

# Package ‘ggiraph’

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**Type** Package

**Title** Make 'ggplot2' Graphics Interactive

**Version** 0.9.0

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

**License** GPL-3

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

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

**Imports** cli, ggplot2 (>= 3.5.2), grid, htmltools, htmlwidgets (>= 1.5), purrr, Rcpp (>= 1.0), rlang, stats, systemfonts, uuid, vctrs

**Suggests** dplyr, gdtools (>= 0.3.0), ggrepel (>= 0.9.1), hexbin, knitr, maps, quantreg, rmarkdown, sf (>= 1.0), shiny, tinytest, xml2 (>= 1.0)

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**VignetteBuilder** knitr

**Copyright** See file COPYRIGHTS.

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'utils\_ggplot2.R' 'utils.R' 'annotate\_interactive.R'  
'annotation\_raster\_interactive.R' 'utils\_css.R' 'fonts.R'  
'girafe\_options.R' 'default.R' 'dsvg.R' 'dsvg\_view.R'  
'element\_interactive.R' 'facet\_interactive.R'  
'geom\_abline\_interactive.R' 'geom\_path\_interactive.R'  
'geom\_polygon\_interactive.R' 'geom\_rect\_interactive.R'  
'geom\_bar\_interactive.R' 'geom\_bin\_2d\_interactive.R'  
'geom\_boxplot\_interactive.R' 'geom\_col\_interactive.R'  
'geom\_contour\_interactive.R' 'geom\_count\_interactive.R'  
'geom\_crossbar\_interactive.R' 'geom\_curve\_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\_hex\_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\_spoke\_interactive.R'  
 'geom\_text\_interactive.R' 'geom\_text\_repel\_interactive.R'  
 'geom\_tile\_interactive.R' 'geom\_violin\_interactive.R'  
 'geom\_vline\_interactive.R' 'ggiraph.R' 'girafe.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\_curve\_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'  
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---

annotate\_interactive *Create interactive annotations*

---

### Description

The layer is based on `ggplot2::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 [ggplot2::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)
}
```

## 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",  
  title = NULL,  
  desc = NULL,  
  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.
title	A label for accessibility purposes (aria-label/aria-labelledby). Be aware that when using this, the browser will use it as a tooltip for the whole svg and it may class with the interactive elements' tooltip.
desc	A longer description for accessibility purposes (aria-description/aria-describedby).
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 `ggplot2::theme()` elements.

They are based on `ggplot2::element_rect()`, `ggplot2::element_line()` and `ggplot2::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 `ggplot2::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)
}
```

---

facet\_grid\_interactive

*Create interactive grid facets*

---

## Description

These facets are based on [ggplot2::facet\\_grid\(\)](#).

To make a facet interactive, it is mandatory to use [labeller\\_interactive\(\)](#) for argument `labeller`.

## Usage

```
facet_grid_interactive(..., interactive_on = "text")
```

## Arguments

`...` arguments passed to base function and [labeller\\_interactive\(\)](#) for argument `labeller`.

`interactive_on` one of 'text' (only strip text are made interactive), 'rect' (only strip rectangles are made interactive) or 'both' (strip text and rectangles are made interactive).

## Value

An interactive facetting object.

## See Also

[girafe\(\)](#)

facet\_wrap\_interactive

*Create interactive wrapped facets*

---

### Description

These facets are based on `ggplot2::facet_wrap()`.

To make a facet interactive, it is mandatory to use `labeller_interactive()` for argument `labeller`.

### Usage

```
facet_wrap_interactive(..., interactive_on = "text")
```

### Arguments

`...` arguments passed to base function and `labeller_interactive()` for argument `labeller`.

`interactive_on` one of 'text' (only strip text are made interactive), 'rect' (only strip rectangles are made interactive) or 'both' (strip text and rectangles are made interactive).

### Value

An interactive facetting object.

### See Also

`girafe()`

---

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 [ggplot2::geom\\_abline\(\)](#), [ggplot2::geom\\_hline\(\)](#) and [ggplot2::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 interactive geom functions**

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [ggplot2::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 `ggplot2::geom_bar()` and `ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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\_bin\_2d\_interactive

*Create interactive heatmaps of 2d bin counts*


---

## Description

The geometry is based on `ggplot2::geom_bin_2d()`. See the documentation for those functions for more details.

## Usage

```
geom_bin_2d_interactive(...)
```

## Arguments

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

## Details for interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 bin2d heatmap to a ggplot -----
library(ggplot2)
library(ggiraph)

p <- ggplot(diamonds, aes(x, y, fill = cut)) +
  xlim(4, 10) +
  ylim(4, 10) +
  geom_bin2d_interactive(aes(tooltip = cut), bins = 30)

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

---

geom\_boxplot\_interactive  
*Create interactive boxplot*

---

## Description

The geometry is based on `ggplot2::geom_boxplot()`. See the documentation for that function for more details.

## Usage

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

## Arguments

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

## Details

You can supply interactive parameters for the outlier points by prefixing them with `outlier.` prefix. For example: `aes(outlier.tooltip = 'bla', outlier.data_id = 'blabla')`.

IMPORTANT: when supplying outlier interactive parameters, the correct group aesthetic *must* be also supplied. Otherwise the default group calculation will be incorrect, which will result in an incorrect plot.

