Different

Thomson Reuters Toolkit
Concept Sketches

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Document Control

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Document History

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0.2 – 0.5	5 Oct 10	Revisions as per client feedback	KE & SR
1.0	13 Oct 10	Final document	KE & SR
1.1	22 Oct 10	Document changes as per client feedback	KE & SR
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Table of Contents

Introduction

This document contains high level wireframes to fulfill the requirements for Eikon Toolkit enhancements as follows:

- Smart Charts
- Save as default
- Schemes and Templates
- Y Axis
- X Axis
- Event Markers
- Legend Improvements

Usability Issues and Interaction Principles

Usability issues

Overly complex interfaces confuse and slow user's workflow.

- Each chart displays its own toolbar. Toolbars take up valuable chart display real estate.
- All possible controls and options are displayed, regardless of their relevance and context. Displaying all possible options adds to users cognitive load and contributes to visual clutter.
- Commonly used options are difficult to access, and are buried deep within the application.
- Too many buttons choices are presented in dialogue boxes. Buttons are also placed inconsistently throughout the system.

Interfaces elements with overlapping functionality and inconsistent behaviour causes confusion with users.

- Too many steps to accomplish tasks, e.g. six clicks to change a trendline colour.
- Lack of button hierarchy could lead to errors, e.g. users could easily click 'help' when they mean to click 'close' because buttons are identical.
- Separate functionality causes inefficiency and confusion due to overlapping functionality in multiple locations.
- Button labels and functionality change depending on users actions, e.g. 'cancel' button changes to 'close'.

Labour intensive system workflows decrease user productivity.

- Users are forced to undertake laborious workflows to use non-default settings.
- The system does not remember users' last action or setting selected.
- The system's interaction paradigm utilises modal windows, which halts workflow until users act on them.

Interaction principles

Streamline and consolidate controls to improve efficiency of workflow.

- Reduce the number of steps needed to accomplish tasks.
- Simplify button controls.
- Eliminate redundancy, e.g. separate functionality.
- Consolidate related functionality.
- Enhance readability by reducing clutter.

Display only what is relevant and contextual to minimise confusion and improve workflow.

- Only display controls relevant to the object selected.
- Display controls appropriate to their context of use.
- Allow immediate access to commonly used tasks.

Remember rather than ask, to allow for easy customisation.

- Do not force users to predict their next action, e.g. having them explicitly save as default. Allow the system to remember their last action, settings, etc. and use this as the default.
- Remember the last preset users select, and allow this rise to the top of lists of presets.

Modernise software to improve efficiency and allow for easy exploration.

- Leverage less modal interaction conventions to improve efficiency and reduce errors
- Encourage exploration by allowing more forgiving interactions, e.g. allow users to preview changes before committing

By keeping changes incremental, rather than radical, reduce impact on current user workflow.

- Keep familiar labels
- Keep familiar placement

Smart Charts

User workflow:

User adds trendlines and other elements such as symbols, annotations or analysis to their chart.

They then update the chart command line to another instrument which replaces the chart displayed with the new instrument and triggers the smart chart functionality.

Smart charts functionality automatically saves the custom elements the user added (such as the size and position of the trendlines, symbols, annotations and analysis) in the application without asking the user.

The next time the user enters the original instrument into the chart command line, the chart elements such as symbols, annotations or analysis are displayed as originally placed.

Save as default

User workflow:

The user customises the chart element display properties for a trendline. They double click on the element which activates the line study properties dialogue box.

After adjusting the colour and line weight of the trendline, the user closes the dialogue box.

This then automatically activates the ‘save as default functionality’. This functionality saves those properties into the application to replace the previous default for that element.

The user draws another trendline, which is automatically displayed using the colour and weight set previously.

The user draws a Fibonacci fan, which is automatically displayed in the line weight set previously but the line colour is cycled to another colour.

Notes

Save as default functionality works across all chart elements such as analysis, symbols, annotations and trendlines.

Shared objects should retain their original properties.

Save as default functionality applies for one-off trendlines as well.

Behaviour for save as default is different across simple and complex trendlines.

For simple trendlines:
- All display elements are saved as the default.

For complex trendlines:
- All display elements apart from line colour are saved as the default.
- Line colour is automatically cycled to the next complimentary colour in the colour palette.

Chart Properties > Display components

Design Rationale:

The purpose of Chart properties > Display area is to provide a consolidated area where users can make changes to the display properties within a chart.

Notes:

1. Schemes Selector area displays a list of preset and custom schemes, along with the system default scheme.
2. Elements Selector area presents a list of the individual chart elements (e.g. background or gridlines) whose display properties can be changed in this area.
3. Element Properties parameters allow individual display properties to customised. Element Properties are conditionally displayed depending on which element is selected in the Elements Selector area.
4. Preview Window allows users to quickly see a visualisation of a preset theme, or customised elements.

User workflow:

The Chart Properties > Display dialogue area is triggered:

- When a user double clicks on a chart's background.
- From a link within the right click contextual menu, when the user right clicks on a chart's background.
- By selecting "Schemes" from the top toolbar.
- By using a keyboard shortcut, e.g. Ctrl+Alt+S

The Chart Properties > Display area allows users to :

- Preview preset schemes.
- Apply preset schemes.
- Preview changes to the default or preset schemes.
- Create custom schemes.
- Save custom schemes.

