

Package ‘ggreveal’

May 8, 2026

Title Reveal a 'ggplot' Incrementally

Version 0.2.0

Description Provides functions that make it easy to reveal 'ggplot2' graphs incrementally. The functions take a plot produced with 'ggplot2' and return a list of plots showing data incrementally by panels, layers, groups, the values in an axis or any arbitrary aesthetic.

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Encoding UTF-8

RoxygenNote 7.3.3

Imports cli, dplyr, ggplot2, ggplotify, rlang, stringr, tidyr, patchwork

Suggests testthat (>= 3.0.0), vdiffr, mockery, knitr, rmarkdown

Config/testthat/edition 3

URL <http://www.weverthon.com/ggreveal/>,
<https://github.com/weverthonmachado/ggreveal>

BugReports <https://github.com/weverthonmachado/ggreveal/issues>

Config/Needs/website rmarkdown, magick, palmerpenguins, ggribbles, ggpubr, geobr, sf, ggmapinset

NeedsCompilation no

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Repository CRAN

Date/Publication 2026-04-04 22:00:02 UTC

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reveal_aes *Reveal plot by aesthetic*

Description

Turns a ggplot into a list of plots, showing data incrementally by an arbitrary aesthetic.

Usage

```
reveal_aes(p, aes = "group", order = NULL, max = 20)
```

Arguments

p	A ggplot2 object
aes	which aesthetic to reveal E.g.: group, colour, shape, linetype
order	(optional) A numeric vector specifying in which order to reveal levels of the specified aesthetic. For example, if aes='shape' and the plot uses three shapes, order = c(3, 2, 1) will invert the order in which they are revealed. Any shape not included in the vector will be omitted from the incremental plots. E.g.: with order = c(3, 1), the second shape is not shown. By default, the first plot is blank, showing layout elements (title, legends, axes, etc) but no data. To omit the blank plot, include -1: e.g. order = c(-1, 3, 1), or order = -1.
max	maximum number of unique levels of aesthetic to be used

Value

A list of ggplot2 objects, which can be passed to [reveal_save\(\)](#)

Examples

```
# Create full plot
library(ggplot2)

p <- ggplot(mtcars,
            aes(mpg, wt,
                color = factor(vs),
                group = factor(vs))) +
  geom_point(aes(shape=factor(am)), size=2) +
  geom_smooth(method="lm",
```

```

        formula = 'y ~ x',
        linewidth=1)
  p

  plot_list <- reveal_aes(p, "shape")
  plot_list[[1]]
  plot_list[[2]]
  plot_list[[3]]
  plot_list[[4]]

  # Save plots
  reveal_save(plot_list, "myplot.png", width = 8, height = 4, path = tempdir())

  # Clean temp files
  file.remove(list.files(path = tempdir(), pattern = "myplot", full.names = TRUE))

```

reveal_groups	<i>Reveal plot by group</i>
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Description

Turns a ggplot into a list of plots, showing data incrementally by groups. Note that if the group aesthetic is not explicitly defined in the original plot, ggplot2 will set it to the interaction of all discrete variables (see [ggplot2::aes_group_order](#)).

Usage

```
reveal_groups(p, order = NULL)
```

Arguments

p	A ggplot2 object
order	(optional) A numeric vector specifying in which order to reveal the groups For example, if there are three groups in the plot, order = c(3, 2, 1) will invert the order in which they are revealed. Any group not included in the vector will be omitted from the incremental plots. E.g.: with order = c(3, 1), the second group is not shown. By default, the first plot is blank, showing layout elements (title, legends, axes, etc) but no data. To omit the blank plot, include -1: e.g. order = c(-1, 3, 1), or order = -1.

Value

A list of ggplot2 objects, which can be passed to [reveal_save\(\)](#)

Examples

```
# Create full plot
library(ggplot2)
data("mtcars")

p <- ggplot(mtcars,
            aes(mpg, wt,
                color = factor(vs),
                group = factor(vs))) +
  geom_point() +
  geom_smooth(method="lm",
              formula = 'y ~ x',
              linewidth=1) +
  facet_wrap(~am)
p

plot_list <- reveal_groups(p)
plot_list[[1]]
plot_list[[2]]
plot_list[[3]]

# Save plots
reveal_save(plot_list, "myplot.png", width = 8, height = 4, path = tempdir())

# Clean temp files
file.remove(list.files(path = tempdir(), pattern = "myplot", full.names = TRUE))
```

 reveal_layers

Reveal plot by layer

Description

Turns a ggplot into a list of plots, showing data incrementally by layers.

