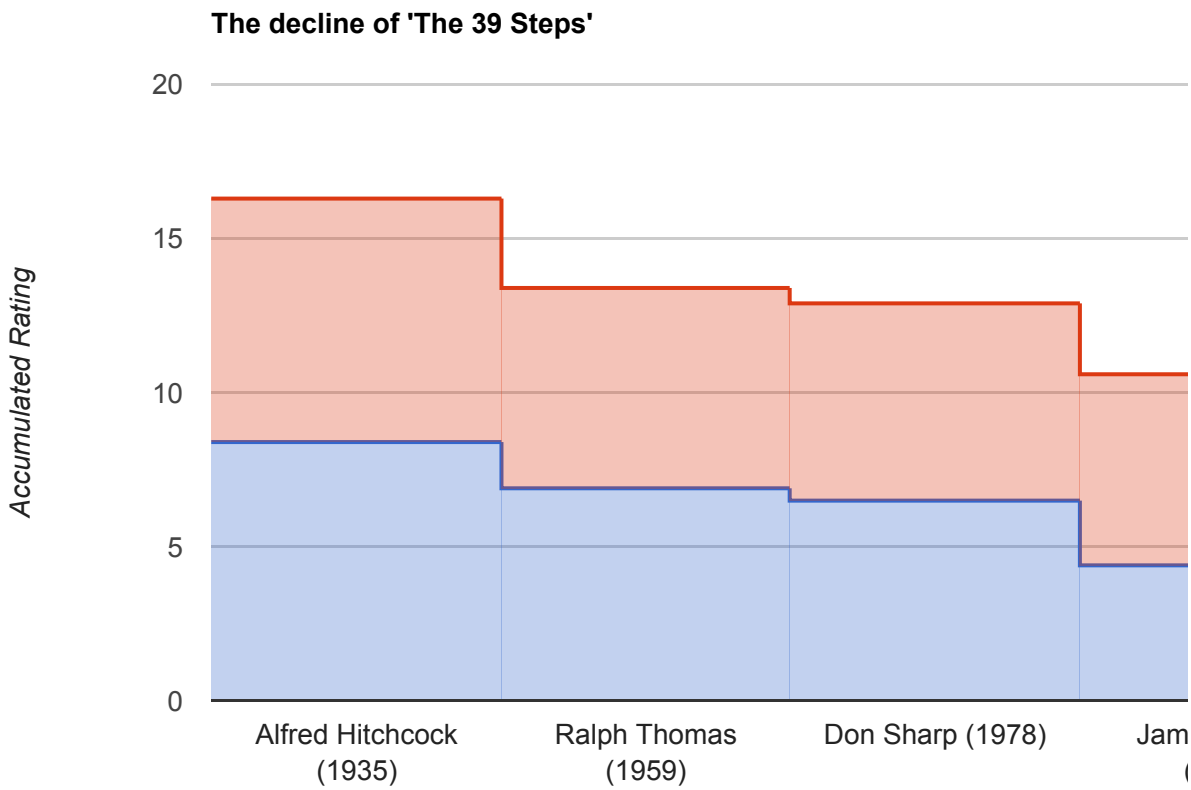
Stepped Area Chart

Overview

A stepped area chart that is rendered within the browser using SVG (http://www.w3.org/Graphics/SVG/) or VML (http://en.wikipedia.org/wiki/Vector_Markup_Language). Displays tips when hovering over steps.