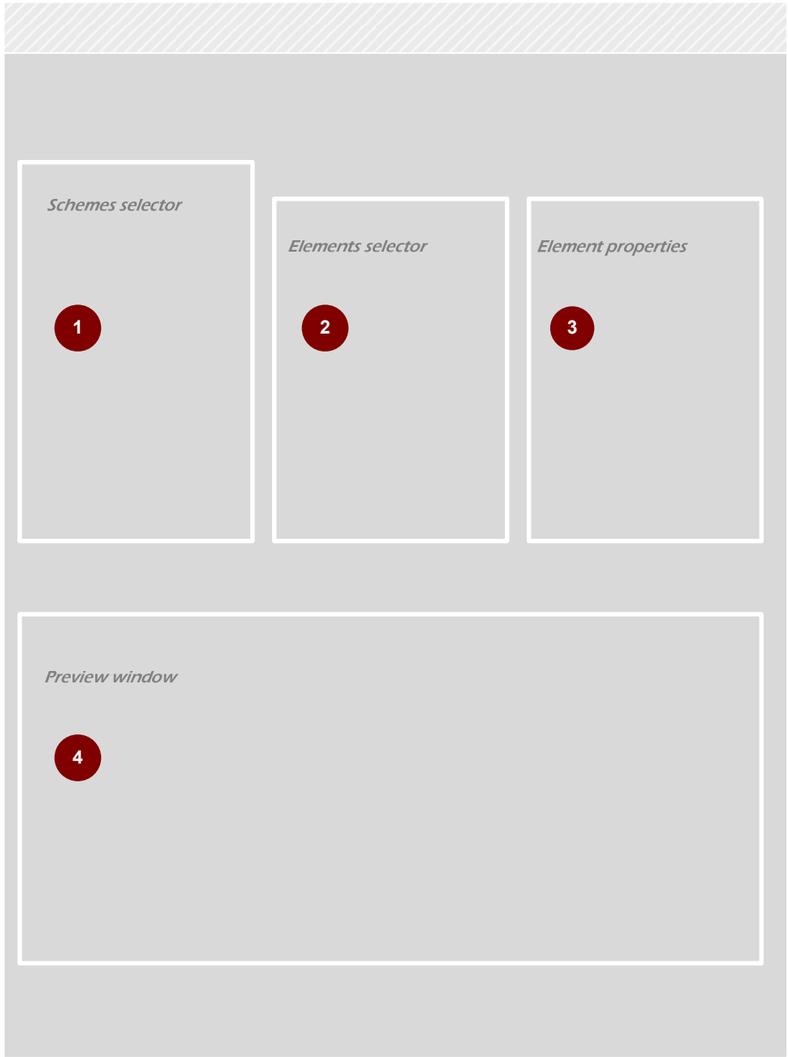
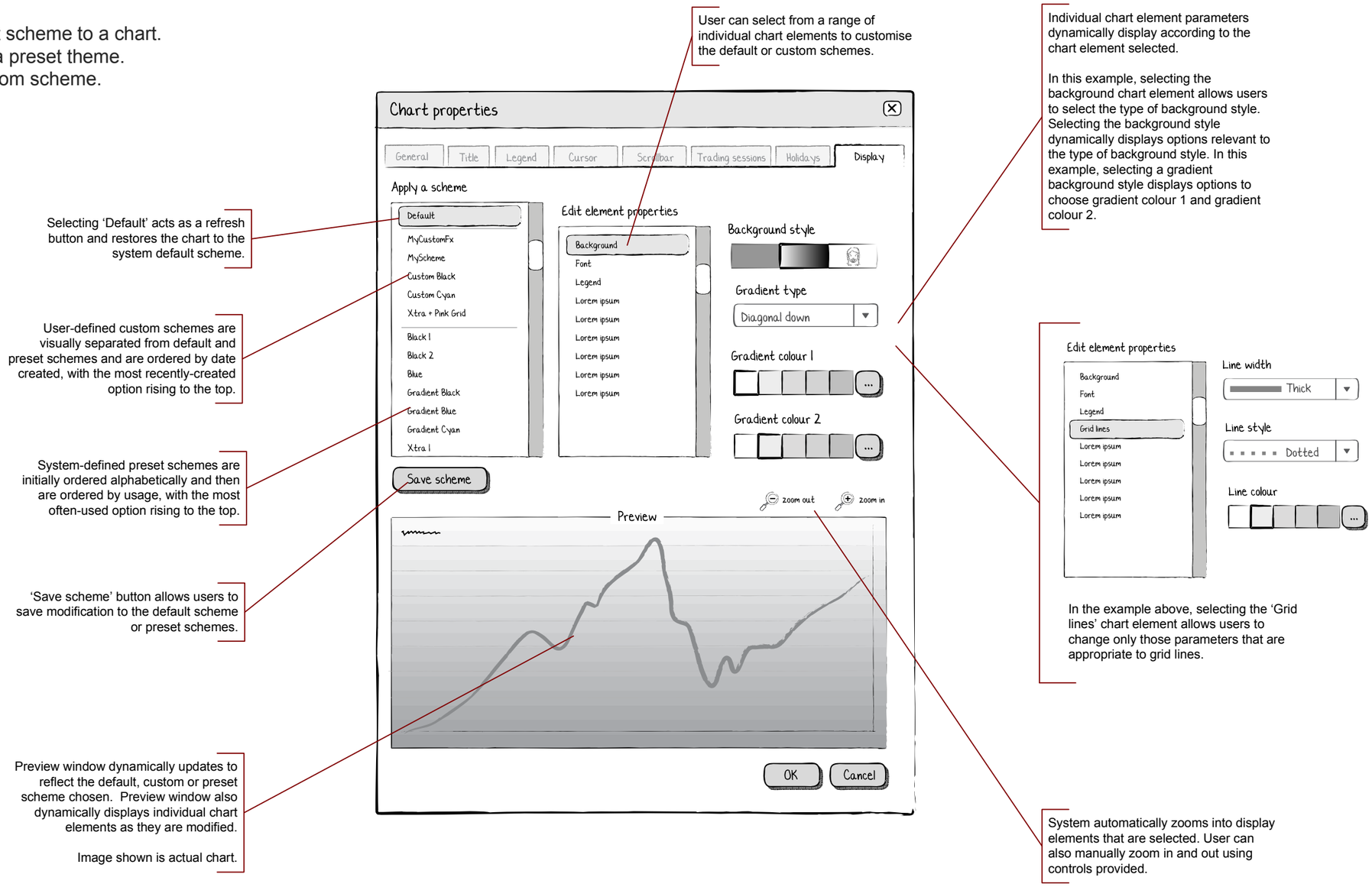


Chart Properties > Display properties

User workflow:

1) The user applies a preset scheme to a chart.
2) The user can customise a preset theme.
3) The user can save a custom scheme.



Template dialogue box components

Design Rationale:

Templates dialogue box combines existing functionality. Schemes & templates are unified into a consolidated area where users can apply preset templates they can also configure and create custom templates as well as schemes.

Chart Properties dialogue box is triggered when:

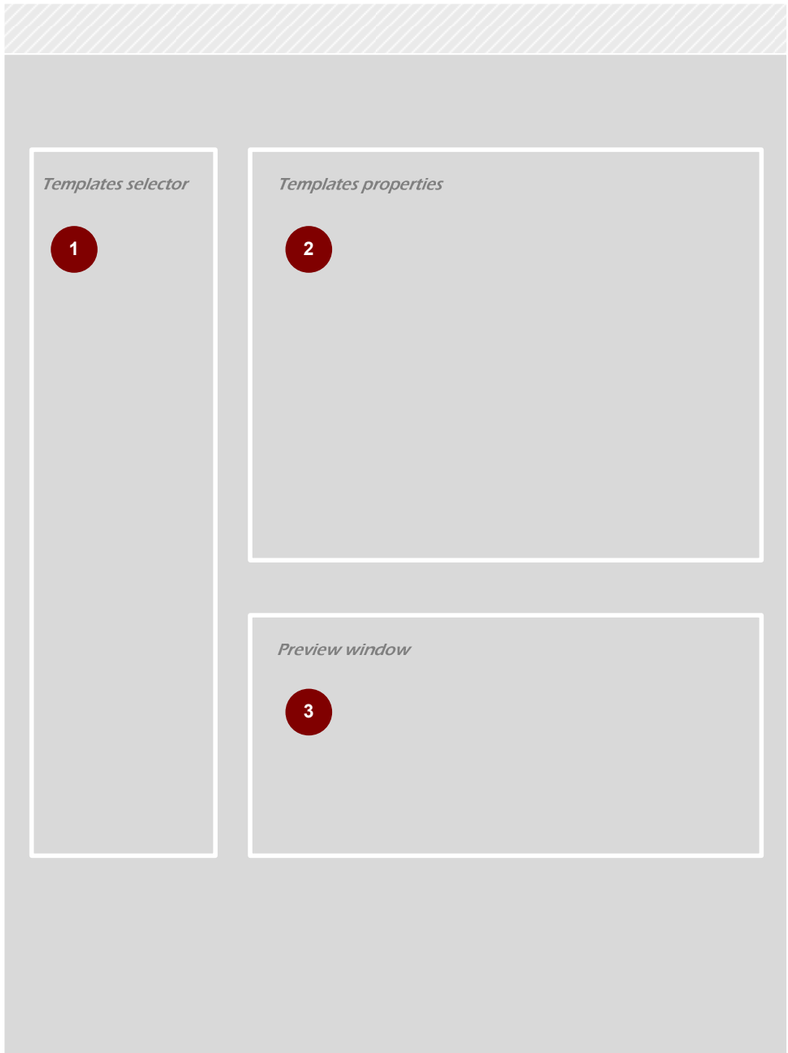
- The user right clicks on a chart's background and activates a contextual menu.

Notes:

1. The Templates Selector area displays a list of preset and custom templates, along with the system default template.

2. Template properties is comprised of three sections, accessible through tabs:
   1) General
   2) Display
   3) Analysis

3. Preview Window allows users to quickly see a visualisation of a preset template as well as any changes as a user customises template elements.



