# Package: explor (via r-universe)

August 31, 2024

**Type** Package

**Title** Interactive Interfaces for Results Exploration

**Version** 0.3.10.9000

**Date** 2023-05-30

**Maintainer** Julien Barnier <julien.barnier@cnrs.fr>

**Description** Shiny interfaces and graphical functions for multivariate analysis results exploration.

**License** GPL (>= 3)

**VignetteBuilder** knitr

**URL** https://juba.github.io/explor/

**BugReports** https://github.com/juba/explor/issues

**Encoding** UTF-8

**Imports** shiny (>= 1.0), DT, dplyr (>= 1.0), tidyr (>= 1.0), ggplot2, highr, formatR, scatterD3 (>= 1.0.0), RColorBrewer

**Suggests** FactoMineR, ade4 (>= 1.7-13), GDAtools (>= 2.0), MASS, quanteda, quanteda.textmodels, testthat, knitr, rmarkdown

**RoxygenNote** 7.2.3

**Repository** https://juba.r-universe.dev

**RemoteUrl** https://github.com/juba/explor

**RemoteRef** HEAD

**RemoteSha** 07e13b1ecdb717b79ece1f601b75fe4f9e2099d6

## Contents

---

`CA_var_plot` *Interactive CA variables plot*

---

## Description

This function generates an HTML widget displaying the variables plot of a CA result.

## Usage

```
CA_var_plot(
  res,
  xax = 1,
  yax = 2,
  lev_sup = TRUE,
  var_sup = TRUE,
  var_sup_choice = NULL,
  var_hide = "None",
  var_lab_min_contrib = 0,
  point_size = 64,
  col_var = NULL,
  symbol_var = NULL,
  size_var = NULL,
  size_range = c(10, 300),
  zoom_callback = NULL,
  in_explor = FALSE,
  ...
)
```

## Arguments

| | |
|---|---|
| `res` | Result of prepare_results() call |
| `xax` | Horizontal axis number |
| `yax` | Vertical axis number |
| `lev_sup` | TRUE to display supplementary levels |
| `var_sup` | TRUE to display supplementary variables |
| `var_sup_choice` | list of supplementary variables to display |
| `var_hide` | elements to hide (rows or columns) |

| | |
|---|---|
| var_lab_min_contrib | Contribution threshold to display points labels |
| point_size | base point size |
| col_var | name of the variable for points color |
| symbol_var | name of the variable for points symbol |
| size_var | name of the variable for points size |
| size_range | points size range with format c(minimum, maximum) |
| zoom_callback | scatterD3 zoom callback JavaScript body |
| in_explor | wether the plot is to be displayed in the explor interface |
| ... | Other arguments passed to scatterD3 |

---

explor *Interface for analysis results exploration*

---

## Description

This function launches a shiny app in a web browser in order to do interactive visualisation and exploration of an analysis results.

## Usage

```
explor(obj)

## S3 method for class 'CA'
explor(obj)

## S3 method for class 'textmodel_ca'
explor(obj)

## S3 method for class 'coa'
explor(obj)

## S3 method for class 'MCA'
explor(obj)

## S3 method for class 'speMCA'
explor(obj)

## S3 method for class 'mca'
explor(obj)

## S3 method for class 'acm'
explor(obj)

## S3 method for class 'PCA'
```

```
explor(obj)

## S3 method for class 'princomp'
explor(obj)

## S3 method for class 'prcomp'
explor(obj)

## S3 method for class 'pca'
explor(obj)
```

## Arguments

| | |
|---|---|
| obj | object containing analysis results |

## Details

If you want to display supplementary individuals or variables and you're using the dudi.coa function, you can add the coordinates of suprow and/or supcol to as supr and/or supr elements added to your dudi.coa result (See example).

If you want to display supplementary individuals or variables and you're using the dudi.acm function, you can add the coordinates of suprow and/or supcol to as supi and/or supv elements added to your dudi.acm result (See example).

If you want to display supplementary individuals or variables and you're using the dudi.pca function, you can add the coordinates of suprow and/or supcol to as supi and/or supv elements added to your dudi.pca result (See example).

