target methods are provided for standard menu items.   The find panel also interacts with the Find pasteboard to provide sharing of search text among applications.   To easily incorporate the find panel into an application you are constructing, see the document entitled **HowToUse.rtf** and the documentation on the MiscFindPanelClass category to the Application class.

Several features of generic panels are disabled in the MiscFindPanel class.   There is only one instance of the find panel per application.   The allocation, deallocation, and initialization class and instance methods have been overridden to either do nothing, or generate and error and terminate an application, if the find panel or its class receives one of them.   The methods to copy objects have been similarly disabled.   The find panel is also a fixed-size panel; the methods that change a panel's size have also been overridden to limit their functionality (the exception to this is that when the enabled state of the replacement functionality of the find panel is changed with the class method **setReplacementEnabled:**, the window is resized for aesthetic reasons).   Finally, the find panel may not be miniaturized, nor may its close button be set to the "document edited" state.

The NX_pasteboardComm and NX_appkitVMError exceptions are ignored when reading from and

writing to the Find pasteboard, with an informational message written to the system log.

The First Conformer

The find panel provides its user interface facilities only to objects that conform to the SearchableText protocol.   When the panel receives one of its action messages, it searches for the first object that conforms to the protocol in the responder chain.   By default, the search proceeds as follows (the search ends immediately when a conforming object is found):

1. If the find panel is not the key window, the search begins with the first responder of the key window.   The key window's responder chain is searched, ending with the window itself.   If no conformer has been found, the key window's delegate is checked for conformance.

2. Next, if the main window is different from the key window, the responder chain of the main window, then main window's delegate, are checked.

3. Lastly, NXApp and its delegate (in that order) are checked for conformance.

If no object conforming to the SearchableText protocol is found, the system beep is sounded and an

error message is displayed in the find panel.   Otherwise, the conforming object, called the *first conformer* in this document, is the target of messages sent by the find panel's action message.   The first conformer can be explicitly identified with the **setFirstConformer:** class method.   If a valid conforming object has been set with this method, that object is used and the responder chain is not searched.   The default behavior (to search the responder chain) can be restored by sending the **setFirstConformer:** message to the MiscFindPanel class with the parameter nil.

Note that in the case of the find panel's action method **replaceAndFind:**, that the find message might be sent to a different object than the replace message if the object receiving the replace message changes the key or main windows, or the responder chain, during its operation.   See the documentation on the SearchableText protocol for a list of messages the find panel sends to the first conformer.

Interacting with the Find Pasteboard

The find panel couples its *findTextField* and the Find pasteboard so that text to search for is retrieved from and text searched for is saved to the pasteboard.   This allows some "communication" between the searching facilities of different applications.   The user could, for instance, enter a selection in one

application, then switch to another and search for that selection.

The Find pasteboard is queried for text in two cases:
· When it is sent an **orderWindow:relativeTo:** message, such as when it is ordered onto the screen.
· When the user initiates a search operation, and there is no text in the *findTextField*.

The contents of the *findTextField* are written to the Find pasteboard when the user initiates a search (but after the pasteboard is queried if there was no text in the *findTextField*).   The Find pasteboard is also examined during an **enterSelection:** operation, after the first conformer has been given the opportunity to write the current selection to the pasteboard.

The reading from and writing to of text to the Find pasteboard can be enabled and disabled programmatically with the **setFindPbEnabled:** message to the MiscFindPanel class.   By default, it is enabled.   However, the pasteboard always queried during an **enterSelection:** operation.

Instance Variables

TextField *findTextField	TextField for the text for which to search
TextField *replaceTextField	TextField to contain the text with which to replace
TextField *messageTextField	TextField used to display messages
Button *ignoreCaseButton	Switch button to specify case sensitivity
Button *regExprButton	Switch button to specify regular expression searches
Matrix *scopeMatrix	Radio matrix used to specify scope for replaceAll:

Method Types

Accessing the panel	+ sharedInstance
Changing panel behavior	+ setFindPbEnabled:
	+ setFirstConformer:
	+ setReplacementEnabled:
Panel actions	- enterSelection:

	- findBackward:
	- findForward:
	- jumpToSelection:
	- replace:
	- replaceAll:
	- replaceAndFind:
Accessing panel objects	- findTextField
	- ignoreCaseButton
	- messageTextField
	- regExprButton
	- replaceTextField
	- scopeMatrix

Class Methods

alloc
   + **alloc**

Generates an error message and aborts the application.   This method cannot be used to allocate find panel instances.   Use the class method **sharedInstance** to access the find panel.

allocFromZone:
   + **allocFromZone:**(NXZone *)zone

Generates an error message and aborts the application.   This method cannot be used to allocate find panel instances.   Use the class method **sharedInstance** to access the find panel.