Template dialogue overview & display tab

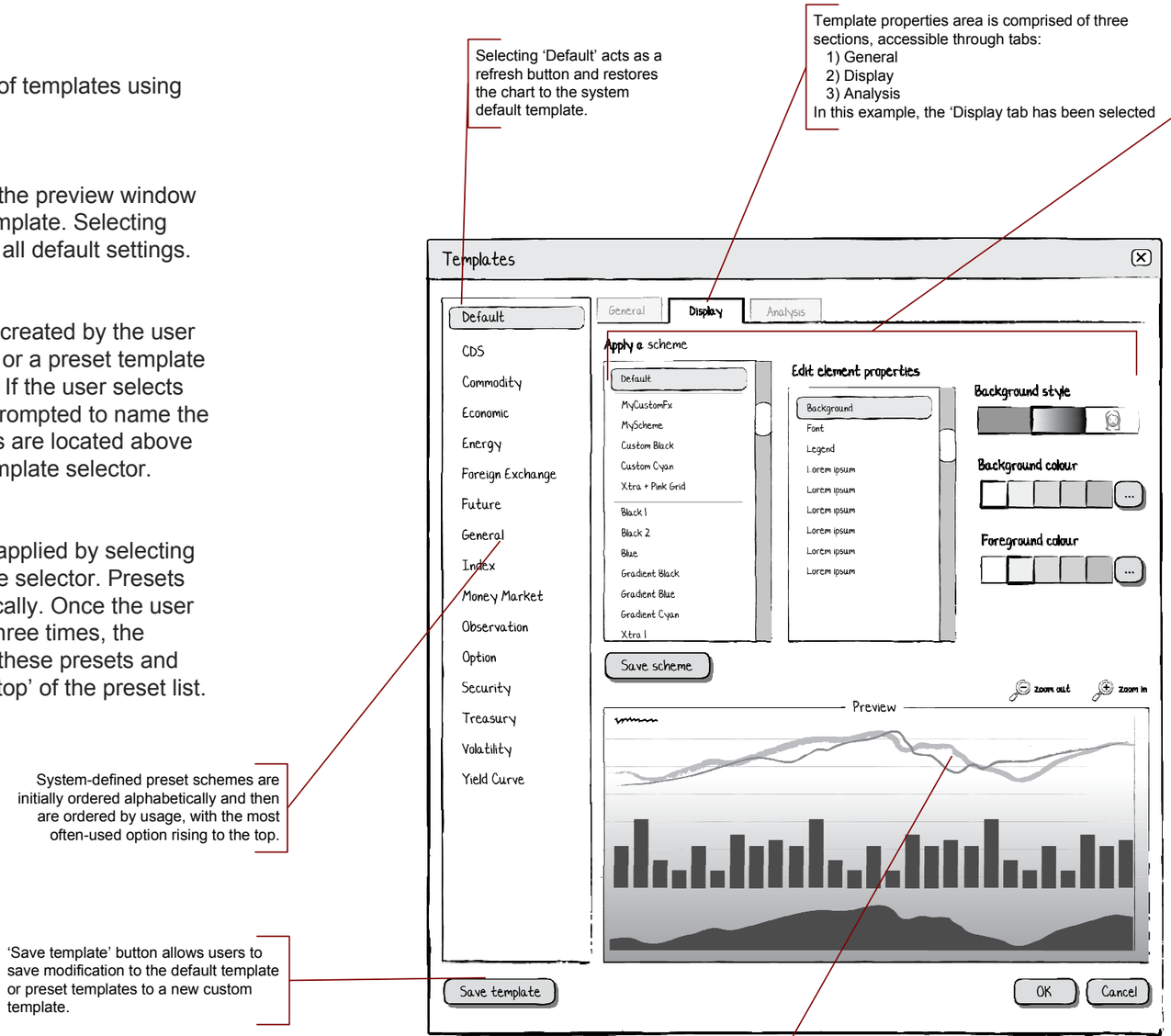
User workflow:

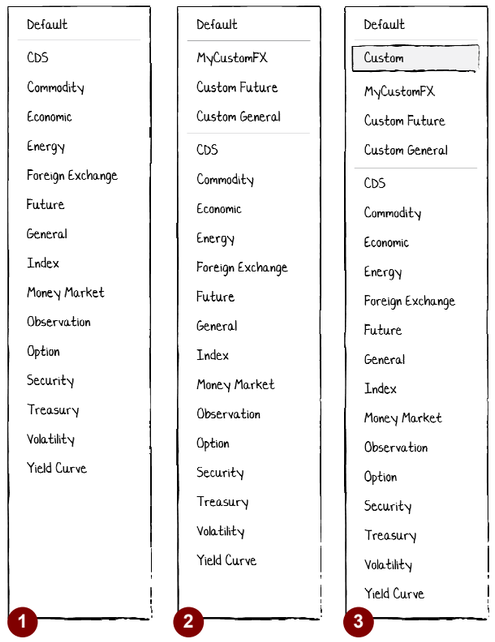
Users can apply three types of templates using the template selector:

1) **Default template**
Selecting default updates the preview window to show system default template. Selecting 'OK' reverts the system to all default settings.

2) **Custom templates**
Custom templates can be created by the user when the default template or a preset template is customised by the user. If the user selects 'Save template' they are prompted to name the template. Saved templates are located above preset templates in the template selector.

3) Preset templates
A preset template can be applied by selecting from the list in the template selector. Presets should be listed alphabetically. Once the user uses a preset more than three times, the system should remember these presets and cause them to 'rise to the top' of the preset list.



