

Package ‘screenshot’

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Type Package

Title Take Screenshots (Screen Capture) from R Command

Version 0.9.0

Description Take screenshots from R command and locate an image position.

RoxygenNote 7.2.3

URL <https://github.com/matutosi/screenshot>

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compare_table	<i>Compare values within tow arrays or matrices. Helper function for locate_ndl_in_hay().</i>
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Description

Compare values within tow arrays or matrices. Helper function for locate_ndl_in_hay().

Usage

```
compare_table(ndl_mt, hay_mt)
```

Arguments

ndl_mt, hay_mt A matrix.

Value

A tibble.

Examples

```
val <- seq(from = 0, to = 1, by = 0.1)
mt_1 <- matrix(sample(val, 20, replace = TRUE))
mt_2 <- matrix(sample(val, 100, replace = TRUE))
compare_table(mt_1, mt_2)
```

count_val_freq	<i>Helper function for compare_table().</i>
----------------	---

Description

Helper function for compare_table().

Usage

```
count_val_freq(mt, colname)
```

Arguments

mt A numeric matrix or array.
colname A string of name for count.

Value

A dataframe.

Examples

```
mt <- sample(1:10, 30, replace = TRUE)
count_val_freq(mt, "freq")
```

get_os	<i>Get OS name</i>
--------	--------------------

Description

Get OS name

Usage

```
get_os()
```

Value

A string of OS name

Examples

```
get_os()
```

hay2needle	<i>Cut off a part of image from a whole image.</i>
------------	--

Description

Cut off a part of image from a whole image.

Usage

```
hay2needle(haystack_image, pos_x, pos_y, w = 50, h = 20)
```

Arguments

haystack_image An image of cimg.
 pos_x, pos_y A numeric to indicate the top left corner of cutting image. When NULL, position will be randomly sampled.
 w, h A numeric for width or height of the cutting image.

Value

An image of cimg object.

Examples

```
haystack_image <- imager::load.example("parrots")
needle_image <- hay2needle(haystack_image, 200, 250, 100, 50)
layout(c(1:2))
plot(haystack_image)
plot(needle_image)
```

image2gray_matrix	<i>Convert cimg class into grayscale xy matrix. Helper function for locate_image(). Use grayscale to Speed up and to simplify code.</i>
-------------------	---

Description

Convert cimg class into grayscale xy matrix. Helper function for locate_image(). Use grayscale to Speed up and to simplify code.

Usage

```
image2gray_matrix(img)
```

Arguments

img A cimg object.

Value

An xy dimensional matrix.

index2xy	<i>Convert array index into xy location in matrix. Helper function for locate_ndl_in_hay().</i>
----------	---

Description

Convert array index into xy location in matrix. Helper function for locate_ndl_in_hay().

Usage

```
index2xy(index, nrow)
```

Arguments

index, nrow A numeric.

Value

A numeric pair of xy location.

Examples

```
nrow <- 4
matrix(1:12, nrow = nrow)
purrr::map(1:12, index2xy, nrow = nrow)
```

install_screenshot	<i>Install command line screenshot for Windows.</i>
--------------------	---

Description

Codes are from URL shown below. <https://superuser.com/questions/75614/take-a-screen-shot-from-command-line-in-windows#answer-1751844> On Mac screencapture is usually available. On Linux GNOME desktop use gnome-screenshot. If not installed, run `sudo apt install gnome-screenshot`.

Usage

```
install_screenshot(bin_dir = "")
```

Arguments

bin_dir A string of directory to be installed.

Value

A string of installed directory.

Examples

```

if(interactive()){

# need only on Win
if(get_os() == "win"){
  bin_dir <- fs::path_package("screenshot")
  # if you want to install another directory
  # bin_dir <- "SET_YOUR_DIRECTORY"
  install_screenshot(bin_dir)
}

}

```

is_all_same	<i>Helper function for locate_ndl_in_hay().</i>
-------------	---

Description

Helper function for locate_ndl_in_hay().

