

Package ‘ggiraph’

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Type Package

Title Make 'ggplot2' Graphics Interactive

Description Create interactive 'ggplot2' graphics using 'htmlwidgets'.

Version 0.7.10

License GPL-3

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Encoding UTF-8

SystemRequirements C++11, libpng

Imports grid, ggplot2 (>= 3.3.0), htmlwidgets (>= 0.6), stats,
htmltools, Rcpp (>= 0.12.12), systemfonts, purrr, rlang, uuid

LinkingTo Rcpp, systemfonts

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quantreg, xml2 (>= 1.0.0), dplyr

VignetteBuilder knitr

URL <https://davidgohel.github.io/ggiraph/>

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

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'utils_ggplot2.R' 'utils.R' 'annotate_interactive.R'
'annotation_raster_interactive.R' 'dsvg.R' 'dsvg_view.R'
'element_interactive.R' 'fonts.R' 'geom_abline_interactive.R'
'geom_path_interactive.R' 'geom_polygon_interactive.R'
'geom_rect_interactive.R' 'geom_bar_interactive.R'
'geom_boxplot_interactive.R' 'geom_col_interactive.R'
'geom_contour_interactive.R' 'geom_crossbar_interactive.R'
'geom_density_2d_interactive.R' 'geom_density_interactive.R'
'geom_dotplot_interactive.R' 'geom_errorbar_interactive.R'
'geom_errorbarh_interactive.R' 'geom_freqpoly_interactive.R'
'geom_histogram_interactive.R' 'geom_hline_interactive.R'
'geom_jitter_interactive.R' 'geom_label_interactive.R'
'geom_linerange_interactive.R' 'geom_map_interactive.R'

'geom_point_interactive.R' 'geom_pointrange_interactive.R'
 'geom_quantile_interactive.R' 'geom_raster_interactive.R'
 'geom_ribbon_interactive.R' 'geom_segment_interactive.R'
 'geom_sf_interactive.R' 'geom_smooth_interactive.R'
 'geom_text_interactive.R' 'geom_tile_interactive.R'
 'geom_vline_interactive.R' 'ggiraph.R' 'girafe.R'
 'girafe_options.R' 'grob_interactive.R'
 'guide_bins_interactive.R' 'guide_colourbar_interactive.R'
 'guide_coloursteps_interactive.R' 'guide_interactive.R'
 'guide_legend_interactive.R' 'interactive_circle_grob.R'
 'interactive_path_grob.R' 'interactive_points_grob.R'
 'interactive_polygon_grob.R' 'interactive_polyline_grob.R'
 'interactive_raster_grob.R' 'interactive_rect_grob.R'
 'interactive_roundrect_grob.R' 'interactive_segments_grob.R'
 'interactive_text_grob.R' 'labeller_interactive.R'
 'layer_interactive.R' 'scale_alpha_interactive.R'
 'scale_brewer_interactive.R' 'scale_colour_interactive.R'
 'scale_gradient_interactive.R' 'scale_interactive.R'
 'scale_linetype_interactive.R' 'scale_manual_interactive.R'
 'scale_shape_interactive.R' 'scale_size_interactive.R'
 'scale_steps_interactive.R' 'scale_viridis_interactive.R'
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R topics documented:

annotate_interactive	4
annotation_raster_interactive	5
dsvg	6
dsvg_view	7
element_interactive	8
font_family_exists	10
geom_abline_interactive	10
geom_bar_interactive	13
geom_boxplot_interactive	14
geom_contour_interactive	15
geom_crossbar_interactive	16

geom_density_2d_interactive	18
geom_density_interactive	19
geom_dotplot_interactive	20
geom_errorbarh_interactive	21
geom_freqpoly_interactive	23
geom_jitter_interactive	24
geom_label_interactive	25
geom_map_interactive	26
geom_path_interactive	28
geom_point_interactive	30
geom_polygon_interactive	31
geom_quantile_interactive	33
geom_raster_interactive	34
geom_rect_interactive	35
geom_ribbon_interactive	37
geom_segment_interactive	38
geom_sf_interactive	40
geom_smooth_interactive	41
ggiraph	42
ggiraphOutput	44
girafe	45
girafeOutput	47
girafe_css	47
girafe_options	48
guide_bins_interactive	49
guide_colourbar_interactive	51
guide_coloursteps_interactive	54
guide_legend_interactive	56
interactive_circle_grob	60
interactive_parameters	61
interactive_path_grob	63
interactive_points_grob	64
interactive_polygon_grob	64
interactive_polyline_grob	65
interactive_raster_grob	66
interactive_rect_grob	66
interactive_roundrect_grob	67
interactive_segments_grob	68
interactive_text_grob	68
labeller_interactive	69
label_interactive	72
match_family	73
opts_hover	74
opts_selection	75
opts_sizing	76
opts_toolbar	77
opts_tooltip	78
opts_zoom	80

renderggiraph	81
renderGirafe	81
run_girafe_example	82
scale_alpha_interactive	82
scale_colour_brewer_interactive	83
scale_colour_interactive	85
scale_colour_steps_interactive	87
scale_gradient_interactive	88
scale_linetype_interactive	92
scale_manual_interactive	93
scale_shape_interactive	96
scale_size_interactive	98
scale_viridis_interactive	99
validated_fonts	102

Index 104

annotate_interactive *Create interactive annotations*

Description

The layer is based on [annotate\(\)](#). See the documentation for that function for more details.

Usage

```
annotate_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for `annotate_*_interactive` functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also

[girafe\(\)](#), [interactive_parameters](#), [annotation_raster_interactive\(\)](#)

Examples

```
# add interactive annotation to a ggplot -----
library(ggplot2)
library(ggiraph)

gg <- ggplot(mtcars, aes(x = disp, y = qsec )) +
  geom_point(size=2) +
```

```

annotate_interactive(
  "rect", xmin = 100, xmax = 400, fill = "red",
  data_id = "an_id", tooltip = "a tooltip",
  ymin = 18, ymax = 20, alpha = .5)

x <- girafe(ggobj = gg, width_svg = 5, height_svg = 4)
if( interactive() ) print(x)

```

```

annotation_raster_interactive

```

Create interactive raster annotations

Description

The layer is based on [annotation_raster\(\)](#). See the documentation for that function for more details.

Usage

```

annotation_raster_interactive(...)

```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#)..

Details for annotate_*_interactive functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also

[girafe\(\)](#)

Examples

```

# add interactive raster annotation to a ggplot -----
library(ggplot2)
library(ggiraph)

# Generate data
rainbow <- matrix(hcl(seq(0, 360, length.out = 50 * 50), 80, 70), nrow = 50)
p <- ggplot(mtcars, aes(mpg, wt)) +
  geom_point() +
  annotation_raster_interactive(rainbow, 15, 20, 3, 4, tooltip = "I am an image!")
x <- girafe(ggobj = p)
if( interactive() ) print(x)

# To fill up whole plot
p <- ggplot(mtcars, aes(mpg, wt)) +

```

```

annotation_raster_interactive(rainbow, -Inf, Inf, -Inf, Inf, tooltip = "I am an image too!") +
  geom_point()
x <- girafe(ggobj = p)
if( interactive() ) print(x)

```

dsvg

SVG Graphics Driver

Description

This function produces SVG files (compliant to the current w3 svg XML standard) where elements can be made interactive.

In order to generate the output, used fonts must be available on the computer used to create the svg, used fonts must also be available on the computer used to render the svg.

Usage

```

dsvg(
  file = "Rplots.svg",
  width = 6,
  height = 6,
  bg = "white",
  pointsize = 12,
  standalone = TRUE,
  setdims = TRUE,
  canvas_id = "svg_1",
  fonts = list()
)

```

Arguments

file	the file where output will appear.
height, width	Height and width in inches.
bg	Default background color for the plot (defaults to "white").
pointsize	default point size.
standalone	Produce a stand alone svg file? If FALSE, omits xml header and default namespace.
setdims	If TRUE (the default), the svg node will have attributes width & height set
canvas_id	svg id within HTML page.
fonts	Named list of font names to be aliased with fonts installed on your system. If unspecified, the R default families "sans", "serif", "mono" and "symbol" are aliased to the family returned by <code>match_family()</code> . If fonts are available, the default mapping will use these values:

R family	Font on Windows	Font on Unix	Font on Mac OS
----------	-----------------	--------------	----------------

sans	Arial	DejaVu Sans	Helvetica
serif	Times New Roman	DejaVu serif	Times
mono	Courier	DejaVu mono	Courier
symbol	Symbol	DejaVu Sans	Symbol

As an example, using `fonts = list(sans = "Roboto")` would make the default font "Roboto" as many ggplot theme are using `theme_minimal(base_family="")` or `theme_minimal(base_family="sans")`.

You can also use `theme_minimal(base_family="Roboto")`.

See Also

[Devices](#)

Examples

```
fileout <- tempfile(fileext = ".svg")
dsvg(file = fileout)
plot(rnorm(10), main="Simple Example", xlab = "", ylab = "")
dev.off()
```

dsvg_view

Run plotting code and view svg in RStudio Viewer or web browser.

Description

This is useful primarily for testing. Requires the `htmltools` package.

Usage

```
dsvg_view(code, ...)
```

Arguments

`code` Plotting code to execute.
`...` Other arguments passed on to [dsvg](#).

Examples

```
dsvg_view(plot(1:10))
dsvg_view(hist(rnorm(100)))
```

element_interactive *Create interactive theme elements*

Description

With these functions the user can add interactivity to various [theme](#) elements.

They are based on [element_rect\(\)](#), [element_line\(\)](#) and [element_text\(\)](#) See the documentation for those functions for more details.

Usage

```
element_line_interactive(...)
```

```
element_rect_interactive(...)
```

```
element_text_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for element_*_interactive functions

The interactive parameters can be supplied as arguments in the relevant function and they should be scalar values.

For theme text elements ([element_text_interactive\(\)](#)), the interactive parameters can also be supplied while setting a label value, via the [labs\(\)](#) family of functions or when setting a scale/guide title or key label. Instead of setting a character value for the element, function [label_interactive\(\)](#) can be used to define interactive parameters to go along with the label. When the parameters are supplied that way, they override the default values that are set at the theme via [element_text_interactive\(\)](#) or via the guide's theme parameters.

See Also

[girafe\(\)](#)

Examples

```
# add interactive theme elements -----
library(ggplot2)
library(ggiraph)

dataset <- structure(list(qsec = c(16.46, 17.02, 18.61, 19.44, 17.02, 20.22
), disp = c(160, 160, 108, 258, 360, 225), carname = c("Mazda RX4",
"Mazda RX4 Wag", "Datsun 710", "Hornet 4 Drive", "Hornet Sportabout",
"Valiant"), wt = c(2.62, 2.875, 2.32, 3.215, 3.44, 3.46)), row.names = c("Mazda RX4",
"Mazda RX4 Wag", "Datsun 710", "Hornet 4 Drive", "Hornet Sportabout",
"Valiant"), class = "data.frame")
```



```

# plots
gg_point = ggplot(data = dataset) +
  geom_point_interactive(aes(
    x = wt,
    y = qsec,
    color = disp,
    tooltip = carname,
    data_id = carname
  )) +
  theme_minimal() +
  theme(
    plot.title = element_text_interactive(
      data_id = "plot.title",
      tooltip = "plot title",
      hover_css = "fill:red;stroke:none;font-size:12pt"
    ),
    plot.subtitle = element_text_interactive(
      data_id = "plot.subtitle",
      tooltip = "plot subtitle",
      hover_css = "fill:none;"
    ),
    axis.title.x = element_text_interactive(
      data_id = "axis.title.x",
      tooltip = "Description for x axis",
      hover_css = "fill:red;stroke:none;"
    ),
    axis.title.y = element_text_interactive(
      data_id = "axis.title.y",
      tooltip = "Description for y axis",
      hover_css = "fill:red;stroke:none;"
    ),
    panel.grid.major = element_line_interactive(
      data_id = "panel.grid",
      tooltip = "Major grid lines",
      hover_css = "fill:none;stroke:red;"
    )
  ) +
  labs(
    title = "Interactive points example!",
    subtitle = label_interactive(
      "by ggiraph",
      tooltip = "Click me!",
      onclick = "window.open(\"https://davidgohe1.github.io/ggiraph/\")",
      hover_css = "fill:magenta;cursor:pointer;"
    )
  )
)

x <- girafe(ggobj = gg_point)
if( interactive() ) print(x)

```

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

See Also

Other functions for font management: [match_family\(\)](#), [validated_fonts\(\)](#)

Examples

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

geom_abline_interactive

Create interactive reference lines

Description

These geometries are based on [geom_abline\(\)](#), [geom_hline\(\)](#) and [geom_vline\(\)](#).

Usage

```
geom_abline_interactive(...)
```

```
geom_hline_interactive(...)
```

```
geom_vline_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

[girafe\(\)](#)

[girafe\(\)](#)

Examples

```
# add diagonal interactive reference lines to a ggplot -----
library(ggplot2)
library(ggiraph)

p <- ggplot(mtcars, aes(wt, mpg)) + geom_point()
g <- p + geom_abline_interactive(intercept = 20, tooltip = 20)
x <- girafe(ggobj = g)
if (interactive())
  print(x)

l <- coef(lm(mpg ~ wt, data = mtcars))
g <- p + geom_abline_interactive(
  intercept = l[[1]],
  slope = l[[2]],
  tooltip = paste("intercept:", l[[1]], "\nslope:", l[[2]]),
  data_id="abline"
)
x <- girafe(ggobj = g)
x <- girafe_options(x = x,
  opts_hover(css = "cursor:pointer;fill:orange;stroke:orange;"))
if (interactive())
  print(x)

# add horizontal interactive reference lines to a ggplot -----
library(ggplot2)
library(ggiraph)

if( requireNamespace("dplyr", quietly = TRUE)){
  g1 <- ggplot(economics, aes(x = date, y = unemploy)) +
    geom_point() + geom_line()
```

```

gg_hline1 <- g1 + geom_hline_interactive(
  aes(yintercept = mean(unemploy),
      tooltip = round(mean(unemploy), 2)), size = 3)
x <- girafe(ggobj = gg_hline1)
if( interactive() ) print(x)
}

dataset <- data.frame(
  x = c(1, 2, 5, 6, 8),
  y = c(3, 6, 2, 8, 7),
  vx = c(1, 1.5, 0.8, 0.5, 1.3),
  vy = c(0.2, 1.3, 1.7, 0.8, 1.4),
  year = c(2014, 2015, 2016, 2017, 2018)
)

dataset$clickjs <- rep(paste0("alert(\"", mean(dataset$y), "\")"), 5)

g2 <- ggplot(dataset, aes(x = year, y = y)) +
  geom_point() + geom_line()

gg_hline2 <- g2 + geom_hline_interactive(
  aes(yintercept = mean(y),
      tooltip = round(mean(y), 2),
      data_id = y, onclick = clickjs))

x <- girafe(ggobj = gg_hline2)
if( interactive() ) print(x)

# add vertical interactive reference lines to a ggplot -----
library(ggplot2)
library(ggiraph)

if (requireNamespace("dplyr", quietly = TRUE)) {
  g1 <- ggplot(diamonds, aes(carat)) +
    geom_histogram()

  gg_vline1 <- g1 + geom_vline_interactive(
    aes(xintercept = mean(carat),
        tooltip = round(mean(carat), 2),
        data_id = carat), size = 3)
  x <- girafe(ggobj = gg_vline1)
  if( interactive() ) print(x)
}

dataset <- data.frame(x = rnorm(100))

dataset$clickjs <- rep(paste0("alert(\"",
  round(mean(dataset$x), 2), "\")"), 100)

g2 <- ggplot(dataset, aes(x)) +
  geom_density(fill = "#000000", alpha = 0.7)
gg_vline2 <- g2 + geom_vline_interactive(

```

```

aes(xintercept = mean(x), tooltip = round(mean(x), 2),
    data_id = x, onclick = clickjs), color = "white")

x <- girafe(ggobj = gg_vline2)
x <- girafe_options(x = x,
                    opts_hover(css = "cursor:pointer;fill:orange;stroke:orange;") )
if( interactive() ) print(x)

```

geom_bar_interactive *Create interactive bars*

Description

The geometries are based on [geom_bar\(\)](#) and [geom_col\(\)](#). See the documentation for those functions for more details.

Usage

```

geom_bar_interactive(...)

geom_col_interactive(...)

```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the `geom_*_interactive` function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```

# add interactive bar -----
library(ggplot2)
library(ggiraph)

p <- ggplot(mpg, aes( x = class, tooltip = class,
                    data_id = class ) ) +
  geom_bar_interactive()

```

```

x <- girafe(ggobj = p)
if( interactive() ) print(x)

dat <- data.frame( name = c( "David", "Constance", "Leonie" ),
  gender = c( "Male", "Female", "Female" ),
  height = c(172, 159, 71 ) )
p <- ggplot(dat, aes( x = name, y = height, tooltip = gender,
  data_id = name ) ) +
  geom_col_interactive()

x <- girafe(ggobj = p)
if( interactive() ) print(x)

# an example with interactive guide ----
dat <- data.frame(
  name = c( "Guy", "Ginette", "David", "Cedric", "Frederic" ),
  gender = c( "Male", "Female", "Male", "Male", "Male" ),
  height = c(169, 160, 171, 172, 171 ) )
p <- ggplot(dat, aes( x = name, y = height, fill = gender,
  data_id = name ) ) +
  geom_bar_interactive(stat = "identity") +
  scale_fill_manual_interactive(
    values = c(Male = "#0072B2", Female = "#009E73"),
    data_id = c(Female = "Female", Male = "Male"),
    tooltip = c(Male = "Male", Female = "Female")
  )
x <- girafe(ggobj = p)
if( interactive() ) print(x)