A Simple Example



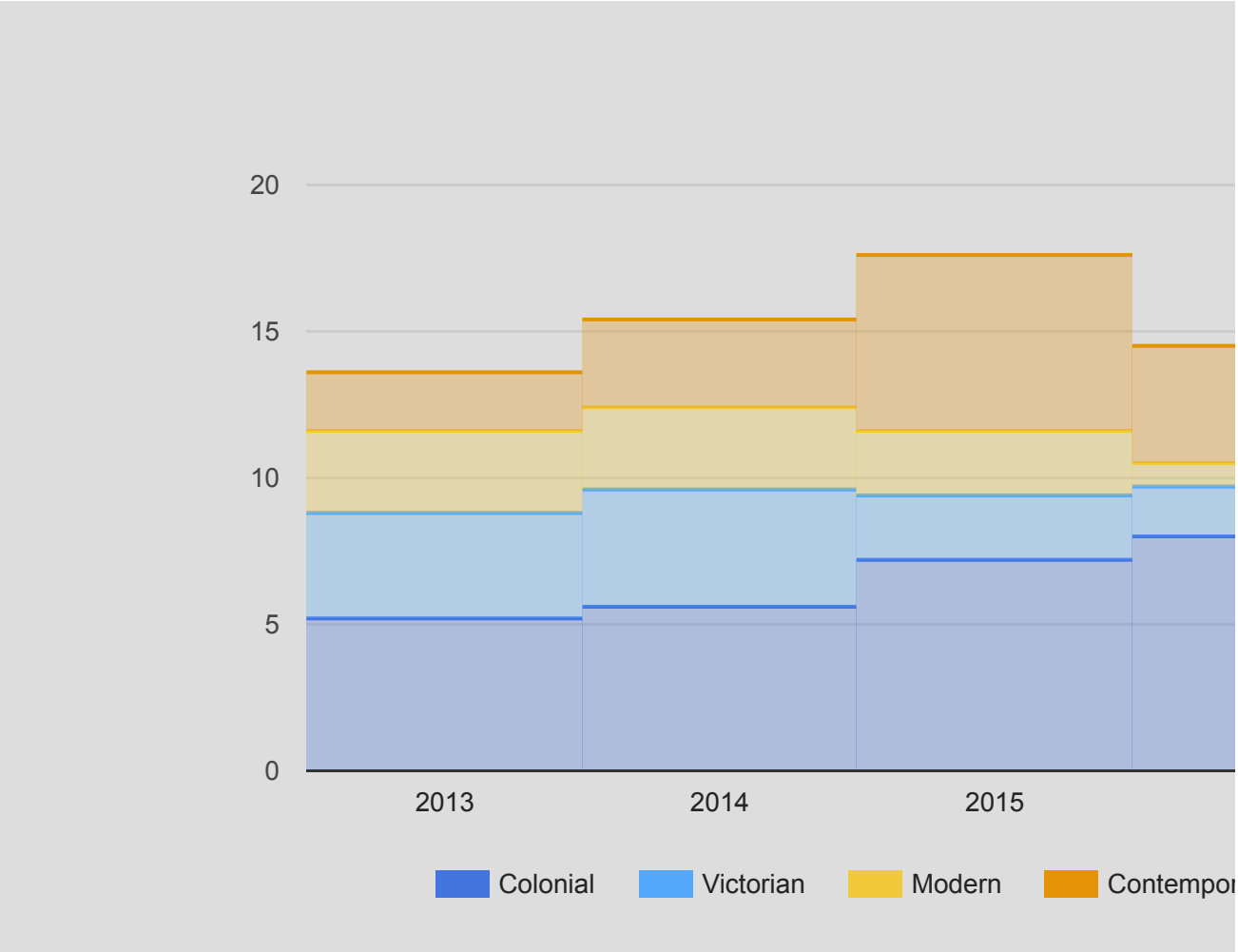
CODE IT YOURSELF ON JSFIDDLE

```
<html>
  <head>
    <script type="text/javascript" src="https://www.gstatic.com/charts/loader
    <script type="text/javascript">
      google.charts.load('current', {'packages':['corechart']});
      google.charts.setOnLoadCallback(drawChart);
```

```
      function drawChart() {
        var data = google.visualization.arrayToDataTable([
          ['Director (Year)',  'Rotten Tomatoes', 'IMDB'],
          ['Alfred Hitchcock (1935)', 8.4,         7.9],
          ['Ralph Thomas (1959)',     6.9,         6.5],
          ['Don Sharp (1978)',        6.5,         6.4],
          ['James Hawes (2008)',      4.4,         6.2]
        ]);

        var options = {
          title: 'The decline of \'The 39 Steps\'',
          vAxis: {title: 'Accumulated Rating'},
          isStacked: true
        };

        var chart = new google.visualization.SteppedAreaChart(document.getEle

        chart.draw(data, options);
      }
    </script>
  </head>
  <body>
    <div id="chart_div" style="width: 900px; height: 500px;"></div>
  </body>
</html>
```

Some Common Options

Like all Google Charts, stepped area charts have lots of options, shown here (#Configuration_Options). Here's an example demonstrating some of the most common:



In the above chart, we've changed the background color with `backgroundColor`, moved the legend to the bottom with `legend.position`, removed the vertical lines by setting `connectSteps` to false, and customized the colors. Here's how that was done:

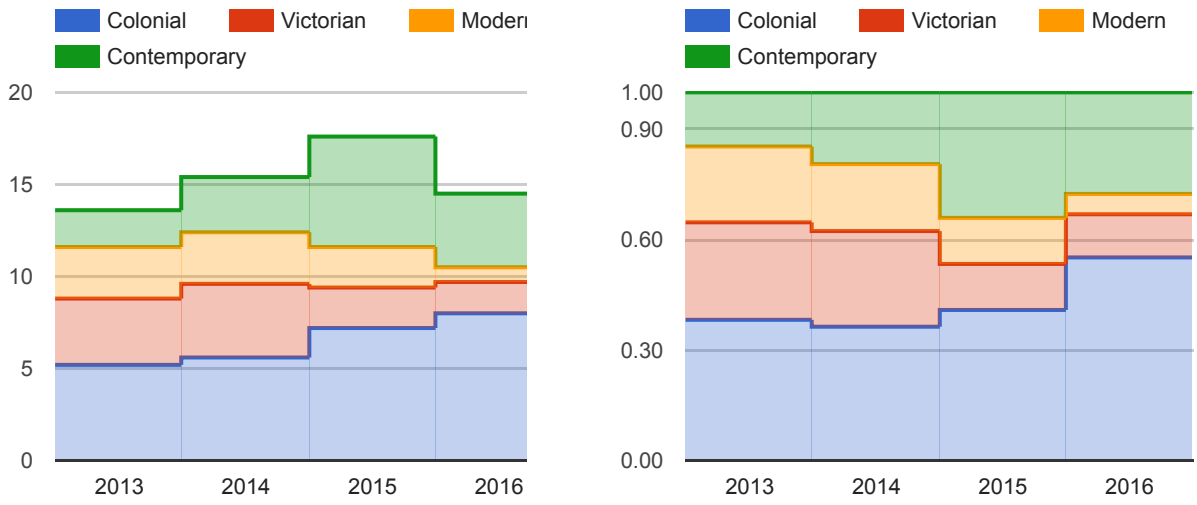
```
var options = {
    backgroundColor: '#ddd',
    legend: { position: 'bottom' },
    connectSteps: false,
    colors: ['#4374E0', '#53A8FB', '#F1CA3A', '#E49307'],
    isStacked: true,
};
```

