

Package ‘jjAnno’

August 23, 2022

Title An Annotation Package for 'ggplot2' Output

Version 0.0.3

Description To make the plot more elegant with some multiple type annotations including 'rect', 'text', 'point', 'image' and 'segment' elements.

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Encoding UTF-8

RoxygenNote 7.1.2

Imports dplyr, ggiraphExtra, ggplot2, grDevices, grid, magick, magrittr

Depends R (>= 3.5.0)

URL <https://github.com/junjunlab/jjAnno>

BugReports <https://github.com/junjunlab/jjAnno/issues>

LazyData true

NeedsCompilation no

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Repository CRAN

Date/Publication 2022-08-23 08:30:08 UTC

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annoImage	<i>annoImage</i>
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Description

This function is used to add image annotations in plot.

Usage

```
annoImage(
  object = NULL,
  relSideDist = 0.1,
  annoPos = "top",
  xPositioN = NULL,
  yPositioN = NULL,
  images = NULL,
  segWidth = 1,
  annoManual = FALSE,
  imgWidth = 1,
  imgHeight = 1
)
```

Arguments

object	This function is used to add segment annotations in plot.
relSideDist	The relative distance ratio to the y axis range. Default(0.1).
annoPos	The position for the annotation to be added. Default("top").
xPositioN	The x axis coordinate for the image. Default(NULL).
yPositioN	The y axis coordinate for the image. Default(NULL).
images	The images paths. Default(NULL).
segWidth	The relative image width. Default(1).
annoManual	Whether annotate by yourself by supplying with x and y coordinates. Default(FALSE).
imgWidth	The image width. Default(1).
imgHeight	The image height. Default(1).

Value

Return a ggplot object.

Author(s)

Junjun Lao

Examples

```
# =====
# test function

# load data
data(p)

img1 <- system.file("extdata/animal-img/", "1.jpg", package = "jjAnno")
img2 <- system.file("extdata/animal-img/", "2.jpg", package = "jjAnno")
img3 <- system.file("extdata/animal-img/", "3.jpg", package = "jjAnno")
img4 <- system.file("extdata/animal-img/", "4.jpg", package = "jjAnno")
img5 <- system.file("extdata/animal-img/", "5.jpg", package = "jjAnno")
img6 <- system.file("extdata/animal-img/", "6.jpg", package = "jjAnno")
img7 <- system.file("extdata/animal-img/", "7.jpg", package = "jjAnno")
img8 <- system.file("extdata/animal-img/", "8.jpg", package = "jjAnno")
img9 <- system.file("extdata/animal-img/", "9.jpg", package = "jjAnno")
img10 <- system.file("extdata/animal-img/", "10.jpg", package = "jjAnno")

imgs <- c(img1,img2,img3,img4,img5,img6,img7,img8,img9,img10)

# add legend
annoImage(object = p,
          annoPos = 'top',
          xPosition = c(1:10),
          images = imgs,
          yPosition = c(11,12))

# change width
annoImage(object = p,
          annoPos = 'top',
          xPosition = c(1:10),
          images = imgs,
          yPosition = c(11,11.8),
          segWidth = 0.8)

# add to right
annoImage(object = p,
          annoPos = 'right',
          yPosition = c(1:10),
          images = imgs,
          xPosition = c(11,11.8),
          segWidth = 0.8)
```

`annoLegend`*annoLegend*

Description

This function is used to add legend annotations in plot.

Usage

```
annoLegend(  
  object = NULL,  
  relPos = c(0.9, 0.9),  
  xPosition = NULL,  
  yPosition = NULL,  
  labels = NULL,  
  vgap = 1,  
  hgap = 1,  
  cex = 1,  
  pch = NULL,  
  ncol = 1,  
  col = NULL,  
  fill = NULL,  
  do.lines = FALSE,  
  lines.first = FALSE,  
  textSize = NULL,  
  fontfamily = NULL,  
  fontface = NULL  
)
```

