Package 'gdtools'

April 2, 2019

Version 0.1.8

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Title Utilities for Graphical Rendering

Description Useful tools for writing vector graphics devices.

LazyData TRUE

Imports Rcpp (>= 0.12.12), withr

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

LinkingTo Rcpp

SystemRequirements cairo

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

RoxygenNote 6.1.1

NeedsCompilation yes

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Repository CRAN

Date/Publication 2019-04-02 17:10:06 UTC

R topics documented:

`fontconfig_reinit` *reload Fontconfig configuration*

Description

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

Usage

```
fontconfig_reinit()
```

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`font_family_exists` *Check if font family exists.*

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

```
## Not run:
font_family_exists("sans")
font_family_exists("Arial")
font_family_exists("Courier")

## End(Not run)
```

`glyphs_match` *Validate glyph entries*

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 *Find best family match with fontconfig*

Description

`match_family()` returns the best font family match for the fontconfig pattern constructed from the `bold` and `italic` arguments. The default pattern is bold italic to make sure the matched font has enough features to be used in R graphics (plain, bold, italic, bold italic). `match_font()` returns the font file from the best family match, along with some metada in the attributes.

Usage

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

match_font(font = "sans", bold = FALSE, italic = FALSE,
  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`	Flag for debugging FontConfig. Can be one of `"config"`, `"match"`. Alternatively, can be an integer that is directly used as environment variable for `FC_DEBUG` (see FontConfig documentation).

Details

Fontconfig matching is controlled via the `fonts.conf` file. Use `debug = "config"` to make sure what configuration file it is currently using (there can be several installations on one system, especially on Macs). See https://www.freedesktop.org/software/fontconfig/fontconfig-user.html for more information about debugging flags.

Examples

```
## Not run:
# The first run can be slow when font caches are missing
# as font files are then being scanned to build those font caches.
match_family("sans")
match_family("serif", bold = FALSE, italic = TRUE)

match_font("Helvetica", bold = FALSE, italic = TRUE)
match_font("Helvetica", debug = "config")

## End(Not run)
```

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 *Draw/preview a raster to a png file*

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))
raster_write(x = r, path = "raster.png", width = 50, height = 50)
```

set_dummy_conf *Set and unset a minimalistic Fontconfig configuration*

Description

set_dummy_conf() sets the FONTCONFIG_FILE environment variable with a minimalistic configuration file. This configuration uses a folder with only one font (Bitstream Vera Sans) to which every font patterns are matched. This is mostly useful to reduce cache-building time on testing platforms running Windows (e.g. on Appveyor or on CRAN's win-builder service).

Usage

```
set_dummy_conf()

unset_dummy_conf()
```

Examples

```
if( require("fontquiver") ){
on_appveyor <- function() {
  identical(Sys.getenv("APPVEYOR"), "True")
}

# Use minimal fonts.conf to speed up fc-cache
if (on_appveyor()) {
  set_dummy_conf()
}

unset_dummy_conf()
}
```

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

```
# The first run can be slow when font caches are missing
# as font files are then being scanned to build those font caches.
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

```
# The first run can be slow when font caches are missing
# as font files are then being scanned to build those font caches.
str_metrics("Hello World!")
```

`sys_fonts` *List system fonts.*

Description

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

Usage

```
sys_fonts()
```

Examples

```
# The first run can be slow when font caches are missing
# as font files are then being scanned to build those font caches.
sys_fonts()
```

`version_freetype` *Version numbers of C libraries*

Description

`version_cairo()` and `version_freetype()` return the runtime version and `version_fontconfig()` returns the compile-time version. These helpers return version objects as with `packageVersion()`.

Usage

```
version_freetype()

version_fontconfig()

version_cairo()
```

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