## Details for interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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) +
  geom_boxplot_interactive(
    aes(
      x = drv,
      y = hwy,
      fill = class,
      data_id = class,
      tooltip = after_stat({
        paste0(
          "class: ",
          .data$fill,
          "\nQ1: ",
          prettyNum(.data$lower),
          "\nQ3: ",
          prettyNum(.data$upper),
          "\nmedian: ",
          prettyNum(.data$middle)
        )
      })
    ),
    outlier.colour = "red"
  ) +
  guides(fill = "none") +
  theme_minimal()

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

p <- ggplot(mpg) +
  geom_boxplot_interactive(
    aes(
      x = drv,
      y = hwy,
      fill = class,
      group = paste(drv, class),
      data_id = class,
      tooltip = after_stat({
        paste0(
          "class: ",
          .data$fill,
          "\nQ1: ",
          prettyNum(.data$lower),
          "\nQ3: ",
          prettyNum(.data$upper),
          "\nmedian: ",
          prettyNum(.data$middle)
        )
      })
    )
  )
```

```

    )
  }},
  outlier.tooltip = paste(
    "I am an outlier!\nhwy:",
    hwy,
    "\ndrv:",
    drv,
    "\nclass:",
    class
  )
),
  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 `ggplot2::geom_contour()` and `ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 = after_stat(level),
    tooltip = paste("Level:", after_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 = after_stat(level),
      fill = after_stat(level),
      tooltip = paste("Level:", after_stat(level))
    ))
  x <- girafe(ggobj = p)
  if (interactive()) print(x)
}
```

---

geom\_count\_interactive

*Create interactive point counts*

---

**Description**

The geometry is based on [ggplot2::geom\\_bin2d\(\)](#). See the documentation for those functions for more details.

**Usage**

```
geom_count_interactive(...)
```

**Arguments**

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

### Details for interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 point counts to a ggplot -----
library(ggplot2)
library(ggiraph)

p <- ggplot(mpg, aes(cty, hwy)) +
  geom_count_interactive(aes(tooltip = after_stat(n)))
x <- girafe(ggobj = p)
if (interactive()) {
  print(x)
}

p2 <- ggplot(diamonds, aes(x = cut, y = clarity)) +
  geom_count_interactive(aes(
    size = after_stat(prop),
    tooltip = after_stat(round(prop, 3)),
    group = 1
  )) +
  scale_size_area(max_size = 10)
x <- girafe(ggobj = p2)
if (interactive()) {
  print(x)
}
```

---

geom\_crossbar\_interactive

*Create interactive vertical intervals: lines, crossbars & errorbars*

---

### Description

These geometries are based on `ggplot2::geom_crossbar()`, `ggplot2::geom_errorbar()`, `ggplot2::geom_linerange()` and `ggplot2::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 interactive geom functions**

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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\_curve\_interactive

*Create interactive line segments and curves*

---

## Description

The geometries are based on `ggplot2::geom_segment()` and `ggplot2::geom_curve()`. See the documentation for those functions for more details.

## Usage

```
geom_curve_interactive(...)
```

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

## Arguments

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

## Details for interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 and curves 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)
}

df <- data.frame(x1 = 2.62, x2 = 3.57, y1 = 21.0, y2 = 15.0)
p <- ggplot(df, aes(x = x1, y = y1, xend = x2, yend = y2)) +
  geom_curve_interactive(aes(colour = "curve", tooltip = I("curve"))) +
  geom_segment_interactive(aes(colour = "segment", tooltip = I("segment")))

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

```

---

geom\_density\_2d\_interactive

*Create interactive contours of a 2d density estimate*

---

## Description

The geometries are based on `ggplot2::geom_density_2d()` and `ggplot2::geom_density_2d_filled()`. See the documentation for those functions for more details.

## Usage

```

geom_density_2d_interactive(...)

geom_density_2d_filled_interactive(...)

```

## Arguments

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

## Details for interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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:", after_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 +
  geom_density_2d_filled_interactive(
    aes(colour = cut, tooltip = cut, data_id = cut),
    contour_var = "count"
  ) +
  facet_wrap(vars(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 = after_stat(nlevel),

```

```

      tooltip = paste("nlevel:", after_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 `ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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, after_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 `ggplot2::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 interactive geom functions**

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 `ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 `ggplot2::geom_histogram()` and `ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 = after_stat(count), group = 1L)
  )
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\_hex\_interactive *Create interactive hexagonal heatmaps*

---

### Description

The geometry is based on `ggplot2::geom_hex()`. See the documentation for those functions for more details.

### Usage

```
geom_hex_interactive(...)
```

## Arguments

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

## Details for interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 hexagonal heatmaps to a ggplot -----  
library(ggplot2)  
library(ggiraph)  
  
p <- ggplot(diamonds, aes(carat, price)) +  
  geom_hex_interactive(aes(tooltip = after_stat(count)), bins = 10)  
x <- girafe(ggobj = p)  
if (interactive()) {  
  print(x)  
}
```

---

geom\_jitter\_interactive

*Create interactive jittered points*

---

## Description

The geometry is based on `ggplot2::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 interactive geom functions**

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 `ggplot2::geom_text()` and `ggplot2::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 interactive geom functions**

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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(check_overlap = TRUE) +
  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 [ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [ggplot2::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 `ggplot2::geom_path()`, `ggplot2::geom_line()` and `ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 staircase 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 `ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 `ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 `ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 = after_stat(quantile),
        data_id = after_stat(quantile),
        colour = after_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 `ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 `ggplot2::geom_rect()` and `ggplot2::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 interactive geom functions**

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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,
    linejoin = "bevel",
    lineend = "round"
  ) +
  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 `ggplot2::geom_ribbon()` and `ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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\_sf\_interactive    *Create interactive sf objects*

---

### Description

These geometries are based on `ggplot2::geom_sf()`, `ggplot2::geom_sf_label()` and `ggplot2::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 interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 = list(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 `ggplot2::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 interactive geom functions**

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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)
}
```

---

geom\_spoke\_interactive

*Create interactive line segments parameterised by location, direction and distance*

---

## Description

The geometry is based on [ggplot2::geom\\_spoke\(\)](#). See the documentation for those functions for more details.

## Usage

```
geom_spoke_interactive(...)
```

## Arguments

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

## Details for interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via [ggplot2::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 line segments parameterised by location,
# direction and distance to a ggplot -----
library(ggplot2)
library(ggiraph)

df <- expand.grid(x = 1:10, y = 1:10)
df$angle <- runif(100, 0, 2 * pi)
df$speed <- runif(100, 0, sqrt(0.1 * df$x))

p <- ggplot(df, aes(x, y)) +
  geom_point() +
```

```

geom_spoke_interactive(
  aes(angle = angle, tooltip = round(angle, 2)),
  radius = 0.5
)
x <- girafe(ggobj = p)
if (interactive()) {
  print(x)
}

p2 <- ggplot(df, aes(x, y)) +
  geom_point() +
  geom_spoke_interactive(aes(
    angle = angle,
    radius = speed,
    tooltip = paste(round(angle, 2), round(speed, 2), sep = "\n")
  ))
x2 <- girafe(ggobj = p2)
if (interactive()) {
  print(x2)
}

```

---

geom\_text\_repel\_interactive

*Create interactive repulsive textual annotations*

---

## Description

The geometries are based on `ggrepel::geom_text_repel()` and `ggrepel::geom_label_repel()`. See the documentation for those functions for more details.