Arguments

<code>object</code>	This function is used to add segment annotations in plot.
<code>relPos</code>	The relative position of legend. Default(<code>c(0.9,0.9)</code>).
<code>xPosition</code>	The x axis coordinate for the legend. Default(<code>NULL</code>).
<code>yPosition</code>	The x axis coordinate for the legend. Default(<code>NULL</code>).
<code>labels</code>	The legend text labels. Default(<code>NULL</code>).
<code>vgap</code>	Vertical space between the legend entries. Default(<code>1</code>).
<code>hgap</code>	Horizontal space between the legend entries. Default(<code>1</code>).
<code>cex</code>	The legend key size. Default(<code>1</code>).
<code>pch</code>	Legend shape. Default(<code>NULL</code>).
<code>ncol</code>	Legend columns to show. Default(<code>NULL</code>).
<code>col</code>	Legend colors. Default(<code>NULL</code>).
<code>fill</code>	Legend fill colors. Default(<code>NULL</code>).

<code>do.lines</code>	Whether to show lines. Default(FALSE).
<code>lines.first</code>	Whether to show lines first. Default(FALSE).
<code>textSize</code>	Legend text size. Default(NULL).
<code>fontfamily</code>	Legend text fontfamily. Default(NULL).
<code>fontface</code>	Legend text fontface. Default(NULL).

Value

Return a ggplot object.

Author(s)

Junjun Lao

Examples

```
# =====  
# test function  
  
# load data  
data(p)  
  
# add legend  
annoLegend(object = p,  
            labels = paste('legend ',1:5),  
            pch = 21,  
            col = 'black',  
            fill = useMyCol('paired',5),  
            textSize = 15)  
  
# change pos  
annoLegend(object = p,  
            relPos = c(0.2,0.9),  
            labels = paste('legend ',1:5),  
            pch = 21,  
            col = 'black',  
            fill = useMyCol('paired',5),  
            textSize = 15)
```

annoPoint

annoPoint

Description

This function is used to add points annotations in plot.

Usage

```
annoPoint(
  object = NULL,
  relSideDist = 0.1,
  annoPos = "top",
  xPosPosition = NULL,
  yPosPosition = NULL,
  pCol = NULL,
  ptSize = 3,
  ptShape = NULL
)
```

Arguments

object	Your ggplot list. Default(NULL).
relSideDist	The relative distance ratio to the y axis range. Default(0.1).
annoPos	The position for the annotation to be added. Default("top").
xPosPosition	The x axis coordinate for the points. Default(NULL).
yPosPosition	The y axis coordinate for the points. Default(NULL).
pCol	The point colors. Default(NULL).
ptSize	The point size. Default(3).
ptShape	The point shape. Default(NULL).

Value

Return a ggplot object.

Author(s)

Junjun Lao

Examples

```
# =====
# test function

# load data
data(p)

# default plot
annoPoint(object = p,
          annoPos = 'top',
          xPosPosition = c(1:10))

# specify yPosPosition
annoPoint(object = p,
          annoPos = 'top',
          xPosPosition = c(1:10),
```

```

yPosition = rep(c(2,4,2,6,4),each = 2))

# add right
annoPoint(object = p,
          annoPos = 'right',
          yPosition = c(1:10))

# left
annoPoint(object = p,
          annoPos = 'left',
          yPosition = c(1:10))

# supply xPosition to ajust
annoPoint(object = p,
          annoPos = 'right',
          yPosition = c(1:10),
          xPosition = 0.3)

```

annoPoint2

annoPoint2

Description

This function is used to add points annotations in plot.

Arguments

object	Your ggplot list. Default(NULL).
relSideDist	The relative distance ratio to the y axis range. Default(0.1).
aesGroup	Whether use your group column to add rect annotation. Default("FALSE").
aesShape	Whether force the point shape mapping to the aesGroName. Default("FALSE").
aesGroName	The mapping column name. Default(NULL).
annoPos	The position for the annotation to be added. Default("top").
xPosition	The x axis coordinate for the points. Default(NULL).
yPosition	The y axis coordinate for the points. Default(NULL).
pCol	The point colors. Default(NULL).
pFill	The point fill colors. Default(NULL).
ptSize	The point size. Default(3).
ptShape	The point shape. Default(NULL).
annoManual	Whether annotate by yourself by supplying with x and y coordinates. Default(FALSE).
addText	Whether add text label on segment. Default(FALSE).
textCol	The text colors. Default(NULL).

textSize	The text size. Default(NULL).
fontfamily	The text fontfamily. Default(NULL).
fontface	The text fontface. Default(NULL).
textLabel	The text textLabel. Default(NULL).
textRot	The text angle. Default(NULL).
textHVjust	The text distance from the segment. Default(0.2).
hjust	The text hjust. Default(NULL).
vjust	The text vjust. Default(NULL).
myFacetGrou	Your facet group name to be added with annotation when object is a faceted object. Default(NULL).
aes_x	= NULL You should supply the plot X mapping name when annotate a facetd plot. Default(NULL).
aes_y	= NULL You should supply the plot Y mapping name when annotate a facetd plot. Default(NULL).