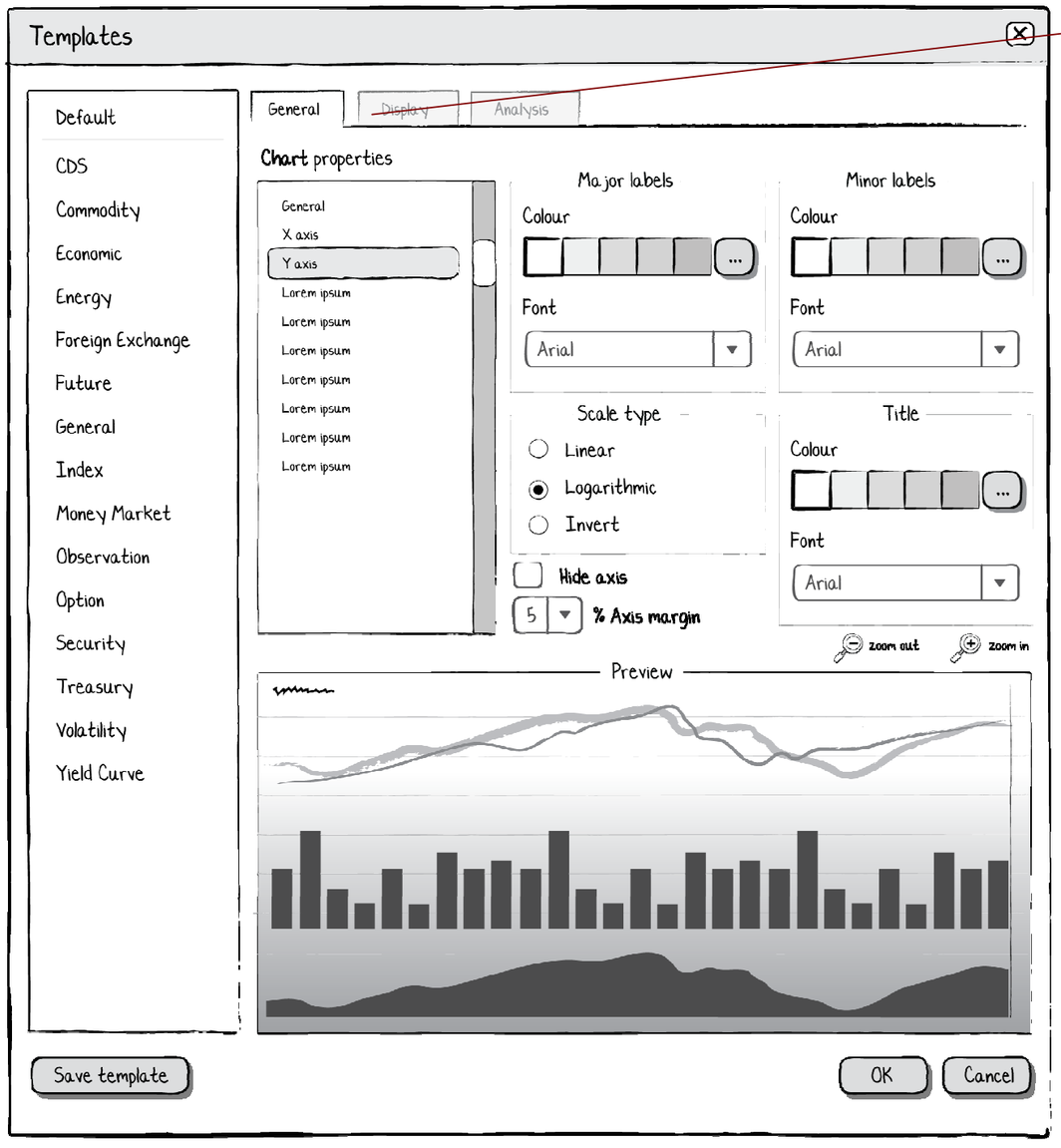


Saving a custom template:

The behaviour of the template selector list is illustrated above:

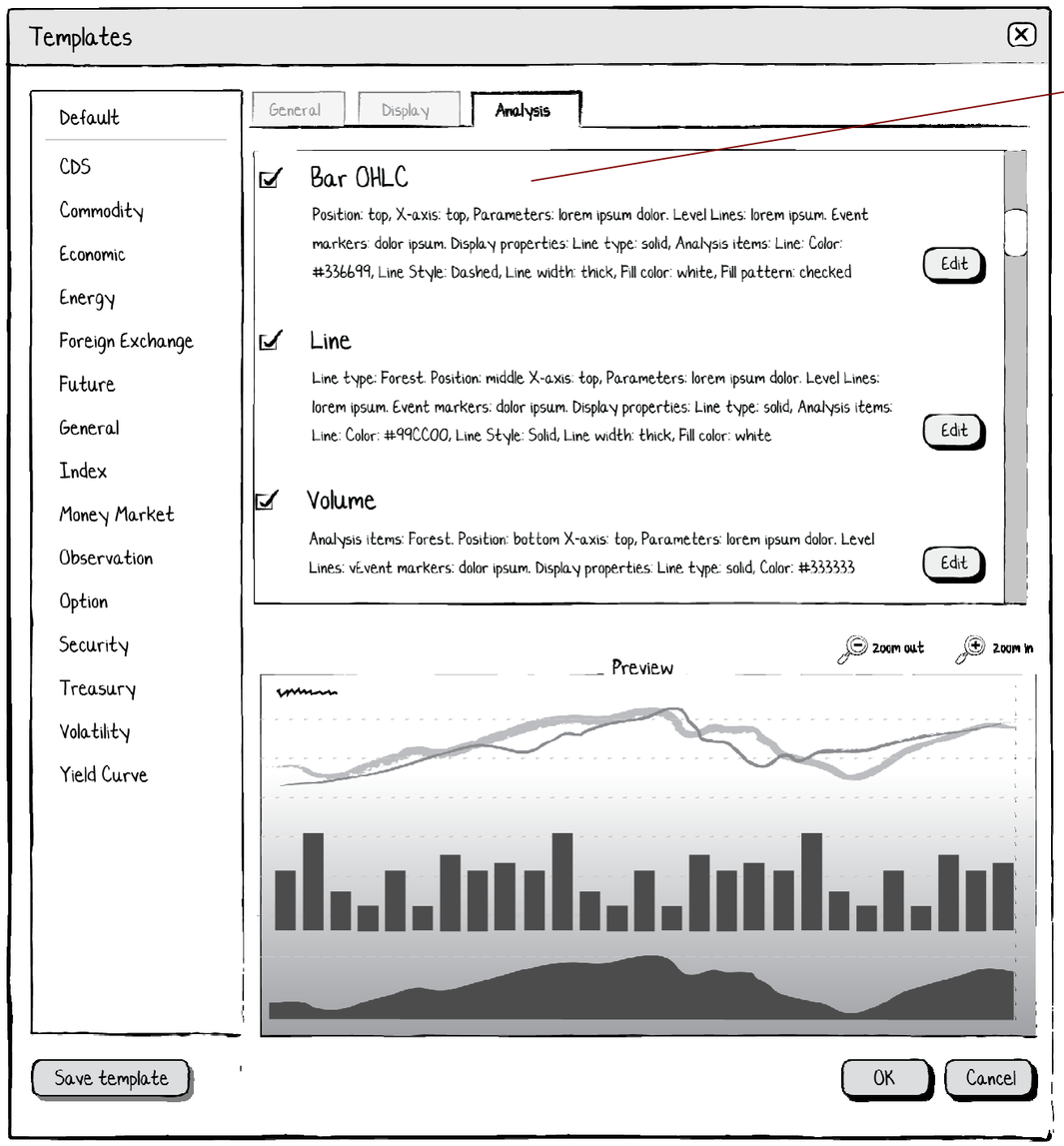
1. The Templates Selector area as it appears before a user has saved a custom template.
2. After the user has created custom templates, they are displayed separated from default and preset templates and are ordered by date created, with the most recently-created option rising to the top.
3. The Templates Selector area dynamically changing to a custom editable text state, providing a visual reminder to the user to name their custom template. Clicking "Save template" saves the custom template and displays the saved template in the Selector area list.

Templates - General tab



User can select from a range of individual chart property elements to customise the default or custom template. Chart property elements dynamically display relevant options depending on the cart property element selected. In this example, selecting the Y-axis chart property displays only those options relevant only the Y-axis.

Templates - Analysis tab



The analysis tab brings up a listing of those analyses and their properties relevant to the template. User can turn analysis on or off through this area. The user can modify any property of the analysis by clicking “Edit’, which brings up the existing Analysis dialogue box, where user can make changes. Saving changes dynamically updates listing and properties in the Analysis tab area.

