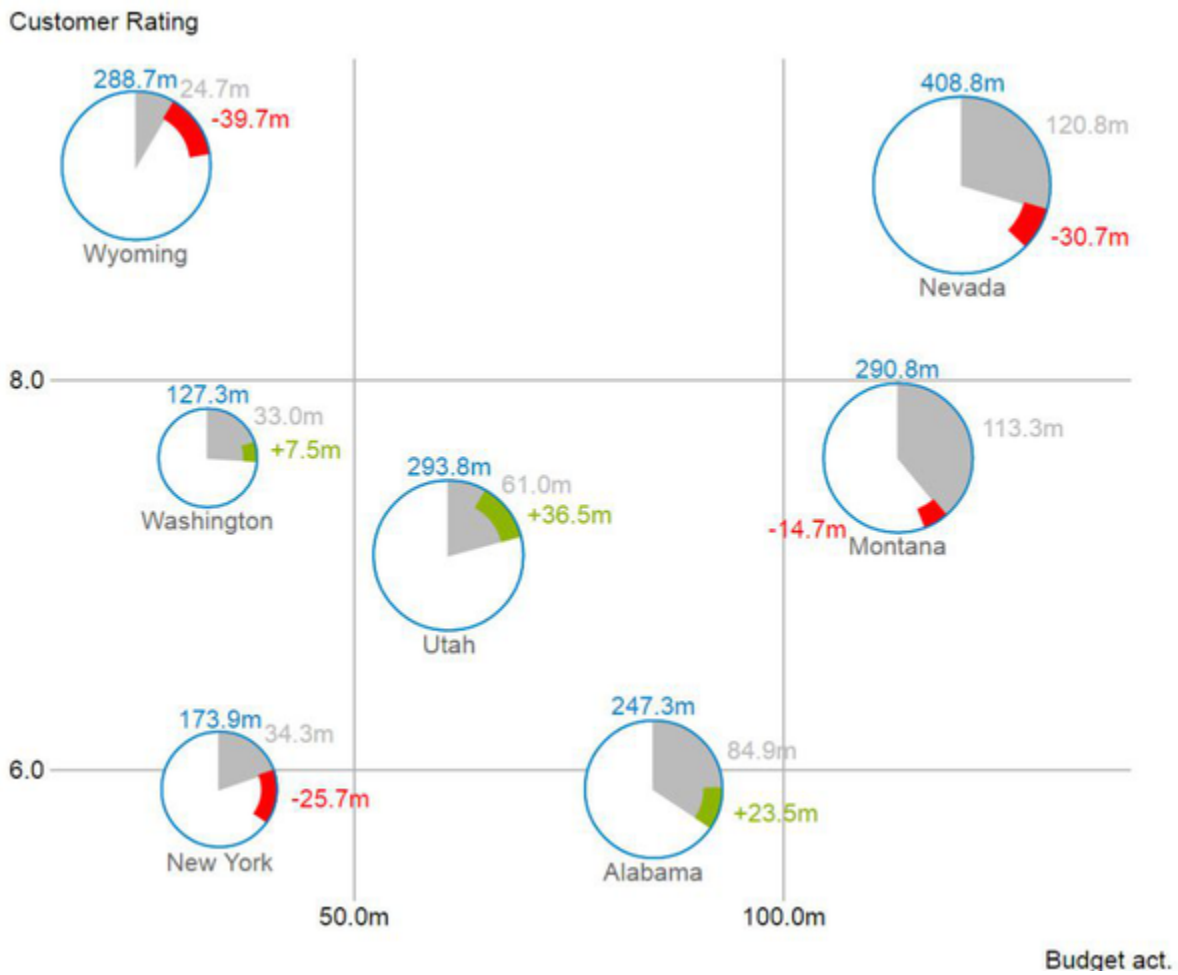


User Manual for the graphomate bubbles 1.2.1 for SAP BusinessObjects Design Studio



Version 1.2.1 - as of February 2017

<https://www.graphomate.com>

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Introduction

Visualizations are gaining more and more importance in regards to quick and safe communication. Information presented in a simple, yet meaningful way supports deciders to find patterns and deviations. Good information design can give you a quick and efficient overview of your business. The International Business Communication Standards (IBCS) are working as a ruleset of how meaningful visualizations are used most effectively for business reporting and dash boarding.

In addition to our *graphomate charts* and the *graphomate tables* we offer the *graphomate bubbles* as another component for SAP BusinessObjects Design Studio (furthermore „Design Studio“), which aligns itself with the IBCS concepts. Design Studio is the successor of the Web Application Designer (WAD) from the SAP BEx-Suite and tightly coupled with SAP BW. It uses HTML5 web technologies to produce BI Applications in the browser and as such does not restrict you to certain end devices, including mobile devices.

With our Design Studio extension *graphomate bubbles* we present a highly configurable visualization solution for this platform. The *graphomate bubbles* extension is suitable to map a portfolio of values for a small number of objects on two value axes. Up to 5 KPIs can be visualized for approximately two dozen bubbles. A two-dimensional utilization as scatterplot supports up to 100 *bubble* elements. In addition it can be used as a „*bubble chart*“ to find patterns and correlations in up to 5 dimensions of highly aggregated data. Of course the *graphomate bubbles* also offer many additional features you might be familiar with from our other components. This includes a collision logic for overlapping labels, a number format configuration and optical customization.

