

Package ‘gdtools’

January 6, 2021

Version 0.2.3

License GPL-3 | file LICENSE

Title Utilities for Graphical Rendering

Description Useful tools for writing vector graphics devices.

LazyData TRUE

Imports Rcpp (>= 0.12.12), systemfonts (>= 0.1.1)

Suggests htmltools, testthat, fontquiver (>= 0.2.0), curl

Encoding UTF-8

LinkingTo Rcpp

SystemRequirements cairo, freetype2, fontconfig

BugReports <https://github.com/davidgohel/gdtools/issues>

RoxygenNote 7.1.1

NeedsCompilation yes

Author David Gohel [aut, cre],
Hadley Wickham [aut],
Lionel Henry [aut],
Jeroen Ooms [aut] (<<https://orcid.org/0000-0002-4035-0289>>),
Yixuan Qiu [ctb],
R Core Team [cph] (Cairo code from X11 device),
RStudio [cph]

Maintainer David Gohel <david.gohel@ardata.fr>

Repository CRAN

Date/Publication 2021-01-06 18:20:05 UTC

R topics documented:

fontconfig_reinit	2
font_family_exists	2
glyphs_match	3
match_family	3

m_str_extents	4
raster_str	5
raster_write	6
set_dummy_conf	6
str_extents	7
str_metrics	7
sys_fonts	8
version_freetype	9

Index **10**

fontconfig_reinit	<i>reload Fontconfig configuration</i>
-------------------	--

Description

This function can be used to make fontconfig reload font configuration files.

Usage

```
fontconfig_reinit()
```

Note

Fontconfig is not used anymore and that function will be deprecated in the next release.

Author(s)

Paul Murrell

font_family_exists	<i>Check if font family exists.</i>
--------------------	-------------------------------------

Description

Check if a font family exists in system fonts.

Usage

```
font_family_exists(font_family = "sans")
```

Arguments

font_family font family name (case sensitive)

Value

A logical value

Examples

```
font_family_exists("sans")
font_family_exists("Arial")
font_family_exists("Courier")
```

glyphs_match	<i>Validate glyph entries</i>
--------------	-------------------------------

Description

Determines if strings contain glyphs not part of a font.

Usage

```
glyphs_match(x, fontname = "sans", bold = FALSE, italic = FALSE, fontfile = "")
```

Arguments

x	Character vector of strings
fontname	Font name
bold, italic	Is text bold/italic?
fontfile	Font file

Value

a logical vector, if a character element is containing at least a glyph that can not be matched in the font table, FALSE is returned.

Examples

```
glyphs_match(letters)
glyphs_match("\u265E", bold = TRUE)
```

match_family	<i>Find best family match with systemfonts</i>
--------------	--

Description

match_family() returns the best font family match.

Usage

```
match_family(font = "sans", bold = TRUE, italic = TRUE, debug = NULL)
```

Arguments

font	family or face to match.
bold	Wheter to match a font featuring a bold face.
italic	Wheter to match a font featuring an italic face.
debug	deprecated

Examples

```
match_family("sans")
match_family("serif")
```

m_str_extents *Compute string extents for a vector of string.*

Description

For each x element, determines the width and height of a bounding box that's big enough to (just) enclose the provided text. Unit is pixel.

Usage

```
m_str_extents(
  x,
  fontname = "sans",
  fontsize = 10,
  bold = FALSE,
  italic = FALSE,
  fontfile = NULL
)
```

Arguments

x	Character vector of strings to measure
fontname	Font name. A vector of character to match with x.
fontsize	Font size. A vector of numeric to match with x.
bold, italic	Is text bold/italic?. A vector of logical to match with x.
fontfile	Font file. A vector of character to match with x.