Value

Return a ggplot object.

Author(s)

Junjun Lao

Examples

```
# =====
# test function
data(p)

# default plot
annoPoint2(object = p,
            annoPos = 'top',
            xPosition = c(1:10))

# change relative distance
annoPoint2(object = p,
            annoPos = 'top',
            xPosition = c(1:10),
            relSideDist = 0)

# specify yPosition
annoPoint2(object = p,
            annoPos = 'top',
            xPosition = c(1:10),
            yPosition = rep(c(2,4,2,6,4),each = 2))

# add right
annoPoint2(object = p,
```



```

        annoPos = 'right',
        yPos = c(1:10))

# left
annoPoint2(object = p,
            annoPos = 'left',
            yPos = c(1:10))

# supply xPos to adjust
annoPoint2(object = p,
            annoPos = 'right',
            yPos = c(1:10),
            xPos = 0.3)

# change point size and shape
p1 <- annoPoint2(object = p,
                 annoPos = 'top',
                 xPos = c(1:10),
                 ptSize = 2,
                 ptShape = 25)

# add to right
annoPoint2(object = p1,
            annoPos = 'right',
            yPos = c(1:10),
            ptSize = 2,
            ptShape = 23)

# add manually
annoPoint2(object = p,
            annoPos = 'right',
            annoManual = TRUE,
            yPos = c(1:10),
            xPos = c(1:10))

```

annoRect

annoRect

Description

This function is used to add rect annotations in plot.

Arguments

object	Your ggplot list. Default(NULL).
relSideDist	The relative distance ratio to the y axis range. Default(0.1).
aesGroup	Whether use your group column to add rect annotation. Default("FALSE").
aesGroName	The mapping column name. Default(NULL).
annoPos	The position for the annotation to be added. Default("top").

xPosition	The x axis coordinate for the rect. Default(NULL).
yPosition	The y axis coordinate for the rect. Default(NULL).
pCol	The rect colors. Default(NULL).
pFill	The rect fill colors. Default(NULL).
rectWidth	The relative rect width. Default(1).
lty	The rect line type. Default(NULL).
lwd	The rect line width. Default(NULL).
alpha	The rect fill color alpha. Default(NULL).
roundRect	Whether add roundRect instead of rect. Default(FALSE).
roundRadius	The roundRect corner radius. Default(0.1).
annoManual	Whether annotate by yourself by supplying with x and y coordinates. Default(FALSE).
addText	Whether add text label on segment. Default(FALSE).
textCol	The text colors. Default(NULL).
textSize	The text size. Default(NULL).
fontfamily	The text fontfamily. Default(NULL).
fontface	The text fontface. Default(NULL).
textLabel	The text textLabel. Default(NULL).
textRot	The text angle. Default(NULL).
textHVjust	The text distance from the segment. Default(0.2).
hjust	The text hjust. Default(NULL).
vjust	The text vjust. Default(NULL).
textShift	The text label shift size. Default(0).
rotateRect	Whether to rotate the rect annotation. Default(FALSE).
normRectShift	The "top" or "right" rotated rect shift. Default(0).
rotatedRectShift	The "botomn" or "left" rotated rect shift. Default(1).
rectAngle	Whether rotate the rect with specified degree. Default(NULL).
myFacetGrou	Your facet group name to be added with annotation when object is a faceted object. Default(NULL).
aes_x	= NULL You should supply the plot X mapping name when annotate a facetd plot. Default(NULL).
aes_y	= NULL You should supply the plot Y mapping name when annotate a facetd plot. Default(NULL).
continuesRect	Whether add gradient-color-rect. Default(FALSE).
border	Whether add border for gradient-color-rect. Default(FALSE).
conRectCol	The colors for gradient-color-rect. Default(NULL).
conRectColBin	The colors numbers for gradient-color-rect. Default(10).
interpolate	Whether blur the colors. Default(TRUE).
revColV	Whether ajust the colors orders vertically. Default(FALSE).
revColH	Whether ajust the colors orders horizontally. Default(FALSE).

