Package ‘scatterD3’

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Type Package
Title D3 JavaScript Scatterplot from R
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Maintainer Julien Barnier <julien.barnier@ens-lyon.fr>
Description Creates 'D3' 'JavaScript' scatterplots from 'R' with interactive features: panning, zooming, tooltips, etc.
License GPL (>= 3)
VignetteBuilder knitr
Encoding UTF-8
URL https://github.com/juba/scatterD3
LazyData TRUE
Enhances shiny
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https://github.com/skokenes/D3-Lasso-Plugin),
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https://github.com/tinker10/D3-Labeler)
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**scatterD3**

**Description**

Generates an interactive scatter plot based on d3.js. Interactive features include zooming, panning, text labels moving, tooltips, fading effects in legend. Additional handlers are provided to change label size, point opacity or export the figure as an SVG file via HTML form controls.

**Usage**

```r
scatterD3(x, y, data = NULL, lab = NULL, x_log = FALSE,
           y_log = FALSE, point_size = 64, labels_size = 10,
           labels_positions = NULL, point_opacity = 1, opacities = NULL,
           hover_size = 1, hover_opacity = NULL, fixed = FALSE,
           col_var = NULL, col_continuous = NULL, colors = NULL,
           ellipses = FALSE, ellipses_level = 0.95, symbol_var = NULL,
           symbols = NULL, size_var = NULL, size_range = c(10, 300),
           sizes = NULL, col_lab = NULL, symbol_lab = NULL, size_lab = NULL,
           key_var = NULL, type_var = NULL, opacity_var = NULL,
           unit_circle = FALSE, url_var = NULL, tooltips = TRUE,
           tooltip_text = NULL, tooltip_position = "bottom right",
           xlab = NULL, ylab = NULL, html_id = NULL, width = NULL,
           height = NULL, legend_width = 150, left_margin = 30, xlim = NULL,
           ylim = NULL, dom_id_reset_zoom = "scatterD3-reset-zoom",
           dom_id_svg_export = "scatterD3-svg-export",
           dom_id_lasso_toggle = "scatterD3-lasso-toggle", transitions = FALSE,
           menu = TRUE, lasso = FALSE, lasso_callback = NULL,
           click_callback = NULL, zoom_callback = NULL, zoom_on = NULL,
           zoom_on_level = NULL, disable_wheel = FALSE,
           lines = data.frame(slope = c(0, Inf), intercept = c(0, 0),
                              stroke_dasharray = c(5, 5)), axes_font_size = "100%",
           legend_font_size = "100%", caption = NULL)
```

**Arguments**

- **x**: numerical vector of x values, or variable name if data is not NULL
- **y**: numerical vector of y values, or variable name if data is not NULL
- **data**: default dataset to use for plot.
- **lab**: optional character vector of text labels, or variable name if data is not NULL
### Scatter 3D Parameters