For the *graphomate bubbles* extension we recommend the use of Design Studio 1.6 >= SP00 with the Internet Explorer 11+ or any comparable modern browser. For further information – e.g. regarding the deployment on the Business Intelligence Platform (BIP) or SAP Netweaver – please consult the Product Availability Matrix ([PAM](#)). Please be advised that we will not support the Internet Explorer 9 and 10 starting 2017.

Installation

Local installation of the extension to Design Studio

You have installed Design Studio 1.6 SP00+ on your computer.

1. Save the zipfile *graphomate_bubbles1.x.x.zip* to a folder of your choice.
2. In Design Studio, choose *Tools Install Extension to Design Studio*, click on *Archive* and select the zipfile which has been saved before.
3. Choose *Finish* to start the installation.
4. Choose *Next* and again *Next* to confirm the installation.
5. Accept the terms of the license agreement and choose *Finish*.
6. Choose *Yes* to allow a restart of Design Studio.
7. After the restart, the *graphomate extension* appears in the Component View of Design Studio.

Removing the extension from Design Studio

In Design Studio choose *Help > About...*

1. Click the *Installation Details* button.
2. Select the component *graphomate bubbles 1.x.x*
3. Choose *Uninstall...*
4. In the UninstallWizard choose *Finish*.
5. Choose *Yes* to allow Design Studio to restart.

Server installation of the extension

Users need to deploy the locally installed extension to the BI platform before you can launch the *graphomate bubbles* from the BI platform.

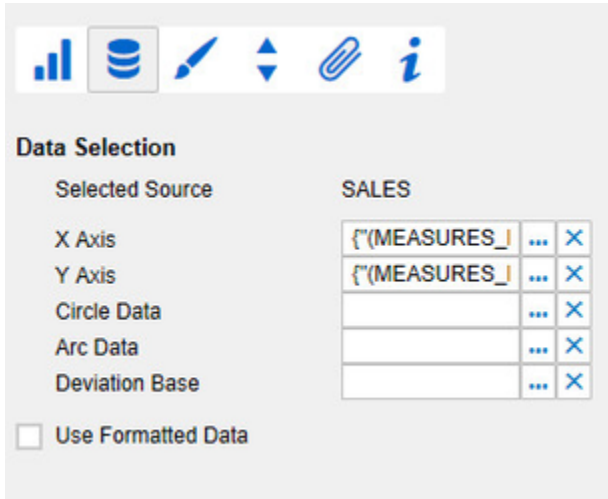
1. Choose in the BI Platform Mode *Tools > Platform Extensions*.
2. Select the extension *graphomate bubbles* that is installed on your local computer.
3. Choose *Install on Platform*.
4. Manually restart the BI Platform Adaptive Processing Servers that host the Analysis Application Service and accept the warning in Design Studio.
5. The *graphomate extension* appears under *Extensions Installed on Platform*.
6. Choose *Close*.
7. Again restart the BI Platform Adaptive Processing Servers that host the Analysis Application manually.

Uninstalling the extension from the Server

1. Choose in the BI Platform Mode *Tools > Platform Extensions*.
2. Choose the *graphomate bubbles*.
3. Choose *Uninstall from Platform*.
4. Confirm the uninstalling by choosing *Yes*.
5. In order to complete the uninstalling process, manually restart the BI Platform Adaptive Processing Servers that host the Analysis Application Service and accept the warnings in Design Studio.
6. The *graphomate extension* is then removed from the *Extensions Installed on Platform*.
7. Choose *Close*.
8. Manually restart the BI Platform Adaptive Processing Servers that host the Analysis Application Service.

Quick Start

You have set up a *Data Source* and now want to visualize a data series of this query with the *graphomate bubbles*.



1. Drag a *graphomate bubbles* component onto the canvas and attach a *Data Source* by dragging it on top of this component.
2. Set the series on the Data tab in the *Additional Properties Sheet* by clicking on the corresponding Button (...). You will be able to choose a row or column from your *Data Source* in the *Initial View*. Confirm the highlighted data by clicking .
3. The series labels will be taken automatically from the metadata of the selected dimension members.

