Package ‘rAmCharts4’

October 10, 2021

Title Interface to the JavaScript Library 'amCharts 4'
Version 1.5.0
Maintainer Stéphane Laurent <laurent_step@outlook.fr>
Description Creates JavaScript charts. The charts can be included in 'Shiny' apps and R mark-
down documents, or viewed from the R console and 'RStudio' viewer. Based on the JavaScript li-
brary 'amCharts 4' and the R packages 'htmlwidgets' and 'reactR'. Currently avail-
able types of chart are: vertical and horizontal bar chart, radial bar chart, stacked bar chart, verti-
cal and horizontal Dumbbell chart, line chart, scatter chart, range area chart, gauge chart, box-
plot chart, pie chart, and 100% stacked bar chart.

URL https://github.com/stla/rAmCharts4

BugReports https://github.com/stla/rAmCharts4/issues
License GPL-3
Encoding UTF-8
Imports htmltools, htmlwidgets (>= 1.5.3), reactR, shiny, jsonlite,
lubridate, minpack.lm, tools, base64enc, xml2, stringr, stats,
grDevices
Suggests reshape2
RoxygenNote 7.1.2
NeedsCompilation no
Author Stéphane Laurent [aut, cre],
Antanas Marcelionis [ctb, cph] ('amCharts' library
(https://www.amcharts.com/)),
Terence Eden [ctb, cph] ('SuperTinyIcons' library
(https://github.com/edent/SuperTinyIcons/)),
Tom Alexander [ctb, cph] ('regression-js' library
(https://github.com/Tom-Alexander/regression-js))
Repository CRAN
Date/Publication 2021-10-10 18:40:02 UTC
## R topics documented:

- `amAxisBreaks` .................................................. 3
- `amAxisLabels` ................................................... 3
- `amBarChart` .................................................... 4
- `amBoxplotChart` .............................................. 10
- `amButton` ...................................................... 13
- `amColumn` ...................................................... 14
- `amDateAxisFormatter` ........................................ 14
- `amDumbbellChart` .......................................... 15
- `amFont` .......................................................... 19
- `amGaugeChart` ............................................... 20
- `amHand` .......................................................... 22
- `amHorizontalBarChart` ..................................... 23
- `amHorizontalDumbbellChart` .............................. 27
- `amImage` .......................................................... 31
- `amLegend` .......................................................... 32
- `amLine` ............................................................. 33
- `amLineChart` ................................................... 34
- `amPercentageBarChart` ..................................... 41
- `amPieChart` ..................................................... 43
- `amRadialBarChart` .......................................... 46
- `amRangeAreaChart` .......................................... 51
- `amScatterChart` ............................................... 57
- `amSegment` ...................................................... 64
- `amStackedBarChart` ........................................ 65
- `amText` ............................................................. 69
- `amTooltip` ....................................................... 70
- `amZoomButtons` ............................................... 71
- `rAmCharts4-adapters` ...................................... 71
- `rAmCharts4-imports` ....................................... 75
- `rAmCharts4-shapes` ......................................... 75
- `rAmCharts4-shiny` .......................................... 77
- `tinyIcon` .......................................................... 79
- `updateAmBarChart` ......................................... 80
- `updateAmGaugeChart` ...................................... 83
- `updateAmPercentageBarChart` ......................... 84
- `updateAmPieChart` .......................................... 86

### Index

87
amAxisBreaks \hspace{1cm} \textit{Axis breaks}

\textbf{Description}

Create an object defining the breaks on an axis.

\textbf{Usage}

\begin{verbatim}
amAxisBreaks(
    values = NULL,
    labels = NULL,
    interval = NULL,
    timeInterval = NULL
)
\end{verbatim}

\textbf{Arguments}

- \texttt{values} \hspace{1cm} positions of the breaks, a vector of values; for a date axis, this must be a vector of dates
- \texttt{labels} \hspace{1cm} if \texttt{values} is given, the labels of the breaks; if \texttt{NULL}, the labels are set to the values
- \texttt{interval} \hspace{1cm} for equally spaced breaks, the number of pixels between two consecutive breaks; ignored if \texttt{values} is given
- \texttt{timeInterval} \hspace{1cm} for equally spaced breaks on a date axis, this option defines the interval between two consecutive breaks; it must be a string like "1 day", "7 days", "1 week", "2 months", ...; ignored if \texttt{values} or \texttt{interval} is given

amAxisLabels \hspace{1cm} \textit{Axis labels}

\textbf{Description}

Create a list of settings for the labels of an axis.

\textbf{Usage}

\begin{verbatim}
amAxisLabels(
    color = NULL,
    fontSize = 18,
    fontWeight = "normal",
    fontFamily = NULL,
    rotation = 0,
    formatter = NULL
)
\end{verbatim}
amAxisLabelsCircular(
  color = NULL,
  fontSize = 14,
  fontWeight = "normal",
  fontFamily = NULL,
  radius = NULL,
  relativeRotation = NULL
)

Arguments

- **color**: color of the labels
- **fontSize**: size of the labels
- **fontWeight**: font weight of the labels, it can be "normal", "bold", "bolder", "lighter", or a number in seq(100,900,by = 100)
- **fontFamily**: font family of the labels
- **rotation**: rotation angle
- **formatter**: this option defines the format of the axis labels; this should be a number formatting string for a numeric axis, and a list created with `amDateAxisFormatter` for a date axis
- **radius**: radius in percentage
- **relativeRotation**: relative rotation angle

Value

A list of settings for the labels of an axis.

Note

A color can be given by the name of a R color, the name of a CSS color, e.g. "silver" or "fuchsia", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)".

---

**amBarChart**

*HTML widget displaying a bar chart*

---

**Description**

Create a HTML widget displaying a bar chart.
Usage

amBarChart(
  data,
  data2 = NULL,
  category,
  values,
  valueNames = NULL,
  showValues = TRUE,
  hline = NULL,
  yLimits = NULL,
  expandY = 5,
  valueFormatter = ".",
  chartTitle = NULL,
  theme = NULL,
  draggable = FALSE,
  tooltip = NULL,
  columnStyle = NULL,
  threeD = FALSE,
  bullets = NULL,
  alwaysShowBullets = FALSE,
  backgroundColor = NULL,
  cellWidth = NULL,
  columnWidth = NULL,
  xAxis = NULL,
  yAxis = NULL,
  scrollbarX = FALSE,
  scrollbarY = FALSE,
  legend = NULL,
  caption = NULL,
  image = NULL,
  button = NULL,
  cursor = FALSE,
  width = NULL,
  height = NULL,
  export = FALSE,
  chartId = NULL,
  elementId = NULL
)

Arguments

data: a dataframe

data2: NULL or a dataframe used to update the data with the button; its column names must include the column names of data given in values, it must have the same number of rows as data and its rows must be in the same order as those of data

category: name of the column of data to be used on the category axis

values: name(s) of the column(s) of data to be used on the value axis
valueNames names of the values variables, to appear in the legend; NULL to use values as names, otherwise a named list of the form list(value1 = "ValueName1", value2 = "ValueName2", ...) where value1, value2, ... are the column names given in values and "ValueName1", "ValueName2", ... are the desired names to appear in the legend; these names can also appear in the tooltips: they are substituted to the string '{name}' in the formatting string passed on to the tooltip (see the second example)

showValues logical, whether to display the values on the chart

hline an optional horizontal line to add to the chart; it must be a named list of the form list(value = h, line = settings) where h is the "intercept" and settings is a list of settings created with amLine

yLimits range of the y-axis, a vector of two values specifying the lower and the upper limits of the y-axis; NULL for default values

expandY if yLimits = NULL, a percentage of the range of the y-axis used to expand this range

valueFormatter a number formatting string; it is used to format the values displayed on the chart if showValues = TRUE, the values displayed in the cursor tooltips if cursor = TRUE, the labels of the y-axis unless you specify your own formatter in the labels field of the list passed on to the yAxis option, and the values displayed in the tooltips unless you specify your own tooltip text (see the first example for the way to set a number formatter in the tooltip text)

chartTitle chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with amText, or a list with two fields: text, a list of settings created with amText, and align, can be "left", "right" or "center"

theme theme, NULL or one of "dataviz", "material", "kelly", "dark", "moonrisekingdom", "frozen", "spiritedaway", "patterns", "microchart"

draggable TRUE/FALSE to enable/disable dragging of all bars, otherwise a named list of the form list(value1 = TRUE, value2 = FALSE, ...) to enable/disable the dragging for each bar corresponding to a column given in values

tooltip settings of the tooltips; NULL for default, FALSE for no tooltip, otherwise a named list of the form list(value1 = settings1, value2 = settings2, ...) where settings1, settings2, ... are lists created with amTooltip; this can also be a single list of settings that will be applied to each series, or a just a string for the text to display in the tooltip

columnStyle settings of the columns (the bars); NULL for default, otherwise a named list of the form list(value1 = settings1, value2 = settings2, ...) where settings1, settings2, ... are lists created with amColumn; this can also be a single list of settings that will be applied to each column

threeD logical, whether to render the columns in 3D

bullets settings of the bullets; NULL for default, otherwise a named list of the form list(value1 = settings1, value2 = settings2, ...) where settings1, settings2, ... are lists created with amCircle, amTriangle or amRectangle; this can also be a single list of settings that will be applied to each series

alwaysShowBullets logical, whether to always show the bullets; if FALSE, the bullets are shown only on hovering a column
BackgroundColor
a color for the chart background; a color can be given by the name of a R color,
the name of a CSS color, e.g. "rebeccapurple" or "fuchsia", an HEX code
like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like
"hsl(360,11,255)"

CellWidth
cell width in percent; for a simple bar chart, this is the width of the columns;
for a grouped bar chart, this is the width of the clusters of columns; NULL for the
default value

ColumnWidth
column width, a percentage of the cell width; set to 100 for a simple bar chart
and use cellWidth to control the width of the columns; for a grouped bar chart,
this controls the spacing between the columns within a cluster of columns; NULL
for the default value

xAxis
settings of the category axis given as a list, or just a string for the axis title; the
list of settings has three possible fields: a field title, a list of settings for the
axis title created with amText, a field labels, a list of settings for the axis labels
created with amAxisLabels, and a field adjust, a number defining the vertical
adjustment of the axis (in pixels)

yAxis
settings of the value axis given as a list, or just a string for the axis title; the list
of settings has five possible fields: a field title, a list of settings for the axis title created with amText, a field labels, a list of settings for the axis labels created with amAxisLabels, a field adjust, a number defining the horizontal adjustment of the axis (in pixels), a field gridLines, a list of settings for the grid lines created with amLine and a field breaks to control the axis breaks, an R object created with amAxisBreaks

ScrollbarX
logical, whether to add a scrollbar for the category axis

ScrollbarY
logical, whether to add a scrollbar for the value axis

Legend
either a logical value, whether to display the legend, or a list of settings for the
legend created with amLegend

Caption
NULL or FALSE for no caption, a formatted text created with amText, or a list
with two fields: text, a list created with amText, and align, can be "left", "right" or "center"

Image
option to include an image at a corner of the chart; NULL or FALSE for no image,
otherwise a named list with four possible fields: the field image (required) is a
list created with amImage, the field position can be "topleft", "topright",
"bottomleft" or "bottomright", the field hjust defines the horizontal adjustment,
and the field vjust defines the vertical adjustment

Button
NULL for the default, FALSE for no button, or a list of settings created with
amButton; this button is used to replace the current data with data2

Cursor
option to add a cursor on the chart; FALSE for no cursor, TRUE for a cursor with
default settings for the tooltips, or a list of settings created with amTooltip to set
the style of the tooltips, or a list with three possible fields: a field tooltip, a list
of tooltip settings created with amTooltip, a field extraTooltipPrecision, an
integer, the number of additional decimals to display in the tooltips, and a field
modifier, which defines a modifier for the values displayed in the tooltips; a
modifier is some JavaScript code given as a string, which performs a modification
of a string named text, e.g. modifier = "text = '>>>' + text;"
width the width of the chart, e.g. "600px" or "80%"; ignored if the chart is displayed in Shiny, in which case the width is given in amChart4Output

height the height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny, in which case the height is given in amChart4Output

export logical, whether to enable the export menu

chartId a HTML id for the chart

elementId a HTML id for the container of the chart; ignored if the chart is displayed in Shiny, in which case the id is given by the Shiny id

Examples

# a simple bar chart ####

dat <- data.frame(
country = c("USA", "China", "Japan", "Germany", "UK", "France"),
visits = c(3025, 1882, 1809, 1322, 1122, 1114)
)

amBarChart(
data = dat, data2 = dat,
width = "600px",
category = "country", values = "visits",
draggable = TRUE,
tooltip = "[bold font-style:italic #ffff00]{valueY.value.formatNumber(',###.###')}[/]",
chartTitle = amText(text = "Visits per country", fontSize = 22, color = "orangered"),
xAxis = list(title = amText(text = "Country", color = "maroon")),
yAxis = list(
title = amText(text = "Visits", color = "maroon"),
gridLines = amLine(color = "orange", width = 1, opacity = 0.4)
),
yLimits = c(0, 4000),
valueFormatter = "#,###.",
caption = amText(text = "Year 2018", color = "red"),
theme = "material")

# bar chart with individual images in the bullets ####

dat <- data.frame(
language = c("Python", "Julia", "Java"),
users = c(10000, 2000, 5000),
href = c(
tinyIcon("python", "transparent"),
tinyIcon("julia", "transparent"),
tinyIcon("java", "transparent")
)
)

amBarChart(
data = dat,
width = "700px",
category = "language",
values = "users",
valueNames = list(users = "#users"),
showValues = FALSE,
tooltip = amTooltip(  
text = "\{name\}: [bold\]valueY[/\]",
textColor = "white",
backgroundColor = "#101010",
borderColor = "silver"
),
draggable = FALSE,
backgroundColor = "seashell",
bullets = amCircle(  
  radius = 30,
  color = "white",
  strokeWidth = 4,
  image = amImage(  
    href = "inData:href",
    width = 50, height = 50
  )
  ),
alwaysShowBullets = TRUE,
xAxis = list(title = amText(text = "Programming language")),
yAxis = list(  
  title = amText(text = "# users"),
  gridLines = amLine(color = "orange", width = 1, opacity = 0.4)
),
yLimits = c(0, 12000),
valueFormatter = "#.",
theme = "material"

# a grouped bar chart ####
set.seed(666)
dat <- data.frame(  
country = c("USA", "China", "Japan", "Germany", "UK", "France"),
  visits = c(3025, 1882, 1809, 1322, 1122, 1114),
  income = rpois(6, 25),
  expenses = rpois(6, 20)
)

amBarChart(  
data = dat,
width = "700px",
category = "country",
values = c("income", "expenses"),
valueNames = list(income = "Income", expenses = "Expenses"),
tooltip = amTooltip(  
  textColor = "white",
  backgroundColor = "#101010",
)
amBoxplotChart

*HTML widget displaying a boxplot chart*

**Description**

Create a HTML widget displaying a boxplot chart.

