UseCaseAnalyser.GraphVisualiser

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Verzeichnis der Namensbereiche

1.1 Pakete

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Kapitel 2

Hierarchie-Verzeichnis

2.1 Klassenhierarchie

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Kapitel 3

Klassen-Verzeichnis

3.1 Auflistung der Klassen

Hier folgt die Aufzählung aller Klassen, Strukturen, Varianten und Schnittstellen mit einer Kurzbeschreibung:

Kapitel 4

Datei-Verzeichnis

4.1 Auflistung der Dateien

Hier folgt die Aufzählung aller Dateien mit einer Kurzbeschreibung:

Kapitel 5

Dokumentation der Namensbereiche

5.1 Paket UseCaseAnalyser

Namensbereiche

- package GraphVisualiser

5.2 Paket UseCaseAnalyser.GraphVisualiser

Namensbereiche

- package DrawingElements

Klassen

- class UseCaseGraphVisualiser

  Class for displaying a UseCaseGraph element. It offers possibilities to select a single GraphElement while setting a dependency property GraphElement. Furthermore the user has the option to move all nodes.

5.3 Paket UseCaseAnalyser.GraphVisualiser.DrawingElements

Klassen

- class CappedLine

  Class for displaying a capped line. Sources from http://blogs.msdn.com/b/mrochon/archive/2011/01/10/custom-l aspx
- interface ISelectableGraphElement

  An interface for classes that contain a GraphElement and should be selectable via the visualisation.
- class UseCaseEdge

  Class for displaying a edge as a Bezier curve within a UseCaseGraph. On selection line color changes. It contains the edge to display as a reference.
- class UseCaseNode

  Class for displaying a node as rectangule within a UseCaseGraph. On selection border color changes. It contains the node to display as a reference.

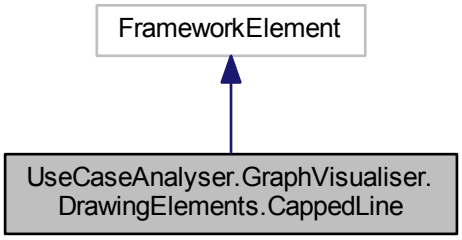
Kapitel 6

Klassen-Dokumentation

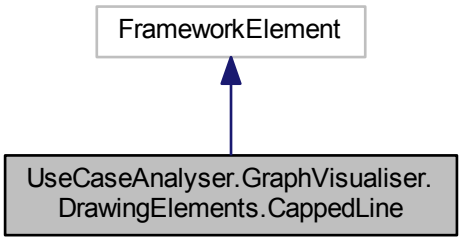
6.1 UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine Klassenreferenz

Class for displaying a capped line. Sources from http://blogs.msdn.com/b/mrochon/archive/2011/01/10/custo
aspx

Klassendiagramm für UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine:



Zusammengehörigkeiten von UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine:



Öffentliche Methoden

- virtual void OnLinePathChanged (PathGeometry value)

  Property changed evented handler for LinePath property.
- virtual void OnBeginCapChanged (Geometry value)

  Property changed evented handler for capped line property at the beginning of the LinePath.
- virtual void OnEndCapChanged (Geometry value)

  Property changed evented handler for capped line property at the end of the LinePath.

Statische öffentliche Attribute

- static readonly DependencyProperty StrokeProperty = Shape.StrokeProperty.AddOwner(typeof (CappedLine))

  Binding configuration for a dependecy property which is setting StrokeProperty
- static readonly DependencyProperty StrokeThicknessProperty

  Binding configuration for a dependecy property which is setting StrokeThicknessProperty
- static readonly DependencyProperty LinePathProperty

  Binding configuration for a dependecy property which is setting LinePathProperty
- static readonly DependencyProperty BeginCapProperty

  Binding configuration for a dependecy property which is setting BeginCapProperty
- static readonly DependencyProperty EndCapProperty

  Binding configuration for a dependecy property which is setting EndCapProperty

Geschützte Methoden

- override void OnRender (DrawingContext dc)

  Logic for rendering a capped line
- override Size MeasureOverride (Size availableSize)

  Overrides how size is measured

Propertys

- Brush Stroke `[get, set]`

  Property for setting and getting Stroke
- double StrokeThickness `[get, set]`

  Property for setting and getting StrokeThickness
- PathGeometry LinePath `[get, set]`

  Property for setting and getting LinePath
- Geometry BeginCap `[get, set]`

  Property for setting and getting cap at the start of the LinePath
- Geometry EndCap `[get, set]`

  Property for setting and getting cap at the end of the LinePath

Private, statische Methoden

- static void LinePathChangedCallback (DependencyObject sender, DependencyPropertyChangedEventArgs args)

  Callback handler used for LinePath dependency property
- static void BeginCapChangedCallback (DependencyObject sender, DependencyPropertyChangedEventArgs args)

Callback handler used for BeginCap dependency property

- static void EndCapChangedCallback (DependencyObject sender, DependencyPropertyChangedEventArgs args)

  Callback handler used for EndCap dependency property

6.1.1 Ausführliche Beschreibung

Class for displaying a capped line. Sources from http://blogs.msdn.com/b/mrochon/archive/2011/01/10/custo aspx