Overview

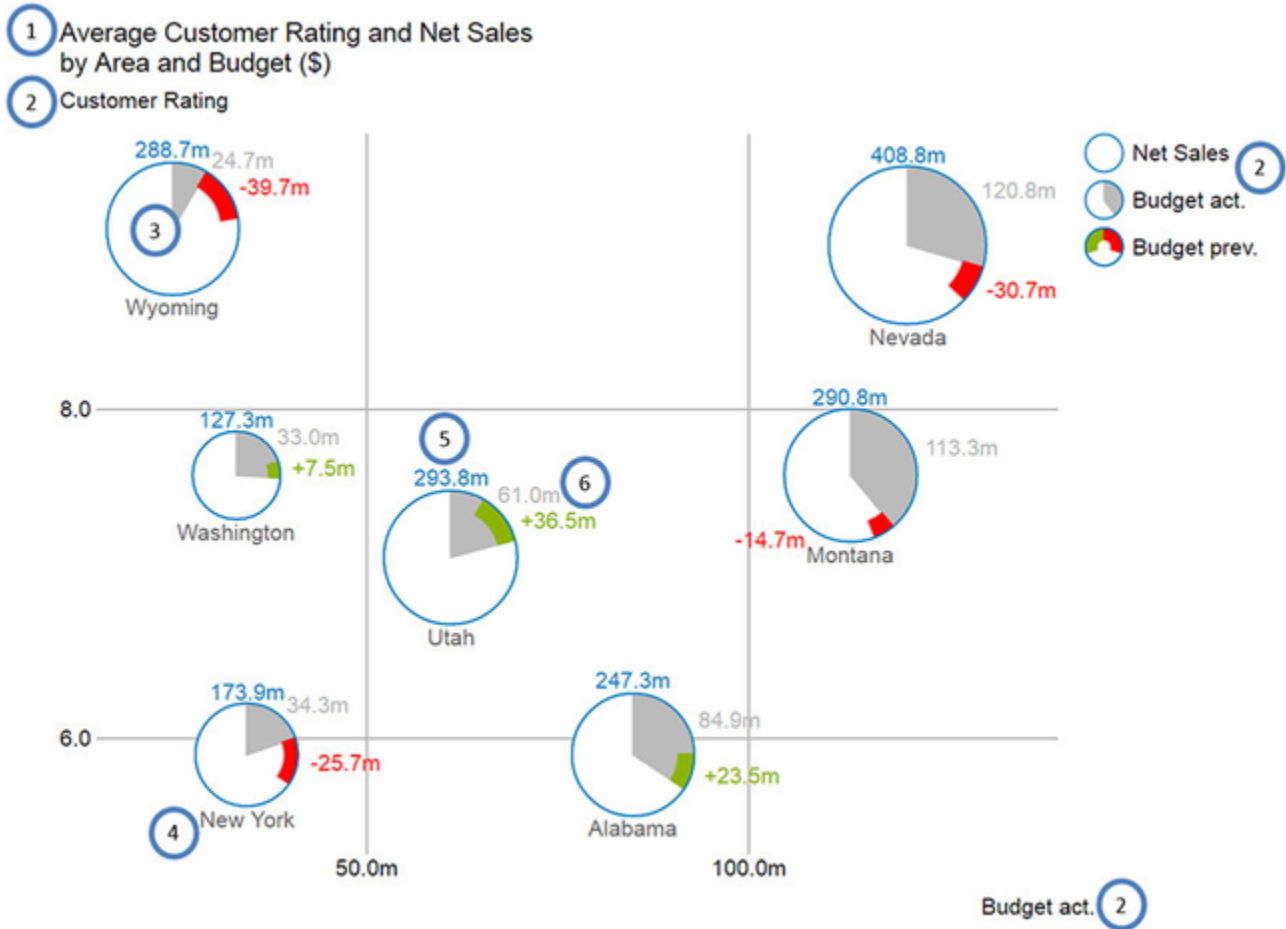
Data Dimensions of the graphomate bubbles

With the *graphomate bubbles* you will be able to visualize up to five data dimensions. These data series are the following.

Dimension	Description
<i>X Axis</i>	A series of values which will represent the coordinates on the x axis of the data points. The x axis represents the main dimension and serves as source for the extraction of diagram labels.
<i>Y Axis</i>	A series of values which will represent the coordinates on the y axis of the data points. The y axis represents the subordinate dimension which contains a matching value for each element of the x axis.
<i>Circle</i>	A series of values representing the area of the <i>Bubbles</i> . Setting data of this series is <u>optional</u> , but it requires the previously described series to be set. If no data is set here the chart will be drawn as a <i>Scatterplot</i> .
<i>Arc</i>	A series of values representing the area of the grey segment of each bubble (see picture below). This optional segment show the share of the corresponding value of the <i>Circle</i> series. Hence it is obligatory that the <i>Circle</i> series is set, if you want to use the <i>Arc</i> series.
<i>Deviation</i>	A series of values, also optional, which represents yet another segment of the whole circle. This segment is intended for a previous year value. This value's deviation from the <i>Arc</i> value is displayed by a red or green bar (see picture below) for a positive or negative deviation respectively. This series can only be used if the previously described series are set.

Please take care that you do not select data series with different offsets. For example, do not select the members January to June for the x axis and July to December for the y axis. You should select values of the same members for the y axis to ensure the values to match each other and the diagram labels to be extracted correctly.

Visual objects of the graphomate bubbles






1. *Title* for the diagram (may contain more than one row).
2. *Series Labels*, one for each data series. They are automatically generated from the data selection. The *Series Labels* of the data series *X Axis* und *Y Axis* (see above, *Budget act.* And *Customer Rating*) are displayed on the respective axis. They are called *Axis Labels*. The *Series Labels* for the data series *Circle*, *Arc* and *Deviation* (see above, *Net Sales*, *Budget act.* and *Budget prev.*) are displayed as a legend on the right.
3. *Bubbles*: The elements of this diagram are called *Bubbles* and represent a set of information according to the selected data series.
4. The *Category Label* is the label for a *Bubble*, which is generated from the data selection of the x axis series.
5. The *Circle Label* of a *Bubble* specify the value of its *Circle Dimension*, which is the data series that defines this *Bubbles'* area.
6. The *Value Labels* of a *Bubble* specify the values of *Arc* dimension (see above, grey area) and the deviation from the dimension *Deviation* (see above, red and green bars).


Properties




Generally you have two possible ways to change the properties of the *graphomate bubbles*: The *Standard Properties Sheet*, which contains all parameters as a structured list, or the *Additional Properties Sheet*, which offers a user friendly interface. Please note that some of the more specialized options are only available on the *Standard Properties Sheet*.

The Checkboxes in front of a property in the *Additional Properties Sheet* control the visibility of elements or activation of a functionality. The Data Source to be used can only be set via Drag&Drop onto the component or the entry *Data Binding* on the *Properties Standard Sheet*.

You can reinitialize the canvas and the *Additional Properties Sheet* by pressing *F5*. This is sometimes necessary when changes in the properties are not adopted directly in the character range.

