Control Attributes

Product:	Guiliani Streaming Editor (GSE)
Release version:	2.5
Release date:	July 22, 2022

Table of contents

ntrod	uction:	6
Comm	on Information:	6
3ehavi	iour:	7
1.	GUIBehaviour:	7
2.	GUIAutoRepeatBehaviour	8
3.	GUICompositeBehaviour:	9
4.	ExampleBehaviour (Custom-Extension)	10
5.	GUIHotkeyBehaviour:	11
6.	GUIKeyboardBehaviour:	12
7.	GUIMultiCmdBehaviour:	13
8.	GUIObjectStateBehaviour:	14
9.	GUIObjectVisualsBehaviour	15
10.	GUISingleCmdBehaviour:	16
11.	GUITabSwitchBehaviour:	17

Layoute	r:	18
12.	GUILayouter:	18
13.	GUILayouterAlignToParent:	19
14.	GUILayouterAnchor:	20
15.	Example Layouter (Custom-Extension)	22
16.	GUILayouterGrid:	23
17.	GUILayouterList:	24
18.	GUILayouterPercentage:	25
19.	GUILayouterReposition:	26
Commai	nd:	27
20.	GUICommand:	27
24	CLUC-HARIC I	20
21.	GUICallAPICmd:	28
21.	ExampleCommand (Custom-Extension)	
		29
22.	ExampleCommand (Custom-Extension)	29 30
22. 23.	ExampleCommand (Custom-Extension) CallApplicationAPICmd (Custom-Extension)	29 30 31
22.23.24.	ExampleCommand (Custom-Extension) CallApplicationAPICmd (Custom-Extension) GUIDelayCmd:	29 30 31
22.23.24.25.	ExampleCommand (Custom-Extension) CallApplicationAPICmd (Custom-Extension) GUIDelayCmd: GUITransitionCmd:	29 30 31 32
22.23.24.25.26.	ExampleCommand (Custom-Extension) CallApplicationAPICmd (Custom-Extension) GUIDelayCmd: GUITransitionCmd: GUILoadDialogCommand	29 30 31 32 34 35
22.23.24.25.26.27.	ExampleCommand (Custom-Extension) CallApplicationAPICmd (Custom-Extension) GUIDelayCmd: GUITransitionCmd: GUILoadDialogCommand GUIPlaybackSoundCommand:	29 30 31 32 34 35
22.23.24.25.26.27.28.	ExampleCommand (Custom-Extension) CallApplicationAPICmd (Custom-Extension) GUIDelayCmd: GUITransitionCmd: GUILoadDialogCommand GUIPlaybackSoundCommand: GUIQuitCmd:	29 30 31 32 34 35 36 37
22.23.24.25.26.27.28.29.	ExampleCommand (Custom-Extension) CallApplicationAPICmd (Custom-Extension) GUIDelayCmd: GUITransitionCmd: GUILoadDialogCommand GUIPlaybackSoundCommand: GUIQuitCmd: GUISetDataPoolValueCmd:	29 30 31 32 34 35 36 37
22.23.24.25.26.27.28.29.30.	ExampleCommand (Custom-Extension) CallApplicationAPICmd (Custom-Extension) GUIDelayCmd: GUITransitionCmd: GUILoadDialogCommand GUIPlaybackSoundCommand: GUIQuitCmd: GUISetDataPoolValueCmd: GUISetObjectStateCmd:	29 30 31 32 34 35 36 37 38

Common Attributes:	33.	GUIStopAnimationChainCmd:	42
35. GUIObject:	34.	GUISwitchResourceSetsCmd:	43
36. NinePatchBorders:	Commor	Attributes:	44
37. StandardText: (applies for all texts)	35.	GUIObject:	44
Controls: 38. GUIGeometryObject: 39. Example Control (Custom-Extension): 40. GUIImage: 41. GUIAnimatedImage: 42. GUIImageStack: 43. GUIEditableText: 44. GUIEdit: 45. GUIRichText: 46. GUIScrollingText: 47. GUIBaseTextField: 48. GUITextField: 49. GUIInputField: 50. GUIComboBox: 51. GUIListBox: 52. GUIListItem:	36.	NinePatchBorders:	46
38. GUIGeometryObject: 39. Example Control (Custom-Extension): 40. GUIImage: 41. GUIAnimatedImage: 42. GUIImageStack: 43. GUIEditableText: 44. GUIEdit: 45. GUIRichText: 46. GUIScrollingText: 47. GUIBaseTextField: 48. GUITextField: 49. GUIInputField: 50. GUIComboBox: 51. GUIListBox:	37.	StandardText: (applies for all texts)	47
39. Example Control (Custom-Extension): 40. GUIImage: 41. GUIAnimatedImage: 42. GUIImageStack: 43. GUIEditableText: 44. GUIEdit: 45. GUIRichText: 46. GUIScrollingText: 47. GUIBaseTextField: 48. GUITextField: 49. GUIInputField: 50. GUIComboBox: 51. GUIListBox:	Controls		49
40. GUIImage:	38.	GUIGeometryObject:	49
41. GUIAnimatedImage: 42. GUIImageStack: 43. GUIEditableText: 44. GUIEdit: 45. GUIRichText: 46. GUIScrollingText: 47. GUIBaseTextField: 48. GUITextField: 49. GUIInputField: 50. GUIComboBox: 51. GUIListBox:	39.	Example Control (Custom-Extension):	50
42. GUIImageStack: 43. GUIEditableText: 44. GUIEdit: 45. GUIRichText: 46. GUIScrollingText: 47. GUIBaseTextField: 48. GUITextField: 49. GUIInputField: 50. GUIComboBox: 51. GUIListBox: 52. GUIListItem:	40.	GUIImage:	51
43. GUIEditableText:	41.	GUIAnimatedImage:	. 52
44. GUIEdit:	42.	GUIImageStack:	. 53
45. GUIRichText: 46. GUIScrollingText: 47. GUIBaseTextField: 48. GUITextField: 49. GUIInputField: 50. GUIComboBox: 51. GUIListBox: 52. GUIListItem:	43.	GUIEditableText:	54
46. GUIScrollingText: 47. GUIBaseTextField: 48. GUITextField: 49. GUIInputField: 50. GUIComboBox: 51. GUIListBox: 52. GUIListItem:	44.	GUIEdit:	55
47. GUIBaseTextField: 48. GUITextField: 49. GUIInputField: 50. GUIComboBox: 51. GUIListBox: 52. GUIListItem:	45.	GUIRichText:	56
48. GUITextField: 49. GUIInputField: 50. GUIComboBox: 51. GUIListBox: 52. GUIListItem:	46.	GUIScrollingText:	. 57
49. GUIInputField:	47.	GUIBaseTextField:	. 58
50. GUIComboBox: 51. GUIListBox: 52. GUIListItem:	48.	GUITextField:	59
51. GUIListBox:	49.	GUIInputField:	60
52. GUIListItem:	50.	GUIComboBox:	61
	51.	GUIListBox:	62
53. GUIButton:	52.	GUIListItem:	63
	53.	GUIButton:	64

54.	GUIIconButton:	66
55.	GUIBlendButton:	. 67
56.	GUIBaseCheckBox:	. 68
57.	GUICheckBox:	. 69
58.	GUIRadioButton:	. 70
59.	GUIScrollBar:	. 71
60.	GUIAbstractBar:	. 72
61.	GUIBaseSlider:	. 73
62.	GUISlider:	. 74
63.	GUIRadialBar	. 75
64.	GUIRadialSlider	. 75
65.	GUIProgressBar:	. 76
66.	GUICircularSlider:	. 78
67.	GUIKnob:	. 79
68.	GUISegmentBar:	. 80
69.	GUIRangeSlider:	. 81
70.	GUIRepositionCompositeObject:	. 82
71.	GUILayerContainer:	. 83
72.	GUICenterFocusContainer:	. 84
73.	GUIScrollView:	. 85
74.	GUITouchScrollView:	. 86
75.	GUICarousel:	. 88
76.	GUITabContainer:	. 90

77.	GUITabitem:	91
78.	GUISplitContainer:	92
79.	GUIWheelContainer:	93
80.	GUIPageContainer:	95
81.	GUIFragmentContainer:	97
82.	GUICalendar:	98
83.	GUIChart:	100
84.	GUIPlot:	102
85.	GUIGraph:	104
86.	GUIClock:	106
87.	GUIGauge:	108
88.	GUIWheel:	109
89.	GUIOnscreenKeyboard:	111
90.	GUIVideo:	113



Introduction:

This document describes all attributes which can be set inside the GSE for all existing objects.

Common Information:

All IDs starting with "**DUMMY_"** mark that no resource is currently set for this attribute, e.g. **DUMMY_IMAGE** means that no ImageID is currently and so no image will be displayed.

Behaviour:

1. GUIBehaviour:

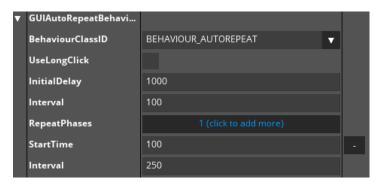


Behaviours are used for adding functionality to Guiliani's event slots. Each widget has numerous event slots that are called by the framework when specific events occur, like key presses, mouse clicks, mouse drags and so on.

Behaviours are used to control the objects behaviour in response to events sent to the object. An object has a behaviour attached to it and the event is first received by the behaviour. The object itself only receives the event if the behaviour has not handled it (i.e it returns false).

Note: The action of the behaviour is executed immediately and might block the running application, including internal processing and refreshing the GUI.

2. GUIAutoRepeatBehaviour



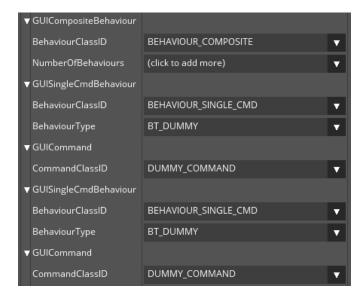
This behaviour can trigger multiple Click-Events, which are sent after a certain amount of time and repeated in a specified interval. The sequence can either be triggered by a long click or a given amount of time after the ButtonDown-event was sent. The ButtonUp-event ends the sequence. The behaviour can have as many RepeatPhases. New phases are added by clicking on the Button "(click to add more)" and removed using the "-"-button on the right side of the respective phase. Each RepeatPhase consists of a StartTime which is relative to the start of the last phase and an Interval which sets the amount of time between the trigger of Click-Events inside this phase. You can attach this behaviour to a button which deletes single characters inside an inputfield on clicking and have it executed first with an interval of 500ms and then with 200ms to erase the characters faster.