6.1.2 Dokumentation der Elementfunktionen

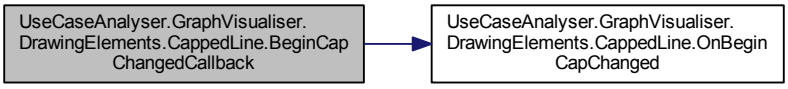
6.1.2.1 static void UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.BeginCapChangedCallback (DependencyObject *sender,* DependencyPropertyChangedEventArgs *args*) [static], [private]

Callback handler used for BeginCap dependency property

Parameter

sender	Dependency object that was changed
args	Event args containing information about the changes of the BeginCap property

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:



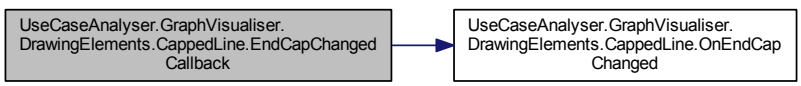
6.1.2.2 static void UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.EndCapChangedCallback (DependencyObject *sender,* DependencyPropertyChangedEventArgs *args*) [static], [private]

Callback handler used for EndCap dependency property

Parameter

sender	Dependency object that was changed
args	Event args containing information about the changes of the EndCap property

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:



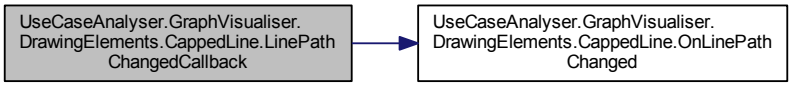
6.1.2.3 static void UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.LinePathChangedCallback (DependencyObject *sender,* DependencyPropertyChangedEventArgs *args*) [static],[private]

Callback handler used for LinePath dependency property

Parameter

sender	Dependency object that was changed
args	Event args containing information about the changes of the LinePath property

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:



6.1.2.4 override Size UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.MeasureOverride (Size *availableSize*) [protected]

Overrides how size is measured

Parameter

availableSize	Size that is available

Rückgabe

New measured size

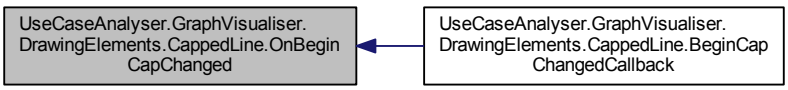
6.1.2.5 virtual void UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.OnBeginCapChanged (Geometry *value*) [virtual]

Property changed evented handler for capped line property at the beginning of the LinePath.

Parameter

value	new Geometry value

Hier ist ein Graph der zeigt, wo diese Funktion aufgerufen wird:



6.1.2.6 virtual void UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.OnEndCapChanged (Geometry *value*) [virtual]

Property changed evented handler for capped line property at the end of the LinePath.

Parameter

value	new Geometry value

Hier ist ein Graph der zeigt, wo diese Funktion aufgerufen wird:

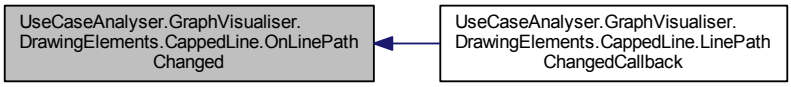
6.1.2.7 virtual void UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.OnLinePathChanged (PathGeometry *value*) [virtual]

Property changed evented handler for LinePath property.

Parameter

value	new PathGeometry value

Hier ist ein Graph der zeigt, wo diese Funktion aufgerufen wird:



6.1.2.8 override void UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.OnRender (DrawingContext *dc*) [protected]

Logic for rendering a capped line

Parameter

dc	DrawingContex of the rendering capped line

6.1.3 Dokumentation der Datenelemente

6.1.3.1 readonly DependencyProperty UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.BeginCapProperty [static]

Initialisierung:

```
=
            DependencyProperty.Register("BeginCap", typeof (Geometry), typeof (CappedLine),
                new FrameworkPropertyMetadata(
                    null,
                    FrameworkPropertyMetadataOptions.AffectsRender,
                    BeginCapChangedCallback))
```

Binding configuration for a dependecy property which is setting BeginCapProperty

6.1.3.2 readonly DependencyProperty UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.EndCapProperty [static]

Initialisierung:

```
=
            DependencyProperty.Register("EndCap", typeof (Geometry), typeof (CappedLine),
                new FrameworkPropertyMetadata(
                    null,
                    FrameworkPropertyMetadataOptions.AffectsRender,
                    EndCapChangedCallback))
```

Binding configuration for a dependecy property which is setting EndCapProperty

6.1.3.3 readonly DependencyProperty UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.LinePathProperty [static]

Initialisierung:

```
=
            DependencyProperty.Register("LinePath", typeof (PathGeometry), typeof (CappedLine),
                new FrameworkPropertyMetadata(
                    null,
                    FrameworkPropertyMetadataOptions.AffectsRender,
                    LinePathChangedCallback))
```

Binding configuration for a dependecy property which is setting LinePathProperty

6.1.3.4 readonly DependencyProperty UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.StrokeProperty = Shape.StrokeProperty.AddOwner(typeof (CappedLine)) [static]

Binding configuration for a dependecy property which is setting StrokeProperty

6.1.3.5 readonly DependencyProperty UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.StrokeThickness↩ Property [static]

