

Package ‘TGUICore’

February 14, 2012

Type Package

Title Teaching GUI - Core functionality

Version 0.9.15

Date 2011-02-28

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Description Teaching GUI (A Graphical User Interface to enhance and support modern teaching methods in an interactive way.) - basic framework. Providing a student and a trainer interface, containing all facilities needed to create interactive examples, checks or ask for student feedback.

Depends tcltk, tkrplot, utils

License GPL

Repository CRAN

Date/Publication 2011-02-28 18:36:00

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adminGUI

*adminGUI***Description**

Graphical trainer interface for interactive and probably statistical courses

Usage

```
adminGUI(onlyCourse=NULL, pwd="defaultPW", evaluierung = FALSE, enableAll=FALSE, showPart=TRUE)
```

Arguments

onlyCourse	should be set to a specific course name for only handling on course of contents.csv
pwd	admin-GUI may be started with password only
evaluierung	should GUI be started in evaluation mode, default=FALSE
enableAll	should GUI be started with all available options, default=TRUE
showPart	show only the parts and not each exercise as checkbox

Details

The menu entries of the GUI are defined by a csv file in the directory etc in the installation directory of the TGUICore package.

Value

Graphical Admin Interface

Author(s)

Matthias Templ, Gerlinde Dinges, Alexander Kowarik, Bernhard Meindl

Examples

```
## Not run:
adminGUI()

## End(Not run)
```

aTassign	<i>aTassign</i>
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Description

assign/delete/check/retrieve an object to/in/from the namespace adminTGUIenv.

Usage

```
aTassign(x, value)
aTget(x)
aTrm(x)
aTexists(x)
```

Arguments

x	the name of the object to be created/loaded/checked/removed in/from namespace adminTGUIenv.
value	the value/object to be assigned.

Details

internal function only

Author(s)

Alexander Kowarik, Bernhard Meindl

ExitButton	<i>ExitButton</i>
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Description

returns an Exit-Button in a frame called *name* within frame *frame* in tk-window *window*.

Usage

```
ExitButton(window=tt, frame=MainFrame, name, text="Close")
```

Arguments

window	the tk-toplevel() in which the ExitButton should be drawn.
frame	the frame in which the ExitButton should be drawn.
name	the name of the frame that is created and which includes the ExitButton
text	the text under the ExitButton

Details

internal function only

Author(s)

Alexander Kowarik, Bernhard Meindl

Feedback

Feedback

Description

Macros that draw either complete Windows or complete Frames depending on input-Parameters.

Usage

`Feedback(frame=MainFrame,name,question1,question2=NULL,image=NULL,Answer=FALSE,filename)`

Arguments

<code>frame</code>	the frame in which the ExitButton should be drawn.
<code>name</code>	the name of the frame that is created and which includes the ExitButton
<code>question1</code>	the title for the Feedback frame
<code>question2</code>	vector of questions
<code>image</code>	filename of a gif image to be included
<code>Answer</code>	TRUE for showing the evaluation view of the Feedback widget
<code>filename</code>	filename to save the entered information in

Details

for examples see package TGUITeaching

Author(s)

Alexander Kowarik, Bernhard Meindl

InteractivePlot *InteractivePlot*

Description

Macros that draw either complete Windows or complete Frames depending on input-parameters.

Usage

```
InteractivePlot(frame=MainFrame, name, plot.function, click.function=NULL,
hscale=2, vscale=2,
  slider=NULL, slider_lim=NULL, slider_start=NULL, slider_res=NULL, slider_label=NULL, slider_header=
checkbox=NULL, checkbox_start=NULL, checkbox_header=NULL, checkbox_label=NULL, checkbox_twoCols=FA
  radio=NULL, radio_label=NULL, radio_header=NULL, radio_value=NULL,
  header=NULL, design="leftright")
```