Value

Return a ggplot object.

Author(s)

Junjun Lao

Examples

```
# =====  
# test function  
  
# load data  
data(p)  
data(pgo)  
data(pdotfc)  
  
# default plot  
annoRect(object = p,  
          annoPos = 'top',  
          xPos = c(1:10))  
  
# you can set y axis no expand  
annoRect(object = p,  
          annoPos = 'top',  
          xPos = c(1:10)) +  
ggplot2::scale_y_discrete(expand = c(0,0))  
  
# adjust yPos  
annoRect(object = p,  
          annoPos = 'top',  
          xPos = c(1:10),  
          yPos = c(11,11.5))  
  
# another example annotation GO terms  
annoRect(object = pgo,  
          annoPos = 'right',  
          yPos = c(1:15),  
          pCol = rep('transparent',15),  
          pFill = rep(c('#F5F0BB', '#C4DFAA', '#90C8AC'), each = 5),  
          xPos = c(3,9.5),  
          rectWidth = 1)
```

annoSegment

annoSegment

Description

This function is used to add segment annotations in plot.

Arguments

<code>object</code>	Your ggplot list. Default(NULL).
<code>relSideDist</code>	The relative distance ratio to the y axis range. Default(0.1).
<code>aesGroup</code>	Whether use your group column to add rect annotation. Default("FALSE").
<code>aesGroName</code>	The mapping column name. Default(NULL).
<code>annoPos</code>	The position for the annotation to be added. Default("top").
<code>xPosition</code>	The x axis coordinate for the segment. Default(NULL).
<code>yPosition</code>	The y axis coordinate for the segment. Default(NULL).
<code>pCol</code>	The segment colors. Default(NULL).
<code>segWidth</code>	The relative segment width. Default(1).
<code>lty</code>	The segment line type. Default(NULL).
<code>lwd</code>	The segment line width. Default(NULL).
<code>alpha</code>	The segment color alpha. Default(NULL).
<code>lineend</code>	The segment line end. Default("square").
<code>annoManual</code>	Whether annotate by yourself by supplying with x and y coordinates. Default(FALSE).
<code>mArrow</code>	Whether add segment arrow. Default(FALSE).
<code>addBranch</code>	Whether add segment branch. Default(FALSE).
<code>bArrow</code>	Whether add branch arrow. Default(FALSE).
<code>branDirection</code>	The branch direction. Default(1).
<code>branRelSegLen</code>	The branch relative length to the segment. Default(0.3).
<code>addText</code>	Whether add text label on segment. Default(FALSE).
<code>textCol</code>	The text colors. Default(NULL).
<code>textSize</code>	The text size. Default(NULL).
<code>fontfamily</code>	The text fontfamily. Default(NULL).
<code>fontface</code>	The text fontface. Default(NULL).
<code>textLabel</code>	The text textLabel. Default(NULL).
<code>textRot</code>	The text angle. Default(NULL).
<code>textHVjust</code>	The text distance from the segment. Default(0.2).
<code>hjust</code>	The text hjust. Default(NULL).
<code>vjust</code>	The text vjust. Default(NULL).
<code>myFacetGrou</code>	Your facet group name to be added with annotation when object is a faceted object. Default(NULL).
<code>aes_x</code>	= NULL You should supply the plot X mapping name when annotate a facetd plot. Default(NULL).
<code>aes_y</code>	= NULL You should supply the plot Y mapping name when annotate a facetd plot. Default(NULL).

Value

Return a ggplot object.