Toolbar - Templates

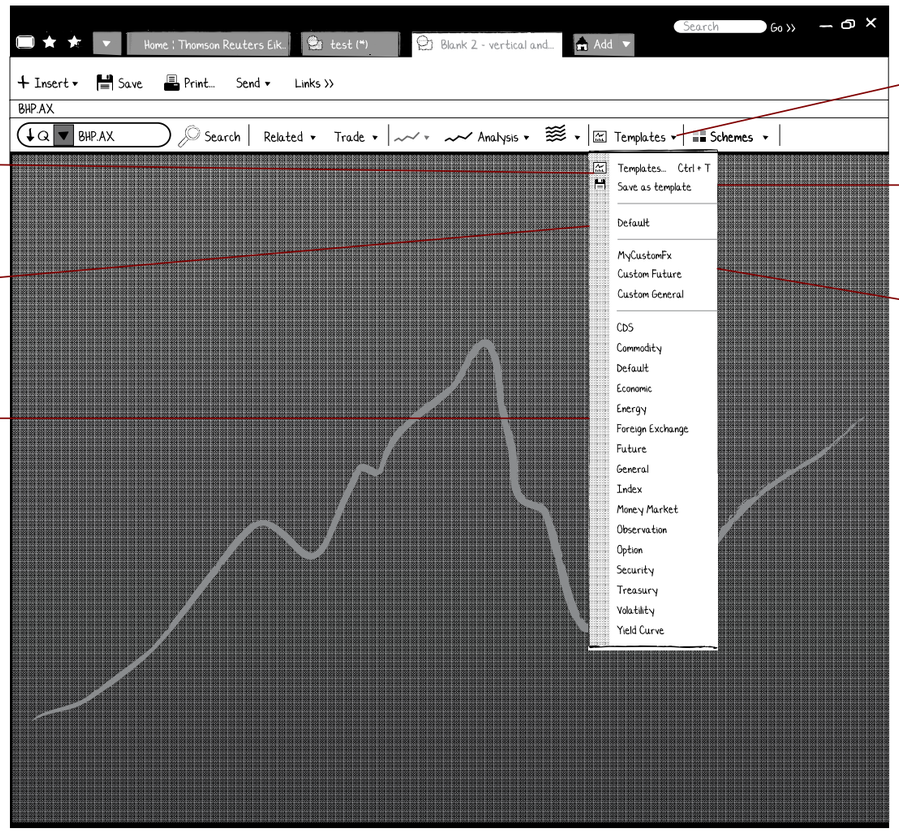
User workflow:

User activates the templates dropdown from the top menu. They then choose a custom or standard template displayed in the dropdown and the chart immediately updates to the desired state. Users can also choose to save a custom template or go directly to the template dialogue box and choose a template from there.

Selecting the “Templates” option activates the template dialogue box. See Templates – General p.12 for more information on this dialogue box.

Selecting the “Default” option acts as a refresh button and returns the chart to the default template.

All standard templates are grouped in this area in alphabetical order. Selecting any option immediately changes the chart to the desired template.



Templates option does not appear automatically in toolbar. Option is added to toolbar via the ‘Choose toolbar options’ menu.

Selecting the “Save as templates” option will behave and update as per the Templates dialogue box.

Custom templates group contains the templates that the user has customised in alphabetical order.
Custom templates should be located near the top to allow easy access.

Toolbar - Schemes

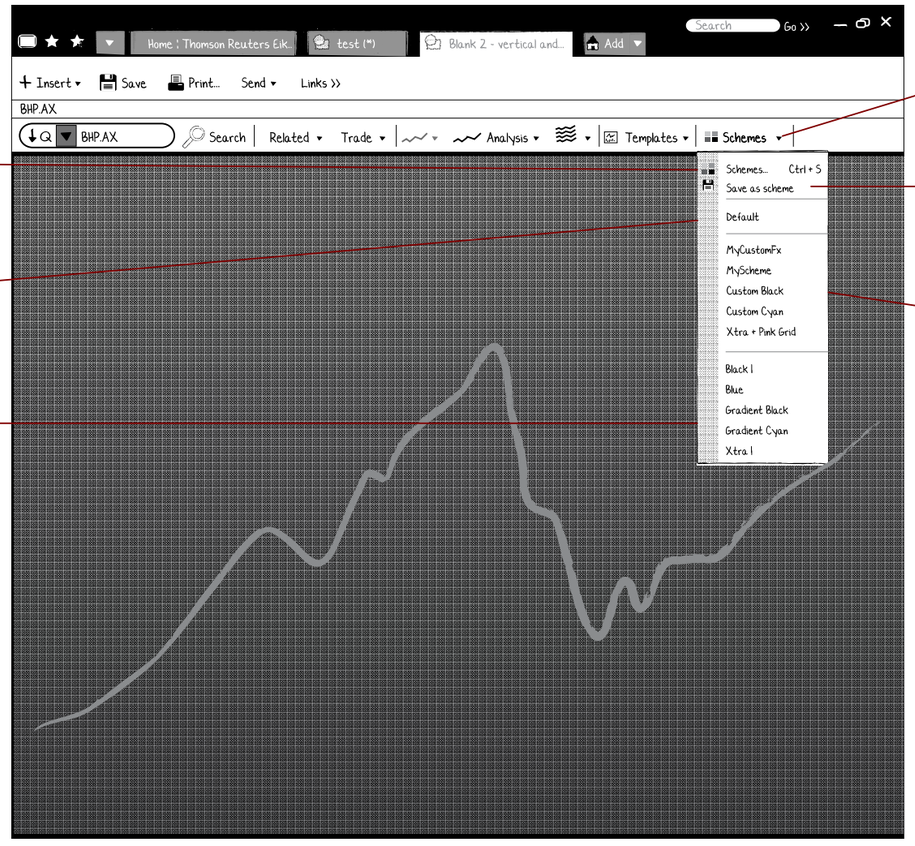
User workflow:

The user activates the schemes dropdown from the top menu. They then choose a custom or standard scheme displayed in the dropdown and the chart immediately updates to the desired state. Users can also choose to save a custom scheme or go directly to the Display Properties dialogue box and choose a scheme from there.

Selecting the “Schemes” option activates the display tab in the Display Properties dialogue box.
See “Chart Properties > Display properties” p.9 for more information on this dialogue box.

Selecting the “Default” option acts as a refresh button and returns the chart to the default scheme.

All standard schemes are grouped in alphabetical order.
Selecting any option immediately changes the chart to the desired scheme.



Schemes option does not appear automatically in toolbar. Option is added to toolbar via ‘Choose toolbar options’ menu.

Selecting the “Save as scheme” option activates a editable textbox in which user can name their custom scheme. This scheme will then appear in the custom schemes group.

Custom schemes group contains the schemes that the user has customised in alphabetical order.
Custom schemes should be located near the top to allow easy access.

Menu - Overlay

User workflow:

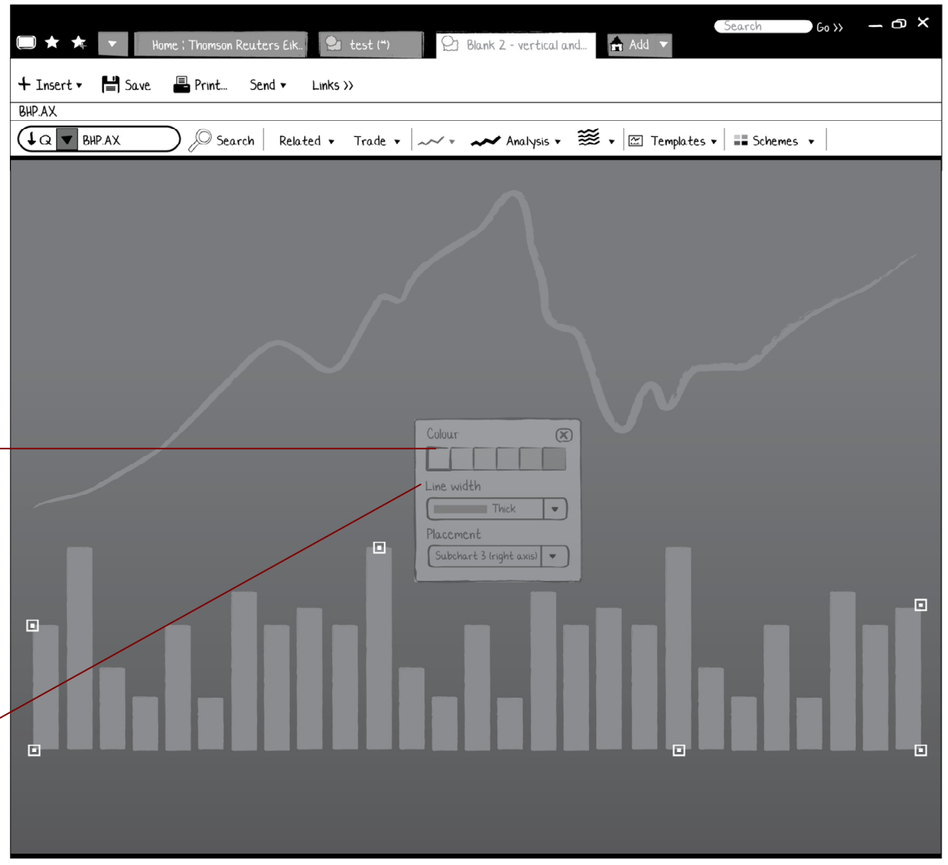
The user activates the menu overlay by selecting an object on the screen. They then configure any of the parameters displayed and the chart immediately updates to the desired state. Users can also choose to hide this overlay by selecting the close button located in the upper right corner, by unselecting the object or by turning off that option in the chart properties dialogue box.