Examples

```
# The first run can be slow when font caches are missing
# as font files are then being scanned to build those font caches.
m_str_extents(letters, fontsize = 1:26)
m_str_extents(letters[1:3],
  bold = c(TRUE, FALSE, TRUE),
  italic = c(FALSE, TRUE, TRUE),
  fontname = c("sans", "sans", "sans") )
```

raster_str

Draw/preview a raster into a string

Description

raster_view is a helper function for testing. It uses htmltools to render a png as an image with base64 encoded data image.

Usage

```
raster_str(x, width = 480, height = 480, interpolate = FALSE)

raster_view(code)
```

Arguments

x	A raster object
width, height	Width and height in pixels.
interpolate	A logical value indicating whether to linearly interpolate the image.
code	base64 code of a raster

Examples

```
r <- as.raster(matrix(hcl(0, 80, seq(50, 80, 10)),
  nrow = 4, ncol = 5))
code <- raster_str(r, width = 50, height = 50)
if (interactive() && require("htmltools")) {
  raster_view(code = code)
}
```

raster_write	<i>Draw/preview a raster to a png file</i>
--------------	--

Description

Draw/preview a raster to a png file

Usage

```
raster_write(x, path, width = 480, height = 480, interpolate = FALSE)
```

Arguments

x	A raster object
path	name of the file to create
width, height	Width and height in pixels.
interpolate	A logical value indicating whether to linearly interpolate the image.

Examples

```
r <- as.raster(matrix(hcl(0, 80, seq(50, 80, 10)),
  nrow = 4, ncol = 5))
filepng <- tempfile(fileext = ".png")
raster_write(x = r, path = filepng, width = 50, height = 50)
```

set_dummy_conf	<i>Set and unset a minimalistic Fontconfig configuration</i>
----------------	--

Description

Set and unset a minimalistic Fontconfig configuration

Usage

```
set_dummy_conf()
unset_dummy_conf()
```

Note

Fontconfig is not used anymore and these functions will be deprecated in the next release.

str_extents *Compute string extents.*

Description

Determines the width and height of a bounding box that's big enough to (just) enclose the provided text.

Usage

```
str_extents(  
  x,  
  fontname = "sans",  
  fontsize = 12,  
  bold = FALSE,  
  italic = FALSE,  
  fontfile = ""  
)
```

Arguments

x	Character vector of strings to measure
fontname	Font name
fontsize	Font size
bold, italic	Is text bold/italic?
fontfile	Font file

Examples

```
str_extents(letters)  
str_extents("Hello World!", bold = TRUE, italic = FALSE,  
  fontname = "sans", fontsize = 12)
```

str_metrics *Get font metrics for a string.*

Description

Get font metrics for a string.

Usage

```
str_metrics(  
  x,  
  fontname = "sans",  
  fontsize = 12,  
  bold = FALSE,  
  italic = FALSE,  
  fontfile = ""  
)
```

Arguments

x	Character vector of strings to measure
fontname	Font name
fontsize	Font size
bold	Is text bold/italic?
italic	Is text bold/italic?
fontfile	Font file

Value

A named numeric vector

Examples

```
str_metrics("Hello World!")
```

sys_fonts	<i>List system fonts.</i>
-----------	---------------------------

Description

List system fonts details into a data.frame containing columns foundry, family, file, slant and weight.

Usage

```
sys_fonts()
```

Examples

```
sys_fonts()
```

version_freetype	<i>Version numbers of C libraries</i>
------------------	---------------------------------------

Description

version_cairo() and version_freetype() return the runtime version. These helpers return version objects as with [packageVersion\(\)](#).

Usage

```
version_freetype()
```

```
version_cairo()
```

Index

font_family_exists, 2
fontconfig_reinit, 2

glyphs_match, 3

m_str_extents, 4
match_family, 3

packageVersion, 9

raster_str, 5
raster_view(raster_str), 5
raster_write, 6

set_dummy_conf, 6
str_extents, 7
str_metrics, 7
sys_fonts, 8

unset_dummy_conf(set_dummy_conf), 6

version_cairo(version_freetype), 9
version_freetype, 9