## Usage

```

geom_text_repel_interactive(...)

geom_label_repel_interactive(...)

```

## Arguments

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

## Details for interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 ggrepel package is required for these geometries

**See Also**

[girafe\(\)](#)

**Examples**

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

# geom_text_repel_interactive
if (requireNamespace("ggrepel", quietly = TRUE)) {
  dataset = mtcars
  dataset$label = row.names(mtcars)
  dataset$tooltip = paste0(
    dataset$label,
    "<br/>",
    "cyl: ",
    dataset$cyl,
    "<br/>",
    "gear: ",
    dataset$gear,
    "<br/>",
    "carb: ",
    dataset$carb
  )
  p <- ggplot(dataset, aes(wt, mpg, color = qsec)) +
    geom_point_interactive(aes(tooltip = tooltip, data_id = label))

  gg_text = p +
    geom_text_repel_interactive(
      aes(label = label, tooltip = tooltip, data_id = label),
      size = 3
    )

  x <- girafe(ggobj = gg_text)
  x <- girafe_options(x = x, opts_hover(css = "fill:#FF4C3B;"))
  if (interactive()) print(x)
}

# geom_label_repel_interactive
if (requireNamespace("ggrepel", quietly = TRUE)) {
  gg_label = p +
    geom_label_repel_interactive(
      aes(label = label, tooltip = tooltip, data_id = label),
      size = 3,
      max.overlaps = 12
    )
}
```

```
x2 <- girafe(ggobj = gg_label)
x2 <- girafe_options(
  x = x2,
  opts_hover(
    css = ggiraph::girafe_css(
      css = ";",
      area = "fill:#FF4C3B;"
    )
  )
)
if (interactive()) print(x2)
}
```

---

geom\_violin\_interactive

*Create interactive violin plot*

---

## Description

The geometry is based on `ggplot2::geom_violin()`. See the documentation for those functions for more details.

## Usage

```
geom_violin_interactive(...)
```

## Arguments

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

## Details for interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 violin plot -----
library(ggplot2)
library(ggiraph)

p <- ggplot(mtcars, aes(factor(cyl), mpg)) +
  geom_violin_interactive(aes(fill = cyl, tooltip = cyl))
x <- girafe(ggobj = p)
if (interactive()) {
  print(x)
}

# Show quartiles
p2 <- ggplot(mtcars, aes(factor(cyl), mpg)) +
  geom_violin_interactive(
    aes(tooltip = after_stat(density)),
    draw_quantiles = c(0.25, 0.5, 0.75)
  )
x2 <- girafe(ggobj = p2)
if (interactive()) {
  print(x2)
}
```

---

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 = NULL,
  height_svg = NULL,
  options = list(),
  dependencies = NULL,
  ...
)
```

## Arguments

code                    Plotting code to execute

<code>ggobj</code>	ggplot object to print. Argument code will be ignored if this argument is supplied.
<code>pointsize</code>	the default pointsize of plotted text in pixels, default to 12.
<code>width_svg, height_svg</code>	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 <code>viewbox</code> attribute of the SVG result. If you use <code>girafe()</code> in an 'R Markdown' document, we recommend not using these arguments so that the knitr options <code>fig.width</code> and <code>fig.height</code> are used instead.
<code>options</code>	a list of options for girafe rendering, see <a href="#">opts_tooltip()</a> , <a href="#">opts_hover()</a> , <a href="#">opts_selection()</a> , ...
<code>dependencies</code>	Additional widget HTML dependencies, see <a href="#">htmlwidgets::createWidget()</a> .
<code>...</code>	arguments passed on to <a href="#">dsvg()</a>

## 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 being 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.

### 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)

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

---

girafeOutput

*Create a girafe output element*

---

### Description

Render a girafe within an application page.

### Usage

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

### Arguments

<code>outputId</code>	output variable to read the girafe from. Do not use special JavaScript characters such as a period <code>.</code> in the id, this would create a JavaScript error.
<code>width</code>	widget width, its default value is set so that the graphic can cover the entire available horizontal space.

`height` widget height, its default value is `NULL` so that width adaptation is not restricted. The height will then be defined according to the width used and the aspect ratio. Only use a value for the height if you have a specific reason and want to strictly control the size.

### Size control

If you want to control a fixed size, use `opts_sizing(rescale = FALSE)` and set the chart size with `girafe(width_svg=..., height_svg=...)`.

If you want the graphic to fit the available width, use `opts_sizing(rescale = TRUE)` and set the size of the graphic with `girafe(width_svg=..., height_svg=...)`, this size will define the aspect ratio.

---

`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

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

### Value

css as scalar character

### See Also

[girafe\\_css\\_bicolor\(\)](#), [girafe\(\)](#)



**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_css_bicolor      Helper for a 'girafe' css string
```

---

**Description**

It allows the creation of a css set of individual styles for animation of 'girafe' elements. The used model is based on a simple pattern that works *most of the time* for girafe hover effects and selection effects.

It sets properties based on a primary and a secondary color.