UseLongClick: If this is set, the Behaviour is triggered by the LongClick-event, otherwise the time in InitialDelay is waited after the ButtonDown-event.

InitialDelay: Amount of milliseconds, which is waited after ButtonDown-event if LongClick is not used
 Interval: Amount of milliseconds, which specifies the time between each trigger in the first phase
 RepeatPhases: Click on this button, if you want more RepeatPhases with varying intervals
 StartTime: Amount of milliseconds after the start of the last phase which are waited until this phase is started

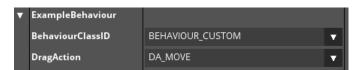
Interval: Amount of milliseconds, which specifies the time between each trigger in this phase

3. GUICompositeBehaviour:



This Behaviour contains a number of other behaviours and forwards incoming events to them, until one of the behaviours has signalled that it has processed the event (i.e. it returns true).

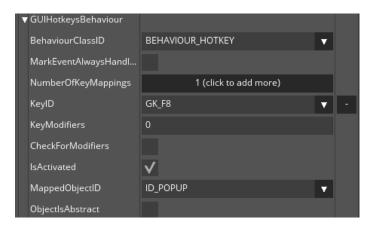
4. ExampleBehaviour (Custom-Extension)



This behaviour is used to demonstrate how to extend Guiliani with custom-functionality. See the source-code for more information.

DragAction: The action which is triggered by DoDrag on the attached object. DA_MOVE moves the object to the touch-position and DA_SIZE equally sizes the object retaining its center

5. GUIHotkeyBehaviour:



This behaviour can only be attached to a CompositeObject, otherwise processing will not be done.

MarkEventAlwaysHandled: if this is set, the behaviour always consumes the event (return true), even if the hotkey was not processed.

NumberOfKeyMappings: Adds a new key-mapping to the list of hot keys. Every time, you click on the value field, you get a new input in the list of hot keys. If you want to delete some keys from this list, you can use "minus" Button on the right side of "KeyID" field.

KeyID: Key ID which triggers the action

KeyModifiers: modifiers which should be checked. Value for the modifiers are: 0 for NONE, 1 for SHIFT, 2 for CTRL, 4 for ALT and 8 for META (special implementation). Can be summed up, if multiple modifiers are checked, e.g. 5 for SHIFT and ALT

CheckForModifiers: if set, the modifiers are checked **IsActivated**: if set, the keymapping will be processed

MappedObjectID: ObjectID of the object which will receive the resulting event. Only the container this behaviour is attached to will be searched for the given ObjectID.

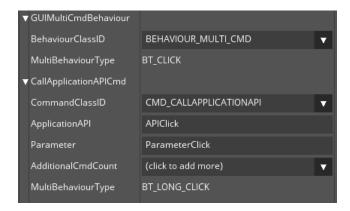
ObjectIsAbstract: If the object is abstract object, by activating the hot key, the DoClick method will be executed. Otherwise the object will be firstly checked whether it is clickable.

6. GUIKeyboardBehaviour:



This behaviour is to be used with an OnScreen-Keyboard / Virtual Keyboard. It sends an UTF16 keycode to the Keyboard in reaction to a ButtonUp-Event. In the field KeyCode you can set the keycode.

7. GUIMultiCmdBehaviour:



This behaviour maps each available event to a specific action. Gives the possibility to execute a separate command for each event (e.g. click event, drag event, etc.). The field "MultiBehaviourType" shows the corresponding event-type for the mapping.

8. GUIObjectStateBehaviour:



This Behaviour is used for triggering changes of the states of the specified object

ObjectID: ID of the object to process

Toggle: if set the used attributes will be toggled each time this behaviour is executed. If not set, the attributes are set as they specified.

Focussable: processes the "Focussable"-attribute

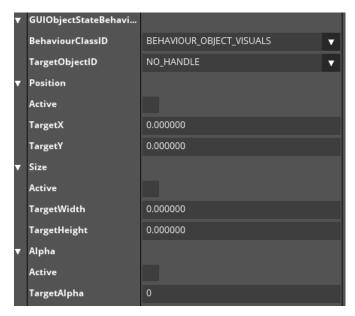
Invisible: processes the "Invisible"-attribute

GrayedOut: processes the "GrayedOut"-attribute

Disabled: processes the "Disabled"-attribute



9. GUIObjectVisualsBehaviour



This behaviour can be used to modify the visual representation of an object. Which visual, i.e. position, size or alpha is modified can be specified separately.

TargetObjectID: This is the ID of the object which should be modified by this behaviour

Position/Size/Alpha: Modify the position and/or size of the object

Active: If this is set, the position, size and/or alpha-value of the object is set to the specified values

TargetX/TargetY/TargetWidth/TargetHeight/TargetAlpha: the according attribute of the object is set to the target-value if active

10. GUISingleCmdBehaviour:



Execute a command in response to a specific event. Gives the possibility to execute a command when a specific event (e.g. click event, drag event, etc.) occurs.

BehaviourType: specifies the type of event which should be linked to the command.

11. GUITabSwitchBehaviour:



This behaviour can be used to switch between different child-objects of a container and create a tablike style

Container: This is the ObjectID of the container with several child-objects each representing a tab **TargetObject**: This is the ObjectID of the child-object which will be displayed when this behaviour is triggered. All other child-objects will be set to invisible.

Layouter:

12. GUILayouter:



Layouters are used to arrange objects to a specific rule, if position or size of the attached objects changes. Layouters are used to automatically influence the position and/or size of child objects within a composite object.

LayouterClassID: This field gives list of different layouter classes. The default is "DUMMY_LAYOUTER" which means no specific layouter class is applied to the object

13. GUILayouterAlignToParent:



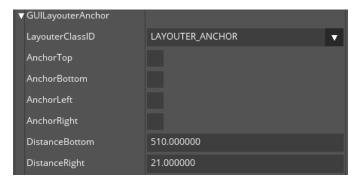
This Layouter aligns the attached object relative to its parent object.

HorizontalObjectAlignment: Horizontal alignment (left, center, right)

VerticalObjectAlignment: Vertical alignment (top, center, bottom)

Note: This will not directly refresh the layout until the attached object is resized.

14. GUILayouterAnchor:



This Layouter can be used to 'fix' the edges of a widget to its parent.

The following table gives you some examples which behaviour will result from which anchor-settings:

AnchorTop/AnchorBottom/AnchorLeft/AnchorRight: shows /defines Anchor attributes. The following table gives you some examples stating which behaviour will result from which anchorsettings:

Тор	Bottom	Left	Right	Result
ON	ON	ON	ON	Object gets stretched in X/Y directions
off	off	off	off	Object will not get stretched, but will scale its position along with the change in size of its parent. i.e. If the width of the parent object gets doubled, the relative X position of the child object will double as well.
ON	ON	ON	off	Object gets stretched in Y direction and is locked to the left border of its parent
ON	ON	off	ON	Object gets stretched in Y direction and is locked to the right border of its parent
ON	ON	off	off	Object gets stretched in Y direction and will scale its X position along with the change in size of its parent

DistanceBottom/DistanceRight: The distances of the associated object's right border to the parent's right border and of the associated object's bottom border to the parent's bottom border. This is useful for example when the height or width of the associated object changes so that when resizing the parent later on, the current anchor length are used and not those that were saved when the anchors were chosen.

15. Example Layouter (Custom-Extension)

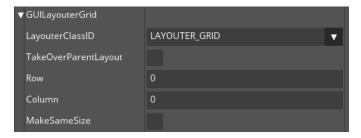


This layouter is used to demonstrate how to extend Guiliani with custom-functionality. See the source-code for more information.

CenterHorizontal: If this is set, the attached object will be centered horizontally inside its parent

CenterVertical: If this is set, the attached object will centered vertically inside its parent

16. GUILayouterGrid:



Note: This Layouter should only be attached to a CompositeObject, otherwise a warning-message will appear.

TakeOverParentLayout: If this is set, the attached object is moved to the relative position of 0,0 and gets its size set to the size of the parent-object before the actual layouting takes place.

Row/Column: number of rows/columns which define the size of the cells

MakeSameSize: If this is set, the sizes of each child-object are set to the size of one cell of the specified grid.

17. GUILayouterList:



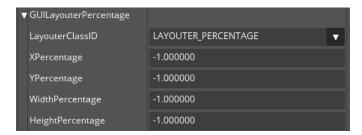
Note: This Layouter should only be attached to a CompositeObject, otherwise a warning-message will appear.

This Layouter aligns all child-objects in a list based on the ListBasePoint

TakeOverParentLayout: If this is set, the attached object is moved to the relative position 0,0 and set to the size of the parent-object, before the actual layouting takes place.

ListBasePoint: The base-point on which the list positioning is based (horizontal or vertical)

18. GUILayouterPercentage:

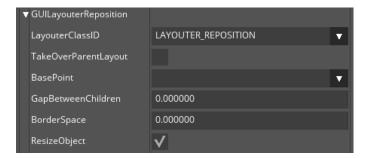


The Value -1.0 is used if the attribute should not be processed.

XPercentage/YPercentage: Set object to a new relative position. Values are multiplied with the parent's width/height.

WidthPercentage/HeightPercentage: Set object to a new size. Values are multiplied with the parent's width/height.

19. GUILayouterReposition:



Should only be attached to a CompositeObject, otherwise a warning-message will appear.

TakeOverParentLayout: If this is set, the attached object is moved to the relative position of 0,0 and get its size set to the size of the parent-object before the actual layouting takes place.

BasePoint: The rule on which the repositioning is based (horizontal/vertical).

GapBetweenChildren: The gap (in pixels) between the children used during layouting.

BorderSpace: Border-space used during layouting.

ResizeObject: If this is set, the attached object is automatically resized to be exactly large enough to contain all of its children.