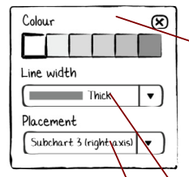
Menu Overlay Lifecycle:
1) Menu overlay is triggered when an object is selected.
2) Triggering menu overlay causes it to fade in and appear semi-transparent, until the mouse hovers directly over the overlay.
2) Menu overlay disappears if the mouse does not hover directly over it.
3) If menu overlay is activated, it remains active until an option on the overlay is selected. Once an option on the overlay is selected, the overlay disappears.

Overlay initially appears as semi-transparent and is inactive. Mousing toward the overlay increases opacity until it is completely opaque. When the mouse is over the overlay, it becomes active.

Overlay fades out within two seconds if it is not activated.

Behaviour is similar to that of Microsoft Word's 'mini toolbar'





The most frequently changed properties will be displayed in the properties overlay. In this example it is chart colour, width and placement. Adjusting any options in the overlay would immediately change the chart to the desired state.

The properties shown in the overlay change contextually, depending on the object selected, and should provide easy access to the most commonly used options for that particular object.

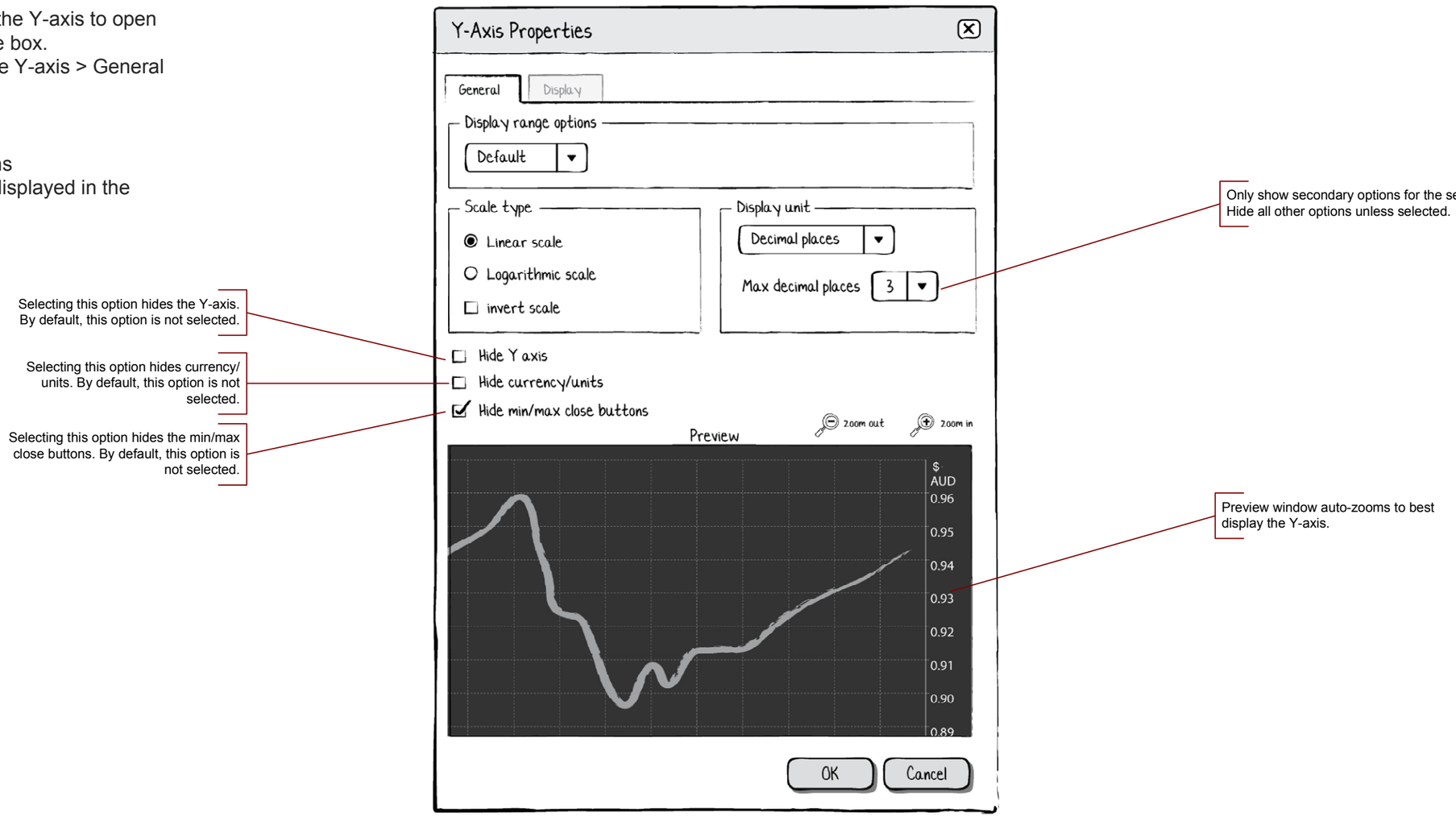
Selecting an object on the chart (by clicking once) displays the properties overlay. This is not a modal dialogue box. This box will not halt the application.

Y-Axis Properties > General

User workflow:

1) The user double clicks on the Y-axis to open the Y-axis properties dialogue box.
2) The user can customise the Y-axis > General properties including:
- hide Y-axis
- hide currency/units
- hide min/max close buttons

3) The customised Y-axis is displayed in the preview window.