Stacked Stepped Area Charts

Stepped area charts also support stacking, including 100% stacking. A *stacked stepped area chart* is a stepped area chart that places related values atop one another. If there are any negative values, they are stacked in reverse order below the chart's baseline. For 100% stacking, the stacks of elements at each domain-value are rescaled such that they add up

to 100%. The options for this are `isStacked: 'percent'`, which formats each value as a percentage of 100%, and `isStacked: 'relative'`, which formats each value as a fraction of 1. There is also an `isStacked: 'absolute'` option, which is functionally equivalent to `isStacked: true`.

Note in the 100% stacked chart on the right, the tick values are written based on the relative 0-1 scale as fractions of 1.



STACKED | 100% STACKED

```
var options_fullStacked = {
  isStacked: 'relative',
  height: 300,
  legend: {position: 'top', maxLines: 3},
  vAxis: {
    minValue: 0,
    ticks: [0, .3, .6, .9, 1]
  }
};
```

Loading

The `google.charts.load` package name is `"corechart"`.

```
google.charts.load("current", {packages: ["corechart"]});
```

The visualization's class name is `google.visualization.SteppedAreaChart`.

```
var visualization = new google.visualization.SteppedAreaChart(container);
```

Data Format

Rows: Each row in the table represents a group of bars.

Columns:

	Column 0	Column 1
Purpose:	X-axis group labels	Bar 1 values in this group
Data Type:	string	number
Role:	domain	data
Optional column roles (https://developers.google.com/chart/interactive/docs/roles):	*None*	• certainty (https://developers.google.co • interval (https://developers.google.co • scope (https://developers.google.co • style (https://developers.google.co • tooltip (https://developers.google.co

Configuration Options

Name	
aggregationTarget	How multiple data selections are rolled up into tooltips:

	• `'category'`: Group selected data by x-value. • `'series'`: Group selected data by series. • `'auto'`: Group selected data by x-value if all selections have otherwise. • `'none'`: Show only one tooltip per selection. `aggregationTarget` will often be used in tandem with `selec` e.g.: `var options = { // Allow multiple // simultaneous selections. selectionMode: 'multiple', // Trigger tooltips // on selections. tooltip: {trigger: 'selection'}, // Group selections // by x-value. aggregationTarget: 'category', };` **Type:** string **Default:** 'auto'
animation.duration	The duration of the animation, in milliseconds. For details, see t (https://developers.google.com/chart/interactive/docs/animat **Type:** number **Default:** 0
animation.easing	The easing function applied to the animation. The following opt • 'linear' - Constant speed. • 'in' - Ease in - Start slow and speed up. • 'out' - Ease out - Start fast and slow down. • 'inAndOut' - Ease in and out - Start slow, speed up, then slow **Type:** string **Default:** 'linear'
animation.startup	Determines if the chart will animate on the initial draw. If `true`, animate to its final state. **Type:** boolean **Default** false
areaOpacity	The default opacity of the area beneath the step, where 0.0 is fu

	Does not affect the opacity of the stepped line. To achieve a ste specify opacity for an individual series, set the **`areaOpacity`** v **Type:** number, 0.0–1.0 **Default:** 0.3
axisTitlesPosition	Where to place the axis titles, compared to the chart area. Supp • in - Draw the axis titles inside the chart area. • out - Draw the axis titles outside the chart area. • none - Omit the axis titles. **Type:** string **Default:** 'out'
backgroundColor	The background color for the main area of the chart. Can be eith example: **`'red'`** or **`'#00cc00'`**, or an object with the following **Type:** string or object **Default:** 'white'
backgroundColor.stroke	The color of the chart border, as an HTML color string. **Type:** string **Default:** '#666'
backgroundColor.strokeWidth	The border width, in pixels. **Type:** number **Default:** 0
backgroundColor.fill	The chart fill color, as an HTML color string. **Type:** string **Default:** 'white'
chartArea	An object with members to configure the placement and size of drawn, excluding axis and legends). Two formats are supported A simple number is a value in pixels; a number followed by % is **`{left:20,top:0,width:'50%',height:'75%'}`** **Type:** object **Default:** null
chartArea.backgroundColor	Chart area background color. When a string is used, it can be eit English color name. When an object is used, the following prope • **`stroke`**: the color, provided as a hex string or English color r • **`strokeWidth`**: if provided, draws a border around the chart color of **`stroke`**). **Type:** string or object