Usage

```
reveal_layers(p, order = NULL)
```

Arguments

p	A ggplot2 object
order	(optional) A numeric vector specifying in which order to reveal the layers For example, if there are three layers in the plot, order = c(3, 2, 1) will invert the order in which they are revealed. Any layer not included in the vector will be omitted from the incremental plots. E.g.: with order = c(3, 1), the second layer is not shown. By default, the first plot is blank, showing layout elements (title, legends, axes, etc) but no data. To omit the blank plot, include -1: e.g. order = c(-1, 3, 1), or order = -1.

Value

A list of ggplot2 objects, which can be passed to [reveal_save\(\)](#)

Examples

```
# Create full plot
library(ggplot2)
data("mtcars")

p <- ggplot(mtcars,
            aes(mpg, wt,
                color = factor(vs),
                group = factor(vs))) +
  geom_point() +
  geom_smooth(method="lm",
              formula = 'y ~ x',
              linewidth=1) +
  facet_wrap(~am)
p

plot_list <- reveal_layers(p)
plot_list[[1]]
plot_list[[2]]
plot_list[[3]]

# Save plots
reveal_save(plot_list, "myplot.png", width = 8, height = 4, path = tempdir())

# Clean temp files
file.remove(list.files(path = tempdir(), pattern = "myplot", full.names = TRUE))
```

reveal_panels

Reveal faceted plot by panel

Description

Turns a ggplot into a list of plots, showing data incrementally by panels.

Usage

```
reveal_panels(p, order = NULL, what = c("data", "everything"))
```

Arguments

p A ggplot2 object

order (optional) A numeric vector specifying in which order to reveal the panels
For example, if there are three panels in the plot, `order = c(3, 2, 1)` will invert the order in which they are revealed.

Any panel not included in the vector will be omitted from the incremental plots. E.g.: with `order = c(3, 1)`, the second panel is not shown.

By default, the first plot is blank, showing layout elements (title, legends, axes, etc) but no data. To omit the blank plot, include `-1`: e.g. `order = c(-1, 3, 1)`, or `order = -1`.

what (optional) one of "data" or "everything". With "data" (the default), the basic graph layout, including axes and facet labels, is shown from the start, and only the data points are shown incrementally. With "everything", the entire panels are shown incrementally.

Value

A list of ggplot2 objects, which can be passed to `reveal_save()`

Examples

```
# Create full plot
library(ggplot2)
data("mtcars")

p <- ggplot(mtcars,
            aes(mpg, wt,
                color = factor(vs),
                group = factor(vs))) +
  geom_point() +
  geom_smooth(method="lm",
              formula = 'y ~ x',
              linewidth=1) +
  facet_wrap(~am)
p

# Only data
plot_list <- reveal_panels(p, what = "data")
plot_list[[1]]
plot_list[[2]]
plot_list[[3]]

# Everything
plot_list <- reveal_panels(p, what = "everything")
plot_list[[1]]
plot_list[[2]]
plot_list[[3]]

# Save plots
reveal_save(plot_list, "myplot.png", width = 8, height = 4, path = tempdir())

# Clean temp files
file.remove(list.files(path = tempdir(), pattern = "myplot", full.names = TRUE))
```

reveal_patchwork	<i>Reveal plots from a patchwork object</i>
------------------	---

Description

Turns a [patchwork](#) into a list of plots that reveal each child plot incrementally. Also works with nesting and insets.

