Package: rearcut (via r-universe)

August 20, 2024

Version 0.1.0

Title Constrained Triangulation of Polygons by 'Ear Clipping/Cutting'

Description Constrained triangulation of polygons implemented by the 'Mapbox' 'Javascript' library 'earcut'.

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Encoding UTF-8

LazyData true

ByteCompile true

RoxygenNote 6.0.1

Roxygen list(markdown = TRUE)

Depends R (>= 3.3.0)

Imports dplyr, V8, tibble

Suggests covr, ggplot2, testthat

Repository https://hypertidy.r-universe.dev

RemoteUrl https://github.com/hypertidy/rearcut

RemoteRef HEAD

RemoteSha cc033719f503144f855ebe1118c1f601a033b995

Contents

| earcut | *Ear cut algorithm* |

Description

Ear cutting for polygons, a method for constrained triangulation.

Usage

```
earcut(x, holes = NULL, ...)

## Default S3 method:
earcut(x, holes = NULL, ...)
```

Arguments

x	object to triangulate, any convertible to silicate PATH
holes	1-based index indicating where hole/s begin
...	arguments passed to methods

Value

index triplets of triangles from vertex pool

| minpoly | *minpoly* |

Description

A minimum polygon data set, with a small concavity and a single hole. The data is in 'xy.coords' form, with two columns for 'x_' and 'y_' values, with 'NA' rows separating separate polygon paths. (All but the first path are holes).

Examples

```
plot(minpoly)
polypath(minpoly, col = "grey", rule = "evenodd")
lines(na.omit(minpoly))  ## see the connection in the sequence
nas <- which(is.na(minpoly$x_))
## this is the "indicate where holes start" convention
hole_index <- nas - (seq_along(nas) - 1)
minpoly_xy <- na.omit(minpoly)
tri_index <- earcut(minpoly_xy, hole_index)
rearcut:::plot_tri(minpoly_xy$x_, minpoly_xy$y_, tri_index)
rearcut:::plot_tri(minpoly_xy$x_, minpoly_xy$y_, tri_index, col = "firebrick")
```

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taslakes   *taslakes*

Description

A polygon data set with multiple holes. The data is in 'xy.coords' form, with two columns for 'x_'
and 'y_' values, with 'NA' rows separating separate polygon paths. (All but the first path are holes).

Details

This shape represents the mainland island of Tasmania with internal holes for inland waters. The
coordinates are in Lambert Conformal Conic centred on 136E and 32S, with standard parallels at
17S and 47S. This shape is taken from a broader region where that local projection was suitable.
The

Examples

```
plot(taslakes, pch = ".")
lines(na.omit(taslakes))
polypath(taslakes, col = "grey")
tasnas <- which(is.na(taslakes$x_))
## this is the "indicate where holes start" convention
hole_index <- tasnas - (seq_along(tasnas)-1)
taslakes_xy <- na.omit(taslakes)
tri_index <- earcut(taslakes_xy, hole_index)
rearcut:::plot_tri(taslakes_xy$x_, taslakes_xy$y_, tri_index)
rearcut:::plot_tri(taslakes_xy$x_, taslakes_xy$y_, tri_index, col = "grey")
## Not run:
library(ggplot2)
d <- taslakes_xy[tri_index, ] %>% mutate(g = (row_number() -1) %/% 3 ) %>% group_by(g)
ggplot(d, aes(x_, y_,  group = g)) + geom_path()

## End(Not run)
```

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