**Usage**

```
girafe_css_bicolor(primary = "orange", secondary = "gray")
```

**Arguments**

```
primary, secondary
```

colors used to define animations of fill and stroke properties with text, lines, areas, points and images in 'girafe' outputs.

**See Also**

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

**Examples**

```
library(ggplot2)
library(ggiraph)

dat <- mtcars
dat$id <- "id"
dat$label <- "a line"
dat <- dat[order(dat$wt), ]

p <- ggplot(
  data = dat,
  mapping = aes(
```

```

    x = wt, y = mpg, data_id = id, tooltip = label)) +
  geom_line_interactive(color = "white", size = .75,
                        hover_nearest = TRUE) +
  theme_dark() +
  theme(plot.background = element_rect(fill="black"),
        panel.background = element_rect(fill="black"),
        text = element_text(colour = "white"),
        axis.text = element_text(colour = "white")
  )

x <- girafe(
  ggobj = p,
  options = list(
    opts_hover(
      css = girafe_css_bicolor(
        primary = "yellow", secondary = "black")
    )
  )
)
if (interactive()) print(x)

```

---

girafe\_defaults

*Get girafe defaults formatting properties*


---

## Description

The current formatting properties are automatically applied to every girafe you produce. These default values are returned by this function.

## Usage

```
girafe_defaults(name = NULL)
```

## Arguments

name optional, option's name to return, one of 'fonts', 'opts\_sizing', 'opts\_tooltip', 'opts\_hover', 'opts\_hover\_key', 'opts\_hover\_inv', 'opts\_hover\_theme', 'opts\_selection', 'opts\_selection\_inv', 'opts\_selection\_key', 'opts\_selection\_theme', 'opts\_zoom', 'opts\_toolbar'.

## Value

a list containing default values or an element selected with argument name.

## See Also

Other girafe animation options: [girafe\\_options\(\)](#), [init\\_girafe\\_defaults\(\)](#), [opts\\_hover\(\)](#), [opts\\_selection\(\)](#), [opts\\_sizing\(\)](#), [opts\\_toolbar\(\)](#), [opts\\_tooltip\(\)](#), [opts\\_zoom\(\)](#), [set\\_girafe\\_defaults\(\)](#)

## Examples

```
girafe_defaults()
```

---

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

---

## Description

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

## Usage

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

## Arguments

<code>x</code>	girafe object.
<code>...</code>	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\(\)](#), [girafe\\_css\(\)](#), [girafe\\_css\\_bicolor\(\)](#)

Other girafe animation options: [girafe\\_defaults\(\)](#), [init\\_girafe\\_defaults\(\)](#), [opts\\_hover\(\)](#), [opts\\_selection\(\)](#), [opts\\_sizing\(\)](#), [opts\\_toolbar\(\)](#), [opts\\_tooltip\(\)](#), [opts\\_zoom\(\)](#), [set\\_girafe\\_defaults\(\)](#)

## 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 `ggplot2::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 interactive scale and interactive guide 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`, `bins`, `colourbar` or `coloursteps` is used, it will be converted to a `guide_legend_interactive()`, `guide_bins_interactive()`, `guide_colourbar_interactive()` or `guide_coloursteps_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.

For binned guides like `bins` and `coloursteps` the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For `colourbar` guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For `colourbar` guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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 = after_stat(nlevel),
      tooltip = paste("nlevel:", after_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) {
      sapply(seq_along(breaks), function(i) {
        if (i < length(breaks)) {
          paste(
            min(breaks[i], breaks[i + 1], na.rm = TRUE),
            max(breaks[i], breaks[i + 1], na.rm = TRUE),
            sep = "-"
          )
        } else {
          NA_character_
        }
      })
    },
    tooltip = function(breaks) {
      sapply(seq_along(breaks), function(i) {
        if (i < length(breaks)) {
```

```

    paste(
      min(breaks[i], breaks[i + 1], na.rm = TRUE),
      max(breaks[i], breaks[i + 1], na.rm = TRUE),
      sep = "-"
    )
  } else {
    NA_character_
  }
})
},
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) {
    sapply(seq_along(breaks), function(i) {
      if (i < length(breaks)) {
        paste(
          min(breaks[i], breaks[i + 1], na.rm = TRUE),
          max(breaks[i], breaks[i + 1], na.rm = TRUE),
          sep = "-"
        )
      } else {
        NA_character_
      }
    })
  },
  tooltip = function(breaks) {
    sapply(seq_along(breaks), function(i) {
      if (i < length(breaks)) {
        paste(
          min(breaks[i], breaks[i + 1], na.rm = TRUE),
          max(breaks[i], breaks[i + 1], na.rm = TRUE),
          sep = "-"
        )
      } else {
        NA_character_
      }
    })
  },
  guide = "bins",
  name = label_interactive("nlevel", data_id = "nlevel", tooltip = "nlevel"),
  labels = function(breaks) {
    label_interactive(
      as.character(breaks),
      data_id = as.character(breaks),

```