<p>General Tab</p> <p>Title</p> <p>You can set a title for the Bubble diagram. If the checkbox is enabled the title will be displayed on the canvas. Line breaks are taken into account. You can also format the title using HTML. Additionally you can set the font size for the title in [px].</p>	 <p><input checked="" type="checkbox"/> Title</p> <p>Title <input type="text"/></p> <p>Font Size <input type="text" value="14"/></p>																		
<p>Data Tab</p> <p>Data Selection</p> <p>The property <i>Selected Source</i> shows the alias of the selected data source. The Data Source which is to be used can only be set via Drag&Drop onto the component or the entry <i>Data Binding</i> on the <i>Standard Properties Sheet</i>.</p> <p>Each of the data series <i>X Axis</i>, <i>Y Axis</i>,... sets a selection for each data dimension. You can click on the button (...) and select either a row or a column in the popup window. Remove a data selection by clicking on the corresponding  button. Detailed descriptions for the selectable data series can be found under Data dimensions of the graphomate bubbles.</p> <p>If this checkbox <i>Use Formatted Data</i> is set, the formatted data from the data source will be used in the diagram, if there are any. In this case the Deviation Label changes, showing the formatted data series value for Deviation instead of the difference between the data series value and the Arc value.</p>	 <p>Data Selection</p> <table border="1"> <thead> <tr> <th>Selected Source</th> <th colspan="2">MOVIES</th> </tr> </thead> <tbody> <tr> <td>X Axis</td> <td>{(MEASURES_</td> <td><input type="text"/> ... <input type="text"/></td> </tr> <tr> <td>Y Axis</td> <td>{(MEASURES_</td> <td><input type="text"/> ... <input type="text"/></td> </tr> <tr> <td>Circle Data</td> <td><input type="text"/></td> <td><input type="text"/> ... <input type="text"/></td> </tr> <tr> <td>Arc Data</td> <td><input type="text"/></td> <td><input type="text"/> ... <input type="text"/></td> </tr> <tr> <td>Deviation Base</td> <td><input type="text"/></td> <td><input type="text"/> ... <input type="text"/></td> </tr> </tbody> </table> <p><input type="checkbox"/> Use Formatted Data</p>	Selected Source	MOVIES		X Axis	{(MEASURES_	<input type="text"/> ... <input type="text"/>	Y Axis	{(MEASURES_	<input type="text"/> ... <input type="text"/>	Circle Data	<input type="text"/>	<input type="text"/> ... <input type="text"/>	Arc Data	<input type="text"/>	<input type="text"/> ... <input type="text"/>	Deviation Base	<input type="text"/>	<input type="text"/> ... <input type="text"/>
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<p>Manual Series Labels</p> <p>Strings for each data series can be set here. The check boxes decide if the manually set labels are used. Otherwise automatically generated labels are shown.</p>	<p>Manual Series Labels</p> <table border="1"> <tr> <td><input type="checkbox"/> X Axis Label</td> <td>X-Axis</td> </tr> <tr> <td><input type="checkbox"/> Y Axis Label</td> <td>Y-Axis</td> </tr> <tr> <td><input type="checkbox"/> Circle Series Label</td> <td>Circle</td> </tr> <tr> <td><input type="checkbox"/> Arc Series Label</td> <td>Arc</td> </tr> <tr> <td><input type="checkbox"/> Deviation Series Label</td> <td>Deviation</td> </tr> </table>	<input type="checkbox"/> X Axis Label	X-Axis	<input type="checkbox"/> Y Axis Label	Y-Axis	<input type="checkbox"/> Circle Series Label	Circle	<input type="checkbox"/> Arc Series Label	Arc	<input type="checkbox"/> Deviation Series Label	Deviation								
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<p>Appearance Tab</p> <p>Styling</p> <p>Here you can change the options regarding the text elements in the bubbles diagram. You can change the global <i>font family</i>, the <i>Category Label font size</i> in [px] and the <i>Value Label Font Size</i> in [px]. Also, several <i>colors</i> can be adjusted here. By clicking on the colored boxes you can open a color picker to choose a color for the corresponding property.</p> <p>Activating <i>Fill Circle</i> results in the area of the circles being filled with Circle Color.</p>	 <p>Styling</p> <table border="1"> <tr> <td>Font Family</td> <td>Arial</td> </tr> <tr> <td>Category Label Font Size</td> <td>12</td> </tr> <tr> <td>Value Label Font Size</td> <td>12</td> </tr> <tr> <td>Circle Color</td> <td></td> </tr> <tr> <td>Arc Color</td> <td></td> </tr> <tr> <td>Category Label Color</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Fill Circle</td> <td></td> </tr> </table>	Font Family	Arial	Category Label Font Size	12	Value Label Font Size	12	Circle Color		Arc Color		Category Label Color		<input type="checkbox"/> Fill Circle					
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<p>Value Format</p> <p>Configures the format of the data labels.</p> <ul style="list-style-type: none"> Basic Set the format for absolute and percental values according to the numeral.js rules – see Number Formatting. <i>Locale</i> can be changed here. If set to <i>AUTO</i> the locale of the data source is used. Extended If you need a fixed format for the data labels you can set it here for all values. Choosing the parenthesis „(" as the Negative Sign leads to negative numbers being shown inside parenthesis: (1234). The parameter in the Scaling field will be used as a divisor to scale the data labels. 	<p>Value Format</p> <p>Basic Extended</p> <p>Format according to numeral.js</p> <table border="1"> <tr> <td>Number Format</td> <td>0.00</td> </tr> <tr> <td>Locale</td> <td>en</td> </tr> </table> <hr/> <p>Value Format</p> <p>Basic Extended</p> <table border="1"> <tr> <td>Decimal Separator</td> <td>,</td> </tr> <tr> <td>Thousands Separator</td> <td>.</td> </tr> <tr> <td>Negative Sign</td> <td>-</td> </tr> <tr> <td>Scaling</td> <td>1</td> </tr> <tr> <td>Decimal Places</td> <td>1</td> </tr> <tr> <td>Prefix</td> <td></td> </tr> <tr> <td>Suffix</td> <td></td> </tr> </table>	Number Format	0.00	Locale	en	Decimal Separator	,	Thousands Separator	.	Negative Sign	-	Scaling	1	Decimal Places	1	Prefix		Suffix	
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<p>Deviations</p> <p>By clicking on the colored boxes you can change the color used for the positive (<i>Good Color</i>) and negative (<i>Bad Color</i>) deviations. The reset Button reverts the color to the default value.</p> <p>Activating the checkbox <i>Invert</i> will cause positive deviations to be considered bad, therefore applying Bad Color to these deviations (and vice versa).</p>	<p>Deviations</p> <p>Good Color  reset</p> <p>Bad Color  reset</p> <p><input checked="" type="checkbox"/> Invert</p>
<p>Behavior Tab</p> <p>Scaling</p> <p>Activating the <i>checkbox Full Boxes</i> will result in a scaling of the axis that ensures equally sized boxes for the whole grid. If deactivated the scaling will be chosen to optimally use the given space. This may result in half sized boxes. To prevent misleading visualizations the Outer Grid Lines will be omitted.</p> <p>The option <i>Begin of X/Y Axis</i> can be used to set the axis to begin with 0 or any other fix value. Equivalently the option <i>End of X/Y Axis</i> can be used.</p> <p><i>Min. and Max Radius</i> can be set to restrict a <i>Bubble's</i> radius in [px]. This means that regardless of the corresponding values no <i>Bubble</i> will be drawn with a radius lower or higher than the min. or max. radius respectively.</p>	 <p>Scaling</p> <p><input type="checkbox"/> Full Boxes</p> <p><input type="checkbox"/> Begin of X Axis <input type="text" value="0"/></p> <p><input type="checkbox"/> End of X Axis <input type="text" value="0"/></p> <p><input type="checkbox"/> Begin of Y Axis <input type="text" value="0"/></p> <p><input type="checkbox"/> End of Y Axis <input type="text" value="0"/></p> <p>Min. Radius <input type="text" value="5"/></p> <p>Max. Radius <input type="text" value="42"/></p>
<p>Measurements</p> <p>If <i>Reserve Space for Annotations</i> is active the outside padding of the chart will be calculated as to leave enough space for all axis labels. This is especially useful for the labels of a bubble which appear on the axis during runtime activity (i.e. hovering over a bubble).</p> <p>If <i>Reserve Space for Hidden Labels</i> is active, this property takes hidden labels into account when scaling the canvas. This means that the chart will be shrunk to leave space for all bubbles and labels, even if they are hidden by the collision logic.</p> <p>Additionally you can set a <i>padding</i> for the whole diagram in [px].</p> <p>Define with the <i>Collision Adjustment Factor</i> a number of [px] with which the labels may overlap without the collision logic beginning to hide them.</p>	<p>Measurements</p> <p><input type="checkbox"/> Reserve Space for Annotations</p> <p><input type="checkbox"/> Reserve Space for Hidden Labels</p> <p>Padding <input type="text" value="0"/></p> <p>Collision Adjustment Factor <input type="text" value="3"/></p>

