Package ‘tkrgl’

May 16, 2018

Title ‘TK’ Widget Tools for ‘rgl’

Version 0.8

Author Duncan Murdoch/Ming Chen

Description Provides ‘TK’ widget tools for the ‘rgl’ package.

Maintainer Duncan Murdoch <murdoch@stats.uwo.ca>

License GPL

Depends R (>= 2.0.0)

Imports rgl (>= 0.66), tcltk

SystemRequirements rgl packages for rendering

URL http://www.stats.uwo.ca/faculty/murdoch

BugReports https://r-forge.r-project.org/projects/rgl/

NeedsCompilation no

Repository CRAN

Date/Publication 2018-05-16 12:31:45 UTC

R topics documented:

tkrgl-package .................................................. 2
par3dsave .................................................. 3
spin3d ........................................................ 4
spinControl .................................................. 5

Index 7
tkrgl-package  

'TK' Widget Tools for 'rgl'

Description

Provides 'TK' widget tools for the 'rgl' package.

Details

The DESCRIPTION file:

Package: tkrgl
Title: 'TK' Widget Tools for 'rgl'
Version: 0.8
Author: Duncan Murdoch/Ming Chen
Description: Provides 'TK' widget tools for the 'rgl' package.
Maintainer: Duncan Murdoch <murdoch@stats.uwo.ca>
License: GPL
Depends: R (>= 2.0.0)
Imports: rgl (>= 0.66), tcltk
SystemRequirements: rgl packages for rendering
URL: http://www.stats.uwo.ca/faculty/murdoch
BugReports: https://r-forge.r-project.org/projects/rgl/

Index of help topics:

par3dsave   Modal dialog for saving par3d settings
spin3d      Create TCL/TK controller for rgl window
spinControl Create a spin control in a TCL/TK window
tkrgl-package 'TK' Widget Tools for 'rgl'

History:

0.2-2  First public release
0.3    Added possibility to control multiple windows
0.4    Compatibility with 2.0.0 tcltk package
0.5    Added continuous rotation
0.6    Added par3dsave
0.7    Added parameters to spinControl, fixed startup
0.8    Minor fixes to pass checks
Description

This function opens a modal dialog to allow particular views of an rgl scene to be saved.

Usage

par3dsave(params = c("userMatrix", "scale", "zoom", "FOV"),
          times = FALSE, dev = rgl.dev())

Arguments

params Which parameters to save
times Should times be saved as well?
dev Which rgl device to work with

Details

This opens a modal dialog box with Record and Quit buttons. Each time Record is clicked, a snapshot is taken of current par3d settings. When Quit is clicked, the dialog closes and the values are returned in a list.

If times == TRUE, then the times at which the views are recorded will also be saved, so that the play3d function will play back with the same timing.

Value

A list of the requested components. Each one will consist of a list of values that were current when the Record button was clicked. These are suitable to be passed directly to the par3dinterp function.

Author(s)

Duncan Murdoch

See Also

par3d, par3dinterp

Examples

## Not run:

library(rgl)

# Record a series of positions, and then play them back immediately
# at evenly spaced times, in an oscillating loop
spin3d

Create TCL/TK controller for rgl window

Description

This function creates a TCL/TK window containing buttons to spin and resize one or more rgl windows.

Usage

spin3d(dev = rgl.cur(), ...)

Arguments

<table>
<thead>
<tr>
<th>dev</th>
<th>A vector of one or more rgl device numbers to control</th>
</tr>
</thead>
<tbody>
<tr>
<td>...</td>
<td>Arguments to pass to spinControl</td>
</tr>
</tbody>
</table>

Author(s)

Ming Chen and Duncan Murdoch

See Also

spinControl

Examples

```r
if (interactive()) {
  library(rgl)
  open3d()
  rgl.bringtotop(TRUE)
  points3d(rnorm(100), rnorm(100), rnorm(100), size=3)
  axes3d()
  box3d()
  tkrgl::spin3d()  # rgl also has a function called spin3d!
}
```
Create a spin control in a TCL/TK window

Description

This function may be used to embed a spin control in a TCL/TK window.

Usage

spinControl(base, dev = rgl.cur(),
continue=FALSE, speed=30, scale=100 )

Arguments

base The TCL/TK frame in which to insert this control.
dev A vector of one or more rgl device numbers to control.
continue Initial setting for continuous rotation checkbox.
speed Initial setting for speed slider.
scale Initial setting for scale slider.

Author(s)

Ming Chen and Duncan Murdoch

See Also

spin3d

Examples

if (interactive()) {
  library(rgl)
  library(tcltk)
  open3d()
  win1 <- rgl.cur()
  rgl.bringtotop(TRUE)
  plot3d(rexp(100), rexp(100), rexp(100), size=3, col='green')

  open3d()
  win2 <- rgl.cur()
  rgl.bringtotop(TRUE)
  plot3d(rt(100,2), rt(100,2), rt(100, 2), size=3, col='yellow')

  open3d()
  win3 <- rgl.cur()
  rgl.bringtotop(TRUE)
  plot3d(rexp(100), rexp(100), rexp(100), size=3, col='red')
open3d()
win4 <- rgl.cur()
rgl.bringtotop(TRUE)
plot3d(rbinom(100,10,0.5), rbinom(100,10,0.5), rbinom(100,10,0.5), size=3, col='cyan')

base <- tktoplevel()
tkwm.title(base, "Spinners")
con1 <- spinControl(base, dev=c(win1,win2))
con2 <- spinControl(base, dev=c(win3,win4))
tkpack(con1, con2)
Index

*Topic **dplot**
  par3dsave, 3
*Topic **dynamic**
  spin3d, 4
  spinControl, 5

par3d, 3
par3dinterp, 3
par3dsave, 3
play3d, 3

spin3d, 4, 5
spinControl, 2, 4, 5

tkrgl (tkrgl-package), 2
tkrgl-package, 2