

Package ‘ggfoundry’

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Type Package

Title Shape Foundry & Geom for 'ggplot2'

Version 0.4.0

Description A 'ggplot2' extension that supports arbitrary hand-crafted colourable & fillable shapes. New shapes may be feature requested via a Github issue.

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<https://cgoo4.github.io/ggfoundry/>

BugReports <https://github.com/cgoo4/ggfoundry/issues>

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display_palette	<i>Display a palette using fillable shapes</i>
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Description

[Experimental]

Creates a visualisation of a chosen palette with each colour in the selected fillable shape.

Usage

```
display_palette(  
  fill,  
  pal_name,  
  colour = "grey50",  
  color = colour,  
  shape = c("jar", "tube")  
)
```

Arguments

fill	The colour of the shape fill.
pal_name	A character string for the name of the palette.
colour, color	The colour of the shape outline. Defaults to mid-grey to better support a web-site's light and dark mode.
shape	A character string for the name of the shape, e.g. "jar".

Value

A ggplot2 object.

Examples

```
display_palette(  
  c("skyblue", "lightgreen", "pink", "bisque"),  
  "Custom Palette Names"  
)  
display_palette(  
  c("#9986A5", "#79402E", "#CCBA72", "#0F0D0E", "#D9D0D3", "#8D8680"),  
  "Vector of Hex Codes",  
  shape = "tube",
```

```

    colour = "black"
  )
  display_palette(
    c(
      "#423C29", "#333031", "#8F898B", "#D2C9CB", "#AFA7A5", "#8D8680",
      "#9986A5", "#8A666E", "#7B4638", "#976C46", "#BCA365", "#988A56"
    ),
    "Multiple Rows"
  )

```

geom_casting

Arbitrary hand-crafted fillable shapes for ggplot2

Description

[Experimental]

Arbitrary hand-crafted colourable and fillable shapes for ggplot2.

New shapes may be feature requested via a Github issue.

Copies the grob tree, editing only the placement viewports; the styled picture grobs are shared with the template and left untouched.

Usage

```

geom_casting(
  mapping = NULL,
  data = NULL,
  stat = "identity",
  position = "identity",
  ...,
  na.rm = FALSE,
  show.legend = NA,
  inherit.aes = TRUE
)

```

Arguments

mapping	A set of aesthetic mappings created by <code>aes()</code> . If specified and <code>inherit.aes = TRUE</code> (the default), it is combined with the default mapping at the top level of the plot.
data	A data frame to use for the layer. If <code>NULL</code> (the default), the data inherited from the plot is used.
stat	The statistical transformation to use on the data for this layer. The default is <code>ggplot2::stat_identity()</code> .
position	A position adjustment to use for overlapping points on this layer. The default is <code>ggplot2::position_identity()</code> .

...	Other arguments passed on to the layer. These are often aesthetics, used to set an aesthetic to a fixed value, like <code>colour = "red"</code> or <code>size = 0.1</code> . They may also be parameters to the paired geom, such as <code>nudge_x</code> , <code>nudge_y</code> , <code>hjust</code> and <code>vjust</code> . <code>size</code> is panel-relative: it sets the shape's width and height as a fraction of the panel, so <code>size = 0.1</code> spans a tenth of the panel, not millimetres.
<code>na.rm</code>	If <code>FALSE</code> , the default, missing values are removed with a warning. If <code>TRUE</code> , missing values are silently removed.
<code>show.legend</code>	Logical. Should this layer be included in the legends? <code>NA</code> , the default, includes if any aesthetics are mapped. <code>FALSE</code> never includes, and <code>TRUE</code> always includes.
<code>inherit.aes</code>	If <code>FALSE</code> , overrides the default aesthetics, rather than combining with them.

Details

Behind the scenes, a pair of vector images (outline & fill) are converted into Cairo graphics library SVG files, then into grid graphical objects (grobs) for use in a `ggplot2` layer.

By default, the "violin" shape is used.

If the shape is mapped to a variable, e.g. `aes(shape = factor(cyl))`, then `scale_shape_manual()` is also required to explicitly name the desired shapes as a character vector (see examples). This is because standard shapes are associated with a number, e.g. a circle is 19, whereas `geom_casting()` shapes are associated only with character strings.

Aesthetics that vary per observation, e.g. a continuous `fill`, are respected for each individual shape, whether grouping is implicit or explicitly shared with `group = 1`. A `fill` of `NA` or "transparent" renders the outline only: for shapes such as the "bowl" set, this hides the steam while retaining the bowl outline.

In addition to the supported aesthetics below, `nudge_x`, `nudge_y`, `hjust` and `vjust` are also respected.

Value

A geom layer that can be added to a `ggplot`.

Aesthetics

`geom_casting()` understands the following aesthetics (required aesthetics are in bold):

- `x`
- `y`
- `alpha`
- `angle`
- `colour`
- `fill`
- `group`
- `shape`
- `size`

Learn more about setting these aesthetics in `vignette("ggplot2-specs")`

Examples

```
library(ggplot2)

# "Baby violin" shape by default
p <- ggplot(mtcars, aes(wt, mpg))
p + geom_casting()

# Change shape & fill
p + geom_casting(shape = "box", fill = "lightgreen")

# Shapes mapped to a variable
ggplot(mtcars, aes(wt, mpg, fill = factor(cyl))) +
  geom_casting(aes(shape = factor(cyl))) +
  scale_shape_manual(values = c("violin", "dendro", "box"))

# Continuous fill varies per observation, without a grouping workaround
ggplot(data.frame(x = 1:7, temperature = c(5, 18, 32, 47, 63, 81, 96)),
  aes(x, 1, fill = temperature)) +
  geom_casting(shape = "bowl2", colour = "#272626", size = 0.72) +
  scale_fill_viridis_c(limits = c(0, 100)) +
  scale_x_continuous(limits = c(0.35, 7.65), expand = expansion(mult = 0)) +
  scale_y_continuous(limits = c(0, 1.85), expand = expansion(mult = 0))
```

shapes_cast

Get the names of available shapes

Description**[Experimental]**

Create a data frame of available shapes and associated sets. This may be filtered and used as a vector of strings in `scale_shape_manual()`.

Usage

```
shapes_cast()
```

Value

A data frame of available sets and shapes.

Examples

```
# Returns a data frame of available shapes
shapes_cast()
```

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