- **x_log**: if TRUE, set x scale as logarithmic.
- **y_log**: if TRUE, set y scale as logarithmic.
- **point_size**: points size. Ignored if size_var is not NULL.
- **labels_size**: text labels size.
- **labels_positions**: Either a data frame, as created by the "Export labels positions" menu entry, giving each label x and y position, or the value ‘"auto"’ to use an automatic labeler.
- **point_opacity**: points opacity, as an integer (same opacity for all points).
- **opacities**: named list or named vector of opacities. Each opacity will be associated by their name within 'opacity_var'.
- **hover_size**: factor for changing size when hovering points.
- **hover_opacity**: points opacity when hovering.
- **fixed**: force a 1:1 aspect ratio.
- **col_var**: optional vector for points color mapping, or variable name if data is not NULL.
- **col_continuous**: specify if the color scale must be continuous. By default, if col_var is numeric, not a factor, and has more than 6 unique values, it is considered as continuous.
- **colors**: vector of custom points colors. Colors must be defined as an hexadecimal string (eg "#FF0000"). If colors is a named list or a named vector, then the colors will be associated with their name within col_var. For a continuous color scale, can be a string giving the interpolate function name from d3-scale-chromatic (for example, "interpolatePurples")
- **ellipses**: draw confidence ellipses for points or the different color mapping groups.
- **ellipses_level**: confidence level for ellipses (0.95 by default).
- **symbol_var**: optional vector for points symbol mapping, or variable name if data is not NULL.
- **symbols**: vector of custom points symbols. Symbols must be defined as character strings with the following possible values : "circle", "cross", "diamond", "square", "star", "triangle", and "wye". If symbols is a named list or a named vector, then the symbols will be associated with their name within symbol_var.
- **size_var**: optional vector for points size mapping, or variable name if data is not NULL.
- **size_range**: numeric vector of length 2, giving the minimum and maximum point sizes when mapping with size_var.
- **sizes**: named list or named vector of sizes. Each size will be associated by their name within 'size_var'.
- **col_lab**: color legend title. Set to NA to remove color legend entirely.
- **symbol_lab**: symbols legend title. Set to NA to remove symbol legend entirely.
- **size_lab**: size legend title. Set to NA to remove size legend entirely.
- **key_var**: optional vector of rows ids, or variable name if data is not NULL. This is passed as a key to d3, and is only added in shiny apps where displayed rows are filtered interactively.
- **type_var**: optional vector of points type : "point" for a dot (default), "arrow" for an arrow starting from the origin.
opacity_var  optional vector of points opacity (values between 0 and 1)
unit_circle  set to TRUE to draw a unit circle
url_var  optional vector of URLs to be opened when a point is clicked
tooltips  logical value to display tooltips when hovering points
tooltip_text  optional character vector of tooltips text
tooltip_position  the tooltip position relative to its point. Must a combination of "top" or "bottom" with "left" or "right" (default is "bottom right").
xlab  x axis label
ylab  y axis label.
html_id  manually specify an HTML id for the svg root node. A random one is generated by default.
width  figure width, computed when displayed
height  figure height, computed when displayed
legend_width  legend area width, in pixels. Set to 0 to disable legend completely.
left_margin  margin on the left of the plot, in pixels
xlim  numeric vector of length 2, manual x axis limits
ylim  numeric vector of length 2, manual y axis limits
dom_id_reset_zoom  HTML DOM id of the element to bind the "reset zoom" control to.
dom_id_svg_export  HTML DOM id of the element to bind the "svg export" control to.
dom_id_lasso_toggle  HTML DOM id of the element to bind the "toggle lasso" control to.
transitions  if TRUE, data updates are displayed with smooth transitions, if FALSE the whole chart is redrawn. Only used within shiny apps.
menu  wether to display the tools menu (gear icon)
lasso  logical value to add https://github.com/skokenes/D3-Lasso-Plugind3-lasso-plugin feature
lasso_callback  the body of a JavaScript callback function with the argument sel to be applied to a lasso plugin selection
click_callback  the body of a JavaScript callback function whose inputs are html_id, and the index of the clicked element.
zoom_callback  the body of a JavaScript callback function whose inputs are the new xmin, xmax, ymin and ymax after a zoom action is triggered.
zoom_on  coordinates where to center zoom on plot draw or update.
zoom_on_level  zoom level on plot draw or update. Ignored if 'zoom_on' is NULL.
disable_wheel  if TRUE, disable zooming with mousewheel.
lines  a data frame with at least the slope and intercept columns, and as many rows as lines to add to scatterplot. Style can be added with stroke, stroke_width and stroke_dasharray columns. To draw a vertical line, pass Inf as slope value.
scatterD3-shiny  

axes_font_size  font size for axes text (any CSS compatible value)
legend_font_size  font size for legend text (any CSS compatible value)
caption  caption to be displayed when clicking on the corresponding icon. Either a character string, or a list with title, subtitle and text elements.

Details
Interactive scatter plots based on htmlwidgets and d3.js

Author(s)
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Source
D3.js was created by Michael Bostock. See http://d3js.org/

Examples
scatterD3(x = mtcars$wt, y = mtcars$mpg, data=NULL, lab = rownames(mtcars),
col_var = mtcars$cyl, symbol_var = mtcars$am,
xlab = "Weight", ylab = "Mpg", col_lab = "Cylinders",
symbol_lab = "Manual transmission", html_id = NULL)

Description
Shiny bindings for scatterD3 widgets

Usage
scatterD3Output(outputId, width = "100%", height = "600px")
renderScatterD3(expr, env = parent.frame(), quoted = FALSE)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>outputId</td>
<td>output variable to read from</td>
</tr>
<tr>
<td>width, height</td>
<td>Must be a valid CSS unit (like &quot;100%&quot;, &quot;400px&quot;, &quot;auto&quot;) or a number, which</td>
</tr>
<tr>
<td></td>
<td>will be coerced to a string and have &quot;px&quot; appended.</td>
</tr>
<tr>
<td>expr</td>
<td>An expression that generates a scatterD3 scatter plot.</td>
</tr>
<tr>
<td>env</td>
<td>The environment in which to evaluate expr.</td>
</tr>
<tr>
<td>quoted</td>
<td>Is expr a quoted expression (with quote())? This is useful if you want to save</td>
</tr>
<tr>
<td></td>
<td>an expression in a variable.</td>
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