Initialisierung:

```
=
            Shape.StrokeThicknessProperty.AddOwner(typeof (CappedLine))
```

Binding configuration for a dependecy property which is setting StrokeThicknessProperty

6.1.4 Dokumentation der Propertys

6.1.4.1 Geometry UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.BeginCap [get], [set]

Property for setting and getting cap at the start of the LinePath

6.1.4.2 Geometry UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.EndCap [get], [set]

Property for setting and getting cap at the end of the LinePath

6.1.4.3 PathGeometry UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.LinePath [get], [set]

Property for setting and getting LinePath

6.1.4.4 Brush UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.Stroke [get],[set]

Property for setting and getting Stroke

6.1.4.5 double UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine.StrokeThickness [get],[set]

Property for setting and getting StrokeThickness

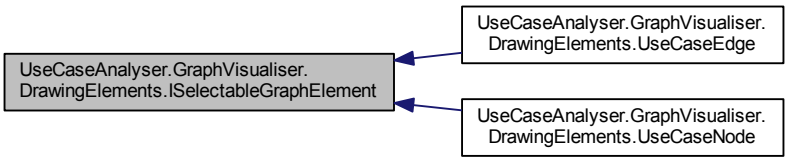
Die Dokumentation für diese Klasse wurde erzeugt aufgrund der Datei:

- DrawingElements/CappedLine.cs

6.2 UseCaseAnalyser.GraphVisualiser.DrawingElements.ISelectableGraphElement Schnittstellenreferenz

An interface for classes that contain a GraphElement and should be selectable via the visualisation.

Klassendiagramm für UseCaseAnalyser.GraphVisualiser.DrawingElements.ISelectableGraphElement:



Öffentliche Methoden

- void Select ()

  Change selection state to selected
- void Unselect ()

  Reset selection state
- void ChangeSelection ()

  Toggle selection state

Propertys

- bool Selected [get]

  Check if object is selected
- IGraphElement CurrentElement [get]

  Get reference to IGraphElement if selected

6.2.1 Ausführliche Beschreibung

An interface for classes that contain a GraphElement and should be selectable via the visualisation.

6.2.2 Dokumentation der Elementfunktionen

6.2.2.1 void UseCaseAnalyser.GraphVisualiser.DrawingElements.ISelectableGraphElement.ChangeSelection ( )

Toggle selection state

Implementiert in UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge und UseCaseAnalyser.↩ GraphVisualiser.DrawingElements.UseCaseNode.

6.2.2.2 void UseCaseAnalyser.GraphVisualiser.DrawingElements.ISelectableGraphElement.Select ( )

Change selection state to selected

Implementiert in UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge und UseCaseAnalyser.↩ GraphVisualiser.DrawingElements.UseCaseNode.

Hier ist ein Graph der zeigt, wo diese Funktion aufgerufen wird:

6.3 UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge Klassenreferenz

Class for displaying a edge as a Bezier curve within a UseCaseGraph. On selection line color changes. It contains the edge to display as a reference.

Klassendiagramm für UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge:

Zusammengehörigkeiten von UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge:

Öffentliche Typen

- enum DockedStatus { DockedStatus.Top, DockedStatus.Bottom, DockedStatus.Left, DockedStatus.Right }
  Docked status of CappedLine on UseCaseNode
- enum EdgeProcessType { EdgeProcessType.ForwardEdge, EdgeProcessType.BackwardEdge }
  Type of UseCaseEdge which will be displayed

Öffentliche Methoden

- UseCaseEdge (UseCaseNode source, UseCaseNode dest, IEdge edge)
  Creates a new instance of an visual presenter of an UseCaseEdge
- void RecalcBezier ()
  Recaclulation of the Bezier curve and redraw the Edge
- void SetDrawingBrush (Brush newBrush)
  Set new brush color to this Edge
- void Select ()
  Select this element
- void Unselect ()
  Unselect this element
- void ChangeSelection ()
  Switch selection status of this element

Öffentliche Attribute

- readonly UseCaseNode mDestUseCaseNode
  Reference of destination visual UseCaseNode
- readonly UseCaseNode mSourceUseCaseNode
  Reference of source visual UseCaseNode

Propertys

- IEdge Edge `[get, private set]`
  Reference to the Edge in the UseCaseGraph
- bool Selected `[get, private set]`
  Selected status of the element
- DockedStatus DockPosSourceElement `[get, set]`
  Dock position of CappedLine on the source Element
- DockedStatus DockPosDestElement `[get, set]`
  Dock Position Capped Line on the Destination Element
- EdgeProcessType ProcessType `[get, set]`
  Process type of Edge which will be displayed
- IGraphElement CurrentElement `[get]`
  Reference to the element in the UseCaseGraph

Private Attribute

- Brush mUnselectDrawingBrush
  Brush which will be displayed if the element is not selected

6.3.1 Ausführliche Beschreibung

Class for displaying a edge as a Bezier curve within a UseCaseGraph. On selection line color changes. It contains the edge to display as a reference.