new
   + **new**

Generates an error message and aborts the application.   This method cannot be used to allocate find

panel instances.   Use the class method **sharedInstance** to access the find panel.

newContent:style:backing:buttonMask:defer:
   + **newContent:**(const NXRect *)contentRect
    style:(int)aStyle
    backing:(int)bufferingType
    buttonMask:(int)mask
    defer:(BOOL)flag

Generates an error message and aborts the application.   This method cannot be used to allocate find
panel instances.   Use the class method **sharedInstance** to access the find panel.

newContent:style:backing:buttonMask:defer:screen:
   + **newContent:**(const NXRect *)contentRect
    style:(int)aStyle

backing:(int)bufferingType
buttonMask:(int)mask
defer:(BOOL)flag
screen:(const NXScreen *)screen

Generates an error message and aborts the application.   This method cannot be used to allocate find panel instances.   Use the class method **sharedInstance** to access the find panel.

setFindPbEnabled:
  + **setFindPbEnabled:**(BOOL)aBool

Enables or disables reading from and writing to the Find pasteboard when searches are performed, or when the panel is brought on-screen.   Note that the pasteboard is always queried by **enterSelection:**. Returns self.

setFirstConformer:
    + **setFirstConformer:**aConformer

Sets the object that will act as the first conformer if *aConformer* conforms to the SearchableText protocol, or is nil.   If a first conformer has been set to a non-nil conforming object, the search and replace messages of the SearchableText protocol are sent to it.   By default, and after this method is passed nil, the responder chain is searched for a conforming object to which to send the messages. Returns the previous first conformer if the first conformer is changed, otherwise returns the current first conformer.

setReplacementEnabled:
    + **setReplacementEnabled:**(BOOL)aBool

Enables or disables the find panel objects associated with replace-type operations.   If *aBool* is YES, the "Replace All", "Replace", and "Replace & Find" buttons, the "Replace All Scope" matrix, and the "Replace with" text field are inserted into the panel, and the panel's height is increased to accommodate the text field.   If *aBool* is NO, these objects are removed from the panel, and the panel's height is

decreased.   If *aBool* is the same as the current enabled state, this method does nothing.   This method does not create the find panel if it does not yet exist; the panel is modified, if necessary, when it is created.   Returns self.

sharedInstance
   + **sharedInstance**

Returns the find panel, creating it if necessary.   An application has at most one find panel, which is created by loading it from a .nib file.   If the FindPanel.nib cannot be found or loaded, the user is shown an alert panel, and this method returns nil.   After the find panel has been successfully loaded, this method may modify it to enable or disable the replacement-related controls, if the replacement-enabled state has been changed from its default state with the class method **setReplacementEnabled:**.   This method only attempts to load the find panel once; even if loading fails the first time, it will not be attempted again.   If the MiscFindPanel class is part of a dynamically loaded class-bundle, the FindPanel.nib files must be stored in language directories in the bundle.   If the class is part of the main executable, the .nib files must be in the language directories in the same directory as the main

executable.

Instance Methods

copyFromZone:
   - **copyFromZone:**(NXZone *)zone

Returns self, without creating a copy of the find panel.   There may only be one instance of the find panel.

enterSelection:
   - **enterSelection:**sender

Sends the **writeSelectionToPasteboard:asType:** message to the first conformer, if there is one, then replaces the text in the *findTextField* with the text pasted to the pasteboard, if any.   If no text was

pasted to the pasteboard, or there was an error communicating with the pasteboard server, this method does nothing.   Returns self.

findBackward:
   - **findBackward:**sender

Similar to the method **findForward:**, except that a backwards search is performed.   The search begins at the start of the current selection and ends (after possibly wrapping around in the text) when the text in the *findTextField* is found, or when the end of the current selection is reached.   The currently selected text is not searched.   Returns self.

findForward:
   - **findForward:**sender

Initiates a forward search through the text of the first conformer, if one exists.   The text is searched starting from the end of the current selection, and stops when a match is found or the start of the current

selection is reached (after wrapping).   If there is no text in the *findTextField*, and the use of the Find pasteboard has not been disabled, the pasteboard is checked for text and if some is found, it is placed in the *findTextField*.   If after this the *findTextField* is still empty, the panel is merely ordered to the front of its window tier and made the key window.   Otherwise, the panel then places the text of the *findTextField* into the Find pasteboard (if the use of the pasteboard is enabled), identifies the first conformer, and sends it the SearchableText protocol's

searchFor:mode:reverse:regexpr:cases:position:size: method.   If this method returns an error indication, or no first conformer is found, the system beep is played and a localized "Invalid operation" message is displayed in the panel.   If no match is found, the system beep is played and a localized "Not found" message is displayed.   Otherwise, the matched text is selected, and the selection is displayed for the user.   If the "Regular Expression" switch is checked in the find panel, the text of the *findTextField* is treated as if it were a regular expression, otherwise it is treated as a literal string.   If the "Ignore Case" switch is checked, the search is case insensitive.   Returns self.