**Usage**

```r
amBoxplotChart(
  data,
  category,
  value,
  color = NULL,
  hline = NULL,
  yLimits = NULL,
  expandY = 5,
  valueFormatter = ".",
  chartTitle = NULL,
  theme = NULL,
  tooltip = TRUE,
)```
amBoxplotChart

bullets = NULL,
backgroundColor = NULL,
xAxis = NULL,
yAxis = NULL,
scrollbarX = FALSE,
scrollbarY = FALSE,
caption = NULL,
image = NULL,
cursor = FALSE,
width = NULL,
height = NULL,
export = FALSE,
chartId = NULL,
elementId = NULL
)

Arguments

data a dataframe

category name of the column of data to be used for the category axis; this can be a date column

value name of the column of data to be used for the value axis

color the color of the boxplots; it can be given by the name of a R color, the name of a CSS color, e.g. "crimson" or "fuchsia", a HEX code like "#FF009A", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)"

hline an optional horizontal line to add to the chart; it must be a named list of the form list(value = h, line = settings) where h is the "intercept" and settings is a list of settings created with amLine

yLimits range of the y-axis, a vector of two values specifying the lower and the upper limits of the y-axis; NULL for default values

expandY if yLimits = NULL, a percentage of the range of the y-axis used to expand this range

valueFormatter a number formatting string; it is used to format the values displayed in the cursor tooltips, the labels of the y-axis unless you specify your own formatter in the labels field of the list passed on to the yAxis option, and the values displayed in the tooltips unless you specify your own tooltip text (see the first example of amBarChart for the way to set a number formatter in the tooltip text)

chartTitle chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with amText, or a list with two fields: text, a list of settings created with amText, and align, can be "left", "right" or "center"

theme theme, NULL or one of "dataviz", "material", "kelly", "dark", "moonrisekingdom", "frozen", "spiritedaway", "patterns", "microchart"

tooltip TRUE for the default tooltips, FALSE for no tooltip, otherwise a string for the text to display in the tooltip

bullets settings of the bullets representing the outliers; NULL for default, otherwise a list created with amCircle, amTriangle or amRectangle
amBoxplotChart

backgroundColor

A color for the chart background; it can be given by the name of a R color, the name of a CSS color, e.g. "lime" or "olive", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)"

xAxis

Settings of the category axis given as a list, or just a string for the axis title; the list of settings has four possible fields: a field title, a list of settings for the axis title created with amText, a field labels, a list of settings for the axis labels created with amAxisLabels, a field adjust, a number defining the vertical adjustment of the axis (in pixels), and a field gridLines, a list of settings for the grid lines created with amLine

yAxis

Settings of the value axis given as a list, or just a string for the axis title; the list of settings has five possible fields: a field title, a list of settings for the axis title created with amText, a field labels, a list of settings for the axis labels created with amAxisLabels, a field adjust, a number defining the horizontal adjustment of the axis (in pixels), a field gridLines, a list of settings for the grid lines created with amLine and a field breaks to control the axis breaks, an R object created with amAxisBreaks

scrollbarX

Logical, whether to add a scrollbar for the category axis

scrollbarY

Logical, whether to add a scrollbar for the value axis

caption

NULL or FALSE for no caption, a formatted text created with amText, or a list with two fields: text, a list created with amText, and align, can be "left", "right" or "center"

image

Option to include an image at a corner of the chart; NULL or FALSE for no image, otherwise a named list with four possible fields: the field image (required) is a list created with amImage, the field position can be "topleft", "topright", "bottomleft" or "bottomright", the field hjust defines the horizontal adjustment, and the field vjust defines the vertical adjustment

cursor

Option to add a cursor on the chart; FALSE for no cursor, TRUE for a cursor with default settings for the tooltips, or a list of settings created with amTooltip to set the style of the tooltips, or a list with three possible fields: a field tooltip, a list of tooltip settings created with amTooltip, a field extraTooltipPrecision, an integer, the number of additional decimals to display in the tooltips, and a field modifier, which defines a modifier for the values displayed in the tooltips; a modifier is some JavaScript code given as a string, which performs a modification of a string named text, e.g. modifier = "text = '>>>' + text;"

width

The width of the chart, e.g. "600px" or "80%"; ignored if the chart is displayed in Shiny, in which case the width is given in amChart4Output

height

The height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny, in which case the height is given in amChart4Output

export

Logical, whether to enable the export menu

chartId

A HTML id for the chart

elementId

A HTML id for the container of the chart; ignored if the chart is displayed in Shiny, in which case the id is given by the Shiny id
Examples

```r
library(rAmCharts4)
set.seed(666)
dat <- data.frame(
  group = gl(4, 50, labels = c("A", "B", "C", "D")),
  y = rt(200, df = 3)
)
amBoxplotChart(
  dat,
  category = "group",
  value = "y",
  color = "maroon",
  valueFormatter = "#.#",
  theme = "moonrisekingdom"
)
```

---

**Description**

Create a list of settings for a button.

**Usage**

```r
amButton(label, color = NULL, position = 0.9, marginRight = 10)
```

**Arguments**

- `label`: label of the button, a character string or a list created with `amText` for a formatted label
- `color`: button color
- `position`: the vertical position of the button: 0 for bottom, 1 for top
- `marginRight`: right margin in pixels

**Value**

A list of settings for a button.
amColumn

**Columns style**

**Description**

Create a list of settings for the columns of a bar chart.

**Usage**

```r
amColumn(
  color = NULL,
  opacity = NULL,
  strokeColor = NULL,
  strokeWidth = 4,
  cornerRadius = 8
)
```

**Arguments**

- **color**: color of the columns; this can be a color adapter
- **opacity**: opacity of the columns, a number between 0 and 1
- **strokeColor**: color of the border of the columns; this can be a color adapter
- **strokeWidth**: width of the border of the columns
- **cornerRadius**: radius of the corners of the columns

**Value**

A list of settings for usage in `amBarChart` or `amHorizontalBarChart`

**Note**

A color can be given by the name of a R color, the name of a CSS color, e.g. “transparent” or “fuchsia”, an HEX code like “#ff009a”, a RGB code like “rgb(255,100,39)”, or a HSL code like “hsl(360,11,255)”.

---

amDateAxisFormatter

**Date axis formatter**

**Description**

Create a list of settings for formatting the labels of a date axis, to be passed on to the formatter argument of `amAxisLabels`. 
Usage

amDateAxisFormatter(
    day = c("dd", "MMMM dd"),
    week = c("dd", "MMMM dd"),
    month = c("MMMM", "MMMM yyyy")
)

Arguments
day, week, month
vectors of length two, the first component is a formatting string for the dates within a period, and the second one is a formatting string for the dates at a period change; see Formatting date and time

Value
A list of settings for formatting the labels of a date axis.

---

**amDumbbellChart**

*HTML widget displaying a Dumbbell chart*

**Description**

Create a HTML widget displaying a Dumbbell chart.

**Usage**

amDumbbellChart(
    data,
    data2 = NULL,
    category,
    values,
    seriesNames = NULL,
    hline = NULL,
    yLimits = NULL,
    expandY = 5,
    valueFormatter = ".",
    chartTitle = NULL,
    theme = NULL,
    draggable = FALSE,
    tooltip = NULL,
    segmentsStyle = NULL,
    bullets = NULL,
    backgroundColor = NULL,
    xAxis = NULL,
    yAxis = NULL,
    scrollbarX = FALSE,
scrollbarY = FALSE,
legend = NULL,
caption = NULL,
image = NULL,
button = NULL,
cursor = FALSE,
width = NULL,
height = NULL,
export = FALSE,
chartId = NULL,
elementId = NULL
)

Arguments

data 
a dataframe
data2 NULL or a dataframe used to update the data with the button; its column names must include the column names of data given in values, it must have the same number of rows as data and its rows must be in the same order as those of data
category name of the column of data to be used for the category axis
values a character matrix with two columns; each row corresponds to a series and provides the names of two columns of data to be used as the limits of the segments
seriesNames a character vector providing the names of the series to appear in the legend; its length must equal the number of rows of the values matrix: the n-th component corresponds to the n-th row of the values matrix
hline an optional horizontal line to add to the chart; it must be a named list of the form list(value = h, line = settings) where h is the "intercept" and settings is a list of settings created with amLine
yLimits range of the y-axis, a vector of two values specifying the lower and the upper limits of the y-axis; NULL for default values
expandY if yLimits = NULL, a percentage of the range of the y-axis used to expand this range
valueFormatter a number formatting string; it is used to format the values displayed in the cursor tooltips, the labels of the y-axis unless you specify your own formatter in the labels field of the list passed on to the yAxis option, and the values displayed in the tooltips unless you specify your own tooltip text (see the first example of amBarChart for the way to set a number formatter in the tooltip text)
chartTitle chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with amText, or a list with two fields: text, a list of settings created with amText, and align, can be "left", "right" or "center"
theme theme, NULL or one of "dataviz", "material", "kelly", "dark", "moonrisekingdom", "frozen", "spiritedaway", "patterns", "microchart"
draggable TRUE/FALSE to enable/disable dragging of all bullets, otherwise a named list of the form list(value1 = TRUE, value2 = FALSE, ...)
tooltip settings of the tooltips; NULL for default, FALSE for no tooltip, otherwise a named list of the form list(value1 = settings1,value2 = settings2,...) where settings1, settings2, ... are lists created with `amTooltip`; this can also be a single list of settings that will be applied to each series, or a just a string for the text to display in the tooltip

segmentsStyle settings of the segments; NULL for default, otherwise a named list of the form list(series1 = settings1,series2 = settings2,...) where series1, series2, ... are the names of the series provided in `seriesNames` and settings1, settings2, ... are lists created with `amSegment`; this can also be a single list of settings that will be applied to each series

bullets settings of the bullets; NULL for default, otherwise a named list of the form list(value1 = settings1,value2 = settings2,...) where settings1, settings2, ... are lists created with `amCircle`, `amTriangle` or `amRectangle`; this can also be a single list of settings that will be applied to each series

backgroundColor a color for the chart background; it can be given by the name of a R color, the name of a CSS color, e.g. "lime" or "olive", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)"

xAxis settings of the category axis given as a list, or just a string for the axis title; the list of settings has four possible fields: a field `title`, a list of settings for the axis title created with `amText`, a field `labels`, a list of settings for the axis labels created with `amAxisLabels`, a field `adjust`, a number defining the vertical adjustment of the axis (in pixels), and a field `gridLines`, a list of settings for the grid lines created with `amLine`

yAxis settings of the value axis given as a list, or just a string for the axis title; the list of settings has five possible fields: a field `title`, a list of settings for the axis title created with `amText`, a field `labels`, a list of settings for the axis labels created with `amAxisLabels`, a field `adjust`, a number defining the horizontal adjustment of the axis (in pixels), a field `gridLines`, a list of settings for the grid lines created with `amLine` and a field `breaks` to control the axis breaks, an R object created with `amAxisBreaks`

scrollbarX logical, whether to add a scrollbar for the category axis

scrollbarY logical, whether to add a scrollbar for the value axis

legend either a logical value, whether to display the legend, or a list of settings for the legend created with `amLegend`

caption NULL or FALSE for no caption, a formatted text created with `amText`, or a list with two fields: text, a list created with `amText`, and align, can be "left", "right" or "center"

image option to include an image at a corner of the chart; NULL or FALSE for no image, otherwise a named list with four possible fields: the field image (required) is a list created with `amImage`, the field position can be "topleft", "topright", "bottomleft" or "bottomright", the field hjust defines the horizontal adjustment, and the field vjust defines the vertical adjustment

button NULL for the default, FALSE for no button, or a list of settings created with `amButton`; this button is used to replace the current data with `data2`
cursor option to add a cursor on the chart; FALSE for no cursor, TRUE for a cursor with default settings for the tooltips, or a list of settings created with \texttt{amTooltip} to set the style of the tooltips, or a list with three possible fields: a field tooltip, a list of tooltip settings created with \texttt{amTooltip}, a field extraTooltipPrecision, an integer, the number of additional decimals to display in the tooltips, and a field modifier, which defines a modifier for the values displayed in the tooltips; a modifier is some JavaScript code given as a string, which performs a modification of a string named text, e.g. \texttt{modifier = "text = '>>>' + text;"}

width the width of the chart, e.g. "600px" or "80%"; ignored if the chart is displayed in Shiny, in which case the width is given in \texttt{amChart4Output}

height the height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny, in which case the height is given in \texttt{amChart4Output}

export logical, whether to enable the export menu

chartId a HTML id for the chart

elementId a HTML id for the container of the chart; ignored if the chart is displayed in Shiny, in which case the id is given by the Shiny id

Examples

\begin{verbatim}
dat <- data.frame(
  x = c("T0", "T1", "T2"),
  y1 = c(7, 15, 10),
  y2 = c(20, 25, 23),
  z1 = c(5, 10, 5),
  z2 = c(25, 20, 15)
)

amDumbbellChart(
  width = "500px",
  data = dat,
  draggable = TRUE,
  category = "x",
  values = rbind(c("y1","y2"), c("z1","z2")),
  seriesNames = c("Control", "Treatment"),
  yLimits = c(0, 30),
  segmentsStyle = list(
    "Control" = amSegment(width = 2),
    "Treatment" = amSegment(width = 2)
  ),
  bullets = list(
    y1 = amTriangle(strokeWidth = 0),
    y2 = amTriangle(rotation = 180, strokeWidth = 0),
    z1 = amTriangle(strokeWidth = 0),
    z2 = amTriangle(rotation = 180, strokeWidth = 0)
  ),
  tooltip = amTooltip("upper: {openValueY}\nlower: {valueY}", scale = 0.75),
  xAxis = list(
    title = amText("timepoint",
      fontSize = 17, fontWeight = "bold", fontFamily = "Helvetica"
    )
  )
)
\end{verbatim}
amFont

Create a list of settings for a font.

Usage

amFont(fontSize = NULL, fontWeight = "normal", fontFamily = NULL)

Arguments

fontSize  font size, must be given as a character string like "10px" or "2em", or a numeric value, the font size in pixels
fontWeight font weight, it can be "normal", "bold", "bolder", "lighter", or a number in seq(100,900,by = 100)
fontFamily font family

Value

A list of settings for a font.

Note

There is no option for the font style.
**amGaugeChart**

*HTML widget displaying a gauge chart*

**Description**

Create a HTML widget displaying a gauge chart.

**Usage**

```r
amGaugeChart(
    score,
    minScore,
    maxScore,
    scorePrecision = 0,
    gradingData,
    innerRadius = 70,
    labelsRadius = (100 - innerRadius)/2,
    axisLabelsRadius = 19,
    chartFontSize = 11,
    labelsFont = amFont(fontSize = "2em", fontWeight = "bold"),
    axisLabelsFont = amFont(fontSize = "1.2em"),
    scoreFont = amFont(fontSize = "6em"),
    scoreLabelFont = amFont(fontSize = "2em"),
    hand = amHand(innerRadius = 45, width = 8, color = "slategray", strokeColor = "black"),
    gridLines = FALSE,
    chartTitle = NULL,
    theme = NULL,
    backgroundColor = NULL,
    caption = NULL,
    image = NULL,
    width = NULL,
    height = NULL,
    export = FALSE,
    chartId = NULL,
    elementId = NULL
)
```

**Arguments**

- **score**: gauge value, a number between `minScore` and `maxScore`
- **minScore**: minimal score
- **maxScore**: maximal score
- **scorePrecision**: an integer, the number of decimals of the score to be displayed
gradingData  data for the gauge, a dataframe with three required columns: label, lowScore, and highScore, and an optional column color; if the column color is not present, then the colors will be derived from the theme

innerRadius  inner radius of the gauge given as a percentage, between 0 (the gauge has no width) and 100 (the gauge is a semi-disk)

labelsRadius  radius for the labels given as a percentage; use the default value to get centered labels

axisLabelsRadius  radius for the axis labels given as a percentage

chartFontSize  reference font size, a numeric value, the font size in pixels; this font size has an effect only if you use the relative CSS unit em for other font sizes

labelsFont  a list of settings for the font of the labels created with amFont, but the font size must be given in pixels or in em CSS units (no other units are accepted)

axisLabelsFont  a list of settings for the font of the axis labels created with amFont

scoreFont  a list of settings for the font of the score created with amFont

scoreLabelFont  a list of settings for the font of the score label created with amFont

hand  a list of settings for the hand of the gauge created with amHand

gridLines  a list of settings for the grid lines created with amLine, or a logical value: FALSE for no grid lines, TRUE for default grid lines

chartTitle  chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with amText, or a list with two fields: text, a list of settings created with amText, and align, can be "left", "right" or "center"

theme  theme, NULL or one of "dataviz", "material", "kelly", "dark", "moonrisekingdom", "frozen", "spiritedaway", "patterns", "microchart"

backgroundColor  a color for the chart background; it can be given by the name of a R color, the name of a CSS color, e.g. "aqua" or "indigo", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)"

caption  NULL or FALSE for no caption, a formatted text created with amText, or a list with two fields: text, a list created with amText, and align, can be "left", "right" or "center"

image  option to include an image at a corner of the chart; NULL or FALSE for no image, otherwise a named list with four possible fields: the field image (required) is a list created with amImage, the field position can be "topleft", "topright", "bottomleft" or "bottomright", the field hjust defines the horizontal adjustment, and the field vjust defines the vertical adjustment

width  the width of the chart, e.g. "600px" or "80%"; ignored if the chart is displayed in Shiny, in which case the width is given in amChart4Output

height  the height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny, in which case the height is given in amChart4Output

export  logical, whether to enable the export menu

chartId  a HTML id for the chart

elementId  a HTML id for the container of the chart; ignored if the chart is displayed in Shiny, in which case the id is given by the Shiny id
Note

In Shiny, you can change the score of a gauge chart with the help of `updateAmGaugeChart`.

Examples

```r
library(rAmCharts4)

gradingData <- data.frame(
  label = c("Slow", "Moderate", "Fast"),
  color = c("blue", "green", "red"),
  lowScore = c(0, 100/3, 200/3),
  highScore = c(100/3, 200/3, 100)
)

amGaugeChart(
  score = 40, minScore = 0, maxScore = 100, gradingData = gradingData
)
```

---

`amHand`  
Gauge hand

Description

Create a list of settings for the hand of a gauge chart.

Usage

`amHand(innerRadius, width, color, strokeColor)`

Arguments

- `innerRadius`: inner radius of the hand, given as a percentage
- `width`: width of the base of the hand in pixels, a positive number
- `color`: color of the hand
- `strokeColor`: stroke color of the hand

Value

A list of settings for the hand of a gauge chart.
Description

Create a HTML widget displaying a horizontal bar chart.

Usage

