Package 'billboarder'

September 9, 2024

Title Create Interactive Chart with the JavaScript 'Billboard' Library

Version 0.5.0

Description Provides an 'htmlwidgets' interface to 'billboard.js',
a re-usable easy interface JavaScript chart library, based on D3 v4+.
Chart types include line charts, scatterplots, bar/lollipop charts, histogram/density plots, pie/donut charts and gauge charts.
All charts are interactive, and a proxy method is implemented to smoothly update a chart without rendering it again in 'shiny' apps.

URL https://github.com/dreamRs/billboarder,
https://dreamrs.github.io/billboarder/

BugReports https://github.com/dreamRs/billboarder/issues

Depends R (>= 3.1.0)

License MIT + file LICENSE

Encoding UTF-8

LazyData true

RoxygenNote 7.3.2

Imports htmlwidgets, htmltools, magrittr, jsonlite, ggplot2, scales,
shiny, rlang

Suggests RColorBrewer, testthat, knitr, rmarkdown, covr

VignetteBuilder knitr

NeedsCompilation no

Author Victor Perrier [aut, cre],
Fanny Meyer [aut],
NAVER Corp [cph] (billboard.js library),
Mike Bostock [cph] (d3.format library)

Maintainer Victor Perrier <victor.perrier@dreamrs.fr>

Repository CRAN

Date/Publication 2024-09-09 19:00:21 UTC

Contents

`billboarder-package` *An* `htmlwidget` *interface to the billboard.js javascript chart library*

Description

This package allow you to use billboard.js (`https://naver.github.io/billboard.js/`), a re-usable easy interface JavaScript chart library, based on D3 v4+.

Author(s)

Victor Perrier (@dreamRs_fr)

See Also

Useful links:

- https://github.com/dreamRs/billboarder
- https://dreamrs.github.io/billboarder/
- Report bugs at https://github.com/dreamRs/billboarder/issues

---

`avengers` *Power ratings for The Avengers.*

Description

Data are available in "long" and "wide" format.

Usage

```
avengers

avengers_wide
```

Format

A data frame with 24 rows and 4 variables:

group Name of the hero

axis Power skill

value Value (1-7)

description Character description

An object of class `data.frame` with 6 rows and 5 columns.

Source

Marvel Wikia (https://marvel.fandom.com/wiki/Marvel_Database) and Chris Zhou (http://bl.ocks.org/chrisrzhou/2421ac6541b68c1680f8)

bauge *Simple Gauge*

Description

A gauge that automatically updates itself in Shiny apps.

Usage

```
bauge(
  value,
  min = 0,
  max = 100,
  colors = NULL,
  steps = NULL,
  label_tooltip = NULL,
  label_show = TRUE,
  label_format = NULL,
  label_extents = NULL,
  expand = TRUE,
  subtitle = NULL,
  full_circle = FALSE,
  gauge_width = NULL,
  width = NULL,
  height = NULL,
  elementId = NULL
)
```

Arguments

value	Value for the gauge.
min	Minimal value for the gauge, default to 0.
max	Maximal value for the gauge, default to 100.
colors	Vector of color(s), if more than one, steps must be specified.
steps	Upper bound for changing colors.
label_tooltip	Label to appear on the tooltip, when mouse is hovering the gauge.
label_show	Show or not minimal and maximal labels.
label_format	JavaScript function to format inner label.
label_extents	JavaScript function to set custom labels.
expand	Enable or disable expanding gauge.
subtitle	Additional text to add below the value.
full_circle	Show full circle as donut. When set to TRUE, the max label will not be showed due to start and end points are same location.

gauge_width	Set width of gauge chart.
width	Width of the element container.
height	Height of the element container.
elementId	Use an explicit element ID for the widget.

Examples

```
bauge(45)

bauge(67, colors = "#F6C600")

bauge(90, full_circle = TRUE)

bauge(90, max = 210, gauge_width = 20, label_format = suffix(" km/h"))

# Shiny example
if (interactive()) {
  library(shiny)

  ui <- fluidPage(
    baugeOutput(outputId = "gauge", width = "300px"),
    actionButton(inputId = "update_value", label = "Update value"),
    actionButton(inputId = "update_max", label = "Update max")
  )

  server <- function(input, output, session) {

    value <- reactive({
      input$update_value
      round(sample.int(100, 1))
    })

    max_value <- reactive({
      input$update_max
      sample(100:200, 1)
    })

    output$gauge <- renderBauge({
      bauge(
        value = value(),
        max = max_value(),
        steps = c(30, 60, 90, 100),
        colors = c("#FF0000", "#F97600", "#F6C600", "#60B044")
      )
    })

  }

  shinyApp(ui, server)
}
```

bauge-shiny *Shiny bindings for bauge*

Description

Output and render functions for using bauge within Shiny applications and interactive Rmd documents.

Usage

```
baugeOutput(outputId, width = "100%", height = "200px")

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

Arguments

outputId	output variable to read from
width, height	Must be a valid CSS unit (like '100%', '400px', 'auto') or a number, which will be coerced to a string and have 'px' appended.
expr	An expression that generates a bauge
env	The environment in which to evaluate expr.
quoted	Is expr a quoted expression (with quote())? This is useful if you want to save an expression in a variable.

bb_add_style *Add custom style for regions and grid lines*

Description

Add custom style for regions and grid lines

Usage

```
bb_add_style(
  bb,
  region = NULL,
  x_grid = NULL,
  y_grid = NULL,
  ...,
  .list = NULL
)
```

Arguments

bb	A billboard htmlwidget object.
region	A named list with style associated with region.
x_grid	A named list with style associated with grid line on the X-axis.
y_grid	A named list with style associated with grid line on the Y-axis.
..., .list	Used internally.

Value

A billboard htmlwidget object.

Examples

```
# Change default color for regions
billboarder() %>%
  bb_linechart(data = sin(seq(-pi, pi, length.out = 30))) %>%
  bb_regions(
    list(start = 0, end = 10, class = "custom"), # add custom class
    list(start = 19, end = 29, class = "foo")
  ) %>%
  bb_add_style(region = list(custom = "fill: red;", foo = "fill: #009246;"))

# Customize grid line and text
billboarder() %>%
  bb_linechart(data = sin(seq(-pi, pi, length.out = 30))) %>%
  bb_y_grid(lines = list(list(
    value = 0, text = "Zero", position  = "middle", class = "zero"
  ))) %>%
  bb_add_style(y_grid = list(
    zero = list(line = "stroke: red", text = "font-size: 240%; fill: black"
  )))
```

---

bb_area *Area property for a Billboard.js chart*

Description

Area property for a Billboard.js chart

Usage

```
bb_area(bb, ...)
```

Arguments

bb	A billboard htmlwidget object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.area

Value

A `billboard` `htmlwidget` object.

`bb_axis` *Add axis parameters*

Description

Add axis parameters

Usage

```
bb_axis(bb, ...)

bb_x_axis(bb, ...)

bb_y_axis(bb, ...)
```

Arguments

`bb`	A `billboard` `htmlwidget` object.
`...`	Arguments defined in https://naver.github.io/billboard.js/demo/.

Value

A `billboard` `htmlwidget` object.

Examples

```
stars <- data.frame(
  package = c("billboarder", "ggiraph", "officer", "shinyWidgets", "visNetwork"),
  stars = c(9, 178, 43, 46, 175)
)

# Add a label to y axis
billboarder() %>%
  bb_barchart(data = stars) %>%
  bb_axis(y = list(label = list(text = "# of stars", position = "middle")))

# or shorter :
billboarder() %>%
  bb_barchart(data = stars) %>%
  bb_y_axis(label = list(text = "# of stars", position = "outer-top"))
```

bb_bar *Bar property for a Billboard.js chart*

Description

Bar property for a Billboard.js chart

Usage

```
bb_bar(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.bar

Value

A `billboard` `htmlwidget` object.

Examples

```
billboarder() %>%
  bb_barchart(data = data.frame(v1 = c("a", "b", "c"), value = c(5, 6, 3))) %>%
  bb_bar(width = list(ratio = 0.95))
```

bb_barchart *Helper for creating a bar chart*

Description

Helper for creating a bar chart

Usage

```
bb_barchart(
  bb,
  data,
  mapping = NULL,
  stacked = FALSE,
  rotated = FALSE,
  color = NULL,
  ...
)
```

Arguments

bb	A `billboard` `htmlwidget` object.
data	A `data.frame`, the first column will be used for x axis unless specified otherwise in `mapping`. If not a `data.frame`, an object coercible to `data.frame`.
mapping	Mapping of variables on the chart, see `bbaes`.
stacked	Logical, if several columns are provided, produce a stacked bar chart, else a dodge bar chart.
rotated	Switch x and y axis position.
color	Bar's color.
...	Arguments for slot bar, see https://naver.github.io/billboard.js/release/latest/doc/Options.html#.bar.

Value

A `billboard` `htmlwidget` object.

Note

This function can be used with `billboarderProxy` in shiny application.

