

Package ‘xkcd’

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Type Package

Title Plotting ggplot2 Graphics in an XKCD Style

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Description Plotting ggplot2 graphs using the XKCD style.

License GPL-3

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xkcd-package

Drawing XKCD graphics

Description

XKCD is a popular stick figure web comic with themes in mathematics, science, language, and romance created by Randall Munroe. This package gives a satisfactory answer to the question How can we make xkcd style graphs in R?. It provides a set of functions for plotting data in an XKCD style using ggplot2.

Details

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Type: Package
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Author(s)

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Examples

```
## Not run: vignette("xkcd-intro")
```

theme_xkcd

Creates an XKCD theme

Description

This function creates an XKCD theme

Usage

```
theme_xkcd()
```

Value

A layer with the theme.

Note

See the vignette `vignette("xkcd-intro")`

Examples

```
p <- ggplot() + geom_point(aes(mpg, wt), data=mtcars) +  
  theme_xkcd()  
p
```

xkcdaxis

Plot the axis

Description

This function plots the axis

Usage

```
xkcdaxis(xrange, yrange, ...)
```

Arguments

xrange	The range of the X axis.
yrange	The range of the Y axis.
...	Other arguments.

Details

It plots the axis of the graph.

Value

A layer with the axis.

Examples

```
xrange <- range(mtcars$mpg)  
yrange <- range(mtcars$wt)  
p <- ggplot() +  
  geom_point(aes(mpg, wt), data=mtcars) +  
  xkcdaxis(xrange,yrange)  
p
```

xkcdline *Draw lines or circumferences*

Description

It draws a handwritten line.

Usage

```
xkcdline(mapping, data, typexkcdline = "segment", mask = TRUE, ...)
```

Arguments

mapping	Mapping between variables and aesthetics generated by aes . See Details.
data	Dataset used in this layer.
typexkcdline	A string value. If it is segment, it draws a segment. If it is circumference, it plots a circumference.
mask	Logical. If it is TRUE, it erases the pictures that are under the line.
...	Optional arguments.

Details

This function draws handwritten lines or circles.

It draws a segment or a circumference in an XKCD style.

If it is a segment, the following aesthetics are required:

1. xbegin: x position of the point from.
2. ybegin: y position of the point from.
3. xend: x position of the point to.
4. yend: y position of the point to.

If it is a circumference, the following aesthetics are required:

1. x: x position of the center.
2. y: y position of the center.
3. diameter: diameter of the circumference.

Additionally, you can use the aesthetics of [geom_path](#).

Value

A layer.

See Also

[aes](#), [geom_path](#)

Examples

```
data <- data.frame(x1=c(1,2), y1=c(10,20), xend=c(2.5,0.5),
  yend=c(20,10), model=c("low","high"))

ggplot() + xkcdline(mapping=aes(xbegin=x1 +y1, ybegin=y1, xend =xend, yend= yend,
  color = model), data=data)

ggplot() + xkcdline(mapping=aes(xbegin=x1 +y1, ybegin=y1, xend =xend, yend= yend,
  color = model), data=data) + facet_grid(. ~ model)

ggplot() + xkcdline(mapping=aes(x=x1 +y1, y=y1, diameter =xend), data=data, type="circunference")
```

`xkcdman`*Draw a stick figure*

Description

It draws a stick figure

Usage

```
xkcdman(mapping, data, ...)
```

Arguments

<code>mapping</code>	Mapping between variables and aesthetics generated by aes . See Details.
<code>data</code>	Dataset used in this layer.
<code>...</code>	Optional arguments.

Details

This function draws a stick figure.

The following aesthetics are required:

1. `x`: x position of the center of the head.
2. `y`: y position of the center of the head.
3. `scale`: scale of the man. It is the size of the man (in units of the Y axis).
4. `ratioxy`: Ratio x to y of the graph (Use `ratioxy <- diff(xrange) / diff(yrange)`)
5. `angleofspine`: angle between the spine and a horizontal line that passes by the center of the head.
6. `anglerighthumerus`, `anglelefthumerus`: angle between the right/left humerus and a horizontal line that passes by the top of the spine.
7. `anglerightradius`, `angleleftradius`: angle between the right/left radius and a horizontal line that passes by the end of the right/left humerus.

8. `anglerightleg`, `angleleftleg`: angle between the right/left leg and a horizontal line that passes by the end of the spine.
9. `angleofneck`: angle between the begin of spine and a horizontal line that passes by the center of the head.

Angles are in radians.

Additionally, you can use the aesthetics of `geom_path`, and `xkcdline`.

Value

A layer.

See Also

[aes](#), [geom_path](#), [xkcdline](#)

Examples

```

datascaled <- data.frame(x=c(-3,3),y=c(-30,30))
p <- ggplot(data=datascaled, aes(x=x,y=y)) + geom_point()
xrange <- range(datascaled$x)
yrange <- range(datascaled$y)
ratioxy <- diff(xrange) / diff(yrange)

mapping <- aes(x=x,
              y=y,
              scale=scale,
              ratioxy=ratioxy,
              angleofspine = angleofspine,
              anglerighthumerus = anglerighthumerus,
              anglelefthumerus = anglelefthumerus,
              anglerightradius = anglerightradius,
              angleleftradius = angleleftradius,
              anglerightleg = anglerightleg,
              angleleftleg = angleleftleg,
              angleofneck = angleofneck,
              color = color )

dataman <- data.frame( x= c(-1,0,1), y=c(-10,0,10),
                    scale = c(10,7,5),
                    ratioxy = ratioxy,
                    angleofspine = seq(- pi / 2, -pi/2 + pi/8, l=3) ,
                    anglerighthumerus = -pi/6,
                    anglelefthumerus = pi + pi/6,
                    anglerightradius = 0,
                    angleleftradius = runif(3,- pi/4, pi/4),
                    angleleftleg = 3*pi/2 + pi / 12 ,
                    anglerightleg = 3*pi/2 - pi / 12,
                    angleofneck = runif(3, min = 3 * pi / 2 - pi/10 , max = 3 * pi / 2 + pi/10),
                    color=c("A","B","C"))

p + xkcdman(mapping, dataman)

```

xkcdrect *Draw fuzzy rectangles*

Description

It draws fuzzy rectangles.

Usage

```
xkcdrect(mapping, data, ...)
```

Arguments

mapping	Mapping between variables and aesthetics generated by aes . See Details.
data	Dataset used in this layer.
...	Optional arguments.

Details

This function draws fuzzy rectangles.

It plots rectangles. The following aesthetics are required:

1. xmin
2. ymin
3. xmax
4. ymax

Additionally, you can use the aesthetics of [geom_path](#) and [geom_rect](#).

Value

A layer.

See Also

[aes](#), [geom_path](#)

Examples

```
volunteers <- data.frame(year=c(2007:2011),
                          number=c(56470, 56998, 59686, 61783, 64251))
p <- ggplot() + xkcdrect(aes(xmin = year,
                             xmax= year +0.3,
                             ymin=number,
                             ymax = number + 3600),
                        volunteers,
                        fill="red", colour="black")
p
```

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