```r
amHorizontalBarChart(
  data,
  data2 = NULL,
  category,
  values,
  valueNames = NULL,
  showValues = TRUE,
  vline = NULL,
  xlimits = NULL,
  expandX = 5,
  valueFormatter = ".",
  chartTitle = NULL,
  theme = NULL,
  draggable = FALSE,
  tooltip = NULL,
  columnStyle = FALSE,
  threeD = FALSE,
  bullets = NULL,
  alwaysShowBullets = FALSE,
  backgroundColor = NULL,
  cellWidth = NULL,
  columnWidth = NULL,
  xAxis = NULL,
  yAxis = NULL,
  scrollbarX = FALSE,
  scrollbarY = FALSE,
  legend = NULL,
  caption = NULL,
  image = NULL,
  button = NULL,
  cursor = FALSE,
  width = NULL,
  height = NULL,
  export = FALSE,
  chartId = NULL,
  elementId = NULL
)
```
## amHorizontalBarChart

**Arguments**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>data</code></td>
<td>a dataframe</td>
</tr>
<tr>
<td><code>data2</code></td>
<td>NULL or a dataframe used to update the data with the button; its column names must include the column names of <code>data</code> given in <code>values</code>, it must have the same number of rows as <code>data</code> and its rows must be in the same order as those of <code>data</code></td>
</tr>
<tr>
<td><code>category</code></td>
<td>name of the column of <code>data</code> to be used on the category axis</td>
</tr>
<tr>
<td><code>values</code></td>
<td>name(s) of the column(s) of <code>data</code> to be used on the value axis</td>
</tr>
<tr>
<td><code>valueNames</code></td>
<td>names of the values variables, to appear in the legend; NULL to use <code>values</code> as names, otherwise a named list of the form <code>list(value1 = &quot;ValueName1&quot;, value2 = &quot;ValueName2&quot;, ...)</code> where <code>value1</code>, <code>value2</code>, ... are the column names given in <code>values</code> and &quot;ValueName1&quot;, &quot;ValueName2&quot;, ... are the desired names to appear in the legend; these names can also appear in the tooltips: they are substituted to the string {name} in the formatting string passed on to the tooltip (see the second example)</td>
</tr>
<tr>
<td><code>showValues</code></td>
<td>logical, whether to display the values on the chart</td>
</tr>
<tr>
<td><code>vline</code></td>
<td>an optional vertical line to add to the chart; it must be a named list of the form <code>list(value = v, line = settings)</code> where <code>v</code> is the &quot;intercept&quot; and <code>settings</code> is a list of settings created with <code>amLine</code></td>
</tr>
<tr>
<td><code>xLimits</code></td>
<td>range of the x-axis, a vector of two values specifying the left and the right limits of the x-axis; NULL for default values</td>
</tr>
<tr>
<td><code>expandX</code></td>
<td>if <code>xLimits</code> = NULL, a percentage of the range of the x-axis used to expand this range</td>
</tr>
<tr>
<td><code>valueFormatter</code></td>
<td>a number formatting string; it is used to format the values displayed on the chart if <code>showValues</code> = TRUE, the values displayed in the cursor tooltips if <code>cursor</code> = TRUE, the labels of the x-axis unless you specify your own formatter in the <code>labels</code> field of the list passed on to the <code>xAxis</code> option, and the values displayed in the tooltips unless you specify your own tooltip text (see the first example of <code>amBarChart</code> for the way to set a number formatter in the tooltip text)</td>
</tr>
<tr>
<td><code>chartTitle</code></td>
<td>chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with <code>amText</code>, or a list with two fields: text, a list of settings created with <code>amText</code>, and align, can be &quot;left&quot;, &quot;right&quot; or &quot;center&quot;</td>
</tr>
<tr>
<td><code>theme</code></td>
<td>theme, NULL or one of &quot;dataviz&quot;, &quot;material&quot;, &quot;kelly&quot;, &quot;dark&quot;, &quot;moonrisekingdom&quot;, &quot;frozen&quot;, &quot;spiritedaway&quot;, &quot;patterns&quot;, &quot;microchart&quot;</td>
</tr>
<tr>
<td><code>draggable</code></td>
<td>TRUE/FALSE to enable/disable dragging of all bars, otherwise a named list of the form <code>list(value1 = TRUE, value2 = FALSE, ...)</code> to enable/disable the dragging for each bar corresponding to a column given in values</td>
</tr>
<tr>
<td><code>tooltip</code></td>
<td>settings of the tooltips; NULL for default, FALSE for no tooltip, otherwise a named list of the form <code>list(value1 = settings1, value2 = settings2, ...)</code> where <code>settings1, settings2, ...</code> are lists created with <code>amTooltip</code>; this can also be a single list of settings that will be applied to each series, or a just a string for the text to display in the tooltip</td>
</tr>
<tr>
<td><code>columnStyle</code></td>
<td>settings of the columns; NULL for default, otherwise a named list of the form <code>list(value1 = settings1, value2 = settings2, ...)</code> where <code>settings1, settings2, ...</code> are lists created with <code>amColumn</code>; this can also be a single list of settings that will be applied to each column</td>
</tr>
</tbody>
</table>
threeD logical, whether to render the columns in 3D

bullets settings of the bullets; NULL for default, otherwise a named list of the form list(value1 = settings1, value2 = settings2, ...) where settings1, settings2, ...
... are lists created with amCircle, amTriangle or amRectangle; this can also
be a single list of settings that will be applied to each series

alwaysShowBullets logical, whether to always show the bullets; if FALSE, the bullets are shown only
on hovering a column

backgroundColor a color for the chart background; a color can be given by the name of a R
color, the name of a CSS color, e.g. "aqua" or "indigo", an HEX code like
"#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)"

cellWidth cell width in percent; for a simple bar chart, this is the width of the columns;
for a grouped bar chart, this is the width of the clusters of columns; NULL for the
default value

columnWidth column width, a percentage of the cell width; set to 100 for a simple bar chart
and use cellWidth to control the width of the columns; for a grouped bar chart,
this controls the spacing between the columns within a cluster of columns; NULL for the
default value

xAxis settings of the value axis given as a list, or just a string for the axis title; the list of
settings has five possible fields: a field title, a list of settings for the axis title
created with amText, a field labels, a list of settings for the axis labels created
with amAxisLabels, a field adjust, a number defining the vertical adjustment
of the axis (in pixels), a field gridLines, a list of settings for the grid lines
created with amLine, and a field breaks to control the axis breaks, an R object
created with amAxisBreaks

yAxis settings of the category axis given as a list, or just a string for the axis title;
the list of settings has three possible fields: a field title, a list of settings for the axis title
created with amText, a field labels, a list of settings for the axis labels created
with amAxisLabels, and a field adjust, a number defining the horizontal adjustment of the axis (in pixels)

scrollbarX logical, whether to add a scrollbar for the value axis

scrollbarY logical, whether to add a scrollbar for the category axis

legend FALSE for no legend, TRUE for a legend with default settings, or a list of settings
created with amLegend

caption NULL or FALSE for no caption, a formatted text created with amText, or a list
with two fields: text, a list created with amText, and align, can be "left", "right" or "center"

image option to include an image at a corner of the chart; NULL or FALSE for no image,
otherwise a named list with four possible fields: the field image (required) is a
list created with amImage, the field position can be "topleft", "topright", "bottomleft" or "bottomright", the field hjust defines the horizontal adjust-
ment, and the field vjust defines the vertical adjustment

button NULL for the default, FALSE for no button, or a list of settings created with
amButton; this button is used to replace the current data with data2
cursor option to add a cursor on the chart; FALSE for no cursor, TRUE for a cursor with default settings for the tooltips, or a list of settings created with \texttt{amTooltip} to set the style of the tooltips, or a list with three possible fields: a field tooltip, a list of tooltip settings created with \texttt{amTooltip}, a field extraTooltipPrecision, an integer, the number of additional decimals to display in the tooltips, and a field modifier, which defines a modifier for the values displayed in the tooltips; a modifier is some JavaScript code given a string, which performs a modification of a string named text, e.g. \texttt{modifier = "text = '>>>' + text;"}

width the width of the chart, e.g. "600px" or "80%"; ignored if the chart is displayed in Shiny, in which case the width is given in \texttt{amChart4Output}

height the height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny, in which case the height is given in \texttt{amChart4Output}

export logical, whether to enable the export menu

chartId a HTML id for the chart

elemeId a HTML id for the container of the chart; ignored if the chart is displayed in Shiny, in which case the id is given by the Shiny id

Examples

\texttt{# a simple horizontal bar chart \\
}\texttt{dat <- data.frame(}
\texttt{  country = c("USA", "China", "Japan", "Germany", "UK", "France"),}
\texttt{  visits = c(3025, 1882, 1809, 1322, 1122, 1114))}
\texttt{)}
\texttt{amHorizontalBarChart(}
\texttt{  data = dat, data2 = dat,}
\texttt{  width = "600px", height = "550px",}
\texttt{  category = "country", values = "visits",}
\texttt{  draggable = TRUE,}
\texttt{  tooltip = "[font-style:italic #ffff00]{valueX}\[/",}
\texttt{  chartTitle =}
\texttt{    amText(text = "Visits per country", fontSize = 22, color = "orangered"),}
\texttt{  xAxis = list(}
\texttt{    title = amText(text = "Country", color = "maroon"),}
\texttt{    gridlines = amLine(opacity = 0.4, width = 1, dash = "3,1")}
\texttt{  ),}
\texttt{  yAxis = list(title = amText(text = "Visits", color = "maroon"),)
\texttt{  xLimits = c(0, 4000),}
\texttt{  valueFormatter = "#,#00",}
\texttt{  caption = amText(text = "Year 2018", color = "red"),}
\texttt{  theme = "moonrisekingdom")}

\texttt{# a grouped horizontal bar chart \\
}\texttt{set.seed(666)}
\texttt{dat <- data.frame(}
\texttt{  country = c("USA", "China", "Japan", "Germany", "UK", "France"),}
\texttt{  visits = c(3025, 1882, 1809, 1322, 1122, 1114))}
\texttt{)}
\texttt{amHorizontalBarChart(}
\texttt{  data = dat, data2 = dat,}
\texttt{  width = "600px", height = "550px",}
\texttt{  category = "country", values = "visits",}
\texttt{  draggable = TRUE,}
\texttt{  tooltip = "[font-style:italic #ffff00]{valueX}\[/",}
\texttt{  chartTitle =}
\texttt{    amText(text = "Visits per country", fontSize = 22, color = "orangered"),}
\texttt{  xAxis = list(}
\texttt{    title = amText(text = "Country", color = "maroon"),}
\texttt{    gridlines = amLine(opacity = 0.4, width = 1, dash = "3,1")}
\texttt{  ),}
\texttt{  yAxis = list(title = amText(text = "Visits", color = "maroon"),)
\texttt{  xLimits = c(0, 4000),}
\texttt{  valueFormatter = "#,#00",}
\texttt{  caption = amText(text = "Year 2018", color = "red"),}
\texttt{  theme = "moonrisekingdom")}
visits = c(3025, 1882, 1809, 1322, 1122, 1114),
income = rpois(6, 25),
expenses = rpois(6, 20)
)

amHorizontalBarChart(
data = dat,
width = "700px",
category = "country",
values = c("income", "expenses"),
valueNames = list(income = "Income", expenses = "Expenses"),
tooltip = amTooltip(
text = "[bold]{name}: \n{valueX}[/]",
textColor = "white",
backgroundColor = "#101010",
borderColor = "silver"
),
draggable = list(income = TRUE, expenses = FALSE),
backgroundColor = "#30303d",
columnStyle = list(
income = amColumn(
   color = "darkmagenta",
strokeColor = "#cccccc",
strokeWidth = 2
),
expenses = amColumn(
   color = "darkred",
strokeColor = "#cccccc",
strokeWidth = 2
)
),
chartTitle = amText(text = "Income and expenses per country"),
yAxis = list(title = amText(text = "Country")),
xAxis = list(
title = amText(text = "Income and expenses"),
gridLines = amLine(color = "whitesmoke", width = 1, opacity = 0.4)
),
xLimits = c(0, 41),
valueFormatter = ".#",
caption = amText(text = "Year 2018"),
theme = "dark"
)

Description

Create a HTML widget displaying a horizontal Dumbbell chart.
Usage

amHorizontalDumbbellChart(
  data,
  data2 = NULL,
  category,
  values,
  seriesNames = NULL,
  vline = NULL,
  xLimits = NULL,
  expandX = 5,
  valueFormatter = ",.",
  chartTitle = NULL,
  theme = NULL,
  draggable = FALSE,
  tooltip = NULL,
  segmentsStyle = NULL,
  bullets = NULL,
  backgroundColor = NULL,
  xAxis = NULL,
  yAxis = NULL,
  scrollbarX = FALSE,
  scrollbarY = FALSE,
  legend = NULL,
  caption = NULL,
  image = NULL,
  button = NULL,
  cursor = FALSE,
  width = NULL,
  height = NULL,
  export = FALSE,
  chartId = NULL,
  elementId = NULL
)

Arguments

data a dataframe

data2 NULL or a dataframe used to update the data with the button; its column names
must include the column names of data given in values, it must have the same
number of rows as data and its rows must be in the same order as those of data
category name of the column of data to be used for the category axis
values a character matrix with two columns; each row corresponds to a series and pro-
vides the names of two columns of data to be used as the limits of the segments
seriesNames a character vector providing the names of the series to appear in the legend; its
length must equal the number of rows of the values matrix: the n-th component
corresponds to the n-th row of the values matrix
amHorizontalDumbbellChart

vline an optional vertical line to add to the chart; it must be a named list of the form list(value = v, line = settings) where v is the "intercept" and settings is a list of settings created with amLine

xLimits range of the x-axis, a vector of two values specifying the left and right limits of the x-axis; NULL for default values

expandX if xLimits = NULL, a percentage of the range of the x-axis used to expand this range

valueFormatter a number formatting string; it is used to format the values displayed in the cursor tooltips, the labels of the x-axis unless you specify your own formatter in the labels field of the list passed on to the xAxis option, and the values displayed in the tooltips unless you specify your own tooltip text (see the first example of amBarChart for the way to set a number formatter in the tooltip text)

chartTitle chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with amText, or a list with two fields: text, a list of settings created with amText, and align, can be "left", "right" or "center"

theme theme, NULL or one of "dataviz", "material", "kelly", "dark", "moonrisekingdom", "frozen", "spiritedaway", "patterns", "microchart"

draggable TRUE/FALSE to enable/disable dragging of all bullets, otherwise a named list of the form list(value1 = TRUE, value2 = FALSE, ...)

tooltip settings of the tooltips; NULL for default, FALSE for no tooltip, otherwise a named list of the form list(value1 = settings1, value2 = settings2, ...) where settings1, settings2, ... are lists created with amTooltip; this can also be a single list of settings that will be applied to each series, or a just a string for the text to display in the tooltip

segmentsStyle settings of the segments; NULL for default, otherwise a named list of the form list(series1 = settings1, series2 = settings2, ...) where series1, series2, ... are the names of the series provided in seriesNames and settings1, settings2, ... are lists created with amSegment; this can also be a single list of settings that will be applied to each series

bullets settings of the bullets; NULL for default, otherwise a named list of the form list(value1 = settings1, value2 = settings2, ...) where settings1, settings2, ... are lists created with amCircle, amTriangle or amRectangle; this can also be a single list of settings that will be applied to each series

backgroundColor a color for the chart background; it can be given by the name of a R color, the name of a CSS color, e.g. "lime" or "olive", an HEX code like "#ff009a", a RGB code like "rgb(255, 100, 39)", or a HSL code like "hsl(360, 11, 255)"

xAxis settings of the value axis given as a list, or just a string for the axis title; the list of settings has five possible fields: a field title, a list of settings for the axis title created with amText, a field labels, a list of settings for the axis labels created with amAxisLabels, a field adjust, a number defining the horizontal adjustment of the axis (in pixels), a field gridLines, a list of settings for the grid lines created with amLine and a field breaks to control the axis breaks, an R object created with amAxisBreaks
yAxis

settings of the category axis given as a list, or just a string for the axis title; the
list of settings has four possible fields: a field title, a list of settings for the
axis title created with amText, a field labels, a list of settings for the axis labels
created with amAxisLabels, a field adjust, a number defining the vertical ad-
justment of the axis (in pixels), and a field gridLines, a list of settings for the
grid lines created with amLine

scrollbarX

logical, whether to add a scrollbar for the value axis

scrollbarY

logical, whether to add a scrollbar for the category axis

legend

either a logical value, whether to display the legend, or a list of settings for the
legend created with amLegend

caption

NULL or FALSE for no caption, a formatted text created with amText, or a list
with two fields: text, a list created with amText, and align, can be "left", "right" or "center"

image

option to include an image at a corner of the chart; NULL or FALSE for no image,
otherwise a named list with four possible fields: the field image (required) is a
list created with amImage, the field position can be "topleft", "topright", "bottomleft" or "bottomright", the field hjust defines the horizontal adjust-
ment, and the field vjust defines the vertical adjustment

button

NULL for the default, FALSE for no button, or a list of settings created with
amButton; this button is used to replace the current data with data2

cursor

option to add a cursor on the chart; FALSE for no cursor, TRUE for a cursor with
default settings for the tooltips, or a list of settings created with amTooltip to set
the style of the tooltips, or a list with three possible fields: a field tooltip, a list
of tooltip settings created with amTooltip, a field extraTooltipPrecision, an
integer, the number of additional decimals to display in the tooltips, and a field
modifier, which defines a modifier for the values displayed in the tooltips; a
modifier is some JavaScript code given as a string, which performs a modifica-
tion of a string named text, e.g. modifier = "text = \"/quotesingle.Var
\+
/quotesingle.Var + text;"

width

the width of the chart, e.g. "600px" or "%"; ignored if the chart is displayed
in Shiny, in which case the width is given in amChart4Output

height

the height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny,
in which case the height is given in amChart4Output

export

logical, whether to enable the export menu

chartId

a HTML id for the chart

elementId

a HTML id for the container of the chart; ignored if the chart is displayed in
Shiny, in which case the id is given by the Shiny id

Examples

set.seed(666)
lwr <- rpois(20, 5)
Dat <- data.frame(
  comparison = paste0("Ctrl vs. ", LETTERS[1:20]),
lwr = lwr,
upr = lwr + rpois(20, 10)
)
amImage

amHorizontalDumbbellChart(
    width = "500px", height = "450px",
    data = dat,
    draggable = TRUE,
    category = "comparison",
    values = rbind(c("lwr", "upr")),
    xLimits = c(0, 30),
    segmentsStyle = amSegment(width = 1, color = "darkred"),
    bullets = amCircle(strokeWidth = 0, color = "darkred"),
    tooltip = amTooltip("left: {valueX}\nright: {openValueX}", scale = 0.75),
    xAxis = list(
        title = amText("difference",
            fontSize = 17, fontWeight = "bold", fontFamily = "Helvetica"
        ),
        gridLines = amLine("darkblue", width = 2, opacity = 0.8, dash = "2,2"),
        breaks = amAxisBreaks(c(0,10,20,30))
    ),
    yAxis = list(
        title = amText("comparison",
            fontSize = 17, fontWeight = "bold", fontFamily = "Helvetica"
        ),
        labels = amAxisLabels(fontSize = 15),
        gridLines = amLine(color = "red", width = 1, opacity = 0.6, dash = "1,3")
    ),
    backgroundColor = "lightsalmon"
)

Description

Create a list of settings for an image.

Usage

amImage(href, width, height, opacity = 1)

Arguments

href a link to an image file or a base64 string representing an image; you can get such
a string with tinyIcon, or you can create it from a file with base64enc::dataURI; this
option can also be a string of the form "inData:DATAFIELD" where DATAFIELD
is the name of a column of the data - this is useful to have different images in
the bullets

width, height dimensions of the image

opacity opacity of the image, a number between 0 and 1
Value

A list of settings for an image.

Description

Create a list of settings for a legend.

Usage

\[
\text{amLegend(}
\quad \text{position = "bottom",}
\quad \text{maxHeight = NULL,}
\quad \text{scrollable = FALSE,}
\quad \text{maxWidth = 220,}
\quad \text{itemsWidth = 20,}
\quad \text{itemsHeight = 20}
\quad \text{)
}\]

Arguments

- **position**: legend position
- **maxHeight**: maximum height for a horizontal legend (position = "bottom" or position = "top")
- **scrollable**: whether a vertical legend should be scrollable
- **maxWidth**: maximum width for a vertical legend (position = "left" or position = "right"); set it to NULL for no limit
- **itemsWidth**: width of the legend items
- **itemsHeight**: height of the legend items

Value

A list of settings for a legend.
amLine  

Line style

Description

Create a list of settings for a line.

Usage

