MiscTreeDiagram

Inherits From: NSObject
Conforms To: NSCoding
Declared In: MiscTreeDiagram.h

Class Description

The MiscTreeDiagram class is the central class in the MiscTreeDiagram framework.   An instance of this class manages a tree diagram and works closely with a view instance that conforms to the *MiscTreeDiagramViewAPI* protocol to display the diagram.

The responsibilities of this class include :
- offering a high-level API for manipulating the diagram
- keeping the associated view instance in sync with the diagram
     as defined in the MiscTreeDiagramViewAPI protocol
- managing the node selection
- maintaining an undo-redo mechanism
- maintaining a printinfo object compatible with the printinfo object used in Diagram (tm)
- managing the tree style of the diagram
- keeping an associated document instance informed about the
     state of the diagram as defined in the MiscDocAPI protocol.

The MiscTreeDiagram class defines a way to change the diagram more than once before the changes are

reflected in the associated view and document.   To start a bulk of editing on the diagram use **beginEditing**, to end the editing use **endEditing**.   These two messages can be nested.

The message **acceptsDraggingWithHitPath:onOutline:** lets associated views support dragging on nodes of the diagram.

The message **setRoot:** sets the root of the tree diagram.One can think of this method as repointing the controller to another model in a Model-View-Controller context, with a MiscDiagramTree instance being the model (the root of the tree), the MiscTreeDiagram instance the controller and the associated MiscTreeDiagramView instance the view.

Instance Variables

No @public or @protected instance variables declared in this class.

Method Types

Allocating and initializing an MiscTreeDiagram instance
- initWithTreeStyle:

Setting and accessing root of diagram
- root
- setRoot:

Adding, rearranging and deleting nodes
- addChildToSelected:
- addNewChildToSelected
- deleteSelected
- addChild:to:

- addChild:to:atIndex:
- deleteNode:
- rearrangeChild:toIndex:

Manipulating selection
- selectedNode
- selectNode:
- unselectSelected
- selectNodeWithHitPath:controlPoint:
- selectNextSibling
- selectPreviousSibling
- selectChild
- selectParent

Support for dragging
- acceptsDraggingWithHitPath:onOutline:

Manipulating node style
- setNodeStyle:of:
- setFillColor:of:
- setOutlineColor:of:
- setLinewidth:of:
- setShapeType:of:
- setParentEnding:of:
- setChildEnding:of:
- toggleCollapseNode:
- setSize:of:

Manipulating tree style
- setDistanceToParent:
- setBorder:
- setLineType:
- setBendingFactor:
- setLayoutType:
- setShadow:

- setShadowColor:
                                        - treeStyle
                                        - setTreeStyle:

Setting and accessing associated view instance
                                        - view
                                        - setView:

Accessing undo manager   - undoManager

Editing diagram   - beginEditing
                                        - endEditing

Setting and accessing associated doc instance
                                        - setDoc:
                                        - doc

Accessing printinfo object   - printInfo

Instance Methods

acceptsDraggingWithHitPath:onOutline:

   - (MiscDiagramTree *)**acceptsDraggingWithHitPath:**(MiscHitPath *)*aPath*
         onOutline:(BOOL *)*onOutline*

Returns the node which intersects with hit path *aPath*.   If the node intersects *aPath* on its outline then YES gets written in anOutline.   Returns **nil** if no node intersects *aPath*.

addChild:to:

   - (void)**addChild:**(MiscDiagramTree *)*aChild*

>   **to:**(MiscDiagramTree *)*aNode*

Adds *aChild* as the last child to *aNode*.   This is a convenience method that uses **addChild:to:atIndex:**.

addChild:to:atIndex:

>   - (void)**addChild:**(MiscDiagramTree *)*aChild*
>   **to:**(MiscDiagramTree *)*aNode*
>   **atIndex:**(unsigned)*anIndex*

Adds *aChild* to *aNode* at index *anIndex*.   This is the primitive method on which all other **addChild**...   methods are based.   This method is undoable.   An index of -1 indicates that *aChild* should be put last in the list of children.

addChildToSelected:

>   - (void)**addChildToSelected:**(MiscDiagramTree *)*aChild*

Adds *aChild* as the last child to the currently selected node.   This is a convenience method that uses **addChild:to:atIndex:**.

addNewChildToSelected

>   - (void)**addNewChildToSelected**

Creates a node and adds it as the last child to the currently selected node.   This is a convenience method that uses **addChild:to:atIndex:**.

beginEditing

>   - (void)**beginEditing**

Starts an editing session for the receiver.   During this session the changes made to the receiver are not shown in the associated view and not communicated to the associated document.   End the session with **endEditing**.

deleteNode:

   - (void)**deleteNode:**(MiscDiagramTree *)*aNode*

Removes *aNode* from the diagram.   This method is undoable.

deleteSelected

   - (void)**deleteSelected**

Deletes the curently selected node.   This is a convenience method that uses **deleteNode:**.

doc

   - (id <MiscDocAPI>)**doc**

Returns the associated document instance.

endEditing

   - (void)**endEditing**

Ends an editing session for the receiver and resyncs the associated view and document instances with the changes made to the receiver in the editing session.   The document instance is set to dirty even if no actual changes have been made.

initWithTreeStyle:

- **initWithTreeStyle:**(MiscTreeStyle *)*aStyle*

Initializes a newly created instance of MiscTreeDiagram with tree style *aStyle*.   This is the designated initializer of this class.

printInfo

- (NSPrintInfo *)**printInfo**

Returns the print info object.

rearrangeChild:toIndex:

- (void)**rearrangeChild:**(MiscDiagramTree *)*aChild*
      toIndex:(unsigned)*anIndex*