Examples

```
stars <- data.frame(
  package = c("billboarder", "ggiraph", "officer",
              "shinyWidgets", "visNetwork", "rAmCharts",
              "D3partitionR"),
  stars = c(67, 252, 160, 144, 224, 32, 25)
)

# By default, first column is mapped on the x-axis
# second one on the y axis
billboarder() %>%
  bb_barchart(data = stars)


# Specify explicitly the columns to use
billboarder() %>%
  bb_barchart(data = stars, mapping = bbaes(package, stars), rotated = TRUE)


# Add some options
billboarder() %>%
 bb_barchart(data = stars[order(stars$stars), ], x = "package", y = "stars", rotated = TRUE) %>%
  bb_data(names = list(stars = "Number of stars")) %>%
  bb_y_grid(show = TRUE)



# Hack stacked barcharts (to color bar)
```

```
stars_wide <- data.frame(
  author = c("dreamRs", "davidgohel", "davidgohel", "dreamRs",
             "datastorm-open", "datastorm-open", "AntoineGuillot2"),
  package = c("billboarder", "ggiraph", "officer",
              "shinyWidgets", "visNetwork", "rAmCharts",
              "D3partitionR"),
  stars = c(67, 252, 160, 144, 224, 32, 25)
)

billboarder() %>%
  bb_barchart(data = stars_wide,
              mapping = bbaes(package, stars, group = author),
              stacked = TRUE)

billboarder() %>%
  bb_barchart(data = stars_wide,
              mapping = bbaes(author, stars, group = package),
              stacked = TRUE)



# Grouping variable
tab <- table(sample(letters[1:5], 100, TRUE), sample(LETTERS[1:5], 100, TRUE))
dat <- as.data.frame(tab)

billboarder() %>%
  bb_barchart(data = dat, bbaes(x = Var1, y = Freq, group = Var2), rotated = TRUE)


# You can also pass data in a 'wide' format
dat2 <- data.frame(
  x = letters[1:5],
  A = sample.int(n = 100, size = 5),
  B = sample.int(n = 100, size = 5),
  C = sample.int(n = 100, size = 5),
  D = sample.int(n = 100, size = 5),
  E = sample.int(n = 100, size = 5)
)

# But cannot use mapping
billboarder() %>%
  bb_barchart(data = dat2, stacked = TRUE) %>%
  bb_data(order = NULL, labels = TRUE)
```

`bb_bar_color_manual` *Manual color for barchart*

Description

Manual color for barchart

Usage

```
bb_bar_color_manual(bb, values)
```

Arguments

bb	A billboard htmlwidget object.
values	A named vector, names represent the categories of the bar chart, values correspond to colors. All categories must be present in the vector, in the same order of the chart.

Value

A billboard htmlwidget object.

Note

Must be called after bb_bar.

Examples

```
## Not run:

library("data.table")
library("billboarder")

data("mpg", package = "ggplot2")
setDT(mpg)

# all in blue
manufa <- unique(mpg$manufacturer)
cols <- rep("#08298A", length(manufa))
names(cols) <- manufa

# Nissan in red
cols[["nissan"]] <- "#DF0101"#'

billboarder() %>%
  bb_barchart(data = mpg[, list(count = .N), by = manufacturer][order(count)]) %>%
  bb_bar_color_manual(values = cols)

## End(Not run)
```

---

bb_bubble *Bubble property for a Billboard.js chart*

Description

Bubble property for a Billboard.js chart

Usage

```
bb_bubble(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.bubble

Value

A `billboard` `htmlwidget` object.

Examples

```
billboarder() %>%
  bb_scatterplot(
    data = iris,
    mapping = bbaes(Sepal.Length, Sepal.Width, group = Species, size = Petal.Width)
  ) %>%
  bb_bubble(maxR = 10)


billboarder() %>%
  bb_scatterplot(
    data = iris,
    mapping = bbaes(Sepal.Length, Sepal.Width, group = Species, size = Petal.Width)
  ) %>%
  bb_bubble(maxR = JS("function(d) {return Math.sqrt(d.value.z * 20);}"))
```

---

bb_callbacks *Callbacks for billboard charts*

Description

Callbacks for billboard charts

Usage

```
bb_callbacks(
  bb,
  onafterinit = NULL,
  onbeforeinit = NULL,
  oninit = NULL,
  onout = NULL,
  onover = NULL,
  onrendered = NULL,
  onresize = NULL,
  onresized = NULL
)
```

Arguments

bb	A billboard htmlwidget object.
onafterinit	Set a callback to execute after the chart is initialized.
onbeforeinit	Set a callback to execute before the chart is initialized.
oninit	Set a callback to execute when the chart is initialized.
onout	Set a callback to execute when mouse/touch leaves the chart.
onover	Set a callback to execute when mouse/touch enters the chart.
onrendered	Set a callback which is executed when the chart is rendered. Basically, this callback will be called in each time when the chart is redrawed.
onresize	Set a callback to execute when user resizes the screen.
onresized	Set a callback to execute when screen resize finished.

Value

A billboard htmlwidget object.

Note

Set JavaScript callbacks for various billboard events. See the billboard options reference for additional details on the signature of each callback.

---

bb_categories *Set categories on X axis*

Description

Set or modify x axis labels.

Usage

```
bb_categories(bb, categories)
```

Arguments

bb	A billboard htmlwidget object.
categories	A character vector to set names on a category axis.

Value

A billboard htmlwidget object.

Note

This function can be used with billboarder-shiny to modify labels on axis, e.g. for barcharts.

Examples

```
# Simple line with month names as x labels
billboarder() %>%
  bb_linechart(data = round(rnorm(12))) %>%
  bb_categories(categories = month.name)
```

---

bb_color *Color property for a Billboard.js chart*

Description

Color property for a Billboard.js chart

Usage

```
bb_color(bb, palette = NULL, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
palette	A color palette to use with series added in the chart.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.color

Value

A `billboard` `htmlwidget` object.

Examples

```
library("RColorBrewer")

# Scatter
billboarder() %>%
  bb_scatterplot(data = iris, x = "Sepal.Length", y = "Sepal.Width", group = "Species") %>%
  bb_axis(x = list(tick = list(fit = FALSE))) %>%
  bb_point(r = 8) %>%
  bb_color(palette = brewer.pal(n = 3, name = "Reds"))

# Pie
stars <- data.frame(
  package = c("billboarder", "ggiraph", "officer", "shinyWidgets", "visNetwork"),
  stars = c(9, 177, 43, 44, 169)
)
cols <- brewer.pal(n = 5, name = "Dark2")

billboarder() %>%
```

```
  bb_piechart(data = stars) %>%
  bb_color(palette = brewer.pal(n = 5, name = "Reds"))
```

---

bb_colors_manual *Set colors for each datas*

Description

Set colors for each datas

Usage

```
bb_colors_manual(bb, ..., opacity = 1)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	A named list, where names correspond to the data, and values to color associate with it.
opacity	Color opacity (for area charts).

Value

A `billboard` `htmlwidget` object.

Examples

```
library("RColorBrewer")

# Scatter
billboarder() %>%
  bb_scatterplot(
   data = iris,
   x = "Sepal.Length",
   y = "Sepal.Width",
   group = "Species"
  ) %>%
  bb_axis(x = list(tick = list(fit = FALSE))) %>%
  bb_point(r = 8) %>%
  bb_colors_manual(
   setosa = "#440154",
   virginica = "#21908C",
   versicolor = "#FDE725"
  )

# Pie
stars <- data.frame(
  package = c("billboarder", "ggiraph", "officer",
```

```
              "shinyWidgets", "visNetwork"),
  stars = c(9, 177, 43, 44, 169)
)
cols <- brewer.pal(n = 5, name = "Dark2")

billboarder() %>%
  bb_piechart(data = stars) %>%
  bb_colors_manual(
   setNames(as.list(cols), stars$package) # this is a named list
  )
```

---

bb_data *Add data to Billboard chart*

Description

Add data to Billboard chart

Usage

```
bb_data(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	Arguments defined in https://naver.github.io/billboard.js/demo/.

Value

A `billboard` `htmlwidget` object.

Note

This function can be used with `billboarderProxy` in shiny application.

Examples

```
billboarder() %>%
 bb_barchart(data = table(mtcars$cyl)) %>%
 bb_data(names = list(Freq = "Number of cylinders"), labels = TRUE)
```

bb_densityplot *Helper for creating a density plot*

Description

Helper for creating a density plot

Usage

```
bb_densityplot(
  bb,
  data,
  mapping = NULL,
  stacked = FALSE,
  stat = "density",
  fill = FALSE,
  ...
)
```

Arguments

bb	A `billboard` `htmlwidget` object.
data	A `data.frame` or a `vector`, the first column will be used to calculate density if `x` is `NULL`.
mapping	Mapping of variables on the chart, see `bbaes`.
stacked	Logical, create a stacked density plot.
stat	Stat to compute : `density` or `count`.
fill	Produce a conditional density estimate, this option force `stacked = TRUE`.
...	Arguments passed to `density`.