Element Label Behavior

With the *Value Labels* option you can activate or deactivate the Value Labels. Please note that the Value Labels have the lowest priority in regard to the collision logic, which means they are hidden first if they overlap with other Bubbles, Value Labels, Category Labels or Circle Labels.

The *Circle Labels* option will result in the Circle Labels being displayed (*Always*), (*Never*) or according to the collision logic (*Auto*). The Auto Mode will hide Circle Labels when they are colliding. Circle Labels have a higher priority than Value Labels, but a lower one than Category Labels or other Bubbles. Along these priorities the collision logic will hide or show labels.

The *Category Labels* option will result in the Category Labels being displayed (*Always*), (*Never*) or according to the collision logic (*Auto*). The Auto mode will hide Category Labels when they are colliding. Category Labels have a high priority so they will still be displayed when they collide with Value Labels or Circle Labels. They are only hidden when they collide with other Category Labels or Bubbles.

Priority of label visibility (from high to low) on collision

- Category Labels
- Circle Labels
- Value Labels

Element Label Behavior

Value Labels

Circle Labels

Always Auto Never

Category Labels

Always Auto Never

Helper Tab

Series Description

These option control the Series Labels, which were generated from the data selection. If *Display Legend* is deactivated, no Legend will be displayed. When activated the legend will only show if there is a selection for the Circle, Arc or Deviation series. *Display Axis Labels* controls whether or not the axis labels are displayed, which result from the X Axis and Y Axis data series.

Display Tooltip defines if a tooltip showing the underlying data should appear while hovering a bubble.