```

geom_boxplot_interactive

Create interactive boxplot

Description

The geometry is based on [geom_boxplot\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_boxplot_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive boxplot -----
library(ggplot2)
library(ggiraph)

p <- ggplot(mpg,
  aes(x = class, y = hwy, tooltip = class)) +
  geom_boxplot_interactive()

x <- girafe(ggobj = p)
if( interactive() ) print(x)

p <- ggplot(mpg, aes(x = drv, y = hwy, tooltip = class, fill = class, data_id=class)) +
  geom_boxplot_interactive(outlier.colour = "red") +
  guides(fill = "none") + theme_minimal()

x <- girafe(ggobj = p)
if( interactive() ) print(x)
```

geom_contour_interactive

Create interactive 2d contours of a 3d surface

Description

These geometries are based on [geom_contour\(\)](#) and [geom_contour_filled\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_contour_interactive(...)

geom_contour_filled_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive contours to a ggplot -----
library(ggplot2)
library(ggiraph)

v <- ggplot(faithfuld, aes(waiting, eruptions, z = density))
p <- v + geom_contour_interactive(aes(
  colour = stat(level),
  tooltip = paste("Level:", stat(level))
))
x <- girafe(ggobj = p)
if (interactive()) print(x)

if (packageVersion("grid") >= numeric_version("3.6")) {
  p <- v + geom_contour_filled_interactive(aes(
    colour = stat(level),
    fill = stat(level),
    tooltip = paste("Level:", stat(level))
  ))
  x <- girafe(ggobj = p)
  if (interactive()) print(x)
}
```

geom_crossbar_interactive

Create interactive vertical intervals: lines, crossbars & errorbars

Description

These geometries are based on [geom_crossbar\(\)](#), [geom_errorbar\(\)](#), [geom_linerange\(\)](#) and [geom_pointrange\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_crossbar_interactive(...)

geom_errorbar_interactive(...)

geom_linerange_interactive(...)

geom_pointrange_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive intervals -----
library(ggplot2)
library(ggiraph)

# Create a simple example dataset
df <- data.frame(
  trt = factor(c(1, 1, 2, 2)),
  resp = c(1, 5, 3, 4),
  group = factor(c(1, 2, 1, 2)),
  upper = c(1.1, 5.3, 3.3, 4.2),
  lower = c(0.8, 4.6, 2.4, 3.6)
)

p <- ggplot(df, aes(trt, resp, colour = group))
g <- p + geom_linerange_interactive(aes(ymin = lower, ymax = upper, tooltip = group))
x <- girafe(ggobj = g)
if( interactive() ) print(x)

g <- p + geom_pointrange_interactive(aes(ymin = lower, ymax = upper, tooltip = group))
x <- girafe(ggobj = g)
if( interactive() ) print(x)

g <- p + geom_crossbar_interactive(aes(ymin = lower, ymax = upper, tooltip = group), width = 0.2)
```

```
x <- girafe(ggobj = g)
if( interactive() ) print(x)

g <- p + geom_errorbar_interactive(aes(ymin = lower, ymax = upper, tooltip = group), width = 0.2)
x <- girafe(ggobj = g)
if( interactive() ) print(x)
```

```
geom_density_2d_interactive
```

Create interactive contours of a 2d density estimate

Description

The geometry is based on [geom_density_2d\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_density_2d_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive contours to a ggplot -----
library(ggplot2)
library(ggiraph)

m <- ggplot(faithful, aes(x = eruptions, y = waiting)) +
  geom_point_interactive(aes(tooltip = paste("Waiting:", waiting, "\neruptions:", eruptions))) +
  xlim(0.5, 6) +
  ylim(40, 110)
p <- m + geom_density_2d_interactive(aes(tooltip = paste("Level:", stat(level))))
x <- girafe(ggobj = p)
```

```

if (interactive()) print(x)

set.seed(4393)
dsmall <- diamonds[sample(nrow(diamonds), 1000), ]
d <- ggplot(dsmall, aes(x, y))

p <- d + geom_density_2d_interactive(aes(colour = cut, tooltip = cut, data_id = cut))
x <- girafe(ggobj = p)
x <- girafe_options(x = x,
                    opts_hover(css = "stroke:red;stroke-width:3px;") )
if (interactive()) print(x)

p <- d + stat_density_2d(aes(fill = stat(nlevel),
                             tooltip = paste("nlevel:", stat(nlevel))),
                        geom = "interactive_polygon") +
  facet_grid(. ~ cut) + scale_fill_viridis_c_interactive(tooltip = "nlevel")
x <- girafe(ggobj = p)
if (interactive()) print(x)

```

geom_density_interactive

Create interactive smoothed density estimates

Description

The geometry is based on [geom_density\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_density_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the `geom_*_interactive` function. In this way they can be set to a scalar value.

See Also[girafe\(\)](#)**Examples**

```
# add interactive bar -----
library(ggplot2)
library(ggiraph)

p <- ggplot(diamonds, aes(carat)) +
  geom_density_interactive(tooltip="density", data_id="density")
x <- girafe(ggobj = p)
x <- girafe_options(x = x,
  opts_hover(css = "stroke:orange;stroke-width:3px;") )
if( interactive() ) print(x)

p <- ggplot(diamonds, aes(depth, fill = cut, colour = cut)) +
  geom_density_interactive(aes(tooltip=cut, data_id=cut), alpha = 0.1) +
  xlim(55, 70)
x <- girafe(ggobj = p)
x <- girafe_options(x = x,
  opts_hover(css = "stroke:yellow;stroke-width:3px;fill-opacity:0.8;") )
if( interactive() ) print(x)

p <- ggplot(diamonds, aes(carat, fill = cut)) +
  geom_density_interactive(aes(tooltip=cut, data_id=cut), position = "stack")
x <- girafe(ggobj = p)
if( interactive() ) print(x)

p <- ggplot(diamonds, aes(carat, stat(count), fill = cut)) +
  geom_density_interactive(aes(tooltip=cut, data_id=cut), position = "fill")
x <- girafe(ggobj = p)
if( interactive() ) print(x)
```

geom_dotplot_interactive

Create interactive dot plots

Description

This geometry is based on [geom_dotplot\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_dotplot_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive dot plots to a ggplot -----
library(ggplot2)
library(ggiraph)

p <- ggplot(mtcars, aes(x = mpg, fill = factor(cyl))) +
  geom_dotplot_interactive(
    aes(tooltip = row.names(mtcars)),
    stackgroups = TRUE, binwidth = 1, method = "histodot"
  )

x <- girafe(ggobj = p)
if( interactive() ) print(x)

gg_point = ggplot(
  data = mtcars,
  mapping = aes(
    x = factor(vs), fill = factor(cyl), y = mpg,
    tooltip = row.names(mtcars)) ) +
  geom_dotplot_interactive(binaxis = "y",
    stackdir = "center", position = "dodge")

x <- girafe(ggobj = gg_point)
if( interactive() ) print(x)
```

geom_errorbarh_interactive

Create interactive horizontal error bars

Description

This geometry is based on [geom_errorbarh\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_errorbarh_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add horizontal error bars -----
library(ggplot2)
library(ggiraph)

df <- data.frame(
  trt = factor(c(1, 1, 2, 2)),
  resp = c(1, 5, 3, 4),
  group = factor(c(1, 2, 1, 2)),
  se = c(0.1, 0.3, 0.3, 0.2)
)

# Define the top and bottom of the errorbars

p <- ggplot(df, aes(resp, trt, colour = group))
g <- p + geom_point() +
  geom_errorbarh_interactive(aes(xmax = resp + se, xmin = resp - se, tooltip = group))
x <- girafe(ggobj = g)
if( interactive() ) print(x)

g <- p + geom_point() +
  geom_errorbarh_interactive(aes(xmax = resp + se, xmin = resp - se, height = .2, tooltip = group))
x <- girafe(ggobj = g)
if( interactive() ) print(x)
```

`geom_freqpoly_interactive`*Create interactive histograms and frequency polygons*

Description

The geometries are based on `geom_histogram()` and `geom_freqpoly()`. See the documentation for those functions for more details.

This interactive version is only providing a single tooltip per group of data (same for `data_id`). It means it is only possible to associate a single tooltip to a set of bins.

Usage

```
geom_freqpoly_interactive(...)
```

```
geom_histogram_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the `interactive_parameters()`.

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `aes()`). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the `geom_*_interactive` function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive histogram -----
library(ggplot2)
library(ggiraph)

p <- ggplot(diamonds, aes(carat)) +
  geom_histogram_interactive(bins=30, aes(tooltip = ..count..,
                                         data_id = carat) )

x <- girafe(ggobj = p)
if( interactive() ) print(x)

p <- ggplot(diamonds, aes(price, colour = cut, tooltip = cut, data_id = cut)) +
  geom_freqpoly_interactive(binwidth = 500)
```

```
x <- girafe(ggobj = p)
x <- girafe_options(x = x,
                    opts_hover(css = "stroke-width:3px;") )
if( interactive() ) print(x)
```

geom_jitter_interactive

Create interactive jittered points

Description

The geometry is based on [geom_jitter\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_jitter_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive paths to a ggplot -----
library(ggplot2)
library(ggiraph)

gg_jitter <- ggplot(mpg, aes(cyl, hwy,
                            tooltip = paste(manufacturer, model, year, trans, sep = "\n")))+
  geom_jitter_interactive()

x <- girafe(ggobj = gg_jitter)
if( interactive() ) print(x)
```

`geom_label_interactive`*Create interactive textual annotations*

Description

The geometries are based on `geom_text()` and `geom_label()`. See the documentation for those functions for more details.

Usage

```
geom_label_interactive(...)
```

```
geom_text_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the `interactive_parameters()`.

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `aes()`). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the `geom_*_interactive` function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive labels to a ggplot -----
library(ggplot2)
library(ggiraph)

p <- ggplot(mtcars, aes(wt, mpg, label = rownames(mtcars))) +
  geom_label_interactive(aes(tooltip = paste(rownames(mtcars), mpg, sep = "\n")))
x <- girafe(ggobj = p)
if( interactive() ) print(x)

p <- ggplot(mtcars, aes(wt, mpg, label = rownames(mtcars))) +
  geom_label_interactive(aes(fill = factor(cyl),
    tooltip = paste(rownames(mtcars), mpg, sep = "\n")),
    colour = "white",
```

```

                                fontface = "bold")
x <- girafe(ggobj = p)
if( interactive() ) print(x)

# add interactive texts to a ggplot -----
library(ggplot2)
library(ggiraph)

## the data
dataset = mtcars
dataset$label = row.names(mtcars)

dataset$tooltip = paste0( "cyl: ", dataset$cyl, "<br/>",
                          "gear: ", dataset$gear, "<br/>",
                          "carb: ", dataset$carb)

## the plot
gg_text = ggplot(dataset,
                 aes(x = mpg, y = wt, label = label,
                    color = qsec,
                    tooltip = tooltip, data_id = label ) ) +
  geom_text_interactive() +
  coord_cartesian(xlim = c(0,50))

## display the plot
x <- girafe(ggobj = gg_text)
x <- girafe_options(x = x,
                   opts_hover(css = "fill:#FF4C3B;font-style:italic;") )
if( interactive() ) print(x)

```

geom_map_interactive *Create interactive polygons from a reference map*

Description

The geometry is based on [geom_map\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_map_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.

- As plain arguments into the `geom_*_interactive` function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive maps to a ggplot -----
library(ggplot2)
library(ggiraph)

crimes <- data.frame(state = tolower(rownames(USArrests)), USArrests)

# create tooltips and onclick events
states_ <- sprintf("<p>%s</p>",
                  as.character(crimes$state) )
table_ <- paste0(
  "<table><tr><td>UrbanPop</td>",
  sprintf("<td>%.0f</td>", crimes$UrbanPop),
  "</tr><tr>",
  "<td>Assault</td>",
  sprintf("<td>%.0f</td>", crimes$Assault),
  "</tr></table>"
)

onclick <- sprintf(
  "window.open(\"%s%s\")",
  "http://en.wikipedia.org/wiki/",
  as.character(crimes$state)
)

crimes$labs <- paste0(states_, table_)
crimes$onclick = onclick

if (require("maps") ) {
  states_map <- map_data("state")
  gg_map <- ggplot(crimes, aes(map_id = state))
  gg_map <- gg_map + geom_map_interactive(aes(
    fill = Murder,
    tooltip = labs,
    data_id = state,
    onclick = onclick
  ),
    map = states_map) +
  expand_limits(x = states_map$long, y = states_map$lat)
  x <- girafe(ggobj = gg_map)
  if( interactive() ) print(x)
}
```

geom_path_interactive *Create interactive observations connections*

Description

These geometries are based on [geom_path\(\)](#), [geom_line\(\)](#) and [geom_step\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_path_interactive(...)
```

```
geom_line_interactive(...)
```

```
geom_step_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive paths to a ggplot -----
library(ggplot2)
library(ggiraph)

# geom_line_interactive example -----
if( requireNamespace("dplyr", quietly = TRUE)){
  gg <- ggplot(economics_long,
    aes(date, value01, colour = variable, tooltip = variable, data_id = variable,
      hover_css = "fill:none;")) +
    geom_line_interactive(size = .75)
  x <- girafe(ggobj = gg)
  x <- girafe_options(x = x,
    opts_hover(css = "stroke:red;fill:orange") )
  if( interactive() ) print(x)
```

```

}

# geom_step_interactive example -----
if( requireNamespace("dplyr", quietly = TRUE)){
  recent <- economics[economics$date > as.Date("2013-01-01"), ]
  gg = ggplot(recent, aes(date, unemploy)) +
    geom_step_interactive(aes(tooltip = "Unemployment stairstep line", data_id = 1))
  x <- girafe(ggobj = gg)
  x <- girafe_options(x = x,
    opts_hover(css = "stroke:red;") )
  if( interactive() ) print(x)
}

# create datasets -----
id = paste0("id", 1:10)
data = expand.grid(list(
  variable = c("2000", "2005", "2010", "2015"),
  id = id
))
groups = sample(LETTERS[1:3], size = length(id), replace = TRUE)
data$group = groups[match(data$id, id)]
data$value = runif(n = nrow(data))
data$tooltip = paste0('line ', data$id )
data$onclick = paste0("alert(\"", data$id, "\")" )

cols = c("orange", "orange1", "orange2", "navajowhite4", "navy")
dataset2 <- data.frame(x = rep(1:20, 5),
  y = rnorm(100, 5, .2) + rep(1:5, each=20),
  z = rep(1:20, 5),
  grp = factor(rep(1:5, each=20)),
  color = factor(rep(1:5, each=20)),
  label = rep(paste0( "id ", 1:5 ), each=20),
  onclick = paste0(
    "alert(\"",
    sample(letters, 100, replace = TRUE),
    "\")" )
)

# plots ---
gg_path_1 = ggplot(data, aes(variable, value, group = id,
  colour = group, tooltip = tooltip, onclick = onclick, data_id = id)) +
  geom_path_interactive(alpha = 0.5)

gg_path_2 = ggplot(data, aes(variable, value, group = id, data_id = id,
  tooltip = tooltip)) +
  geom_path_interactive(alpha = 0.5) +
  facet_wrap( ~ group )

gg_path_3 = ggplot(dataset2) +
  geom_path_interactive(aes(x, y, group=grp, data_id = label,

```

```

color = color, tooltip = label, onclick = onclick), size = 1 )

# ggiraph widgets ---
x <- girafe(ggobj = gg_path_1)
x <- girafe_options(x = x,
                    opts_hover(css = "stroke-width:3px;") )
if( interactive() ) print(x)

x <- girafe(ggobj = gg_path_2)
x <- girafe_options(x = x,
                    opts_hover(css = "stroke:orange;stroke-width:3px;") )
if( interactive() ) print(x)

x <- girafe(ggobj = gg_path_3)
x <- girafe_options(x = x,
                    opts_hover(css = "stroke-width:10px;") )
if( interactive() ) print(x)

m <- ggplot(economics, aes(unemploy/pop, psavert))
p <- m + geom_path_interactive(aes(colour = as.numeric(date), tooltip=date))
x <- girafe(ggobj = p)
if( interactive() ) print(x)

```

geom_point_interactive

Create interactive points

Description

The geometry is based on [geom_point\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_point_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the `geom_*_interactive` function. In this way they can be set to a scalar value.

Note

The following shapes id 3, 4 and 7 to 14 are composite symbols and should not be used.

See Also

[girafe\(\)](#)

Examples

```
# add interactive points to a ggplot -----
library(ggplot2)
library(ggiraph)

dataset <- structure(list(qsec = c(16.46, 17.02, 18.61, 19.44, 17.02, 20.22
), disp = c(160, 160, 108, 258, 360, 225), carname = c("Mazda RX4",
"Mazda RX4 Wag", "Datsun 710", "Hornet 4 Drive", "Hornet Sportabout",
"Valiant"), wt = c(2.62, 2.875, 2.32, 3.215, 3.44, 3.46)), row.names = c("Mazda RX4",
"Mazda RX4 Wag", "Datsun 710", "Hornet 4 Drive", "Hornet Sportabout",
"Valiant"), class = "data.frame")
dataset