```

      onclick = paste0("alert(\"", as.character(breaks), "\")"),
      tooltip = 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)
}

```

---

guide\_colourbar\_interactive

*Create interactive continuous colour bar guide*

---

### Description

The guide is based on `ggplot2::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 interactive scale and interactive guide 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`, `bins`, `colourbar` or `coloursteps` is used, it will be converted to a `guide_legend_interactive()`, `guide_bins_interactive()`, `guide_colourbar_interactive()` or `guide_coloursteps_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.

For binned guides like `bins` and `coloursteps` the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For `colourbar` guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For `colourbar` guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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(abreak) {
        label_interactive(
          as.character(abreak),
          data_id = paste0("colourbar", abreak),
          onclick = "alert(\"colourbar\")",
          tooltip = paste0("colourbar", abreak)
        )
      })
    }
  )
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 `ggplot2::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 interactive scale and interactive guide 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, bins, colourbar or coloursteps is used, it will be converted to a [guide\\_legend\\_interactive\(\)](#), [guide\\_bins\\_interactive\(\)](#), [guide\\_colourbar\\_interactive\(\)](#) or [guide\\_coloursteps\\_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.

For binned guides like bins and coloursteps the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For colourbar guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For colourbar guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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 = after_stat(nlevel),
      tooltip = paste("nlevel:", after_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 `ggplot2::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 interactive scale and interactive guide 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`, `bins`, `colourbar` or `coloursteps` is used, it will be converted to a `guide_legend_interactive()`, `guide_bins_interactive()`, `guide_colourbar_interactive()` or `guide_coloursteps_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.

For binned guides like `bins` and `coloursteps` the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For `colourbar` guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For `colourbar` guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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 = after_stat(nlevel),
      tooltip = paste("nlevel:", after_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) {
  label_interactive(
    as.character(breaks),
    data_id = as.character(breaks),
    onclick = paste0("alert(\"", as.character(breaks), "\")"),
    tooltip = as.character(breaks)
  )
}
)
x <- girafe(ggobj = p4)
x <- girafe_options(
  x,
  opts_hover_key(girafe_css("stroke:red", text = "stroke:none;fill:red"))
)
if (interactive()) {
  print(x)
}

```

---

`init_girafe_defaults` *Re-init animation defaults options*

---

### Description

Re-init all defaults options with the package defaults.

### Usage

```
init_girafe_defaults()
```

### See Also

Other girafe animation options: [girafe\\_defaults\(\)](#), [girafe\\_options\(\)](#), [opts\\_hover\(\)](#), [opts\\_selection\(\)](#), [opts\\_sizing\(\)](#), [opts\\_toolbar\(\)](#), [opts\\_tooltip\(\)](#), [opts\\_zoom\(\)](#), [set\\_girafe\\_defaults\(\)](#)

---

`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\_curve\_grob

*Create interactive curve grob*

---

**Description**

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

**Usage**

```
interactive_curve_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	<p>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.</p> <p>To use html markup it is advised to use <code>htmltools::HTML()</code> 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>&lt;br/&gt;</code> tag.</p>
onclick	<p>Javascript code to associate with one or more elements. This code will be executed when the element is clicked.</p>
hover_css	<p>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 <code>opts_hover()</code>, <code>opts_hover_key()</code> or <code>opts_hover_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_hover()</code> note).</p>
selected_css	<p>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).</p>
data_id	<p>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.</p>
tooltip_fill	<p>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.</p>
hover_nearest	<p>Set to TRUE to apply the hover effect on the nearest element while moving the mouse. In this case it is mandatory to also set the <code>data_id</code> parameter</p>

### Details for interactive geom functions

The interactive parameters can be supplied with two ways:

- As aesthetics with the mapping argument (via `ggplot2::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 interactive scale and interactive guide 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`, `bins`, `colourbar` or `coloursteps` is used, it will be converted to a `guide_legend_interactive()`, `guide_bins_interactive()`, `guide_colourbar_interactive()` or `guide_coloursteps_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.

For binned guides like `bins` and `coloursteps` the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For `colourbar` guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For `colourbar` guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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 `ggplot2::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.

**Custom interactive parameters**

The argument `extra_interactive_params` can be passed to any of the `*_interactive` functions (geoms, grobs, scales, labeller, labels and theme elements), It should be a character vector of additional names to be treated as interactive parameters when evaluating the aesthetics. The values will eventually end up as attributes in the SVG elements of the output.

Intended only for expert use.

**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 `ggplot2::labeller()` that allows the user to turn facet strip labels into interactive labels via `label_interactive()`.

It requires that the `ggplot2::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 <code>ggplot2::aes()</code> or <code>ggplot2::aes_()</code> . It should provide mappings for any of the <a href="#">interactive_parameters</a> . In addition it understands a <code>label</code> parameter for creating a new label text.
<code>...</code>	arguments passed to base function <code>ggplot2::labeller()</code>

**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**

[ggplot2::labeller\(\)](#), [label\\_interactive\(\)](#), [ggplot2::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_interactive(
    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_interactive(
    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_interactive(
    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_interactive(
    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_interactive(
    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_interactive(
    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 `ggplot2::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 [interactive\\_parameters](#).

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

---

**Description**

match\_family() returns the best font family match.

**Usage**

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

**Arguments**

font	family or face to match.
bold	Whether to match a font featuring a bold face.
italic	Whether 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	<i>Hover effect settings</i>
------------	------------------------------

---

**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, nearest_distance = NULL)
```

```
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 <code>girafe_css()</code> , to give more control over the css for different element types.
reactive	if TRUE, in Shiny context, hovering will set Shiny input values.
nearest_distance	a scalar positive number defining the maximum distance to use when using the <code>hover_nearest</code> <a href="#">interactive parameter</a> feature. By default (NULL) it's set to Infinity which means that there is no distance limit. Setting it to 50, for example, it will hover the nearest element that has at maximum 50 SVG units (pixels) distance from the mouse cursor.

**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**

[girafe\\_css\(\)](#), [girafe\\_css\\_bicolor\(\)](#)

Other girafe animation options: [girafe\\_defaults\(\)](#), [girafe\\_options\(\)](#), [init\\_girafe\\_defaults\(\)](#), [opts\\_selection\(\)](#), [opts\\_sizing\(\)](#), [opts\\_toolbar\(\)](#), [opts\\_tooltip\(\)](#), [opts\\_zoom\(\)](#), [set\\_girafe\\_defaults\(\)](#)

**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. Use `opts_selection_inv` for the effect on the rest of the geometries, while some are selected (inverted operation).

## Usage

```
opts_selection(  
  css = NULL,  
  type = c("multiple", "single", "none"),  
  only_shiny = TRUE,  
  selected = character(0)  
)
```

```
opts_selection_inv(css = NULL)
```

```
opts_selection_key(  
  css = NULL,  
  type = c("single", "multiple", "none"),  
  only_shiny = TRUE,  
  selected = character(0)  
)
```