Value

A `billboard` `htmlwidget` object.

See Also

`bb_histogram`

Examples

```
# With a vector
billboarder() %>%
  bb_densityplot(data = rnorm(1e4))

data("diamonds", package = "ggplot2")
```

```
# density plot with one variable
billboarder() %>%
  bb_densityplot(data = diamonds, x = "carat")

# Same with mapping
billboarder() %>%
  bb_densityplot(diamonds, bbaes(carat))

# With a grouping variable
billboarder() %>%
  bb_densityplot(data = diamonds, x = "depth", group = "cut") %>%
  bb_x_axis(min = 55, max = 70)

# Same with mapping
billboarder() %>%
  bb_densityplot(diamonds, bbaes(depth, group = cut)) %>%
  bb_x_axis(min = 55, max = 70)


# a stacked density plot using count as statistic
bb <- billboarder() %>%
  bb_densityplot(diamonds, bbaes(depth, group = cut),
                 stacked = TRUE, stat = "count") %>%
  bb_x_axis(min = 55, max = 70)
bb

# changing order
bb %>% bb_data(order = "asc")
```

---

bb_donut *Donut property for a Billboard.js chart*

Description

Donut property for a Billboard.js chart

Usage

```
bb_donut(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.donut

Value

A `billboard` `htmlwidget` object.

Examples

```
billboarder() %>%
  bb_donutchart(data = table(mtcars$cyl)) %>%
  bb_donut(title = "Donut Title", width = 10)
```

---

bb_donutchart *Helper for creating a donut chart*

Description

Helper for creating a donut chart

Usage

```
bb_donutchart(bb, data, mapping = NULL, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
data	A `data.frame`.
mapping	Mapping of variables on the chart, see `bbaes`.
...	Arguments for slot donut, https://naver.github.io/billboard.js/release/latest/doc/Options.html#.donut.

Value

A `billboard` `htmlwidget` object.

Note

This function can be used with `billboarderProxy` in shiny application.

Examples

```
## Not run:
stars <- data.frame(
  package = c("billboarder", "ggiraph", "officer", "shinyWidgets", "visNetwork"),
  stars = c(9, 177, 43, 44, 169)
)

billboarder() %>%
  bb_donutchart(data = stars, title = "Stars")

## End(Not run)
```

bb_export *Export a Billboard to PNG*

Description

Export a Billboard to PNG

Usage

```
bb_export(bb, filename = NULL, download_label = "Export (.png)", ...)
```

Arguments

bb	A billboarder htmlwidget object or a billboarderProxy htmlwidget object.
filename	A string of the filename, excluding extension (will be ".png").
download_label	Label to appear on the link to download PNG.
...	Additional arguments (not used).

Value

A billboard htmlwidget object.

Note

This function has two uses:

- **in shiny:** you can export to PNG with an observeEvent by using billboarderProxy.
- **in markdown and in shiny:** add a button to download chart as PNG.

Examples

```
# Add a button to download as PNG:

data("equilibre_mensuel")
billboarder() %>%
  bb_linechart(
    data = equilibre_mensuel,
    mapping = bbaes(date, solde),
    type = "spline"
  ) %>%
  bb_x_axis(
    tick = list(format = "%Y-%m", fit = FALSE)
  ) %>%
  bb_export(
    filename = "my-awesome-chart",
    download_label = "Click to download"
  )
```

```
# In shiny, you can use proxy :

if (interactive()) {
  library(shiny)
  library(billboarder)

  ui <- fluidPage(
    fluidRow(
      column(
        width = 8, offset = 2,
        tags$h1("Export billboard as PNG via Proxy"),
        billboarderOutput(outputId = "mybb"),
        actionButton(
          inputId = "export",
          label = "Export",
          icon = icon("download")
        )
      )
    )
  )

  server <- function(input, output, session) {

    output$mybb <- renderBillboarder({
      data("prod_par_filiere")
      billboarder() %>%
        bb_barchart(
          data = prod_par_filiere[, c("annee", "prod_hydraulique")],
          color = "#102246"
        ) %>%
        bb_y_grid(show = TRUE)
    })

    observeEvent(input$export, {
      billboarderProxy(shinyId = "mybb") %>%
        bb_export(filename = "my-billboard-chart")
    })

  }

  shinyApp(ui, server)
}
```

---

bb_gauge *Gauge property for a Billboard.js chart*

Description

Gauge property for a Billboard.js chart

Usage

```
bb_gauge(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.gauge

Value

A `billboard` `htmlwidget` object.

Examples

```
billboarder() %>%
  bb_gaugechart(value = 50) %>%
  bb_gauge(min = 0, max = 200, units = "km/h", width = 10,
           label = list(format = htmlwidgets::JS("function(value) {return value;}")))
```

---

bb_gaugechart *Helper for creating a gauge*

Description

Helper for creating a gauge

Usage

```
bb_gaugechart(
  bb,
  value,
  name = "Value",
  color = NULL,
  steps = c(30, 60, 90, 100),
  steps_color = c("#FF0000", "#F97600", "#F6C600", "#60B044"),
  ...
)
```

Arguments

bb	A `billboard` `htmlwidget` object.
value	A single numeric value or a vector for stacked gauge.
name	Name for the value, appear in tooltip, same length as ‘value‘.
color	Color for the gauge, if provided, ‘steps‘ and ‘steps_color‘ are ignored.

steps	Upper bound for changing colors
steps_color	Colors corresponding to steps
...	Arguments for slot gauge.

Value

A billboard htmlwidget object.

Note

This function can be used with billboarderProxy in shiny application.

Examples

```
billboarder() %>%
  bb_gaugechart(value = 50)

# With some options
billboarder() %>%
  bb_gaugechart(
    value = 160,
    steps_color = rev(c("#FF0000", "#F97600", "#F6C600", "#60B044"))
  ) %>%
  bb_gauge(
    label = list(format = suffix("km/h")),
    min = 10, max = 200, width = 20
  )
```

---

bb_grid *Grid property for a Billboard.js chart*

Description

Grid property for a Billboard.js chart

Usage

```
bb_grid(bb, ...)

bb_x_grid(bb, ...)

bb_y_grid(bb, ...)
```

Arguments

bb	A billboard htmlwidget object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.grid

Value

A billboard htmlwidget object.

Note

bb_x_grid and bb_y_grid are shortcut for modifying the x-axis and the y-axis respectively.

Examples

```
stars <- data.frame(
  package = c("billboarder", "ggiraph", "officer", "shinyWidgets", "visNetwork"),
  stars = c(1, 176, 42, 40, 166)
)

billboarder() %>%
  bb_barchart(data = stars) %>%
  bb_y_grid(show = TRUE)

billboarder() %>%
  bb_barchart(data = stars) %>%
  bb_y_grid(lines = list(list(value = mean(stars$stars), text = "Horizontal line")))
```

---

bb_histogram *Helper for creating an histogram*

Description

Helper for creating an histogram

Usage

```
bb_histogram(
  bb,
  data,
  mapping = NULL,
  stacked = FALSE,
  fill = FALSE,
  bins = 30,
  binwidth = NULL,
  ...
)
```

Arguments

bb	A billboard htmlwidget object.
data	A data.frame or a vector, the first column will be used to calculate density if x is NULL.

mapping	Mapping of variables on the chart, see bbaes.
stacked	Logical, create a stacked histogram.
fill	Logical, create a stacked percentage histogram.
bins	Number of bins. Overridden by binwidth. Defaults to 30.
binwidth	The width of the bins. See geom_histogram
...	Not used.

Value

A billboard htmlwidget object.

See Also

bb_densityplot

Examples

```
data("diamonds", package = "ggplot2")

# one variable
billboarder() %>%
  bb_histogram(data = diamonds, x = "price")

# with mapping
billboarder() %>%
  bb_histogram(diamonds, bbaes(price))

# equivalent to
billboarder() %>%
  bb_histogram(data = diamonds$price)

# prettier with 'binwidth'
# (but you need to know your data)
billboarder() %>%
  bb_histogram(data = diamonds, x = "price", binwidth = 500) %>%
  bb_colors_manual()

# with a grouping variable
billboarder() %>%
  bb_histogram(data = diamonds, x = "price",
               group = "cut", binwidth = 500)

# and with mapping
billboarder() %>%
  bb_histogram(diamonds, bbaes(price, group = cut),
               binwidth = 500)

# stacked histogram
billboarder() %>%
  bb_histogram(diamonds, bbaes(price, group = cut),
```

```
                stacked = TRUE, binwidth = 500)


# another example
dat <- data.frame(
  sample = c(rnorm(n = 500, mean = 1), rnorm(n = 500, mean = 2)),
  group = rep(c("A", "B"), each = 500)
)

billboarder() %>%
  bb_histogram(data = dat, x = "sample", binwidth = 0.25)

samples_mean <- tapply(dat$sample, dat$group, mean)
billboarder() %>%
  bb_histogram(data = dat, x = "sample", group = "group",
               binwidth = 0.25) %>%
  bb_x_grid(
    lines = list(
      list(value = unname(samples_mean['A']),
           text = "mean of sample A"),
      list(value = unname(samples_mean['B']),
           text = "mean of sample B")
    )
  )
```

`bb_interaction` *Interaction property for a Billboard.js chart*

Description

Interaction property for a Billboard.js chart

Usage

```
bb_interaction(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.interaction

Value

A `billboard` `htmlwidget` object.

bb_labs *Quickly set title, axis labels and caption*

Description

Quickly set title, axis labels and caption

Usage

```
bb_labs(bb, title = NULL, x = NULL, y = NULL, caption = NULL, ...)
```

Arguments

bb	A billboard htmlwidget object.
title	Text for the chart title, use \n to make a new line.
x	Text for x axis title.
y	Text for y axis title.
caption	Text for the caption displayed in the bottom-right of the chart.
...	Not used.