Arguments

frame	the frame in which the ExitButton should be drawn.
name	the name of the frame that is created and which includes the ExitButton
plot.function	function which creates the plot(without parameters) for a given question
click.function	function which should be called if interaction with a plot using mouse-clicks is possible
hscale	horizontal scale
vscale	vertical scale
slider	slider names
slider_lim	slider limits
slider_start	initial values for the sliders
slider_res	Resolution of the sliders
slider_label	caption of the slider
slider_header	title for all sliders
checkbox	names of the checkbox objects
checkbox_start	initial value of the checkbox
checkbox_header	title for all checkboxes
checkbox_label	caption of the checkbox
checkbox_twoCols	if TRUE the checkboxes are arranged in two columns, otherwise only in one
radio	names of the radiobutton objects
radio_label	caption of the radiobuttons
radio_header	title for all radiobuttons

radio_value	values of the radiobuttons
header	title for the plot
design	if set to leftright, the plot is on the right side and the controls are on the left side, otherwise the controls are below the plot

Details

internal function only

Author(s)

Alexander Kowarik, Bernhard Meindl

MultipleChoice	<i>MultipleChoice</i>
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Description

Macros that draw either complete windows including a multiple-choice question.

Usage

```
MultipleChoice(frame=MainFrame, name, question1, question2=NULL, labels, image=NULL, hscale=1.5, vscale=1,
hscaleAns=1, vscaleAns=1, plotFunction=NULL, Answer=FALSE, note=NULL, dynSol=FALSE, filename)
```

Arguments

frame	the name of the frame that is created.
name	the name of the frame that is created and which includes the ExitButton
question1	Single question
question2	vector of additional lines for explaining the questions
labels	vector of possible answers
image	filename of a gif image to be included
hscale	horizontal scale for the included plot
vscale	vertical scale for the included plot
hscaleAns	horizontal scale for the plot of the answers
vscaleAns	vertical scale for the plot of the answers
plotFunction	function which creates the plot(without parameters) for the question
Answer	TRUE for showing the evaluation view of the Feedback widget
note	a string defining a note for the participant
dynSol	set to TRUE, if there is no correct solution, but a dynamical solution
filename	name of a file in which the answers will be saved

Details

for example see package TGUITEaching

Author(s)

Alexander Kowarik, Bernhard Meindl

OpenWindow

OpenWindow

Description

Macro to create a full-screen tk-window.

Usage

```
OpenWindow(window=tt, frame=MainFrame, fullscreen=TRUE, title="", image=NULL, image_position="top")
```

Arguments

window	the tk-toplevel() used.
frame	the name of the frame that is created.
fullscreen	should the window be returned fullscreen, default=TRUE.
title	the title of the window that is returned.
image	should an image be drawn in the window? default=NULL.
image_position	the position of the image, if an image path was specified. Default position is to draw the image on top of the window.

Details

for example see package TGUITEaching

Author(s)

Alexander Kowarik, Bernhard Meindl

plotTable	<i>plotTable</i>
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Description

plotTable into tk-window.

Usage

```
plotTable(table, lwd = par("lwd"), bg = par("bg"),
          cex=1, xjust = 0, yjust = 1, box.col = par("fg"), text.col = par("fg"),
          display.colnames = TRUE, display.rownames = TRUE, hlines = TRUE, vlines=TRUE,mar=c(0,0,1,0),
          title = NULL,col1="red",col2="orange",column1=NULL,column2=NULL,mwidth=0.02539063,
          cellwidth=0.08398439,cellheight=0.04251454)
```

Arguments

table	an R table object
lwd	line width
bg	background
cex	relative scaling parameter
xjust	adjustment, x-scale
yjust	adjustment, y-scale
box.col	foreground color
text.col	text color
display.colnames	display column names, logical()
display.rownames	display row names, logical()
hlines	display horizontal lines, logical()
vlines	display vertical lines, logical()
mar	margin of table plot
title	main title of graphical table
col1	first color used to highlight cells
col2	second color used to highlight cells
column1	column1
column2	column2
mwidth	adjustment between cells
cellwidth	width of cells
cellheight	height of cells

Details

interactive, clickable tables

Author(s)

Alexander Kowarik, Bernhard Meindl

runGUI	<i>runGUI</i>
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Description

Graphical student interface for interactive and probably statistical courses

Usage

`runGUI(onlyCourse=NULL)`

Arguments

`onlyCourse` should be set to a specific course name for only handling on course of contents.csv

Details

`runGUI()` starts the Graphical User Interface for Students. The functions parses the mandatory contents.csv file and automatically creates all the necessary menu-entries. Furthermore, by default `runGUI()` allows all exercises available to be tested. In order to lock exercises, trainers need to use the admin interface (`adminGUI()`).

