Package: cranet (via r-universe)

August 30, 2024

Type Package

Title Build and Analyze Network of R Packages

Version 1.0-0

Date 2018-05-04

Description Package DESCRIPTION files allows for specifying several types of inter-package relations. These include fields like Depends, Suggests, Enhances etc. This package allows for recovering graph structure based on these relations. Network representation of R repositories enables the user to explore the interconnected space of available R functionality while the developers or repository maintainers can quickly scan package forward and reverse dependencies.

Depends R (>= 2.10)

Imports igraph

Suggests testthat

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URL https://github.com/mbojan/cranet

BugReports https://github.com/mbojan/cranet/issues

LazyLoad yes

LazyData yes

RoxygenNote 6.0.1

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

RemoteUrl https://github.com/mbojan/cranet

RemoteRef HEAD

RemoteSha a14ec82ef9af8396783cd5ef5cd8423b33a29f02

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`cranet-package` *Build and Analyze Network of R Packages*

Description

Package DESCRIPTION files allows for specifying several types of inter-package relations. These include fields like Depends, Suggests, Enhances etc. This package and function `pkgnet` allows for recovering graph structure based on these relations. Network representation of R repositories enables the user to explore the interconnected space of available R functionality while the developers or repository maintainers can quickly scan package forward and reverse dependencies.

Author(s)

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`avpkgs` *Matrix of Available Packages*

Description

Snapshot of packages avaiable on CRAN on 2016-08-12

Format

A 8938x17 matrix returned by `available.packages` with the following column names: "Package", "Version", "Priority", "Depends", "Imports", "LinkingTo", "Suggests", "Enhances", "License", "License_is_FOSS", "License_restricts_use", "OS_type", "Archs", "MD5sum", "NeedsCompilation", "File", "Repository".

Source

Fetched from `http://cloud.r-project.org` on August 12, 2016.

See Also

`available.packages`, `crannet` which is an igraph object built from such matrix.

crannet *Snapshot of CRAN packages*

Description

Snapshot of CRAN packages made on 2016-08-12

Format

The network object is of class `igraph`. It is a directed network which contains 9182 packages (vertices) and 47032 inter-package relations (edges). The network, together with vertex and edge attributes is build from the matrix as returned by `available.packages`, which in turn is based on package DESCRIPTION files.

Available edge attributes: type

Available vertex attributes: name, Version, Priority, License, License_is_FOSS, License_restricts_use, OS_type, Archs, MD5sum, NeedsCompilation, File, Repository.

The network is a multi-graph, i.e. there may be multiple edges between a given pair of nodes. This corresponds to the fact, that package X may, for example, both depend and import package Y. To disentangle the types of relations one can use edge attribute `type` which identifies a type of inter-package relation. Possible values are of this attribute are: Depends, Enhances, Imports, LinkingTo, Suggests. They come from the respective columns in the matrix returned by `available.packages`.

See `available.packages` for the description of the attributes and types of inter-package relations.

Source

Fetched from `http://cran.at.r-project.org` on August 12, 2016.

pkgnet *Build a network based on package availability matrix*

Description

Given the matrix as returned by `available.packages` construct a graph, of class `igraph` of inter-package relations.

Usage

```
pkgnet(object, ...)

## Default S3 method:
pkgnet(object, ...)

## S3 method for class 'character'
pkgnet(object, ap_args = NULL, ...)
```

```
## S3 method for class 'matrix'
pkgnet(object, enams = c("Depends", "Suggests", "Imports",
  "Enhances", "LinkingTo"), vnams = c("Version", "Priority", "License",
  "License_is_FOSS", "License_restricts_use", "OS_type", "Archs", "MD5sum",
  "NeedsCompilation", "File", "Repository"), ...)
```

Arguments

object	a matrix as returned by available.packages or a character scalar, one of "cran" or "bioc" to fetch and process packages available on CRAN or on Bioconductor, or an URL to a CRAN-like repository.
...	arguments passed to/from other methods
ap_args	NULL or list of arguments passed to available.packages
enams	character, names of columns of a that are to be used as edge attributes
vnams	character, names of columns of a that are to be used as vertex attributes

Details

The resulting graph (object of class igraph) is a multigraph: there can be multiple relationships between any given pair of vertices. Different types of relations can be disentagled using edge attribute called type. It stores the type of relation as provided with enams argument.

Value

Object of class igraph.

See Also

available.packages, graph.data.frame

Examples

```
## Not run:
a <- available.packages(contrib.url("http://cran.r-project.org", "source"))
g <- pkgnet(a)
summary(g)

## End(Not run)
```

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