Additional Information

Display Legend

Display Axis Labels

Display Tooltip

<p>Basic Grid Lines</p> <p><i>Outer</i> and <i>Inner Grid Lines</i> can be activated using the checkboxes.</p>	<p>Basic Grid Lines</p> <p><input type="checkbox"/> Outer Grid Lines</p> <p><input checked="" type="checkbox"/> Inner Grid Lines</p>																																				
<p>Additional Grid Lines</p> <p>Additional Grid Lines are defined either by the interval size or the step count. The <i>interval size</i> describes the line spacing in the respective axis entity. The <i>step count</i> defines the number of sections which divide the corresponding axis. For the visualization to make sense the Outer- and Inner-Grid Lines should be deactivated.</p> <p>To highlight threshold or target values the so called <i>Guidelines</i> can be added. Their appearance is highly modifiable. With the  button, new line definitions can be added. For each Guideline the following options are available:</p> <ul style="list-style-type: none"> • Label: Shown on the axis at the position of the Guideline. For Label <i>auto</i> the line will be provided with a label that represents the axis value on the position. If <i>none</i> is chosen for the Label, no label will show up. Any other string will be shown as label. • Value: Defines the position of the Guideline on the axis. If instead of a number the string <i>mean</i> is entered, the mean value of the series for the corresponding axis is used. • Width: Sets the width of the Guideline. • Color: Opens the color picker, to choose a color for the line. • Bold: Decides if the label is styled bold. 	<p>Additional Grid Lines</p> <p>Interval X Axis: <input type="text" value="0"/></p> <p>Interval Y Axis: <input type="text" value="0"/></p> <p>Steps X Axis: <input type="text" value="0"/></p> <p>Steps Y Axis: <input type="text" value="0"/></p> <p>Guidelines X Axis</p> <table border="1"> <thead> <tr> <th>Label</th> <th>Value</th> <th>Width</th> <th>Color</th> <th>Bold</th> <th></th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> none</td> <td>mean</td> <td>2</td> <td></td> <td><input checked="" type="checkbox"/></td> <td>-</td> </tr> <tr> <td><input type="checkbox"/> auto</td> <td>0</td> <td>2</td> <td></td> <td><input checked="" type="checkbox"/></td> <td>-</td> </tr> </tbody> </table> <p></p> <p>Guidelines Y Axis</p> <table border="1"> <thead> <tr> <th>Label</th> <th>Value</th> <th>Width</th> <th>Color</th> <th>Bold</th> <th></th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> none</td> <td>mean</td> <td>2</td> <td></td> <td><input checked="" type="checkbox"/></td> <td>-</td> </tr> <tr> <td><input type="checkbox"/> auto</td> <td>0</td> <td>2</td> <td></td> <td><input checked="" type="checkbox"/></td> <td>-</td> </tr> </tbody> </table> <p></p>	Label	Value	Width	Color	Bold		<input type="checkbox"/> none	mean	2		<input checked="" type="checkbox"/>	-	<input type="checkbox"/> auto	0	2		<input checked="" type="checkbox"/>	-	Label	Value	Width	Color	Bold		<input type="checkbox"/> none	mean	2		<input checked="" type="checkbox"/>	-	<input type="checkbox"/> auto	0	2		<input checked="" type="checkbox"/>	-
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<p>Info Tab</p> <p>This tab shows you the version of the <i>graphomate bubbles</i> extension you are using, as well as a link to submit errors or feature suggestions. Please always include the version when contacting us.</p> <p>In the Credits you can find a list of all the free libraries our extensions are using.</p>	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;">       </div> <p>graphomate .nl</p> <p>Version: 1.2.0.1 Build: 201608241553</p> <p>Please use this link to submit errors or ideas for improvement.</p> <p>The General Terms of Licence and Maintaining of the graphomate GmbH apply.</p> <p>© 2016 graphomate GmbH, D-Kiel, www.graphomate.com</p> <p>Credits </p> 																																				

Standard Properties

Some specialized properties can only be changed using the *Standard Properties Sheet* of Design Studio.

Data Binding

Absolute Circle Values: If set to "true", for every element of the circle selection its absolute value will be used to render the size of the bubbles. Use this property, if your selection contains negative values you would like to display as positive ones.

Item Visibility

Display Annotations: If set to "true", annotations are shown by mouse over in the runtime. Annotations are temporarily shown labels which are connected to the bubble by dashed lines. They are showing the corresponding value on the axis.

Fonts

Legend Font Size: Sets the font size used by the legend in [px].

Labels

Display Axis Labels: Controls whether or not the axis labels are displayed.

... **Label Member:** Here you can control which part of the automatically generated Series- and Category Labels are shown. The labels are generated from the names of the selected dimensions of a data series. For example, if the Series Label for the Circle series contains „Gross, Phone, Sum" you could want the "Sum" to be omitted. For this you would need to set the third value of the list Circle Label Member to false.

Manual Series Labels

... **Label:** This property describes the manual text of the series labels. This will be applied to the labels, if the properties described below are activated.

Use Manual ... Label: These properties activate the manually set series labels for every data series. If deactivated the automatically generated labels are used.

Troubleshooting

Draw Boundaries: This option is meant for testing and debugging. If activated every element will be drawn with its boundaries. These are what are used by the collision logic to calculate overlapping and hide labels.

Performance Limit: Sets the maximal amount of bubbles till no performance issues should occur. Setting values above 100 is not recommended and is done at one's own risk ⚠️. If the limit is reached, a performance optimized visualisation for the bubbles is applied. Now only X- and Y-Dimensions are considered for rendering. The single data points are drawn half-opaque. By doing this, clusters of data points appear darker and top priority areas can be detected. To identify outliers, a tooltip is shown on mouse over a bubble.

Layout

Title Padding: You can set the space left between the chart and the title in [px] here.

Legend Offset: You can set a vertical space left between each of the legend rows in [px] here.

Legend Padding: You can set the space left between the legend and the canvas in [px] here.