## Value

The function launches a shiny app in the system web browser.

## Examples

```
## Not run:

require(FactoMineR)

## FactoMineR::MCA exploration
data(hobbies)
mca <- MCA(hobbies[1:1000,c(1:8,21:23)], quali.sup = 9:10,
           quanti.sup = 11, ind.sup = 1:100, graph = FALSE)
explor(mca)

## FactoMineR::PCA exploration
data(decathlon)
d <- decathlon[,1:12]
pca <- PCA(d, quanti.sup = 11:12, graph = FALSE)
explor(pca)

## End(Not run)
```

```
## Not run:

library(ade4)

data(bordeaux)
tab <- bordeaux
row_sup <- tab[5,-4]
col_sup <- tab[-5,4]
coa <- dudi.coa(tab[-5,-4], nf = 5, scannf = FALSE)
coa$supr <- suprow(coa, row_sup)
coa$supc <- supcol(coa, col_sup)
explor(coa)

## End(Not run)
## Not run:

library(ade4)
data(banque)
d <- banque[-(1:100),-(19:21)]
ind_sup <- banque[1:100, -(19:21)]
var_sup <- banque[-(1:100),19:21]
acm <- dudi.acm(d, scannf = FALSE, nf = 5)
acm$supv <- supcol(acm, dudi.acm(var_sup, scannf = FALSE, nf = 5)$tab)
colw <- acm$cw*ncol(d)
X <- acm.disjonctif(ind_sup)
X <- data.frame(t(t(X)/colw) - 1)
acm$supi <- suprow(acm, X)
explor(acm)

## End(Not run)
## Not run:

library(ade4)
data(deug)
d <- deug$tab
sup_var <- d[-(1:10), 8:9]
sup_ind <- d[1:10, -(8:9)]
pca <- dudi.pca(d[-(1:10), -(8:9)], scale = TRUE, scannf = FALSE, nf = 5)
supi <- suprow(pca, sup_ind)
pca$supi <- supi
supv <- supcol(pca, dudi.pca(sup_var, scale = TRUE, scannf = FALSE)$tab)
pca$supv <- supv
explor(pca)

## End(Not run)
```

---

ggind *Graphical representation of indivduals (rows) of a multivariate analysis*

---

## Description

This function displays a graphical representation of the individuals (rows) of a multivariate analysis.

This function displays a graphical representation of the individuals (rows) of a multiple correspondence analysis generated by the MCA function of the FactoMineR package.

## Usage

```
ggind(obj, ...)

## S3 method for class 'MCA'
ggind(
  obj,
  xax = 1,
  yax = 2,
  fac = NA,
  label = NULL,
  alpha = 0.5,
  palette = "Set1",
  ...
)
```

## Arguments

| | |
|---|---|
| obj | a multivariate analysis results object. Currently only MCA is supported |
| ... | arguments passed to other methods |
| xax | number of the x axis |
| yax | number of the y axis |
| fac | an optional factor by which points are colored, and confidence ellipses drawn |
| label | legend title |
| alpha | points opacity |
| palette | palette for points coloring, if fac is not NULL |

---

# ggvar *Graphical representation of the variables (columnss) of a multivariate analysis*

---

## Description

This function displays a graphical representation of the variables (columns) of a multivariate analysis.

This function displays a graphical representation of the variables (columns) of a multiple correspondence analysis generated by the MCA function of the FactoMineR package.

## Usage

```
ggvar(obj, ...)

## S3 method for class 'MCA'
ggvar(obj, xax = 1, yax = 2, size = 4, alpha = 0.5, palette = "Set1", ...)
```

## Arguments

| | |
|---|---|
| obj | a multivariate analysis results object. Currently only MCA is supported |
| ... | arguments passed to other methods |
| xax | number of the x axis |
| yax | number of the y axis |
| size | text size |
| alpha | points opacity |
| palette | palette for variables coloring |

## See Also

MCA

---

# MCA_biplot *Interactive MCA biplot*

---

## Description

This function generates an HTML widget displaying the variables plot of an MCA result.