	Default: 'white'
chartArea.left	How far to draw the chart from the left border. **Type:** number or string **Default:** auto
chartArea.top	How far to draw the chart from the top border. **Type:** number or string **Default:** auto
chartArea.width	Chart area width. **Type:** number or string **Default:** auto
chartArea.height	Chart area height. **Type:** number or string **Default:** auto
colors	The colors to use for the chart elements. An array of strings, wh string, for example: `colors:['red','#004411']`. **Type:** Array of strings **Default:** default colors
connectSteps	If set to true, will connect the steps to form a stepped line. Othe default is to connect the steps. **Type:** boolean **Default:** true
enableInteractivity	Whether the chart throws user-based events or reacts to user in throw 'select' or other interaction-based events (but *will* throw re hovertext or otherwise change depending on user input. **Type:** boolean **Default:** true
focusTarget	The type of the entity that receives focus on mouse hover. Also mouse click, and which data table element is associated with ev • 'datum' - Focus on a single data point. Correlates to a cell in • 'category' - Focus on a grouping of all data points along the r data table. In focusTarget 'category' the tooltip displays all the category val values of different series. **Type:** string

	Default: 'datum'
fontSize	The default font size, in pixels, of all text in the chart. You can ov chart elements. **Type:** number **Default:** automatic
fontName	The default font face for all text in the chart. You can override th elements. **Type:** string **Default:** 'Arial'
forceIFrame	Draws the chart inside an inline frame. (Note that on IE8, this op in i-frames.) **Type:** boolean **Default:** false

hAxis	An object with members to configure various horizontal axis ele
	object, you can use object literal notation, as shown here:
	
	`{`
	`  title: 'Hello',`
	`  titleTextStyle: {`
	`  color: '#FF0000'`
	`  }`
	`}`
	
	Type: object
	Default: null

hAxis.direction	The direction in which the values along the horizontal axis grow values. **Type:** 1 or -1 **Default:** 1
hAxis.textPosition	Position of the horizontal axis text, relative to the chart area. Su **Type:** string **Default:** 'out'

hAxis.textStyle	An object that specifies the horizontal axis text style. The object
	
	`{ color: <string>,`
	`  fontName: <string>,`
	`  fontSize: <number>,`

	`bold: <boolean>,`
	`italic: <boolean> }`
	
	The **`color`** can be any HTML color string, for example: **`'red'`** c **`fontSize`**.
	
	Type: object
	Default: **`{color: 'black', fontName: <global-font-r size>}`**

hAxis.ticks	Replaces the automatically generated X-axis ticks with the spec should be either a valid tick value (such as a number, date, datet an object, it should have a **`v`** property for the tick value, and an o string to be displayed as the label. Examples: • **`hAxis: { ticks: [5,10,15,20] }`** • **`hAxis: { ticks: [{v:32, f:'thirty two'}, {v:`** • **`hAxis: { ticks: [new Date(2014,3,15), new Da`** • **`hAxis: { ticks: [16, {v:32, f:'thirty two'},`** **`}`** **Type:** Array of elements **Default:** auto
hAxis.title	**`hAxis`** property that specifies the title of the horizontal axis. **Type:** string **Default:** null

hAxis.titleTextStyle	An object that specifies the horizontal axis title text style. The o
	
	`{ color: <string>,`
	`fontName: <string>,`
	`fontSize: <number>,`
	`bold: <boolean>,`
	`italic: <boolean> }`
	
	The **`color`** can be any HTML color string, for example: **`'red'`** c **`fontSize`**.
	
	Type: object
	Default: **`{color: 'black', fontName: <global-font-r size>}`**

hAxis.allowContainerBoundaryTextCufoff	If false, will hide outermost labels rather than allow them to be c

	will allow label cropping. **Type:** boolean **Default:** false
hAxis.slantedText	If true, draw the horizontal axis text at an angle, to help fit more horizontal axis text upright. Default behavior is to slant text if it that this option is available only when the **`hAxis.textPositi`** **Type:** boolean **Default:** automatic
hAxis.slantedTextAngle	The angle of the horizontal axis text, if it's drawn slanted. Ignore is in auto mode, and the chart decided to draw the text horizont **Type:** number, 1—90 **Default:** 30
hAxis.maxAlternation	Maximum number of levels of horizontal axis text. If axis text la might shift neighboring labels up or down in order to fit labels cl most number of levels to use; the server can use fewer levels, if **Type:** number **Default:** 2
hAxis.maxTextLines	Maximum number of lines allowed for the text labels. Labels ca and the number of lines is, by default, limited by the height of th **Type:** number **Default:** auto
hAxis.minTextSpacing	Minimum horizontal spacing, in pixels, allowed between two adj spaced too densely, or they are too long, the spacing can drop b of the label-unclutter measures will be applied (e.g, truncating th **Type:** number **Default:** The value of **`hAxis.textStyle.fontSize`**
hAxis.showTextEvery	How many horizontal axis labels to show, where 1 means show label, and so on. Default is to try to show as many labels as pos **Type:** number **Default:** automatic
hAxis.viewWindow	Specifies the cropping range of the horizontal axis. **Type:** object **Default:** null
hAxis.viewWindow.max	The zero-based row index where the cropping window ends. Da cropped out. In conjunction with **`vAxis.viewWindowMode.mi`**

