

Package ‘graphTweets’

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Type Package

Title Visualise Twitter Interactions

Version 0.3.2

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Description Allows building an edge table from data frame of tweets,
also provides function to build nodes and another create a temporal graph.

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Depends R (>= 3.2.0)

Imports reshape2, dplyr, igraph, methods

RoxygenNote 5.0.1

URL <https://github.com/JohnCoene/graphTweets>

BugReports <https://github.com/JohnCoene/graphTweets/issues>

Suggests testthat, twitterR

NeedsCompilation no

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R topics documented:

dynamise	2
getEdges	3
getNodes	4
graphTweets	5

Index	7
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dynamise

Make a dynamic graph

Description

Create a dynamic graph from tweets and, optionally, open it in [Gephi](#)

Usage

```
dynamise(data, tweets, source, start.stamp, end.stamp = NULL,
         str.length = NULL, write = FALSE, format = "graphml",
         file.dir = getwd(), file.name = "graphTweets", open = FALSE)
```

Arguments

data	data.frame of tweets, typically returned by searchTwitter , required.
tweets	Column name of tweets within data, must be a character string, required.
source	User names or ID column of tweets author, must be a character string, required.
start.stamp	Typically a date or time, but may also be an interger or a factor, cannot be a character.
end.stamp	The end of the time stamp, or when edges are to leave the graph, defaults to NULL (edges never disappear). See details.
str.length	Defaults to NULL. Shorten length of @tags (see details in getEdges), to a maximum number of characters, optional.
write	if TRUE saves graph as file.
format	if write = TRUE set format of file, defaults to graphml (see details for valid formats).
file.dir	if write = TRUE directory where to save the file, defaults to working directory.
file.name	if write = TRUE name of file
open	if write = TRUE, open = TRUE opens file in https://gephi.org/ .

Details

end.stamp: When the edges are to disappear (consider lifetime of a tweet), by default edges stay on the graph forever.

Valid values for format:

- edgelist
- pajek
- ncol
- lgl
- graphml (default)

- dimacs
- gml
- dot
- leda

Author(s)

John Coene <jcoenep@gmail.com>

Examples

```
tweets <- data.frame(text = c("I tweet @you about @him",
                             "I tweet @me about @you"),
                    screenName = c("me", "him"),
                    created = as.Date(c("2016-01-01", "2016-02-02")),
                    stringsAsFactors = FALSE)

# create dynamic graph
dyn <- dynamise(tweets, tweets = "text", source = "screenName",
                start.stamp = "created")

# create dynamic graph with 60 min lasting edges
dyn <- dynamise(tweets, tweets = "text", source = "screenName",
                start.stamp = "created", end = 3600)
```

getEdges

Build list of edges from tweets

Description

Builds a table of edges (source, target) from a data.frame of tweets by subsetting @tags from the text.

Usage

```
getEdges(data, tweets, source, str.length = NULL, ...)
```

Arguments

data	data.frame of tweets, typically returned by searchTwitter , required.
tweets	Column name of tweets within data, must be a character string, required.
source	User names or ID column of tweets author, must be a character string, required.
str.length	Defaults to NULL. Shorten length of @tags (see details), to a maximum number of characters.
...	Any other columns to be passed on to the edges.

Details

The edges function takes in a data frame of tweets, typically obtained from the twitter Search or Streaming API, scrapes the content of tweets to subset the @tags subsequently forming a table of edges. @tags are subsets of regular expressions between at-signs (@) and first space (" "). Note that the table of edges returned is meant for a directed graph. Node labels can be shortened using the str.length parameters. This is useful for non-latin alphabet where nodes may be wrongly identified (i.e.: Chinese Sina Weibo data).

Author(s)

John Coene <john.coene@gmail.com>

See Also

[twitteR](#) and [streamR](#) packages wherefrom the data (data) can be obtained.

Examples

```
# simulate dataset
tweets <- data.frame(text = c("I tweet @you about @him",
                             "I tweet @me about @you"),
                    screenName = c("me", "him"),
                    stringsAsFactors = FALSE)

# get edges
edges <- getEdges(data = tweets, tweets = "text", source = "screenName")

# use igraph to make graph object
g <- igraph::graph.data.frame(edges)
plot(g)
```

getNode

Build node table from edges

Description

Get nodes from a data.frame of edges as typically returned by [getEdges](#)

Usage

```
getNode(edges, source = "source", target = "target", ...)
```

Arguments

edges	data.frame of edges as typically returned by getEdges
source	Column of source nodes in edges, must be a character string, defaults to source.
target	Column of target nodes in edges, must be a character string, required.
...	Any other columns to be passed on to the source nodes - will not be applied to target nodes.

Details

One must keep in mind that nodes need to be unique therefore duplicate values (...) are dropped. Also, the meta-data (...), only applies to the source of edges; NAs are generated for target nodes.

Author(s)

John Coene <jcoenep@gmail.com>

Examples

```
# simulate dataset
tweets <- data.frame(text = c("I tweet @you about @him",
                             "I tweet @me about @you"),
                    screenName = c("me", "him"),
                    favorited = c(TRUE, FALSE),
                    stringsAsFactors = FALSE)

# get edges
edges <- getEdges(data = tweets, tweets = "text", source = "screenName",
                 str.length = NULL, "favorited")

# get nodes
nodes <- getNodes(edges, source = "source", target = "target",
                 "favorited")

# plot
g <- igraph::graph.data.frame(edges, directed = TRUE, vertices = nodes)
plot(g, vertex.color = igraph::V(g)$favorited)
```

graphTweets

graphTweets *visualise Twitter Interactions.*

Description

- [getEdges](#) - get edges from tweets
- [getNodes](#) - add meta-data to vertices
- [dynamise](#) - create dynamic graphs

Examples

```
## Not run:
# authenticate
token <- twitterR::setup_twitter_oauth(consumer_key, consumer_secret,
                                       access_token, access_secret)

# search tweets
tweets <- twitterR::searchTwitter("rstats", n = 200)

# unlist to data.frame
tweets <- twitterR::twListToDF(tweets)

# load graphTweets
library(graphTweets)

# get edges
edges <- getEdges(data = tweets, tweets = "text", source = "screenName")

# load igraph
library(igraph)

# plot
g <- graph.data.frame(edges, directed=TRUE)
plot(g)

# add attributes to vertices
edges <- getEdges(data = tweets, tweets = "text", source = "screenName",
                 "retweetCount")
nodes <- getNodes(edges, source = "source", target = "target",
                 "retweetCount")

g <- graph.data.frame(edges, directed=TRUE, vertices = nodes)

plot(g, vertex.size = V(g)$retweetCount)

# create dynamic graph and open in Gephi
dyn <- dynamise(tweets, tweets = "text", source = "screenName",
                start.stamp = "created", write = TRUE, open = TRUE)

## End(Not run)
```

Index

dynamise, [2](#), [5](#)

getEdges, [2](#), [3](#), [4](#), [5](#)

getNodes, [4](#), [5](#)

graphTweets, [5](#)

graphTweets-package (graphTweets), [5](#)

searchTwitter, [2](#), [3](#)