```r
amLine(
  color = NULL,
  opacity = 1,
  width = 3,
  dash = NULL,
  tensionX = NULL,
  tensionY = NULL
)
```

Arguments

- **color**: line color
- **opacity**: line opacity, a number between 0 and 1
- **width**: line width
- **dash**: string defining a dashed/dotted line; see Dotted and dashed lines
- **tensionX, tensionY**: parameters for the smoothing; see Smoothed lines for the meaning of these parameters

Value

A list of settings for a line.

Note

A color can be given by the name of a R color, the name of a CSS color, e.g. "transparent" or "fuchsia", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)"., or a HSL code like "hsl(360,11,255)".
amLineChart

*HTML widget displaying a line chart*

**Description**

Create a HTML widget displaying a line chart.

**Usage**

```r
amLineChart(
  data,
  data2 = NULL,
  xValue,
  yValues,
  yValueNames = NULL,
  hline = NULL,
  vline = NULL,
  xLimits = NULL,
  yLimits = NULL,
  expandX = 0,
  expandY = 5,
  Xformatter = ifelse(isDate, "yyyy-MM-dd", ",. ",
  Yformatter = ",. ",
  trend = FALSE,
  chartTitle = NULL,
  theme = NULL,
  draggable = FALSE,
  tooltip = NULL,
  bullets = NULL,
  alwaysShowBullets = FALSE,
  lineStyle = NULL,
  backgroundColor = NULL,
  xAxis = NULL,
  yAxis = NULL,
  scrollbarX = FALSE,
  scrollbarY = FALSE,
  legend = NULL,
  caption = NULL,
  image = NULL,
  button = NULL,
  cursor = FALSE,
  zoomButtons = FALSE,
  width = NULL,
  height = NULL,
  export = FALSE,
  chartId = NULL,
  elementId = NULL
)`
Arguments

- **data**: a dataframe
- **data2**: NULL or a dataframe used to update the data with the button; its column names must include the column names of data given in yValues as well as the column name given in xValue; moreover it must have the same number of rows as data and its rows must be in the same order as those of data
- **xValue**: name of the column of data to be used on the x-axis
- **yValues**: name(s) of the column(s) of data to be used on the y-axis
- **yValueNames**: names of the variables on the y-axis, to appear in the legend; NULL to use yValues as names, otherwise a named list of the form list(yvalue1 = "ValueName1", yvalue2 = "ValueName2", ...) where yvalue1, yvalue2, ... are the column names given in yValues and "ValueName1", "ValueName2", ... are the desired names to appear in the legend
- **hline**: an optional horizontal line to add to the chart; it must be a named list of the form list(value = h, line = settings) where h is the "intercept" and settings is a list of settings created with amLine
- **vline**: an optional vertical line to add to the chart; it must be a named list of the form list(value = v, line = settings) where v is the "intercept" and settings is a list of settings created with amLine
- **xLimits**: range of the x-axis, a vector of two values specifying the left and right limits of the x-axis; NULL for default values
- **yLimits**: range of the y-axis, a vector of two values specifying the lower and the upper limits of the y-axis; NULL for default values
- **expandX**: if xLimits = NULL, a percentage of the range of the x-axis used to expand this range
- **expandY**: if yLimits = NULL, a percentage of the range of the y-axis used to expand this range
- **Xformatter**: a number formatting string if xValue is set to a numeric column of data; it is used to format the values displayed in the cursor tooltips if cursor = TRUE, the labels of the x-axis unless you specify your own formatter in the labels field of the list passed on to the xAxis option, and the values displayed in the tooltips unless you specify your own tooltip text; if xValue is set to a date column of data, this option should be set to a date formatting string, and it has an effect only on the values displayed in the tooltips (unless you specify your own tooltip text); formatting the dates on the x-axis is done via the labels field of the list passed on to the xAxis option
- **Yformatter**: a number formatting string; it is used to format the values displayed in the cursor tooltips if cursor = TRUE, the labels of the y-axis unless you specify your own formatter in the labels field of the list passed on to the yAxis option, and the values displayed in the tooltips unless you specify your own tooltip text (see the first example of amBarChart for the way to set a number formatter in the tooltip text)
option to request trend lines and to set their settings; FALSE for no trend line, otherwise a named list of the form `list(yvalue1 = trend1,yvalue2 = trend2,...)` where `trend1`, `trend2`, ... are lists with the following fields:

- **method**: the modelling method, can be "lm", "lm.js", "nls", "nlsLM", or "loess"; "lm.js" performs a polynomial regression in JavaScript, its advantage is that the fitted regression line is updated when the points of the line are dragged.

- **formula**: a formula passed on to the modelling function for methods "lm", "nls" or "nlsLM"; the lefthandside of this formula must always be `y`, and its righthandside must be a symbolic expression depending on `x` only, e.g. `y ~ x`, `y ~ x + I(x^2)`, `y ~ poly(x,2)`

- **interval**: effective for methods "lm" and "lm.js" only; a list with five possible fields: type can be "confidence" or "prediction", level is the confidence or prediction level (number between 0 and 1), color is the color of the shaded area, opacity is the opacity of the shaded area (number between 0 and 1), `tensionX` and `tensionY` to control the smoothing (see `amLine`)

- **order**: the order of the polynomial regression when method = "lm.js"

- **method.args**: a list of additional arguments passed on to the modelling function defined by method for methods "nls", "nlsLM" or "loess", e.g. `method.args = list(span = 0.3)` for method "loess"

- **style**: a list of settings for the trend line created with `amLine`

  It is also possible to request the same kind of trend lines for all series given by the `yValues` argument, by passing a list of the form `list("_all" = trendconfig)`.

- **chartTitle**: chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with `amText`, or a list with two fields: `text`, a list of settings created with `amText`, and `align`, can be "left", "right" or "center"

- **theme**: theme, NULL or one of "dataviz", "material", "kelly", "dark", "moonrisekingdom", "frozen", "spiritedaway", "patterns", "microchart"

- **Draggable**: TRUE/FALSE to enable/disable dragging of all lines, otherwise a named list of the form `list(yvalue1 = TRUE,yvalue2 = FALSE,...)` to enable/disable the dragging for each series corresponding to a column given in `yValues`

- **tooltip**: settings of the tooltips; NULL for default, FALSE for no tooltip, otherwise a named list of the form `list(yvalue1 = settings1,yvalue2 = settings2,...)` where `settings1`, `settings2`, ... are lists created with `amTooltip`; this can also be a single list of settings that will be applied to each series, or a just a string for the text to display in the tooltip

- **bullets**: settings of the bullets; NULL for default, otherwise a named list of the form `list(yvalue1 = settings1,yvalue2 = settings2,...)` where `settings1`, `settings2`, ... are lists created with `amCircle`, `amTriangle` or `amRectangle`; this can also be a single list of settings that will be applied to each series

- **alwaysShowBullets**: logical, whether the bullets should always be visible, or visible on hover only

- **lineStyle**: settings of the lines; NULL for default, otherwise a named list of the form `list(yvalue1 = settings1,yvalue2 = settings2,...)` where `settings1`, `settings2`, ...
are lists created with `amLine`; this can also be a single list of settings that will be applied to each line.

`backgroundColor`  
a color for the chart background; it can be given by the name of a R color, the name of a CSS color, e.g. "teal" or "fuchsia", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)"

`xAxis`  
settings of the x-axis given as a list, or just a string for the axis title; the list of settings has five possible fields: a field title, a list of settings for the axis title created with `amText`, a field labels, a list of settings for the axis labels created with `amAxisLabels`, a field adjust, a number defining the vertical adjustment of the axis (in pixels), a field gridLines, a list of settings for the grid lines created with `amLine`, and a field breaks to control the axis breaks, an R object created with `amAxisBreaks`

`yAxis`  
settings of the y-axis given as a list, or just a string for the axis title; the list of settings has five possible fields: a field title, a list of settings for the axis title created with `amText`, a field labels, a list of settings for the axis labels created with `amAxisLabels`, a field adjust, a number defining the horizontal adjustment of the axis (in pixels), a field gridLines, a list of settings for the grid lines created with `amLine`, and a field breaks to control the axis breaks, an R object created with `amAxisBreaks`

`scrollbarX`  
logical, whether to add a scrollbar for the x-axis

`scrollbarY`  
logical, whether to add a scrollbar for the y-axis

`legend`  
FALSE for no legend, TRUE for a legend with default settings, or a list of settings created with `amLegend`

`caption`  
NULL or FALSE for no caption, a formatted text created with `amText`, or a list with two fields: text, a list created with `amText`, and align, can be "left", "right" or "center"

`image`  
option to include an image at a corner of the chart; NULL or FALSE for no image, otherwise a named list with four possible fields: the field image (required) is a list created with `amImage`, the field position can be "topleft", "topright", "bottomleft" or "bottomright", the field hjust defines the horizontal adjustment, and the field vjust defines the vertical adjustment

`button`  
NULL for the default, FALSE for no button, or a list of settings created with `amButton`; this button is used to replace the current data with `data2`

`cursor`  
option to add a cursor on the chart; FALSE for no cursor, TRUE for a cursor for both axes with default settings for the axes tooltips, otherwise a named list with four possible fields: a field axes to specify the axes for which the cursor is requested, can be "x", "y", or "xy", a field tooltip to set the style of the axes tooltips, this must be a list of settings created with `amTooltip`, a field extraTooltipPrecision, a named list of the form list(x = i, y = j) where i and j are the desired numbers of additional decimals for the tooltips on the x-axis and on the y-axis respectively, and a field modifier, a list with two possible fields, x and y, which defines modifiers for the values displayed in the tooltips; a modifier is some JavaScript code given a string, which performs a modification of a string named text, e.g. "text = '[[font-style:italic]'+text+'[/]';": see the first example for an example of modifier
amLineChart

zoomButtons a Boolean value, or a list created with amZoomButtons
width the width of the chart, e.g. "600px" or "80%"; ignored if the chart is displayed in Shiny, in which case the width is given in amChart4Output
height the height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny, in which case the height is given in amChart4Output
export logical, whether to enable the export menu
chartId a HTML id for the chart
elementId a HTML id for the container of the chart; ignored if the chart is displayed in Shiny, in which case the id is given by the Shiny id

Examples

# a line chart with a numeric x-axis ####

set.seed(666)
dat <- data.frame(
  x = 1:10,
  y1 = rnorm(10),
  y2 = rnorm(10)
)
amLineChart(
  data = dat,
  width = "700px",
  xValue = "x",
  yValues = c("y1", "y2"),
  yValueNames = list(y1 = "Sample 1", y2 = "Sample 2"),
  trend = list(
    y1 = list(
      method = "lm.js",
      order = 3,
      style = amLine(color = "lightyellow", dash = "3,2")
    ),
    y2 = list(
      method = "loess",
      style = amLine(color = "palevioletred", dash = "3,2")
    )
  ),
  draggable = list(y1 = TRUE, y2 = FALSE),
  backgroundColor = "#30303d",
  tooltip = amTooltip(
    text = "[bold]>({valueX},{valueY})[/bold]",
    textColor = "white",
    backgroundColor = "#101010",
    borderColor = "whitesmoke"
  ),
  bullets = list(
    y1 = amCircle(color = "yellow", strokeColor = "olive"),
    y2 = amCircle(color = "orangered", strokeColor = "darkred")
  ),
  alwaysShowBullets = TRUE,
cursor = list(
    extraTooltipPrecision = list(x = 0, y = 2),
    modifier = list(
        y = c(
            "var value = parseFloat(text);",
            "var style = value > 0 ? '[#0000ff]' : '[#ff0000]';",
            "text = style + text + '[/]';"
        )
    ),
    lineStyle = list(
        y1 = amLine(color = "yellow", width = 4),
        y2 = amLine(color = "orangered", width = 4)
    ),
    chartTitle = amText(
        text = "Gaussian samples",
        color = "whitesmoke",
        fontWeight = "bold"
    ),
    xAxis = list(title = amText(text = "Observation",
                                fontSize = 21,
                                color = "silver",
                                fontWeight = "bold"),
                 labels = amAxisLabels(fontSize = 17),
                 breaks = amAxisBreaks(
                     values = 1:10,
                     labels = sprintf("[bold %s]%d[/]", rainbow(10), 1:10)),
    yAxis = list(title = amText(text = "Value",
                                fontSize = 21,
                                color = "silver",
                                fontWeight = "bold"),
                 labels = amAxisLabels(color = "whitesmoke",
                                      fontSize = 14),
                 gridLines = amLine(color = "whitesmoke",
                                    opacity = 0.4,
                                    width = 1)),
    yLimits = c(-3, 3),
    Yformatter = ".00",
    caption = amText(text = "try to drag the yellow line!/[\]/",
                     color = "yellow"),
    theme = "dark"
)

# line chart with a date x-axis ####

library(lubridate)

set.seed(666)

dat <- data.frame(
    date = ymd(180101) + days(0:60),
    visits = rpois(61, 20)
)
amLineChart(
  data = dat,
  width = "750px",
  xValue = "date",
  yValues = "visits",
  draggable = TRUE,
  chartTitle = "Number of visits",
  xAxis = list(
    title = "Date",
    labels = amAxisLabels(
      formatter = amDateAxisFormatter(
        day = c("dt", "[bold]MMM[/] dt"),
        week = c("dt", "[bold]MMM[/] dt")
      )
    ),
    breaks = amAxisBreaks(timeInterval = "7 days")
  ),
  yAxis = "Visits",
  xlims = range(dat$date) + c(0, 7),
  ylims = c(0, 35),
  backgroundColor = "whitesmoke",
  tooltip = paste0("[bold][font-style:italic]{dateX.value.formatDate('yyyy/MM/dd')}[/]visits: {valueY}[/]",
    "\nvisits: {valueY}[/]"
  ),
  caption = amText(text = "Year 2018"),
  theme = "material")

# smoothed lines ####

x <- seq(-4, 4, length.out = 100)

# smoothed lines ####

x <- seq(-4, 4, length.out = 100)

dat <- data.frame(
  x = x,
  Gauss = dnorm(x),
  Cauchy = dcauchy(x)
)

amLineChart(
  data = dat,
  width = "700px",
  xValue = "x",
  yValues = c("Gauss", "Cauchy"),
  yValueNames = list(
    Gauss = "Standard normal distribution",
    Cauchy = "Cauchy distribution"
  ),
  draggable = FALSE,
  tooltip = FALSE,
  lineStyle = amLine(
    width = 4,
    tensionX = 0.8,
    tensionY = 0.8)
amPercentageBarChart

HTML widget displaying a 100% stacked bar chart

Description
Create a HTML widget displaying a 100% stacked bar chart.