6.3.2 Dokumentation der Aufzählungstypen

6.3.2.1 enum UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.DockedStatus

Docked status of CappedLine on UseCaseNode

Aufzählungswerte

Top UseCaseEdge is visualised on top of UseCaseNode
Bottom UseCaseEdge is visualised on bottom of UseCaseNode
Left UseCaseEdge is visualised on the left of UseCaseNode
Right UseCaseEdge is visualised on the right of UseCaseNode

6.3.2.2 enum UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.EdgeProcessType

Type of UseCaseEdge which will be displayed

Aufzählungswerte

ForwardEdge UseCaseEdge is a forwarding edge
BackwardEdge UseCaseEdge is a backwarding edge (UseCaseNode with type JumpNode as source)

6.3.3 Beschreibung der Konstruktoren und Destruktoren

6.3.3.1 UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.UseCaseEdge (UseCaseNode *source*, UseCaseNode *dest*, IEdge *edge*)

Creates a new instance of an visual presenter of an UseCaseEdge

Parameter

source	Source UseCaseNode
dest	Destination UseCaseNode
edge	Reference to the Edge in the Graph

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:

6.3.4 Dokumentation der Elementfunktionen

6.3.4.1 void UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.ChangeSelection ( )

Switch selection status of this element

Implementiert UseCaseAnalyser.GraphVisualiser.DrawingElements.ISelectableGraphElement.

6.3.4.2 void UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.RecalcBezier ( )

Recaclulation of the Bezier curve and redraw the Edge

Hier ist ein Graph der zeigt, wo diese Funktion aufgerufen wird:

6.3.4.3 void UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.Select ( )

Select this element

Implementiert UseCaseAnalyser.GraphVisualiser.DrawingElements.ISelectableGraphElement.

6.3.4.4 void UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.SetDrawingBrush (Brush *newBrush*)

Set new brush color to this Edge

Parameter

newBrush	future color which will be used for drawing

6.3.4.5 void UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.Unselect ( )

Unselect this element

Implementiert UseCaseAnalyser.GraphVisualiser.DrawingElements.ISelectableGraphElement.

6.3.5 Dokumentation der Datenelemente

6.3.5.1 readonly UseCaseNode UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.mDestUseCaseNode

Reference of destination visual UseCaseNode

6.3.5.2 readonly UseCaseNode UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.mSourceUseCaseNode

Reference of source visual UseCaseNode

6.3.5.3 Brush UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.mUnselectDrawingBrush [private]

Brush which will be displayed if the element is not selected

6.3.6 Dokumentation der Propertys

6.3.6.1 IGraphElement UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.CurrentElement [get]

Reference to the element in the UseCaseGraph

6.3.6.2 DockedStatus UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.DockPosDestElement [get], [set], [package]

Dock Position Capped Line on the Destination Element

6.3.6.3 DockedStatus UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.DockPosSourceElement [get], [set], [package]

Dock position of CappedLine on the source Element

6.3.6.4 IEdge UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.Edge [get], [private set]

Reference to the Edge in the UseCaseGraph

6.3.6.5 EdgeProcessType UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.ProcessType [get], [set], [package]

Process type of Edge which will be displayed

6.3.6.6 bool UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge.Selected [get], [private set]

Selected status of the element

Die Dokumentation für diese Klasse wurde erzeugt aufgrund der Datei:

- DrawingElements/UseCaseEdge.xaml.cs

6.4 UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser Klassenreferenz

Class for displaying a UseCaseGraph element. It offers possibilities to select a single GraphElement while setting a dependency property GraphElement. Furthermore the user has the option to move all nodes.

Öffentliche Methoden

- UseCaseGraphVisualiser ()

  UseCaseGraphVisualiser default constructor
- void RedrawGraph ()

  redraws the current usecasegraph –> nodes + edges are redrawn and the cache positon will be deleted

Statische öffentliche Attribute

- static readonly DependencyProperty UseCaseProperty

  Binding configuration for a dependecy property which is setting UseCaseGraph to display
- static readonly DependencyProperty ScenarioProperty

Binding configuration for a dependecy property which is setting a scenario graph (which will be highlighted by UseCaseGraphVisualiser)

- static readonly DependencyProperty GraphElementProperty

  Binding configuration for a dependecy property which is setting the currently selected IGraphElement (INode/IEdge/IGraph) in UseCaseGraphVisualiser

Propertys

- IGraph Scenario `[get, set]`

  Dependency property for currently selected scenario graph
- IGraphElement GraphElement `[get, set]`

  Dependency property for currently selected IGraphElement
- UseCaseGraph UseCase `[get, set]`

  Dependency property for use case graph that should be visualised

Private Methoden

- void Clear (bool clearCache=false)

  Creates cache entries (current position) for all INode objects within the UseCaseNodes. Furthermore clear Canvas and mNodes list.
- void VisualiseGraph ()

  Visiualise all Nodes in Standard Position and redraw edges
- void VisualiseNodes ()

  Visualise all nodes in dependency property UseCaseGraph.
- void VisualiseEdges ()

  Visualise all edges by using Indices of start and end node to find corresponding UseCaseNodes. If UseCaseNodes are not contained in mNodes an InvalidOperationException will be thrown.
- void AddNode (INode node)

  Adds a node to UseCaseGraphVisualiser canvas and node list. Furthermore adjusts default position of this node using NormalIndex/VariantIndex attributes if no cached value is given.
- int GetPreviousNodeVariantCount (UseCaseNode ucNode)

  Calculates additional offset corresponding to previous node's variant sequence count.
- void SetBrushForScenario (IGraph sourceGraph, Brush futureBrush)