# plots
gg_point = ggplot(data = dataset) +
geom_point_interactive(aes(x = wt, y = qsec, color = disp,
  tooltip = carname, data_id = carname)) + theme_minimal()

x <- girafe(ggobj = gg_point)
if( interactive() ) print(x)
```

geom_polygon_interactive

Create interactive polygons

Description

The geometry is based on [geom_polygon\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_polygon_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `aes()`). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the `geom_*_interactive` function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive polygons to a ggplot -----
library(ggplot2)
library(ggiraph)

# create data
ids <- factor(c("1.1", "2.1", "1.2", "2.2", "1.3", "2.3"))

values <- data.frame(
  id = ids,
  value = c(3, 3.1, 3.1, 3.2, 3.15, 3.5) )
positions <- data.frame(
  id = rep(ids, each = 4),
  x = c(2, 1, 1.1, 2.2, 1, 0, 0.3, 1.1, 2.2, 1.1, 1.2, 2.5, 1.1, 0.3,
0.5, 1.2, 2.5, 1.2, 1.3, 2.7, 1.2, 0.5, 0.6, 1.3),
  y = c(-0.5, 0, 1, 0.5, 0, 0.5, 1.5, 1, 0.5, 1, 2.1, 1.7, 1, 1.5,
2.2, 2.1, 1.7, 2.1, 3.2, 2.8, 2.1, 2.2, 3.3, 3.2) )

datapoly <- merge(values, positions, by=c("id"))

datapoly$oc = "alert(this.getAttribute(\"data-id\"))"

# create a ggplot -----
gg_poly_1 <- ggplot(datapoly, aes( x = x, y = y ) ) +
  geom_polygon_interactive(aes(fill = value, group = id,
  tooltip = value, data_id = value, onclick = oc))

# display -----
x <- girafe(ggobj = gg_poly_1)
if( interactive() ) print(x)

if (packageVersion("grid") >= "3.6") {
  # As of R version 3.6 geom_polygon() supports polygons with holes
  # Use the subgroup aesthetic to differentiate holes from the main polygon

  holes <- do.call(rbind, lapply(split(datapoly, datapoly$id), function(df) {
    df$x <- df$x + 0.5 * (mean(df$x) - df$x)
    df$y <- df$y + 0.5 * (mean(df$y) - df$y)
    df
  }
  )
}
```



```
  ))
  datapoly$subid <- 1L
  holes$subid <- 2L
  datapoly <- rbind(datapoly, holes)
  p <- ggplot(datapoly, aes(x = x, y = y)) +
    geom_polygon_interactive(aes(fill = value, group = id, subgroup = subid,
                                tooltip = value, data_id = value, onclick = oc))

  x <- girafe(ggobj = p)
  if( interactive() ) print(x)
}
```

geom_quantile_interactive

Create interactive quantile regression

Description

The geometry is based on [geom_quantile\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_quantile_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive quantiles to a ggplot -----
library(ggplot2)
library(ggiraph)

if (requireNamespace("quantreg", quietly = TRUE)) {
  m <- ggplot(mpg, aes(displ, 1 / hwy)) + geom_point()
  p <- m + geom_quantile_interactive(
    aes(
      tooltip = stat(quantile),
      data_id = stat(quantile),
      colour = stat(quantile)
    ),
    formula = y ~ x,
    size = 2,
    alpha = 0.5
  )
  x <- girafe(ggobj = p)
  x <- girafe_options(x = x,
    opts_hover(css = "stroke:red;stroke-width:10px;") )
  if (interactive()) print(x)
}
```

geom_raster_interactive

Create interactive raster rectangles

Description

The geometry is based on [geom_raster\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_raster_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also[girafe\(\)](#)[girafe\(\)](#)**Examples**

```
# add interactive raster to a ggplot -----
library(ggplot2)
library(ggiraph)

df <- expand.grid(x = 0:5, y = 0:5)
df$z <- runif(nrow(df))

gg <- ggplot(df, aes(x, y, fill = z, tooltip = "tooltip")) +
  geom_raster_interactive() +
  scale_fill_gradient_interactive(
    data_id = "coco", onclick = "cici", tooltip = "cucu"
  )

x <- girafe(ggobj = gg)
if( interactive() ) print(x)
```

geom_rect_interactive *Create interactive rectangles*

Description

These geometries are based on [geom_rect\(\)](#) and [geom_tile\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_rect_interactive(...)
```

```
geom_tile_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

Note

Converting a raster to svg elements could inflate dramatically the size of the svg and make it unreadable in a browser. Function `geom_tile_interactive` should be used with caution, total number of rectangles should be small.

See Also

[girafe\(\)](#)

Examples

```
# add interactive polygons to a ggplot -----
library(ggplot2)
library(ggiraph)

dataset = data.frame( x1 = c(1, 3, 1, 5, 4),
  x2 = c(2, 4, 3, 6, 6),
  y1 = c( 1, 1, 4, 1, 3),
  y2 = c( 2, 2, 5, 3, 5),
  t = c( 'a', 'a', 'a', 'b', 'b'),
  r = c( 1, 2, 3, 4, 5),
  tooltip = c("ID 1", "ID 2", "ID 3", "ID 4", "ID 5"),
  uid = c("ID 1", "ID 2", "ID 3", "ID 4", "ID 5"),
  oc = rep("alert(this.getAttribute(\"data-id\")", 5)
)

gg_rect = ggplot() +
  scale_x_continuous(name="x") +
  scale_y_continuous(name="y") +
  geom_rect_interactive(data=dataset,
  mapping = aes(xmin = x1, xmax = x2,
  ymin = y1, ymax = y2, fill = t,
  tooltip = tooltip, onclick = oc, data_id = uid ),
  color="black", alpha=0.5) +
  geom_text(data=dataset,
  aes(x = x1 + ( x2 - x1 ) / 2, y = y1 + ( y2 - y1 ) / 2,
  label = r ),
  size = 4 )

x <- girafe(ggobj = gg_rect)
if( interactive() ) print(x)
# add interactive tiles to a ggplot -----
library(ggplot2)
library(ggiraph)

df <- data.frame(
  id = rep(c("a", "b", "c", "d", "e"), 2),
  x = rep(c(2, 5, 7, 9, 12), 2),
  y = rep(c(1, 2), each = 5),
  z = factor(rep(1:5, each = 2)),
  w = rep(diff(c(0, 4, 6, 8, 10, 14)), 2)
)
```

```

p <- ggplot(df, aes(x, y, tooltip = id)) + geom_tile_interactive(aes(fill = z))
x <- girafe(ggobj = p)
if( interactive() ) print(x)

# correlation dataset ----
cor_mat <- cor(mtcars)
diag( cor_mat ) <- NA
var1 <- rep( row.names(cor_mat), ncol(cor_mat) )
var2 <- rep( colnames(cor_mat), each = nrow(cor_mat) )
cor <- as.numeric(cor_mat)
cor_mat <- data.frame( var1 = var1, var2 = var2,
  cor = cor, stringsAsFactors = FALSE )
cor_mat[["tooltip"]] <-
  sprintf("<i>%s`</i> vs <i>%s`</i>:</br><code>%.03f</code>",
    var1, var2, cor)

p <- ggplot(data = cor_mat, aes(x = var1, y = var2) ) +
  geom_tile_interactive(aes(fill = cor, tooltip = tooltip), colour = "white") +
  scale_fill_gradient2_interactive(low = "#BC120A", mid = "white", high = "#BC120A",
    limits = c(-1, 1), data_id = "cormat", tooltip = "cormat") +
  coord_equal()
x <- girafe(ggobj = p)
if( interactive() ) print(x)

```

geom_ribbon_interactive

Create interactive ribbons and area plots

Description

The geometries are based on [geom_ribbon\(\)](#) and [geom_area\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_ribbon_interactive(...)
```

```
geom_area_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `aes()`). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the `geom_*_interactive` function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive bar -----
library(ggplot2)
library(ggiraph)

# Generate data
huron <- data.frame(year = 1875:1972, level = as.vector(LakeHuron))
h <- ggplot(huron, aes(year))

g <- h +
  geom_ribbon_interactive(aes(ymin = level - 1, ymax = level + 1),
                        fill = "grey70", tooltip = "ribbon1", data_id="ribbon1",
                        outline.type = "both",
                        hover_css = "stroke:red;stroke-width:inherit;") +
  geom_line_interactive(aes(y = level), tooltip = "level", data_id="line1",
                       hover_css = "stroke:orange;fill:none;")
x <- girafe(ggobj = g)
x <- girafe_options(x = x,
                   opts_hover(css = girafe_css(
                     css = "stroke:orange;stroke-width:3px;",
                     area = "fill:blue;"
                   )))
if( interactive() ) print(x)

g <- h + geom_area_interactive(aes(y = level), tooltip = "area1")
x <- girafe(ggobj = g)
if( interactive() ) print(x)
```

geom_segment_interactive

Create interactive line segments

Description

The geometry is based on [geom_segment\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_segment_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive segments to a ggplot -----
library(ggplot2)
library(ggiraph)

counts <- as.data.frame(table(x = rpois(100,5)))
counts$x <- as.numeric( as.character(counts$x) )
counts$xlabel <- paste0("bar",as.character(counts$x) )

gg_segment_1 <- ggplot(data = counts, aes(x = x, y = Freq,
yend = 0, xend = x, tooltip = xlabel ) ) +
geom_segment_interactive( size = I(10))
x <- girafe(ggobj = gg_segment_1)
if( interactive() ) print(x)

dataset = data.frame(x=c(1,2,5,6,8),
y=c(3,6,2,8,7),
vx=c(1,1.5,0.8,0.5,1.3),
vy=c(0.2,1.3,1.7,0.8,1.4),
labs = paste0("Lab", 1:5))
dataset$clickjs = paste0("alert(\"\",dataset$labs, \"\")" )

gg_segment_2 = ggplot() +
geom_segment_interactive(data=dataset, mapping=aes(x=x, y=y,
xend=x+vx, yend=y+vy, tooltip = labs, onclick=clickjs ),
arrow=grid::arrow(length = grid::unit(0.03, "npc")),
size=2, color="blue") +
geom_point(data=dataset, mapping=aes(x=x, y=y),
size=4, shape=21, fill="white")
```

```
x <- girafe(ggobj = gg_segment_2)
if( interactive() ) print(x)
```

geom_sf_interactive *Create interactive sf objects*

Description

These geometries are based on [geom_sf\(\)](#), [geom_sf_label\(\)](#) and [geom_sf_text\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_sf_interactive(...)

geom_sf_label_interactive(...)

geom_sf_text_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [aes\(\)](#)). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the geom_*_interactive function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive sf objects to a ggplot -----
library(ggplot2)
library(ggiraph)

## original code: see section examples of ggplot2::geom_sf help file
if (requireNamespace("sf",
                    quietly = TRUE,
                    versionCheck = c(op = ">=", version = "0.7-3"))) {
  nc <- sf::st_read(system.file("shape/nc.shp", package = "sf"), quiet = TRUE)
  gg <- ggplot(nc) +
    geom_sf_interactive(aes(fill = AREA, tooltip = NAME, data_id = NAME))
}
```



```

x <- girafe(ggobj = gg)
if( interactive() ) print(x)

nc_3857 <- sf::st_transform(nc, "+init=epsg:3857")

# Unfortunately if you plot other types of feature you'll need to use
# show.legend to tell ggplot2 what type of legend to use
nc_3857$mid <- sf::st_centroid(nc_3857$geometry)
gg <- ggplot(nc_3857) +
  geom_sf(colour = "white") +
  geom_sf_interactive(aes(geometry = mid,
    size = AREA, tooltip = NAME, data_id = NAME),
    show.legend = "point")
x <- girafe( ggobj = gg)
if( interactive() ) print(x)

# Example with texts.
gg <- ggplot(nc_3857[1:3, ]) +
  geom_sf(aes(fill = AREA)) +
  geom_sf_text_interactive(aes(label = NAME, tooltip = NAME), color="white")
x <- girafe( ggobj = gg)
if( interactive() ) print(x)

# Example with labels.
gg <- ggplot(nc_3857[1:3, ]) +
  geom_sf(aes(fill = AREA)) +
  geom_sf_label_interactive(aes(label = NAME, tooltip = NAME))
x <- girafe( ggobj = gg)
if( interactive() ) print(x)
}

```

geom_smooth_interactive

Create interactive smoothed conditional means

Description

The geometry is based on [geom_smooth\(\)](#). See the documentation for those functions for more details.

Usage

```
geom_smooth_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `aes()`). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the `geom_*_interactive` function. In this way they can be set to a scalar value.

See Also

[girafe\(\)](#)

Examples

```
# add interactive bar -----
library(ggplot2)
library(ggiraph)

p <- ggplot(mpg, aes(displ, hwy)) +
  geom_point() +
  geom_smooth_interactive(aes(tooltip="smoothed line", data_id="smooth"))
x <- girafe(ggobj = p)
x <- girafe_options(x = x,
                    opts_hover(css = "stroke:orange;stroke-width:3px;") )
if( interactive() ) print(x)

p <- ggplot(mpg, aes(displ, hwy)) +
  geom_point() +
  geom_smooth_interactive(method = lm, se = FALSE, tooltip="smooth", data_id="smooth")
x <- girafe(ggobj = p)
if( interactive() ) print(x)

p <- ggplot(mpg, aes(displ, hwy, colour = class, tooltip = class, data_id = class)) +
  geom_point_interactive() +
  geom_smooth_interactive(se = FALSE, method = lm)
x <- girafe(ggobj = p)
x <- girafe_options(x = x,
                    opts_hover(css = "stroke:red;stroke-width:3px;") )
if( interactive() ) print(x)
```

ggiraph

Create a ggiraph object

Description

Create an interactive graphic to be used in a web browser.

This function is maintained for backward compatibility reasons, user should now use function [girafe\(\)](#) and [girafe_options](#).

Usage

```

ggiraph(
  code,
  ggobj = NULL,
  pointsize = 12,
  width = 0.75,
  width_svg = 6,
  height_svg = 5,
  tooltip_extra_css = NULL,
  hover_css = NULL,
  tooltip_opacity = 0.9,
  tooltip_offx = 10,
  tooltip_offy = 0,
  tooltip_zindex = 999,
  zoom_max = 1,
  selection_type = "multiple",
  selected_css = NULL,
  dep_dir = NULL,
  ...
)

```

Arguments

code	Plotting code to execute
ggobj	ggplot objet to print. argument code will be ignored if this argument is supplied.
pointsize	the default pointsize of plotted text in pixels, default to 12.
width	widget width ratio (0 < width <= 1).
width_svg	The width and height of the graphics region in inches. The default values are 6 and 5 inches. This will define the aspect ratio of the graphic as it will be used to define viewBox attribute of the SVG result.
height_svg	The width and height of the graphics region in inches. The default values are 6 and 5 inches. This will define the aspect ratio of the graphic as it will be used to define viewBox attribute of the SVG result.
tooltip_extra_css	extra css (added to position: absolute;pointer-events: none;) used to customize tooltip area.
hover_css	css to apply when mouse is hover and element with a data-id attribute.
tooltip_opacity	tooltip opacity
tooltip_offx	tooltip x offset
tooltip_offy	tooltip y offset
tooltip_zindex	tooltip css z-index, default to 999.
zoom_max	maximum zoom factor
selection_type	row selection mode ("single", "multiple", "none") when widget is in a Shiny application.

selected_css	css to apply when element is selected (shiny only).
dep_dir	Deprecated; the path where the output files are stored. If NULL, the current path for temporary files is used.
...	arguments passed on to dsvg

Examples

```
# ggiraph simple example -----
library(ggplot2)
library(ggiraph)

dataset <- structure(list(qsec = c(16.46, 17.02, 18.61, 19.44, 17.02, 20.22
), disp = c(160, 160, 108, 258, 360, 225), carname = c("Mazda RX4",
"Mazda RX4 Wag", "Datsun 710", "Hornet 4 Drive", "Hornet Sportabout",
"Valiant"), wt = c(2.62, 2.875, 2.32, 3.215, 3.44, 3.46)), row.names = c("Mazda RX4",
"Mazda RX4 Wag", "Datsun 710", "Hornet 4 Drive", "Hornet Sportabout",
"Valiant"), class = "data.frame")
dataset

# plots
gg_point = ggplot(data = dataset) +
  geom_point_interactive(aes(x = wt, y = qsec, color = disp,
  tooltip = carname, data_id = carname)) + theme_minimal()

x <- girafe(ggobj = gg_point)
if( interactive() ) print(x)
```

ggiraphOutput

Create a ggiraph output element

Description

Render a ggiraph within an application page.

Usage

```
ggiraphOutput(outputId, width = "100%", height = "500px")
```

Arguments

outputId	output variable to read the ggiraph from.
width	widget width
height	widget height

Examples

```
## Not run:
if( require(shiny) && interactive() ){
  app_dir <- file.path( system.file(package = "ggiraph"), "examples/shiny/cars" )
  shinyAppDir(appDir = app_dir )
}
if( require(shiny) && interactive() ){
  app_dir <- file.path( system.file(package = "ggiraph"), "examples/shiny/crimes" )
  shinyAppDir(appDir = app_dir )
}

## End(Not run)
```

girafe

*Create a girafe object***Description**

Create an interactive graphic with a ggplot object to be used in a web browser. The function should replace function ggiraph.

Usage