```
opts_selection_theme(  
  css = NULL,  
  type = c("single", "multiple", "none"),  
  only_shiny = TRUE,  
  selected = character(0)  
)
```

## Arguments

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

`girafe_css()`, `girafe_css_bicolor()`

Other girafe animation options: `girafe_defaults()`, `girafe_options()`, `init_girafe_defaults()`, `opts_hover()`, `opts_sizing()`, `opts_toolbar()`, `opts_tooltip()`, `opts_zoom()`, `set_girafe_defaults()`

**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", only_shiny = FALSE,
    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\\_defaults\(\)](#), [girafe\\_options\(\)](#), [init\\_girafe\\_defaults\(\)](#), [opts\\_hover\(\)](#), [opts\\_selection\(\)](#), [opts\\_toolbar\(\)](#), [opts\\_tooltip\(\)](#), [opts\\_zoom\(\)](#), [set\\_girafe\\_defaults\(\)](#)

**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 = c("topright", "top", "bottom", "topleft", "bottomleft", "bottomright"),
  saveaspng = TRUE,
  pngname = "diagram",
  tooltips = NULL,
  hidden = NULL,
  fixed = FALSE,
  delay_mouseover = 200,
  delay_mouseout = 500
)
```

**Arguments**

position	Position of the toolbar relative to the plot. One of 'top', 'bottom', 'topleft', 'topright', 'bottomleft', 'bottomright'
saveaspng	Show (TRUE) or hide (FALSE) the 'download png' button.
pngname	The default basename (without .png extension) to use for the png file.

tooltips	A named list with tooltip labels for the buttons, for adapting to other language. Passing NULL will use the default tooltips: list( lasso_select = 'lasso selection', lasso_deselect = 'lasso deselection', zoom_on = 'activate pan/zoom', zoom_off = 'deactivate pan/zoom', zoom_rect = 'zoom with rectangle', zoom_reset = 'reset pan/zoom', saveaspng = 'download png' )
hidden	A character vector with the names of the buttons or button groups to be hidden from the toolbar. Valid button groups: selection, zoom, misc Valid button names: lasso_select, lasso_deselect, zoom_onoff, zoom_rect, zoom_reset, saveaspng
fixed	if FALSE (default), the toolbar will float above the graphic, if TRUE, the toolbar will be fixed and always visible.
delay_mouseover	The duration in milliseconds of the transition associated with toolbar display.
delay_mouseout	The duration in milliseconds of the transition associated with toolbar end of display.

**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\\_defaults\(\)](#), [girafe\\_options\(\)](#), [init\\_girafe\\_defaults\(\)](#), [opts\\_hover\(\)](#), [opts\\_selection\(\)](#), [opts\\_sizing\(\)](#), [opts\\_tooltip\(\)](#), [opts\\_zoom\(\)](#), [set\\_girafe\\_defaults\(\)](#)

**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	<i>Tooltip settings</i>
--------------	-------------------------

---

### 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 = c("auto", "doc", "container"),
  zindex = 999
)
```

### Arguments

<code>css</code>	extra css (added to <code>position: absolute; pointer-events: none;</code> ) used to customize tooltip area.
<code>offx, offy</code>	tooltip x and y offset
<code>use_cursor_pos</code>	should the cursor position be used to position tooltip (in addition to <code>offx</code> and <code>offy</code> ). Setting to <code>TRUE</code> will have no effect in the RStudio browser windows.
<code>opacity</code>	tooltip background opacity
<code>use_fill, use_stroke</code>	logical, use fill and stroke properties to color tooltip.
<code>delay_mouseover</code>	The duration in milliseconds of the transition associated with tooltip display.
<code>delay_mouseout</code>	The duration in milliseconds of the transition associated with tooltip end of display.
<code>placement</code>	Defines the container used for the tooltip element. It can be one of "auto" (default), "doc" or "container". <ul style="list-style-type: none"> <li>• <code>doc</code>: the host document's body is used as tooltip container. The tooltip may cover areas outside of the svg graphic.</li> <li>• <code>container</code>: 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).</li> </ul>

- auto: This is the default, ggiraph choses the best option according to use cases. Usually it redirects to "doc", however in a *xaringan* context, it redirects to "container".

zindex tooltip css z-index, default to 999.

### See Also

Other girafe animation options: [girafe\\_defaults\(\)](#), [girafe\\_options\(\)](#), [init\\_girafe\\_defaults\(\)](#), [opts\\_hover\(\)](#), [opts\\_selection\(\)](#), [opts\\_sizing\(\)](#), [opts\\_toolbar\(\)](#), [opts\\_zoom\(\)](#), [set\\_girafe\\_defaults\(\)](#)

### 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, duration = 300)
```

### Arguments

min	minimum zoom factor
max	maximum zoom factor
duration	duration of the zoom transitions, in milliseconds



## See Also

Other girafe animation options: [girafe\\_defaults\(\)](#), [girafe\\_options\(\)](#), [init\\_girafe\\_defaults\(\)](#), [opts\\_hover\(\)](#), [opts\\_selection\(\)](#), [opts\\_sizing\(\)](#), [opts\\_toolbar\(\)](#), [opts\\_tooltip\(\)](#), [set\\_girafe\\_defaults\(\)](#)