Author(s)

Junjun Lao

Examples

```
# =====  
# test function  
  
# load data  
data(p)  
data(pdot)  
  
# default plot  
annoSegment(object = p,  
             annoPos = 'top',  
             xPos = c(1:10))  
  
# adjust rectWidth  
annoSegment(object = p,  
             annoPos = 'top',  
             xPos = c(1:10),  
             segWidth = 0.8)  
  
# add branch  
annoSegment(object = pdot,  
             annoPos = 'top',  
             annoManual = TRUE,  
             xPos = list(c(1,3,4,7,9,11,12,15,17,19,20),  
                          c(2,3,6,8,10,11,14,16,18,19,21)),  
             yPos = 9,  
             segWidth = 0.8,  
             pCol = rep('black',11),  
             addBranch = TRUE,  
             branDirection = -1,  
             lwd = 3)
```

annoTriangle

annoTriangle

Description

This function is used to add triangle annotations in plot.

Usage

```
annoTriangle(
  object = NULL,
  relSideDist = 0.1,
  annoPos = "top",
  xPosPosition = NULL,
  yPosPosition = NULL,
  fillCol = NULL,
  nCol = 100,
  addTriangle = TRUE,
  triangleType = "RD",
  addBorder = FALSE,
  borderCol = "black",
  lty = NULL,
  lwd = NULL,
  myFacetGrou = NULL,
  aes_x = NULL,
  aes_y = NULL
)
```

Arguments

object	Your ggplot list. Default(NULL).
relSideDist	The relative distance ratio to the y axis range. Default(0.1).
annoPos	The position for the annotation to be added. Default("top").
xPosPosition	The x axis coordinate for the triangle. Default(NULL).
yPosPosition	The y axis coordinate for the triangle. Default(NULL).
fillCol	The triangle fill colors. Default(NULL).
nCol	The colors bins. Default(100).
addTriangle	Whether add triangle annotation. Default("TRUE").
triangleType	The triangle shape type, "RU"(right-up), "RD"(right-down), "LU"(left-up), "LD"(left-down). Default("RD").
addBorder	Whether add border to triangle or rect annotation. Default("FALSE").
borderCol	The border color. Default("black").
lty	The border lty. Default(NULL).
lwd	The border lwd. Default(NULL).
myFacetGrou	Your facet group name to be added with annotation when object is a faceted object. Default(NULL).
aes_x	= NULL You should supply the plot X mapping name when annotate a faceted plot. Default(NULL).
aes_y	= NULL You should supply the plot Y mapping name when annotate a faceted plot. Default(NULL).

Value

Return a ggplot object.

Author(s)

Junjun Lao

Examples

```
# =====  
# test function  
  
# load test data  
data(p)  
  
p1 <- p +  
  ggplot2::theme(plot.margin = ggplot2::margin(t = 2,unit = 'cm'))  
  
# default plot  
annoTriangle(object = p1,  
             annoPos = 'top',  
             xPosition = c(0,10.5))  
  
# ajust yposition  
annoTriangle(object = p1,  
             annoPos = 'top',  
             xPosition = c(0.5,10.5),  
             yPosition = c(10.8,11.5))  
  
# add border  
annoTriangle(object = p1,  
             annoPos = 'top',  
             xPosition = c(0.5,10.5),  
             yPosition = c(10.8,11.5),  
             addBorder = TRUE,  
             lwd = 2.5)
```

p

This is a test data for this package test data describtion

Description

This is a test data for this package test data describtion

Usage

p

Format

An object of class gg (inherits from ggplot) of length 9.

Author(s)

Junjun Lao

pdot

This is a test data for this package test data description

Description

This is a test data for this package test data description

Usage

pdot

Format

An object of class gg (inherits from ggplot) of length 9.

Author(s)

Junjun Lao

pdotfc

This is a test data for this package test data description

Description

This is a test data for this package test data description

Usage

pdotfc

Format

An object of class gg (inherits from ggplot) of length 9.

Author(s)

Junjun Lao

pgo *This is a test data for this package test data description*

Description

This is a test data for this package test data description

Usage

```
pgo
```

Format

An object of class gg (inherits from ggplot) of length 9.

Author(s)

Junjun Lao

useMyCol *useMyCol*

Description

This function is used to produce available colors for plot.

Usage

```
useMyCol(platte = NULL, n = NULL, showAll = FALSE)
```

Arguments

platte	The platte name. Default("stallion").
n	The color numbers to use. Default(NULL).
showAll	Whether to show all plattes. Default(FALSE).

Value

Return the color names you have choosed.

Author(s)

Junjun Lao

Examples

```
useMyCol(platte = 'stallion2',n = 5)
useMyCol(showAll = TRUE)
```

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