	max) that denotes the element indices to display. In other words `< max` will be displayed. Ignored when **`hAxis.viewWindowMode`** is 'pretty' or 'maximize **Type:** number **Default:** auto
hAxis.viewWindow.min	The zero-based row index where the cropping window begins. D be cropped out. In conjunction with **`vAxis.viewWindowMode`** [min, max) that denotes the element indices to display. In other `index < max` will be displayed. Ignored when **`hAxis.viewWindowMode`** is 'pretty' or 'maximize **Type:** number **Default:** auto
height	Height of the chart, in pixels. **Type:** number **Default:** height of the containing element
isStacked	If set to true, stacks the elements for all series at each domain v (https://developers.google.com/chart/interactive/docs/gallery/ (https://developers.google.com/chart/interactive/docs/gallery/ (https://developers.google.com/chart/interactive/docs/gallery/ Charts reverses the order of legend items to better correspond v (E.g. series 0 will be the bottom-most legend item). This **does n** (https://developers.google.com/chart/interactive/docs/gallery/ The **`isStacked`** option also supports 100% stacking, where the value are rescaled to add up to 100%. The options for **`isStacked`** are: • **`false`** — elements will not stack. This is the default option. • **`true`** — stacks elements for all series at each domain value. • **`'percent'`** — stacks elements for all series at each domain add up to 100%, with each element's value calculated as a pe • **`'relative'`** — stacks elements for all series at each doma they add up to 1, with each element's value calculated as a fr • **`'absolute'`** — functions the same as **`isStacked: true`**. For 100% stacking, the calculated value for each element will ap The target axis will default to tick values based on the relative 0 **`'relative'`**, and 0-100% for **`'percent'`** (**Note:** when using th values are displayed as percentages, however the actual values

	because the percentage axis ticks are the result of applying a fc values. When using `isStacked: 'percent'`, be sure to spec 0-1 scale values). You can customize the gridlines/tick values a `hAxis/vAxis` options. 100% stacking only supports data values of type `number`, and n **Type:** boolean/string **Default:** false
legend	An object with members to configure various aspects of the leg you can use object literal notation, as shown here: `{position: 'top', textStyle: {color: 'blue', fc` **Type:** object **Default:** null
legend.alignment	Alignment of the legend. Can be one of the following: • 'start' - Aligned to the start of the area allocated for the leger • 'center' - Centered in the area allocated for the legend. • 'end' - Aligned to the end of the area allocated for the legend. Start, center, and end are relative to the style -- vertical or horizo 'right' legend, 'start' and 'end' are at the top and bottom, respecti would be at the left and right of the area, respectively. The default value depends on the legend's position. For 'bottom legends default to 'start'. **Type:** string **Default:** automatic
legend.maxLines	Maximum number of lines in the legend. Set this to a number gr legend. Note: The exact logic used to determine the actual num This option currently works only when legend.position is 'top'. **Type:** number **Default:** 1
legend.position	Position of the legend. Can be one of the following: • 'bottom' - Below the chart. • 'left' - To the left of the chart, provided the left axis has no se the legend on the left, use the option `targetAxisIndex:` • 'in' - Inside the chart, by the top left corner. • 'none' - No legend is displayed.

	• 'right' - To the right of the chart. Incompatible with the **vAxes** • 'top' - Above the chart. **Type:** string **Default:** 'right'

legend.textStyle	An object that specifies the legend text style. The object has thi
	`{ color: <string>,`
	`fontName: <string>,`
	`fontSize: <number>,`
	`bold: <boolean>,`
	`italic: <boolean> }`
	The **color** can be any HTML color string, for example: **'red'** c **fontSize**.
	Type: object
	Default: **{color: 'black', fontName: <global-font-r size>}**

lineDashStyle	The on-and-off pattern for dashed lines. For instance, **[4, 4]** w 4-length gaps, and **[5, 1, 3]** will repeat a 5-length dash, a 1-l gap, a 1-length dash, and a 3-length gap. See Dashed Lines (https://developers.google.com/chart/interactive/docs/lines#c **Type:** Array of numbers **Default:** null
reverseCategories	If set to true, will draw series from right to left. The default is to **Type:** boolean **Default:** false
selectionMode	When **selectionMode** is **'multiple'**, users may select mult **Type:** string **Default:** 'single'
series	An array of objects, each describing the format of the correspor values for a series, specify an empty object {}. If a series or a va be used. Each object supports the following properties: • **areaOpacity** - Overrides the global **areaOpacity** for this • **color** - The color to use for this series. Specify a valid HTM • **labelInLegend** - The description of the series to appear in • **lineDashStyle** - Overrides the global **lineDashStyle** va

	• **targetAxisIndex** - Which axis to assign this series to, wh opposite axis. Default value is 0; set to 1 to define a chart wh against different axes. At least one series much be allocated different scale for different axes. • **visibleInLegend** - A boolean value, where true means tha and false means that it should not. Default is true. You can specify either an array of objects, each of which applies can specify an object where each child has a numeric key indica example, the following two declarations are identical, and decla from the legend, and the fourth as red and absent from the lege `series: [ {color: 'black', visibleInLegend: false}, {}, {color: 'red', visibleInLegend: false} ] series: { 0:{color: 'black', visibleInLegend: false}, 3:{color: 'red', visibleInLegend: false} }` **Type:** Array of objects, or object with nested objects **Default:** {}
theme	A theme is a set of predefined option values that work together visual effect. Currently only one theme is available: • 'maximized' - Maximizes the area of the chart, and draws the chart area. Sets the following options: `chartArea: {width: '100%', height: '100%'}, legend: {position: 'in'}, titlePosition: 'in', axisTitlesPosition: 'in hAxis: {textPosition: 'in'}, vAxis: {textPos:` **Type:** string **Default:** null
title	Text to display above the chart. **Type:** string **Default:** no title
titlePosition	Where to place the chart title, compared to the chart area. Supp • in - Draw the title inside the chart area.

