Package: sysfonts (via r-universe)

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Type Package

Title Loading Fonts into R

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Description Loading system fonts and Google Fonts <https://fonts.google.com/> into R, in order to support other packages such as 'R2SWF' and 'showtext'.

Suggests curl, jsonlite

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SystemRequirements zlib, libpng, FreeType

URL https://github.com/yixuan/sysfonts

BugReports https://github.com/yixuan/sysfonts/issues

License GPL-2

RoxygenNote 7.3.1

Encoding UTF-8

NeedsCompilation yes

Config/pak/sysreqs libfreetype6-dev libpng-dev zlib1g-dev

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`font_add` *Add New Font Families to 'sysfonts'*

Description

The two versions of this function are equivalent, but the "underscore" naming is preferred.

This function registers new font families that can be used by package **showtext** and the SWF device in package **R2SWF**. Currently supported formats include but not limited to TrueType fonts(*.ttf, *.ttc) and OpenType fonts(*.otf).

Usage

```
font_add(
  family,
  regular,
  bold = NULL,
  italic = NULL,
  bolditalic = NULL,
  symbol = NULL
)

font.add(
  family,
  regular,
  bold = NULL,
  italic = NULL,
  bolditalic = NULL,
  symbol = NULL
)
```

Arguments

`family`	a character string of maximum 200-byte size, indicating the family name of the font. See "Details" for further explanation.
`regular`	path of the font file for "regular" font face. This argument must be specified as a character string and cannot be missing.

`bold` path of the font file for "bold" font face. If it is `NULL`, the function will use the value of argument `regular`.

`italic`, `bolditalic`, `symbol` ditto

Details

In R graphics device, there are two parameters combined together to select a font to show text. `par("family")` is a character string giving a name to a **series** of font faces. Here **series** implies that there may be different fonts with the same family name, and actually they are distinguished by the parameter `par("font")`, indicating whether it is regular, bold, or italic, etc. In R, `par("font")` is an integer from 1 to 5 representing regular, bold, italic, bold italic, and symbol, respectively.

In **sysfonts** package, there are three default font families, sans, serif, and mono, each with five font faces as mentioned above. If one wants to use other font families, the function `font_add()` needs to be called to register new fonts. Note that the `family` argument in this function can be an arbitrary string that does not need to be the real font name. The specified family name will be used in functions like `par(family = "myfont")` and `text("Some text", family = "myfont")`. The **Examples** section shows a complete demonstration of the usage.

To find the font file of argument `regular` (and the same for other font faces), this function will first check the existence of the specified path. If not found, file will be searched in the directories returned by `font_paths()` in turn. If the file cannot be found in any of the locations, an error will be issued.

Value

A character vector (invisible) of currently available font family names.

Author(s)

Yixuan Qiu <https://statr.me/>

See Also

See `par()` for explanation of the parameters `family` and `font`.

Examples

```
## Not run:
## Example: download the font file of WenQuanYi Micro Hei,
##          add it to SWF device, and use it to draw text in swf().
##          WenQuanYi Micro Hei is an open source and high quality
##          Chinese (and CJKV) font.

wd = setwd(tempdir())
ft.url = "http://sourceforge.net/projects/wqy/files/wqy-microhei"
ft.url = paste(ft.url, "0.2.0-beta/wqy-microhei-0.2.0-beta.tar.gz",
               sep = "/")
download.file(ft.url, basename(ft.url))

## Extract and add the directory to search path
```

```
untar(basename(ft.url), compressed = "gzip")
font_paths("wqy-microhei")

## Register this font file and assign the family name "wqy"
## Other font faces will be the same with regular by default
font_add("wqy", regular = "wqy-microhei.ttc")

## A more concise way to add font is to give the path directly,
## without calling font_paths()
# font_add("wqy", "wqy-microhei/wqy-microhei.ttc")

## List available font families
font_families()

if(require(R2SWF))
{
    ## Now it shows that we can use the family "wqy" in swf()
    swf("testfont.swf")

    ## Select font family globally
    op = par(family = "serif", font.lab = 2)
    ## Inline selecting font
    plot(1, type = "n")
    text(1, 1, intToUtf8(c(20013, 25991)), family = "wqy", font = 1, cex = 2)

    dev.off()
    swf2html("testfont.swf")
}

setwd(wd)


## End(Not run)
```

`font_add_google` *Load Google Fonts into 'sysfonts'*

Description

The two versions of this function are equivalent, but the "underscore" naming is preferred.

This function will search the Google Fonts repository (https://fonts.google.com/) for a specified family name, download the proper font files, and then add them to **sysfonts**. This function requires the **jsonlite** and **curl** packages.

Usage

```
font_add_google(
  name,
  family = name,
```

```
  regular.wt = 400,
  bold.wt = 700,
  repo = "http://fonts.gstatic.com/",
  db_cache = TRUE,
  handle = curl::new_handle()
)

font.add.google(
  name,
  family = name,
  regular.wt = 400,
  bold.wt = 700,
  repo = "http://fonts.gstatic.com/",
  handle = curl::new_handle()
)
```

Arguments

`name`	name of the font that will be searched in Google Fonts
`family`	specifies the family name of this font in R. This can be any string, not necessarily the same as `name`. The value of this parameter will be used in R plotting functions. See the example code below.
`regular.wt`	font weight for the regular font face, usually 400
`bold.wt`	font weight for the bold font face, usually 700
`repo`	the site that hosts the font files. Default is the official repository `http://fonts.gstatic.com/` provided by Google Fonts.
`db_cache`	whether to obtain font metadata from a cache site. Using cache is typically faster, but not as update-to-date as using the official API. If `db_cache` is set to `FALSE`, then metadata are retrieved from the Google Fonts API.
`handle`	a curl handle object passed to `curl::curl_download()`.