Command:

20. GUICommand:

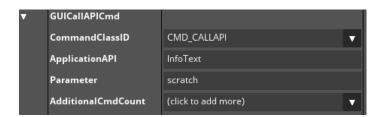


Commands are used to execute specific actions asynchronously.and encapsulate specific actions covering calls to functions of the underlying application log. They can be reused and attaches to the objects within the GUI. Commands when executed are added to a queue and are not executed before the next main-loop.

CommandClassID: This field gives list of different command classes. The default is "DUMMY_COMMAND" which means no specific command class is applied to the object.

AdditionalCmdCount: Here additional commands can be selected, which will be executed after the current command is finished. This field is expanded whenever a command class is selected from the drop down list.

21. GUICallAPICmd:

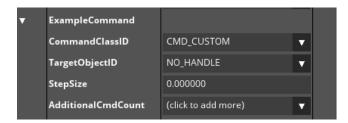


This Command can be used to execute various actions specified by the given attributes. The handling of this command happens in the method DoCallAPI of the CGUI-class. The attributes for setting the API name and parameter is done in GSE.

ApplicationAPI: String which is sent to the command and can be used to execute specific actions.

Parameter: String which is sent to the command which specifies the used parameter

22. ExampleCommand (Custom-Extension)



This command is used to demonstrate how to extend Guiliani with custom-functionality. See the source-code for more information.

TargetObjectID: This is the ID of the object which should be resized by this command

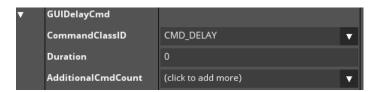
StepSize:This settings is used to increase/decrease the size of the target-object



23. CallApplicationAPICmd (Custom-Extension)

This command is deprecated and should be replaced by GUICallAPICmd:

24. GUIDelayCmd:



This command is used to trigger another attached command after a specified amount of time

Duration:Amont of milliseconds after which the next command should be executed

25. GUITransitionCmd:



This Command executes a transition from one dialog to another. Various options can be set. This command first loads the destination-dialog and then traverses from the source-object to it using a specific type of transition.

DestDialogFileName: The filename of the dialog which will be the destination-object.

SourceObjectID: ID of the source-object. This needs to be an object within the currently active dialog or the dialog itself to have the command work.

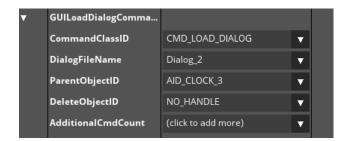
TransitionType: type of transition. This can be one of the following options:

- 1) BLEND_ONLY: Blends to the destination dialog
- 2) BLND_FADE: Blends to the destination dialog with the fading effect.
- 3) BLEND_SHRINK: The transition blends to the destination dialog with shrinking effect.
- 4) BLEND_ZOOM: The transition blends to the destination dialog with shrinking effect.
- 5) PUSH_FROM_LEFT/PUSH_FROM_RIGHT/PUSH_FROM_TOP/PUSH_FROM_BOTTOM: moves the source object out of the screen while pushing the destination-dialog into the screen from either left/right/top/bottom sides.
- 6) ROTATE_X_AXIS_CW/ROTATE_X_AXIS_CCW/ROTATE_Y_AXIS_CW/ROTATE_Y_AXIS_CCW: Flips the screen as a 3D-panel, having the source-dialog on one side and the destination-dialog on the other side around the specified axis either clockwise or counter-clockwise.
- 7) DISSOLVES: The source dialog dissolves in transition and destination dialog appears.

EasingType: The easing type which is used for the transition



26. GUILoadDialogCommand



This command loads a new dialog and places it into the specified CompositeObject. Additionally a given object can be deleted.

DialogFileName: Filename of the dialog which should be loaded. This can either be an xml-file or a binary file.

ParentObjectID: ID of the future parent object of the loaded dialog. If this attribute is "NO_HANDLE" the top-most object (i.e. the GUI itself) will be the new parent of the loaded dialog.

DeleteObjectID: ID of an object which should be deleted after the dialog was loaded.

27. GUIPlaybackSoundCommand:



This command is used to playback the associated sound.

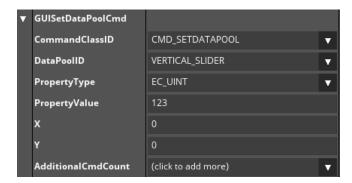
SoundID: ID of the sound which should be played.

28. GUIQuitCmd:



This command cleanly ends the current application by shutting down the main-loop of Guiliani and destroys all created Wrapper-classes (e.g. Graphics-, Sound or Font-Wrapper).

29. GUISetDataPoolValueCmd:



This command can be used to set a value within the DataPool

DataPoolID: the ID of the DataPool which should be changed

PropertyType: data-type of the value (e.g. Integer, String, Floating-point ...)

PropertyValue: the value which will be set in the DataPool

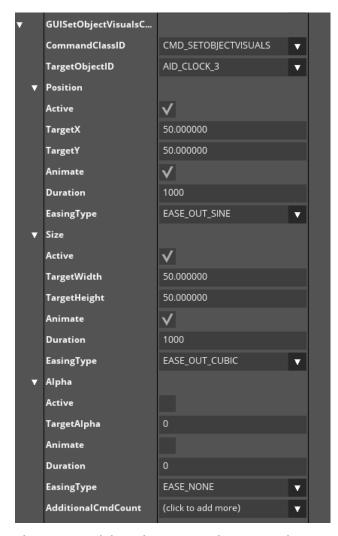
X, Y: the position of the value inside the DataPool (for two-dimensional DataPools)

30. GUISetObjectStateCmd:



This command does the same as the GUISetObjectStateBehaviour, but will be executed asynchronously and not before the next main-loop. The attributes are similar to the GUISetObjectStateBehaviour.

31. GUISetObjectVisualsCmd



This command does the same as the GUISetObjectVisualsBehaviour, but will be executed asynchronously and not before the next main-loop. The attributes are similar to the GUISetObjectStateBehaviour, but additionally easing and a duration can be specified for each attribute to create a smooth change of the attribute.

Animate: This option enables the object to have animation effect when the object state is transitioned.

Duration: Duration of transition.

EasingType: The easing type which is used for the transition.

32. GUIStartAnimationChainCmd:



This command is used to start an animation-chain which is contained in the project

AnimationChainID: This attribute gives list of available animation chains present in the project.

33. GUIStopAnimationChainCmd:



This command can be used to stop running animation-chains.

AnimationChainID: ID of the Animation-chain which should be stopped.

StopAllChains: If this is active all currently running animation-chains are stopped.

34. GUISwitchResourceSetsCmd:



This command can be used to switch to different resource-sets and thus changing the appearance of the application during runtime.

ResourceType: specified the type of resource to switch. This can be Fonts/General

Resources/Images/Languages/Properties or Sounds

ResourceSetName: name of the resource-set which will be activated

Common Attributes:

35. GUIObject:



XPos/YPos: X/Y-position of the object relative to the left side of the parent object (in pixels). If the object is moved around, this value also changes. Floating-point values are possible.

Width/Height: Width/Height of the object. If the object is resized via mouse, this value also changes. Floating-point values are possible.

ObjectID: ObjectID for the object to access it from other parts (e.g. Commands, Behaviours, etc.) When a new object is created it receives an auto-generated ObjectID. This can be changed by selecting another ObjectID from the list or defining a new. one

Focussable: If an object is focusable it can request or lose the focus depending on the application's workflow. Focussed objects can be controlled via keyboard.

Invisible: visible state of object

GrayedOut: Grayed out objects cannot receive any events and are displayed in a different way.

Disabled: Disabled objects like grayed out ones do not receive any events, but do not have a special

visualization.

ClickThrough: If an object is click-through events occurring inside its bounding rectangle will be passed to objects "below" this object (z-order).

OverriddenNeighbors: If this setting is active the neighbours of the object are set for 4 way navigation

Alpha: Alpha-value used to display the object. 0 means fully transparent, 255 is for fully opaque.

36. NinePatchBorders:



A Ninepatch is a smart way to enlarge bitmaps by defining 9 different regions of the original bitmap which will be scaled up independently.

Top: Number of pixels which define the top-stripe of the bitmap

Bottom: Number of pixel which define the bottom-stripe of the bitmap

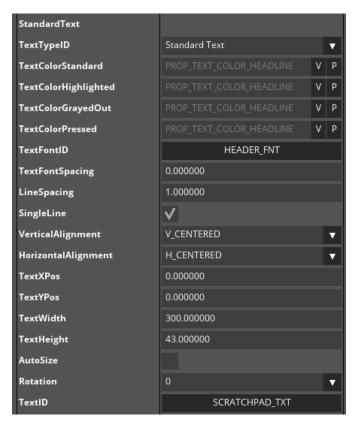
Left: Number of pixels which define the left-stripe of the bitmap

Right: Number of pixels which define the right-stripe of the bitmap

Note: Ninepatches will only work on rectangular objects or objects with rounded edges, not on

circular objects

37. StandardText: (applies for all texts)



TextTypeID: This changes the type of the text. This can be "Standard Text", "Editable Text", "Rich Text", "Scrolling Text" or "No Text". Additional attributes according to the TextTypeID will be added in the list after standard-attributes.

TextColorStandard/TextColorHighlighted/TextColor/GrayedOut/TextColorPressed: Colours used for the text according to the states of the object. All colours can be set via static value or property.

TextFontID: ID of the font which will be used to render the text. If "DUMMY_FONT" is used, no text will be displayed.

TextFontSpacing: Spacing (in pixels) between neighbouring letters.

LineSpacing: Spacing between lines. Only applies if "SingleLine"-attribute is not set.

SingleLine: Indicates whether this text is single- or multi-line.



VerticalAlignment/HorizontalAlignment: Horizontal/Vertical alignment of the text. Can be left/centered/right or top-line/centered/bottom-line

TextXPos/TextYPos: Position of the textfield inside the object relative to the top/right-corner

TextWidth/TextHeight: Width and height of the textfield inside the object

AutoSize: if this is active the size of the text will be set according to the size of the parent object instead of using TextXPos etc.