Value

A billboard htmlwidget object.

Note

caption is not part of the billboard.js library, it is added by the billboarder package.

Examples

```
data("prod_par_filiere")

billboarder() %>%
  bb_barchart(
    data = prod_par_filiere[, c("annee", "prod_hydraulique")],
    color = "#102246"
  ) %>%
  bb_legend(show = FALSE) %>%
  bb_labs(
    title = "French hydraulic production",
    y = "production (in terawatt-hours)",
    caption = "Data source: RTE (https://opendata.reseaux-energies.fr/)",
    caption_href = "https://opendata.reseaux-energies.fr/"
  )
```

bb_legend *Add legend parameters*

Description

Add legend parameters

Usage

```
bb_legend(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	Arguments defined in https://naver.github.io/billboard.js/release/latest/doc/Options.html#.legend.

Value

A `billboard` `htmlwidget` object.

Examples

```
library("billboarder")

stars <- data.frame(
  package = c("billboarder", "ggiraph", "officer", "shinyWidgets", "visNetwork"),
  stars = c(1, 176, 42, 40, 166)
)

# Hide legend
billboarder() %>%
  bb_barchart(data = stars) %>%
  bb_legend(show = FALSE)

# Right legend
billboarder() %>%
  bb_piechart(data = stars) %>%
  bb_legend(position = "right")

# Inset legend
billboarder() %>%
 bb_scatterplot(data = iris, x = "Sepal.Length", y = "Sepal.Width", group = "Species") %>%
  bb_axis(x = list(tick = list(fit = FALSE))) %>%
  bb_legend(position = "inset", inset = list(anchor = "top-right"))
```

bb_line *Line property for a Billboard.js chart*

Description

Line property for a Billboard.js chart

Usage

```
bb_line(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.line

Value

A `billboard` `htmlwidget` object.

Examples

```
# Set if null data point will be connected or not.
b <- billboarder() %>%
  bb_linechart(data = c(1, 2, NA, 4, 5))
b
b %>%  bb_line(connectNull = TRUE)
```

bb_linechart *Helper for creating a line chart*

Description

Helper for creating a line chart

Usage

```
bb_linechart(
  bb,
  data,
  mapping = NULL,
  type = "line",
  show_point = FALSE,
  dasharray = NULL,
```

```
  width = NULL,
  ...
)
```

Arguments

bb	A `billboard` `htmlwidget` object.
data	A `data.frame` or a `vector`.
mapping	Mapping of variables on the chart, see `bbaes`.
type	Type of chart : `"line"`, `"spline"`, `"step"`, `"area"`, `"area-spline"`, `"area-step"`, `"area-line-range"`, `"area-spline-range"`.
show_point	Whether to show each point in line.
dasharray	Pattern of dashes and gaps used to paint the outline of the line, see https://developer.mozilla.org/en-US/docs/Web/SVG/Attribute/stroke-dasharray for specifications.
width	Width of the stroke to be applied to the line, see https://developer.mozilla.org/en-US/docs/Web/SVG/Attribute/stroke-width for specifications.
...	Not used.

Value

A `billboard` `htmlwidget` object.

Note

Types area-line-range and area-spline-range don't work in RStudio viewer, open chart in a browser.
This function can be used with `billboarderProxy` in shiny application.

Examples

```
## Different types
x <- round(rnorm(20), 2)

billboarder() %>%
  bb_linechart(data = x)

billboarder() %>%
  bb_linechart(data = x, type = "spline")

billboarder() %>%
  bb_linechart(data = x, type = "area")

billboarder() %>%
  bb_linechart(data = x, type = "area-spline")


## Timeserie with date (Date)
data("economics", package = "ggplot2")
```

```
billboarder() %>%
  bb_linechart(data = economics[, c("date", "psavert")]) %>%
  bb_x_axis(tick = list(format = "%Y-%m", fit = FALSE)) %>%
  bb_y_axis(tick = list(format = suffix("%")),
            label = list(text = "Personal savings rate")) %>%
  bb_legend(show = FALSE) %>%
  bb_x_grid(show = TRUE) %>%
  bb_y_grid(show = TRUE) %>%
  bb_subchart(show = TRUE)


# With multiple lines :

data("economics_long", package = "ggplot2")

billboarder() %>%
  bb_linechart(economics_long, bbaes(date, value, variable)) %>%
  bb_data(hide = "pop") %>%
  bb_x_axis(tick = list(format = "%Y-%m", fit = FALSE))



## Timeserie with datetime (POSIXct)
data("cdc_prod_filiere")

billboarder() %>%
  bb_linechart(data = cdc_prod_filiere[, c("date_heure", "prod_eolien")])

# or with mapping :
billboarder() %>%
  bb_linechart(cdc_prod_filiere, bbaes(date_heure, prod_bioenergies))



### Other type for x-axis

## character/factor on x-axis
AirPassengers1960 <- data.frame(
  month = month.name,
  AirPassengers = tail(AirPassengers, 12)
)
# you have to specify that x-axis is of type 'category'
# and that column 'month' must be used for x-axis values
billboarder() %>%
  bb_linechart(data = AirPassengers1960, x = "month") %>%
  bb_x_axis(type = "category")


## numeric on x-axis
lynx.df <- data.frame(
  year = time(lynx),
  lynx = lynx
)
```

```
# just specify which variable must be use n the x-axis
billboarder() %>%
  bb_linechart(data = lynx.df, x = "year")


### Area range charts

# Generate data
dat <- data.frame(
  date = seq.Date(Sys.Date(), length.out = 20, by = "day"),
  y1 = round(rnorm(20, 100, 15)),
  y2 = round(rnorm(20, 100, 15))
)
dat$ymin1 <- dat$y1 - 5
dat$ymax1 <- dat$y1 + 5

dat$ymin2 <- dat$y2 - sample(3:15, 20, TRUE)
dat$ymax2 <- dat$y2 + sample(3:15, 20, TRUE)


# Make chart : use ymin & ymax aes for range
billboarder(data = dat) %>%
  bb_linechart(
    mapping = bbaes(x = date, y = y1, ymin = ymin1, ymax = ymax1),
    type = "area-line-range"
  ) %>%
  bb_linechart(
    mapping = bbaes(x = date, y = y2, ymin = ymin2, ymax = ymax2),
    type = "area-spline-range"
  ) %>%
  bb_y_axis(min = 50)
```

---

bb_load *Load data to the chart with proxy*

Description

Load data to the chart with proxy

Usage

```
bb_load(proxy, data = NULL, unload = NULL, ...)
```

Arguments

proxy	A `billboardProxy` `htmlwidget` object.
data	A `data.frame` with updated data.
unload	Ids (names) to data to unload.
...	Arguments passed to method.

Value

A billboardProxy htmlwidget object.

---

bb_lollipop *Helper for creating a lollipop chart*

Description

Helper for creating a lollipop chart

Usage

```
bb_lollipop(
  bb,
  data,
  mapping = NULL,
  rotated = FALSE,
  point_color = "#112446",
  point_size = 8,
  line_color = "#000",
  ...
)
```

Arguments

bb	A billboard htmlwidget object.
data	A data.frame, the first column will be used for x axis unless argument x is specified, the second one will be use as y values. If not a data.frame, an object coercible to data.frame.
mapping	Mapping of variables on the chart, see bbaes.
rotated	Switch x and y axis position.
point_color	Color of the lollipop.
point_size	Size of the lollipop.
line_color	Color of the lines between the axis and the lollipop.
...	Not used.

Value

A billboard htmlwidget object.

