Package: edgebundleR (via r-universe)

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Title Circle Plot with Bundled Edges

Version 0.1.5

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Description Generates interactive circle plots with the nodes around the circumference and linkages between the connected nodes using hierarchical edge bundling via the D3 JavaScript library. See <http://d3js.org/> for more information on D3.

License GPL (>= 3)

LazyData true

Depends R (>= 3.1.2)

Imports htmlwidgets (>= 0.3.2), rjson, igraph, shiny

Suggests knitr, huge, rmarkdown

URL https://github.com/garthtarr/edgebundleR

Roxygen list(wrap = FALSE)

RoxygenNote 6.0.1

VignetteBuilder knitr

Config/pak/sysreqs cmake libglpk-dev make libuv1-dev libxml2-dev zlib1g-dev

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

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`adjToEdge` *Helper function to convert adjacency matrix to edges*

Description

Helper function to convert adjacency matrix to edges

Usage

```
adjToEdge(adj)
```

Arguments

`adj`	an adjacency matrix

`edgebundle` *Circle plot with bundled edges*

Description

Takes an appropriately structured JSON file or a square symmetric matrix (e.g. a correlation matrix or precision matrix) and outputs a circle plot with the nodes around the circumfrence and linkages between the connected nodes. Adapted from the Mike Bostock's D3 Hierarchical Edge Bundling example using the htmlwidgets framework.

Usage

```
edgebundle(x, tension = 0.5, cutoff = 0.1, width = NULL, fontsize = 14,
  padding = 100, nodesize = c(5, 20), directed = FALSE)
```

Arguments

`x`	an appropriately structured JSON file (see vignette for details) or a square symmetric matrix (e.g. correlation matrix) or an igraph object.
`tension`	numeric between 0 and 1 giving the tension of the links
`cutoff`	numeric giving the threshold dependence for linkages to be plotted
`width`	the width of the plot when viewed externally
`fontsize`	font size of the node labels

padding	the padding (in px) between the inner radius of links and the edge of the plot. Increase this when the labels run outside the edges of the plot. Default: 100.
nodesize	two element vector of the min and max node size to scale the node circle size. If a size is not provided for each node, then the node size will be the max node size provided in this argument. Default: c(5,20).
directed	whether or not the graph is directed. Does not work yet. Need to think about how to implement this cleanly.

Examples

```
## Not run:
require(igraph)
ws_graph = watts.strogatz.game(1, 50, 4, 0.05)
edgebundle(ws_graph,tension = 0.1,fontsize = 20)

## End(Not run)
```

---

edgebundleOutput *Widget output function for use in Shiny*

Description

Widget output function for use in Shiny

Usage

```
edgebundleOutput(outputId, width = "100%", height = "400px")
```

Arguments

outputId	Shiny output ID
width	width default '100%'
height	height default '400px'

---

edgeToJSON_igraph *Helper function to convert an igraph to JSON*

Description

Helper function to convert an igraph to JSON

Usage

```
edgeToJSON_igraph(graph)
```

Arguments

graph	an igraph

---

edgeToJSON_matrix *Helper function to convert edges to JSON*

Description

Helper function to convert edges to JSON

Usage

```
edgeToJSON_matrix(edges)
```

Arguments

edges	a matrix of edge relationships

---

flare-imports.json *Flare software class hierarchy*

Description

A JSON file enumerating the dependencies between classes in a software class hierarchy. Dependencies are bundled according to the parent packages.

Format

A JSON data file (with txt extension for R)

Details

Sourced from Mike Bostock's examples, see here: http://bl.ocks.org/mbostock/raw/7607999/

Examples

```
## Not run:
filepath = system.file("sampleData", "flare-imports.json", package = "edgebundleR")
edgebundle(filepath,width=800,height=800,fontsize=8,tension=0.95)

## End(Not run)
```

renderEdgebundle *Widget render function for use in Shiny*

Description

Widget render function for use in Shiny

Usage

```
renderEdgebundle(expr, env = parent.frame(), quoted = FALSE)
```

Arguments

expr	edgebundle expression
env	environment
quoted	logical, default = FALSE

saveEdgebundle *Save a edge bundle to an HTML file*

Description

Save a edge buyndle graph to an HTML file for sharing with others. The HTML can include it's dependencies in an adjacent directory or can bundle all dependencies into the HTML file (via base64 encoding).

Usage

```
saveEdgebundle(x, file, selfcontained = TRUE)
```

Arguments

x	plot to save (e.g. result of calling the function edgebundle).
file	File to save HTML into
selfcontained	Whether to save the HTML as a single self-contained file (with external resources base64 encoded) or a file with external resources placed in an adjacent directory.

shinyedge *Shiny interface to the edgebundle function*

Description

Opens a shiny GUI to facilitate interaction with the edgebundle function

Usage

```
shinyedge(x)
```

Arguments

x	an appropriately structured JSON file (see vignette for details) or a square symmetric matrix (e.g. correlation matrix) or an igraph object.

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