  Color for specific Scenario will be set
- void AddEdge (UseCaseNode startNode, UseCaseNode endingNode, IEdge edge)

  Adds an edge to Canvas and triggers start and ending node to render their edges.
- void Background_OnPreviewMouseLeftButtonDown (object sender, MouseButtonEventArgs e)

  Event handler for canvas. Unselect all selectable elements in canvas and set dependency property GraphElement to UseCase.
- void GraphVisualiser_OnMouseDown (object sender, MouseButtonEventArgs e)

  Event handler for Graphvisualiser. Determines if a selectable UseCaseNode/Egde was pressed and updates GraphElement.
- void GraphVisualiser_OnMouseMove (object sender, MouseEventArgs e)

  Event handler for Graphvisualiser. Handles dragging state.
- void GraphVisualiser_OnMouseUp (object sender, MouseButtonEventArgs e)

  Event handler for Graphvisualiser. Resets dragging state.
- void CanvasScrollViewer_OnMouseWheel (object sender, MouseWheelEventArgs e)

  Event handler for CanvasScrollViewer. If left Ctrl Key is pressed Canvas Zoom starts

Private, statische Methoden

- static void ScenarioPropertyChanged (DependencyObject d, DependencyPropertyChangedEventArgs e)

  Property changed evented handler for Scenerio property. If Scenario property is modified UseCaseGraphVisualiser will highlight them within the view.
- static void UseCasePropertyChanged (DependencyObject d, DependencyPropertyChangedEventArgs e)

  Property changed evented handler for UseCase property. If UseCase property is modified UseCaseGraphVisualiser will visualise the new UseCaseGraph. Furthermore if this UseCaseGraph was already displayed the cached positions are used instead of calculating them again from scratch.

Private Attribute

- const double ElementWidth = 110
- const double ElementHeight = 70
- const double ScaleRateZoom = 1.05
- readonly List< UseCaseNode > mNodes = new List<UseCaseNode>()
- readonly Dictionary< INode, Point > mNodePosDict = new Dictionary<INode, Point>()
- Point mOffsetElementPosition
- FrameworkElement mSelectedElement
- DateTime mLastSizeUpdateTime = DateTime.Now
- const uint CanvasSizeUpdateTime = 20

6.4.1 Ausführliche Beschreibung

Class for displaying a UseCaseGraph element. It offers possibilities to select a single GraphElement while setting a dependency property GraphElement. Furthermore the user has the option to move all nodes.

6.4.2 Beschreibung der Konstruktoren und Destruktoren

6.4.2.1 UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.UseCaseGraphVisualiser ( )

UseCaseGraphVisualiser default constructor

6.4.3 Dokumentation der Elementfunktionen

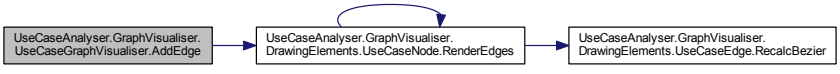
6.4.3.1 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.AddEdge (UseCaseNode *startNode,* UseCaseNode *endingNode,* IEdge *edge*) [private]

Adds an edge to Canvas and triggers start and ending node to render their edges.

Parameter

startNode	Node where edge starts.
endingNode	Node where edge ends.
edge	IEdge which will be wrapped within an UseCaseEdge.

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:



6.4.3.2 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.AddNode (INode *node*) [private]

Adds a node to UseCaseGraphVisualiser canvas and node list. Furthermore adjusts default position of this node using NormalIndex/VariantIndex attributes if no cached value is given.

Parameter

node	INode object that should be wrapped within a UseCaseNode.

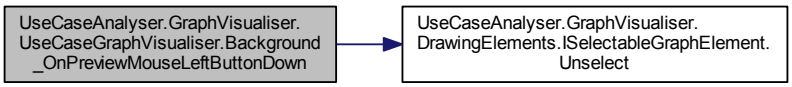
6.4.3.3 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.Background_OnPreviewMouseLeftButtonDown (object *sender,* MouseButtonEventArgs *e*) [private]

Event handler for canvas. Unselect all selectable elements in canvas and set dependency property GraphElement to UseCase.

Parameter

sender	Sender of Background_OnPreviewMouseLeftButtonDown event.
e	Background_OnPreviewMouseLeftButtonDown mouse button event arguments.

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:



6.4.3.4 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.CanvasScrollViewer_OnMouseWheel (object *sender,* MouseWheelEventArgs *e*) [private]

Event handler for CanvasScrollViewer. If left Ctrl Key is pressed Canvas Zoom starts

Parameter

sender	Sender of CanvasScrollViewer_OnMouseWheel event
e	CanvasScrollViewer_OnMouseWheel mouse wheel event arguments

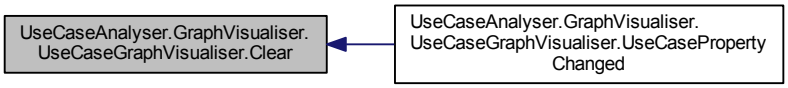
6.4.3.5 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.Clear (bool *clearCache* = false) [private]

Creates cache entries (current position) for all INode objects within the UseCaseNodes. Furthermore clear Canvas and mNodes list.

