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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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

Author Ben Torvaney [aut, cre]

Maintainer Ben Torvaney <torvaney@protonmail.com>

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**Annotations**

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

**Usage**

```r
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**

```r
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()
```
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()
**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**

```r
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**

```r
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 goal line to the edge of the penalty area
- "penalty_box_width" The width of the penalty area
- "six_yard_box_length" The distance from the goal line 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 goal line 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()

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)
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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