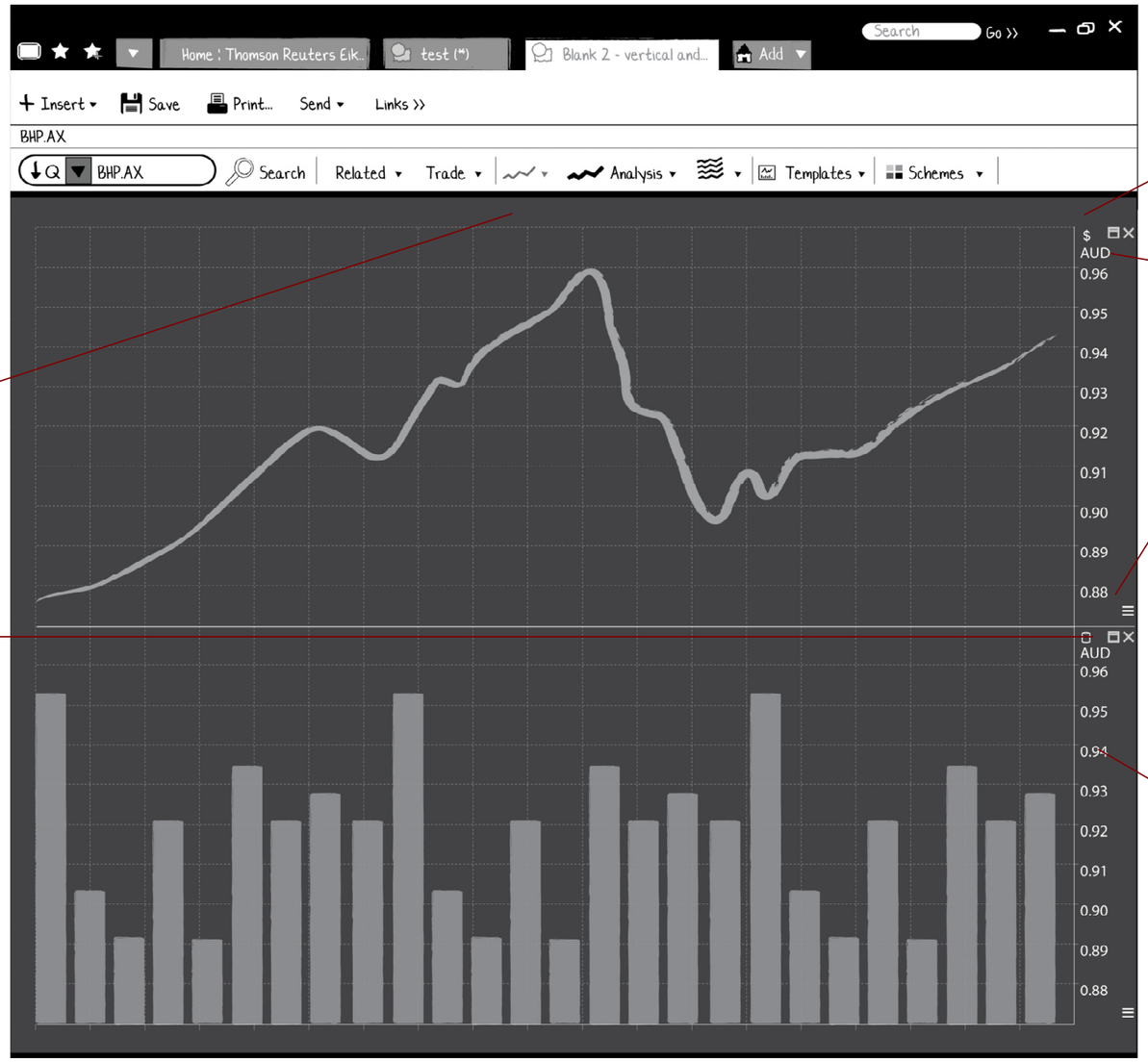
Y-Axis > Multiple subcharts

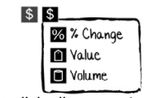
User workflow:

To customise the Y-axis, the user has 2 possible workflows:
1) The user double clicks on the Y-axis to open the Y-axis properties dialogue box (as described on the page entitled “Y-Axis Properties > General”).
2) The user can also directly manipulate the Y-axis using the functionality detailed below.

Padding has been added to the top and bottom of the chart along the Y-axis to allow for the legend and chart labels. This improves legibility and ensures that chart data is not hidden.

Min/Max close buttons have been simplified to minimise their visual heirachy, reducing visual clutter.



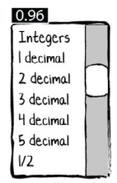


On click allow user to change Y-axis display type.

On click allow user to change currency/ unit type (as per current behavior)

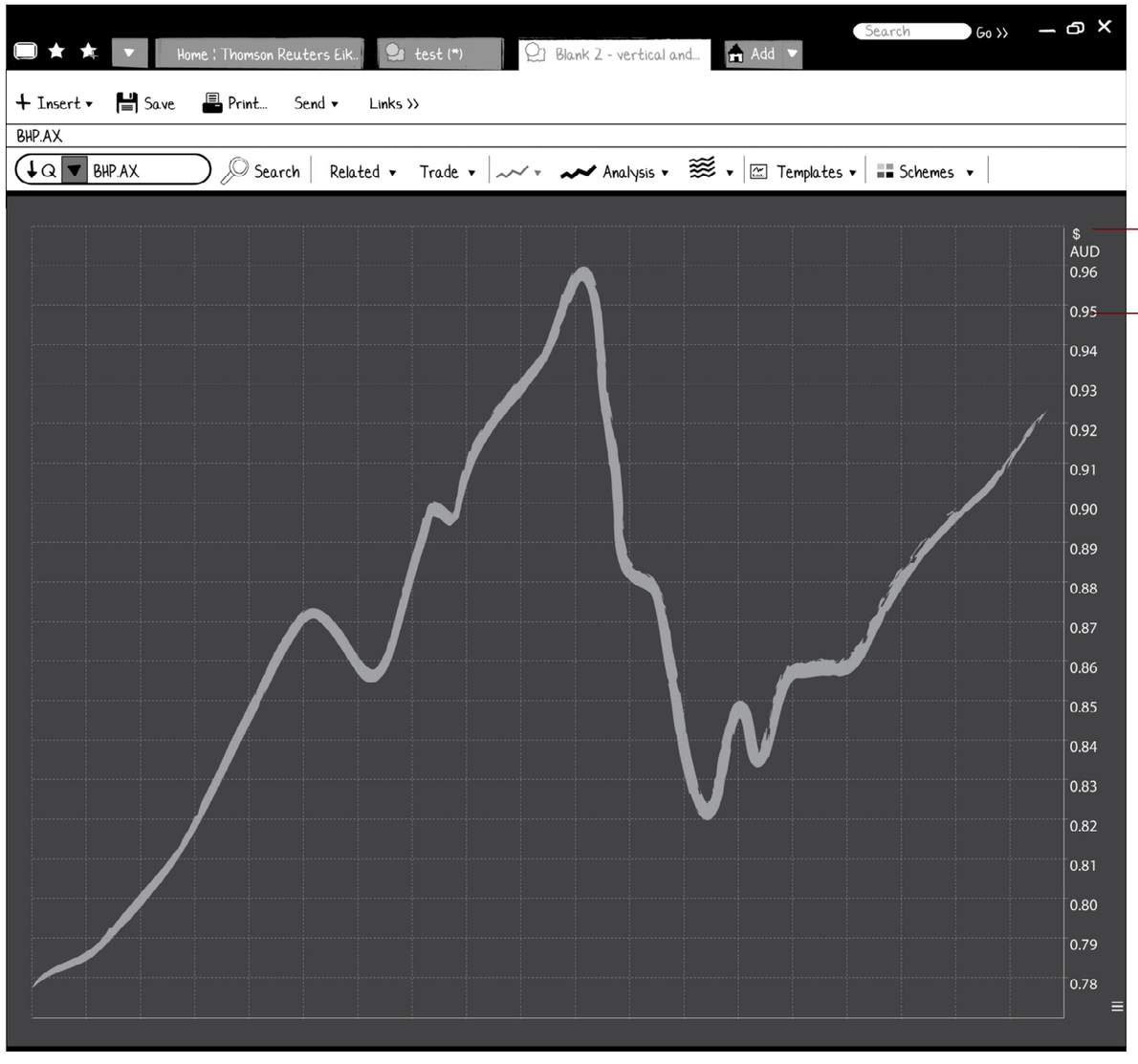
On hover change background colour to indicate button and show label.

On click buttons toggles chart scale from linear to logarithmic and vice versa .



Clicking on any number on the scale, allow users to change display units.
If the user chooses to display a number of decimal places, the scale should reflect this, even in the case of displaying zeros following a number.
E.g. if a user select 4 decimal places on this chart 0.91 should appear as 0.9100.

Y-Axis > Single chart



Min/Max close buttons do not appear on single charts

All other functionality is as per multiple sub charts on p.18.

Y-Axis > Hide/Show

User workflow:

To hide the Y-axis, the user has 2 possible workflows:
1) The user double clicks on the Y-axis to open the Y-axis Properties dialogue box and selects ‘hide Y-axis’.
2) The user can also directly hide the Y-axis using the ‘drag’ icon functionality detailed below.