Parameter

clearCache	True:clear cache of nodes | False: save old postion of nodes

Hier ist ein Graph der zeigt, wo diese Funktion aufgerufen wird:



6.4.3.6 int UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.GetPreviousNodeVariantCount (UseCaseNode *ucNode*) [private]

Calculates additional offset corresponding to previous node's variant sequence count.

Parameter

ucNode	UseCaseNode which predecessor's variant sequence count should be determined.

Rückgabe

Count of previous normal node - if ucNode is not a normal node itself or previous could not be determined count is 0.

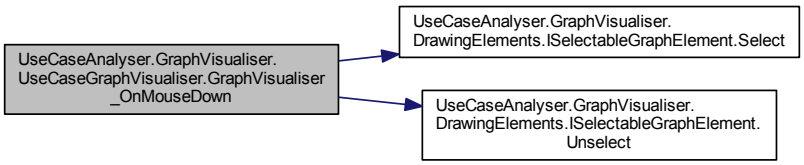
6.4.3.7 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.GraphVisualiser_OnMouseDown (object *sender,* MouseButtonEventArgs *e*) [private]

Event handler for Graphvisualiser. Determines if a selectable UseCaseNode/Egde was pressed and updates GraphElement.

Parameter

sender	Sender of GraphVisualiser_OnMouseDown event.
e	GraphVisualiser_OnMouseDown mouse button event arguments.

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:



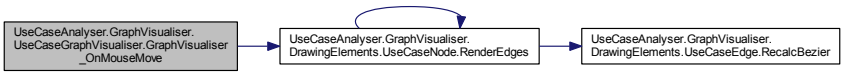
6.4.3.8 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.GraphVisualiser_OnMouseMove (object *sender,* MouseEventArgs *e*) [private]

Event handler for Graphvisualiser. Handles dragging state.

Parameter

sender	Sender of GraphVisualiser_OnMouseMove event.
e	GraphVisualiser_OnMouseMove mouse button event arguments.

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:



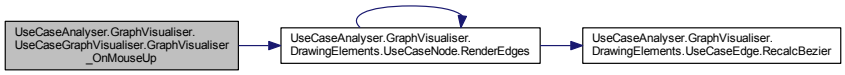
6.4.3.9 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.GraphVisualiser_OnMouseUp (object *sender,* MouseButtonEventArgs *e*) [private]

Event handler for Graphvisualiser. Resets dragging state.

Parameter

sender	Sender of GraphVisualiser_OnMouseUp event.
e	GraphVisualiser_OnMouseUp mouse button event arguments.

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:



6.4.3.10 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.RedrawGraph ( )

redraws the current usecasegraph –> nodes + edges are redrawn and the cache positon will be deleted

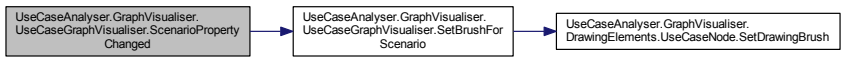
6.4.3.11 static void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.ScenarioPropertyChanged (DependencyObject *d,* DependencyPropertyChangedEventArgs *e*) [static], [private]

Property changed evented handler for Scenerio property. If Scenario property is modified UseCaseGraphVisualiser will highlight them within the view.

Parameter

d	Dependency object that was changed
e	Event args containing information about the changes of the Scenario property

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:



6.4.3.12 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.SetBrushForScenario (IGraph *sourceGraph,* Brush *futureBrush*) [private]

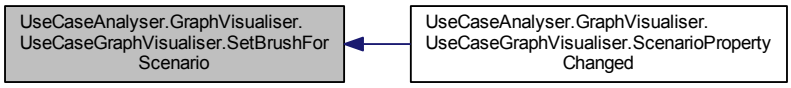
Color for specific Scenario will be set

Parameter

sourceGraph	Scenario which will be highlited
futureBrush	Brush which will be used to highlite the specific scenario

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:

Hier ist ein Graph der zeigt, wo diese Funktion aufgerufen wird:



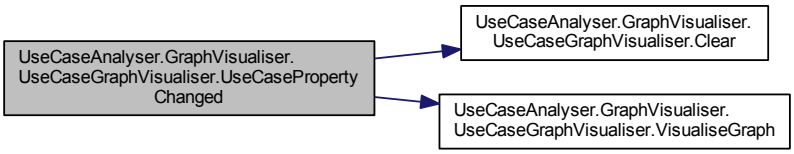
6.4.3.13 static void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.UseCasePropertyChanged (DependencyObject *d,* DependencyPropertyChangedEventArgs *e*) [static],[private]

Property changed evented handler for UseCase property. If UseCase property is modified UseCaseGraphVisualiser will visualise the new UseCaseGraph. Furthermore if this UseCaseGraph was already displayed the cached positions are used instead of calculating them again from scratch.

Parameter

d	Dependency object that was changed
e	Event args containing information about the changes of the UseCase property

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:



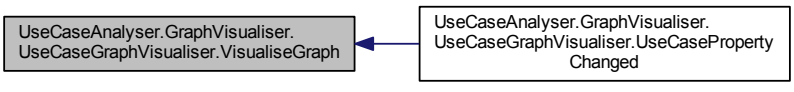
6.4.3.14 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.VisualiseEdges ( ) [private]

Visualise all edges by using Indices of start and end node to find corresponding UseCaseNodes. If UseCaseNodes are not contained in mNodes an InvalidOperationException will be thrown.