## 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)
```

---

renderGirafe

*Reactive version of girafe*

---

## Description

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

## Usage

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

## Arguments

expr	An expression that returns a <a href="#">girafe()</a> object.
env	The environment in which to evaluate expr.
quoted	Is expr a quoted expression
outputArgs	A list of arguments to be passed through to the implicit call to <a href="#">girafeOutput()</a> when renderGirafe is used in an interactive R Markdown document.

---

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 `ggplot2::scale_alpha()`, `ggplot2::scale_alpha_continuous()`, `ggplot2::scale_alpha_discrete()`, `ggplot2::scale_alpha_binned()`, `ggplot2::scale_alpha_ordinal()`, `ggplot2::scale_alpha_date()`, `ggplot2::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_binned_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 interactive scale and interactive guide 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`, `bins`, `colourbar` or `coloursteps` is used, it will be converted to a `guide_legend_interactive()`, `guide_bins_interactive()`, `guide_colourbar_interactive()` or `guide_coloursteps_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.

For binned guides like `bins` and `coloursteps` the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For `colourbar` guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For `colourbar` guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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 [ggplot2::scale\\_colour\\_brewer\(\)](#), [ggplot2::scale\\_fill\\_brewer\(\)](#), [ggplot2::scale\\_colour\\_distiller\(\)](#), [ggplot2::scale\\_fill\\_distiller\(\)](#), [ggplot2::scale\\_colour\\_fermenter\(\)](#), [ggplot2::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 interactive scale and interactive guide 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, bins, colourbar or coloursteps is used, it will be converted to a [guide\\_legend\\_interactive\(\)](#), [guide\\_bins\\_interactive\(\)](#), [guide\\_colourbar\\_interactive\(\)](#) or [guide\\_coloursteps\\_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.

For binned guides like bins and coloursteps the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For colourbar guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For colourbar guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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 `ggplot2::scale_colour_continuous()`, `ggplot2::scale_fill_continuous()`, `ggplot2::scale_colour_grey()`, `ggplot2::scale_fill_grey()`, `ggplot2::scale_colour_hue()`, `ggplot2::scale_fill_hue()`, `ggplot2::scale_colour_binned()`, `ggplot2::scale_fill_binned()`, `ggplot2::scale_colour_discrete()`, `ggplot2::scale_fill_discrete()`, `ggplot2::scale_colour_date()`, `ggplot2::scale_fill_date()`, `ggplot2::scale_colour_datetime()` and `ggplot2::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 interactive scale and interactive guide 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, bins, colourbar or coloursteps is used, it will be converted to a [guide\\_legend\\_interactive\(\)](#), [guide\\_bins\\_interactive\(\)](#), [guide\\_colourbar\\_interactive\(\)](#) or [guide\\_coloursteps\\_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.

For binned guides like bins and coloursteps the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For colourbar guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For

colourbar guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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 [ggplot2::scale\\_colour\\_steps\(\)](#), [ggplot2::scale\\_fill\\_steps\(\)](#), [ggplot2::scale\\_colour\\_steps2\(\)](#), [ggplot2::scale\\_fill\\_steps2\(\)](#), [ggplot2::scale\\_colour\\_stepsn\(\)](#) and [ggplot2::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 interactive scale and interactive guide 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, bins, colourbar or coloursteps is used, it will be converted to a [guide\\_legend\\_interactive\(\)](#), [guide\\_bins\\_interactive\(\)](#), [guide\\_colourbar\\_interactive\(\)](#) or [guide\\_coloursteps\\_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.

For binned guides like bins and coloursteps the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For colourbar guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For colourbar guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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 `ggplot2::scale_colour_gradient()`, `ggplot2::scale_fill_gradient()`, `ggplot2::scale_colour_gradient2()`, `ggplot2::scale_fill_gradient2()`, `ggplot2::scale_colour_gradientn()` and `ggplot2::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 interactive scale and interactive guide 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, bins, colourbar or coloursteps is used, it will be converted to a [guide\\_legend\\_interactive\(\)](#), [guide\\_bins\\_interactive\(\)](#), [guide\\_colourbar\\_interactive\(\)](#) or [guide\\_coloursteps\\_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.

For binned guides like bins and coloursteps the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For colourbar guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For colourbar guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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\\_interactive\(\)](#)

### 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(abreak) {
      label_interactive(
        as.character(abreak),
        data_id = paste0("colourbar", abreak),
        onclick = "alert(\"colourbar\")",
        tooltip = paste0("colourbar", abreak)
      )
    })
  }
)
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 `ggplot2::scale_linetype()`, `ggplot2::scale_linetype_continuous()`, `ggplot2::scale_linetype_discrete()` and `ggplot2::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 interactive scale and interactive guide 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`, `bins`, `colourbar` or `coloursteps` is used, it will be converted to a [guide\\_legend\\_interactive\(\)](#), [guide\\_bins\\_interactive\(\)](#), [guide\\_colourbar\\_interactive\(\)](#) or [guide\\_coloursteps\\_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.

For binned guides like `bins` and `coloursteps` the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For `colourbar` guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For

colourbar guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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\\_interactive](#)

---

scale\_manual\_interactive

*Create your own interactive discrete scale*

---

### Description

These scales are based on [ggplot2::scale\\_colour\\_manual\(\)](#), [ggplot2::scale\\_fill\\_manual\(\)](#), [ggplot2::scale\\_size\\_manual\(\)](#), [ggplot2::scale\\_shape\\_manual\(\)](#), [ggplot2::scale\\_linetype\\_manual\(\)](#), [ggplot2::scale\\_alpha\\_manual\(\)](#) and [ggplot2::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 interactive scale and interactive guide 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, bins, colourbar or coloursteps is used, it will be converted to a [guide\\_legend\\_interactive\(\)](#), [guide\\_bins\\_interactive\(\)](#), [guide\\_colourbar\\_interactive\(\)](#) or [guide\\_coloursteps\\_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.

For binned guides like bins and coloursteps the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For colourbar guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For colourbar guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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 `ggplot2::scale_shape()`, `ggplot2::scale_shape_continuous()`, `ggplot2::scale_shape_discrete()`, `ggplot2::scale_shape_binned()` and `ggplot2::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 interactive scale and interactive guide 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`, `bins`, `colourbar` or `coloursteps` is used, it will be converted to a [guide\\_legend\\_interactive\(\)](#), [guide\\_bins\\_interactive\(\)](#), [guide\\_colourbar\\_interactive\(\)](#) or [guide\\_coloursteps\\_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.

For binned guides like `bins` and `coloursteps` the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For `colourbar` guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For `colourbar` guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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 `ggplot2::scale_size()`, `ggplot2::scale_size_area()`, `ggplot2::scale_size_continuous()`, `ggplot2::scale_size_discrete()`, `ggplot2::scale_size_binned()`, `ggplot2::scale_size_binned_area()`, `ggplot2::scale_size_date()`, `ggplot2::scale_size_datetime()`, `ggplot2::scale_size_ordinal()` and `ggplot2::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 interactive scale and interactive guide 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, bins, colourbar or coloursteps is used, it will be converted to a [guide\\_legend\\_interactive\(\)](#), [guide\\_bins\\_interactive\(\)](#), [guide\\_colourbar\\_interactive\(\)](#) or [guide\\_coloursteps\\_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.

For binned guides like bins and coloursteps the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For colourbar guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For colourbar guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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 [ggplot2::scale\\_colour\\_viridis\\_d\(\)](#), [ggplot2::scale\\_fill\\_viridis\\_d\(\)](#), [ggplot2::scale\\_colour\\_viridis\\_c\(\)](#), [ggplot2::scale\\_fill\\_viridis\\_c\(\)](#), [ggplot2::scale\\_colour\\_viridis\\_b\(\)](#), [ggplot2::scale\\_fill\\_viridis\\_b\(\)](#), [ggplot2::scale\\_colour\\_ordinal\(\)](#), [ggplot2::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 interactive scale and interactive guide 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, bins, colourbar or coloursteps is used, it will be converted to a [guide\\_legend\\_interactive\(\)](#), [guide\\_bins\\_interactive\(\)](#), [guide\\_colourbar\\_interactive\(\)](#) or [guide\\_coloursteps\\_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.

For binned guides like bins and coloursteps the breaks include the label breaks and the limits. The number of bins will be one less than the number of breaks and the interactive parameters can be constructed for each bin separately (look at the examples). For colourbar guide in raster mode, the breaks vector, is scalar 1 always, meaning the interactive parameters should be scalar too. For colourbar guide in non-raster mode, the bar is drawn using rectangles, and the breaks are the midpoints of each rectangle.

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

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 = after_stat(nlevel),
      tooltip = paste("nlevel:", after_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) {
      label_interactive(
        as.character(breaks),
        data_id = as.character(breaks),
        onclick = paste0("alert(\"", as.character(breaks), "\")"),
        tooltip = as.character(breaks)
      )
    }
  )
x <- girafe(ggobj = p4)
x <- girafe_options(
  x,
  opts_hover_key(girafe_css("stroke:red", text = "stroke:none;fill:red"))
)
if (interactive()) {
  print(x)
}