Examples

```
# From wikipedia
sw <- data.frame(
  film = c("The Force Awakens", "The Phantom Menace",
           "Revenge of the Sith", "A New Hope",
           "Attack of the Clones", "The Empire Strikes Back",
           "Return of the Jedi"
  ),
  worldwide_gross = c(2068178225, 1027044677, 848754768,
                      775398007, 649398328, 538375067,
                      475106177)
)

# Simple example
billboarder() %>%
  bb_lollipop(data = sw)

# Fancy example
billboarder() %>%
  bb_lollipop(data = sw, rotated = TRUE)%>%
  bb_y_grid(show = TRUE) %>%
  bb_y_axis(tick = list(
    values = c(0, 5e+08, 1e+09, 1.5e+09, 2e+09),
    outer = FALSE,
    format = htmlwidgets::JS("d3.formatPrefix('$,.0', 1e6)")
  )) %>%
  bb_x_axis(tick = list(centered = TRUE)) %>%
  bb_labs(
    title = "Star Wars - Total Lifetime Grosses",
    caption = "Data source : wikipedia"
  )


# With mapping
billboarder(data = sw) %>%
  bb_lollipop(mapping = bbaes(x = film, y = worldwide_gross))
```

---

bb_padding *The padding of the chart element.*

Description

The padding of the chart element.

Usage

```
bb_padding(bb, ...)
```

Arguments

bb	A billboarder htmlwidget object or a billboarderProxy htmlwidget object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.padding for possible options.

Value

A billboard htmlwidget object.

---

bb_pie *Pie property for a Billboard.js chart*

Description

Pie property for a Billboard.js chart

Usage

```
bb_pie(bb, ...)
```

Arguments

bb	A billboard htmlwidget object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.pie

Value

A billboard htmlwidget object.

Examples

```
billboarder() %>%
  bb_piechart(data = table(mtcars$cyl)) %>%
  bb_pie(label = list(
    ratio = 0.5,
    format = htmlwidgets::JS("function(value) {return d3.format('$')(value);}")
  ),
  expand = FALSE)
```

bb_piechart *Helper for creating a pie chart*

Description

Helper for creating a pie chart

Usage

```
bb_piechart(bb, data, mapping = NULL, ...)
```

Arguments

bb	A billboard htmlwidget object.
data	A data.frame, first column should contain labels, second column values associated, except if mapping is provided.
mapping	Mapping of variables on the chart, see bbaes.
...	Arguments for slot pie, https://naver.github.io/billboard.js/release/latest/doc/Options.html#.pie.

Value

A billboard htmlwidget object.

Note

This function can be used with billboarderProxy in shiny application.

Examples

```
stars <- data.frame(
  package = c("billboarder", "ggiraph", "officer", "shinyWidgets", "visNetwork"),
  stars = c(9, 177, 43, 44, 169)
)

# Default
billboarder() %>%
  bb_piechart(data = stars)

# Explicit mapping
billboarder() %>%
  bb_piechart(data = stars, bbaes(package, stars))

# Other way to specify mapping
billboarder(data = stars) %>%
  bb_aes(package, stars) %>%
  bb_piechart()
```

bb_point *Point property for a Billboard.js chart*

Description

Point property for a Billboard.js chart

Usage

```
bb_point(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.point

Value

A `billboard` `htmlwidget` object.

Examples

```
# Set point size
billboarder() %>%
  bb_scatterplot(data = iris, x = "Sepal.Length", y = "Sepal.Width", group = "Species") %>%
   bb_axis(x = list(tick = list(fit = FALSE))) %>%
   bb_point(r = 10)
```

bb_proxy_axis_labels *Update axis labels with proxy*

Description

Update axis labels with proxy

Usage

```
bb_proxy_axis_labels(proxy, x = NULL, y = NULL)
```

Arguments

proxy	A `billboardProxy` `htmlwidget` object.
x	X axis label.
y	Y axis label.

Value

A billboardProxy htmlwidget object.

---

bb_proxy_data_colors *Change colors with proxy*

Description

Change colors with proxy

Usage

```
bb_proxy_data_colors(proxy, names = NULL, colors = NULL)
```

Arguments

proxy	A billboardProxy htmlwidget object.
names	Names of series
colors	New colors, in same order that names.

Value

A billboardProxy htmlwidget object.

Examples

```
if (interactive()) {

library(shiny)
library(billboarder)

ui <- fluidPage(
  tags$h2("Update colors"),
  fluidRow(
    column(
      width = 3,
      selectizeInput(
        inputId = "col_eol",
        label = "Color for 'prod_eolien':",
        choices = c("#66C2A5", "#FC8D62",
                    "#8DA0CB", "#E78AC3",
                    "#A6D854", "#FFD92F",
                    "#E5C494", "#B3B3B3")
      ),
      selectizeInput(
        inputId = "col_sol",
        label = "Color for 'prod_solaire':",
        choices = c("#66C2A5", "#FC8D62",
```

```
                    "#8DA0CB", "#E78AC3",
                    "#A6D854", "#FFD92F",
                    "#E5C494", "#B3B3B3")
      )
    ),
    column(
      width = 9,
      billboarderOutput(outputId = "my_bb")
    )
  )
)

server <- function(input, output, session) {

  output$my_bb <- renderBillboarder({
    data(prod_par_filiere)
    billboarder() %>%
      bb_barchart(
        data = prod_par_filiere[, c(1, 6, 8)]
      )
  })

  observe({
    billboarderProxy(shinyId = "my_bb") %>%
      bb_proxy_data_colors(
        names = c("prod_eolien", "prod_solaire"),
        colors = c(input$col_eol, input$col_sol)
      )
  })

}

shinyApp(ui, server)

}
```

`bb_proxy_data_names` *Change names of the data with proxy*

Description

Change names of the data with proxy

Usage

```
bb_proxy_data_names(proxy, old = NULL, new = NULL)
```

Arguments

proxy	A billboardProxy htmlwidget object.
old	Old names
new	New names

Value

A billboardProxy htmlwidget object.

Examples

```
if (interactive()) {

library(shiny)
library(billboarder)

ui <- fluidPage(
  tags$h2("Update axis title & data name (tooltip & legend)"),
  billboarderOutput(outputId = "my_bb"),
  textInput(
    inputId = "new_name",
    label = "New name :",
    value = "this is a new name",
    width = "100%"
  ),
  actionButton(
    inputId = "update",
    label = "Update chart",
    width = "100%"
  )
)

server <- function(input, output, session) {

  output$my_bb <- renderBillboarder({
    dat <- sample(letters[1:5], 100, TRUE)
    billboarder() %>%
      bb_barchart(data = table(dat)) %>%
      bb_y_axis(label = list(text = "Freq"))
  })

  observeEvent(input$update, {
    dat <- sample(letters[1:5], 100, TRUE)
    billboarderProxy(shinyId = "my_bb") %>%
      bb_proxy_axis_labels(y = input$new_name) %>%
      bb_proxy_data_names(old = "Freq",
                          new = input$new_name) %>%
      bb_barchart(data = table(dat))
  }, ignoreInit = TRUE)

}
```

```
shinyApp(ui, server)

}
```

---

bb_proxy_flow *Update chart flow with proxy*

Description

Update chart flow with proxy

Usage

```
bb_proxy_flow(proxy, ...)
```

Arguments

proxy	A `billboardProxy` `htmlwidget` object.
...	Arguments passed to the flow API, see https://naver.github.io/billboard.js/release/latest/doc/Chart.html#flow.

Value

A `billboardProxy` `htmlwidget` object.

Examples

```
if (interactive()) {
  library(shiny)
  library(billboarder)

  ui <- fluidPage(
    tags$h3("Proxy flow"),
    actionButton(
      inputId = "next_data",
      label = "Add data",
      icon = icon("arrow-right")
    ),
    billboarderOutput(outputId = "chart1"),

    tags$h4("Real time chart"),
    billboarderOutput(outputId = "chart2")
  )

  server <- function(input, output, session) {


    time_data <- reactiveValues(df = data.frame(
```

```
      x = Sys.Date() + 1:20,
      y = round(rnorm(20) * 10)
    ))

    output$chart1 <- renderBillboarder({
      billboarder() %>%
        bb_linechart(data = isolate(time_data$df))
    })

    observeEvent(input$next_data, {
      time_data$df$x <- time_data$df$x + 21
      time_data$df$y <- round(rnorm(20) * 10)
    })

    observe({
      billboarderProxy("chart1") %>%
        bb_proxy_flow(json = as.list(time_data$df), duration = 1500)
    })



    output$chart2 <- renderBillboarder({
      df <- data.frame(
        x = Sys.time() - 1:20 * 2,
        y = round(rnorm(20) * 10)
      )
      billboarder() %>%
        bb_linechart(data = df) %>%
        bb_x_axis(tick = list(format = "%H:%M", fit = FALSE))
    })

    observe({
      invalidateLater(2000)
      billboarderProxy("chart2") %>%
        bb_proxy_flow(json = list(
          x = list(format(Sys.time())),
          y = list(round(rnorm(1) * 10))
        ), data = list(x = "x"))
    })

  }

  shinyApp(ui, server)
}
```

---

bb_proxy_focus *Highlights specified targets and fade out the others.*

Description

Highlights specified targets and fade out the others.

Usage

```
bb_proxy_focus(proxy, ids = NULL)

bb_proxy_defocus(proxy, ids = NULL)
```

Arguments

proxy	A billboardProxy htmlwidget object.
ids	Data ids (names) to be highlighted, if NULL all datas will be highlighted.

Value

A billboardProxy htmlwidget object.

Note

bb_defocus is the opposite of bb_focus

Examples

