

Package ‘plotbb’

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Title Grammar of Graphics for 'base' Plot

Version 0.0.6

Description

Proof of concept for implementing grammar of graphics using base plot. The `bbplot()` function initializes a 'bbplot' object to store input data, aesthetic mapping, a list of layers and theme elements. The object will be rendered as a graphic using base plot command if it is printed.

Imports graphics, magrittr, rlang, scales, methods, utils

Suggests stats, ape, aplot (>= 0.0.8), dplyr, ggplotify (>= 0.1.0),
knitr, rmarkdown, prettydoc

VignetteBuilder knitr

ByteCompile true

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Contents

| | |
|--------------------------------|---|
| as.bbplot | 2 |
| bbplot | 2 |
| bb_aes | 3 |
| bb_grid | 4 |
| bb_labs | 4 |
| bb_lm | 5 |
| bb_scale_col_palette | 6 |
| bb_theme | 7 |
| set_bb_theme | 7 |
| unset_bb_theme | 8 |

Index**9**

| | |
|-----------|------------------|
| as.bbplot | <i>as.bbplot</i> |
|-----------|------------------|

Description

convert a base plot function to a bbplot object

Usage

```
as.bbplot(fun)
```

Arguments

fun a function that plot something in base graphics

Details

the base plot function will be plotted as a canvas and users can apply theme and add layers to it

Value

A bbplot object

Author(s)

Guangchuang Yu

| | |
|--------|---------------|
| bbplot | <i>bbplot</i> |
|--------|---------------|

Description

bbplot

Usage

```
bbplot(data, mapping = bb_aes())
```

Arguments

data data
mapping variable mapping

Details

a proof of concept for grammar of graphics based on base plot. The bbplot class contains data (input data), mapping (aesthetic mapping), layer (a list of plot layers), theme (theme setting) and labs (label setting, including title, subtitle, x and y labels).

Value

bbplot object

Author(s)

Guangchuang Yu

Examples

```
library(plotbb)
p <- bbplot(mtcars, bb_aes(mpg, disp, col=factor(cyl)))
p + bb_grid(col='grey50', lty='dashed') + bb_point(pch=19)
```

bb_aes

bb_aes

Description

aesthetic mapping

Usage

```
bb_aes(x, y, ...)
```

Arguments

| | |
|-----|----------------|
| x | x variable |
| y | y variable |
| ... | other mappings |

Details

aesthetic mapping for bbplot

Value

enquo expression describing variables mapping to aesthetic attributes

Author(s)

Guangchuang Yu

bb_grid *bb_grid*

Description

add grid lines

Usage

```
bb_grid(col = "lightgray", lty = par("lty"), lwd = par("lwd"), bg = TRUE)
```

Arguments

| | |
|-----|---|
| col | line color |
| lty | line type |
| lwd | line width |
| bg | whether plot the grid lines as background |

Value

A modified bbplot object

Author(s)

Guangchuang Yu

bb_labs *bb_labs*

Description

change labels for bbplot

Usage

```
bb_labs(title = NULL, sub = NULL, xlab = NULL, ylab = NULL)
```

```
bb_title(title)
```

```
bb_sub(sub)
```

```
bb_xlab(xlab)
```

```
bb_ylab(ylab)
```

Arguments

| | |
|-------|-------|
| title | title |
| sub | sub |
| xlab | xlab |
| ylab | ylab |

Details

setting one or several of 'title', 'sub', 'xlab', and 'ylab'

Value

A modified bbplot object

Author(s)

Guangchuang Yu

Examples

```
library(plotbb)
p <- bbplot(mtcars, bb_aes(mpg, disp, col=factor(cyl))) + bb_point(pch=19)
p + bb_labs(title = "hello", sub = "just for demo",
            xlab="this is xlab", ylab = "this is ylab") +
  bb_title("hello world") # last one rules
```

| | |
|-------|--------------|
| bb_lm | <i>layer</i> |
|-------|--------------|

Description

layer

Usage

```
bb_lm(mapping = NULL, data = NULL, ...)

bb_point(mapping = NULL, data = NULL, position = "identity", ...)

bb_text(mapping = NULL, data = NULL, ...)

bb_tile(mapping = NULL, data = NULL, ...)
```

Arguments

| | |
|----------|----------------------------------|
| mapping | aesthetic mapping |
| data | layer data |
| ... | addition parameter for the layer |
| position | one of 'identity' or 'jitter' |

Details

bbplot layers

Value

A modified bbplot object

Author(s)

Guangchuang Yu

Examples

```
library(plotbb)
p <- bbplot(mtcars, bb_aes(mpg, disp, col=factor(cyl))) +
  bb_point() + bb_lm(bb_aes(group=cyl), lwd=2)
```

`bb_scale_col_palette` *bb_scale_col_palette*

Description

change col palette

Usage

```
bb_scale_col_palette(palette = NULL)
```

Arguments

| | |
|---------|---------------|
| palette | color palette |
|---------|---------------|

Value

A modified bbplot object

Author(s)

Guangchuang Yu

| | |
|----------|-----------------|
| bb_theme | <i>bb_theme</i> |
|----------|-----------------|

Description

bbplot theme

Usage

bb_theme(...)

bb_theme_expand(...)

bb_theme_grey(...)

bb_theme_deepblue(...)

Arguments

... parameters for graphics::par

Details

setting visual details of bbplot

Value

A modified bbplot object

Author(s)

Guangchuang Yu

| | |
|--------------|---------------------|
| set_bb_theme | <i>set_bb_theme</i> |
|--------------|---------------------|

Description

set bb_theme

Usage

set_bb_theme(theme)

Arguments

theme bb_theme

Details

setting `bb_theme` for ordinary base plot command. It internally use `par` to set global graphic parameters. Users need to explicitly call `unset_bb_theme()` to restore original setting.

Value

setting selected theme as default (has side effect and will affect other base plot)

Author(s)

Guangchuang Yu

Examples

```
library(plotbb)
set_bb_theme(bb_theme_deepblue)
bbplot(mtcars, bb_aes(mpg, disp, col=factor(cyl))) + bb_point(pch=19)
```

| | |
|-----------------------------|-----------------------|
| <code>unset_bb_theme</code> | <i>unset_bb_theme</i> |
|-----------------------------|-----------------------|

Description

`unset bb_theme`

Usage

```
unset_bb_theme()
```

Details

remove all the themes by `set_bb_theme`

Value

unset theme (i.e., restore `par` setting)

Author(s)

Guangchuang Yu

Index

`as.bbplot`, 2

`bb_aes`, 3

`bb_grid`, 4

`bb_labs`, 4

`bb_lm`, 5

`bb_point (bb_lm)`, 5

`bb_scale_col_palette`, 6

`bb_sub (bb_labs)`, 4

`bb_text (bb_lm)`, 5

`bb_theme`, 7

`bb_theme_deepblue (bb_theme)`, 7

`bb_theme_expand (bb_theme)`, 7

`bb_theme_grey (bb_theme)`, 7

`bb_tile (bb_lm)`, 5

`bb_title (bb_labs)`, 4

`bb_xlab (bb_labs)`, 4

`bb_ylab (bb_labs)`, 4

`bbplot`, 2

`set_bb_theme`, 7

`unset_bb_theme`, 8