	• out - Draw the title outside the chart area. • none - Omit the title. **Type:** string **Default:** 'out'

titleTextStyle	An object that specifies the title text style. The object has this fo
	
	`{ color: <string>,`
	`fontName: <string>,`
	`fontSize: <number>,`
	`bold: <boolean>,`
	`italic: <boolean> }`
	
	The **`color`** can be any HTML color string, for example: **`'red'`** c **`fontSize`**.
	
	Type: object
	Default: **`{color: 'black', fontName: <global-font-r size>}`**

tooltip	An object with members to configure various tooltip elements. T can use object literal notation, as shown here: `{textStyle: {color: '#FF0000'}, showColorCode:` **Type:** object **Default:** null
tooltip.ignoreBounds	If set to **`true`**, allows the drawing of tooltips to flow outside of t **Note:** This only applies to HTML tooltips. If this is enabled with the chart bounds will be cropped. See Customizing Tooltip Cont (https://developers.google.com/chart/interactive/docs/custom **Type:** boolean **Default:** false
tooltip.isHtml	If set to true, use HTML-rendered (rather than SVG-rendered) too (https://developers.google.com/chart/interactive/docs/custom ★ **Note:** customization of the HTML tooltip content via the tooltip (https://developers.google.com/chart/interactive/docs/roles#t Bubble Chart (https://developers.google.com/chart/interactive/ **Type:** boolean **Default:** false

tooltip.showColorCode	If true, show colored squares next to the series information in th **focusTarget** is set to 'category', otherwise the default is false **Type:** boolean **Default:** automatic

tooltip.textStyle	An object that specifies the tooltip text style. The object has this
	
	`{ color: <string>,`
	`fontName: <string>,`
	`fontSize: <number>,`
	`bold: <boolean>,`
	`italic: <boolean> }`
	
	The **color** can be any HTML color string, for example: '**red**' o
	fontSize.
	
	Type: object
	Default: **{color: 'black', fontName: <global-font-n
	size>}**

tooltip.trigger	The user interaction that causes the tooltip to be displayed: • 'focus' - The tooltip will be displayed when the user hovers ov • 'none' - The tooltip will not be displayed. • 'selection' - The tooltip will be displayed when the user select **Type:** string **Default:** 'focus'

vAxes	Specifies properties for individual vertical axes, if the chart has
	is a **vAxis** object, and can contain all the properties supported
	override any global settings for the same property.
	
	To specify a chart with multiple vertical axes, first define a new
	series.targetAxisIndex, then configure the axis using **vA**
	series 2 to the right axis and specifies a custom title and text st
	
	`{`
	`series: {`
	`2: {`
	`targetAxisIndex:1`
	`}`
	`},`
	`vAxes: {`
	`1: {`
	`title:'Losses',`
	`textStyle: {color: 'red'}`

	}
	}
	}
	
	This property can be either an object or an array: the object is a numeric label that specifies the axis that it defines--this is the fo of objects, one per axis. For example, the following array-style n shown above:
	
	`vAxes: [`
	`  {}, // Nothing specified for axis 0`
	`  {`
	`  title:'Losses',`
	`  textStyle: {color: 'red'} // Axis 1`
	`  }`
	`]`
	
	Type: Array of object, or object with child objects
	Default: null

vAxis	An object with members to configure various vertical axis eleme you can use object literal notation, as shown here: `{title: 'Hello', titleTextStyle: {color: '#FF00` **Type:** object **Default:** null
vAxis.baseline	**`vAxis`** property that specifies the baseline for the vertical axis. grid line or smaller than the lowest grid line, it will be rounded to **Type:** number **Default:** automatic
vAxis.baselineColor	Specifies the color of the baseline for the vertical axis. Can be a `'red'` or `'#00cc00'`. **Type:** number **Default:** 'black'
vAxis.direction	The direction in which the values along the vertical axis grow. S values. **Type:** 1 or -1 **Default:** 1
vAxis.format	A format string for numeric axis labels. This is a subset of the I

	(http://icu-project.org/apiref/icu4c/classDecimalFormat.html# `{format:'#,###%'}` will display values "1,000%", "750%", and can also supply any of the following: • `{format: 'none'}`: displays numbers with no formatting • `{format: 'decimal'}`: displays numbers with thousands • `{format: 'scientific'}`: displays numbers in scientific • `{format: 'currency'}`: displays numbers in the local cu • `{format: 'percent'}`: displays numbers as percentages • `{format: 'short'}`: displays abbreviated numbers (e.g., • `{format: 'long'}`: displays numbers as full words (e.g., The actual formatting applied to the label is derived from the loc more details, see loading charts with a specific locale (https://developers.google.com/chart/interactive/docs/library_ . **Type:** string **Default:** auto
vAxis.gridlines	An object with members to configure the gridlines on the vertica object, you can use object literal notation, as shown here: `{color: '#333', count: 4}` **Type:** object **Default:** null
vAxis.gridlines.color	The color of the vertical gridlines inside the chart area. Specify a **Type:** string **Default:** '#CCC'
vAxis.gridlines.count	The number of vertical gridlines inside the chart area. Minimum compute the number of gridlines. **Type:** number **Default:** 5
vAxis.minorGridlines	An object with members to configure the minor gridlines on the vAxis.gridlines option. **Type:** object **Default:** null
vAxis.minorGridlines.color	The color of the vertical minor gridlines inside the chart area. Sp **Type:** string