```
if (interactive()) {
library("shiny")
library("billboarder")

ui <- fluidPage(
  tags$h1("Proxy method to highlight data"),
  checkboxGroupInput(
    inputId = "focus",
    label = "Focus",
    choices = c("setosa", "versicolor", "virginica"),
    inline = TRUE
  ),
  billboarderOutput(outputId = "bb")
)

server <- function(input, output, session) {

  output$bb <- renderBillboarder({
    billboarder() %>%
      bb_scatter(
        data = iris,
        x = "Sepal.Length",
        y = "Sepal.Width",
        group = "Species"
      ) %>%
      bb_axis(x = list(tick = list(fit = FALSE))) %>%
      bb_point(r = 8)
  })

  observeEvent(input$focus, {
    billboarderProxy("bb") %>%
```

```
      bb_proxy_focus(input$focus)
  }, ignoreNULL = FALSE)
}

shinyApp(ui = ui, server = server)
}
```

`bb_proxy_groups` *Update chart groups with proxy*

Description

Update chart groups with proxy

Usage

```
bb_proxy_groups(proxy, ...)
```

Arguments

`proxy`	A `billboardProxy` `htmlwidget` object.
`...`	Vector(s) with id of the series, e.g. the name of variables.

Value

A `billboardProxy` `htmlwidget` object.

`bb_proxy_hide` *Hide method with proxy*

Description

Hide method with proxy

Usage

```
bb_proxy_hide(proxy, targetIdsValue, options = NULL)
```

Arguments

`proxy`	A `billboardProxy` `htmlwidget` object.
`targetIdsValue`	Name of series to hide.
`options`	Additional options.

Value

A `billboardProxy` `htmlwidget` object.

See Also

`bb_proxy_show`

`bb_proxy_legend` *Show or hide legend with proxy*

Description

Show or hide legend with proxy

Usage

```
bb_proxy_legend(proxy, what = c("show", "hide"), targetIds = NULL)
```

Arguments

`proxy`	A `billboardProxy` `htmlwidget` object.
`what`	`show` or `hide` the legend.
`targetIds`	Series ids to show/hide, if `NULL` show/hide all legend.

Value

A `billboardProxy` `htmlwidget` object.

Examples

```
if (interactive()) {
  library("shiny")

  data("prod_par_filiere")

  ui <- fluidPage(
    tags$h2("Show or hide legend with Proxy"),
    fluidRow(
      column(
        width = 3,
        checkboxInput(
          inputId = "show_legend",
          label = "Show legend",
          value = TRUE
        ),
        checkboxGroupInput(
          inputId = "item_show",
          label = "Item to show in legend",
```

```
        choices = c("Hydraulic" = "prod_hydraulique",
                    "Wind" = "prod_eolien",
                    "Solar" = "prod_solaire"),
        selected = c("prod_hydraulique", "prod_eolien", "prod_solaire")
      )
    ),
    column(
      width = 9,
      billboarderOutput(outputId = "mybb")
    )
  )
)

server <- function(input, output, session) {

  output$mybb <- renderBillboarder({
    billboarder() %>%
      bb_barchart(
        data = prod_par_filiere[, c(
          "annee", "prod_hydraulique",
          "prod_eolien", "prod_solaire"
        )],
        stacked = TRUE
      ) %>%
      bb_data(
        names = list(prod_hydraulique = "Hydraulic",
                     prod_eolien = "Wind",
                     prod_solaire = "Solar"),
        labels = TRUE
      ) %>%
      bb_colors_manual(
        "prod_eolien" = "#41AB5D",
        "prod_hydraulique" = "#4292C6",
        "prod_solaire" = "#FEB24C"
      ) %>%
      bb_y_grid(show = TRUE) %>%
      bb_y_axis(
        tick = list(format = suffix("TWh")),
        label = list(text = "production (in terawatt-hours)",
                     position = "outer-top")
      ) %>%
      bb_legend(position = "right") %>%
      bb_labs(
        title = "Renewable energy production",
        caption = "Data source: RTE (https://opendata.rte-france.com)"
      )
  })

  observe({
    if (input$show_legend) {
      billboarderProxy("mybb") %>%
        bb_proxy_legend(what = "show")
    } else {
```

```
      billboarderProxy("mybb") %>%
        bb_proxy_legend(what = "hide")
    }
  })

  observe({
    lapply(
      X = c("prod_hydraulique", "prod_eolien", "prod_solaire"),
      FUN = function(x) {
        if (x %in% input$item_show) {
          billboarderProxy("mybb") %>%
            bb_proxy_legend(what = "show", targetIds = x)
        } else {
          billboarderProxy("mybb") %>%
            bb_proxy_legend(what = "hide", targetIds = x)
        }
      }
    )
  })

}

shinyApp(ui = ui, server = server)
}
```

---

bb_proxy_show *Show method with proxy*

Description

Show method with proxy

Usage

```
bb_proxy_show(proxy, targetIdsValue, options = NULL)
```

Arguments

proxy	A billboardProxy htmlwidget object.
targetIdsValue	Name of series to show.
options	Additional options.

Value

A billboardProxy htmlwidget object.

See Also

bb_proxy_hide

bb_proxy_tooltip *Show or hide tooltip with proxy*

Description

Show or hide tooltip with proxy

Usage

```
bb_proxy_tooltip(proxy, what = c("show", "hide"), x = NULL, index = NULL, ...)
```

Arguments

proxy	A billboardProxy htmlwidget object.
what	show or hide the legend.
x	x value on which the tooltip must appear.
index	Index on the x-axis on which the tooltip must appear.
...	Additional arguments passed to method.

Value

A billboardProxy htmlwidget object.

bb_proxy_transform *Update chart type with proxy*

Description

Update chart type with proxy

Usage

```
bb_proxy_transform(proxy, type, targetIds = NULL)
```

Arguments

proxy	A billboardProxy htmlwidget object.
type	Specify the type to be transformed.
targetIds	Specify targets to be transformed. If not given, all targets will be the candidate.

Value

A billboardProxy htmlwidget object.

bb_proxy_xs *Update x values with proxy*

Description

Update x values with proxy

Usage

```
bb_proxy_xs(proxy, xs)
```

Arguments

proxy	A billboardProxy htmlwidget object.
xs	Named list of vector(s) used for x values.

Value

A billboardProxy htmlwidget object.

bb_radar *Radar property for a Billboard.js chart*

Description

Radar property for a Billboard.js chart

Usage

```
bb_radar(bb, ...)
```

Arguments

bb	A billboard htmlwidget object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.radar

Value

A billboard htmlwidget object.

Examples

```
library("billboarder")
data("avengers")

# number of levels
billboarder() %>%
  bb_radarchart(
    data = avengers,
    mapping = bbaes(x = axis, y = value, group = group)
  ) %>%
  bb_radar(level = list(depth = 4))

# hide levels
billboarder() %>%
  bb_radarchart(
    data = avengers,
    mapping = bbaes(x = axis, y = value, group = group)
  ) %>%
  bb_radar(level = list(show = FALSE))

# max value on axis
billboarder() %>%
  bb_radarchart(
    data = avengers,
    mapping = bbaes(x = axis, y = value, group = group)
  ) %>%
  bb_radar(axis = list(max = 10))
```

`bb_radarchart` *Helper for creating a radar chart*

Description

Helper for creating a radar chart

Usage

```
bb_radarchart(bb, data, mapping = NULL, ...)
```

Arguments

`bb`	A `billboard` `htmlwidget` object.
`data`	A `data.frame`, the first column will be used for x axis unless specified otherwise in `mapping`. If not a `data.frame`, an object coercible to `data.frame`.
`mapping`	Mapping of variables on the chart, see `bbaes`.
`...`	Arguments passed to `bb_radar`.

Value

A `billboard` `htmlwidget` object.

Examples

```
library("billboarder")

# data about Avengers
data("avengers_wide")

# if not specified, first column is used as x-axis,
# all others are used on y-axis
billboarder() %>%
  bb_radarchart(data = avengers_wide)

# specify explicitly which column to use with mapping
billboarder() %>%
  bb_radarchart(
    data = avengers_wide,
    mapping = bbaes(x = axis, y = `Captain America`)
  )


# with data in "long" format you can use "group" aesthetics
data("avengers")
billboarder() %>%
  bb_radarchart(
    data = avengers,
    mapping = bbaes(x = axis, y = value, group = group)
  )
```

`bb_regions` *Regions property for a Billboard.js chart*

Description

Add a shading effect to the background of the chart, to highlight a period for example.

Usage

```
bb_regions(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.regions

Value

A `billboard` `htmlwidget` object.

Note

This function can be used with `billboarderProxy` in shiny application.