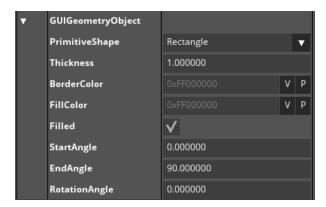
Rotation: this can be used to rotate the text in steps of 90 degrees

TextID: Choose the TextID which will be used for the text. If the currently active language-set is changed, this text will automatically be updated. If TextID is set to "text string", then a static text will be used.

Text: The static text which will be used instead of TextID

Controls:

38. GUIGeometryObject:



Note: some combinations of PrimitiveShape and Filled may not work depending on the currently used Graphics-Wrapper in the application.

FillColor: color of the primitive which will be drawn. This can either be set to use a static value or a property

PrimitiveShape: One of the following options:

- Diagonal Line 1 /Diagonal Line 2: A diagonal line top/left to bottom/right or top/right to bottom/left
- Horizontal Line / Vertical Line: Vertical or horizontal line
- Ellipse/Rectangle: An ellipse or rectangle
- Arc: An arc drawn with specific angles

Thickness: The width of the primitive

Filled: Used for ellipses and rectangles for filling

StartAngle: The starting-angle when drawing an arc. 0 is at the right side, 90 is at the top

EndAngle: The ending-angle when drawing an arc.

RotationAngle: The rotation of the arc itself



39. Example Control (Custom-Extension):



This control demonstrates how to design own controls and use them within the GSE. It is basically a simplified version of the GUIGeometryObject: with the shape of an rectangle and always filled.

InnerColor, BorderColor: Color used to draw the border and fill the inside of the control

BorderWidth: width of the border in pixels

40. GUIImage:



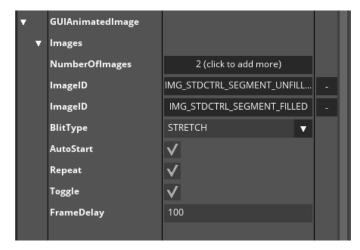
ImageID: Image used for blitting. It Can be set using "Image" dialog under Resources.

Blit Type: Blit Type: Three options are possible for this attribute.

- Stretch: Setting Blit type as "Stretch", stretches the image to the entire size of the object.
- Centre: When this option is set the image is placed at the centre of the control without modifying its size.
- Tiled: With this option the image is tiled up to cover up the entire size of the object

NinePatchBorders: If this is set, stretching images smaller than the object's size will be done using the given ninepatch-borders.

41. GUIAnimatedImage:



Note: at least two images should be used to see this control in action.

NumberOfImages: clicking on this button will add a new image

ImageID: image(s) which will be used for animation. Clicking on the "-"-button in the right column will remove the image next to it. The arrows pointing up and down can be used to re-order the images inside the list.

Blit Type: (see GUIImage)

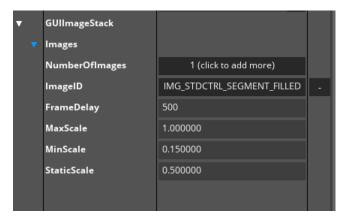
Repeat: If this is set, the animation runs in an infinite loop.

AutoStart: If this is set, the animation automatically starts and can be viewed inside the editor.

Toggle: if this is set, the animation will go forward through all images and backwards to the first image

FrameDelay: Number of milliseconds between each transition.

42. GUIImageStack:



This control gives the possibility to swipe through a set of images which will be animated.

NumberOfImages: Clicking on this button will add a new image

ImageID: Image(s) which will be used for animation. Clicking on the "-"-button in the right column will remove the image next to it. The arrows pointing up and down can be used to re-order the images inside the list.

FrameDelay: Number of milliseconds between each transition.

MaxScale/MinScale: Maximum/minimum scaling factor for the images during the animation

StaticScale: Scaling factor for the image when not animated.

43. GUIEditableText:



CursorWidth: Width in pixels of the vertical cursor line

SelectionColor: Background-colour which is used to display selected text. Foreground-colour is the same as normal text

PasswordMode: If this is set the text entered will be displayed using the PasswordCharacter, not the actual entered character

PasswordCharacter: The character which is used to display the text when PasswordMode is active. If more than one character is entered, only the first will be used

44. GUIEdit:



AcceptedCharSet: Shows/defines accepted character set

MaxLength: Shows/defines the maximal number of characters

ResetCursorWhenFocusslost: Shows/defines cursor behaviour, when focus lost. If active: Cursor will be not seen after focus lost. In another case: you will still see the cursor even after the focus lost.

45. GUIRichText:



NOTE: The attributes for rich text appears when the Rich Text is selected under TextTypeID field **BoldFontID/ItalicFontID/Bold-ItalicFontID**: The font-ids which should be used for displaying bold, italic and bold+italic text-paragraphs

TagBold/TagItalic/TagUnderlined: Tags which are used to identify formatting attributes within the text

TagColor: Tag which is used to specify the color of the following paragraph

TagNoBreak/TagLineBreak: Tags which are used to define no-break or line-break

TagOrderedList/TagUnorderedList: Tags which are used to define ordered or unordered lists

TagListItem: Tag which specifies a new list-item inside a list

TagOpening/TagClosing: this string define the opening- and closing-part of a tag

TagFinished: this string defines the prefix to indentify a closing-tag

46. GUIScrollingText:



ScrollingCondition: One of the following options:

SCROLL_ALWAYS The text will always be scrolled

SCROLL_CUT_TEXT_ALWAYS The text will be scrolled when the text is truncated

SCROLL_CUT_TEXT_FOCUSED The text will be scrolled when the text is truncated and the parent object is

focused

SCROLL_FOCUSED The text will be scrolled when its parent object is focused

SCROLL_MANUALLY The Animation can be started or stopped manually using API-calls

ScrollVertical: If active, then text scrolled vertically, if not is will be scrolled horizontally.

AnimationInterval: Number of milliseconds between each animation-step

AnimationStepSize: Number of pixels the current position of the text will be increased/decreased for

each step. If 0 is set as step size then no scrolling of text occurs $% \left(1\right) =\left(1\right) \left(1\right$

47. GUIBaseTextField:



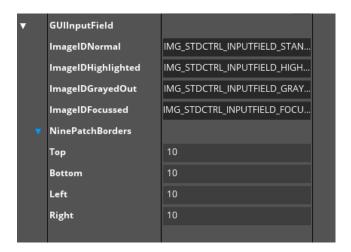
BackgroundColor: Defines the background-colour for the textfield

48. GUITextField:



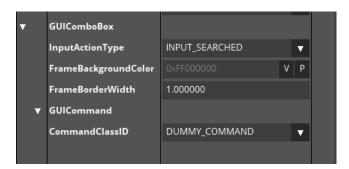
BackgroundImage: Image which should be used for the textfield

49. GUIInputField:



ImageIDNormal/ImageIDHighlighted/ImageIDGrayedOut/ImageIDFocussed: image ids which will be used as the background of the input-field according to the current state of the object.

50. GUIComboBox:



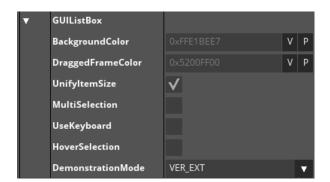
InputActionType: Two options are present:

- 1) INPUT_SEARCHED: Allows searching for a given entry from the drop down. Adding the entry inside the text field is not possible.
- 2) INPUT_INSERTED: Allows inserting a given entry which also gets appended in the drop down list.

FrameBackgroundColor: Defines the background color of the frame which is shown when the drop down list appears:

FrameBorderWidth: Defines the width of the border of the frame.

51. GUIListBox:



BackgroundColor: this is the background-color of the ListBox

DraggedFrameColor: this is the color which is used for the selection-overlay rectangle while selecting ListItems inside a specific region. The selection-frame is only used in Multi-Selection-Mode.

UnifyItemSize: if this is enabled all ListItems in the box will be set to the same size as the largest ListItem

MultiSelection: if this is enabled multiple items can be selected by clicking on the items. When clicking again on the item the selection is removed.

UseKeyboard: if this is active, selection of multiple elements will use the keyboard. Thus, SHIFT and CTRL are used for region and singular selection.

HoverSelection: if working on a Desktop-environment, this can be used to simply select a ListItem by hovering over it. This is for example used in the ComboBox for selection.

DemonstrationMode: this specifies how the ListBox will be layouted. When using VER_EXT the ListBox will have a vertical extent using the horizontally available space to place the ListItems. When using HOR_EXT the ListBox will have a horizontal extent using the vertically available space to place the ListItems.

52. GUIListItem:



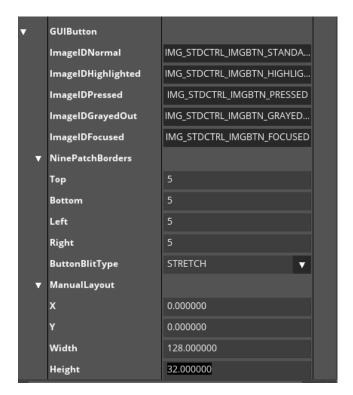
Selected: this selects/deselects the item

SelectedColor: the color which is used for drawing the selection rectangle aroung the item

RelXPoslcon/RelYPoslcon: the releative position of an optional icon which can be used for the item

IconSelected/IconNormal: the image-ids which are used for the icon in normal and selected state

53. GUIButton:



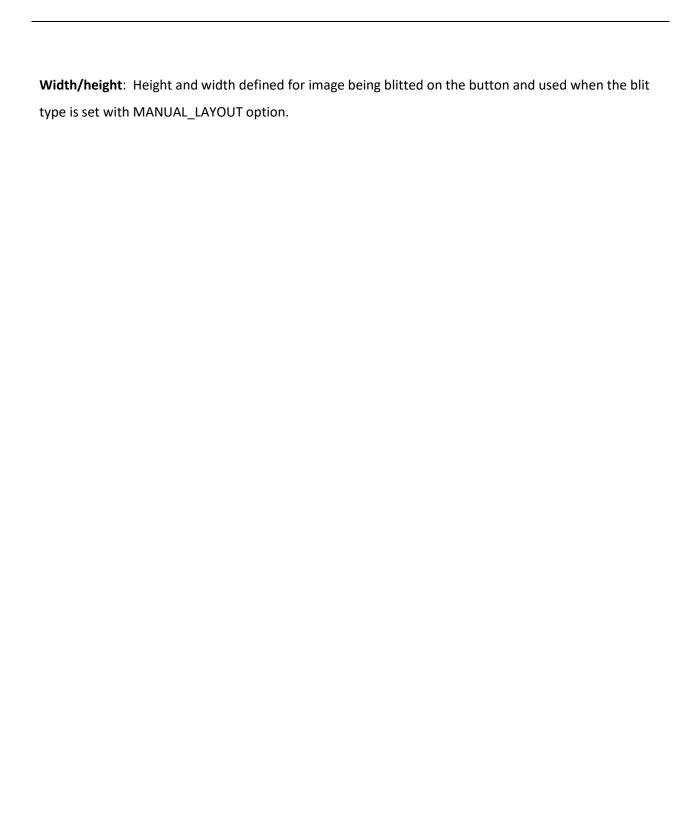
ImageIDs: Image-ids which will be used for the object according to its state.