Usage

```
is_all_same(ndl_mt, hay_mt, base_xy)
```

Arguments

ndl_mt, hay_mt A matrix
base_xy A numeric pair of xy location.

Value

A logical.

locate_image	<i>Locate needle image position on a screenshot image.</i>
--------------	--

Description

Locate needle image position on a screenshot image.

Usage

```
locate_image(  
  needle_image,  
  center = TRUE,  
  exact = TRUE,  
  timeout = 5,  
  bin_dir = ""  
)
```

Arguments

needle_image	A string of image file path or a cimg class object of imager library.
center	A logical. TRUE returns center position of needle_image.
exact	A logical. Check matching exactly or not.
timeout	A numeric for timeout seconds.
bin_dir	A string for directory name of screenshot.exe on Win.

Value

A numeric pair of xy location.

Examples

```
if(interactive()){  
  
sc <- screenshot()  
if(sc != ""){  
  sc_image <- imager::load.image(sc)  
  w <- 100  
  h <- 80  
  pos_x <- 1  
  pos_y <- imager::height(sc_image) - h  
  needle <- hay2needle(sc_image, pos_x, pos_y, w, h)  
  (locate_image(needle)) # center location  
  pos <- locate_image(needle, center = FALSE)  
  found <- hay2needle(sc_image, pos[1], pos[2], w, h)  
  layout(c(1:3))  
  plot(sc_image)  
  plot(needle)  
  plot(found)  
}  
  
}
```

locate_ndl_in_hay	<i>Locate needle image matrix position in a haystack_image matrix. Helper function for locate_image().</i>
-------------------	--

Description

Locate needle image matrix position in a haystack_image matrix. Helper function for locate_image().

Usage

```
locate_ndl_in_hay(ndl_mt, hay_mt, exact = TRUE, timeout = 5)
```

Arguments

ndl_mt, hay_mt	A matrix
exact	A logical. Check matching exactly or not.
timeout	A numeric for timeout seconds.

Value

A numeric pair of xy location for needle image.

Examples

```
haystack_image <- imager::load.example("parrots")
w <- 100
h <- 50
needle_image <- hay2needle(haystack_image, 129, 257, w, h)
hay_mt <- image2gray_matrix(haystack_image)
ndl_mt <- image2gray_matrix(needle_image)
(pos <- locate_ndl_in_hay(ndl_mt, hay_mt))

found <- hay2needle(haystack_image, pos[1], pos[2], w, h)
layout(c(1:3))
plot(haystack_image)
plot(needle_image)
plot(found)
```

screenshot	<i>Take a screenshot.</i>
------------	---------------------------

Description

Need to install screenshot.exe on Win by install_screenshot().

Usage

```
screenshot(bin_dir = "", file = "")
```

Arguments

bin_dir	A string for directory name of screenshot.exe on Win.
file	A string for file name of screenshot.

Value

A file name of screenshot. When "", screenshot will be saved in a tempal directory.

See Also

```
install_screenshot()
```

Examples

```
if(interactive()){  
  
  sc <- screenshot()  
  if(sc != ""){  
    sc_image <- imager::load.image(sc)  
    plot(sc_image)  
  }  
  
}
```

screenshot_exists	<i>Find screenshot exec file.</i>
-------------------	-----------------------------------

Description

Find screenshot exec file.

Usage

```
screenshot_exists(bin_dir = "")
```

Arguments

bin_dir A string for directory name screenshot.exe exec file. No need on Mac and Linux.

Value

A logical.

Examples

```
screenshot_exists()
```

xy_pos	<i>Get xy position of a value in a matrix Helper function for locate_ndl_in_hay().</i>
--------	--

Description

Get xy position of a value in a matrix Helper function for locate_ndl_in_hay().

Usage

```
xy_pos(mt, val)
```

Arguments

mt A matrix
val A matrix

Value

A numeric pairs of xy location.

Examples

```
nrow <- 4  
mt <- matrix(1:12, nrow = nrow)  
xy_pos(mt, 5)
```

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