```
girafe(
  code,
  ggobj = NULL,
  pointsize = 12,
  width_svg = 6,
  height_svg = 5,
  options = list(),
  ...
)
```

Arguments

code	Plotting code to execute
ggobj	ggplot objet to print. argument code will be ignored if this argument is supplied.
pointsize	the default pointsize of plotted text in pixels, default to 12.
width_svg, height_svg	The width and height of the graphics region in inches. The default values are 6 and 5 inches. This will define the aspect ratio of the graphic as it will be used to define viewBox attribute of the SVG result.
options	a list of options for girafe rendering, see opts_tooltip , opts_hover , opts_selection , ...
...	arguments passed on to dsvg

Details

Use `geom_zzz_interactive` to create interactive graphical elements.

Difference from original functions is that some extra aesthetics are understood: the `interactive_parameters()`.

Tooltips can be displayed when mouse is over graphical elements.

If id are associated with points, they get animated when mouse is over and can be selected when used in shiny apps.

On click actions can be set with javascript instructions. This option should not be used simultaneously with selections in Shiny applications as both features are "on click" features.

When a zoom effect is set, "zoom activate", "zoom deactivate" and "zoom init" buttons are available in a toolbar.

When selection type is set to 'multiple' (in Shiny applications), lasso selection and lasso anti-selections buttons are available in a toolbar.

Widget options

girafe animations can be customized with function `girafe_options`. Options are available to customize tooltips, hover effects, zoom effects selection effects and toolbar.

Widget sizing

girafe graphics are responsive, which mean, they will be resized according to their container. There are two responsive behavior implementations: one for Shiny applications and flexdashboard documents and one for other documents (i.e. R markdown and `saveWidget`).

Graphics are created by an R graphic device (i.e pdf, png, svg here) and need arguments `width` and `height` to define a graphic region. Arguments `width_svg` and `height_svg` are used as corresponding values. They are defining the aspect ratio of the graphic. This proportion is always respected when the graph is displayed.

When a girafe graphic is in a Shiny application, graphic will be resized according to the arguments `width` and `height` of the function `girafeOutput`. Default values are '100\ outer bounding box of the graphic (the HTML element that will contain the graphic with an aspect ratio).

When a girafe graphic is in an R markdown document (producing an HTML document), the graphic will be resized according to the argument `width` of the function `girafe`. Its value is beeing used to define a relative width of the graphic within its HTML container. Its height is automatically adjusted regarding to the argument `width` and the aspect ratio.

If this behavior does not fit with your need, I recommand you to use package `widgetframe` that wraps `htmlwidgets` inside a responsive `iframe`.

See Also

[girafe_options\(\)](#), [validated_fonts\(\)](#), [dsvg\(\)](#)

Examples

```
library(ggplot2)

dataset <- mtcars
```

```

dataset$carname = row.names(mtcars)

gg_point = ggplot( data = dataset,
  mapping = aes(x = wt, y = qsec, color = disp,
  tooltip = carname, data_id = carname) ) +
  geom_point_interactive() + theme_minimal()

x <- girafe(ggobj = gg_point, width = 0.7)

if(interactive()){
  print(x)
}

```

`girafeOutput` *Create a girafe output element*

Description

Render a girafe within an application page.

Usage

```
girafeOutput(outputId, width = "100%", height = "500px")
```

Arguments

<code>outputId</code>	output variable to read the girafe from. Do not use special JavaScript characters such as a period . in the id, this would create a JavaScript error.
<code>width</code>	widget width
<code>height</code>	widget height

`girafe_css` *CSS creation helper*

Description

It allows specifying individual styles for various SVG elements.

Usage

```

girafe_css(
  css,
  text = NULL,
  point = NULL,
  line = NULL,
  area = NULL,
  image = NULL
)

```

Arguments

css	The generic css style
text	Override style for text elements (svg:text)
point	Override style for point elements (svg:circle)
line	Override style for line elements (svg:line, svg:polyline)
area	Override style for area elements (svg:rect, svg:polygon, svg:path)
image	Override style for image elements (svg:image)

Value

css as scalar character

Examples

```
library(ggiraph)

girafe_css(
  css = "fill:orange;stroke:gray;",
  text = "stroke:none; font-size: larger",
  line = "fill:none",
  area = "stroke-width:3px",
  point = "stroke-width:3px",
  image = "outline:2px red"
)
```

girafe_options	<i>Set girafe options</i>
----------------	---------------------------

Description

Defines the animation options related to a `girafe()` object.

Usage

```
girafe_options(x, ...)
```

Arguments

x	girafe object.
...	set of options defined by calls to <code>opts_*</code> functions or to <code>sizingPolicy</code> from <code>htmlwidgets</code> (this won't have any effect within a shiny context).

See Also

[girafe\(\)](#)

Other girafe animation options: [opts_hover\(\)](#), [opts_selection\(\)](#), [opts_sizing\(\)](#), [opts_toolbar\(\)](#), [opts_tooltip\(\)](#), [opts_zoom\(\)](#)

Examples

```
library(ggplot2)
library(htmlwidgets)

dataset <- mtcars
dataset$carname = row.names(mtcars)

gg_point = ggplot( data = dataset,
  mapping = aes(x = wt, y = qsec, color = disp,
  tooltip = carname, data_id = carname) ) +
  geom_point_interactive() + theme_minimal()

x <- girafe(ggobj = gg_point)
x <- girafe_options(x = x,
  opts_tooltip(opacity = .7),
  opts_zoom(min = .5, max = 4),
  sizingPolicy(defaultWidth = "100%", defaultHeight = "300px"),
  opts_hover(css = "fill:red;stroke:orange;r:5pt;") )

if(interactive()){
  print(x)
}
```

guide_bins_interactive

Create interactive bins guide

Description

The guide is based on [guide_bins\(\)](#). See the documentation for that function for more details.

Usage

```
guide_bins_interactive(...)
```

Arguments

... arguments passed to base function.

Value

An interactive guide object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a `guide_legend_interactive()` or `guide_bins_interactive()` respectively, if it's not already.

The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.

The interactive parameters here, give interactivity only to the key elements of the guide.

- When guide of type colourbar or coloursteps is used, it will be converted to a `guide_colourbar_interactive()` or `guide_coloursteps_interactive()` respectively, if it's not already.

The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme` and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also

[interactive_parameters\(\)](#), [girafe\(\)](#)

Examples

```
# add interactive bins guide to a ggplot -----
library(ggplot2)
library(ggiraph)

set.seed(4393)
dsmall <- diamonds[sample(nrow(diamonds), 1000),]
p <- ggplot(dsmall, aes(x, y)) +
  stat_density_2d(aes(
    fill = stat(nlevel),
    tooltip = paste("nlevel:", stat(nlevel))
  ),
  geom = "interactive_polygon") +
  facet_grid(. ~ cut)

# add interactive binned scale and guide
p1 <- p + scale_fill_viridis_b_interactive(data_id = "nlevel",
                                          tooltip = "nlevel",
                                          guide = "bins")

x <- girafe(ggobj = p1)
if (interactive()) print(x)

# set the keys separately
p2 <- p + scale_fill_viridis_b_interactive(
  data_id = function(breaks) {
    as.character(breaks)
  },
  tooltip = function(breaks) {
```

```

      as.character(breaks)
    },
    guide = "bins"
  )
x <- girafe(ggobj = p2)
if (interactive()) print(x)

# make the title and labels interactive
p3 <- p + scale_fill_viridis_c_interactive(
  data_id = function(breaks) {
    as.character(breaks)
  },
  tooltip = function(breaks) {
    as.character(breaks)
  },
  guide = "bins",
  name = label_interactive("nlevel", data_id = "nlevel",
    tooltip = "nlevel"),
  labels = function(breaks) {
    l <- lapply(breaks, function(br) {
      label_interactive(
        as.character(br),
        data_id = as.character(br),
        onclick = paste0("alert(\"", as.character(br), "\")"),
        tooltip = as.character(br)
      )
    })
    l
  }
)
x <- girafe(ggobj = p3)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

```

guide_colourbar_interactive

Create interactive continuous colour bar guide

Description

The guide is based on [guide_colourbar\(\)](#). See the documentation for that function for more details.

Usage

```
guide_colourbar_interactive(...)
```

```
guide_colorbar_interactive(...)
```

Arguments

... arguments passed to base function.

Value

An interactive guide object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a `guide_legend_interactive()` or `guide_bins_interactive()` respectively, if it's not already.
The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.
The interactive parameters here, give interactivity only to the key elements of the guide.
- When guide of type colourbar or coloursteps is used, it will be converted to a `guide_colourbar_interactive()` or `guide_coloursteps_interactive()` respectively, if it's not already.
The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme` and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also

`interactive_parameters()`, `girafe()`

Examples

```
# add interactive colourbar guide to a ggplot -----
library(ggplot2)
library(ggiraph)

df <- expand.grid(x = 0:5, y = 0:5)
df$z <- runif(nrow(df))

p <- ggplot(df, aes(x, y, fill = z, tooltip = "tooltip")) +
  geom_raster_interactive()

# add an interactive scale (guide is colourbar)
```

```

p1 <- p + scale_fill_gradient_interactive(data_id = "colourbar",
                                         onclick = "alert(\"colourbar\")",
                                         tooltip = "colourbar")

x <- girafe(ggobj = p1)
if (interactive()) print(x)

# make the legend title interactive
p2 <- p + scale_fill_gradient_interactive(
  data_id = "colourbar",
  onclick = "alert(\"colourbar\")",
  tooltip = "colourbar",
  name = label_interactive(
    "z",
    data_id = "colourbar",
    onclick = "alert(\"colourbar\")",
    tooltip = "colourbar"
  )
)
x <- girafe(ggobj = p2)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

# make the legend labels interactive
p3 <- p + scale_fill_gradient_interactive(
  data_id = "colourbar",
  onclick = "alert(\"colourbar\")",
  tooltip = "colourbar",
  name = label_interactive(
    "z",
    data_id = "colourbar",
    onclick = "alert(\"colourbar\")",
    tooltip = "colourbar"
  ),
  labels = function(breaks) {
    lapply(breaks, function(br) {
      label_interactive(
        as.character(br),
        data_id = "colourbar",
        onclick = "alert(\"colourbar\")",
        tooltip = "colourbar"
      )
    })
  }
)
x <- girafe(ggobj = p3)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

# also via the guide
p4 <- p + scale_fill_gradient_interactive(
  data_id = "colourbar",

```

```

onclick = "alert(\"colourbar\")",
tooltip = "colourbar",
guide = guide_colourbar_interactive(
  title.theme = element_text_interactive(
    size = 8,
    data_id = "colourbar",
    onclick = "alert(\"colourbar\")",
    tooltip = "colourbar"
  ),
  label.theme = element_text_interactive(
    size = 8,
    data_id = "colourbar",
    onclick = "alert(\"colourbar\")",
    tooltip = "colourbar"
  )
)
)
)
x <- girafe(ggobj = p4)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

# make the legend background interactive
p5 <- p4 + theme(
  legend.background = element_rect_interactive(
    data_id = "colourbar",
    onclick = "alert(\"colourbar\")",
    tooltip = "colourbar"
  )
)
x <- girafe(ggobj = p5)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

```

```
guide_coloursteps_interactive
```

Create interactive colorsteps guide

Description

The guide is based on [guide_coloursteps\(\)](#). See the documentation for that function for more details.

Usage

```
guide_coloursteps_interactive(...)
```

```
guide_colorsteps_interactive(...)
```

Arguments

... arguments passed to base function.

Value

An interactive guide object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a [guide_legend_interactive\(\)](#) or [guide_bins_interactive\(\)](#) respectively, if it's not already.

The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.

The interactive parameters here, give interactivity only to the key elements of the guide.

- When guide of type colourbar or coloursteps is used, it will be converted to a [guide_colourbar_interactive\(\)](#) or [guide_coloursteps_interactive\(\)](#) respectively, if it's not already.

The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme` and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also

[interactive_parameters\(\)](#), [girafe\(\)](#)

Examples

```
# add interactive coloursteps guide to a ggplot -----
library(ggplot2)
library(ggiraph)

set.seed(4393)
dsmall <- diamonds[sample(nrow(diamonds), 1000),]
p <- ggplot(dsmall, aes(x, y)) +
  stat_density_2d(aes(
    fill = stat(nlevel),
    tooltip = paste("nlevel:", stat(nlevel))
  ),
```

```

geom = "interactive_polygon") +
facet_grid(. ~ cut)

# add interactive binned scale, by default the guide is colorsteps
p1 <- p + scale_fill_viridis_b_interactive(data_id = "nlevel",
                                          tooltip = "nlevel")

x <- girafe(ggobj = p1)
if (interactive()) print(x)

# make the title and labels interactive
p2 <- p + scale_fill_viridis_b_interactive(
  data_id = "nlevel",
  tooltip = "nlevel",
  name = label_interactive("nlevel", data_id = "nlevel",
                           tooltip = "nlevel"),
  labels = function(breaks) {
    l <- lapply(breaks, function(br) {
      label_interactive(
        as.character(br),
        data_id = as.character(br),
        onclick = paste0("alert(\"", as.character(br), "\")"),
        tooltip = as.character(br)
      )
    })
    l
  }
)
x <- girafe(ggobj = p2)
x <- girafe_options(x,
                    opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

```

```
guide_legend_interactive
```

Create interactive legend guide

Description

The guide is based on [guide_legend\(\)](#). See the documentation for that function for more details.

Usage

```
guide_legend_interactive(...)
```

Arguments

... arguments passed to base function.

Value

An interactive guide object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a [guide_legend_interactive\(\)](#) or [guide_bins_interactive\(\)](#) respectively, if it's not already.

The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.

The interactive parameters here, give interactivity only to the key elements of the guide.

- When guide of type colourbar or coloursteps is used, it will be converted to a [guide_colourbar_interactive\(\)](#) or [guide_coloursteps_interactive\(\)](#) respectively, if it's not already.

The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme` and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also

[interactive_parameters\(\)](#), [girafe\(\)](#)

Examples

```
# add interactive discrete legend guide to a ggplot -----
library(ggplot2)
library(ggiraph)

dat <- data.frame(
  name = c( "Guy", "Ginette", "David", "Cedric", "Frederic" ),
  gender = c( "Male", "Female", "Male", "Male", "Male" ),
  height = c(169, 160, 171, 172, 171 ) )
p <- ggplot(dat, aes( x = name, y = height, fill = gender,
                    data_id = name ) ) +
  geom_bar_interactive(stat = "identity")

# add interactive scale (guide is legend)
p1 <- p +
  scale_fill_manual_interactive(
    values = c(Male = "#0072B2", Female = "#009E73"),
```

```

      data_id = c(Female = "Female", Male = "Male"),
      tooltip = c(Male = "Male", Female = "Female")
    )
x <- girafe(ggobj = p1)
if (interactive()) print(x)

# make the title interactive too
p2 <- p +
  scale_fill_manual_interactive(
    name = label_interactive("gender", tooltip="Gender levels", data_id="legend.title"),
    values = c(Male = "#0072B2", Female = "#009E73"),
    data_id = c(Female = "Female", Male = "Male"),
    tooltip = c(Male = "Male", Female = "Female")
  )
x <- girafe(ggobj = p2)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

# the interactive params can be functions too
p3 <- p +
  scale_fill_manual_interactive(
    name = label_interactive("gender", tooltip="Gender levels", data_id="legend.title"),
    values = c(Male = "#0072B2", Female = "#009E73"),
    data_id = function(breaks) { as.character(breaks)},
    tooltip = function(breaks) { as.character(breaks)},
    onclick = function(breaks) { paste0("alert(\"", as.character(breaks), "\")" ) }
  )
x <- girafe(ggobj = p3)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

# also via the guide
p4 <- p + scale_fill_manual_interactive(
  values = c(Male = "#0072B2", Female = "#009E73"),
  data_id = function(breaks) { as.character(breaks)},
  tooltip = function(breaks) { as.character(breaks)},
  onclick = function(breaks) { paste0("alert(\"", as.character(breaks), "\")" ) },
  guide = guide_legend_interactive(
    title.theme = element_text_interactive(
      size = 8,
      data_id = "legend.title",
      onclick = "alert(\"Gender levels\")",
      tooltip = "Gender levels"
    ),
    label.theme = element_text_interactive(
      size = 8
    )
  )
)
x <- girafe(ggobj = p4)
x <- girafe_options(x,

```

```

      opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red"))
if (interactive()) print(x)

# make the legend labels interactive
p5 <- p +
  scale_fill_manual_interactive(
    name = label_interactive("gender", tooltip="Gender levels", data_id="legend.title"),
    values = c(Male = "#0072B2", Female = "#009E73"),
    data_id = function(breaks) { as.character(breaks)},
    tooltip = function(breaks) { as.character(breaks)},
    onclick = function(breaks) { paste0("alert(\"", as.character(breaks), "\")" )},
    labels = function(breaks) {
      lapply(breaks, function(br) {
        label_interactive(
          as.character(br),
          data_id = as.character(br),
          onclick = paste0("alert(\"", as.character(br), "\")"),
          tooltip = as.character(br)
        )
      })
    }
  )
x <- girafe(ggobj = p5)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red"))
if (interactive()) print(x)
# add interactive continuous legend guide to a ggplot -----
library(ggplot2)
library(ggiraph)

set.seed(4393)
dsmall <- diamonds[sample(nrow(diamonds), 1000),]
p <- ggplot(dsmall, aes(x, y)) +
  stat_density_2d(aes(
    fill = stat(nlevel),
    tooltip = paste("nlevel:", stat(nlevel))
  ),
  geom = "interactive_polygon") +
  facet_grid(. ~ cut)

# add interactive scale, by default the guide is a colourbar
p1 <- p + scale_fill_viridis_c_interactive(data_id = "nlevel",
  tooltip = "nlevel")

x <- girafe(ggobj = p1)
if (interactive()) print(x)

# make it legend
p2 <- p + scale_fill_viridis_c_interactive(data_id = "nlevel",
  tooltip = "nlevel",
  guide = "legend")

x <- girafe(ggobj = p2)
if (interactive()) print(x)

```

```

# set the keys separately
p3 <- p + scale_fill_viridis_c_interactive(
  data_id = function(breaks) {
    as.character(breaks)
  },
  tooltip = function(breaks) {
    as.character(breaks)
  },
  guide = "legend"
)
x <- girafe(ggobj = p3)
if (interactive()) print(x)

# make the title and labels interactive
p4 <- p + scale_fill_viridis_c_interactive(
  data_id = function(breaks) {
    as.character(breaks)
  },
  tooltip = function(breaks) {
    as.character(breaks)
  },
  guide = "legend",
  name = label_interactive("nlevel", data_id = "nlevel",
                           tooltip = "nlevel"),
  labels = function(breaks) {
    l <- lapply(breaks, function(br) {
      label_interactive(
        as.character(br),
        data_id = as.character(br),
        onclick = paste0("alert(\"", as.character(br), "\")"),
        tooltip = as.character(br)
      )
    })
    l
  }
)
x <- girafe(ggobj = p4)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

```

interactive_circle_grob

Create interactive circles grob

Description

The grob is based on [circleGrob\(\)](#). See the documentation for that function for more details.

Usage

```
interactive_circle_grob(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive grob object.