NinePatchBorders: Defines the nine patch border which stretches images smaller than the object's size.

ButtonBlitType: Listed options are:

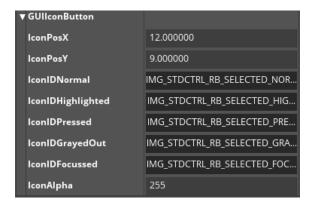
- STRETCH: Stretches the given image to the whole size of the control.
- CENTER: This leads to the image being drawn with its original size and being centered in the button.
- TILED: Allows the given image to tile up and cover the whole size of the button.
- MANUAL_LAYOUT: The image is blitted based on the configuration provided inside manual layout option.

X/Y: The position defined for image being blitted on the button and used when the blit type is set with MANUAL_LAYOUT option.





54. GUIIconButton:



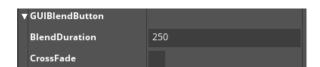
IconPosX/IconPosY: Position of the icon-image relative to the object's top/left-

IconIDNormal/IconIDHighlighted/IconIDPressed/IconIDGrayedOut/IconIDFocussed: Image-ids

which will be used for the icon according to the object's state

IconAlpha: Alpha-value used for the icon

55. GUIBlendButton:



BlendDuration: Duration in milliseconds which will be used when the state of the object and thus the used image will change

CrossFade: If this is set, a cross-fade will be used to switch to the new image according to the object's state

56. GUIBaseCheckBox:



Selected: selection-state of the control

CheckBoxLayout: chooses how icon and text are layouted. Can be one of the following options:

MANUAL_LAYOUT	No automatic layout. Text position and size are specified manually
ICON_LEFT_AUTOSCALE	Icon left and scaled automatically, text will be drawn right to it
ICON_RIGHT_AUTOSCALE	Icon right and scaled automatically, text will be drawn left to it
ICON_LEFT_CENTERED	Icon left and not scaled, text will be drawn right to it
ICON_RIGHT_CENTERED	Icon right and not scaled, text will be drawn left to it
ICON_FILL_OBJECT	The Icon will fill the entire area of the object

X/Y: shows/defines position of the icon relative to the top/left-corner of the object.

Width/Height: size of the icon

57. GUICheckBox:



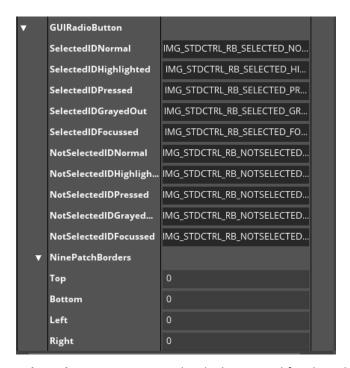
SelectedImageIDs: Image-ids which are used for the selected-state according to the state of the object

NotSelectedImageIDs: Image-ids which are used for the not-selected-state according to the state of the object

NinePatchBorders: Defines the nine patch borders which are used when the icon should fill the whole object.



58. GUIRadioButton:



SelectedImageIDs: Image-ids which are used for the selected-state according to the state of the object

NotSelectedImageIDs: Image-ids which are used for the not-selected-state according to the state of the object.

NinePatchBorders: Defines the nine patch borders which are used when the icon should fill the whole object.

59. GUIScrollBar:



ScrollInterval: Number in milliseconds which defines the time between stepwise increasing/decreasing the current position, if the buttons for left/right or up/down are continuously pressed

ScrolledObject: ID of the target-object which should be moved using the scrollbar

60. GUIAbstractBar:



Base: Shows/defines base of the slider, two possible options are available

- 1) BASE_AT_MAXIMUM: With this option the slider base is set to the position of minimum values.
- 2) BASE_AT_MINIMUM: With this option the slider base is set to the position of maximum values.

ExtremeLevelsAreAlwaysValid: Shows/defines True, if the maximum is also a valid current value, no matter what the step size is. False, else.

MinValue/MaxValue: Minimum/maximum value which is used for the range

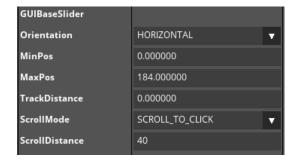
StepSize: Step size to display a percentage of a slider at a time.

Value: Currently set value

AnimationSpeed: Speed for animated scrolling.

AnimationInterval: Timer interval in milliseconds for animation.

61. GUIBaseSlider:



Orientation: Sets the orientation of the slider either to horizontal or vertical

MinPos/MaxPos: Position where the minimum/maximum-value of the slider are displayed

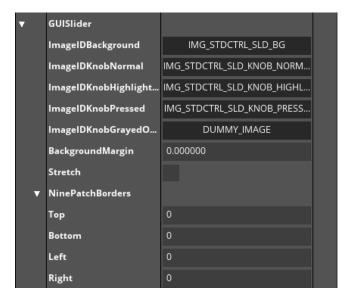
TrackDistance: The length of the slider track in pixel. The higher the value the lesser is the distance for the slider track to move.

ScrollMode: Defines what happens when you click outside of the knob-area

- JUMP_TO_CLICK: Slider jumps immediately to the clicked position
- SCROLL_TO_CLICK: Slider moves using ScrollDistance towards the clicked position

ScrollDistance: Defines the distance which is used when ScrollMode is set to SCROLL_TO_CLICK (negative value = movement in opposite direction)

62. GUISlider:



ImageIDBackground: Image-id of the background (i.e. the slider area)

Image IDK nob Normal/Image IDK nob Highlighted/Image IDK nob Pressed/Image IDK nob Grayed Out:

Image-ids which are used for the knob according to the object's state.

BackgroundMargin: Number of pixels the background-image is moved relative to the top/left-corner of the object.

Stretch: Stretches the slider to the whole size of the object.

NinePatchBorders: Defines the nine patch borders which stretch images smaller than the object's size.

63. GUIRadialBar



UnfilledColor: Color used for the unfilled part of the bar

FilledColor: Color used for the filled part of the bar

UseArcs: if this set arcs will be used instead of rings to display the values

BarWidth: width of the bar, when arcs are not used

StartAngle: starting angle for the bar (0 is at the right, 90 at the top)

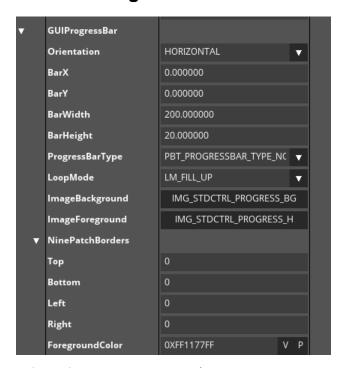
EndAngle: ending angle for the bar

64. GUIRadialSlider



ImageKnob: ImageID which is used for the knob

65. GUIProgressBar:



Orientation: Two options are there:

• Horizontal: If this is set the progress bar will be drawn horizontally.

• Vertical: If this option is selected, then the progress bar is drawn vertically.

BarX/BarY: Position of the bar relative to the top/left-corner of the object

BarWidth/BarHeight: Width/Height of the bar

ProgressBarType: Can be one of the following options:

PBT_PROGRESSBAR_TYPE_NORMAL	Designed for full control of the fill state via the
	application
PBT_PROGRESSBAR_TYPE_ACTIVITY	Designed for representation of unpredictable
	duration of operations

LoopMode: Can be one of the following options:

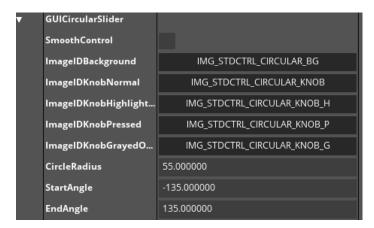
LM_FILL_UP	Fill up the bar until full and starts repeatedly
	again with an empty bar
LM_LOOP_MODE	Repeatedly move the bar from start to end
LM_REVERTLOOP_MODE	Move the bar from start to end and back to start again
LM_FILL_UP_TILE	Tile up the foreground image and fill it up on the bar until full and starts repeatedly again.

ImageBackground/ImageForeground: image-ids which are used for the background and foreground of the bar

NinePatchBorders: Defines the nine patch borders which stretch images smaller than the object's size.

Foreground Color: Defines the foreground color of the bar, which is drawn when foreground-image is set to DUMMY_IMAGE.

66. GUICircularSlider:



SmoothControl: if this is active the position of the slider is not limited to valid values of the range, but can be between.

ImageIDBackground: Id of the image which is used for the background

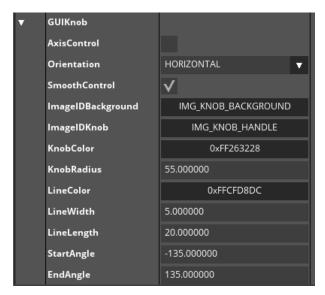
ImageIDK nob Normal/ImageIDK nob Highlighted/ImageIDK nob Pressed/ImageIDK nob GrayedOut : ids

for the images used for the knob according to the object's state

CircleRadius: Radius of the circular area where the knob is drawn

StartAngle/EndAngle: Starting-/ending-angle which define the valid range where the knob is drawn, will be clamped to range -180 to 180, where 0 is at top middle

67. GUIKnob:



AxisControl: If this is active the Knob can be adjusted using horizontal/vertical drags instead of circular movement on the rim.