## Usage

```
MCA_biplot(
  res,
  xax = 1,
  yax = 2,
  col_var,
  ind_sup = TRUE,
  var_sup = TRUE,
  bi_lab_min_contrib = 0,
  symbol_var = NULL,
  ind_point_size = 16,
  var_point_size = 96,
  ind_opacity = 0.5,
  ind_opacity_var = NULL,
  ind_labels = FALSE,
  zoom_callback = NULL,
  in_explor = FALSE,
  ...
)
```

### Arguments

| | |
|---|---|
| res | Result of prepare_results() call |
| xax | Horizontal axis number |
| yax | Vertical axis number |
| col_var | name of the variable for points color |
| ind_sup | TRUE to display supplementary individuals |
| var_sup | TRUE to display supplementary variables |
| bi_lab_min_contrib | Contribution threshold to display points labels |
| symbol_var | name of the variable for points symbol |
| ind_point_size | base point size for individuals |
| var_point_size | base point size for variable levels |
| ind_opacity | individuals point opacity (constant) |
| ind_opacity_var | individuals point opacity (variable) |
| ind_labels | TRUE to display individuals labels |
| zoom_callback | scatterD3 zoom callback JavaScript body |
| in_explor | wether the plot is to be displayed in the explor interface |
| ... | Other arguments passed to scatterD3 |

---

## MCA_ind_plot *Interactive MCA indivuals plot*

---

### Description

This function generates an HTML widget displaying the individuals plot of an MCA result.

### Usage

```
MCA_ind_plot(
  res,
  xax = 1,
  yax = 2,
  ind_sup = TRUE,
  ind_lab_min_contrib = 0,
  lab_var = NULL,
  col_var = NULL,
  symbol_var = NULL,
  opacity_var = NULL,
  size_var = NULL,
  size_range = c(10, 300),
  zoom_callback = NULL,
  in_explor = FALSE,
  ...
)
```

### Arguments

| | |
|---|---|
| res | Result of prepare_results() call |
| xax | Horizontal axis number |
| yax | Vertical axis number |
| ind_sup | TRUE to display supplementary individuals |
| ind_lab_min_contrib | Contribution threshold to display points labels |
| lab_var | variable to be used for points names |
| col_var | variable to be used for points color |
| symbol_var | name of the variable for points symbol |
| opacity_var | name of the variable for points opacity |
| size_var | name of the variable for points size |
| size_range | points size range with format c(minimum, maximum) |
| zoom_callback | scatterD3 zoom callback JavaScript body |
| in_explor | wether the plot is to be displayed in the explor interface |
| ... | Other arguments passed to scatterD3 |

---

## MCA_var_plot *Interactive MCA variables plot*

---

### Description

This function generates an HTML widget displaying the variables plot of an MCA result.

### Usage

```
MCA_var_plot(
  res,
  xax = 1,
  yax = 2,
  var_sup = TRUE,
  var_sup_choice = NULL,
  var_lab_min_contrib = 0,
  point_size = 64,
  labels_prepend_var = FALSE,
  col_var = NULL,
  symbol_var = NULL,
  size_var = NULL,
  size_range = c(10, 300),
  zoom_callback = NULL,
  in_explor = FALSE,
  ...
)
```

### Arguments

| | |
|---|---|
| res | Result of prepare_results() call |
| xax | Horizontal axis number |
| yax | Vertical axis number |
| var_sup | TRUE to display supplementary variables |
| var_sup_choice | list of supplementary variables to display |
| var_lab_min_contrib | Contribution threshold to display points labels |
| point_size | base point size |
| labels_prepend_var | if TRUE, prepend variable names to labels |
| col_var | name of the variable for points color |
| symbol_var | name of the variable for points symbol |
| size_var | name of the variable for points size |
| size_range | points size range with format c(minimum, maximum) |
| zoom_callback | scatterD3 zoom callback JavaScript body |
| in_explor | wether the plot is to be displayed in the explor interface |
| ... | Other arguments passed to scatterD3 |

---

## PCA_ind_plot *Interactive PCA indivuals plot*

---

### Description

This function generates an HTML widget displaying the individuals plot of a PCA result.