Legend Radius: Here you can set a radius for the exemplary Bubbles used in the legend in [px] here.

Legend Circle Label Padding: You can set the space left between the exemplary Bubbles and their respective legend text in [px] here.

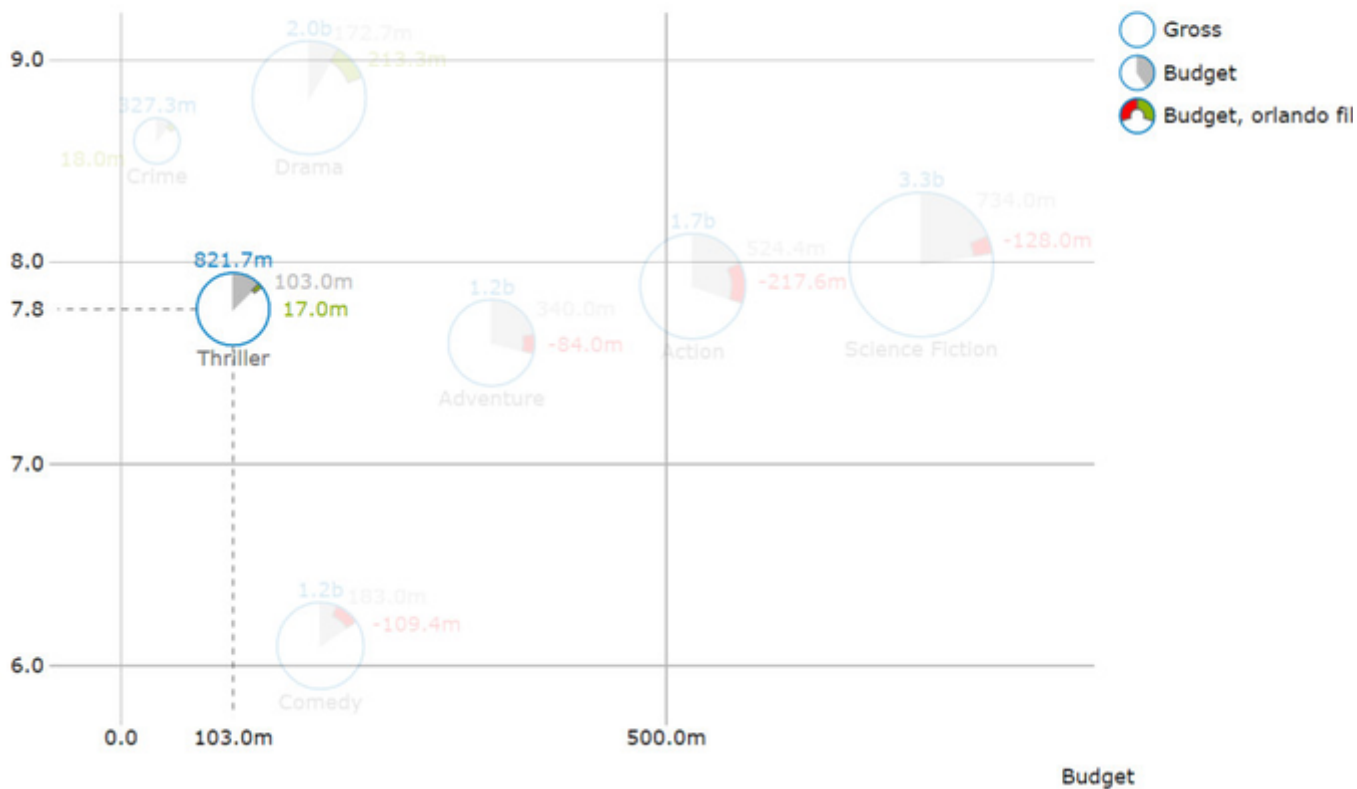
Runtime Interactivity

Highlight on Hover

The *graphomate bubbles* provide the functionality to selectively show all the information associated with a single *Bubble*. To highlight a data point use your mouse to hover over a single *Bubble*. Now all the values, labels and annotations will be displayed.