Orientation: This defines the orientation for AxisControl

SmoothControl: if this is active the position of the slider is not limited to valid values of the range, but can be between.

ImageIDBackground: Id of the image which is used for the background

ImageIDKnob: ID for the image used for the knob. If this image is set to DUMMY_IMAGE the knob will be drawn using primitives with a circle and a line

KnobColor: Color which is used to draw the circle if no image is set for the knob

KnobRadius: Radius of the circle if no image is set for the knob

LineColor: Color which is used for the line on the circle if no image is set for the knob

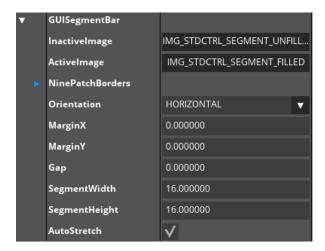
LineWidth: Width of the line on the circle if no image is used

LineLength: Length of the line from the outer rim of the circle if no image is set for the knob

StartAngle/EndAngle: Starting-/ending-angle which define the valid range where the knob is drawn.

Will be clamped to -180 to 180 where 0 is at top middle.

68. GUISegmentBar:



InactiveImage/ActiveImage: ImageIDs which are used for inactive/active segments

NinePatchBorders: Ninepatch which is used for drawing the segments

Orientation: Orientation of the bar, allowed orientations are either horizontal or vertical.

MarginX/MarginY: Margin in pixels which is used to draw the segments within the object

Gap: number of pixels defining the gap between the segments

SegmentWidth/SegmentHeight: Fixed sizes in pixels for one segment, if "AutoStretch" is not used

AutoStretch: If this is set, the size of one segment is calculated using the object's size, the used margin and the difference between minimum and maximum value

69. GUIRangeSlider:



BackgroundImage: ImageID which is used to draw the background

HandleImage: ImageID which is used to draw the slider-handles

Rangelmage: ImageID which is used to draw the range between the two slider-handles

Orientation: orientation of the slider, either horizontal or vertical orientation can be selected.

MarginX/MarginY: Margin in pixels which is used to draw the slider within the object.

Value2: second value of the range



70. GUIRepositionCompositeObject:



Note: The repositioning effect will only take place when resizing the container.

BasePoint: The base point on which the repositioning is based. Following options are present:

- REPOSITION_ALIGN_TOP: The base point is repositioned with top alignment and all the child objects are repositioned from top to bottom in the container.
- REPOSITION_ALIGN_BOTTOM: The base point is reposition with bottom alignment and all the child objects are repositioned from bottom to top in the container.
- REPOSITION_ALIGN_LEFT: The base point is repositioned with left alignment and all the child objects are repositioned from left to right in the container.
- REPOSITION_ALIGN_RIGHT: The base point is repositioned with right alignment and all the child objects are repositioned from right to left in the container.

GapBetweenChildren: The gap between the children in pixel

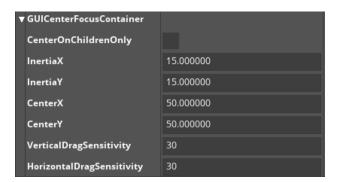
BorderSpace: The border space to the composite border in pixel.

71. GUILayerContainer:



LayerID: the ID of the layer to use. Must match the ID inside layer-configuration for DC-Wrapper **UserContent:** if true, UserContent will be displayed inside the container. Will draw red diagonal line **ApplyClipping:** if true, the container will retain its clipping, even though layers are drawn on top

72. GUICenterFocusContainer:



CenterOnChildrenOnly: Automatically centres the currently focused control at the supplied position.

This centering can be animated with effects like speed-up or slow-down

InertiaX/InertiaY: Inertia value in horizontal/vertical direction. Inertia value is used as a divisor for movement-speed, so higher values result in slower movement

CenterX/CenterY: Position of the anchor-point, where the focussed object will be centered **VerticalDragSensitivity/HorizontalDragSensitivity**: Distance in pixels which needs to be exceeded during a drag before it moves to the next child-object

73. GUIScrollView:



VerticalScrollbarPolicy/HorizontalScrollbarPolicy: Following options are available for setting the policy of scrollbar for the control:

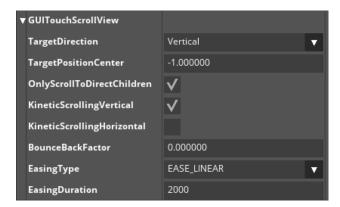
- ALWAYS_VISIBLE: The scrollbars are always shown, even if the content might fit the available space
- AUTOMATIC: The scrollbars are only shown if the available width/height is not enough to display the content
- NEVER_VISIBLE: The scrollbars are never shown

ScrollingInertia: Value for the scrolling-inertia. Valid values are greater than 1

ViewportXBorder/ViewportYBorder: Horizontal/Vertical (in X/Y direction) gap between visible area and the area outside of which scrolling will occur.



74. GUITouchScrollView:



TargetDirection: Defines the direction for scrolling or dragging the contents of scroll view. Following options are available for Target Direction:

- Vertical: The contents of scroll view move in vertical direction upon dragging using finger/mouse
- Horizontal: The contents of scroll view move in horizontal direction upon dragging using finger/mouse
- Free: The contents of scroll view are free to move in any direction and is dependent on the direction of drag
- None: With this option the contents doesn't move with mouse drag or touch.

TargetPositionCenter: Defines the target position for the XPosCenter or the YPosCenter of the active object. When clicking on the scroll view, the nearest object to the click position (in destination direction) is chosen as the active object. When dragging, the nearest object to the target position is chosen as active object when the drag is finished. When kinetic scrolling is activated, the nearest object to the target position is chosen when the kinetic animation is about to fade out.

OnlyScrollToDirectChildren: Only direct children of the scroll view, or any descendant.

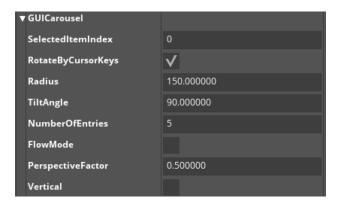
KineticScrollingVertical/KineticScrollingHorizontal: With this option kinetic scrolling is activated for horizontal/vertical direction which will trigger a scroll animation after the drag that slowly fades out with time.

BounceBackFactor: When an edge of the scroll view is reached during an animation, this factor will be used to animate a bounce-back

EasingType: EasingType which is used for kinetic scrolling

Easing Duration: Duration in milliseconds of easing animation for kinetic scrolling

75. GUICarousel:



SelectedItemIndex: Index of the child object which will be selected (shown in the middle)

RotateByCursorKeys: Setting this option gives the user the possibility to use left/right cursor keys to rotate the carousel. If this option is set, it might interfere with standard focusing behaviour

Radius: Current radius (in pixel) of the virtual circle used to place the child-objects

TiltAngle: Tilt angle of the virtual circle used to place the child-objects

NumberOfEntries: Defines a virtual number of entries used in the carousel, e.g. for calculating the spacing between them. This setting is only relevant in FlowMode.

FlowMode: activates flow mode

PerspectiveFactor: shows/defines perspective Factor. The width and height of the child-objects within the carousel get recalculated according to perspective. This setting specifies the strength of perspective distortion which is applied to objects inside tilted carousels. Objects in the background will appear smaller than those in the foreground. Objects in untilted carousels, and objects that reside on the X-Axis of tilted carousels, will be displayed using their original size. Sensible values are typically in the range of 0 to 1, where 0 means no perspective effect at all, and larger values result in stronger zooming / shrinking. Note that Z-Ordering will not work if perspective-Factor is 0.

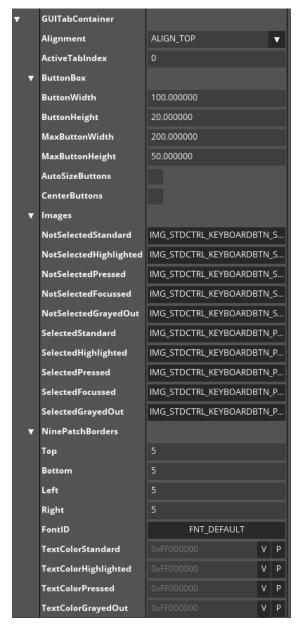
Vertical: If this is set, the carousel is arranged vertically, otherwise horizontally

Note: Using the carousel in flow-mode:

When working with huge numbers of children in a carousel, you will notice that the carousel tends to appear very crowded. This is where the "flow mode" comes in handy. When used in "flow mode", the

carousel can contain very large numbers of entries of which only a few are visible at any time. You can specify the number of virtual entries in the carousel, which will affect the spacing between the visual children, and therefore also number of simultaneously visible ones. If for instance you are having a total of 1000 entries in your carousel, and set the number of virtual entries to 10, the carousel will arrange its content as if it had only 10 children, by spreading out these 10 along the carousel's 360 degrees. But in fact you will only see the currently selected (=frontmost) child object, plus the two children to its left and the two children to its right side.

