

# Package ‘xkcd’

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**Type** Package

**Title** Plotting ggplot2 Graphics in an XKCD Style

**Version** 0.0.6

**Date** 2018-07-10

**Author** Emilio Torres-Manzanera

**Maintainer** Emilio Torres-Manzanera <torres@uniovi.es>

**Description** Plotting ggplot2 graphs using the XKCD style.

**License** GPL-3

**Depends** ggplot2 (>= 3.0), extrafont

**Imports** Hmisc, stats

**URL**

**NeedsCompilation** no

**RoxygenNote** 6.0.1

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xkcd-package

*Plotting ggplot2 Graphics in an XKCD Style*


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## Description

Plotting ggplot2 graphs using the XKCD style.

## Details

The DESCRIPTION file:

```

Package:      xkcd
Type:         Package
Title:        Plotting ggplot2 Graphics in an XKCD Style
Version:      0.0.6
Date:         2018-07-10
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Description:  Plotting ggplot2 graphs using the XKCD style.
License:      GPL-3
Depends:      ggplot2 (>= 3.0), extrafont
Imports:      Hmisc, stats
URL:            

NeedsCompilation: no
Packaged:     2016-01-13 10:16:52 UTC; emilio
RoxygenNote: 6.0.1

```

Index of help topics:

```

theme_xkcd      Creates an XKCD theme
xkcd-package    Plotting ggplot2 Graphics in an XKCD Style
xkcdaxis        Plot the axis
xkcdline        Draw lines or circumferences
xkcdman         Draw a stick figure
xkcdrect        Draw fuzzy rectangles

```

Further information is available in the following vignettes:

`xkcd-intro` Using xkcd (source, pdf)

## Author(s)

Emilio Torres-Manzanera

Maintainer: Emilio Torres-Manzanera <torres@uniovi.es>

### Examples

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

---

theme_xkcd	<i>Creates an XKCD theme</i>
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### Description

This function creates an XKCD theme

### Usage

```
theme_xkcd()
```

### Value

A layer with the theme.

### Note

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

### Examples

```
## Not run:  
p <- ggplot() + geom_point(aes(mpg, wt), data=mtcars) +  
  theme_xkcd()  
p  
  
## End(Not run)
```

---

xkcdaxis	<i>Plot the axis</i>
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---

### 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**

```
## Not run:
xrange <- range(mtcars$mpg)
yrange <- range(mtcars$wt)
p <- ggplot() +
  geom_point(aes(mpg, wt), data=mtcars) +
  xkcdaxis(xrange,yrange)
p

## End(Not run)
```

---

xkcdline	<i>Draw lines or circumferences</i>
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---

**Description**

It draws a handwritten line.

**Usage**

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

**Arguments**

mapping	Mapping between variables and aesthetics generated by <a href="#">aes</a> . See Details.
data	Dataset used in this layer.
typexkcdline	A string value. If it is <code>segment</code> , it draws a segment. If it is <code>circunference</code> , it plots a circunference.
mask	Logical. If it is <code>TRUE</code> , 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(x=x1 +y1, y=y1, xend =xend, yend= yend,
  color = model), data=data)
```

```
ggplot() + xkcdline(mapping=aes(x=x1 +y1, y=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="circumference")
```

---

`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 <a href="#">aes</a> . 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`, `anglelefthleg`: angle between the right/left leg and a horizontal line that passes by the end of 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 <a href="#">aes</a> . 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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