Details

There are thousands of open source fonts in the Google Fonts repository (https://fonts.google.com/). This function will try to search the font family specified by the `name` argument, and then automatically download the font files for all possible font faces ("regular", "bold", "italic" and "bold italic", but no"symbol"). If fonts are found and downloaded successfully, they will be also added to **sysfonts** with the given family name.

Author(s)

Yixuan Qiu <https://statr.me/>

See Also

`font_families_google()`

Examples

```
## Not run:
font_add_google("Alegreya Sans", "aleg")

if(require(showtext))
{
    wd = setwd(tempdir())
    pdf("google-fonts-ex.pdf")
    showtext_begin()

    par(family = "aleg")
    plot(0:5,0:5, type="n")
    text(1:4, 1:4, "Alegreya Sans", font=1:4, cex = 2)

    showtext_end()
    dev.off()
    setwd(wd)
}


## End(Not run)
```

`font_families` *List Font Families Loaded by 'sysfonts'*

Description

The two versions of this function are equivalent, but the "underscore" naming is preferred.

This function lists font families currently available that can be used by **R2SWF** and **showtext** packages.

Usage

```
font_families()

font.families()
```

Details

By default there are three font families loaded automatically, i.e., "sans", "serif" and "mono". If one wants to use other fonts, `font_add()` needs to be called to register new fonts by specifying a family name and corresponding font files. See `font_add()` for details about the meaning of "family name" in this context, as well as a complete example of registering and using a new font.

Value

A character vector of available font family names.

Author(s)

Yixuan Qiu <https://statr.me/>

See Also

font_add()

Examples

```
font_families()
```

---

font_families_google *List Font Families Available in Google Fonts*

Description

The two versions of this function are equivalent, but the "underscore" naming is preferred.

This function lists family names of the fonts that are currently available in Google Fonts. When running this function for the first time, it may take a few seconds to fetch the font information database. This function requires the **jsonlite** and **curl** packages.

Usage

```
font_families_google(db_cache = TRUE, handle = curl::new_handle())

font.families.google()
```

Arguments

db_cache	whether to obtain font metadata from a cache site. Using cache is typically faster, but not as update-to-date as using the official API. If db_cache is set to FALSE, then metadata are retrieved from the Google Fonts API.
handle	a curl handle object passed to curl::curl_download() and curl::curl_fetch_memory().

Value

A character vector of available font family names in Google Fonts.

Author(s)

Yixuan Qiu <https://statr.me/>

See Also

font_add_google()

Examples

```
## Not run:
font_families_google()

## End(Not run)
```

`font_files` *List Font Files Available in the Search Paths*

Description

The two versions of this function are equivalent, but the "underscore" naming is preferred.

This function lists font files in the search path that can be loaded by `font_add()`. Currently supported formats include TrueType fonts(*.ttf, *.ttc) and OpenType fonts(*.otf).

Usage

```
font_files()

font.files()
```

Value

A data frame containing the following information of the font files:

`path`	The directory that the font file is located in.
`file`	File name of the font.
`family`	Family name.
`face`	Font face.
`version`	Version of the font.
`ps_name`	PostScript font name.

Author(s)

Yixuan Qiu <https://statr.me/>

See Also

`font_paths()`, `font_add()`

Examples

```
## Not run:
font_files()

## End(Not run)
```

font_info_google *Display Information of Available Google Fonts*

Description

This function returns a data frame that contains the metadata of font families available in Google Fonts, for example the family name, available font face variants, the version number, etc. When running this function for the first time, it may take a few seconds to fetch the database. This function requires the **jsonlite** and **curl** packages.

Usage

```
font_info_google(db_cache = TRUE, handle = curl::new_handle())
```

Arguments

db_cache	whether to obtain font metadata from a cache site. Using cache is typically faster, but not as update-to-date as using the official API. If db_cache is set to FALSE, then metadata are retrieved from the Google Fonts API.
handle	a curl handle object passed to curl::curl_download() and curl::curl_fetch_memory().

Value

A data frame containing metadata of Google Fonts.

Author(s)

Yixuan Qiu <https://statr.me/>

See Also

font_families_google()

Examples

```
## Not run:
font_info_google()

## End(Not run)
```

font_paths *Get/Set Font Search Paths*

Description

The two versions of this function are equivalent, but the "underscore" naming is preferred.

This function gets/sets the search paths for font files. See `font_add()` for details about how **sysfonts** looks for font files. There is also a complete example showing the usage of these functions in the help page of `font_add()`.

Usage

```
font_paths(new)

font.paths(new)
```

Arguments

`new`	a character vector indicating the search paths to be prepended. If the argument is missing, the function will return the current search paths.

Details

Default search paths will be assigned when package is loaded:

- For Windows, it is `%windir%\Fonts`, usually expanded into `C:\Windows\Fonts`
- For Mac OS, default paths are `/Library/Fonts` and `~/Library/Fonts` and their subdirectories
- For Linux and other Unix-like OS, `/usr/share/fonts`, `/usr/local/share/fonts`, `~/.fonts`, `~/.local/share/fonts`, and their subdirectories

Value

The updated search paths.

Author(s)

Yixuan Qiu <https://statr.me/>

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