Details for interactive*_grob functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also

[girafe\(\)](#)

interactive_parameters

Interactive parameters

Description

Throughout ggiraph there are functions that add interactivity to ggplot plot elements. The user can control the various aspects of interactivity by supplying a special set of parameters to these functions.

Arguments

tooltip	Tooltip text to associate with one or more elements. If this is supplied a tooltip is shown when the element is hovered. Plain text or html is supported. To use html markup it is advised to use htmltools::HTML() function in order to mark the text as html markup. If the text is not marked as html and no opening/closing tags were detected, then any existing newline characters (<code>\r\n</code> , <code>\r</code> and <code>\n</code>) are replaced with the <code>
</code> tag.
onclick	Javascript code to associate with one or more elements. This code will be executed when the element is clicked.
hover_css	Individual css style associate with one or more elements. This css style is applied when the element is hovered and overrides the default style, set via opts_hover() , opts_hover_key() or opts_hover_theme() . It can also be constructed with girafe_css , to give more control over the css for different element types (see opts_hover() note).

selected_css	Individual css style associate with one or more elements. This css style is applied when the element is selected and overrides the default style, set via <code>opts_selection()</code> , <code>opts_selection_key()</code> or <code>opts_selection_theme()</code> . It can also be constructed with <code>girafe_css</code> , to give more control over the css for different element types (see <code>opts_selection()</code> note).
data_id	Identifier to associate with one or more elements. This is mandatory parameter if hover and selection interactivity is desired. Identifiers are available as reactive input values in Shiny applications.
tooltip_fill	Color to use for tooltip background when <code>opts_tooltip()</code> <code>use_fill</code> is TRUE. Useful for setting the tooltip background color in <code>geom_text_interactive()</code> or <code>geom_label_interactive()</code> , when the geom text color may be the same as the tooltip text color.

Details for geom_*_interactive functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `aes()`). In this way they can be mapped to data columns and apply to a set of geometries.
- As plain arguments into the `geom_*_interactive` function. In this way they can be set to a scalar value.

Details for annotate_*_interactive functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type `legend` or `bins` is used, it will be converted to a `guide_legend_interactive()` or `guide_bins_interactive()` respectively, if it's not already.

The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.

The interactive parameters here, give interactivity only to the key elements of the guide.

- When guide of type `colourbar` or `coloursteps` is used, it will be converted to a `guide_colourbar_interactive()` or `guide_coloursteps_interactive()` respectively, if it's not already.

The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme`

and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

Details for `element_*_interactive` functions

The interactive parameters can be supplied as arguments in the relevant function and they should be scalar values.

For theme text elements (`element_text_interactive()`), the interactive parameters can also be supplied while setting a label value, via the `labs()` family of functions or when setting a scale/guide title or key label. Instead of setting a character value for the element, function `label_interactive()` can be used to define interactive parameters to go along with the label. When the parameters are supplied that way, they override the default values that are set at the theme via `element_text_interactive()` or via the guide's theme parameters.

Details for `interactive_*_grob` functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also

`girafe_options()`, `girafe()`

interactive_path_grob *Create interactive path grob*

Description

The grob is based on `pathGrob()`. See the documentation for that function for more details.

Usage

```
interactive_path_grob(...)
```

Arguments

... arguments passed to base function, plus any of the `interactive_parameters()`.

Value

An interactive grob object.

Details for `interactive_*_grob` functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also[girafe\(\)](#)

`interactive_points_grob`*Create interactive points grob*

Description

The grob is based on [pointsGrob\(\)](#). See the documentation for that function for more details.

Usage`interactive_points_grob(...)`**Arguments**

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive grob object.

Details for interactive_*_grob functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also[girafe\(\)](#)

`interactive_polygon_grob`*Create interactive polygon grob*

Description

The grob is based on [polygonGrob\(\)](#). See the documentation for that function for more details.

Usage`interactive_polygon_grob(...)`

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive grob object.

Details for interactive_*_grob functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also

[girafe\(\)](#)

interactive_polyline_grob

Create interactive polyline grob

Description

These grobs are based on [polylineGrob\(\)](#) and [linesGrob\(\)](#). See the documentation for those functions for more details.

Usage

```
interactive_polyline_grob(...)
```

```
interactive_lines_grob(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive grob object.

Details for interactive_*_grob functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also

[girafe\(\)](#)

interactive_raster_grob

Create interactive raster grob

Description

The grob is based on [rasterGrob\(\)](#). See the documentation for that function for more details.

Usage

```
interactive_raster_grob(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive grob object.

Details for interactive_*_grob functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also

[interactive_parameters\(\)](#), [girafe\(\)](#)

interactive_rect_grob *Create interactive rectangle grob*

Description

The grob is based on [rectGrob\(\)](#). See the documentation for that function for more details.

Usage

```
interactive_rect_grob(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive grob object.

Details for interactive_*_grob functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also

[girafe\(\)](#)

interactive_roundrect_grob

Create interactive rectangle grob

Description

The grob is based on [roundrectGrob\(\)](#). See the documentation for that function for more details.

Usage

```
interactive_roundrect_grob(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive grob object.

Details for interactive_*_grob functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also

[girafe\(\)](#)

interactive_segments_grob
Create interactive segments grob

Description

The grob is based on [segmentsGrob](#). See the documentation for that function for more details.

Usage

```
interactive_segments_grob(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive grob object.

Details for interactive_*_grob functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also

[girafe\(\)](#)

interactive_text_grob *Create interactive text grob*

Description

The grob is based on [textGrob](#). See the documentation for that function for more details.

Usage

```
interactive_text_grob(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive grob object.

Details for interactive_*_grob functions

The interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors depending on params on base function.

See Also

[girafe\(\)](#)

labeller_interactive *Construct interactive labelling specification for facet strips*

Description

This function is a wrapper around [labeller\(\)](#) that allows the user to turn facet strip labels into interactive labels via [label_interactive\(\)](#).

It requires that the [theme\(\)](#)'s `strip.text` elements are defined as interactive theme elements via [element_text_interactive\(\)](#), see details.

Usage

```
labeller_interactive(.mapping = NULL, ...)
```

Arguments

<code>.mapping</code>	set of aesthetic mappings created by aes() or aes_() . It should provide mappings for any of the interactive_parameters() . In addition it understands a <code>label</code> parameter for creating a new label text.
<code>...</code>	arguments passed to base function labeller()

Details

The aesthetics set provided via `.mapping` is evaluated against the data provided by the `ggplot2` facet. This means that the variables for each facet are available for using inside the aesthetic mappings. In addition the `.label` variable provides access to the produced label. See the examples.

The plot's theme is required to have the strip texts as interactive text elements. This involves `strip.text` or individually `strip.text.x` and `strip.text.y`: `theme(strip.text.x = element_text_interactive())`
`theme(strip.text.y = element_text_interactive())`

See Also

[labeller\(\)](#), [label_interactive\(\)](#), [labellers](#)

Examples

```

# use interactive labeller
library(ggplot2)
library(ggiraph)

p1 <- ggplot(mtcars, aes(x = mpg, y = wt)) +
  geom_point_interactive(aes(tooltip = row.names(mtcars)))

# Always remember to set the theme's strip texts as interactive
# no need to set any interactive parameters, they'll be assigned from the labels
p1 <- p1 +
  theme(
    strip.text.x = element_text_interactive(),
    strip.text.y = element_text_interactive()
  )

# simple facet
p <- p1 + facet_wrap(
  vars(gear),
  labeller = labeller_interactive(aes(tooltip = paste("Gear:", gear)))
)
x <- girafe(ggobj = p)
if (interactive()) print(x)

# With two vars. When the .multi_line labeller argument is TRUE (default),
# supply a different labeller for each var
p <- p1 + facet_wrap(
  vars(gear, vs),
  labeller = labeller_interactive(
    gear = labeller_interactive(aes(tooltip = paste("Gear:", gear))),
    vs = labeller_interactive(aes(tooltip = paste("VS:", vs)))
  )
)
x <- girafe(ggobj = p)
if (interactive()) print(x)

# When the .multi_line argument is FALSE, the labels are joined and
# the same happens with the data, so we can refer to both variables in the aesthetics!
p <- p1 + facet_wrap(
  vars(gear, vs),
  labeller = labeller_interactive(
    aes(tooltip = paste0("Gear: ", gear, "\nVS: ", vs)),
    .multi_line = FALSE
  )
)
x <- girafe(ggobj = p)
if (interactive()) print(x)

# Example with facet_grid:
p <- p1 + facet_grid(
  vs + am ~ gear,
  labeller = labeller(

```

```

    gear = labeller_interactive(aes(
      tooltip = paste("gear:", gear), data_id = paste0("gear_", gear)
    )),
    vs = labeller_interactive(aes(
      tooltip = paste("VS:", vs), data_id = paste0("vs_", vs)
    )),
    am = labeller_interactive(aes(
      tooltip = paste("AM:", am), data_id = paste0("am_", am)
    ))
  )
)
x <- girafe(ggobj = p)
if (interactive()) print(x)

# Same with .rows and .cols and .multi_line = FALSE
p <- p1 + facet_grid(
  vs + am ~ gear,
  labeller = labeller(
    .cols = labeller_interactive(
      .mapping = aes(tooltip = paste("gear:", gear))
    ),
    .rows = labeller_interactive(
      aes(tooltip = paste0("VS: ", vs, "\nAM: ", am)),
      .multi_line = FALSE
    )
  )
)
x <- girafe(ggobj = p)
if (interactive()) print(x)

# a more complex example
p2 <- ggplot(msleep, aes(x = sleep_total, y = awake)) +
  geom_point_interactive(aes(tooltip = name)) +
  theme(
    strip.text.x = element_text_interactive(),
    strip.text.y = element_text_interactive()
  )

# character vector as lookup table
conservation_status <- c(
  cd = "Conservation Dependent",
  en = "Endangered",
  lc = "Least concern",
  nt = "Near Threatened",
  vu = "Vulnerable",
  domesticated = "Domesticated"
)

# function to capitalize a string
capitalize <- function(x) {
  substr(x, 1, 1) <- toupper(substr(x, 1, 1))
  x
}

```

```

# function to cut a string and append an ellipsis
cut_str <- function(x, width = 10) {
  ind <- !is.na(x) & nchar(x) > width
  x[ind] <- paste0(substr(x[ind], 1, width), "...")
  x
}

replace_nas <- function(x) {
  ifelse(is.na(x), "Not available", x)
}

# in this example we use the '.label' variable to access the produced label
# and we set the 'label' aesthetic to modify the label
p <- p2 + facet_grid(
  vore ~ conservation,
  labeller = labeller(
    vore = labeller_interactive(
      aes(tooltip = paste("Vore:", replace_nas(.label))),
      .default = capitalize
    ),
    conservation = labeller_interactive(
      aes(
        tooltip = paste("Conservation:\n", replace_nas(.label)),
        label = cut_str(.label, 3)
      ),
      .default = conservation_status
    )
  )
)

x <- girafe(ggobj = p)
if (interactive()) print(x)

```

label_interactive *Create an interactive label*

Description

This function returns an object that can be used as a label via the `labs()` family of functions or when setting a scale/guide name/title or key label. It passes the interactive parameters to a theme element created via `element_text_interactive` or via an interactive guide.

Usage

```
label_interactive(label, ...)
```

Arguments

label	The text for the label (scalar character)
...	any of the <code>interactive_parameters()</code> .

Value

an interactive label object

See Also

[interactive_parameters](#), [labeller_interactive\(\)](#)

Examples

```
library(ggplot2)
library(ggiraph)

gg_jitter <- ggplot(
  mpg, aes(cyl, hwy, group = cyl)) +
  geom_boxplot() +
  labs(title =
    label_interactive(
      "title",
      data_id = "id_title",
      onclick = "alert(\"title\")",
      tooltip = "title" )
  ) +
  theme(plot.title = element_text_interactive())

x <- girafe(ggobj = gg_jitter)
if( interactive() ) print(x)
```

match_family

Find best family match with systemfonts

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

See Also

Other functions for font management: [font_family_exists\(\)](#), [validated_fonts\(\)](#)

Examples

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

 opts_hover

Hover effect settings

Description

Allows customization of the rendering of graphic elements when the user hovers over them with the cursor (mouse pointer). Use `opts_hover` for interactive geometries in panels, `opts_hover_key` for interactive scales/guides and `opts_hover_theme` for interactive theme elements. Use `opts_hover_inv` for the effect on the rest of the geometries, while one is hovered (inverted operation).

Usage

```
opts_hover(css = NULL, reactive = FALSE)

opts_hover_inv(css = NULL)

opts_hover_key(css = NULL, reactive = FALSE)

opts_hover_theme(css = NULL, reactive = FALSE)
```

Arguments

css	css to associate with elements when they are hovered. It must be a scalar character. It can also be constructed with girafe_css , to give more control over the css for different element types.
reactive	if TRUE, in Shiny context, hovering will set Shiny input values.

Note

IMPORTANT: When applying a fill style with the `css` argument, be aware that the browser's CSS engine will apply it also to line elements, if there are any that use the hovering feature. This will cause an undesired effect.

To overcome this, supply the argument `css` using [girafe_css](#), in order to set the fill style only for the desired elements.

See Also

Other girafe animation options: [girafe_options\(\)](#), [opts_selection\(\)](#), [opts_sizing\(\)](#), [opts_toolbar\(\)](#), [opts_tooltip\(\)](#), [opts_zoom\(\)](#)

Examples

```
library(ggplot2)

dataset <- mtcars
dataset$carname = row.names(mtcars)

gg <- ggplot(
  data = dataset,
  mapping = aes(x = wt, y = qsec, color = disp,
                tooltip = carname, data_id = carname) ) +
  geom_point_interactive() + theme_minimal()

x <- girafe(ggobj = gg)
x <- girafe_options(x,
  opts_hover(css = "fill:wheat;stroke:orange;r:5pt;") )
if( interactive() ) print(x)
```

opts_selection	<i>Selection effect settings</i>
----------------	----------------------------------

Description

Allows customization of the rendering of selected graphic elements. Use `opts_selection` for interactive geometries in panels, `opts_selection_key` for interactive scales/guides and `opts_selection_theme` for interactive theme elements.

Usage

```
opts_selection(
  css = NULL,
  type = "multiple",
  only_shiny = TRUE,
  selected = character(0)
)
```

```
opts_selection_key(
  css = NULL,
  type = "single",
  only_shiny = TRUE,
  selected = character(0)
)
```

```
opts_selection_theme(
  css = NULL,
  type = "single",
  only_shiny = TRUE,
  selected = character(0)
)
```

Arguments

css	css to associate with elements when they are selected. It must be a scalar character. It can also be constructed with girafe_css , to give more control over the css for different element types.
type	selection mode ("single", "multiple", "none") when widget is in a Shiny application.
only_shiny	disable selections if not in a shiny context.
selected	character vector, id to be selected when the graph will be initialized.

Note

IMPORTANT: When applying a fill style with the `css` argument, be aware that the browser's CSS engine will apply it also to line elements, if there are any that use the selection feature. This will cause an undesired effect.

To overcome this, supply the argument `css` using [girafe_css](#), in order to set the fill style only for the desired elements.