```



**Description**

girafe animation options (see [girafe\\_defaults\(\)](#)) are automatically applied to every girafe you produce. Use [set\\_girafe\\_defaults\(\)](#) to override them. Use [init\\_girafe\\_defaults\(\)](#) to re-init all values with the package defaults.

**Usage**

```
set_girafe_defaults(
  fonts = NULL,
  opts_sizing = NULL,
  opts_tooltip = NULL,
  opts_hover = NULL,
  opts_hover_key = NULL,
  opts_hover_inv = NULL,
  opts_hover_theme = NULL,
  opts_selection = NULL,
  opts_selection_inv = NULL,
  opts_selection_key = NULL,
  opts_selection_theme = NULL,
  opts_zoom = NULL,
  opts_toolbar = NULL
)
```

**Arguments**

fonts	default values for fonts, see argument fonts of <a href="#">dsvg()</a> function.
opts_sizing	default values for <a href="#">opts_sizing()</a> used in argument options of <a href="#">girafe()</a> function.
opts_tooltip	default values for <a href="#">opts_tooltip()</a> used in argument options of <a href="#">girafe()</a> function.
opts_hover	default values for <a href="#">opts_hover()</a> used in argument options of <a href="#">girafe()</a> function.
opts_hover_key	default values for <a href="#">opts_hover_key()</a> used in argument options of <a href="#">girafe()</a> function.
opts_hover_inv	default values for <a href="#">opts_hover_inv()</a> used in argument options of <a href="#">girafe()</a> function.
opts_hover_theme	default values for <a href="#">opts_hover_theme()</a> used in argument options of <a href="#">girafe()</a> function.
opts_selection	default values for <a href="#">opts_selection()</a> used in argument options of <a href="#">girafe()</a> function.
opts_selection_inv	default values for <a href="#">opts_selection_inv()</a> used in argument options of <a href="#">girafe()</a> function.
opts_selection_key	default values for <a href="#">opts_selection_key()</a> used in argument options of <a href="#">girafe()</a> function.

opts_selection_theme	default values for <code>opts_selection_theme()</code> used in argument options of <code>girafe()</code> function.
opts_zoom	default values for <code>opts_zoom()</code> used in argument options of <code>girafe()</code> function.
opts_toolbar	default values for <code>opts_toolbar()</code> used in argument options of <code>girafe()</code> function.

### See Also

Other girafe animation options: `girafe_defaults()`, `girafe_options()`, `init_girafe_defaults()`, `opts_hover()`, `opts_selection()`, `opts_sizing()`, `opts_toolbar()`, `opts_tooltip()`, `opts_zoom()`

### Examples

```
library(ggplot2)

set_girafe_defaults(
  opts_hover = opts_hover(css = "r:10px;"),
  opts_hover_inv = opts_hover_inv(),
  opts_sizing = opts_sizing(rescale = FALSE, width = .8),
  opts_tooltip = opts_tooltip(opacity = .7,
                              offx = 20, offy = -10,
                              use_fill = TRUE, use_stroke = TRUE,
                              delay_mouseout = 1000),
  opts_toolbar = opts_toolbar(position = "top", saveaspng = FALSE),
  opts_zoom = opts_zoom(min = .8, max = 7)
)

init_girafe_defaults()
```

---

validated_fonts	<i>List of validated default fonts</i>
-----------------	--

---

### 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()
```

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