	Default: A blend of the gridline and background colors
vAxis.minorGridlines.count	The number of vertical minor gridlines between two regular grid **Type:** number **Default:** 0
vAxis.logScale	If true, makes the vertical axis a logarithmic scale. Note: All valu **Type:** boolean **Default:** false
vAxis.scaleType	**`vAxis`** property that makes the vertical axis a logarithmic scale • null - No logarithmic scaling is performed. • 'log' - Logarithmic scaling. Negative and zero values are not setting **`vAxis: { logscale: true }`**. • 'mirrorLog' - Logarithmic scaling in which negative and zero a negative number is the negative of the log of the absolute linear scale. **Type:** string **Default:** null
vAxis.textPosition	Position of the vertical axis text, relative to the chart area. Supp **Type:** string **Default:** 'out'

vAxis.textStyle	An object that specifies the vertical axis text style. The object ha
	
	`{ color: <string>,`
	`fontName: <string>,`
	`fontSize: <number>,`
	`bold: <boolean>,`
	`italic: <boolean> }`
	
	The **`color`** can be any HTML color string, for example: **`'red'`** c
	`fontSize`.
	
	Type: object
	Default: **`{color: 'black', fontName: <global-font-n`**
	`size>}`

vAxis.ticks	Replaces the automatically generated Y-axis ticks with the spec should be either a valid tick value (such as a number, date, datet an object, it should have a **v** property for the tick value, and an o string to be displayed as the label.

	Examples: • `vAxis: { ticks: [5,10,15,20] }` • `vAxis: { ticks: [{v:32, f:'thirty two'}, {v:` • `vAxis: { ticks: [new Date(2014,3,15), new Da` • `vAxis: { ticks: [16, {v:32, f:'thirty two'},` `}` **Type:** Array of elements **Default:** auto
vAxis.title	**`vAxis`** property that specifies a title for the vertical axis. **Type:** string **Default:** no title

vAxis.titleTextStyle	An object that specifies the vertical axis title text style. The obje
	`{ color: <string>,`
	`fontName: <string>,`
	`fontSize: <number>,`
	`bold: <boolean>,`
	`italic: <boolean> }`
	The **`color`** can be any HTML color string, for example: **`'red'`** c **`fontSize`**.
	Type: object
	Default: **`{color: 'black', fontName: <global-font-r size>}`**

vAxis.maxValue	Moves the max value of the vertical axis to the specified value; t Ignored if this is set to a value smaller than the maximum y-valu **`vAxis.viewWindow.max`** overrides this property. **Type:** number **Default:** automatic
vAxis.minValue	Moves the min value of the vertical axis to the specified value; t Ignored if this is set to a value greater than the minimum y-value **`vAxis.viewWindow.min`** overrides this property. **Type:** number **Default:** null
vAxis.viewWindowMode	Specifies how to scale the vertical axis to render the values with values are supported:

	• 'pretty' - Scale the vertical values so that the maximum and m inside the top and bottom of the chart area. This will cause v **`vaxis.viewWindow.max`** to be ignored. • 'maximized' - Scale the vertical values so that the maximum and bottom of the chart area. This will cause **`vaxis.viewW`** **`vaxis.viewWindow.max`** to be ignored. • 'explicit' - A deprecated option for specifying the top and bot (Deprecated because it's redundant with **`vaxis.viewWindo`** **`vaxis.viewWindow.max`**. Data values outside these value **`vAxis.viewWindow`** object describing the maximum and m **Type:** string **Default:** Equivalent to 'pretty', but **`vaxis.viewWindow.min`** an precedence if used.
vAxis.viewWindow	Specifies the cropping range of the vertical axis. **Type:** object **Default:** null
vAxis.viewWindow.max	The maximum vertical data value to render. Ignored when **`vAxis.viewWindowMode`** is 'pretty' or 'maximize **Type:** number **Default:** auto
vAxis.viewWindow.min	The minimum horizontal data value to render. Ignored when **`vAxis.viewWindowMode`** is 'pretty' or 'maximize **Type:** number **Default:** auto
width	Width of the chart, in pixels. **Type:** number **Default:** width of the containing element

Methods

Method	
`draw(data, options)`	Draws the chart. The chart accepts further method calls only after the (#Events)event is fired. Extended description (https://developers.google.com/chart/interactive/docs/reference#vis

	Return Type: none
`getAction(actionID)`	Returns the tooltip action object with the requested `actionID`. **Return Type:** object

`getBoundingBox(id)`	Returns an object containing the left, top, width, and height of chart ele
	The format for `id` isn't yet documented (they're the return values of eve
	(https://developers.google.com/chart/interactive/docs/events)), but h
	some examples:
	
