

Package ‘tkrgl’

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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

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tkrgl-package

*'TK' Widget Tools for 'rgl'***Description**

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Details

The DESCRIPTION file:

```

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Version:         0.8
Author:          Duncan Murdoch/Ming Chen
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Maintainer:     Duncan Murdoch <murdoch@stats.uwo.ca>
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```

Index of help topics:

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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

```

par3dsave *Modal dialog for saving par3d settings*

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.cur())
```

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
```

```
play3d( par3dinterp( par3dsave() ) )  
  
# As above, but preserve the click timings  
  
play3d( par3dinterp( par3dsave(times=TRUE) ) )  
  
## End(Not run)
```

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

dev	A vector of one or more rgl device numbers to control
...	Arguments to pass to spinControl

Author(s)

Ming Chen and Duncan Murdoch

See Also

[spinControl](#)

Examples

```
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!  
}
```

`spinControl`*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

<code>base</code>	The TCL/TK frame in which to insert this control.
<code>dev</code>	A vector of one or more rgl device numbers to control.
<code>continue</code>	Initial setting for continuous rotation checkbox.
<code>speed</code>	Initial setting for speed slider.
<code>scale</code>	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 <- tkoplevel()
tkwm.title(base, "Spinners")
con1 <- spinControl(base, dev=c(win1,win2))
con2 <- spinControl(base, dev=c(win3,win4))
tkpack(con1, con2)
}
```

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