### Usage

```
PCA_ind_plot(
  res,
  xax = 1,
  yax = 2,
  ind_sup = TRUE,
  ind_lab_min_contrib = 0,
  col_var = NULL,
  symbol_var = NULL,
  opacity_var = NULL,
  size_var = NULL,
  size_range = c(10, 300),
  lab_var = NULL,
  zoom_callback = NULL,
  in_explor = FALSE,
  ...
)
```

### Arguments

| | |
|---|---|
| res | Result of prepare_results() call |
| xax | Horizontal axis number |
| yax | Vertical axis number |
| ind_sup | TRUE to display supplementary individuals |
| ind_lab_min_contrib | Contribution threshold to display points labels |
| col_var | variable to be used for points color |
| symbol_var | name of the variable for points symbol |
| opacity_var | name of the variable for points opacity |
| size_var | name of the variable for points size |
| size_range | points size range with format c(minimum, maximum) |
| lab_var | variable to be used for points names |
| zoom_callback | scatterD3 zoom callback JavaScript body |
| in_explor | wether the plot is to be displayed in the explor interface |
| ... | Other arguments passed to scatterD3 |

---

## PCA_var_plot *Interactive PCA variables plot*

---

### Description

This function generates an HTML widget displaying the variables plot of a PCA result.

### Usage

```
PCA_var_plot(
  res,
  xax = 1,
  yax = 2,
  var_sup = TRUE,
  var_sup_choice = NULL,
  var_lab_min_contrib = 0,
  scale_unit = FALSE,
  col_var = NULL,
  size_var = NULL,
  zoom_callback = NULL,
  in_explor = FALSE,
  xlim = NULL,
  ylim = NULL,
  ...
)
```

### Arguments

| | |
|---|---|
| res | Result of prepare_results() call |
| xax | Horizontal axis number |
| yax | Vertical axis number |
| var_sup | TRUE to display supplementary variables |
| var_sup_choice | list of supplementary variables to display |
| var_lab_min_contrib | Contribution threshold to display points labels |
| scale_unit | wether the PCA is scaled |
| col_var | name of the variable for points color |
| size_var | name of the variable for points size |
| zoom_callback | scatterD3 zoom callback JavaScript body |
| in_explor | wether the plot is to be displayed in the explor interface |
| xlim | custom x axis limits |
| ylim | custom y axis limits |
| ... | Other arguments passed to scatterD3 |

---

## prepare_results *Analysis results preparation*

---

### Description

This function prepares results to be used by explor. Not to be used directly.

### Usage

```
prepare_results(obj)

## S3 method for class 'CA'
prepare_results(obj)

## S3 method for class 'mca'
prepare_results(obj)

## S3 method for class 'MCA'
prepare_results(obj)

## S3 method for class 'PCA'
prepare_results(obj)

## S3 method for class 'coa'
prepare_results(obj)
```

```
## S3 method for class 'acm'
prepare_results(obj)

## S3 method for class 'pca'
prepare_results(obj)

## S3 method for class 'prcomp'
prepare_results(obj)

## S3 method for class 'princomp'
prepare_results(obj)

## S3 method for class 'speMCA'
prepare_results(obj)

## S3 method for class 'textmodel_ca'
prepare_results(obj)
```

## Arguments

| | |
|---|---|
| obj | object containing analysis results |

## See Also

CA

mca

MCA

PCA

CA

dudi.acm

dudi.pca

prcomp

princomp

speMCA

textmodel_ca

---

speMCA_varsup *Compute supplementary variables data for a GDAtools::speMCA result*

---

## Description

Compute supplementary variables data for a GDAtools::speMCA result

## Usage

```
speMCA_varsup(mca, df)
```

## Arguments

| | |
|---|---|
| mca | result object from speMCA. |
| df | data frame with the supplementary variables data. Must have the same number of rows than the data used with speMCA. |

## Value

A list of results suitable to be added as a ‘supv‘ element to the ‘mca‘ object.

## See Also

speMCA, varsup

# Index