See Also

Other girafe animation options: [girafe_options\(\)](#), [opts_hover\(\)](#), [opts_sizing\(\)](#), [opts_toolbar\(\)](#), [opts_tooltip\(\)](#), [opts_zoom\(\)](#)

Examples

```
library(ggplot2)

dataset <- mtcars
dataset$carname = row.names(mtcars)

gg <- ggplot(
  data = dataset,
  mapping = aes(x = wt, y = qsec, color = disp,
                tooltip = carname, data_id = carname) ) +
  geom_point_interactive() + theme_minimal()

x <- girafe(ggobj = gg)
x <- girafe_options(x,
  opts_selection(type = "multiple",
    css = "fill:red;stroke:gray;r:5pt;") )
if( interactive() ) print(x)
```

 opts_sizing

Girafe sizing settings

Description

Allows customization of the svg style sizing

Usage

```
opts_sizing(rescale = TRUE, width = 1)
```

Arguments

rescale If FALSE, graphic will not be resized and the dimensions are exactly those of the svg. If TRUE the graphic will be resize to fit its container

width widget width ratio (0 < width <= 1).

See Also

Other girafe animation options: [girafe_options\(\)](#), [opts_hover\(\)](#), [opts_selection\(\)](#), [opts_toolbar\(\)](#), [opts_tooltip\(\)](#), [opts_zoom\(\)](#)

Examples

```
library(ggplot2)

dataset <- mtcars
dataset$carname = row.names(mtcars)

gg <- ggplot(
  data = dataset,
  mapping = aes(x = wt, y = qsec, color = disp,
                tooltip = carname, data_id = carname) ) +
  geom_point_interactive() + theme_minimal()

x <- girafe(ggobj = gg)
x <- girafe_options(x,
  opts_sizing(rescale = FALSE) )
if( interactive() ) print(x)
```

 opts_toolbar

Toolbar settings

Description

Allows customization of the toolbar

Usage

```
opts_toolbar(position = "topright", saveaspng = TRUE, pngname = "diagram")
```

Arguments

position one of 'top', 'bottom', 'topleft', 'topright', 'bottomleft', 'bottomright'

saveaspng set to TRUE to propose the 'save as png' button.

pngname the default basename (without .png extension) to use for the png file.

Note

saveaspng relies on JavaScript promises, so any browsers that don't natively support the standard Promise object will need to have a polyfill (e.g. Internet Explorer with version less than 11 will need it).

See Also

Other girafe animation options: [girafe_options\(\)](#), [opts_hover\(\)](#), [opts_selection\(\)](#), [opts_sizing\(\)](#), [opts_tooltip\(\)](#), [opts_zoom\(\)](#)

Examples

```
library(ggplot2)

dataset <- mtcars
dataset$carname = row.names(mtcars)

gg <- ggplot(
  data = dataset,
  mapping = aes(x = wt, y = qsec, color = disp,
                tooltip = carname, data_id = carname) ) +
  geom_point_interactive() + theme_minimal()

x <- girafe(ggobj = gg)
x <- girafe_options(x,
  opts_toolbar(position = "top") )
if( interactive() ) print(x)
```

 opts_tooltip

Tooltip settings

Description

Settings to be used with [girafe\(\)](#) for tooltip customisation.

Usage

```
opts_tooltip(
  css = NULL,
  offx = 10,
  offy = 0,
  use_cursor_pos = TRUE,
  opacity = 0.9,
  use_fill = FALSE,
  use_stroke = FALSE,
  delay_mouseover = 200,
  delay_mouseout = 500,
  placement = "auto",
```

```

  zindex = 999
)

```

Arguments

css	extra css (added to position: absolute; pointer-events: none;) used to customize tooltip area.
offx, offy	tooltip x and y offset
use_cursor_pos	should the cursor position be used to position tooltip (in addition to offx and offy). Setting to TRUE will have no effect in the RStudio browser windows.
opacity	tooltip background opacity
use_fill, use_stroke	logical, use fill and stroke properties to color tooltip.
delay_mouseover	The duration in milliseconds of the transition associated with tooltip display.
delay_mouseout	The duration in milliseconds of the transition associated with tooltip end of display.
placement	Defines the container used for the tooltip element. It can be one of "auto" (default), "doc" or "container". <ul style="list-style-type: none"> • doc: the host document's body is used as tooltip container. The tooltip may cover areas outside of the svg graphic. • container: the svg container is used as tooltip container. In this case the tooltip content may wrap to fit inside the svg bounds. It will also inherit the CSS styles and transforms applied to the parent containers (like scaling in a slide presentation). • auto: This is the default, ggiraph choses the best option according to use cases. Usually it redirects to "doc", however in a <i>xaringan</i> context, it redirects to "container".
zindex	tooltip css z-index, default to 999.

See Also

Other girafe animation options: [girafe_options\(\)](#), [opts_hover\(\)](#), [opts_selection\(\)](#), [opts_sizing\(\)](#), [opts_toolbar\(\)](#), [opts_zoom\(\)](#)

Examples

```

library(ggplot2)

dataset <- mtcars
dataset$carname = row.names(mtcars)

gg <- ggplot(
  data = dataset,
  mapping = aes(x = wt, y = qsec, color = disp,
                tooltip = carname, data_id = carname) ) +
  geom_point_interactive() + theme_minimal()

```

```
x <- girafe(ggobj = gg)
x <- girafe_options(x,
  opts_tooltip(opacity = .7,
    offx = 20, offy = -10,
    use_fill = TRUE, use_stroke = TRUE,
    delay_mouseout = 1000) )
if( interactive() ) print(x)
```

 opts_zoom

Zoom settings

Description

Allows customization of the zoom.

Usage

```
opts_zoom(min = 1, max = 1)
```

Arguments

min	minimum zoom factor
max	maximum zoom factor

See Also

Other girafe animation options: [girafe_options\(\)](#), [opts_hover\(\)](#), [opts_selection\(\)](#), [opts_sizing\(\)](#), [opts_toolbar\(\)](#), [opts_tooltip\(\)](#)

Examples

```
library(ggplot2)

dataset <- mtcars
dataset$carname = row.names(mtcars)

gg <- ggplot(
  data = dataset,
  mapping = aes(x = wt, y = qsec, color = disp,
    tooltip = carname, data_id = carname) ) +
  geom_point_interactive() + theme_minimal()

x <- girafe(ggobj = gg)
x <- girafe_options(x,
  opts_zoom(min = .7, max = 2) )
if( interactive() ) print(x)
```

renderggiraph	<i>Reactive version of ggiraph object</i>
---------------	---

Description

Makes a reactive version of a ggiraph object for use in Shiny.

Usage

```
renderggiraph(expr, env = parent.frame(), quoted = FALSE)
```

Arguments

expr	An expression that returns a ggiraph object.
env	The environment in which to evaluate expr.
quoted	Is expr a quoted expression

Examples

```
## Not run:
if( require(shiny) && interactive() ){
  app_dir <- file.path( system.file(package = "ggiraph"), "examples/shiny" )
  shinyAppDir(appDir = app_dir )
}

## End(Not run)
```

renderGirafe	<i>Reactive version of girafe</i>
--------------	-----------------------------------

Description

Makes a reactive version of girafe object for use in Shiny.

Usage

```
renderGirafe(expr, env = parent.frame(), quoted = FALSE)
```

Arguments

expr	An expression that returns a girafe() object.
env	The environment in which to evaluate expr.
quoted	Is expr a quoted expression

run_girafe_example *Run shiny examples and see corresponding code*

Description

Run shiny examples and see corresponding code

Usage

```
run_girafe_example(name = "crimes")
```

Arguments

name an application name, one of cars, click_scale, crimes, DT, dynamic_ui, iris, maps and modal.

scale_alpha_interactive
Create interactive scales for alpha transparency

Description

These scales are based on [scale_alpha\(\)](#), [scale_alpha_continuous\(\)](#), [scale_alpha_discrete\(\)](#), [scale_alpha_ordinal\(\)](#), [scale_alpha_date\(\)](#), [scale_alpha_datetime\(\)](#). See the documentation for those functions for more details.

Usage

```
scale_alpha_interactive(...)  
  
scale_alpha_continuous_interactive(...)  
  
scale_alpha_discrete_interactive(...)  
  
scale_alpha_ordinal_interactive(...)  
  
scale_alpha_date_interactive(...)  
  
scale_alpha_datetime_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive scale object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a [guide_legend_interactive\(\)](#) or [guide_bins_interactive\(\)](#) respectively, if it's not already.

The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.

The interactive parameters here, give interactivity only to the key elements of the guide.

- When guide of type colourbar or coloursteps is used, it will be converted to a [guide_colourbar_interactive\(\)](#) or [guide_coloursteps_interactive\(\)](#) respectively, if it's not already.

The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme` and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also

[girafe\(\)](#)

Other interactive scale: [scale_colour_brewer_interactive\(\)](#), [scale_colour_interactive](#), [scale_colour_steps_interactive\(\)](#), [scale_gradient_interactive](#), [scale_linetype_interactive\(\)](#), [scale_manual_interactive](#), [scale_shape_interactive\(\)](#), [scale_size_interactive\(\)](#), [scale_viridis_interactive\(\)](#)

scale_colour_brewer_interactive

Create interactive colorbrewer scales

Description

These scales are based on [scale_colour_brewer\(\)](#), [scale_fill_brewer\(\)](#), [scale_colour_distiller\(\)](#), [scale_fill_distiller\(\)](#), [scale_colour_fermenter\(\)](#), [scale_fill_fermenter\(\)](#). See the documentation for those functions for more details.

Usage

```

scale_colour_brewer_interactive(...)

scale_color_brewer_interactive(...)

scale_fill_brewer_interactive(...)

scale_colour_distiller_interactive(...)

scale_color_distiller_interactive(...)

scale_fill_distiller_interactive(...)

scale_colour_fermenter_interactive(...)

scale_color_fermenter_interactive(...)

scale_fill_fermenter_interactive(...)

```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive scale object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a [guide_legend_interactive\(\)](#) or [guide_bins_interactive\(\)](#) respectively, if it's not already.

The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.

The interactive parameters here, give interactivity only to the key elements of the guide.

- When guide of type colourbar or coloursteps is used, it will be converted to a [guide_colourbar_interactive\(\)](#) or [guide_coloursteps_interactive\(\)](#) respectively, if it's not already.

The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme`

and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also

[girafe\(\)](#)

Other interactive scale: [scale_alpha_interactive\(\)](#), [scale_colour_interactive](#), [scale_colour_steps_interactive](#), [scale_gradient_interactive](#), [scale_linetype_interactive\(\)](#), [scale_manual_interactive](#), [scale_shape_interactive\(\)](#), [scale_size_interactive\(\)](#), [scale_viridis_interactive](#)

scale_colour_interactive

Create interactive colour scales

Description

These scales are based on [scale_colour_continuous\(\)](#), [scale_fill_continuous\(\)](#), [scale_colour_grey\(\)](#), [scale_fill_grey\(\)](#), [scale_colour_hue\(\)](#), [scale_fill_hue\(\)](#), [scale_colour_binned\(\)](#), [scale_fill_binned\(\)](#), [scale_colour_discrete\(\)](#), [scale_fill_discrete\(\)](#), [scale_colour_date\(\)](#), [scale_fill_date\(\)](#), [scale_colour_datetime\(\)](#) and [scale_fill_datetime\(\)](#). See the documentation for those functions for more details.

Usage

```
scale_colour_continuous_interactive(...)
```

```
scale_color_continuous_interactive(...)
```

```
scale_fill_continuous_interactive(...)
```

```
scale_colour_grey_interactive(...)
```

```
scale_color_grey_interactive(...)
```

```
scale_fill_grey_interactive(...)
```

```
scale_colour_hue_interactive(...)
```

```
scale_color_hue_interactive(...)
```

```
scale_fill_hue_interactive(...)
```

```
scale_colour_binned_interactive(...)
```

```
scale_color_binned_interactive(...)
```

```

scale_fill_binned_interactive(...)
scale_colour_discrete_interactive(...)
scale_color_discrete_interactive(...)
scale_fill_discrete_interactive(...)
scale_colour_date_interactive(...)
scale_color_date_interactive(...)
scale_fill_date_interactive(...)
scale_colour_datetime_interactive(...)
scale_color_datetime_interactive(...)
scale_fill_datetime_interactive(...)

```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive scale object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a [guide_legend_interactive\(\)](#) or [guide_bins_interactive\(\)](#) respectively, if it's not already.
The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.
The interactive parameters here, give interactivity only to the key elements of the guide.
- When guide of type colourbar or coloursteps is used, it will be converted to a [guide_colourbar_interactive\(\)](#) or [guide_coloursteps_interactive\(\)](#) respectively, if it's not already.
The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme`

and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also

[girafe\(\)](#)

Other interactive scale: [scale_alpha_interactive\(\)](#), [scale_colour_brewer_interactive\(\)](#), [scale_colour_steps_interactive\(\)](#), [scale_gradient_interactive](#), [scale_linetype_interactive\(\)](#), [scale_manual_interactive](#), [scale_shape_interactive\(\)](#), [scale_size_interactive\(\)](#), [scale_viridis_interactive](#)

scale_colour_steps_interactive

Create interactive binned gradient colour scales

Description

These scales are based on [scale_colour_steps\(\)](#), [scale_fill_steps\(\)](#), [scale_colour_steps2\(\)](#), [scale_fill_steps2\(\)](#), [scale_colour_stepsn\(\)](#) and [scale_fill_stepsn\(\)](#). See the documentation for those functions for more details.

Usage

```
scale_colour_steps_interactive(...)  
scale_color_steps_interactive(...)  
scale_fill_steps_interactive(...)  
scale_colour_steps2_interactive(...)  
scale_color_steps2_interactive(...)  
scale_fill_steps2_interactive(...)  
scale_colour_stepsn_interactive(...)  
scale_color_stepsn_interactive(...)  
scale_fill_stepsn_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive scale object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a [guide_legend_interactive\(\)](#) or [guide_bins_interactive\(\)](#) respectively, if it's not already.

The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.

The interactive parameters here, give interactivity only to the key elements of the guide.

- When guide of type colourbar or coloursteps is used, it will be converted to a [guide_colourbar_interactive\(\)](#) or [guide_coloursteps_interactive\(\)](#) respectively, if it's not already.

The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme` and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element*_interactive` section for more details.

See Also

[girafe\(\)](#)

Other interactive scale: [scale_alpha_interactive\(\)](#), [scale_colour_brewer_interactive\(\)](#), [scale_colour_interactive](#), [scale_gradient_interactive](#), [scale_linetype_interactive\(\)](#), [scale_manual_interactive](#), [scale_shape_interactive\(\)](#), [scale_size_interactive\(\)](#), [scale_viridis_interactive\(\)](#)

scale_gradient_interactive

Create interactive gradient colour scales

Description

These scales are based on [scale_colour_gradient\(\)](#), [scale_fill_gradient\(\)](#), [scale_colour_gradient2\(\)](#), [scale_fill_gradient2\(\)](#), [scale_colour_gradientn\(\)](#) and [scale_fill_gradientn\(\)](#). See the documentation for those functions for more details.

Usage

```

scale_colour_gradient_interactive(...)
scale_color_gradient_interactive(...)
scale_fill_gradient_interactive(...)
scale_colour_gradient2_interactive(...)
scale_color_gradient2_interactive(...)
scale_fill_gradient2_interactive(...)
scale_colour_gradientn_interactive(...)
scale_color_gradientn_interactive(...)
scale_fill_gradientn_interactive(...)

```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive scale object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a [guide_legend_interactive\(\)](#) or [guide_bins_interactive\(\)](#) respectively, if it's not already.

The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.

The interactive parameters here, give interactivity only to the key elements of the guide.

- When guide of type colourbar or coloursteps is used, it will be converted to a [guide_colourbar_interactive\(\)](#) or [guide_coloursteps_interactive\(\)](#) respectively, if it's not already.

The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme`

and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also

[girafe\(\)](#)

Other interactive scale: [scale_alpha_interactive\(\)](#), [scale_colour_brewer_interactive\(\)](#), [scale_colour_interactive](#), [scale_colour_steps_interactive\(\)](#), [scale_linetype_interactive\(\)](#), [scale_manual_interactive](#), [scale_shape_interactive\(\)](#), [scale_size_interactive\(\)](#), [scale_viridis_interacti](#)

Examples

```
# add interactive gradient colour scale to a ggplot -----
library(ggplot2)
library(ggiraph)

df <- expand.grid(x = 0:5, y = 0:5)
df$z <- runif(nrow(df))

p <- ggplot(df, aes(x, y, fill = z, tooltip = "tooltip")) +
  geom_raster_interactive()

# add an interactive scale (guide is colourbar)
p1 <- p + scale_fill_gradient_interactive(data_id = "colourbar",
                                         onclick = "alert(\"colourbar\")",
                                         tooltip = "colourbar")

x <- girafe(ggobj = p1)
if (interactive()) print(x)

# make the legend title interactive
p2 <- p + scale_fill_gradient_interactive(
  data_id = "colourbar",
  onclick = "alert(\"colourbar\")",
  tooltip = "colourbar",
  name = label_interactive(
    "z",
    data_id = "colourbar",
    onclick = "alert(\"colourbar\")",
    tooltip = "colourbar"
  )
)
x <- girafe(ggobj = p2)
x <- girafe_options(x,
                    opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

# make the legend labels interactive
p3 <- p + scale_fill_gradient_interactive(
  data_id = "colourbar",
  onclick = "alert(\"colourbar\")",
  tooltip = "colourbar",
```

```

name = label_interactive(
  "z",
  data_id = "colourbar",
  onclick = "alert(\"colourbar\")",
  tooltip = "colourbar"
),
labels = function(breaks) {
  lapply(breaks, function(br) {
    label_interactive(
      as.character(br),
      data_id = "colourbar",
      onclick = "alert(\"colourbar\")",
      tooltip = "colourbar"
    )
  })
}
)
x <- girafe(ggobj = p3)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

# also via the guide
p4 <- p + scale_fill_gradient_interactive(
  data_id = "colourbar",
  onclick = "alert(\"colourbar\")",
  tooltip = "colourbar",
  guide = guide_colourbar_interactive(
    title.theme = element_text_interactive(
      size = 8,
      data_id = "colourbar",
      onclick = "alert(\"colourbar\")",
      tooltip = "colourbar"
    ),
    label.theme = element_text_interactive(
      size = 8,
      data_id = "colourbar",
      onclick = "alert(\"colourbar\")",
      tooltip = "colourbar"
    )
  )
)
x <- girafe(ggobj = p4)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

# make the legend background interactive
p5 <- p4 + theme(
  legend.background = element_rect_interactive(
    data_id = "colourbar",
    onclick = "alert(\"colourbar\")",
    tooltip = "colourbar"
  )
)

```

```

  )
)
x <- girafe(ggobj = p5)
x <- girafe_options(x,
                    opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

```

scale_linetype_interactive

Create interactive scales for line patterns

Description

These scales are based on [scale_linetype\(\)](#), [scale_linetype_continuous\(\)](#), [scale_linetype_discrete\(\)](#) and [scale_linetype_binned\(\)](#). See the documentation for those functions for more details.