Usage

```
reveal_patchwork(pw, order = NULL)
```

Arguments

pw	A patchwork object
order	(optional) A numeric vector specifying in which order to reveal the plots For example, if there are three plots in the patchwork, <code>order = c(3, 2, 1)</code> will invert the order in which they are revealed. Any plot not included in the vector will be omitted from the incremental plots. E.g.: with <code>order = c(3, 1)</code> , the second plot is not shown. By default, the first plot returned by this function is blank, showing layout elements of the patchwork but none of its child plots. To omit the blank plot, include <code>-1</code> : e.g. <code>order = c(-1, 3, 1)</code> , or <code>order = -1</code> .

Value

A list of ggplot2 objects

Examples

```
library(ggplot2)
library(patchwork)
data("mtcars")
p1 <- ggplot(mtcars,
             aes(cyl,
                 fill = factor(am))) +
  geom_bar() +
  labs(title = "Plot 1")

p2 <- ggplot(mtcars,
             aes(displacement,
                 fill = factor(am))) +
  geom_histogram() +
  labs(title = "Plot 2")

p3 <- ggplot(mtcars,
             aes(mpg, wt,
                 color = factor(vs))) +
```

```

    geom_point() +
    guides(color="none") +
    labs(title = "Plot 3")

p4<- p3 +
  coord_polar() +
  theme_minimal() +
  theme(axis.title = element_blank()) +
  labs(title = "Plot 4")

pw <- (p1 + p2)/(p3 + inset_element(p4, 0.4, 0.4, 1.4, 1 )) +
  plot_layout(guides = "collect")

plot_list <- reveal_patchwork(pw)
plot_list[[1]]
plot_list[[2]]
plot_list[[3]]
plot_list[[4]]
plot_list[[5]]

```

 reveal_save

Saves incremental plots

Description

Saves incremental plots

Usage

```
reveal_save(plot_list, basename, ...)
```

Arguments

plot_list	A list of plots created by one of the reveal_* functions (e.g. reveal_groups() , reveal_layers() , reveal_aes())
basename	The base file name that will be used for saving.
...	Additional arguments (e.g. width, height) to be passed to ggplot2::ggsave()

Value

The paths of the saved plots, invisibly

Examples

```

# Create full plot
library(ggplot2)
data("mtcars")

p <- ggplot(mtcars,

```

```

      aes(mpg, wt,
          color = factor(vs),
          group = factor(vs))) +
  geom_point() +
  geom_smooth(method="lm",
             formula = 'y ~ x',
             linewidth=1) +
  facet_wrap(~am)
p

plot_list <- reveal_groups(p)
plot_list[[1]]
plot_list[[2]]
plot_list[[3]]

# Save plots
reveal_save(plot_list, "myplot.png", width = 8, height = 4, path = tempdir())

# Clean temp files
file.remove(list.files(path = tempdir(), pattern = "myplot", full.names = TRUE))

```

 reveal_x

Reveal plot by axis

Description

Turns a ggplot into a list of plots, showing data incrementally by the categories in the x or y axis.

Usage

```
reveal_x(p, order = NULL)
```

```
reveal_y(p, order = NULL)
```

Arguments

p	A ggplot2 object
order	(optional) A numeric vector specifying in which order to reveal the categories For example, if there are three categories in the axis, <code>order = c(3, 2, 1)</code> will invert the order in which they are revealed. Any category not included in the vector will be omitted from the incremental plots. E.g.: with <code>order = c(3, 1)</code> , the second category is not shown. By default, the first plot is blank, showing layout elements (title, legends, axes, etc) but no data. To omit the blank plot, include <code>-1</code> : e.g. <code>order = c(-1, 3, 1)</code> , or <code>order = -1</code> .

Value

A list of ggplot2 objects, which can be passed to [reveal_save\(\)](#)

Examples

```
# Create full plot
library(ggplot2)
data("mtcars")

p <- ggplot(mtcars,
            aes(factor(vs),
                color = gear,
                fill= gear,
                group = gear)) +
  geom_bar() +
  facet_wrap(~am)
p

plot_list <- reveal_x(p)
plot_list[[1]]
plot_list[[2]]
plot_list[[3]]

# Save plots
reveal_save(plot_list, "myplot.png", width = 8, height = 4, path = tempdir())

# Clean temp files
file.remove(list.files(path = tempdir(), pattern = "myplot", full.names = TRUE))
```

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