findTextField
   - (TextField *)**findTextField**

Returns the id of the TextField into which the user types the text for which to search.

free
   - **free**

Returns self, without freeing the find panel.   The instance may not be freed once it has been created within an application.

ignoreCaseButton
   - (Button *)**ignoreCaseButton**

Returns the id of the Button with which the user specifies the case sensitivity of a search.

init
   - **init**

Generates an error message and aborts the application.   The find panel is initialized automatically when it is created.

initContent:style:backing:buttonMask:defer:
   - **initContent:**(const NXRect *)contentRect
     style:(int)aStyle
     backing:(int)bufferingType
     buttonMask:(int)mask
     defer:(BOOL)flag

Generates an error message and aborts the application.   The find panel is initialized automatically when it is created.

initContent:style:backing:buttonMask:defer:screen:
   - **initContent:**(const NXRect *)contentRect

style:(int)aStyle
backing:(int)bufferingType
buttonMask:(int)mask
defer:(BOOL)flag
screen:(const NXScreen *)screen

Generates an error message and aborts the application.   The find panel is initialized automatically when it is created.

jumpToSelection:
   - **jumpToSelection:**sender

Sends the **makeSelectionVisible** message to the first conformer, if there is one.   Returns self.

messageTextField
   - (TextField *)**messageTextField**

Returns the id of the TextField used to display text messages to the user.

miniaturize:
   - **miniaturize:**sender

Returns self.   This method is overridden to prevent the find panel from being miniaturized.

orderWindow:relativeTo:
   - **orderWindow:**(int)place **relativeTo:**(int)otherWin

If the find panel is being ordered onto the screen, or is having its position above or below other windows changed, the panel is first "reset": any message it is displaying is removed, the pasteboard is checked for new text (and the new text is possibly put into the *findTextField*), and the text in the *findTextField* is selected.   Returns self.

placeWindow:
   - **placeWindow:**(const NXRect *)aRect

Overridden to prevent the find panel from being resized.   The panel is moved to the location specified in *aRect,* but the size information is ignored.   Returns self.

placeWindow:screen:
   - **placeWindow:**(const NXRect *)aRect **screen:**(const NXScreen *)aScreen

Overridden to prevent the find panel from being resized.   The panel is moved to the location specified in *aRect* and the screen indicated by *aScreen,* but the size information is ignored.   Returns self.

placeWindowAndDisplay:
   - **placeWindowAndDisplay:**(const NXRect *)aRect

Overridden to prevent the find panel from being resized.   The panel is moved to the location specified

in *aRect* and sent a **display** message, but the size information is ignored.   Returns self.

read:
    - read:(NXTypedStream *)stream

Unarchives the find panel.   This message should never be sent directly to the find panel; it is sent by the system when unarchiving is required.   Returns self.

regExprButton
    - (Button *)**regExprButton**

Returns the id of the Button with which the user specifies whether or not the text in the *findTextField* is a regular expression.

replace:

    - **replace:**sender

Sends the **replaceSelection:** message to the first conformer, if there is one, passing a pointer to the text in the *replaceTextField*.   Returns self.

replaceAll:
    - **replaceAll:**sender

If there is text in the *findTextField,* sends the **replaceAll:with:mode:regexpr:cases:** to the first conformer, if there is one, with parameters generated from the current settings of the controls in the find panel; otherwise, does nothing.   If the replace-all operation is successful, the number of replacements is displayed in the panel, otherwise the message "Invalid operation" is displayed and the panel beeps.   Returns self.

replaceAndFind:
    - **replaceAndFind:**sender

This method is a shorthand for
    [[[MiscFindPanel sharedInstance] replace:sender] findForward:sender]
Returns self.

replaceTextField
    - (TextField *)**replaceTextField**

Returns the id of the TextField into which the user types the text used in replace-type operations.

scopeMatrix
    - (Matrix *)**scopeMatrix**

Returns the id of the Matrix in which the user specifies the scope for the **replaceAll:** method.

setDocEdited:

     - **setDocEdited:**(BOOL)aBool

Returns self.   This method is overridden to prevent the close button in the title bar of the find panel from being marked with an open 'X'.

sizeWindow::
     - **sizeWindow:**(float)x **:**(float)y

Returns self.   This method is overridden to prevent the find panel from being resized.

write:
     - **write:**(NXTypedStream *)stream

Archives the find panel.   This message should never be sent directly to the find panel; it is sent by the system when archiving is required.   Returns self.