Package 'ggsoccer'

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Title Plot Soccer Event Data

Version 0.1.6

Description The 'ggplot2' package provides a powerful set of tools
for visualising and investigating data. The 'ggsoccer' package provides a
set of functions for elegantly displaying and exploring soccer event data
with 'ggplot2'. Providing extensible layers and themes, it is designed to
work smoothly with a variety of popular sports data providers.

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URL https://torvaney.github.io/ggsoccer/,
https://github.com/Torvaney/ggsoccer

Language en-GB

Depends R (>= 3.3.0)

Imports ggplot2

LazyData true

RoxygenNote 7.1.0

Encoding UTF-8

BugReports https://github.com/torvaney/ggsoccer/issues

Suggests testthat (>= 2.1.0), pkgdown

NeedsCompilation no

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Repository CRAN

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R topics documented:

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annotate_pitch *Adds soccer pitch markings as a layer for use in a ggplot plot.*

Description

Adds soccer pitch markings as a layer for use in a ggplot plot.

Usage

```
annotate_pitch(
  colour = "dimgray",
  fill = "white",
  limits = TRUE,
  dimensions = pitch_opta
)
```

Arguments

colour	Colour of pitch outline.
fill	Colour of pitch fill
limits	Whether to adjust the plot limits to display the whole pitch.
dimensions	A list containing the pitch dimensions to draw. See help(pitch_opta).

Value

list of ggplot geoms to be added to a ggplot plot

Examples

```
library(ggplot2)

shots_data <- data.frame(x = c(90, 85, 82, 78, 83),
                         y = c(43, 40, 52, 56, 44))

ggplot(shots_data, aes(x = x, y = y)) +
  annotate_pitch() +
  geom_point()
```

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direction_label | *Adds an arrow indicating the direction of play to a ggplot plot*

Description

Adds an arrow indicating the direction of play to a ggplot plot

Usage

```
direction_label(
  x_label = 50,
  y_label = -3,
  label_length = 20,
  colour = "dimgray"
)
```

Arguments

`x_label`	x position of the centre of the arrow on the plot
`y_label`	y position of the arrow on the plot
`label_length`	length of arrow (in x axis units)
`colour`	colour of the arrow and text

Value

list of ggplot layers to be added to a ggplot plot

Examples

```
library(ggplot2)

shots_data <- data.frame(x = c(90, 85, 82, 78, 83),
                         y = c(43, 40, 52, 56, 44))

p <- ggplot(shots_data, aes(x = x, y = y)) +
  annotate_pitch() +
  geom_point()

# Add direction of play label
p + direction_label()
```

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make_pitch_tracab   *Create Tracab dimensions object from pitch length and width*

Description

When the actual length and width of a pitch are known, for example from Tracab file metadata, `make_pitch_tracab` can be used to replace the 105m x 68m defaults hardcoded in `pitch_tracab`. The remaining pitch markings are taken from the UEFA Category 4 standard (`pitch_international`).

Usage

```
make_pitch_tracab(length = 105, width = 68)
```

Arguments

length	Length of the pitch in metres
width	Width of the pitch in metres

Value

A named list of pitch marking coordinates.

See Also

`pitch_tracab`

Examples

```
library(ggplot2)
library(ggsoccer)

ggplot() +
  annotate_pitch(dimensions = make_pitch_tracab(110, 70)) +
  theme_pitch()
```

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pitch_opta   *Pitch dimensions*

Description

The coordinate system used to generate pitch markings in can be customised by supplying a pitch specification to the `dimensions` argument of `annotate_pitch`.

ggsoccer provides pitch specifications for a few popular data providers by default. However, user-defined specifications can also be used.

Usage

```
pitch_opta

pitch_statsbomb

pitch_wyscout

pitch_international

pitch_tracab
```

Format

An object of class list of length 10.
An object of class list of length 10.
An object of class list of length 10.
An object of class list of length 10.
An object of class list of length 10.

Details

A "pitch specification" is simply a list of dimensions that define a coordinate system. The required dimensions are:

- "length"The length of the pitch from one goal to the other (x axis)
- "width"The width of the pitch from touchline to the other (y axis)
- "penalty_box_length"The distance from the goalline to the edge of the penalty area
- "penalty_box_width"The width of the penalty area
- "six_yard_box_length"The distance from the goalline to the edge of the six-yard box
- "six_yard_box_width"The width of the six-yard box
- "penalty_spot_distance"The distance from the goalline to the penalty spot
- "goal_width"The distance from one goal post to the other
- "origin_x"The minimum x coordinate of the pitch
- "origin_y"The minimum y coordinate of the pitch

The following pitch dimensions are provided

- "pitch_opta"For Opta f24 data
- "pitch_statsbomb"For Statsbomb data
- "pitch_wyscout"For Wyscout data
- "pitch_international"As per UEFA Category 4 stadium regulations
- "pitch_tracab""For ChyronHego Tracab, using the 105m x 68m default size"

See Also

```
make_pitch_tracab
```

Examples

```
library(ggplot2)
library(ggsoccer)

ggplot() +
  annotate_pitch(dimensions = pitch_statsbomb) +
  theme_pitch()
```

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rescale_coordinates   *Rescale x-y coordinates*

Description

Returns a list containing 2 functions to translate x and y coordinates, from one set of pitch dimensions (i.e. data provider) to another.

Any x or y coordinate is rescaled linearly between the nearest two pitch markings. For example, the edge of the penalty box and the half way-line.

Usage

```
rescale_coordinates(from, to)

rescale_international(from)
```

Arguments

from	The dimensions to convert from (see `help(dimensions)`)
to	The dimensions to convert to (see `help(dimensions)`)

Details

`pitch_international` creates a rescaler to `pitch_international` coordinates.

Examples

```
opta_to_wyscout <- rescale_coordinates(
  from = pitch_opta,
  to   = pitch_wyscout
)

opta_xs <- c(10, 22, 55, 78)
opta_ys <- c(10, 22, 55, 78)
```

```
opta_to_wyscout$x(opta_xs)
#> c(9.75000, 21.15152, 55.15152, 78.84848)

opta_to_wyscout$y(opta_ys)
#> c(9.004739, 20.031847, 55.172414, 79.968153)
```

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theme_pitch   *Removes background and axes details from a ggplot plot.*

Description

Functionally very similar to `ggplot2::theme_void`.

Usage

```
theme_pitch(aspect_ratio = 68/105)
```

Arguments

aspect_ratio   Aspect ratio (y / x) for the plot. Use `NULL` to let the plot take any aspect ratio.

Value

list of ggplot themes to be added to a ggplot plot

Examples

```
library(ggplot2)

shots_data <- data.frame(x = c(90, 85, 82, 78, 83),
                         y = c(43, 40, 52, 56, 44))

p <- ggplot(shots_data, aes(x = x, y = y)) +
  annotate_pitch() +
  geom_point()

# Pitch fixed to 68/105 by default
p + theme_pitch()

# Free aspect
p + theme_pitch(aspect_ratio = NULL)
```

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