	`var cli = chart.getChartLayoutInterface();`
	
	Height of the chart area
	
	`cli.getBoundingBox('chartarea').height`
	
	Width of the third bar in the first series of a bar or column cl
	
	`cli.getBoundingBox('bar#0#2').width`
	
	Bounding box of the fifth wedge of a pie chart
	
	`cli.getBoundingBox('slice#4')`
	
	Bounding box of the chart data of a vertical (e.g., column) c
	
	`cli.getBoundingBox('vAxis#0#gridline')`
	
	Bounding box of the chart data of a horizontal (e.g., bar) cha
	
	`cli.getBoundingBox('hAxis#0#gridline')`
	
	Values are relative to the container of the chart. Call this *after* the chart
	
	Return Type: object

`getChartAreaBoundingBox()`	Returns an object containing the left, top, width, and height of the chart
	(i.e., excluding labels and legend):
	
	`var cli = chart.getChartLayoutInterface();`
	
	`cli.getChartAreaBoundingBox().left`
	
	`cli.getChartAreaBoundingBox().top`
	
	`cli.getChartAreaBoundingBox().height`

	`cli.getChartAreaBoundingBox().width` Values are relative to the container of the chart. Call this *after* the char **Return Type:** object
`getChartLayoutInterface()`	Returns an object containing information about the onscreen placeme chart and its elements. The following methods can be called on the returned object: • `getBoundingBox` • `getChartAreaBoundingBox` • `getHAxisValue` • `getVAxisValue` • `getXLocation` • `getYLocation` Call this *after* the chart is drawn. **Return Type:** object
`getHAxisValue(position, optional_axis_index)`	Returns the logical horizontal value at `position`, which is an offset fr container's left edge. Can be negative. Example: `chart.getChartLayoutInterface().getHAxisValue` Call this *after* the chart is drawn. **Return Type:** number
`getImageURI()`	Returns the chart serialized as an image URI. Call this *after* the chart is drawn. See Printing PNG Charts (https://developers.google.com/chart/interactive/docs/printing). **Return Type:** string
`getSelection()`	Returns an array of the selected chart entities. Selectable entities are s entries and categories. A step corresponds to a cell in the data table, a to a column (row index is null), and a category to a row (column index i this chart, only one entity can be selected at any given moment. Exter `description` (https://developers.google.com/chart/interactive/docs/reference#vis . **Return Type:** Array of selection elements

`getVAxisValue(position, optional_axis_index)`	Returns the logical vertical value at **`position`**, which is an offset from container's top edge. Can be negative. Example: **`chart.getChartLayoutInterface().getVAxisValue`** Call this *after* the chart is drawn. **Return Type:** number
`getXLocation(position, optional_axis_index)`	Returns the screen x-coordinate of **`position`** relative to the chart's co Example: **`chart.getChartLayoutInterface().getXLocation(`** Call this *after* the chart is drawn. **Return Type:** number
`getYLocation(position, optional_axis_index)`	Returns the screen y-coordinate of **`position`** relative to the chart's co Example: **`chart.getChartLayoutInterface().getYLocation(`** Call this *after* the chart is drawn. **Return Type:** number
`removeAction(actionID)`	Removes the tooltip action with the requested **`actionID`** from the cha **Return Type: none**
`setAction(action)`	Sets a tooltip action to be executed when the user clicks on the action The **`setAction`** method takes an object as its action parameter. This should specify 3 properties: **`id`**— the ID of the action being set, **`text`** – should appear in the tooltip for the action, and **`action`** — the function be run when a user clicks on the action text. Any and all tooltip actions should be set prior to calling the chart's **`dra`** method. Extended description (https://developers.google.com/chart/interactive/docs/reference#vis **Return Type: none**
`setSelection()`	Selects the specified chart entities. Cancels any previous selection. Se entities are steps, legend entries and categories. A step corresponds t data table, a legend entry to a column (row index is null), and a categor (column index is null). For this chart, only one entity can be selected at `Extended description` (https://developers.google.com/chart/interactive/docs/reference#vis . **Return Type:** none

`clearChart()`	Clears the chart, and releases all of its allocated resources. **Return Type:** none

Events

For more information on how to use these events, see Basic Interactivity (https://developers.google.com/chart/interactive/docs/basic_interactivity), Handling Events (https://developers.google.com/chart/interactive/docs/events), and Firing Events (https://developers.google.com/chart/interactive/docs/dev/events).

Name	
`animationfinish`	Fired when transition animation is complete. **Properties:** none
`click`	Fired when the user clicks inside the chart. Can be used to identify when the title, data elements, legend entries, axes, gridlines, or labels are clicked. **Properties:** targetID
`error`	Fired when an error occurs when attempting to render the chart. **Properties:** id, message
`onmouseover`	Fired when the user mouses over a visual entity. Passes back the row and column indices of the corresponding data table element. **Properties:** row, column
`onmouseout`	Fired when the user mouses away from a visual entity. Passes back the row and column indices of the corresponding data table element. **Properties:** row, column
`ready`	The chart is ready for external method calls. If you want to interact with the chart, and call methods after you draw it, you should set up a listener for this event *before* you call the `draw` method, and call them only after the event was fired. **Properties:** none
`select`	Fired when the user clicks a visual entity. To learn what has been selected, call `getSelection()` (#Methods).

	Properties: none

Data Policy

All code and data are processed and rendered in the browser. No data is sent to any server.

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