Rearranges the list of children of *aChild*'s parent such that *aChild* is at index *anIndex*.   This method is undoable.

root

- (MiscDiagramTree *)**root**

Returns the root node of the receiver

selectChild

- (void)**selectChild**

Selects the first child of the currently selected node if both exist.   This is a convenience method that uses **selectNode:**.

selectNextSibling

    - (void)**selectNextSibling**

Selects the next sibling of the currently selected node if both exist.   This is a convenience method that uses **selectNode:**.

selectNode:

    - (void)**selectNode:**(MiscDiagramTree *)*aNode*

Makes *aNode* the currently selected node in the diagram.   This is the primitive method which all other **select**... use.

selectNodeWithHitPath:controlPoint:

    - (MiscDiagramTree *)**selectNodeWithHitPath:**(MiscHitPath *)*aPath*
        controlPoint:(int *)*aInt*

No method description.

selectParent

    - (void)**selectParent**

Selects the parent of the currently selected node if both exist.   This is a convenience method that uses **selectNode:**.

selectPreviousSibling

    - (void)**selectPreviousSibling**

Selects the previous sibling of the currently selected node if both exist.   This is a convenience method that uses **selectNode:**.

selectedNode

   - (MiscDiagramTree *)**selectedNode**

Returns the currently selected node in the diagram.

setBendingFactor:

   - (void)**setBendingFactor:**(float)*aFactor*

Sets the bending factor of the receiver.   This method is undoable.

setBorder:

   - (void)**setBorder:**(float)*aBorder*

Sets the border parameter of the receiver.   This method is undoable.

setChildEnding:of:

   - (void)**setChildEnding:**(MiscEndingType)*anEnding*
       of:(MiscDiagramTree *)*aNode*

Sets the child ending of *aNode* to *anEnding*.   This method is undoable.

setDistanceToParent:

   - (void)**setDistanceToParent:**(float)*aDistance*

Sets the distanceToParent parameter of the receiver.   This method is undoable.

setDoc:

  - (void)**setDoc:**(id <MiscDocAPI>)*aDoc*

Sets the associated document instance to *aDoc*.   The receiver has a working relationship with *aDoc* and thus does not retain it to avoid retain-release cycles.   You have to ensure that *aDoc* remains valid during this relationship.

setFillColor:of:

  - (void)**setFillColor:**(NSColor *)*aColor*
         of:(MiscDiagramTree *)*aNode*

Sets the fill color of *aNode* to *aColor*.   This method is undoable.

setLayoutType:

  - (void)**setLayoutType:**(MiscLayoutTreeType)*aType*

Sets the layout type of the receiver.   This method is undoable.

setLineType:

  - (void)**setLineType:**(MiscLineType)*aType*

Sets the line type of the receiver.   This method is undoable.

setLinewidth:of:

- (void)**setLinewidth:**(float)*aLinewidth*
  of:(MiscDiagramTree *)*aNode*

Sets the line width of *aNode* to *aLinewidth*.   This method is undoable.

setNodeStyle:of:

- (void)**setNodeStyle:**(MiscNodeStyle *)*aStyle*
  of:(MiscDiagramTree *)*aNode*

Sets the node style of *aNode* to *aStyle*.   This method is undoable.

setOutlineColor:of:

- (void)**setOutlineColor:**(NSColor *)*aColor*
  of:(MiscDiagramTree *)*aNode*

Sets the outline color of *aNode* to *aColor*.   This method is undoable.

setParentEnding:of:

- (void)**setParentEnding:**(MiscEndingType)*anEnding*
  of:(MiscDiagramTree *)*aNode*

Sets the parent ending of *aNode* to *anEnding*.   This method is undoable.

setRoot:

- (void)**setRoot:**(MiscDiagramTree *)*aTree*

Sets the receiver's root node to *aTree*.   This method releases the previous root node and retains *aTree*.

setShadow:

   - (void)**setShadow:**(BOOL)*aBool*

Sets whether the receiver has shadow.   This method is undoable.

setShadowColor:

   - (void)**setShadowColor:**(NSColor *)*aColor*

Sets the shadow color of the receiver.   This method is undoable.

setShapeType:of:

   - (void)**setShapeType:**(MiscShapeType)*aShapeType*
       of:(MiscDiagramTree *)*aNode*

Sets the shape type of *aNode* to *aShapeType*.   This method is undoable.

setSize:of:

   - (void)**setSize:**(NSSize)*aSize* **of:**(MiscDiagramTree *)*aNode*

Sets the size of *aNode* to *aSize*.   This method is undoable.

setTreeStyle:

   - (void)**setTreeStyle:**(MiscTreeStyle *)*aStyle*

Sets the tree style of the receiver.   This method is undoable.

setView:

    - (void)**setView:**(id <MiscTreeDiagramViewAPI>)*aView*

Sets the associated view that draws the receiver.   The receiver has a working relationship with *aView* and thus does not retain it to avoid retain-release cycles.   You have to ensure that *aView* remains valid during this relationship.   See the MiscTreeDiagramView class for details on this relationship.

toggleCollapseNode:

    - (void)**toggleCollapseNode:**(MiscDiagramTree *)*aNode*

Toggles the collapse state of *aNode*.

treeStyle

    - (MiscTreeStyle *)**treeStyle**

Returns the tree style of the receiver.

undoManager

    - (MiscUndoManager *)**undoManager**

Returns the undo manager.

unselectSelected

    - (void)**unselectSelected**

No node is selected in the diagram after calling this method.

view

- (id <MiscTreeDiagramViewAPI>)**view**

Returns the associated view that draws the receiver.