Usage
amPercentageBarChart(
data,
category,
values,
valueNames = NULL,
hline = NULL,
chartTitle = NULL,
theme = NULL,
backgroundColor = NULL,
xAxis = NULL,
yAxis = NULL,
scrollbarX = FALSE,
scrollbarY = FALSE,
legend = TRUE,
caption = NULL,
image = NULL,
width = NULL,
height = NULL,
export = FALSE,
chartId = NULL,
elementId = NULL
)

Arguments
data a dataframe
**amPercentageBarChart**

- **category**: name of the column of data to be used on the category axis
- **values**: names of the columns of data to be used on the value axis
- **valueNames**: names of the values variables, to appear in the legend; NULL to use values as names, otherwise a named list of the form list(value1 = "ValueName1", value2 = "ValueName2", ...) where value1, value2, ... are the column names given in values and "ValueName1", "ValueName2", ... are the desired names to appear in the legend; these names also appear in the tooltips.
- **hline**: an optional horizontal line to add to the chart; it must be a named list of the form list(value = h, line = settings) where h is the "intercept" and settings is a list of settings created with amLine
- **chartTitle**: chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with amText, or a list with two fields: text, a list of settings created with amText, and align, can be "left", "right" or "center"
- **theme**: theme, NULL or one of "dataviz", "material", "kelly", "dark", "moonrisekingdom", "frozen", "spiritedaway", "patterns", "microchart"
- **backgroundColor**: a color for the chart background; a color can be given by the name of a R color, the name of a CSS color, e.g. "rebeccapurple" or "fuchsia", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)"
- **xAxis**: settings of the category axis given as a list, or just a string for the axis title; the list of settings has three possible fields: a field title, a list of settings for the axis title created with amText, a field labels, a list of settings for the axis labels created with amAxisLabels, and a field adjust, a number defining the vertical adjustment of the axis (in pixels)
- **yAxis**: settings of the value axis given as a list, or just a string for the axis title; the list of settings has five possible fields: a field title, a list of settings for the axis title created with amText, a field labels, a list of settings for the axis labels created with amAxisLabels, a field adjust, a number defining the horizontal adjustment of the axis (in pixels), a field gridLines, a list of settings for the grid lines created with amLine and a field breaks to control the axis breaks, an R object created with amAxisBreaks
- **scrollbarX**: logical, whether to add a scrollbar for the category axis
- **scrollbarY**: logical, whether to add a scrollbar for the value axis
- **legend**: either a logical value, whether to display the legend, or a list of settings for the legend created with amLegend
- **caption**: NULL or FALSE for no caption, a formatted text created with amText, or a list with two fields: text, a list created with amText, and align, can be "left", "right" or "center"
- **image**: option to include an image at a corner of the chart; NULL or FALSE for no image, otherwise a named list with four possible fields: the field image (required) is a list created with amImage, the field position can be "topleft", "topright", "bottomleft" or "bottomright", the field hjust defines the horizontal adjustment, and the field vjust defines the vertical adjustment
amPieChart

width
the width of the chart, e.g. "600px" or "80%"; ignored if the chart is displayed in Shiny, in which case the width is given in `amChart4Output`

height
the height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny, in which case the height is given in `amChart4Output`

export
logical, whether to enable the export menu

chartId
a HTML id for the chart

elementId
a HTML id for the container of the chart; ignored if the chart is displayed in Shiny, in which case the id is given by the Shiny id

Examples

```r
library(rAmCharts4)

dat <- data.frame(  
  category = c("A", "B", "C"),  
  v1 = c(1, 2, 3),  
  v2 = c(9, 5, 7)  
)

amPercentageBarChart(  
  dat,  
  category = "category",  
  values = c("v1", "v2"),  
  valueNames = c("Value1", "Value2"),  
  yAxis = "Percentage",  
  theme = "dataviz",  
  legend = amLegend(position = "right")  
)
```

amPieChart

*HTML widget displaying a pie chart*

Description

Create a HTML widget displaying a pie chart.

Usage

```r
amPieChart(  
  data,  
  category,  
  value,  
  innerRadius = 0,  
  threeD = FALSE,  
  depth = ifelse(variableDepth, 100, 10),  
  colorStep = 3,  
  variableRadius = FALSE,
```
variableDepth = FALSE,
chartTitle = NULL,
theme = NULL,
backgroundColor = NULL,
legend = TRUE,
caption = NULL,
image = NULL,
width = NULL,
height = NULL,
export = FALSE,
chartId = NULL,
elementId = NULL
)

Arguments

data a dataframe
category name of the column of data to be used as the category
value name of the column of data to be used as the value
innerRadius the inner radius of the pie chart in percent
threeD whether to render a 3D pie chart
depth for a 3D chart, this parameter controls the height of the slices
colorStep the step in the color palette
variableRadius whether to render slices with variable radius
variableDepth for a 3D chart, whether to render slices with variable depth
chartTitle chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with \amText, or a list with two fields: text, a list of settings created with \amText, and align, can be "left", "right" or "center"
theme theme, NULL or one of "dataviz", "material", "kelly", "dark", "moonrisekingdom", "frozen", "spiritedaway", "patterns", "microchart"
backgroundColor a color for the chart background; it can be given by the name of a R color, the name of a CSS color, e.g. "lime" or "olive", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)"
legend either a logical value, whether to display the legend, or a list of settings for the legend created with \amLegend
caption NULL or FALSE for no caption, a formatted text created with \amText, or a list with two fields: text, a list created with \amText, and align, can be "left", "right" or "center"
image option to include an image at a corner of the chart; NULL or FALSE for no image, otherwise a named list with four possible fields: the field image (required) is a list created with \amImage, the field position can be "topleft", "topright", "bottomleft" or "bottomright", the field hjust defines the horizontal adjustment, and the field vjust defines the vertical adjustment
width: the width of the chart, e.g. "600px" or "40%"; ignored if the chart is displayed in Shiny, in which case the width is given in `amChart4Output`.

height: the height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny, in which case the height is given in `amChart4Output`.

export: logical, whether to enable the export menu.

chartId: a HTML id for the chart.

elementId: a HTML id for the container of the chart; ignored if the chart is displayed in Shiny, in which case the id is given by the Shiny id.

**Examples**

```r
library(rAmCharts4)
data <- data.frame(
  country = c(
    "Lithuania", "Czechia", "Ireland", "Germany", "Australia", "Austria"
  ),
  value = c(260, 230, 200, 165, 139, 128)
)
amPieChart(
data = dat,
category = "country",
value = "value",
variableRadius = TRUE
)

# shiny app demonstrating the options

library(rAmCharts4)
library(shiny)
data <- data.frame(
  country = c(
    "Lithuania", "Czechia", "Ireland", "Germany", "Australia", "Austria"
  ),
  value = c(260, 230, 200, 165, 139, 128)
)

ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      sliderInput("innerRadius", "Inner radius", min = 0, max = 60, value = 0, step = 20),
      checkboxInput("variableRadius", "Variable radius", TRUE),
      checkboxInput("threeD", "3D"),
      conditionalPanel(
        "input.threeD",
        checkboxInput("variableDepth", "Variable depth")
      ),
    ),
    mainPanel(
      amChart4Output("piechart", height = "500px")
    )
  )
)`
amRadialBarChart

**HTML widget displaying a radial bar chart**

**Description**

Create a HTML widget displaying a radial bar chart.

**Usage**

```r
amRadialBarChart(
  data,
  data2 = NULL,
  category,
  values,
  valueNames = NULL,
  showValues = TRUE,
  innerRadius = 50,
  yLimits = NULL,
  expandY = 5,
  valueFormatter = ".",
)```
chartTitle = NULL,
theme = NULL,
draggable = FALSE,
tooltip = NULL,
columnStyle = NULL,
bullets = NULL,
alwaysShowBullets = FALSE,
backgroundColor = NULL,
cellWidth = NULL,
columnWidth = NULL,
xAxis = NULL,
yAxis = NULL,
scrollbarX = FALSE,
scrollbarY = FALSE,
legend = NULL,
caption = NULL,
image = NULL,
button = NULL,
cursor = FALSE,
width = NULL,
height = NULL,
export = FALSE,
chartId = NULL,
elementId = NULL
}

Arguments

data a dataframe

data2 NULL or a dataframe used to update the data with the button; its column names must include the column names of data given in values, it must have the same number of rows as data and its rows must be in the same order as those of data
category name of the column of data to be used on the category axis
values name(s) of the column(s) of data to be used on the value axis
valueNames names of the values variables, to appear in the legend; NULL to use values as names, otherwise a named list of the form list(value1 = "ValueName1",value2 = "ValueName2",...) where value1, value2, ... are the column names given in values and "ValueName1", "ValueName2", ... are the desired names to appear in the legend; these names can also appear in the tooltips: they are substituted to the string {name} in the formatting string passed on to the tooltip (see the second example of amBarChart)
showValues logical, whether to display the values on the chart
innerRadius inner radius of the chart, a percentage (between 0 and 100 theoretically, but in practice it should be between 30 and 70)

yLimits range of the y-axis, a vector of two values specifying the lower and the upper limits of the y-axis; NULL for default values
expandY if yLimits = NULL, a percentage of the range of the y-axis used to expand this range

valueFormatter a number formatting string; it is used to format the values displayed on the chart if showValues = TRUE, the values displayed in the cursor tooltips if cursor = TRUE, the labels of the y-axis unless you specify your own formatter in the labels field of the list passed on to the yAxis option, and the values displayed in the tooltips unless you specify your own tooltip text (see the first example for the way to set a number formatter in the tooltip text)

chartTitle chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with amText, or a list with two fields: text, a list of settings created with amText, and align, can be "left", "right" or "center"

theme theme, NULL or one of "dataviz", "material", "kelly", "dark", "moonrisekingdom", "frozen", "spiritedaway", "patterns", "microchart"

draggable TRUE/FALSE to enable/disable dragging of all bars, otherwise a named list of the form list(value1 = TRUE, value2 = FALSE, ...) to enable/disable the dragging for each bar corresponding to a column given in values

tooltip settings of the tooltips; NULL for default, FALSE for no tooltip, otherwise a named list of the form list(value1 = settings1, value2 = settings2, ...) where settings1, settings2, ... are lists created with amTooltip; this can also be a single list of settings that will be applied to each series, or a just a string for the text to display in the tooltip

columnStyle settings of the columns; NULL for default, otherwise a named list of the form list(value1 = settings1, value2 = settings2, ...) where settings1, settings2, ... are lists created with amColumn; this can also be a single list of settings that will be applied to each column

bullets settings of the bullets; NULL for default, otherwise a named list of the form list(value1 = settings1, value2 = settings2, ...) where settings1, settings2, ... are lists created with amCircle, amTriangle or amRectangle; this can also be a single list of settings that will be applied to each series

alwaysShowBullets logical, whether to always show the bullets; if FALSE, the bullets are shown only on hovering a column

backgroundColor a color for the chart background; a color can be given by the name of a R color, the name of a CSS color, e.g. "lime" or "fuchsia", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)"

cellWidth cell width in percent; for a simple bar chart, this is the width of the columns; for a grouped bar chart, this is the width of the clusters of columns; NULL for the default value

columnWidth column width, a percentage of the cell width; set to 100 for a simple bar chart and use cellWidth to control the width of the columns; for a grouped bar chart, this controls the spacing between the columns within a cluster of columns; NULL for the default value
settings of the category axis given as a list, or just a string for the axis title; the list of settings has three possible fields: a field `title`, a list of settings for the axis title created with `amText`, a field `labels`, a list of settings for the axis labels created with `amAxisLabelsCircular`, and a field `adjust`, a number defining the vertical adjustment of the axis (in pixels)

settings of the value axis given as a list, or just a string for the axis title; the list of settings has five possible fields: a field `title`, a list of settings for the axis title created with `amText`, a field `labels`, a list of settings for the axis labels created with `amAxisLabels`, a field `adjust`, a number defining the horizontal adjustment of the axis (in pixels), a field `gridLines`, a list of settings for the grid lines created with `amLine` and a field `breaks` to control the axis breaks, and an R object created with `amAxisBreaks`

logical, whether to add a scrollbar for the category axis

logical, whether to add a scrollbar for the value axis

either a logical value, whether to display the legend, or a list of settings for the legend created with `amLegend`

NULL or FALSE for no caption, a formatted text created with `amText`, or a list with two fields: text, a list created with `amText`, and align, can be "left", "right" or "center"

option to include an image at a corner of the chart; NULL or FALSE for no image, otherwise a named list with four possible fields: the field `image` (required) is a list created with `amImage`, the field `position` can be "topleft", "topright", "bottomleft" or "bottomright", the field `hjust` defines the horizontal adjustment, and the field `vjust` defines the vertical adjustment

NULL for the default, FALSE for no button, or a list of settings created with `amButton`; this button is used to replace the current data with `data2`

option to add a cursor on the chart; FALSE for no cursor, TRUE for a cursor with default settings for the tooltips, or a list of settings created with `amTooltip` to set the style of the tooltips, or a list with three possible fields: a field `tooltip`, a list of tooltip settings created with `amTooltip`, a field `extraTooltipPrecision`, an integer, the number of additional decimals to display in the tooltips, and a field `modifier`, which defines a modifier for the values displayed in the tooltips; a modifier is some JavaScript code given a string, which performs a modification of a string named `text`, e.g. `modifier = "text = \"+ text++;"`

the width of the chart, e.g. "600px" or "80%"; ignored if the chart is displayed in Shiny, in which case the width is given in `amChart4Output`

the height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny, in which case the height is given in `amChart4Output`

logical, whether to enable the export menu

a HTML id for the chart

a HTML id for the container of the chart; ignored if the chart is displayed in Shiny, in which case the id is given by the Shiny id
Examples

# a grouped radial bar chart ####

```r
set.seed(666)
dat <- data.frame(
  country = c("USA", "China", "Japan", "Germany", "UK", "France"),
  visits = c(3025, 1882, 1809, 1322, 1122, 1114),
  income = rpois(6, 25),
  expenses = rpois(6, 20)
)

amRadialBarChart(
  data = dat, data2 = dat,
  width = "600px", height = "600px",
  category = "country",
  values = c("income", "expenses"),
  valueNames = list(income = "Income", expenses = "Expenses"),
  showValues = FALSE,
  tooltip = amTooltip(
    textColor = "white",
    backgroundColor = "#101010",
    borderColor = "silver"
  ),
  draggable = TRUE,
  backgroundColor = "#30303d",
  columnStyle = list(
    income = amColumn(
      color = "darkmagenta",
      strokeColor = "#cccccc",
      strokeWidth = 2
    ),
    expenses = amColumn(
      color = "darkred",
      strokeColor = "#cccccc",
      strokeWidth = 2
    )
  ),
  chartTitle = "Income and expenses per country",
  xAxis = list(
    labels = amAxisLabelsCircular(
      radius = -82, relativeRotation = 90
    )
  ),
  yAxis = list(
    labels = amAxisLabels(color = "orange"),
    gridLines = amLine(color = "whitesmoke", width = 1, opacity = 0.4),
    breaks = amAxisBreaks(values = seq(0, 40, by = 10))
  ),
  yLimits = c(0, 40),
  valueFormatter = "#.#",
  caption = amText(
    text = "Year 2018",
    align = "center"
  )
)
```

```
Description

Create a HTML widget displaying a range area chart.

Usage

```r
amRangeAreaChart(
  data,
  data2 = NULL,
  xValue,
  ...,
)```
Arguments

data a dataframe

data2 NULL or a dataframe used to update the data with the button; its column names must include the column names of data given in yValues, it must have the same number of rows as data and its rows must be in the same order as those of data

xValue name of the column of data to be used on the x-axis

yValues a character matrix with two columns; each row corresponds to a range area and provides the names of two columns of data to be used as the limits of the range area

areas an unnamed list of list of settings for the range areas; the n-th inner list of settings corresponds to the n-th row of the yValues matrix; each list of settings has three possible fields: name for the legend label, color for the color of the range area, and opacity for the opacity of the range area, a number between 0 and 1
amRangeAreaChart

hline an optional horizontal line to add to the chart; it must be a named list of the form list(value = h, line = settings) where h is the "intercept" and settings is a list of settings created with amLine

vline an optional vertical line to add to the chart; it must be a named list of the form list(value = v, line = settings) where v is the "intercept" and settings is a list of settings created with amLine

xLimits range of the x-axis, a vector of two values specifying the left and right limits of the x-axis; NULL for default values

yLimits range of the y-axis, a vector of two values specifying the lower and upper limits of the y-axis; NULL for default values

expandX if xLimits = NULL, a percentage of the range of the x-axis used to expand this range

expandY if yLimits = NULL, a percentage of the range of the y-axis used to expand this range

Xformatter a number formatting string if xValue is set to a numeric column of data; it is used to format the values displayed in the cursor tooltips if cursor = TRUE, the labels of the x-axis unless you specify your own formatter in the labels field of the list passed on to the xAxis option, and the values displayed in the tooltips unless you specify your own tooltip text; if xValue is set to a date column of data, this option should be set to a date formatting string, and it has an effect only on the values displayed in the tooltips (unless you specify your own tooltip text); formatting the dates on the x-axis is done via the labels field of the list passed on to the xAxis option