6.4.3.15 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.VisualiseGraph ( ) [private]

Visiualise all Nodes in Standard Position and redraw edges

Hier ist ein Graph der zeigt, wo diese Funktion aufgerufen wird:



6.4.3.16 void UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.VisualiseNodes ( ) [private]

Visualise all nodes in dependency property UseCaseGraph.

6.4.4 Dokumentation der Datenelemente

6.4.4.1 const uint UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.CanvasSizeUpdateTime = 20 [private]

6.4.4.2 const double UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.ElementHeight = 70 [private]

6.4.4.3 const double UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.ElementWidth = 110 [private]

6.4.4.4 readonly DependencyProperty UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.GraphElementProperty [static]

Initialisierung:

```
= DependencyProperty.Register("GraphElement",
            typeof (IGraphElement), typeof (UseCaseGraphVisualiser))
```

Binding configuration for a dependecy property which is setting the currently selected IGraphElement (INode/I↩ Edge/IGraph) in UseCaseGraphVisualiser

6.4.4.5 DateTime UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.mLastSizeUpdateTime = DateTime.Now [private]

6.4.4.6 readonly Dictionary<INode, Point> UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.mNodePosDict = new Dictionary<INode, Point>() [private]

6.4.4.7 readonly List<UseCaseNode> UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.mNodes = new List<UseCaseNode>() [private]

6.4.4.8 Point UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.mOffsetElementPosition [private]

6.4.4.9 FrameworkElement UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.mSelectedElement [private]

6.4.4.10 const double UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.ScaleRateZoom = 1.05 [private]

6.4.4.11 readonly DependencyProperty UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.ScenarioProperty [static]

Initialisierung:

```
= DependencyProperty.Register("Scenario",
            typeof (IGraph), typeof (UseCaseGraphVisualiser), new PropertyMetadata(
      ScenarioPropertyChanged))
```

Binding configuration for a dependecy property which is setting a scenario graph (which will be highlighted by UseCaseGraphVisualiser)

6.4.4.12 readonly DependencyProperty UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.UseCaseProperty [static]

Initialisierung:

```
= DependencyProperty.Register("UseCase",
            typeof (UseCaseGraph), typeof (UseCaseGraphVisualiser), new
      PropertyMetadata(UseCasePropertyChanged))
```

Binding configuration for a dependecy property which is setting UseCaseGraph to display

6.4.5 Dokumentation der Propertys

6.4.5.1 IGraphElement UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.GraphElement [get],[set]

Dependency property for currently selected IGraphElement

6.4.5.2 IGraph UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.Scenario [get],[set]

Dependency property for currently selected scenario graph

6.4.5.3 UseCaseGraph UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser.UseCase [get],[set]

Dependency property for use case graph that should be visualised

Die Dokumentation für diese Klasse wurde erzeugt aufgrund der Datei:

- UseCaseGraphVisualiser.xaml.cs

6.5 UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode Klassenreferenz

Class for displaying a node as rectangle within a UseCaseGraph. On selection border color changes. It contains the node to display as a reference.

Klassendiagramm für UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode:

Zusammengehörigkeiten von UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode:

Öffentliche Methoden

- UseCaseNode (INode node)

  Wrapper class for GraphFrameworks's INode which is used to define how a node will be displayed in UseCaseGraphVisualiser.
- void RenderEdges (UseCaseNode notRenderNode=null)

  Recursive function for rendering edges of this node by using RecalcBezier and its neighbours.
- void AddEdge (UseCaseEdge newEdge)

  Add an edge to UseCaseNode if not already contained and nodes is either starting or endpoint of the specified edge.
- int GetEdgeIndex (UseCaseEdge sourceEdge)

  Return index of specified edge corresponding to its DockedStatus.
- int GetCountOfEdges (UseCaseEdge sourceEdge)

  Counts the amount of edges in depending of the docking status
- void SetDrawingBrush (IEnumerable< IEdge > toColorEdges, Brush newBrush)

  Color for specific scenario will be set
- void Select ()

  Select this element (visualised by glowing)
- void Unselect ()

  Unselect this element (remove glow effect)
- void ChangeSelection ()

  Switch selection status of this element

Öffentliche Attribute

- readonly List< UseCaseEdge > mEdges = new List<UseCaseEdge>()

  List of UseCaseEdge that either start or end in this UseCaseNode

Propertys

- INode Node `[get, private set]`

  Node property for GraphFrameworks INode element which is wrapped by this class.
- bool Selected `[get, private set]`

  Property to check if UseCaseNode is marked as selected
- IGraphElement CurrentElement `[get]`

  Reference to the element in the Graph

Private Attribute

- Brush mUnselectDrawingBrush

  Brush which will be displayed if the element is not selected

6.5.1 Ausführliche Beschreibung

Class for displaying a node as rectangle within a UseCaseGraph. On selection border color changes. It contains the node to display as a reference.

6.5.2 Beschreibung der Konstruktoren und Destruktoren

6.5.2.1 UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.UseCaseNode (INode *node*)

Wrapper class for GraphFrameworks's INode which is used to define how a node will be displayed in UseCase↩ GraphVisualiser.