Usage

```

scale_linetype_interactive(...)

scale_linetype_continuous_interactive(...)

scale_linetype_discrete_interactive(...)

scale_linetype_binned_interactive(...)

```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive scale object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a [guide_legend_interactive\(\)](#) or [guide_bins_interactive\(\)](#) respectively, if it's not already.

The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.

The interactive parameters here, give interactivity only to the key elements of the guide.

- When guide of type colourbar or coloursteps is used, it will be converted to a [guide_colourbar_interactive\(\)](#) or [guide_coloursteps_interactive\(\)](#) respectively, if it's not already.

The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme` and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also

[girafe\(\)](#)

Other interactive scale: [scale_alpha_interactive\(\)](#), [scale_colour_brewer_interactive\(\)](#), [scale_colour_interactive](#), [scale_colour_steps_interactive\(\)](#), [scale_gradient_interactive](#), [scale_manual_interactive](#), [scale_shape_interactive\(\)](#), [scale_size_interactive\(\)](#), [scale_viridis_interacti](#)

scale_manual_interactive

Create your own interactive discrete scale

Description

These scales are based on [scale_colour_manual\(\)](#), [scale_fill_manual\(\)](#), [scale_size_manual\(\)](#), [scale_shape_manual\(\)](#), [scale_linetype_manual\(\)](#), [scale_alpha_manual\(\)](#) and [scale_discrete_manual\(\)](#). See the documentation for those functions for more details.

Usage

```
scale_colour_manual_interactive(...)  
scale_color_manual_interactive(...)  
scale_fill_manual_interactive(...)  
scale_size_manual_interactive(...)  
scale_shape_manual_interactive(...)  
scale_linetype_manual_interactive(...)  
scale_alpha_manual_interactive(...)  
scale_discrete_manual_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive scale object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a [guide_legend_interactive\(\)](#) or [guide_bins_interactive\(\)](#) respectively, if it's not already.

The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.

The interactive parameters here, give interactivity only to the key elements of the guide.

- When guide of type colourbar or coloursteps is used, it will be converted to a [guide_colourbar_interactive\(\)](#) or [guide_coloursteps_interactive\(\)](#) respectively, if it's not already.

The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme` and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also

[girafe\(\)](#)

Other interactive scale: [scale_alpha_interactive\(\)](#), [scale_colour_brewer_interactive\(\)](#), [scale_colour_interactive](#), [scale_colour_steps_interactive\(\)](#), [scale_gradient_interactive](#), [scale_linetype_interactive\(\)](#), [scale_shape_interactive\(\)](#), [scale_size_interactive\(\)](#), [scale_viridis_interactive](#)

Examples

```
# add interactive manual fill scale to a ggplot -----
library(ggplot2)
library(ggiraph)

dat <- data.frame(
  name = c( "Guy", "Ginette", "David", "Cedric", "Frederic" ),
  gender = c( "Male", "Female", "Male", "Male", "Male" ),
```

```

height = c(169, 160, 171, 172, 171 ) )
p <- ggplot(dat, aes( x = name, y = height, fill = gender,
                    data_id = name ) ) +
  geom_bar_interactive(stat = "identity")

# add interactive scale (guide is legend)
p1 <- p +
  scale_fill_manual_interactive(
    values = c(Male = "#0072B2", Female = "#009E73"),
    data_id = c(Female = "Female", Male = "Male"),
    tooltip = c(Male = "Male", Female = "Female")
  )
x <- girafe(ggobj = p1)
if (interactive()) print(x)

# make the title interactive too
p2 <- p +
  scale_fill_manual_interactive(
    name = label_interactive("gender", tooltip="Gender levels", data_id="legend.title"),
    values = c(Male = "#0072B2", Female = "#009E73"),
    data_id = c(Female = "Female", Male = "Male"),
    tooltip = c(Male = "Male", Female = "Female")
  )
x <- girafe(ggobj = p2)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

# the interactive params can be functions too
p3 <- p +
  scale_fill_manual_interactive(
    name = label_interactive("gender", tooltip="Gender levels", data_id="legend.title"),
    values = c(Male = "#0072B2", Female = "#009E73"),
    data_id = function(breaks) { as.character(breaks)},
    tooltip = function(breaks) { as.character(breaks)},
    onclick = function(breaks) { paste0("alert(\"", as.character(breaks), "\")" ) }
  )
x <- girafe(ggobj = p3)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

# also via the guide
p4 <- p + scale_fill_manual_interactive(
  values = c(Male = "#0072B2", Female = "#009E73"),
  data_id = function(breaks) { as.character(breaks)},
  tooltip = function(breaks) { as.character(breaks)},
  onclick = function(breaks) { paste0("alert(\"", as.character(breaks), "\")" ) },
  guide = guide_legend_interactive(
    title.theme = element_text_interactive(
      size = 8,
      data_id = "legend.title",
      onclick = "alert(\"Gender levels\")",

```

```

      tooltip = "Gender levels"
    ),
    label.theme = element_text_interactive(
      size = 8
    )
  )
)
x <- girafe(ggobj = p4)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

# make the legend labels interactive
p5 <- p +
  scale_fill_manual_interactive(
    name = label_interactive("gender", tooltip="Gender levels", data_id="legend.title"),
    values = c(Male = "#0072B2", Female = "#009E73"),
    data_id = function(breaks) { as.character(breaks)},
    tooltip = function(breaks) { as.character(breaks)},
    onclick = function(breaks) { paste0("alert(\"", as.character(breaks), "\")") },
    labels = function(breaks) {
      lapply(breaks, function(br) {
        label_interactive(
          as.character(br),
          data_id = as.character(br),
          onclick = paste0("alert(\"", as.character(br), "\")"),
          tooltip = as.character(br)
        )
      })
    }
  )
x <- girafe(ggobj = p5)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

```

scale_shape_interactive

Create interactive scales for shapes

Description

These scales are based on [scale_shape\(\)](#), [scale_shape_continuous\(\)](#), [scale_shape_discrete\(\)](#), [scale_shape_binned\(\)](#) and [scale_shape_ordinal\(\)](#). See the documentation for those functions for more details.

Usage

```
scale_shape_interactive(...)
```



```
scale_shape_continuous_interactive(...)
```

```
scale_shape_discrete_interactive(...)
```

```
scale_shape_binned_interactive(...)
```

```
scale_shape_ordinal_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive scale object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a [guide_legend_interactive\(\)](#) or [guide_bins_interactive\(\)](#) respectively, if it's not already.

The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.

The interactive parameters here, give interactivity only to the key elements of the guide.

- When guide of type colourbar or coloursteps is used, it will be converted to a [guide_colourbar_interactive\(\)](#) or [guide_coloursteps_interactive\(\)](#) respectively, if it's not already.

The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme` and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also

[girafe\(\)](#)

Other interactive scale: [scale_alpha_interactive\(\)](#), [scale_colour_brewer_interactive\(\)](#), [scale_colour_interactive](#), [scale_colour_steps_interactive\(\)](#), [scale_gradient_interactive](#), [scale_linetype_interactive\(\)](#), [scale_manual_interactive](#), [scale_size_interactive\(\)](#), [scale_viridis_interactive](#)

`scale_size_interactive`*Create interactive scales for area or radius*

Description

These scales are based on [scale_size\(\)](#), [scale_size_area\(\)](#), [scale_size_continuous\(\)](#), [scale_size_discrete\(\)](#), [scale_size_binned\(\)](#), [scale_size_binned_area\(\)](#), [scale_size_date\(\)](#), [scale_size_datetime\(\)](#), [scale_size_ordinal\(\)](#) and [scale_radius\(\)](#). See the documentation for those functions for more details.

Usage

```
scale_size_interactive(...)  
  
scale_size_area_interactive(...)  
  
scale_size_continuous_interactive(...)  
  
scale_size_discrete_interactive(...)  
  
scale_size_binned_interactive(...)  
  
scale_size_binned_area_interactive(...)  
  
scale_size_date_interactive(...)  
  
scale_size_datetime_interactive(...)  
  
scale_size_ordinal_interactive(...)  
  
scale_radius_interactive(...)
```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive scale object.

Details for `scale_interactive` and `guide_interactive` functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a `guide_legend_interactive()` or `guide_bins_interactive()` respectively, if it's not already.
The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.
The interactive parameters here, give interactivity only to the key elements of the guide.
- When guide of type colourbar or coloursteps is used, it will be converted to a `guide_colourbar_interactive()` or `guide_coloursteps_interactive()` respectively, if it's not already.
The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme` and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also

`girafe()`

Other interactive scale: `scale_alpha_interactive()`, `scale_colour_brewer_interactive()`, `scale_colour_interactive`, `scale_colour_steps_interactive()`, `scale_gradient_interactive`, `scale_linetype_interactive()`, `scale_manual_interactive`, `scale_shape_interactive()`, `scale_viridis_interactive`

scale_viridis_interactive

Create interactive viridis colour scales

Description

These scales are based on `scale_colour_viridis_d()`, `scale_fill_viridis_d()`, `scale_colour_viridis_c()`, `scale_fill_viridis_c()`, `scale_colour_viridis_b()`, `scale_fill_viridis_b()`, `scale_colour_ordinal()`, `scale_fill_ordinal()`. See the documentation for those functions for more details.

Usage

```
scale_colour_viridis_d_interactive(...)
```

```
scale_color_viridis_d_interactive(...)
```

```
scale_fill_viridis_d_interactive(...)
```

```
scale_colour_viridis_c_interactive(...)
```

```

scale_color_viridis_c_interactive(...)
scale_fill_viridis_c_interactive(...)
scale_colour_viridis_b_interactive(...)
scale_color_viridis_b_interactive(...)
scale_fill_viridis_b_interactive(...)
scale_colour_ordinal_interactive(...)
scale_color_ordinal_interactive(...)
scale_fill_ordinal_interactive(...)

```

Arguments

... arguments passed to base function, plus any of the [interactive_parameters\(\)](#).

Value

An interactive scale object.

Details for scale_interactive and guide_interactive functions

For scales, the interactive parameters can be supplied as arguments in the relevant function and they can be scalar values or vectors, depending on the number of breaks (levels) and the type of the guide used. The guides do not accept any interactive parameter directly, they receive them from the scales.

- When guide of type legend or bins is used, it will be converted to a [guide_legend_interactive\(\)](#) or [guide_bins_interactive\(\)](#) respectively, if it's not already.

The length of each scale interactive parameter vector should match the length of the breaks. It can also be a named vector, where each name should correspond to the same break name. It can also be defined as function that takes the breaks as input and returns a named or unnamed vector of values as output.

The interactive parameters here, give interactivity only to the key elements of the guide.

- When guide of type colourbar or coloursteps is used, it will be converted to a [guide_colourbar_interactive\(\)](#) or [guide_coloursteps_interactive\(\)](#) respectively, if it's not already.

The scale interactive parameters in this case should be scalar values and give interactivity to the colorbar only.

To provide interactivity to the rest of the elements of a guide, (title, labels, background, etc), the relevant theme elements or relevant guide arguments can be used. The guide arguments `title.theme` and `label.theme` can be defined as `element_text_interactive` (in fact, they will be converted to that if they are not already), either directly or via the theme. See the `element_*_interactive` section for more details.

See Also[girafe\(\)](#)

Other interactive scale: [scale_alpha_interactive\(\)](#), [scale_colour_brewer_interactive\(\)](#), [scale_colour_interactive](#), [scale_colour_steps_interactive\(\)](#), [scale_gradient_interactive](#), [scale_linetype_interactive\(\)](#), [scale_manual_interactive](#), [scale_shape_interactive\(\)](#), [scale_size_interactive\(\)](#)

Examples

```
# add interactive viridis scale to a ggplot -----
library(ggplot2)
library(ggiraph)

set.seed(4393)
dsmall <- diamonds[sample(nrow(diamonds), 1000),]
p <- ggplot(dsmall, aes(x, y)) +
  stat_density_2d(aes(
    fill = stat(nlevel),
    tooltip = paste("nlevel:", stat(nlevel))
  ),
  geom = "interactive_polygon") +
  facet_grid(. ~ cut)

# add interactive scale, by default the guide is a colourbar
p1 <- p + scale_fill_viridis_c_interactive(data_id = "nlevel",
                                          tooltip = "nlevel")

x <- girafe(ggobj = p1)
if (interactive()) print(x)

# make it legend
p2 <- p + scale_fill_viridis_c_interactive(data_id = "nlevel",
                                          tooltip = "nlevel",
                                          guide = "legend")

x <- girafe(ggobj = p2)
if (interactive()) print(x)

# set the keys separately
p3 <- p + scale_fill_viridis_c_interactive(
  data_id = function(breaks) {
    as.character(breaks)
  },
  tooltip = function(breaks) {
    as.character(breaks)
  },
  guide = "legend"
)
x <- girafe(ggobj = p3)
if (interactive()) print(x)

# make the title and labels interactive
```

```

p4 <- p + scale_fill_viridis_c_interactive(
  data_id = function(breaks) {
    as.character(breaks)
  },
  tooltip = function(breaks) {
    as.character(breaks)
  },
  guide = "legend",
  name = label_interactive("nlevel", data_id = "nlevel",
    tooltip = "nlevel"),
  labels = function(breaks) {
    l <- lapply(breaks, function(br) {
      label_interactive(
        as.character(br),
        data_id = as.character(br),
        onclick = paste0("alert(\"", as.character(br), "\")"),
        tooltip = as.character(br)
      )
    })
    l
  }
)
x <- girafe(ggobj = p4)
x <- girafe_options(x,
  opts_hover_key(girafe_css("stroke:red", text="stroke:none;fill:red")))
if (interactive()) print(x)

```

 validated_fonts

List of validated default fonts

Description

Validates and possibly modifies the fonts to be used as default value in a graphic according to the fonts available on the machine. It process elements named "sans", "serif", "mono" and "symbol".

Usage

```
validated_fonts(fonts = list())
```

Arguments

fonts Named list of font names to be aliased with fonts installed on your system. If unspecified, the R default families "sans", "serif", "mono" and "symbol" are aliased to the family returned by [match_family\(\)](#).