See Also

`bb_add_style`

Examples

```
#' With a categorical X-axis
dat <- data.frame(
  month = month.abb,
  AirPassengers = tail(AirPassengers, 12)
)
# Highlight Jun/Jul/Aug
billboarder() %>%
  bb_linechart(data = dat, x = "month") %>%
  bb_x_axis(type = "category") %>%
  bb_regions(
    list(start = 4.5, end = 7.5) #' jan = 0
  )

# With a barchart
billboarder() %>%
  bb_barchart(data = dat) %>%
  bb_regions(
    list(start = 1.5, end = 2.5, class = "custom"),
    list(start = 8, end = 10, class = "foo")
  ) %>%
  bb_add_style(region = list(custom = "fill: red;", foo = "fill: #'009246;"))



# With Date X-axis
library("stats")
dat <- data.frame(
  date = seq.Date(from = Sys.Date(), by = "day", length.out = 365),
  var = density(rexp(n = 1000), n = 365)$y
)

billboarder() %>%
  bb_linechart(data = dat) %>%
  bb_x_axis(tick = list(fit = FALSE)) %>%
  bb_y_axis(min = 0, padding = 0) %>%
  bb_regions(
    list(start = format(Sys.Date() + 30), end = format(Sys.Date() + 120))
  )
```

```
# With POSIXct X-axis
dat <- data.frame(
  time = seq.POSIXt(from = Sys.time(), by = "min", length.out = 60),
  var = round(sort(rnorm(60)), 2)
)

billboarder() %>%
  bb_linechart(data = dat) %>%
  bb_x_axis(tick = list(format = "%H:%M", fit = FALSE)) %>%
  bb_regions(
    list(start = format(dat$time[15]),
         end = format(dat$time[30]))
  )
```

---

bb_render *Render property for a Billboard.js chart*

Description

Render property for a Billboard.js chart

Usage

```
bb_render(bb, ...)
```

Arguments

bb	A billboarder htmlwidget object or a billboarderProxy htmlwidget object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.render for possible options.

Value

A billboard htmlwidget object.

bb_scatterplot *Helper for creating a scatter chart*

Description

Helper for creating a scatter chart

Usage

```
bb_scatterplot(bb, data, mapping = NULL, ..., point_opacity = NULL)
```

Arguments

bb	A `billboard` `htmlwidget` object.
data	A `data.frame`
mapping	Mapping of variables on the chart, see `bbaes`.
...	Alternative mapping, you can specify `x = "Sepal.Length"` for example.
point_opacity	Opacity for points, value between `[0,1]`.

Value

A `billboard` `htmlwidget` object.

Note

This function can be used with `billboarderProxy` in shiny application.

Examples

```
# Use first and second variable by default
billboarder() %>%
  bb_scatterplot(data = iris)


# Explicit mapping
billboarder() %>%
  bb_scatterplot(
    data = iris,
    mapping = bbaes(Petal.Length, Petal.Width)
  ) %>%
  bb_x_axis(tick = list(fit = FALSE))


# Grouping variable
billboarder() %>%
  bb_scatterplot(
    data = iris,
    mapping = bbaes(Sepal.Length, Sepal.Width, group = Species)
```

```
  )

# Size variable
billboarder() %>%
  bb_scatterplot(
    data = iris,
    mapping = bbaes(
      Sepal.Length, Sepal.Width,
      group = Species, size = Petal.Width
    )
  ) %>%
  bb_x_axis(tick = list(fit = FALSE))
```

`bb_spline` *Spline property for a Billboard.js chart*

Description

Spline property for a Billboard.js chart

Usage

```
bb_spline(bb, ...)
```

Arguments

`bb`	A `billboard` `htmlwidget` object.
`...`	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.spline

Value

A `billboard` `htmlwidget` object.

`bb_subchart` *Subchart property for a Billboard.js chart*

Description

Create a subchart allowing to zoom and navigate on the chart.

Usage

```
bb_subchart(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.subchart

Value

A `billboard` `htmlwidget` object.

Examples

```
data("equilibre_mensuel")

billboarder() %>%
  bb_linechart(data = equilibre_mensuel[, c("date", "production")], type = "spline") %>%
  bb_subchart(show = TRUE)
```

---

bb_svg *SVG property for a Billboard.js chart*

Description

SVG property for a Billboard.js chart

Usage

```
bb_svg(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.svg

Value

A `billboard` `htmlwidget` object.

bb_title *Add title to Billboard.js chart*

Description

Add title to Billboard.js chart

Usage

```
bb_title(bb, text = NULL, padding = NULL, position = "top-center", ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
text	The chart title.
padding	A named list with `top`, `right`, `bottom`, `left` values.
position	A string specifying the position of the title.
...	Additional arguments.

Value

A `billboard` `htmlwidget` object.

See Also

bb_labs

Examples

```
billboarder() %>%
  bb_barchart(data = table(sample(letters, 100, TRUE))) %>%
  bb_title(text = "Random letters", position = "center")
```

bb_tooltip *Tooltip property for a Billboard.js chart*

Description

Tooltip property for a Billboard.js chart

Usage

```
bb_tooltip(bb, ...)
```

Arguments

bb	A billboard htmlwidget object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.tooltip

Value

A billboard htmlwidget object.

Examples

```
# Format tooltip
billboarder() %>%
  bb_scatterplot(data = iris, x = "Sepal.Length", y = "Sepal.Width", group = "Species") %>%
  bb_tooltip(
    format = list(
      # skip the title in tooltip
      title = htmlwidgets::JS("function() {return undefined;}"),
      name = htmlwidgets::JS("function(name, ratio, id, index) {return '';}"),
      value = htmlwidgets::JS("function(value, ratio, id, index) {return id;}")
    )
  )
```

---

bb_transition *Transition property for a Billboard.js chart*

Description

Transition property for a Billboard.js chart

Usage

```
bb_transition(bb, ...)
```

Arguments

bb	A billboard htmlwidget object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.transition

Value

A billboard htmlwidget object.

bb_treemap *Treemap property for a Billboard.js chart*

Description

Treemap property for a Billboard.js chart

Usage

```
bb_treemap(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.treemap

Value

A `billboard` `htmlwidget` object.

Examples

```
library("billboarder")
data("mpg", package = "ggplot2")

billboarder() %>%
  bb_treemapchart(mpg[, 1]) %>%
  bb_treemap(label = list(show = TRUE, threshold = 0.03))%>%
  bb_data(
    labels = list(colors = "#FFF")
  )
```

bb_treemapchart *Helper for creating a treemap chart*

Description

Helper for creating a treemap chart

Usage

```
bb_treemapchart(bb, data, mapping = NULL, ...)
```

Arguments

bb	A billboard htmlwidget object.
data	A data.frame, the first column will be used for x axis unless specified otherwise in mapping. If not a data.frame, an object coercible to data.frame.
mapping	Mapping of variables on the chart, see bbaes.
...	Arguments passed to bb_treemap.

Value

A billboard htmlwidget object.

Examples

```
library("billboarder")
data("mpg", package = "ggplot2")

billboarder() %>%
  bb_treemapchart(mpg[, 1])

billboarder() %>%
  bb_treemapchart(
    data = mpg,
    mapping = aes(x = manufacturer),
    label = list(show = TRUE, threshold = 0.3)
  ) %>%
  bb_data(
    labels = list(colors = "#FFF")
  )
```

---

bb_unload *Unload data to the chart with proxy*

Description

Unload data to the chart with proxy

Usage

```
bb_unload(proxy, ids = NULL)
```

Arguments

proxy	A billboardProxy htmlwidget object.
ids	Data ids to unload.

Value

A billboardProxy htmlwidget object.

bb_zoom *Zoom property for a Billboard.js chart*

Description

Zoom property for a Billboard.js chart

Usage

```
bb_zoom(bb, ...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	See https://naver.github.io/billboard.js/release/latest/doc/Options.html#.zoom

Value

A `billboard` `htmlwidget` object.

Examples

```
# data
data("equilibre_mensuel")

# line chart
billboarder() %>%
  bb_linechart(
    data = equilibre_mensuel[, c("date", "consommation", "production")],
    type = "spline"
  ) %>%
  bb_x_axis(tick = list(format = "%Y-%m", fit = FALSE)) %>%
  bb_zoom(enabled = TRUE)
```

billboard-aes *Map variables on the chart*

Description

Map variables on the chart

Usage

```
bb_aes(bb, ...)

bb_aes_string(bb, ...)

bbaes(...)

bbaes_string(...)
```

Arguments

bb	A `billboard` `htmlwidget` object.
...	Mapping parameters, such as `x` for x-axis, `y` for y-axis, `group` for grouping variable.

Value

A `billboard` `htmlwidget` object.

Note

`bb_aes` is intended to use in a "piping" way. `bbaes` is the equivalent to use inside a helper function such as `bb_barchart`, `bb_scatterplot`...

Examples