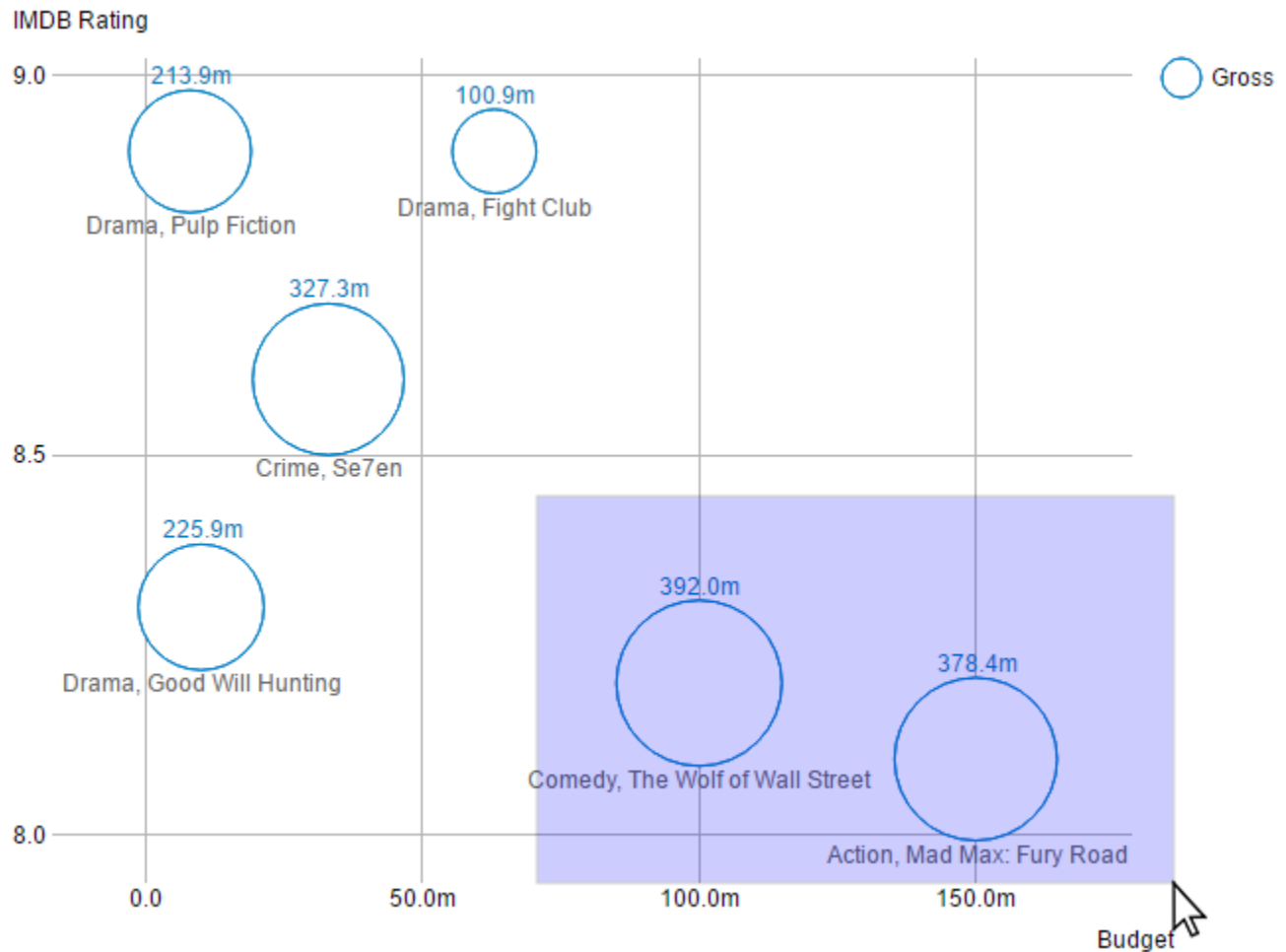
Average IMDb Rating, worldwide Gross by Genre and Budget (\$) studio 90, 2016

IMDB Rating



Rectangular Selection

By doing click&drag on the component at runtime you can select *bubbles* in an rectangular shape. Then the complementary event *on Bubbles Selected* is thrown and you will get the member combination of the selected *bubbles* using the script methods `getSelectedMemberTexts()` and `getSelectedMemberKeys()`.



Context Menu

If the property *Context Menu Available* is activated, the *Context Menu* will be accessible during runtime by right clicking on the *bubbles*. It allows special filtering (according to the settings made). A reload resets all changes made with the context menu.

Known Issues

- The property *Use Formatted Data* leads to a change in Deviation Labels, showing the formatted data series value instead of the difference between the data series value and the Arc value.

Number Formatting

Possible Inputs for the numeral.js Format String

Floating point		
Number	Format String	Output
10000	'0,0.0000'	10.000,0000
10000.23	'0,0'	10
-10000	'0,0.0'	-10.000,0
-0.23	'00'	-,23
-0.23	'(00)'	(,23)
0.23	'0.00000'	0,23000
0.23	'0.0[0000]'	0,23
1230974	'0.0a'	1,2m
1460	'0 a'	1 k
1	'0o'	1 st
Currency		
Number	Format String	Output
1.000.234	'\$0,0.00'	\$1.000,23
1000.2	0,0[.]00 \$'	1.000,20 \$
1001	'\$ 0,0[.]00'	\$ 1.001
Percentage		
Number	Format String	Output
1	'0%'	100%
-0.43	'0 %'	-43%

Source

Possible input for the Extended Number format string

Percentages and numbers are formatted separately. For this two format string are used, which follow the same rules and structure. In general the strings of characters in the format string are simply replaced in the input number. Exceptions to this rule would be scaling factors and the number of decimal places.

The separate elements of the format string are separated by the "|" character. Format strings with less than 7 elements (i.e. 6 "|" characters) are considered invalid and therefore ignored. In this case the standard format without scaling and with one position after the decimal point is used.

The format string consists of the following elements, the ordering is obligatory and cannot be changed:
Negative|Prefix|Thousands|Decimal|Scaling|PointsAfterDecimal|Suffix

Negative	The prefix for negative numbers. The string "(" will result in the number will be placed inside parentheses, including eventual prefixes and suffixes. If <i>None</i> is used the absolute number will be shown.
Prefix	A prefixed string of characters, for example a currency symbol or an identifier for the scaling factor.
Thousands	A separator for thousands.
Decimal	A separator for the decimal places.
Scaling	The scaling factor for the value. This can be given as a whole number or a power, formatted as n^m . A whole number will be calculated as a power to the basis 10 internally. In case of a given power the value will be divided by it directly. Even negative numbers are possible, for example "-3" or "10^-3"; in this case the value will get adequately higher. Non numeric inputs are ignored. <i>Please note:</i> given a "0" or a "1" will result in a scaling factor of 1. The only way to achieve a scaling by 10 is to input "10^1".
PointsAfterDecimal	The number of places after the decimal.
Suffix	A suffix for the value, analogous to the prefix.