76. GUITabContainer:



Alignment: this specifies the placement of the button-box. It can be ALIGN_TOP, ALIGN_BOTTOM, ALIGN_LEFT or ALIGN_RIGHT

ActiveTabIndex: specifies the currently active tab which contents will be shown



ButtonWidth/ButtonHeight: the width and height for the buttons in the button-box

MaxButtonWidth/MaxButtonHeight: the maximum width and height for the buttons in the button-

AutoSizeButtons: if this is selected the buttons will be resized to better fit the available space inside the button-box

CenterButtons: if this is selected the buttons will be centered according to their alignment

NotSelectedImageIDs: the images which are used for the buttons in the button-box in the non-

selected state

SelectedImageIDs: the images which are used for the buttons in the button-box in the selected state

NinePatchBorders: the nine-patch-border used for the buttons

FontID: the font-id which is used for the buttons in the button-box

TextColorStandard/TextColorHighlighted/TextColorPressed/TextColorGrayedOut: color of the text displayed on the buttons in the button-box

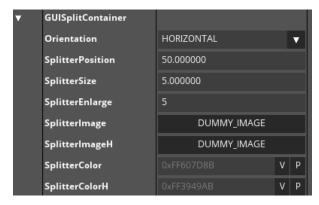
77. GUITabltem:



Text: the text which be displayed in the tab-container for this tab-item

TextID: if this is DUMMY_TEXT the text in the field Text will be used, otherwise the text of this ID

78. GUISplitContainer:



Orientation: Specify the orientation of the splitter-handle

SplitterPosition: Position in pixels for the splitter-handle

SplitterSize: Size of the splitter-handle

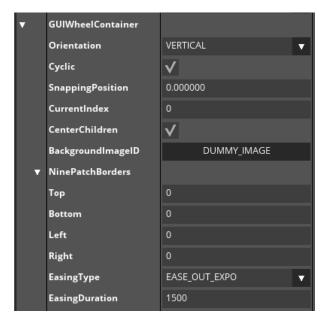
SplitterEnlarge: enlarge the sensitive area of the splitter-handle

SplitterImage/SplitterImageH: ImageIDs which are used for the splitter-handle in normal and

highlighted state

SplitterColor/SplitterColorH: colors for the splitter-handle in normal and highlighted state

79. GUIWheelContainer:



Orientation: Sets the orientation of the container and how children are positioned either to horizontal or vertical

Cyclic: if this is selected the navigation will not stop at the beginning or the end of the children-list. Instead it will start over with the next child

SnappingPosition: this specifies the offset in pixels (depending on the orientation) where the currently active child-element will be displayed. If this value is negative the child-element will be shifted up/left or down/right if positive. A value of 0 will align the child-element with the top/left-edge of the container

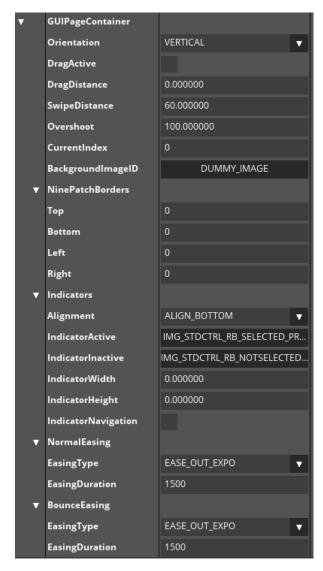
CurrentIndex: this selects the child-element which will be shown as the active element and positioned according to *SnappingPosition* (**Note:** if CurrentIndex exceeds the number of elements a modulo will be performed)

CenterChildren: if this is selected all child-elements will be placed centered in the container according to the orientation. if this is not selected the elements will be aligned left/top.

BackgroundImageID: selects the image which will be displayed as the background of the container. If DUMMY_IMAGE is selected no background will be displayed and the container is transparent
NinePatchBorders: the nine-patching borders used for displaying the background-image.
EasingType: this selects the Easing-type which will be used when navigating through the child-elements. After the drag has ended the child-elements will move to the SnappingPosition by using this easing.

Easing Duration: this is the duration for the easing

80. GUIPageContainer:



Orientation: sets the direction how the child-elements will be arranged. Can be HORIZONTAL or VERTICAL

DragActive: if this is selected the child-elements can be switched by dragging



DragDistance: this value will be used to detect a drag. Only if the distance of the drag exceeds this value the drag will be started and the child-elements moved. This helps to operate with child-elements if their drag-direction is the same as the container.

SwipeDistance: this value is the minimum distance after which a swipe (a page-change) will be detected.

OverShoot: this value specifies the maximum distance in pixels the first and last child-elements can be dragged over the edge. If this is 0 dragging over the edge of the container is not possible.

CurrentIndex: index of the currently displayed child-element, can be attached to a DataPool **BackgroundImageID:** this sets the image-id for the background-image. If DUMMY_IMAGE is set no background will be displayed.

 $\textbf{NinePatchBorders:} \ these \ define \ the \ nine patch-borders \ for \ the \ background-image$

Alignment: this specifies the placement of the indicators. It can be ALIGN_TOP, ALIGN_BOTTOM, ALIGN_LEFT or ALIGN_RIGHT

IndicatorActive/IndicatorInactive: the image-ids used to display the indicators
IndicatorWidth/IndicatorHeight: the width and height used for the indicator. If set to 0 the original image-size will be used.

IndicatorNavigation: if this is active the pages can be switched by clicking on the indicators **EasingType/EasingDuration (NormalEasing):** easing-type and –duration used for switching from one child-element to another.

EasingType/EasingDuration (BounceEasing): easing-type and –duration used for putting back the first and last child-element after they have been dragged over the edge of the container.

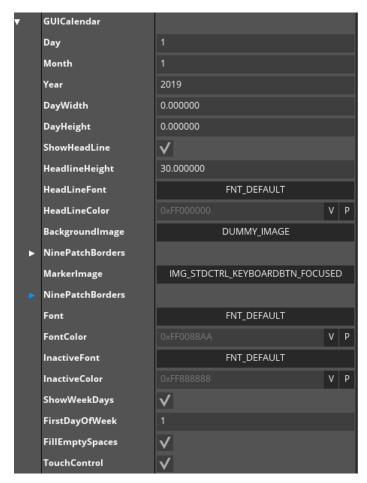
81. GUIFragmentContainer:



FragmentFileName: the name of the dialog which should be used by the container

AutoSize: if this is selected the container will adjust its size to show the whole selected dialog

82. GUICalendar:



Day/Month/Year: Values for the currently selected day

DayWidth/DayHeight: Sizes in pixels for one cell representing a day. If this is set to 0, the width/height is calculated according to the object's size

ShowHeadLine: If this is set, a headline showing the current month and year will be displayed above the calendar

HeadlineHeight: Height in pixels which is used for the headline

HeadLineFont/HeadLineColor: FontID and colour which is used for the text inside the headline

BackgroundImage: ImageID which is used to draw the background



NinePatchBorders: Ninepatch which is used for drawing the background

MarkerImage: ImageID which is used to draw the marker which shows the currently selected day

NinePatchBorders: Ninepatch which is used for drawing the marker

Font/FontColor: FontID and colour which is used to draw the entries of the calendar which are part of the currently selected month.

InactiveFont/InactiveColor: FontID and colour which is used to draw the entries of the calendar not belonging to the currently selected month

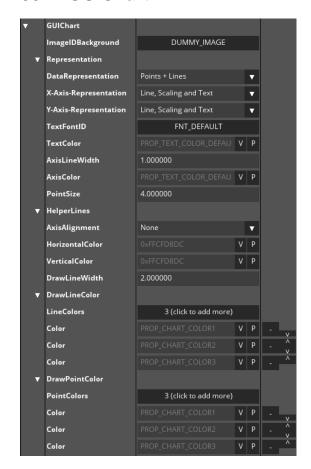
ShowWeekDays: If this is active, the days of the week are shown above the calendar

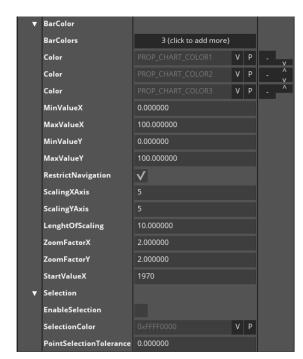
FirstDayOfWeek: Defines the first day of the week which appears in the first column of the calendar (0 = Sunday, 6 = Saturday)

FillEmptySpaces: If this is set, the last days of the previous month and the first days of the next month are drawn to fill up the empty spaces

TouchControl: If this is set, the current month can be changed by dragging the calendar vertically, and the current year by dragging it horizontally. This does not disable clicking for selecting the currently set day.

83. GUIChart:





ImageIDBackground: ImageID which is used to draw the background

DataRepresentation: Defines how data is represented on the chart, The options available in the drop down are: **Point**, **Lines**, **Points** + **Lines** and **Bars**. Also there are two stacked representations for Lines and Bars.

X-Axis-Representation/Y-Axis-Representation: Defines how the axes are drawn. Following options are possible: **hide**, **lines**, **lines** and **scaling**, **lines**, **scaling** and **text** can be used

TextFontID: FontId which is used for labelling the axis

TextColor: Colour which is used to draw the axis and the corresponding labels



AxisLineWidth: line-width in pixel of the axis

AxisColor:color which is used to draw the axis

PointSize: size in pixels of the points which are used to draw the data

AxisAlignment: alignment of the helperlines, which can be none, horizontal, vertical and both

HorizontalColor/VerticalColor: colors for the helperlines

DrawLineWidth: width of the lines which are used to draw the data

DrawLineColor/DrawPointColor/BarColor: Colours which are used to draw the data according to the

type of data-representation. Each "Color"-entry stands for a value-line.

MinValueX/MaxValueX: minimum/maximum value which is shown on the X-axis

MinValueY/MaxValueY: minimum/maximum value which is shown on the Y-axis

RestrictNavigation: if this is active the view of the chart cannot be moved out of range of the

displayed values, especially when zooming

ScalingXAxis/ScalingYAxis: number of labels which are shown on X-axis/Y-axis. The step size between

each value labelled on X Axis or Y Axis is calculated as (MaxValue/ Scaling XAxis or Scaling YAxis))

LengthOfScaling: length in pixels of a scale on the axis

ZoomFactorY/ZoomFactorY: zoom-factors which are used if ZoomIn or ZoomOut is used

StartValueX: first value for the label at X-axis

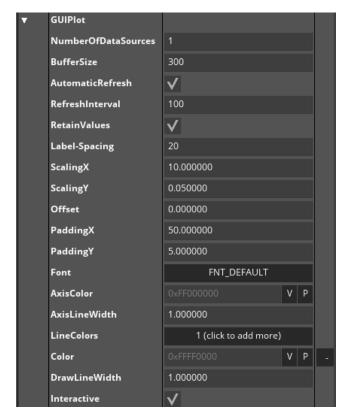
EnableSelection: if this is active, values can be selected by clicking on them. The selected value is

shown in the upper part of the control

SelectionColor: color which is used to indicate that this value is currently selected

PointSelectionTolerance: tolerance in pixels around a value to simplify selection

84. GUIPlot:



NumberOfDataSources: this sets the number of data-sources which are visualized

BufferSize: the buffer-size which is used for buffering incoming values

AutomaticRefresh: if this is selected an automatic refresh is done according to the RefreshInterval. If this is not selected the refresh has to be done manually by the application which feeds the data to the control

RefreshInterval: number of milliseconds which is used for the refresh

RetainValues: if this is selected the last received values for each data-source are displayed during automatic refresh. If this is not selected the values will drop to zero, if no new values are received **Label-Spacing:** the number of pixels between each label on the y-axis

ScalingX: the scaling factor used for the x-axis. This is the number of pixels between each value



ScalingY: the scale used for the y-axis. This factor is multiplied with the Label-Spacing to specify the value set at each scaling-line. Values of 0.05 (ScalingY) and 20 (Label-Spacing) will display a scale-line every 20 pixels and the values will be 1, 2, 3 ... Whereas values of 1.0 and 40 will display a scale-line every 40 pixels and the values will be 40, 80, 120 ...

