

# Package ‘tkImgR’

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**Type** Package

**Title** Simple Image Viewer for R Using the 'tcltk' Package

**Version** 0.0.5

**Description**

A 'Tcl/Tk' Graphical User Interface (GUI) to display images than can be zoomed and panned using the mouse and keyboard shortcuts. 'tkImgR' read and write different image formats (PPM/PGM, PNG and GIF) using the standard 'Tcl/Tk' distribution ( $\geq 8.6$ ), but other formats (JPEG, TIFF, CR2) can be handled using the 'tkImg' package for 'Tcl/Tk'.

**Depends** R ( $\geq 3.5$ ), tcltk

**Imports** tkRplotR

**Suggests** testthat

**License** GPL ( $\geq 2$ )

**SystemRequirements** Tcl/Tk ( $\geq 8.6$ ). To read and write other formats than PPM/PGM, PNG and GIF it is required the 'tkImg' for 'Tcl/Tk' (<https://sourceforge.net/projects/tkimg/>), or the debian 'libtk-img' package (Ubuntu) or the RPM 'tkimg' package (Fedora or openSUSE).

**Encoding** UTF-8

**RoxygenNote** 7.1.2

**NeedsCompilation** no

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**Repository** CRAN

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canvasAddBinds	<i>Commands to zoom and pan the image using the mouse or the keyboard (or by evoking directly the function)</i>
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**Description**

Functions to zoom and pan the canvas, and add the bind to the canvas.

**Usage**

```
canvasAddBinds(W)
canvasControlButton4(W)
canvasControlDown(W)
canvasControlUp(W)
canvasSpace(W, ...)
canvasSpaceRelease(W)
canvasMotion(W, ...)
canvasLeft(W)
canvasRight(W)
canvasUp(W)
canvasDown(W)
canvasControlRight(W)
canvasMouseWheel(W, ...)
canvasControlLeft(W)
canvasControlMouseWheel(W, ...)
canvasPlus(W, ...)
canvasMinus(W, ...)
canvasShiftButton4(W, ...)
canvasShiftButton5(W, ...)
```

```
canvasShiftMouseWheel(W, ...)
```

### Arguments

W                    tkoplevel object with the canvas displaying the image  
...                  further arguments.

### Details

These functions define the keyboard and mouse controls for the toplevel window.

### Value

No return value, called for side effects

### Examples

```
## Not run:  
file_path <- system.file("img", "example.png", package = "tkImgR")  
tt <- tkImShow(file_path)  
Sys.sleep(0.25)  
canvasLeft(tt)  
Sys.sleep(0.25)  
canvasControlLeft(tt)  
Sys.sleep(0.25)  
canvasRight(tt)  
Sys.sleep(0.25)  
tcltk::tkdestroy(tt)  
  
## End(Not run)
```

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tkimageRead

*Tk commands to deal with images*

---

### Description

These commands create, read, copy, write, and delete images using the 'tcltk' package.

### Usage

```
tkimageRead(imageName = NULL, fileName, ...)
```

```
tkimageCreate(imageName = NULL, ...)
```

```
tkimageCopy(imageName, sourceImage, ...)
```

```
tkimageWrite(imageName, fileName, ...)
```

```
tkimageDelete(imageName)
```

### Arguments

imageName	Specifies the name for the image; if is NULL then Tk picks a name of the form image#, where # is an integer.
fileName	The path for the image file.
...	Further arguments.
sourceImage	The name (or the tcl object) of the image to be copied.

### Value

tclObj with the image if the function is tkimageCreate, tkimageRead, and tkimageCopy or no value for tkimageWrite or tkimageDelete

### Examples

```
#tkimageRead
file_path <- system.file("img", "example.png", package = "tkImgR")
im01 <- tkimageRead("tkImage01", file_path)
"tkImage01" %in% as.character(tcltk::.Tcl("image names"))
tkimageDelete(im01)

#tkimageCreate
file_path <- system.file("img", "example.png", package = "tkImgR")
im1 <- tkimageCreate("tkImage01")
tkimage.height(im1) #0
im1 <- tkimageCreate("tkImage01", file_path)
tkimage.height(im1) #2824
"tkImage01" %in% as.character(tcltk::.Tcl("image names"))
tkimageDelete(im1)

#tkimageCopy
file_path <- system.file("img", "example.png", package = "tkImgR")
im1 <- tkimageCreate("tkImage01", file_path)
im3 <- tkimageCreate("tkImage03")
tkimageCopy(im3, "tkImage01")
c("tkImage01", "tkImage03") %in% as.character(tcltk::.Tcl("image names"))
tkimageDelete(im1)
tkimageDelete(im3)

#tkimageWrite
file_path <- system.file("img", "example.png", package = "tkImgR")
im1 <- tkimageCreate("tkImage01", file_path)
file_path_crop_image <- file.path(tempdir(check = TRUE), "crop.png")
```

```

#if is possible to write the file
if (file.access(file_path_crop_image)==0){
  tkimageWrite(im1, file_path_crop_image, from=c(0,1500))
  im1_crop <- tkimageRead("tkImage01_crop", file_path_crop_image)
  print(tkimage.height(im1)) #2824
  print(tkimage.height(im1_crop)) #1324 = 2824 - 1500
  tkimageDelete(im1_crop)
}

#tkimageDelete
file_path <- system.file("img", "example.png", package = "tkImgR")
im1 <- tkimageCreate("tkImage01", file_path)
"tkImage01" %in% as.character(tcltk::.Tcl("image names"))
tkimageDelete(im1)
"tkImage01" %in% as.character(tcltk::.Tcl("image names"))

```

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tkImShow

*Open and Display Image in a Tk Canvas*


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## Description

Open and display an image in a canvas that can be zoomed and panned using the mouse and keyboard shortcuts

## Usage

```
tkImShow(file, zoom = NULL, title = NULL)
```

## Arguments

file	path to image file
zoom	the zoom factor (ratio), for zoom = 1 the image is shown with no zoom (original size), when zoom is < (>) than 1 the image is zoomed out (in). The default value of zoom is NULL.
title	the window title

## Value

The tkwin object returned by tkImShow is a toplevel window with a canvas that contains several variables (canvasAllowZoom, canvasScrollWidth) and tkwin objects (canvas, canvasScrollHorizontal, canvasScrollVertical) placed in the env, which could be used to implement further methods.

**Examples**

```
file_path <- system.file("img", "example.png", package = "tkImR")
tt <- tkImShow(file_path)

if (!identical(tcltk::tclRequire("Img", warn = FALSE), FALSE)){
  file_path1 <- system.file("img", "example.jpg", package = "tkImR")
  tt <- tkImShow(file_path1)
}
```

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