Parameter

node	INode object that will be wrapped by UseCaseNode

6.5.3 Dokumentation der Elementfunktionen

6.5.3.1 void UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.AddEdge (UseCaseEdge *newEdge*)

Add an edge to UseCaseNode if not already contained and nodes is either starting or endpoint of the specified edge.

Parameter

newEdge	UseCaseEgde that should be added to the UseCaseNode

Hier ist ein Graph der zeigt, wo diese Funktion aufgerufen wird:

6.5.3.2 void UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.ChangeSelection ( )

Switch selection status of this element

Implementiert UseCaseAnalyser.GraphVisualiser.DrawingElements.ISelectableGraphElement.

6.5.3.3 int UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.GetCountOfEdges (UseCaseEdge *sourceEdge*)

Counts the amount of edges in depending of the docking status

Parameter

sourceEdge	Elements will be counted by the position of this element

Rückgabe

amount of Edges at the same docking status of this node

6.5.3.4 int UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.GetEdgeIndex (UseCaseEdge *sourceEdge*)

Return index of specified edge corresponding to its DockedStatus.

Parameter

sourceEdge	Edge for determine index.

Rückgabe

Number of index.

6.5.3.5 void UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.RenderEdges (UseCaseNode *notRenderNode* = `null`)

Recursive function for rendering edges of this node by using RecalcBezier and its neighbours.

Parameter

notRenderNode	Optional parameter for use case node which prevents rendering of specified node's edges.

Hier ist ein Graph, der zeigt, was diese Funktion aufruft:

Hier ist ein Graph der zeigt, wo diese Funktion aufgerufen wird:

6.5.3.6 void UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.Select ( )

Select this element (visualised by glowing)

Implementiert UseCaseAnalyser.GraphVisualiser.DrawingElements.ISelectableGraphElement.

6.5.3.7 void UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.SetDrawingBrush (IEnumerable< IEdge > *toColorEdges*, Brush *newBrush*)

Color for specific scenario will be set

Parameter

toColorEdges	List of Edges which will be colored
newBrush	Brush which will be used to highlite the specific scenario

Hier ist ein Graph der zeigt, wo diese Funktion aufgerufen wird:

6.5.3.8 void UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.Unselect ( )

Unselect this element (remove glow effect)

Implementiert UseCaseAnalyser.GraphVisualiser.DrawingElements.ISelectableGraphElement.

6.5.4 Dokumentation der Datenelemente

6.5.4.1 readonly List<UseCaseEdge> UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.mEdges = new List<UseCaseEdge>()

List of UseCaseEdge that either start or end in this UseCaseNode

6.5.4.2 Brush UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.mUnselectDrawingBrush [private]

Brush which will be displayed if the element is not selected

6.5.5 Dokumentation der Propertys

6.5.5.1 IGraphElement UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.CurrentElement [get]

Reference to the element in the Graph

6.5.5.2 INode UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.Node [get], [private set]

Node property for GraphFrameworks INode element which is wrapped by this class.

6.5.5.3 bool UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode.Selected [get], [private set]

Property to check if UseCaseNode is marked as selected

Die Dokumentation für diese Klasse wurde erzeugt aufgrund der Datei:

- DrawingElements/UseCaseNode.xaml.cs

Kapitel 7

Datei-Dokumentation

7.1 DrawingElements/CappedLine.cs-Dateireferenz

Klassen

- class UseCaseAnalyser.GraphVisualiser.DrawingElements.CappedLine

  Class for displaying a capped line. Sources from http://blogs.msdn.com/b/mrochon/archive/2011/01/10/custom-l aspx

Namensbereiche

- package UseCaseAnalyser.GraphVisualiser.DrawingElements

7.2 DrawingElements/ISelectableGraphElement.cs-Dateireferenz

Klassen

- interface UseCaseAnalyser.GraphVisualiser.DrawingElements.ISelectableGraphElement

  An interface for classes that contain a GraphElement and should be selectable via the visualisation.

Namensbereiche

- package UseCaseAnalyser.GraphVisualiser.DrawingElements

7.3 DrawingElements/UseCaseEdge.xaml.cs-Dateireferenz

Klassen

- class UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseEdge

  Class for displaying a edge as a Bezier curve within a UseCaseGraph. On selection line color changes. It contains the edge to display as a reference.

Namensbereiche

- package UseCaseAnalyser.GraphVisualiser.DrawingElements

7.4 DrawingElements/UseCaseNode.xaml.cs-Dateireferenz

Klassen

- class UseCaseAnalyser.GraphVisualiser.DrawingElements.UseCaseNode

  Class for displaying a node as rectangule within a UseCaseGraph. On selection border color changes. It contains the node to display as a reference.

Namensbereiche

- package UseCaseAnalyser.GraphVisualiser.DrawingElements

7.5 Properties/AssemblyInfo.cs-Dateireferenz

7.6 UseCaseGraphVisualiser.xaml.cs-Dateireferenz

Klassen

- class UseCaseAnalyser.GraphVisualiser.UseCaseGraphVisualiser

  Class for displaying a UseCaseGraph element. It offers possibilities to select a single GraphElement while setting a dependency property GraphElement. Furthermore the user has the option to move all nodes.

Namensbereiche

- package UseCaseAnalyser.GraphVisualiser

Index