Offset: the current offset along the y-axis. Positive values will move the x-axis down; negative values will move it up

PaddingX: the number of pixels used for the padding from the left/right border of the control to the coordinate-system

PaddingY: the number of pixels used for the padding from the top/bottom border of the control to the coordinate-system

Font: the font used for the labels along the y-axis

AxisColor: the color used to draw the coordinate-system

AxisLineWidth: the width of the line used to draw the coordinate-system

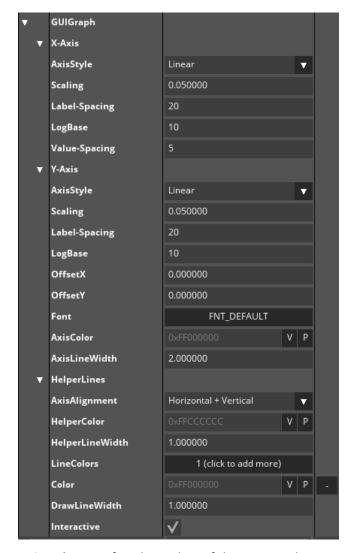
LineColors: the colors used for drawing each data-source

DrawLineWidth: the width of the lines used for drawing the data-sources

Interactive: if this is selected the viewport can be modified during runtime by dragging around the

mouse. A double-click will center the viewport again

85. GUIGraph:



AxisStyle: specifies the scaling of the axis: can be Linear or Logarithmic

Scaling: the scaling factor, e.g. the number of pixels between each value

Label-Spacing: the number of pixels between each label on the axis

LogBase: this is the base when using logarithmic scale

Value-Spacing: the number of pixels between two points on the actual graph which will be connected

by lines

AxisStyle: specifies the scaling of the axis: can be Linear or Logarithmic

Scaling: the scaling factor, e.g. the number of pixels between each value

Label-Spacing: the number of pixels between each label on the axis

LogBase: this is the base when using logarithmic scale

OffsetX/OffsetY: current offset of the origin

Font: the font-id which is used for the labels on the axis **AxisColor:** the colour used for the axes and the labels

AxisLineWidth: width of the axis

AxisAlignment: this specifies which axes are displayed for the helper-lines. This can be "None",

"Horizontal", "Vertical" and "Horizontal + Vertical"

HelperColor: color which is used for the helper-lines in the background

HelperLineWidth: width of the helper-lines in the background

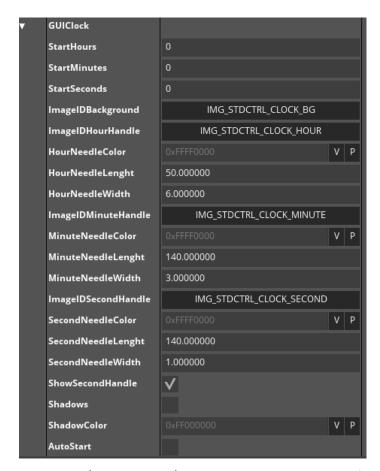
LineColors: color used for the helper-lines

DrawLineWidth: the width of the lines used to draw the graph

Interactive: if this is active the graph can be dragged along. To reset it to the default, a double-click

can be used.

86. GUIClock:



StartHours/StartMinutes/StartSeconds: Starting-time of the clock

ImageIDBackground: ImageID which is used to draw the background

ImageIDHourHandle: ImageID which is used to draw the hour-handle of the clock

HourNeedleColor/HourNeedleLength/HourNeedleWidth: Colour, length and width which are used to draw the hour-handle with drawing-operations instead of an image. These settings are only active if DUMMY_IMAGE is set for ImageIDHourHandle

ImageIDMinuteHandle: ImageID which is used to draw the minute-handle of the clock



MinuteNeedleColor/MinuteNeedleLength/MinuteNeedleWidth: Colour, length and width which are used to draw the minute-handle with drawing-operations instead of an image. These settings are only active if DUMMY_IMAGE is set for ImageIDMinuteHandle

ImageIDSecondHandle: ImageID which is used to draw the second-handle of the clock

SecondNeedleColor/SecondNeedleLength/SecondNeedleWidth: Colour, length and width which are used to draw the second-handle with drawing-operations instead of an image. These settings are only active if DUMMY_IMAGE is set for ImageIDSecondHandle

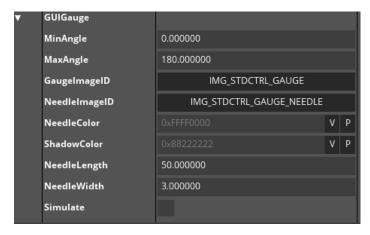
ShowSecondHandle: If this is set, the second-handle is displayed else the second handle is not displayed.

Shadows: If this is set, shadows are drawn for each handle. Shadows are only drawn if drawing-operations are used to draw the handle

ShadowColor: Colour which is used to draw the shadow of the handles

AutoStart: If this is set, the clock starts ticking on creation

87. GUIGauge:



MinAngle/MaxAngle: Angle which is used for the needle for minimum/maximum values

GaugeImageID/NeedleImageID: Image used for gauge/needle

NeedleColor/ShadowColor: Shows/defines color of the needle. This attribute is only used if

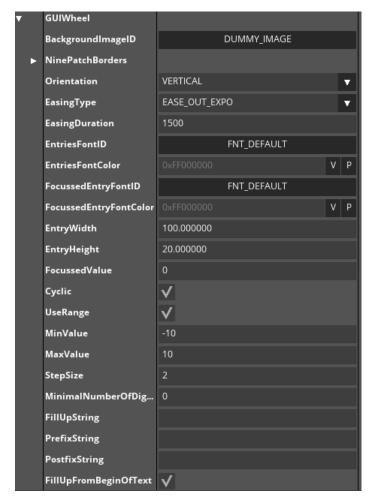
"DUMMY_IMAGE" is set for NeedleImageID

NeedleLength/NeedleWidth: Length and width of the needle in pixels measured from centre of

gauge to its tip. This attribute is only used if "DUMMY_IMAGE" is set for NeedleImageID

Simulate: Activate simulation-mode. In Simulation-mode the gauge will move repeatedly from minimum value to maximum value and back.

88. GUIWheel:



BackgroundImageID: Image to be displayed on the background of the wheel. This image will always be stretched to fill the bounding rectangle of the object.

NinePatchBorder: Ninepatch which will be used to stretch the background-image

Orientation: States the orientation of the wheel, either horizontal or vertical.

EasingType: EasingType used for kinetic animation.

Easing Duration: Duration of easing animation for kinetic scrolling in milliseconds.

EntriesFontID/FocussedEntryFontID: Font type which is used for non-focused/focussed entries of the

wheel.



EntriesFontColor/FocussedEntryFontColor: Color of the text which is used for non-focused/focussed

entries

EntryWidth/EntryHeight: Width/Height for one entry

FocussedValue: Currently focused entry value.

Cyclic: If this is set, the wheel is cyclic, i.e. begins with the first element after the last element. If this is not set, the wheel has a lower and an upper end.

UseRange: If this is set, the entries of the wheel are auto-generated using the minimum/maximum-value and the step-size otherwise the entries are not displayed.

MinValue/MaxValue: Minimum/Maximum-value allowed for the entries of the wheel.

StepSize: Size of one step for the entries to be displayed on the wheel.

MinimalNumberOfDigits: Set the minimal number of digits which should be displayed for each entry.

For exaample, if this is set to 2 all entries from 0-9 will be filled up with a string

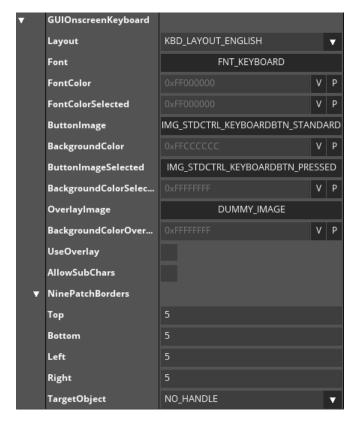
FillUpString: Defines a string which will be used to fill up missing digits, e.g. "0"

PrefixString: Defines a string which will be placed in front of each text-entry

PostfixString: Defines a string which will be placed behind each text-entry. This setting can be used for displaying a unit string after each text-entry.

FillUpFromBeginOfText: If this is set, entries will be filled in front of entry, if false at end.

89. GUIOnscreenKeyboard:



Layout: Keyboard-Layout to use. If found in General Resources. DUMMY_RESOURCE will use English layout

Font: The font used for the keyboard

FontColor/FontColorSelected: Color of characters on the keyboard in normal and selected state

ButtonImage/BackgroundColor: the image used for the key or the color if DUMMY_IMAGE is used

ButtomImageSelected/BackgroundColorSelected: the image used for a selected key or the color if

DUMMY_IMAGE is used

OverlayImage/BackgroundColorOverlay: the image used for the overlay or the color if DUMMY_IMAGE is used

UseOverlay: if this is selected an overlay will be displayed above the selected key for better visuals **AllowSubChars:** if this is selected subchars will be shown if existent for the selected key

NinePatch: ninepatch borders used for the images

TargetObject: ID of the object which should receive keyboard-input. If NO_HANDLE is set, the currently focussed object will receive keyboard-input

90. GUIVideo:



VideoID: ID of the Video which should be played. Is found in General Resources

StartFrame: Frame to start with

AutoStart: if true the video will start playing after controls has been created

Loop: if true the video will jump back to start when the end was reached