Value

Graphical User Interface

Author(s)

Matthias Templ, Gerlinde Dinges, Alexander Kowarik, Bernhard Meindl

Examples

```
## Not run:  
runGUI()  
  
## End(Not run)
```

setFont *setFont*

Description

sets tcltk font to be used in widgets.

Usage

```
setFont(family="tahoma", size, italic=FALSE, bold=FALSE)
```

Arguments

family	the font family that should be used, default is tahoma.
size	the font size. Specifying a numeric value is possible just as specifying either small, normal, large, extralarge or huge.
italic	should the font be italic, default=FALSE
bold	should the font be bold, default=FALSE

Details

internal function only

Author(s)

Alexander Kowarik, Bernhard Meindl

showPDF *showPDF*

Description

this function opens a given pdf relative to the doc-path of package-installation in the standard pdf-viewer

Usage

```
showPDF(filename)
```

Arguments

filename	the filename of the pdf to be opened.
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Details

internal function only

Author(s)

Alexander Kowarik, Bernhard Meindl

SingleChoice

SingleChoice

Description

Macros that draw either complete windows or frames depending on given parameters.

Usage

```
SingleChoice(frame=MainFrame,name,question1,question2=NULL,labels,image=NULL,hscale=1.5,vscale=1,
             hscaleAns=1,vscaleAns=1,plotFunction=NULL,filename,note=NULL,Answer=FALSE,dynSol=FALSE)
```

Arguments

frame	the name of the frame that is created.
name	the name of the frame that is created and which includes the ExitButton
question1	Single question
question2	vector of additional lines for explaining the questions
labels	vector of possible answers
image	filename of a gif image to be included
hscale	horizontal scale for the included plot
vscale	vertical scale for the included plot
hscaleAns	horizontal scale for the plot of the answers
vscaleAns	vertical scale for the plot of the answers
plotFunction	function which creates the plot(without parameters) for the question
filename	name of a file in which the answers will be saved
note	a string defining a note for the participant
Answer	TRUE for showing the evaluation view of the Feedback widget
dynSol	set to TRUE, if there is no correct solution, but a dynamical solution

Details

for example see package TGUITEaching

Author(s)

Alexander Kowarik, Bernhard Meindl

SingleChoiceGrid *SingleChoiceGrid*

Description

Macro that either draws a complete window or a frame within a window depending on input parameters.

Usage

```
SingleChoiceGrid(frame=MainFrame, name, question1, question2=NULL, labels1, labels2,
                 hscale=2, vscale=1.5, hscaleAns=1, vscaleAns=1, image=NULL, plotFunction=NULL,
                 note=NULL, Answer=FALSE, filename)
```

Arguments

frame	the name of the frame that is created.
name	the name of the frame that is created and which includes the ExitButton
question1	Single question
question2	vector of additional lines for explaining the questions
labels1	Labels for the columns of the answer grid
labels2	Lables for the rows of the answer grid
hscale	horizontal scale for the included plot
vscale	vertical scale for the included plot
hscaleAns	horizontal scale for the plot of the answers
vscaleAns	vertical scale for the plot of the answers
image	filename of a gif image to be included
plotFunction	function which creates the plot(without parameters) for the question
note	a string defining a note for the participant
Answer	TRUE for showing the evaluation view of the Feedback widget
filename	name of a file in which the answers will be saved

Details

for example see package TGUITeaching

Author(s)

Alexander Kowarik, Bernhard Meindl

Tassign

Tassign

Description

assign/delete/check/retrieve an object to/in/from the namespace TGUIenv.

Usage

Tassign(x,value)
Tget(x)
Trm(x)
Texists(x)
Tclear()

Arguments

x	the name of the object to be created/loaded/checked/removed in/from namespace TGUIenv.
value	the value/object to be assigned.

Details

internal function only

Author(s)

Alexander Kowarik, Bernhard Meindl

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