If fonts are available, the default mapping will use these values:

R family	Font on Windows	Font on Unix	Font on Mac OS
sans	Arial	DejaVu Sans	Helvetica

serif	Times New Roman	DejaVu serif	Times
mono	Courier	DejaVu mono	Courier
symbol	Symbol	DejaVu Sans	Symbol

Value

a named list of validated font family names

See Also

[girafe\(\)](#), [dsvg\(\)](#)

Other functions for font management: [font_family_exists\(\)](#), [match_family\(\)](#)

Examples

`validated_fonts()`

Index

- * **device**
 - dsvg, 6
- * **functions for font management**
 - font_family_exists, 10
 - match_family, 73
 - validated_fonts, 102
- * **girafe animation options**
 - girafe_options, 48
 - opts_hover, 74
 - opts_selection, 75
 - opts_sizing, 76
 - opts_toolbar, 77
 - opts_tooltip, 78
 - opts_zoom, 80
- * **interactive scale**
 - scale_alpha_interactive, 82
 - scale_colour_brewer_interactive, 83
 - scale_colour_interactive, 85
 - scale_colour_steps_interactive, 87
 - scale_gradient_interactive, 88
 - scale_linetype_interactive, 92
 - scale_manual_interactive, 93
 - scale_shape_interactive, 96
 - scale_size_interactive, 98
 - scale_viridis_interactive, 99
- aes(), 11, 13, 15–19, 21–26, 28, 30, 32–35, 38–40, 42, 62, 69
- aes_(), 69
- annotate(), 4
- annotate_interactive, 4
- annotation_raster(), 5
- annotation_raster_interactive, 5
- annotation_raster_interactive(), 4
- circleGrob(), 60
- Devices, 7
- dsvg, 6, 7, 44, 45
- dsvg(), 46, 103
- dsvg_view, 7
- element_interactive, 8
- element_line(), 8
- element_line_interactive
 - (element_interactive), 8
- element_rect(), 8
- element_rect_interactive
 - (element_interactive), 8
- element_text(), 8
- element_text_interactive, 72
- element_text_interactive
 - (element_interactive), 8
- element_text_interactive(), 8, 63, 69
- font_family_exists, 10, 73, 103
- geom_abline(), 10
- geom_abline_interactive, 10
- geom_area(), 37
- geom_area_interactive
 - (geom_ribbon_interactive), 37
- geom_bar(), 13
- geom_bar_interactive, 13
- geom_boxplot(), 14
- geom_boxplot_interactive, 14
- geom_col(), 13
- geom_col_interactive
 - (geom_bar_interactive), 13
- geom_contour(), 15
- geom_contour_filled(), 15
- geom_contour_filled_interactive
 - (geom_contour_interactive), 15
- geom_contour_interactive, 15
- geom_crossbar(), 16
- geom_crossbar_interactive, 16
- geom_density(), 19
- geom_density2d_interactive
 - (geom_density_2d_interactive), 18

- geom_density_2d(), 18
- geom_density_2d_interactive, 18
- geom_density_interactive, 19
- geom_dotplot(), 20
- geom_dotplot_interactive, 20
- geom_errorbar(), 16
- geom_errorbar_interactive
 - (geom_crossbar_interactive), 16
- geom_errorbarh(), 21
- geom_errorbarh_interactive, 21
- geom_freqpoly(), 23
- geom_freqpoly_interactive, 23
- geom_histogram(), 23
- geom_histogram_interactive
 - (geom_freqpoly_interactive), 23
- geom_hline(), 10
- geom_hline_interactive
 - (geom_abline_interactive), 10
- geom_jitter(), 24
- geom_jitter_interactive, 24
- geom_label(), 25
- geom_label_interactive, 25
- geom_label_interactive(), 62
- geom_line(), 28
- geom_line_interactive
 - (geom_path_interactive), 28
- geom_linerange(), 16
- geom_linerange_interactive
 - (geom_crossbar_interactive), 16
- geom_map(), 26
- geom_map_interactive, 26
- geom_path(), 28
- geom_path_interactive, 28
- geom_point(), 30
- geom_point_interactive, 30
- geom_pointrange(), 16
- geom_pointrange_interactive
 - (geom_crossbar_interactive), 16
- geom_polygon(), 31
- geom_polygon_interactive, 31
- geom_quantile(), 33
- geom_quantile_interactive, 33
- geom_raster(), 34
- geom_raster_interactive, 34
- geom_rect(), 35
- geom_rect_interactive, 35
- geom_ribbon(), 37
- geom_ribbon_interactive, 37
- geom_segment(), 38
- geom_segment_interactive, 38
- geom_sf(), 40
- geom_sf_interactive, 40
- geom_sf_label(), 40
- geom_sf_label_interactive
 - (geom_sf_interactive), 40
- geom_sf_text(), 40
- geom_sf_text_interactive
 - (geom_sf_interactive), 40
- geom_smooth(), 41
- geom_smooth_interactive, 41
- geom_step(), 28
- geom_step_interactive
 - (geom_path_interactive), 28
- geom_text(), 25
- geom_text_interactive
 - (geom_label_interactive), 25
- geom_text_interactive(), 62
- geom_tile(), 35
- geom_tile_interactive
 - (geom_rect_interactive), 35
- geom_vline(), 10
- geom_vline_interactive
 - (geom_abline_interactive), 10
- ggiraph, 42, 81
- ggiraphOutput, 44
- girafe, 45
- girafe(), 4, 5, 8, 11, 13, 15–18, 20–25, 27, 28, 31–33, 35, 36, 38–40, 42, 48, 50, 52, 55, 57, 61, 63–69, 78, 81, 83, 85, 87, 88, 90, 93, 94, 97, 99, 101, 103
- girafe_css, 47, 61, 62, 74, 76
- girafe_options, 42, 46, 48, 74, 76–80
- girafe_options(), 46, 63
- girafeOutput, 47
- guide_bins(), 49
- guide_bins_interactive, 49
- guide_bins_interactive(), 50, 52, 55, 57, 62, 83, 84, 86, 88, 89, 92, 94, 97, 99, 100
- guide_colorbar_interactive
 - (guide_colourbar_interactive), 51
- guide_colorsteps_interactive
 - (guide_coloursteps_interactive), 54
- guide_colourbar(), 51

- guide_colourbar_interactive, 51
- guide_colourbar_interactive(), 50, 52, 55, 57, 62, 83, 84, 86, 88, 89, 93, 94, 97, 99, 100
- guide_coloursteps(), 54
- guide_coloursteps_interactive, 54
- guide_coloursteps_interactive(), 50, 52, 55, 57, 62, 83, 84, 86, 88, 89, 93, 94, 97, 99, 100
- guide_legend(), 56
- guide_legend_interactive, 56
- guide_legend_interactive(), 50, 52, 55, 57, 62, 83, 84, 86, 88, 89, 92, 94, 97, 99, 100

- htmltools::HTML(), 61

- interactive_circle_grob, 60
- interactive_lines_grob
 - (interactive_polyline_grob), 65
- interactive_parameters, 4, 61, 73
- interactive_parameters(), 4, 5, 8, 11, 13, 14, 16–19, 21–26, 28, 30, 31, 33–35, 37, 39–41, 46, 50, 52, 55, 57, 61, 63–69, 72, 82, 84, 86, 87, 89, 92, 94, 97, 98, 100
- interactive_path_grob, 63
- interactive_points_grob, 64
- interactive_polygon_grob, 64
- interactive_polyline_grob, 65
- interactive_raster_grob, 66
- interactive_rect_grob, 66
- interactive_roundrect_grob, 67
- interactive_segments_grob, 68
- interactive_text_grob, 68

- label_interactive, 72
- label_interactive(), 8, 63, 69
- labeller(), 69
- labeller_interactive, 69
- labeller_interactive(), 73
- labellers, 69
- labs(), 8, 63, 72
- linesGrob(), 65

- match_family, 10, 73, 103
- match_family(), 6, 102

- opts_hover, 45, 48, 74, 76–80
- opts_hover(), 61
- opts_hover_inv (opts_hover), 74
- opts_hover_key (opts_hover), 74
- opts_hover_key(), 61
- opts_hover_theme (opts_hover), 74
- opts_hover_theme(), 61
- opts_selection, 45, 48, 74, 75, 77–80
- opts_selection(), 62
- opts_selection_key (opts_selection), 75
- opts_selection_key(), 62
- opts_selection_theme (opts_selection), 75
- opts_selection_theme(), 62
- opts_sizing, 48, 74, 76, 76, 78–80
- opts_toolbar, 48, 74, 76, 77, 77, 79, 80
- opts_tooltip, 45, 48, 74, 76–78, 78, 80
- opts_tooltip(), 62
- opts_zoom, 48, 74, 76–79, 80

- pathGrob(), 63
- pointsGrob(), 64
- polygonGrob(), 64
- polylineGrob(), 65

- rasterGrob(), 66
- rectGrob(), 66
- rendergiraph, 81
- renderGirafe, 81
- roundrectGrob(), 67
- run_girafe_example, 82

- scale_alpha(), 82
- scale_alpha_continuous(), 82
- scale_alpha_continuous_interactive
 - (scale_alpha_interactive), 82
- scale_alpha_date(), 82
- scale_alpha_date_interactive
 - (scale_alpha_interactive), 82
- scale_alpha_datetime(), 82
- scale_alpha_datetime_interactive
 - (scale_alpha_interactive), 82
- scale_alpha_discrete(), 82
- scale_alpha_discrete_interactive
 - (scale_alpha_interactive), 82
- scale_alpha_interactive, 82, 85, 87, 88, 90, 93, 94, 97, 99, 101
- scale_alpha_manual(), 93
- scale_alpha_manual_interactive
 - (scale_manual_interactive), 93

- scale_alpha_ordinal(), 82
- scale_alpha_ordinal_interactive
(scale_alpha_interactive), 82
- scale_color_binned_interactive
(scale_colour_interactive), 85
- scale_color_brewer_interactive
(scale_colour_brewer_interactive),
83
- scale_color_continuous_interactive
(scale_colour_interactive), 85
- scale_color_date_interactive
(scale_colour_interactive), 85
- scale_color_datetime_interactive
(scale_colour_interactive), 85
- scale_color_discrete_interactive
(scale_colour_interactive), 85
- scale_color_distiller_interactive
(scale_colour_brewer_interactive),
83
- scale_color_fermenter_interactive
(scale_colour_brewer_interactive),
83
- scale_color_gradient2_interactive
(scale_gradient_interactive),
88
- scale_color_gradient_interactive
(scale_gradient_interactive),
88
- scale_color_gradientn_interactive
(scale_gradient_interactive),
88
- scale_color_grey_interactive
(scale_colour_interactive), 85
- scale_color_hue_interactive
(scale_colour_interactive), 85
- scale_color_manual_interactive
(scale_manual_interactive), 93
- scale_color_ordinal_interactive
(scale_viridis_interactive), 99
- scale_color_steps2_interactive
(scale_colour_steps_interactive),
87
- scale_color_steps_interactive
(scale_colour_steps_interactive),
87
- scale_color_stepsn_interactive
(scale_colour_steps_interactive),
87
- scale_color_viridis_b_interactive
(scale_viridis_interactive), 99
- scale_color_viridis_c_interactive
(scale_viridis_interactive), 99
- scale_color_viridis_d_interactive
(scale_viridis_interactive), 99
- scale_colour_binned(), 85
- scale_colour_binned_interactive
(scale_colour_interactive), 85
- scale_colour_brewer(), 83
- scale_colour_brewer_interactive, 83, 83,
87, 88, 90, 93, 94, 97, 99, 101
- scale_colour_continuous(), 85
- scale_colour_continuous_interactive
(scale_colour_interactive), 85
- scale_colour_date(), 85
- scale_colour_date_interactive
(scale_colour_interactive), 85
- scale_colour_datetime(), 85
- scale_colour_datetime_interactive
(scale_colour_interactive), 85
- scale_colour_discrete(), 85
- scale_colour_discrete_interactive
(scale_colour_interactive), 85
- scale_colour_distiller(), 83
- scale_colour_distiller_interactive
(scale_colour_brewer_interactive),
83
- scale_colour_fermenter(), 83
- scale_colour_fermenter_interactive
(scale_colour_brewer_interactive),
83
- scale_colour_gradient(), 88
- scale_colour_gradient2(), 88
- scale_colour_gradient2_interactive
(scale_gradient_interactive),
88
- scale_colour_gradient_interactive
(scale_gradient_interactive),
88
- scale_colour_gradientn(), 88
- scale_colour_gradientn_interactive
(scale_gradient_interactive),
88
- scale_colour_grey(), 85
- scale_colour_grey_interactive
(scale_colour_interactive), 85
- scale_colour_hue(), 85

scale_colour_hue_interactive
 (scale_colour_interactive), 85
 scale_colour_interactive, 83, 85, 85, 88,
 90, 93, 94, 97, 99, 101
 scale_colour_manual(), 93
 scale_colour_manual_interactive
 (scale_manual_interactive), 93
 scale_colour_ordinal(), 99
 scale_colour_ordinal_interactive
 (scale_viridis_interactive), 99
 scale_colour_steps(), 87
 scale_colour_steps2(), 87
 scale_colour_steps2_interactive
 (scale_colour_steps_interactive),
 87
 scale_colour_steps_interactive, 83, 85,
 87, 87, 90, 93, 94, 97, 99, 101
 scale_colour_stepsn(), 87
 scale_colour_stepsn_interactive
 (scale_colour_steps_interactive),
 87
 scale_colour_viridis_b(), 99
 scale_colour_viridis_b_interactive
 (scale_viridis_interactive), 99
 scale_colour_viridis_c(), 99
 scale_colour_viridis_c_interactive
 (scale_viridis_interactive), 99
 scale_colour_viridis_d(), 99
 scale_colour_viridis_d_interactive
 (scale_viridis_interactive), 99
 scale_discrete_manual(), 93
 scale_discrete_manual_interactive
 (scale_manual_interactive), 93
 scale_fill_binned(), 85
 scale_fill_binned_interactive
 (scale_colour_interactive), 85
 scale_fill_brewer(), 83
 scale_fill_brewer_interactive
 (scale_colour_brewer_interactive),
 83
 scale_fill_continuous(), 85
 scale_fill_continuous_interactive
 (scale_colour_interactive), 85
 scale_fill_date(), 85
 scale_fill_date_interactive
 (scale_colour_interactive), 85
 scale_fill_datetime(), 85
 scale_fill_datetime_interactive
 (scale_colour_interactive), 85
 scale_fill_discrete(), 85
 scale_fill_discrete_interactive
 (scale_colour_interactive), 85
 scale_fill_distiller(), 83
 scale_fill_distiller_interactive
 (scale_colour_brewer_interactive),
 83
 scale_fill_fermenter(), 83
 scale_fill_fermenter_interactive
 (scale_colour_brewer_interactive),
 83
 scale_fill_gradient(), 88
 scale_fill_gradient2(), 88
 scale_fill_gradient2_interactive
 (scale_gradient_interactive),
 88
 scale_fill_gradient_interactive
 (scale_gradient_interactive),
 88
 scale_fill_gradientn(), 88
 scale_fill_gradientn_interactive
 (scale_gradient_interactive),
 88
 scale_fill_grey(), 85
 scale_fill_grey_interactive
 (scale_colour_interactive), 85
 scale_fill_hue(), 85
 scale_fill_hue_interactive
 (scale_colour_interactive), 85
 scale_fill_manual(), 93
 scale_fill_manual_interactive
 (scale_manual_interactive), 93
 scale_fill_ordinal(), 99
 scale_fill_ordinal_interactive
 (scale_viridis_interactive), 99
 scale_fill_steps(), 87
 scale_fill_steps2(), 87
 scale_fill_steps2_interactive
 (scale_colour_steps_interactive),
 87
 scale_fill_steps_interactive
 (scale_colour_steps_interactive),
 87
 scale_fill_stepsn(), 87
 scale_fill_stepsn_interactive
 (scale_colour_steps_interactive),
 87

scale_fill_viridis_b(), 99
 scale_fill_viridis_b_interactive
 (scale_viridis_interactive), 99
 scale_fill_viridis_c(), 99
 scale_fill_viridis_c_interactive
 (scale_viridis_interactive), 99
 scale_fill_viridis_d(), 99
 scale_fill_viridis_d_interactive
 (scale_viridis_interactive), 99
 scale_gradient_interactive, 83, 85, 87,
 88, 88, 93, 94, 97, 99, 101
 scale_linetype(), 92
 scale_linetype_binned(), 92
 scale_linetype_binned_interactive
 (scale_linetype_interactive),
 92
 scale_linetype_continuous(), 92
 scale_linetype_continuous_interactive
 (scale_linetype_interactive),
 92
 scale_linetype_discrete(), 92
 scale_linetype_discrete_interactive
 (scale_linetype_interactive),
 92
 scale_linetype_interactive, 83, 85, 87,
 88, 90, 92, 94, 97, 99, 101
 scale_linetype_manual(), 93
 scale_linetype_manual_interactive
 (scale_manual_interactive), 93
 scale_manual_interactive, 83, 85, 87, 88,
 90, 93, 93, 97, 99, 101
 scale_radius(), 98
 scale_radius_interactive
 (scale_size_interactive), 98
 scale_shape(), 96
 scale_shape_binned(), 96
 scale_shape_binned_interactive
 (scale_shape_interactive), 96
 scale_shape_continuous(), 96
 scale_shape_continuous_interactive
 (scale_shape_interactive), 96
 scale_shape_discrete(), 96
 scale_shape_discrete_interactive
 (scale_shape_interactive), 96
 scale_shape_interactive, 83, 85, 87, 88,
 90, 93, 94, 96, 99, 101
 scale_shape_manual(), 93
 scale_shape_manual_interactive
 (scale_manual_interactive), 93
 scale_shape_ordinal(), 96
 scale_shape_ordinal_interactive
 (scale_shape_interactive), 96
 scale_size(), 98
 scale_size_area(), 98
 scale_size_area_interactive
 (scale_size_interactive), 98
 scale_size_binned(), 98
 scale_size_binned_area(), 98
 scale_size_binned_area_interactive
 (scale_size_interactive), 98
 scale_size_binned_interactive
 (scale_size_interactive), 98
 scale_size_continuous(), 98
 scale_size_continuous_interactive
 (scale_size_interactive), 98
 scale_size_date(), 98
 scale_size_date_interactive
 (scale_size_interactive), 98
 scale_size_datetime(), 98
 scale_size_datetime_interactive
 (scale_size_interactive), 98
 scale_size_discrete(), 98
 scale_size_discrete_interactive
 (scale_size_interactive), 98
 scale_size_interactive, 83, 85, 87, 88, 90,
 93, 94, 97, 98, 101
 scale_size_manual(), 93
 scale_size_manual_interactive
 (scale_manual_interactive), 93
 scale_size_ordinal(), 98
 scale_size_ordinal_interactive
 (scale_size_interactive), 98
 scale_viridis_interactive, 83, 85, 87, 88,
 90, 93, 94, 97, 99, 99
 segmentsGrob, 68

 textGrob, 68
 theme, 8
 theme(), 69

 validated_fonts, 10, 73, 102
 validated_fonts(), 46