Yformatter a number formatting string; it is used to format the values displayed in the cursor tooltips if cursor = TRUE, the labels of the y-axis unless you specify your own formatter in the labels field of the list passed on to the yAxis option, and the values displayed in the tooltips unless you specify your own tooltip text (see the first example of amBarChart for the way to set a number formatter in the tooltip text)

chartTitle chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with amText, or a list with two fields: text, a list of settings created with amText, and align, can be "left", "right" or "center"

theme theme, NULL or one of "dataviz", "material", "kelly", "dark", "moonrisekingdom", "frozen", "spiritedaway", "patterns", "microchart"

draggable TRUE/FALSE to enable/disable dragging of all lines, otherwise a named list of the form list(yvalue1 = TRUE, yvalue2 = FALSE, ...) to enable/disable the dragging for each series corresponding to a column given in yValues

tooltip settings of the tooltips; NULL for default, FALSE for no tooltip, otherwise a named list of the form list(yvalue1 = settings1, yvalue2 = settings2, ...) where settings1, settings2, ... are lists created with amTooltip; this can also be a single list of settings that will be applied to each series, or a just a string for the text to display in the tooltip

bullets settings of the bullets; NULL for default, otherwise a named list of the form list(yvalue1 = settings1, yvalue2 = settings2, ...) where settings1, settings2, ... are lists created with amCircle, amTriangle or amRectangle; this can also be a single list of settings that will be applied to each series
alwaysShowBullets

logical, whether the bullets should always be visible, or visible on hover only

lineStyle

settings of the lines; NULL for default, otherwise a named list of the form list(yvalue1
= settings1, yvalue2 = settings2, ...), where settings1, settings2, ...
are lists created with amLine; this can also be a single list of settings that will be
applied to each line

backgroundColor

a color for the chart background

xAxis

settings of the x-axis given as a list, or just a string for the axis title; the list
of settings has five possible fields: a field title, a list of settings for the axis title
created with amText, a field labels, a list of settings for the axis labels created
with amAxisLabels, a field adjust, a number defining the vertical adjustment
of the axis (in pixels), a field gridLines, a list of settings for the grid lines
created with amLine, and a field breaks to control the axis breaks, an R object
created with amAxisBreaks

yAxis

settings of the y-axis given as a list, or just a string for the axis title; the list
of settings has five possible fields: a field title, a list of settings for the axis title
created with amText, a field labels, a list of settings for the axis labels created
with amAxisLabels, a field adjust, a number defining the horizontal
adjustment of the axis (in pixels), a field gridLines, a list of settings for the grid lines
created with amLine, and a field breaks to control the axis breaks, an R object
created with amAxisBreaks

scrollbarX

logical, whether to add a scrollbar for the x-axis

scrollbarY

logical, whether to add a scrollbar for the y-axis

legend

FALSE for no legend, TRUE for a legend with default settings, or a list of settings
created with amLegend

caption

NULL or FALSE for no caption, a formatted text created with amText, or a list
with two fields: text, a list created with amText, and align, can be "left",
"right" or "center"

image

option to include an image at a corner of the chart; NULL or FALSE for no image,
otherwise a named list with four possible fields: the field image (required) is a
list created with amImage, the field position can be "topleft", "topright",
"bottomleft" or "bottomright", the field hjust defines the horizontal adjust-
ment, and the field vjust defines the vertical adjustment

button

NULL for the default, FALSE for no button, or a list of settings created with
amButton; this button is used to replace the current data with data2

cursor

option to add a cursor on the chart; FALSE for no cursor, TRUE for a cursor
for both axes with default settings for the axes tooltips, otherwise a named list
with four possible fields: a field axes to specify the axes for which the cur-
sor is requested, can be "x", "y", or "xy", a field tooltip to set the style of
the axes tooltips, this must be a list of settings created with amTooltip, a field
extraTooltipPrecision, a named list of the form list(x = i, y = j) where i
and j are the desired numbers of additional decimals for the tooltips on the x-
axis and on the y-axis respectively, and a field modifier, a list with two possible
fields, x and y, which defines modifiers for the values displayed in the tooltips;
a modifier is some JavaScript code given as a string, which performs a modification of a string named text, e.g. "text = '[font-style:italic]' + text + '[/]';"; see the example for an example of modifier

width the width of the chart, e.g. "600px" or "80%"; ignored if the chart is displayed in Shiny, in which case the width is given in `amChart4Output`

height the height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny, in which case the height is given in `amChart4Output`

export logical, whether to enable the export menu

chartId a HTML id for the chart

elementId a HTML id for the container of the chart; ignored if the chart is displayed in Shiny, in which case the id is given by the Shiny id

Note

A color can be given by the name of a R color, the name of a CSS color, e.g. "crimson" or "silver", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)".

Examples

```
set.seed(666)
x <- 1:20
dat <- data.frame(
  x = x,
  y1 = rnorm(20, sd = 1.5),
  y2 = rnorm(20, 10, sd = 1.5),
  z1 = rnorm(20, x+5, sd = 1.5),
  z2 = rnorm(20, x+15, sd = 1.5)
)

amRangeAreaChart(
data = dat,
  width = "700px",
  xValue = "x",
  yValues = rbind(c("y1", "y2"), c("z1", "z2")),
  xLimits = c(1, 20),
  draggable = TRUE,
  backgroundColor = "#30303d",
  tooltip = list(
    y1 = amTooltip(
      text = "[bold]upper: \{openValueY\}\nlower: {valueY}\[/]",
      textColor = "yellow",
      backgroundColor = "darkmagenta",
      backgroundOpacity = 0.8,
      borderColor = "rebeccapurple",
      scale = 0.9
    ),
    y2 = amTooltip(
      text = "[bold]upper: {valueY}\nlower: \{openValueY\}\[/]",
      textColor = "yellow",
```

backgroundColor = "darkmagenta",
backgroundColor = "darkred",
borderColor = "rebeccapurple",
borderColor = "crimson",
scale = 0.9
);
z1 = amTooltip(
text = "[bold]upper: {openValueY}\nlower: {valueY}[/]",
textColor = "white",
backgroundColor = "darkred",
backgroundOpacity = 0.8,
borderColor = "crimson",
scale = 0.9
),
z2 = amTooltip(
text = "[bold]upper: {valueY}\nlower: {openValueY}[/]",
textColor = "white",
backgroundColor = "darkred",
backgroundOpacity = 0.8,
borderColor = "crimson",
scale = 0.9
)
),
bullets = list(
y1 = amCircle(color = "yellow", strokeColor = "olive"),
y2 = amCircle(color = "yellow", strokeColor = "olive"),
z1 = amCircle(color = "orangered", strokeColor = "darkred"),
z2 = amCircle(color = "orangered", strokeColor = "darkred")
),
alwaysShowBullets = FALSE,
lineStyle = list(
y1 = amLine(color = "yellow", width = 3, tensionX = 0.8, tensionY = 0.8),
y2 = amLine(color = "yellow", width = 3, tensionX = 0.8, tensionY = 0.8),
z1 = amLine(color = "orangered", width = 3, tensionX = 0.8, tensionY = 0.8),
z2 = amLine(color = "orangered", width = 3, tensionX = 0.8, tensionY = 0.8)
),
areas = list(
list(name = "y1-y2", color = "blue", opacity = 0.2),
list(name = "z1-z2", color = "red", opacity = 0.2)
),
cursor = list(
tooltip = amTooltip(
  backgroundColor = "silver"
) )
extraTooltipPrecision = list(x = 0, y = 2),
modifier = list(y = "text = parseFloat(text).toFixed(2);"
)
),
chartTitle = amText(text = "Range area chart",
  color = "whitesmoke",
  fontWeight = "bold" ),
xAxis = list(title = amText(text = "Observation",
  fontSize = 20,
  color = "silver" ),
  labels = amAxisLabels(color = "whitesmoke" ),
amScatterChart

HTML widget displaying a scatter chart

Description

Create a HTML widget displaying a scatter chart.

Usage

amScatterChart(
data,
data2 = NULL,
xValue,
yValues,
yValueNames = NULL,
hline = NULL,
vline = NULL,
xLimits = NULL,
yLimits = NULL,
expandX = 0,
expandY = 5,
Xformatter = ifelse(isDate, "yyy-MM-dd", "."),
Yformatter = ".",
trend = FALSE,
chartTitle = NULL,
theme = NULL,
draggable = FALSE,
tooltip = NULL,
pointsStyle = NULL,
backgroundColor = NULL,
xAxis = NULL,
yAxis = NULL,
scrollbarX = FALSE,
scrollbarY = FALSE,
legend = NULL,
caption = NULL,
image = NULL,
button = NULL,
cursor = FALSE,
zoomButtons = FALSE,
width = NULL,
height = NULL,
export = FALSE,
chartId = NULL,
elementId = NULL
)

Arguments

data

a dataframe

data2

NULL or a dataframe used to update the data with the button; its column names must include the column names of data given in yValues as well as the column name given in xValue; moreover it must have the same number of rows as data and its rows must be in the same order as those of data

xValue

name of the column of data to be used on the x-axis

yValues

name(s) of the column(s) of data to be used on the y-axis

yValueNames

names of the variables on the y-axis, to appear in the legend; NULL to use yValues as names, otherwise a named list of the form list(yvalue1 = "ValueName1", yvalue2 = "ValueName2", ...) where yvalue1, yvalue2, ... are the column names given in yValues and "ValueName1", "ValueName2", ... are the desired names to appear in the legend

hline

an optional horizontal line to add to the chart; it must be a named list of the form list(value = h, line = settings) where h is the "intercept" and settings is a list of settings created with amLine

vline

an optional vertical line to add to the chart; it must be a named list of the form list(value = v, line = settings) where v is the "intercept" and settings is a list of settings created with amLine

xLimits

range of the x-axis, a vector of two values specifying the left and the right limits of the x-axis; NULL for default values

yLimits

range of the y-axis, a vector of two values specifying the lower and the upper limits of the y-axis; NULL for default values

expandX

if xLimits = NULL, a percentage of the range of the x-axis used to expand this range
expandY

if yLimits = NULL, a percentage of the range of the y-axis used to expand this range

Xformatter

a number formatting string if xValue is set to a numeric column of data; it is used to format the values displayed in the cursor tooltips if cursor = TRUE, the labels of the x-axis unless you specify your own formatter in the labels field of the list passed on to the xAxis option, and the values displayed in the tooltips unless you specify your own tooltip text; if xValue is set to a date column of data, this option should be set to a date formatting string, and it has an effect only on the values displayed in the tooltips (unless you specify your own tooltip text); formatting the dates on the x-axis is done via the labels field of the list passed on to the xAxis option

Yformatter

a number formatting string; it is used to format the values displayed in the cursor tooltips if cursor = TRUE, the labels of the y-axis unless you specify your own formatter in the labels field of the list passed on to the yAxis option, and the values displayed in the tooltips unless you specify your own tooltip text (see the first example of amBarChart for the way to set a number formatter in the tooltip text)

trend

option to request trend lines and to set their settings; FALSE for no trend line, otherwise a named list of the form list(yvalue1 = trend1,yvalue2 = trend2,...) where trend1,trend2,... are lists with the following fields:

method the modelling method, can be "lm", "lm.js", "nls", "nlsLM", or "loess"; "lm.js" performs a polynomial regression in JavaScript, its advantage is that the fitted regression line is updated when the points are dragged

formula a formula passed on to the modelling function for methods "lm", "nls" or "nlsLM"; the lefthandside of this formula must always be y, and its righthandside must be a symbolic expression depending on x only, e.g. y ~ x,y ~ x + I(x^2),y ~ poly(x,2)

interval effective for methods "lm" and "lm.js" only; a list with five possible fields: type can be "confidence" or "prediction", level is the confidence or prediction level (number between 0 and 1), color is the color of the shaded area, opacity is the opacity of the shaded area (number between 0 and 1), tensionX and tensionY to control the smoothing (see amLine)

order the order of the polynomial regression when method = "lm.js"

method.args a list of additional arguments passed on to the modelling function defined by method for methods "nls", "nlsLM" or "loess", e.g. method.args = list(span = 0.3) for method "loess"

style a list of settings for the trend line created with amLine

it is also possible to request the same kind of trend lines for all series given by the yValues argument, by passing a list of the form list("_all" = trendconfig), e.g. list("_all" = list(method = "lm",formula = y ~ 0+x,style = amLine()))

chartTitle

chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with amText, or a list with two fields: text, a list of settings created with amText, and align, can be "left", "right" or "center"

theme

theme, NULL or one of "dataviz", "material", "kelly", "dark", "moonrisekingdom", "frozen", "spiritedaway", "patterns", "microchart"
**dragabble**  TRUE/FALSE to enable/disable dragging of all lines, otherwise a named list of the form `list(yvalue1 = TRUE,yvalue2 = FALSE,...)` to enable/disable the dragging for each series corresponding to a column given in `yValues`  

**tooltip**  settings of the tooltips; NULL for default, FALSE for no tooltip, otherwise a named list of the form `list(yvalue1 = settings1,yvalue2 = settings2,...)` where `settings1, settings2, ...` are lists created with `amTooltip`; this can also be a single list of settings that will be applied to each series, or a just a string for the text to display in the tooltip  

**pointsStyle**  settings of the points style; NULL for default, otherwise a named list of the form `list(yvalue1 = settings1,yvalue2 = settings2,...)` where `settings1, settings2, ...` are lists created with `amCircle, amTriangle` or `amRectangle`; this can also be a single list of settings that will be applied to each series  

**backgroundColor**  a color for the chart background; it can be given by the name of a R color, the name of a CSS color, e.g. "aqua" or "indigo", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)" , or a HSL code like "hsl(360,11,255)"  

**xAxis**  settings of the x-axis given as a list, or just a string for the axis title; the list of settings has five possible fields: a field `title`, a list of settings for the axis title created with `amText`, a field `labels`, a list of settings for the axis labels created with `amAxisLabels`, a field `adjust`, a number defining the vertical adjustment of the axis (in pixels), a field `gridLines`, a list of settings for the grid lines created with `amLine`, and a field `breaks` to control the axis breaks, an R object created with `amAxisBreaks`  

**yAxis**  settings of the y-axis given as a list, or just a string for the axis title; the list of settings has five possible fields: a field `title`, a list of settings for the axis title created with `amText`, a field `labels`, a list of settings for the axis labels created with `amAxisLabels`, a field `adjust`, a number defining the horizontal adjustment of the axis (in pixels), a field `gridLines`, a list of settings for the grid lines created with `amLine`, and a field `breaks` to control the axis breaks, an R object created with `amAxisBreaks`  

**scrollbarX**  logical, whether to add a scrollbar for the x-axis  

**scrollbarY**  logical, whether to add a scrollbar for the y-axis  

**legend**  FALSE for no legend, TRUE for a legend with default settings, or a list of settings created with `amLegend`  

**caption**  NULL or FALSE for no caption, a formatted text created with `amText`, or a list with two fields: `text`, a list created with `amText`, and `align`, can be "left", "right" or "center"  

**image**  option to include an image at a corner of the chart; NULL or FALSE for no image, otherwise a named list with four possible fields: the field `image` (required) is a list created with `amImage`, the field `position` can be "topleft", "topright", "bottomleft" or "bottomright", the field `hjust` defines the horizontal adjustment, and the field `vjust` defines the vertical adjustment  

**button**  NULL for the default, FALSE for no button, or a list of settings created with `amButton`; this button is used to replace the current data with `data2`
option to add a cursor on the chart; FALSE for no cursor, TRUE for a cursor for both axes with default settings for the axes tooltips, otherwise a named list with four possible fields: a field axes to specify the axes for which the cursor is requested, can be "x", "y", or "xy", a field tooltip to set the style of the axes tooltips, this must be a list of settings created with amTooltip, a field extraTooltipPrecision, a named list of the form list(x = i, y = j) where i and j are the desired numbers of additional decimals for the tooltips on the x-axis and on the y-axis respectively, and a field modifier, a list with two possible fields, x and y, which defines modifiers for the values displayed in the tooltips; a modifier is some JavaScript code given a string, which performs a modification of a string named text; see the first example of amLineChart for an example of modifier

zoomButtons a Boolean value, or a list created with amZoomButtons

width the width of the chart, e.g. "600px" or "80%"; ignored if the chart is displayed in Shiny, in which case the width is given in amChart4Output

height the height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny, in which case the height is given in amChart4Output

export logical, whether to enable the export menu

chartId a HTML id for the chart

elementId a HTML id for the container of the chart; ignored if the chart is displayed in Shiny, in which case the id is given by the Shiny id

Examples

# iris data: petal widths ####
dat <- iris
dat$obs <- rep(1:50, 3)
dat <- reshape2::dcast(dat, obs ~ Species, value.var = "Petal.Width")
amScatterChart(
  data = dat,
  width = "700px",
  xValue = "obs",
  yValues = c("setosa", "versicolor", "virginica"),
  draggable = FALSE,
  backgroundColor = "#30303d",
  pointsStyle = list(
    setosa = amCircle(color = "orange", strokeColor = "red"),
    versicolor = amCircle(color = "cyan", strokeColor = "blue"),
    virginica = amCircle(color = "palegreen", strokeColor = "darkgreen")
  ),
  tooltip = "obs: {valueX}\nvalue: {valueY}"
),
chartTitle = amText(text = "Iris data", color = "whitesmoke"),
xAxis = list(title = amText(text = "Observation",
    fontSize = 21,
    color = "silver"),
    labels = amAxisLabels(color = "whitesmoke",
      fontSize = 17)),
yAxis = list(title = amText(text = "Petal width",
    fontSize = 21,
    color = "silver"),
    labels = amAxisLabels(color = "whitesmoke",
      fontSize = 17)),
)

# iris data: petal widths
fontSize = 21,
  color = "silver"),
labels = amAxisLabels(color = "whitesmoke",
  fontSize = 14),
gridLines = amLine(color = "whitesmoke",
  opacity = 0.4, width = 1)),
Xformatter = "#",
Yformatter = ".0",
caption = amText(text = "[font-style:italic]rAmCharts4[/]",
  color = "yellow"),
theme = "dark")

# iris data: petal widths vs petal lengths

dat <- iris
dat$obs <- rep(1:50, 3)
dat <-
  reshape2::dcast(dat, obs + Petal.Length ~ Species, value.var = "Petal.Width")

amScatterChart(
  data = dat,
  width = "700px",
  xValue = "Petal.Length",
  yValues = c("setosa", "versicolor", "virginica"),
  draggable = FALSE,
  backgroundColor = ".#30303d",
  pointsStyle = list(
    setosa = amCircle(color = "orange", strokeColor = "red"),
    versicolor = amCircle(color = "cyan", strokeColor = "blue"),
    virginica = amCircle(color = "palegreen", strokeColor = "darkgreen")
  ),
  tooltip = list(
    setosa = amTooltip(
      text = "length: {valueX}\nwidth: {valueY}"
    ),
    versicolor = amTooltip(
      text = "length: {valueX}\nwidth: {valueY}"
    ),
    virginica = amTooltip(
      text = "length: {valueX}\nwidth: {valueY}"
    )
  ),
  chartTitle = amText(text = "Iris data", color = "silver"),
```r
xAxis = list(title = amText(text = "Petal length", fontSize = 19, color = "gold"),
             labels = amAxisLabels(color = "whitesmoke", fontSize = 17)),
yAxis = list(title = amText(text = "Petal width", fontSize = 19, color = "gold"),
              labels = amAxisLabels(color = "whitesmoke", fontSize = 17),
              gridLines = amLine(color = "whitesmoke", opacity = 0.4, width = 1)),
cursor = list(
    tooltip = amTooltip(backgroundColor = "lightgray"),
    extraTooltipPrecision = list(x = 1, y = 1)),
caption = amText(text = "[font-style:italic]rAmCharts4[/]", color = "yellow"),
theme = "dark")

# scatter chart with trend lines ####
Asym = 5; R0 = 1; lrc = -3/4
x <- seq(-.3, 5, len = 101)
y0 <- Asym + (R0-Asym) * exp(-exp(lrc)* x)

dat <- data.frame(
    x = x,
    y1 = y0 + rnorm(101, sd = 0.33),
    y2 = y0 + rnorm(101, sd = 0.33) + 2)

amScatterChart(
    data = dat,
    width = "700px",
    xValue = "x",
    yValues = c("y1", "y2"),
    trend = list("_all" = list(
        method = "nls",
        formula = y ~ SSasymp(x, Asym, R0, lrc),
        style = amLine()
    )),
    draggable = FALSE,
    pointsStyle = list(
        y1 = amTriangle(
            width = 8,
            height = 8,
            strokeColor = "yellow",
            strokeWidth = 1
        ),
        y2 = amTriangle(
            width = 8,
            height = 8,
            strokeColor = "yellow",
            strokeWidth = 1
        )
    ),
    theme = "dark")
```

amSegment

Segment style

Description

Create a list of settings for a segment.