```
## Not run:
dat <- as.data.frame(table(sample(letters[1:5], 100, TRUE)))

billboarder(data = dat) %>%
  bb_aes(x = Var1, y = Freq) %>%
  bb_barchart()


tab <- table(sample(letters[1:5], 100, TRUE), sample(LETTERS[1:5], 100, TRUE))
dat_group <- as.data.frame(tab)

billboarder(data = dat_group) %>%
  bb_aes(x = Var1, y = Freq, group = "Var2") %>%
  bb_barchart()

## End(Not run)
```

`billboard-theme` *Set theme and default colors for Billboard charts*

Description

Set theme and default colors for Billboard charts

Usage

```
set_theme(name = c("billboard", "insight", "graph", "datalab", "modern"))

set_color_palette(colors)
```

Arguments

`name`	Name of the theme, possible values are : ‘"billboard"‘, ‘"insight"‘, ‘"graph"‘, ‘"datalab"‘, ‘"modern"‘.
`colors`	Vector of colors to use as default.

Note

You can only use one theme and palette at a time (in Shiny applications or Markdown documents).

Examples

```
library("billboarder")
set_theme("insight")

data("prod_par_filiere")
billboarder() %>%
  bb_barchart(
   data = prod_par_filiere[, c("annee", "prod_hydraulique", "prod_eolien", "prod_solaire")]
  ) %>%
  bb_data(
   names = list(prod_hydraulique = "Hydraulic", prod_eolien = "Wind", prod_solaire = "Solar")
  ) %>%
  bb_y_grid(show = TRUE) %>%
  bb_y_axis(tick = list(format = suffix("TWh")),
         label = list(text = "production (in terawatt-hours)", position = "outer-top")) %>%
  bb_legend(position = "inset", inset = list(anchor = "top-right")) %>%
  bb_labs(title = "Renewable energy production",
          caption = "Data source: RTE (https://opendata.rte-france.com)")
```

billboarder *Create a Billboard.js widget*

Description

Create an interactive visualization with Javascript library Billboard.js

Usage

```
billboarder(
  bb_opts = list(),
  data = NULL,
  width = NULL,
  height = NULL,
  elementId = NULL
)
```

Arguments

bb_opts	A `list` in JSON format with chart parameters, see https://naver.github.io/billboard.js/demo/.
data	A `data.frame`.
width	A numeric input in pixels.
height	A numeric input in pixels.
elementId	Use an explicit element ID for the widget.

billboarder-exports *billboarder exported operators and S3 methods*

Description

The following functions are imported and then re-exported from the billboarder package to avoid listing the magrittr as Depends of billboarder

`billboarder-shiny` *Shiny bindings for billboarder*

Description

Output and render functions for using billboarder within Shiny applications and interactive Rmd documents.

Usage

```
billboarderOutput(outputId, width = "100%", height = "400px")

renderBillboarder(expr, env = parent.frame(), quoted = FALSE)

billboarderProxy(
  shinyId,
  data = NULL,
  session = shiny::getDefaultReactiveDomain()
)
```

Arguments

`outputId`	output variable to read from
`width, height`	Must be a valid CSS unit (like `'100%'`, `'400px'`, `'auto'`) or a number, which will be coerced to a string and have `'px'` appended.
`expr`	An expression that generates a billboarder
`env`	The environment in which to evaluate `expr`.
`quoted`	Is `expr` a quoted expression (with `quote()`)? This is useful if you want to save an expression in a variable.
`shinyId`	single-element character vector indicating the output ID of the chart to modify (if invoked from a Shiny module, the namespace will be added automatically)
`data`	A `data.frame`.
`session`	the Shiny session object to which the chart belongs; usually the default value will suffice

See Also

`proxy_example`

Examples

```
if (interactive()) {
  library(shiny)

  ui <- fluidPage(
    tags$h2("Include billboard charts in Shiny"),
```

```
  fluidRow(
    column(
      width = 6,
      billboarderOutput("mybb1"),
      tags$p("Click on a bar to get the value:"),
      verbatimTextOutput("res_click")
    ),
    column(
      width = 6,
      billboarderOutput("mybb2")
    )
  )
)

server <- function(input, output, session) {

  output$mybb1 <- renderBillboarder({

    dat <- data.frame(
      label = paste("Label", 1:5),
      value = sample.int(100, 5)
    )

    billboarder() %>%
      bb_barchart(
        data = dat,
        mapping = bbaes(label, value),
        rotated = TRUE
      )
  })

  output$res_click <- renderPrint({
    input$mybb1_click
  })


  output$mybb2 <- renderBillboarder({

    data(AirPassengers)

    air_passengers <- data.frame(
      date = as.Date(paste(
        rep(1949:1960, each = 12),
        rep(1:12, times = 12),
        "01", sep = "-"
      )),
      passengers = AirPassengers
    )

    billboarder() %>%
      bb_linechart(
        data = air_passengers,
        mapping = bbaes(date, passengers), type = "spline"
```

```
        ) %>%
        bb_x_axis(tick = list(format = "%Y", fit = FALSE))
    })

  }

  shinyApp(ui, server)
}
```

`cdc_prod_filiere` *French electricity generation by power source for the day of 2017-06-12.*

Description

Average power generation (MW) per 30-minute interval within continental France, aggregated by broad power source. Last update : 2017-07-27.

Usage

```
cdc_prod_filiere
```

Format

A data frame with 48 rows and 11 variables:

date_heure Timestamp (POSIXct)

prod_total Total production in MW (thermal + hydro + nuclear + solar + wind + bioenergy)

prod_gaz Gas production in MW

prod_bioenergies Bioenergy production in MW

prod_hydraulique Hydraulic production in MW

prod_thermique_fossile Fossil thermal production in MW

prod_charbon Coal production in MW

prod_eolien Wind production in MW

prod_solaire Solar production in MW

prod_nucleaire Nuclear production in MW

prod_fioul Oil production in MW

Source

RTE

equilibre_mensuel *Monthly supply / demand balance (january 2007 to june 2017)*

Description

Monthly history of supply/demand balance (GWh) based on gross consumption, the balance of physical exchanges with foreign countries and offtakes due to pumping. Last update : 2017-07-27.

Usage

```
equilibre_mensuel
```

Format

A data frame with 126 rows and 5 variables:

date Date

solde Supply/demand balance (in GWh)

production Generation (in GWh)

pompage Pumping for hydraulic generation (in GWh)

consommation Consumption (in GWh)

Source

RTE (https://odre.opendatasoft.com/explore/dataset/equilibre-national-mensuel-prod-conso-brute/)

prefix *Shortcut to add a prefix value to axis labels*

Description

Shortcut to add a prefix value to axis labels

Usage

```
prefix(x)
```

Arguments

x	A character of length one.

See Also

suffix

prod_filiere_long *French electricity generation by year and branch.*

Description

Annual French electricity production (TWh) by branch. Last update : 2017-02-15.

Usage

```
prod_filiere_long
```

Format

A data frame with 45 rows and 3 variables:

annee Year

branche Source of production

prod Production in TWh

Source

RTE (https://odre.opendatasoft.com/explore/dataset/prod-national-annuel-filiere/)

prod_par_filiere *French electricity generation by year and branch.*

Description

Annual French electricity production (TWh) by branch. Last update : 2017-02-15.

Usage

```
prod_par_filiere
```

Format

A data frame with 5 rows and 11 variables:

annee Year

prod_total Total production in TWh (thermal + hydro + nuclear + solar + wind + bioenergy)

prod_therm Thermal production in TWh (oil + gas + coal)

prod_hydraulique Hydraulic production in TWh

prod_bioenergies Bioenergy production in TWh

prod_eolien Wind production in TWh

prod_therm_charbon Coal thermal production in TWh

prod_solaire Solar production in TWh

prod_therm_gaz Gaz thermal production in TWh

prod_nucleaire Nuclear production in TWh

prod_therm_fioul Oil thermal production in TWh

Source

RTE (https://odre.opendatasoft.com/explore/dataset/prod-national-annuel-filiere/)

`proxy_example` *Proxy use example*

Description

Launch an example to demonstrate how to use proxy method from `billboarder` in Shiny app.

Usage

```
proxy_example(chart = "gauge")
```

Arguments

`chart`	Chart type for which to see an example, possible values are `gauge`, `pie`, `bar`, `bar2`, `line`, `line2`, `density`, `histogram`, `lollipop`, `stacked_bar`.

Examples

```
if (interactive()) {

# Titanic passenger
proxy_example("bar")

# Electricity production by sources and year
proxy_example("bar2")

# Moving lollipop with mpg dataset from ggplot2
proxy_example("lollipop")

# Update a stacked bar chart
proxy_example("stacked_bar")

# Moving sine and cosine
proxy_example("line")

# Changing lines and adding ones
proxy_example("line2")
```

```
# Update pie chart
proxy_example("pie")

# Density with ggplot2 diamonds
proxy_example("density")

# Histogram with ggplot2 diamonds
proxy_example("histogram")

}
```

`suffix` *Shortcut to add a suffix value to axis labels*

Description

Shortcut to add a suffix value to axis labels

Usage

```
suffix(x)
```

Arguments

`x`	A character of length one.

See Also

prefix

Index