Usage

amSegment(color = NULL, width = 1)

Arguments

color        color of the segment; this can be a color adapter
width       width of the segment

Value

A list of settings for a segment.

Note

A color can be given by the name of a R color, the name of a CSS color, e.g. "lime" or "indigo", an
HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)".
amStackedBarChart

HTML widget displaying a stacked bar chart

Description

Create a HTML widget displaying a stacked bar chart.

Usage

```r
amStackedBarChart(
  data,
  data2 = NULL,
  category,
  stacks,
  seriesNames = NULL,
  colors = NULL,
  hline = NULL,
  yLimits = NULL,
  expandY = 5,
  valueFormatter = "#.",
  chartTitle = NULL,
  theme = NULL,
  tooltip = NULL,
  threeD = FALSE,
  backgroundColor = NULL,
  cellWidth = NULL,
  columnWidth = NULL,
  xAxis = NULL,
  yAxis = NULL,
  scrollbarX = FALSE,
  scrollbarY = FALSE,
  legend = NULL,
  caption = NULL,
  image = NULL,
  button = NULL,
  cursor = FALSE,
  width = NULL,
  height = NULL,
  export = FALSE,
  chartId = NULL,
  elementId = NULL
)
```

Arguments

- **data**: a dataframe
**amStackedBarChart**

- **data2**
  - NULL or a dataframe used to update the data with the button; its column names must include the column names of data given in `series`, it must have the same number of rows as `data` and its rows must be in the same order as those of `data`.

- **category**
  - name of the column of data to be used on the category axis.

- **stacks**
  - a list of stacks; a stack is a character vector of the form c("series3","series1","series2"), and the first element of a stack corresponds to the bottom of the column.

- **seriesNames**
  - names of the series variables (the variables which appear in the stacks), to appear in the legend; NULL to use the variables given in `stacks` as names, otherwise a named list of the form list(series1 = "SeriesName1", series2 = "SeriesName2", ...) where `series1`, `series2`, ... are the column names given in `stacks` and "SeriesName1", "SeriesName2", ... are the desired names to appear in the legend; these names can also appear in the tooltips: they are substituted to the string `{name}` in the formatting string passed on to the tooltip.

- **colors**
  - colors of the bars; NULL for automatic colors based on the theme, otherwise a named list of the form list(series1 = Color1, series2 = Color2,...) where `series1`, `series2`, ... are the column names given in `stacks`.

- **hline**
  - an optional horizontal line to add to the chart; it must be a named list of the form list(value = h, line = settings) where `h` is the "intercept" and `settings` is a list of settings created with `amLine`.

- **yLimits**
  - range of the y-axis, a vector of two values specifying the lower and the upper limits of the y-axis; NULL for default values.

- **expandY**
  - if `yLimits = NULL`, a percentage of the range of the y-axis used to expand this range.

- **valueFormatter**
  - a number formatting string; it is used to format the values displayed in the cursor tooltips if `cursor = TRUE`, the labels of the y-axis unless you specify your own formatter in the `labels` field of the list passed on to the `yAxis` option, and the values displayed in the tooltips unless you specify your own tooltip text.

- **chartTitle**
  - chart title, it can be NULL or FALSE for no title, a character string, a list of settings created with `amText`, or a list with two fields: `text`, a list of settings created with `amText`, and `align`, can be "left", "right" or "center".

- **theme**
  - theme, NULL or one of "dataviz", "material", "kelly", "dark", "moonrisekingdom", "frozen", "spiritedaway", "patterns", "microchart".

- **tooltip**
  - settings of the tooltips; NULL for default, FALSE for no tooltip, otherwise a named list of the form list(series1 = settings1, series2 = settings2,...) where `settings1`, `settings2`, ... are lists created with `amTooltip`; this can also be a single list of settings that will be applied to each series, or a just a string for the text to display in the tooltip.

- **threeD**
  - logical, whether to render the columns in 3D.

- **backgroundColor**
  - a color for the chart background; a color can be given by the name of a R color, the name of a CSS color, e.g. "rebeccapurple" or "fuchsia", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)". or a HSL code like "hsl(360,11,255)".

- **cellWidth**
  - cell width in percent; for a simple bar chart, this is the width of the columns; for a grouped bar chart, this is the width of the clusters of columns; NULL for the default value.
amStackedBarChart

columnWidth  column width, a percentage of the cell width; set to 100 for a simple bar chart and use cellWidth to control the width of the columns; for a grouped bar chart, this controls the spacing between the columns within a cluster of columns; NULL for the default value

xAxis  settings of the category axis given as a list, or just a string for the axis title; the list of settings has three possible fields: a field title, a list of settings for the axis title created with amText, a field labels, a list of settings for the axis labels created with amAxisLabels, and a field adjust, a number defining the vertical adjustment of the axis (in pixels)

yAxis  settings of the value axis given as a list, or just a string for the axis title; the list of settings has five possible fields: a field title, a list of settings for the axis title created with amText, a field labels, a list of settings for the axis labels created with amAxisLabels, a field adjust, a number defining the horizontal adjustment of the axis (in pixels), a field gridLines, a list of settings for the grid lines created with amLine and a field breaks to control the axis breaks, an R object created with amAxisBreaks

scrollbarX  logical, whether to add a scrollbar for the category axis

scrollbarY  logical, whether to add a scrollbar for the value axis

legend  either a logical value, whether to display the legend, or a list of settings for the legend created with amLegend

caption  NULL or FALSE for no caption, a formatted text created with amText, or a list with two fields: text, a list created with amText, and align, can be "left", "right" or "center"

image  option to include an image at a corner of the chart; NULL or FALSE for no image, otherwise a named list with four possible fields: the field image (required) is a list created with amImage, the field position can be "topleft", "topright", "bottomleft" or "bottomright", the field hjust defines the horizontal adjustment, and the field vjust defines the vertical adjustment

button  NULL for the default, FALSE for no button, or a list of settings created with amButton; this button is used to replace the current data with data2

cursor  option to add a cursor on the chart; FALSE for no cursor, TRUE for a cursor with default settings for the tooltips, or a list of settings created with amTooltip to set the style of the tooltips, or a list with three possible fields: a field tooltip, a list of tooltip settings created with amTooltip, a field extraTooltipPrecision, an integer, the number of additional decimals to display in the tooltips, and a field modifier, which defines a modifier for the values displayed in the tooltips; a modifier is some JavaScript code given as a string, which performs a modification of a string named text, e.g. modifier = "text = '>>>' + text;"

width  the width of the chart, e.g. "600px" or "80%;" ignored if the chart is displayed in Shiny, in which case the width is given in amChart4Output

height  the height of the chart, e.g. "400px"; ignored if the chart is displayed in Shiny, in which case the height is given in amChart4Output

export  logical, whether to enable the export menu

chartId  a HTML id for the chart

elementId  a HTML id for the container of the chart; ignored if the chart is displayed in Shiny, in which case the id is given by the Shiny id
Examples

```r
library(rAmCharts4)

dat <- data.frame(
  year = c("2004", "2005", "2006"),
  europe = c(10, 15, 20),
  asia = c(9, 10, 13),
  africa = c(5, 6, 8),
  meast = c(7, 8, 12),
  namerica = c(12, 15, 19),
  samerica = c(10, 16, 14)
)

dat2 <- data.frame(
  year = c("2004", "2005", "2006"),
  europe = c(7, 12, 16),
  asia = c(8, 13, 10),
  africa = c(7, 7, 10),
  meast = c(8, 6, 14),
  namerica = c(10, 17, 17),
  samerica = c(12, 18, 17)
)

stacks <- list(
  c("europe", "namerica"),
  c("asia", "africa", "meast", "samerica")
)

seriesNames <- list(
  europe = "Europe",
  namerica = "North America",
  asia = "Asia",
  africa = "Africa",
  meast = "Middle East",
  samerica = "South America"
)

amStackedBarChart(
  dat,
  data2 = dat2,
  category = "year",
  stacks = stacks,
  seriesNames = seriesNames,
  yLimits = c(0, 60),
  chartTitle = amText(
    "Stacked bar chart",
    fontFamily = "Trebuchet MS",
    fontSize = 30,
    fontWeight = "bold"
  ),
  xAxis = "Year",
  yAxis = "A quantity..."
)
amText 69

```r
theme = "kelly",
button = amButton("Update", position = 1),
height = 450
```

---

### amText

`Text`

#### Description

Create a list of settings for a text.

#### Usage

```r
amText(
  text, 
  color = NULL,
  fontSize = NULL, 
  fontWeight = "normal", 
  fontFamily = NULL
)
```

#### Arguments

- **text**: the text to display, a character string
- **color**: color of the text; it can be given by the name of a R color, the name of a CSS color, e.g. "crimson", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)"
- **fontSize**: size of the text
- **fontWeight**: font weight of the text, it can be "normal", "bold", "bolder", "lighter", or a number in seq(100,900,by = 100)
- **fontFamily**: font family

#### Value

A list of settings for a text.

#### Note

There is no option for the font style; you can get an italicized text by entering `text = "[font-style:italic]Your text[/]"`. 
amTooltip

DESCRIPTION

Create list of settings for a tooltip.

USAGE

amTooltip(
  text,
  textColor = NULL,
  textAlign = "middle",
  backgroundColor = NULL,
  backgroundOpacity = 0.6,
  borderColor = NULL,
  borderWidth = 2,
  pointerLength = 10,
  scale = 1,
  auto = FALSE
)

ARGUMENTS

text text to display in the tooltip; this should be a formatting string
textColor text color
textAlign alignment of the text, can be "start", "middle", or "end"
backgroundColor background color of the tooltip
backgroundOpacity background opacity
borderColor color of the border of the tooltip
borderWidth width of the border of the tooltip
pointerLength length of the pointer
scale scale factor
auto logical, whether to use automatic background color and text color

VALUE

A list of settings for a tooltip.

NOTE

A color can be given by the name of a R color, the name of a CSS color, e.g. "transparent" or "fuchsia", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)". or a HSL code like "hsl(360,11,255)".
amZoomButtons

Description
Zoom buttons.

Usage
amZoomButtons(
    halign = "left",
    valign = "top",
    marginH = 5,
    marginV = 5,
    zoomFactor = 0.1
)

Arguments
- halign: "left" or "right"
- valign: "top" or "bottom"
- marginH: horizontal margin
- marginV: vertical margin
- zoomFactor: zoom factor

Value
A list of parameters for zoom buttons, for usage in amLineChart or amScatterChart

rAmCharts4-adapters

Description
Adapters allow to have finer control of settings such as the colors of the columns of a bar chart or the colors of the points of a scatter chart.

Usage
amColorAdapterFromVector(colors)

amColorAdapterFromCuts(cuts, colors, value)
Arguments

- **colors**: a vector of colors
- **cuts**: a vector of cut points (sorted increasingly)
- **value**: a mathematical expression of the variables X and Y given as JavaScript code; the simplest examples are "X" and "Y", a more elaborate example is "Math.sqrt(X**2+Y**2)" (don’t forget that the power in JavaScript is '**', not '^'); see the examples

Examples

```r
# bar chart with individual colors ####

dat <- data.frame(
  country = c("USA", "China", "Japan", "Germany", "UK", "France"),
  visits = c(3025, 1882, 1809, 1322, 1122, 1114)
)

amBarChart(
  data = dat,
  width = "600px",
  category = "country", values = "visits",
  showValues = FALSE,
  tooltip = FALSE,
  columnStyle = amColumn(
    color = amColorAdapterFromVector(hcl.colors(6, "Viridis")),
    opacity = 0.7,
    strokeColor = amColorAdapterFromVector(hcl.colors(6, "Cividis")),
    strokeWidth = 4
  ),
  bullets = amCircle(
    color = amColorAdapterFromVector(hcl.colors(6, "Viridis")),
    opacity = 1,
    strokeColor = amColorAdapterFromVector(hcl.colors(6, "Cividis")),
    strokeWidth = 4,
    radius = 12
  ),
  alwaysShowBullets = TRUE,
  chartTitle = amText(text = "Visits per country", fontSize = 22, color = "orangered"),
  backgroundColor = "rgb(164,167,174)",
  xAxis = list(title = amText(text = "Country", color = "maroon")),
  yAxis = list(
    title = amText(text = "Visits", color = "maroon"),
    gridLines = amLine(color = "white", width = 1, dash = "3,3")
  ),
  yLimits = c(0, 4000),
  valueFormatter = ":,###.",
  caption = amText(text = "Year 2018", color = "red")
)

# usage example of amColorAdapterFromCuts ####
```
```r
set.seed(314159)
dat <- data.frame(
  x = rnorm(200),
  y = rnorm(200)
)

amScatterChart(
  data = dat,
  width = "500px", height = "500px",
  xValue = "x", yValues = "y",
  xLimits = c(-3,3), yLimits = c(-3,3),
  draggable = FALSE,
  backgroundColor = "#30303d",
  pointsStyle = amCircle(
    color = amColorAdapterFromCuts(
      cuts = c(-2, -1, 1, 2),
      colors = c("red", "green", "blue", "green", "red"),
      value = "Y"
    ),
    opacity = 0.5,
    strokeColor = amColorAdapterFromCuts(
      cuts = c(-2, -1, 1, 2),
      colors = c("darkred", "darkgreen", "darkblue", "darkgreen", "darkred"),
      value = "Y"
    )
  ),
  xAxis = list(
    breaks = amAxisBreaks(seq(-3, 3, by=1)),
    gridLines = amLine(opacity = 0.3, width = 1)
  ),
  yAxis = list(
    breaks = amAxisBreaks(seq(-3, 3, by=1)),
    gridLines = amLine(opacity = 0.3, width = 1)
  ),
  tooltip = FALSE,
  caption = amText(text = "[font-style:italic]rAmCharts4[/]",
                   color = "yellow"),
  theme = "dark"
)

# other usage example of amColorAdapterFromCuts: linear gradient ####
set.seed(314159)
dat <- data.frame(
  x = rnorm(500),
  y = rnorm(500)
)

amScatterChart(
  data = dat,
  width = "500px", height = "500px",
  xValue = "x", yValues = "y",
  xLimits = c(-3,3), yLimits = c(-3,3),
  draggable = FALSE,
  backgroundColor = "#30303d",
  pointsStyle = amCircle(
    color = amColorAdapterFromCuts(
      cuts = c(-2, -1, 1, 2),
      colors = c("red", "green", "blue", "green", "red"),
      value = "Y"
    ),
    opacity = 0.5,
    strokeColor = amColorAdapterFromCuts(
      cuts = c(-2, -1, 1, 2),
      colors = c("darkred", "darkgreen", "darkblue", "darkgreen", "darkred"),
      value = "Y"
    )
  ),
  xAxis = list(
    breaks = amAxisBreaks(seq(-3, 3, by=1)),
    gridLines = amLine(opacity = 0.3, width = 1)
  ),
  yAxis = list(
    breaks = amAxisBreaks(seq(-3, 3, by=1)),
    gridLines = amLine(opacity = 0.3, width = 1)
  ),
  tooltip = FALSE,
  caption = amText(text = "[font-style:italic]rAmCharts4[/]",
                   color = "yellow"),
  theme = "dark"
)
```

xLimits = c(-3,3), yLimits = c(-3,3),
draggable = FALSE,
backgroundColor = "#30303d",
pointsStyle = amCircle(
    radius = 4,
    strokeWidth = 1,
    color = amColorAdapterFromCuts(
        cuts = seq(-3, 3, length.out = 121),
        colors = colorRampPalette(
            c("red","orangered","blue","white","blue","orangered","red")
        )(122),
        value = "X"
    ),
    opacity = 0.75,
    strokeColor = amColorAdapterFromCuts(
        cuts = seq(-3, 3, length.out = 121),
        colors = colorRampPalette(
            c("red","orangered","blue","white","blue","orangered","red")
        )(122),
        value = "X"
    )
),
xAxis = list(
    breaks = amAxisBreaks(seq(-3, 3, by=1)),
    gridLines = amLine(opacity = 0.3, width = 1)
),
yAxis = list(
    breaks = amAxisBreaks(seq(-3, 3, by=1)),
    gridLines = amLine(opacity = 0.3, width = 1)
),
tooltip = FALSE,
caption = amText(text = "[font-style:italic]rAmCharts4[/]",
    color = "yellow"),
theme = "dark"

# yet another usage example of amColorAdapterFromCuts: radial gradient

set.seed(314159)
dat <- data.frame(
    x = rnorm(1000),
    y = rnorm(1000)
)
amScatterChart(
    data = dat,
    width = "500px", height = "500px",
    xValue = "x", yValues = "y",
    xLimits = c(-3,3), yLimits = c(-3,3),
    draggable = FALSE,
    backgroundColor = "#30303d",
    pointsStyle = amCircle(
        radius = 4,
strokeWidth = 1,
color = amColorAdapterFromCuts(
  cuts = seq(0, 3, length.out = 121),
  colors = colorRampPalette(
    c("white","blue","orangered","red")
  )(122),
  value = "Math.sqrt(X**2+Y**2)"
),
opacity = 0.75,
strokeColor = amColorAdapterFromCuts(
  cuts = seq(0, 3, length.out = 121),
  colors = colorRampPalette(
    c("white","blue","orangered","red")
  )(122),
  value = "Math.sqrt(X**2+Y**2)"
)
),
xAxis = list(
  breaks = amAxisBreaks(seq(-3, 3, by=1)),
  gridLines = amLine(opacity = 0.3, width = 1)
),
yAxis = list(
  breaks = amAxisBreaks(seq(-3, 3, by=1)),
  gridLines = amLine(opacity = 0.3, width = 1)
),
tooltip = FALSE,
caption = amText(text = "[font-style:italic]rAmCharts4[/]",
  color = "yellow"),
  theme = "dark"
)

---

### rAmCharts4-imports

**Objects imported from other packages**

**Description**

These objects are imported from other packages. Follow the links to their documentation: [JS](JS), [saveWidget](saveWidget)

---

### rAmCharts4-shapes

**Bullets**

**Description**

Create a list of settings for bullets, their shape and their style.
Usage

amTriangle(
    color = NULL,
    opacity = 1,
    width = 10,
    height = 10,
    strokeColor = NULL,
    strokeOpacity = 1,
    strokeWidth = 2,
    direction = "top",
    rotation = 0,
    image = NULL
)

amCircle(
    color = NULL,
    opacity = 1,
    radius = 6,
    strokeColor = NULL,
    strokeOpacity = 1,
    strokeWidth = 2,
    image = NULL
)

amRectangle(
    color = NULL,
    opacity = 1,
    width = 10,
    height = 10,
    strokeColor = NULL,
    strokeOpacity = 1,
    strokeWidth = 2,
    rotation = 0,
    cornerRadius = 3,
    image = NULL
)

Arguments

color: bullet color; this can be a color adapter
opacity: bullet opacity, a number between 0 and 1
width: bullet width
height: bullet height
strokeColor: stroke color of the bullet; this can be a color adapter
strokeOpacity: stroke opacity of the bullet, a number between 0 and 1
strokeWidth: stroke width of the bullet
direction  triangle direction
rotation  rotation angle
image  option to include an image in the bullet, a list created with amImage
radius  circle radius
cornerRadius  radius of the rectangle corners

Value

A list of settings for the bullets.

Note

A color can be given by the name of a R color, the name of a CSS color, e.g. "transparent" or "fuchsia", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)".

rAmCharts4-shiny  Shiny bindings for using rAmCharts4 in Shiny

Description

Output and render functions for using the rAmCharts4 widgets within Shiny applications and interactive Rmd documents.

Usage

amChart4Output(outputId, width = "100\%", height = "400px")

renderAmChart4(expr, env = parent.frame(), quoted = FALSE)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<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 will be coerced to a string and have &quot;px&quot; appended</td>
</tr>
<tr>
<td>expr</td>
<td>an expression that generates a chart with amBarChart, amHorizontalBarChart, amLineChart, amScatterChart, amRangeAreaChart, amRadialBarChart, amDumbbellChart, amHorizontalDumbbellChart, amGaugeChart, amPieChart, or amPercentageBarChart</td>
</tr>
<tr>
<td>env</td>
<td>the environment in which to evaluate expr</td>
</tr>
<tr>
<td>quoted</td>
<td>whether expr is a quoted expression</td>
</tr>
</tbody>
</table>
Examples

```r
library(rAmCharts4)
library(shiny)
library(lubridate)

ui <- fluidPage(
  br(),
  fluidRow(
    column(
      width = 8,
      amChart4Output("linechart", height = "500px")
    ),
    column(
      width = 4,
      tags$fieldset(
        tags$legend("Chart data"),
        verbatimTextOutput("chartData"),
      ),
      tags$fieldset(
        tags$legend("Change"),
        verbatimTextOutput("chartChange")
      )
    )
  )
)

server <- function(input, output){

  set.seed(666)
  dat <- data.frame(
    date = ymd(180101) + months(0:11),
    visits = rpois(12, 20),
    x = 1:12
  )

  output[["linechart"]]
    <- renderAmChart4({
    amLineChart(
      data = dat,
      data2 = dat,
      xValue = "date",
      yValues = "visits",
      draggable = TRUE,
      chartTitle = amText(
        text = "Number of visits",
        color = "crimson",
        fontWeight = "bold",
        fontFamily = "cursive"
      ),
      xAxis = list(
        title = "Date",
        labels = amAxisLabels(rotation = -45),
        breaks = amAxisBreaks(timeInterval = "1 month")
      )
    )
  })
  ```
functions.

Example

```r
library(shiny)

ui <- fluidPage(
  titlePanel("Example with tinyIcon"),
  sidebarLayout(
    sidebarPanel(
      tinyIcons()
    ),
    mainPanel(
      tinyIcon(icon = "fa-star", backgroundColor = "blue")
    )
  )

server <- function(input, output) {
  output$linechart <- plotlyOutput("chart")
  output$linechart_change <- reactiveOutput()
}

if(interactive()) {
  shinyApp(ui, server)
}
```

**tinyIcon**

`tinyIcon()` is a function for creating icons that can be used in the `amImage` function. It takes two arguments:

- `icon`: A string representing the icon to be displayed.
- `backgroundColor`: An optional argument specifying the background color of the icon. If `NULL`, the color of the icon is determined automatically.

**Description**

Icons for usage in `amImage`.

**Usage**

- `tinyIcon(icon, backgroundColor = NULL)`
- `tinyIcons()`
- `shinyAppTinyIcons()`
updateAmBarChart

Arguments

icon: name of an icon; tinyIcons() returns the list of available icons, and shinyAppTinyIcons() runs a Shiny app which displays the available icons

backgroundColor: background color of the icon (possibly "transparent")

Value

A base64 string that can be used in the href argument of amImage.

Note

A color can be given by the name of a R color, the name of a CSS color, e.g. "transparent" or "fuchsia", an HEX code like "#ff009a", a RGB code like "rgb(255,100,39)", or a HSL code like "hsl(360,11,255)".

Description

Update the data of a bar chart in a Shiny app (vertical, horizontal, radial, or stacked bar chart).

Usage

updateAmBarChart(session, outputId, data)

Arguments

session: the Shiny session object
outputId: the output id passed on to amChart4Output
data: new data; if it is not valid, then nothing will happen (in order to be valid it must have the same structure as the data passed on to amBarChart/amHorizontalBarChart/amRadialBarChart/amStackedBarChart); in this case check the JavaScript console, it will report the encountered issue

Examples

library(rAmCharts4)
library(shiny)

ui <- fluidPage(
  br(),
  actionButton("update", "Update", class = "btn-primary"),
  br(), br(),
  amChart4Output("barchart", width = "650px", height = "470px")
)
server <- function(input, output, session){

set.seed(666)
dat <- data.frame(
  country = c("USA", "China", "Japan", "Germany", "UK", "France"),
  visits = c(3025, 1882, 1809, 1322, 1122, 1114),
  income = rpois(6, 25),
  expenses = rpois(6, 20)
)
newdat <- data.frame(
  country = c("USA", "China", "Japan", "Germany", "UK", "France"),
  income = rpois(6, 25),
  expenses = rpois(6, 20)
)

output[["barchart"]]<- renderAmChart4({
  amBarChart(
    data = dat,
    category = "country",
    values = c("income", "expenses"),
    valueNames = list(income = "Income", expenses = "Expenses"),
    draggable = TRUE,
    backgroundColor = "#30303d",
    columnStyle = list(
      income = amColumn(
        color = "darkmagenta", strokeColor = "#cccccc", strokeWidth = 2
      ),
      expenses = amColumn(
        color = "darkred", strokeColor = "#cccccc", strokeWidth = 2
      )
    ),
    chartTitle = list(text = "Income and expenses per country"),
    xAxis = "Country",
    yAxis = "Income and expenses",
    yLimits = c(0, 41),
    valueFormatter = ",.0",
    caption = "Year 2018",
    theme = "dark"
  )

  observeEvent(input[['update']], {
    updateAmBarChart(session, "barchart", newdat)
  })
})

if(interactive()){
  shinyApp(ui, server)
}

# Survival probabilities ####

library(shiny)
library(rAmCharts4)

probs <- c(control = 30, treatment = 75) # initial probabilities

ui <- fluidPage(
  br(),
  sidebarLayout(
    sidebarPanel(
      wellPanel(
        tags$fieldset(
          tags$legend("Survival probability"),
          sliderInput(
            "control",
            "Control group",
            min = 0, max = 100, value = probs[["control"]], step = 1
          ),
          sliderInput(
            "treatment",
            "Treatment group",
            min = 0, max = 100, value = probs[["treatment"]], step = 1
          )
        )
      )
    ),
    mainPanel(
      amChart4Output("barchart", width = "500px", height = "400px")
    )
  )
)

server <- function(input, output, session){

  dat <- data.frame(
    group = c("Control", "Treatment"),
    alive = c(probs[["control"]], probs[["treatment"]]),
    dead = 100 - c(probs[["control"]], probs[["treatment"]])
  )
  stacks <- list(
    c("alive", "dead")
  )
  seriesNames <- list(
    alive = "Alive",
    dead = "Dead"
  )

  output[["barchart"]]<- renderAmChart4({
    amStackedBarChart(
      dat,
      category = "group",
      stacks = stacks,
      seriesNames = seriesNames,
      yLimits = c(0, 100),
      ...
updateAmGaugeChart

Update the score of a gauge chart

Description
Update the score of a gauge chart in a Shiny app

Usage
updateAmGaugeChart(session, outputId, score)

Arguments
- session: the Shiny session object
- outputId: the output id passed on to `amChart4Output`
- score: new value of the score

Examples
library(rAmCharts4)
library(shiny)
gradingData <- data.frame(  
  label = c("Slow", "Moderate", "Fast"),  
  lowScore = c(0, 100/3, 200/3),  
  highScore = c(100/3, 200/3, 100)  
)

ui <- fluidPage(  
  sidebarLayout(  
    sidebarPanel(  
      sliderInput("slider", "Score", min = 0, max = 100, value = 30  
    ),  
    mainPanel(  
      amChart4Output("gauge", height = "500px")  
    )  
  )  
)

server <- function(input, output, session){
  output["gauge"] <- renderAmChart4({
    amGaugeChart({
      score = isolate(input["slider"]),  
      minScore = 0, maxScore = 100, gradingData = gradingData,  
      theme = "dataviz"  
    })
  })

  observeEvent(input["slider"], {
    updateAmGaugeChart(session, "gauge", score = input["slider"])  
  })
}

if(interactive()){  
  shinyApp(ui, server)
}

updateAmPercentageBarChart

Update the data of a 100% stacked bar chart

Description

Update the data of a 100% staced bar chart in a Shiny app (amPercentageBarChart).

Usage

updateAmPercentageBarChart(session, outputId, data)
updateAmPercentageBarChart

Arguments

- session: the Shiny session object
- outputId: the output id passed on to `amChart4Output`
- data: new data; if it is not valid, then nothing will happen (in order to be valid it must have the same structure as the data passed on to `amPercentageBarChart`); in this case check the JavaScript console, it will report the encountered issue.

Examples

```r
library(rAmCharts4)
library(shiny)

dat <- data.frame(
  country = c("Australia", "Canada", "France", "Germany"),
  "35-44" = c(2, 2, 3, 3),
  "45-54" = c(9, 5, 7, 6),
  "55+" = c(8, 4, 6, 5),
  check.names = FALSE
)

newdat <- data.frame(
  country = c("Australia", "Canada", "France", "Germany"),
  "35-44" = c(3, 2, 3, 4),
  "45-54" = c(7, 3, 5, 5),
  "55+" = c(7, 4, 5, 3),
  check.names = FALSE
)

ui <- fluidPage(
  br(),
  actionButton("update", "Update", class = "btn-primary"),
  br(), br(),
  amChart4Output("pbarchart", width = "650px", height = "470px")
)

server <- function(input, output, session){
  output[["pbarchart"]]
    <- renderAmChart4(
    amPercentageBarChart(
      dat,
      category = "country",
      values = c("35-44", "45-54", "55+"),
      chartTitle = "Profit by country and age breakdowns",
      xAxis = "Country",
      yAxis = "Profit",
      theme = "moonrisekingdom",
      legend = amLegend(position = "right")
    )
  )
}
```
observeEvent(input[['update']], {
    updateAmPercentageBarChart(session, "pbarchart", newdat)
})

if(interactive()){
    shinyApp(ui, server)
}

---

**updateAmPieChart**  
*Update the data of a pie chart*

**Description**  
Update the data of a pie chart in a Shiny app.

**Usage**  
updateAmPieChart(session, outputId, data)

**Arguments**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>session</td>
<td>the Shiny session object</td>
</tr>
<tr>
<td>outputId</td>
<td>the output id passed on to <code>amChart4Output</code></td>
</tr>
<tr>
<td>data</td>
<td>new data; if it is not valid, then nothing will happen (in order to be valid it must have the same structure as the data passed on to <code>amPieChart</code>); in this case check the JavaScript console, it will report the encountered issue</td>
</tr>
</tbody>
</table>
Index

amAxisBreaks, 3, 7, 12, 17, 25, 29, 37, 42, 49, 54, 60, 67
amAxisLabels, 3, 7, 12, 14, 17, 25, 29, 30, 37, 42, 49, 54, 60, 67
amAxisLabelsCircular, 49
amAxisLabelsCircular (amAxisLabels), 3
amBarChart, 4, 11, 14, 16, 24, 29, 35, 47, 53, 59, 77, 80
amBoxplotChart, 10
amButton, 7, 13, 17, 25, 30, 37, 49, 54, 60, 67
amChart4Output, 8, 12, 18, 21, 26, 30, 38, 43, 45, 49, 55, 61, 67, 80, 83, 85, 86
amChart4Output (rAmCharts4-shapes), 77
amCircle, 6, 11, 17, 25, 29, 36, 48, 53, 60
amCircle (rAmCharts4-shapes), 75
amColorAdapterFromCuts
   (rAmCharts4-adapters), 71
amColorAdapterFromVector
   (rAmCharts4-adapters), 71
amColumn, 6, 14, 24, 48
amDateAxisFormatter, 4, 14
amDumbbellChart, 15, 77
amFont, 19, 21
amGaugeChart, 20, 77
amHand, 21, 22
amHorizontalBarChart, 14, 23, 77, 80
amHorizontalDumbbellChart, 27, 77
amImage, 7, 12, 17, 21, 25, 30, 31, 37, 42, 44, 49, 54, 60, 67, 77, 79, 80
amLegend, 7, 17, 25, 30, 32, 37, 42, 44, 49, 54, 60, 67
amLine, 6, 7, 11, 12, 16, 17, 21, 24, 25, 29, 30, 33, 35–37, 42, 49, 53, 54, 58–60, 66, 67
amLineChart, 34, 61, 71, 77
amPercentageBarChart, 41, 77, 84, 85
amPieChart, 43, 77, 86
amRadialBarChart, 46, 77, 80
amRangeAreaChart, 51, 77
amRectangle, 6, 11, 17, 25, 29, 36, 48, 53, 60
amRectangle (rAmCharts4-shapes), 75
amScatterChart, 57, 71, 77
amSegment, 17, 29, 64
amStackedBarChart, 65, 80
amTooltip, 6, 7, 11–13, 16, 17, 21, 24, 25, 29, 30, 36, 37, 42, 44, 48, 49, 53, 54, 59, 60, 66, 67, 69
amTriangle, 6, 11, 17, 25, 29, 36, 48, 53, 60
amTriangle (rAmCharts4-shapes), 75
amZoomButtons, 38, 61, 71
color adapter, 14, 64, 76
JS, 75
JS (rAmCharts4-imports), 75
rAmCharts4-adapters, 71
rAmCharts4-imports, 75
rAmCharts4-shapes, 75
rAmCharts4-shiny, 77
renderAmChart4 (rAmCharts4-shiny), 77
saveWidget, 75
saveWidget (rAmCharts4-imports), 75
shinyAppTinyIcons (tinyIcon), 79
tinyIcon, 31, 79
tinyIcons (tinyIcon), 79
updateAmBarChart, 80
updateAmGaugeChart, 22, 83
updateAmPercentageBarChart, 84
updateAmPieChart, 86