Y-axis is easily collapsible. When curser hovers over the Y-axis border, it changes to ‘drag’ icon. Dragging icon to the right ‘snaps shut’ the Y-axis, leaving a thick border. Clicking once on the icon also snaps the Y-axis shut.

On collapse - Y-axis collapses into a thick border that is easily targeted by the curser.

When curser hovers over the Y-axis border, it changes to ‘drag’ icon. Dragging to the left ‘snaps open’ and displays the Y-axis. Clicking once on the icon also snaps the Y-axis open.

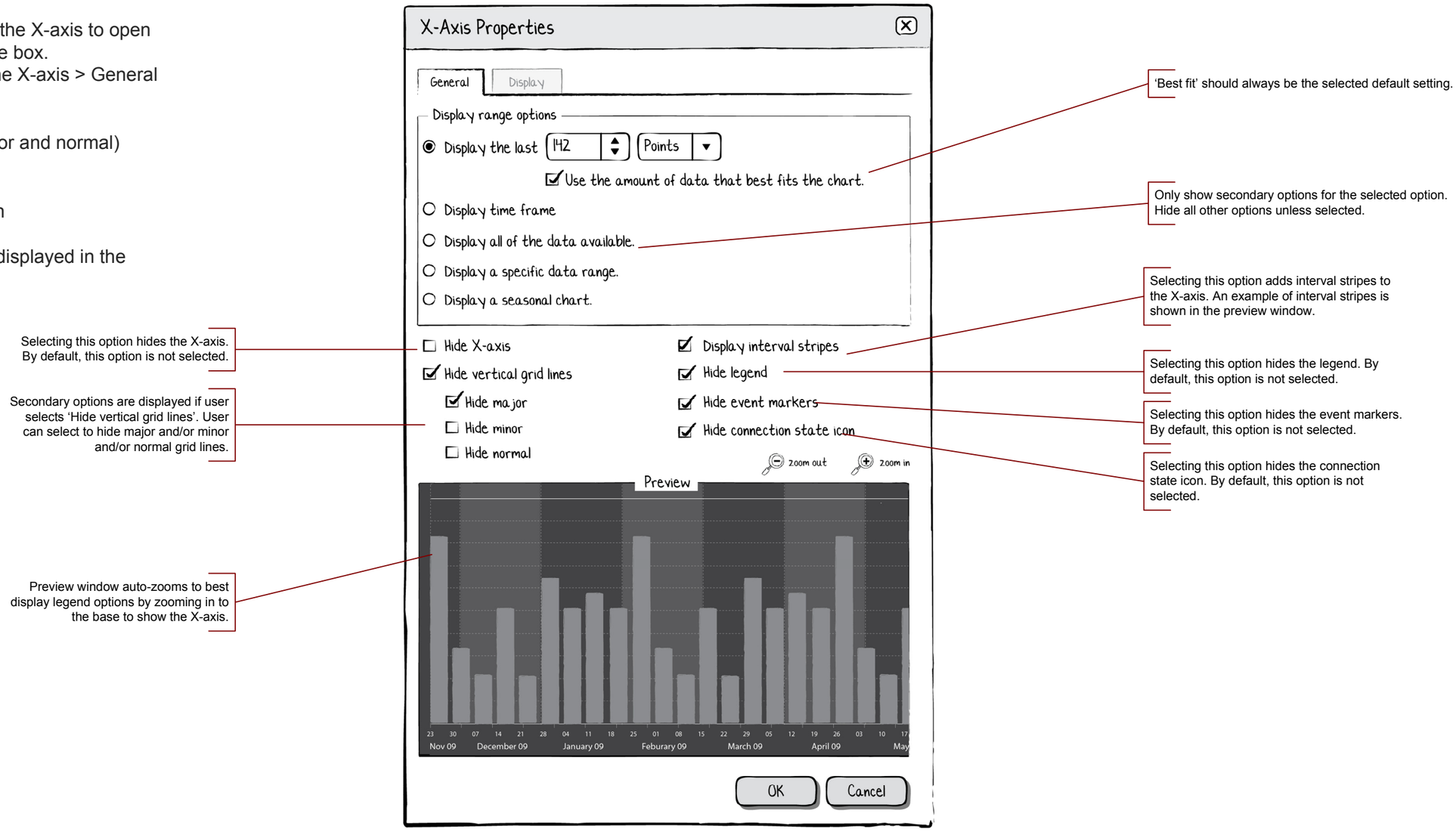
In sub-charts, the Y axis hide and show together. Closing or opening the Y axis in one sub-chart, also closes or opens the Y axis in the other sub-charts.

X-Axis Properties > General

User workflow:

1) The user double clicks on the X-axis to open the X-axis properties dialogue box.
2) The user can customise the X-axis > General properties including:
- hide X-axis
- hide grid lines (major minor and normal)
- display interval striping
- hide event markers
- hide connection state icon
- hide the legend

3) The customised X-axis is displayed in the preview window.



X-Axis Properties > Display

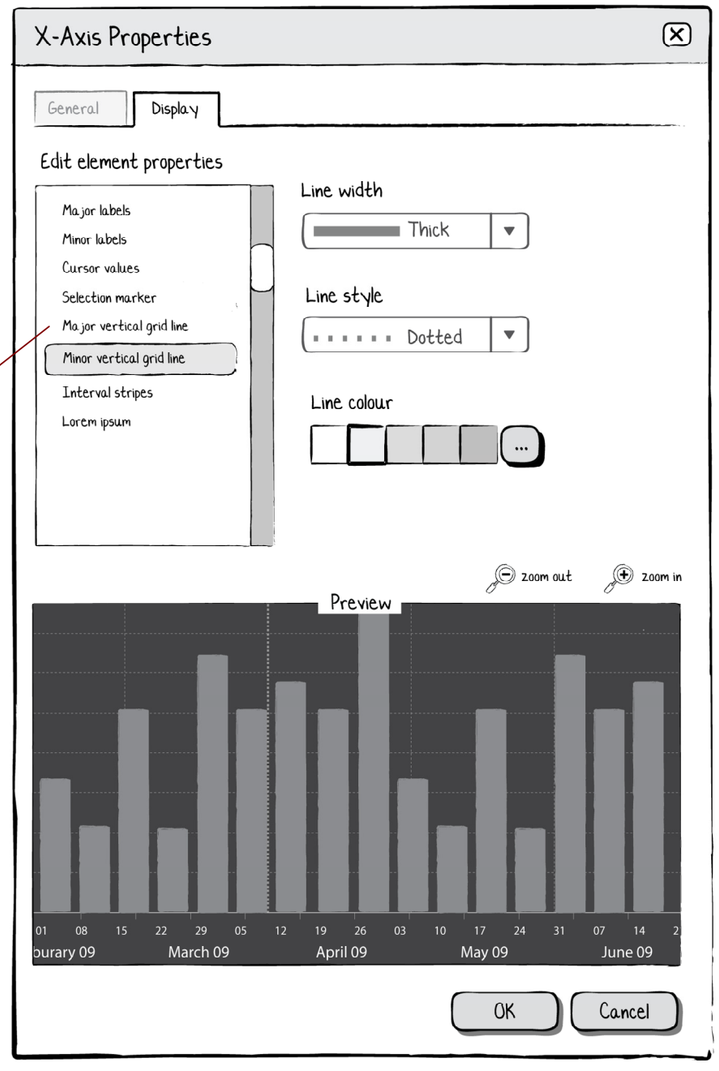
User workflow:

1) The user double clicks on the X-axis to open the X-axis Properties dialogue box.
2) By selecting the 'Display' tab, the user can customise the X-axis elements including:
- grid lines (major, minor and normal)
- vertical stripes.

3) The custom X-axis is then shown in the preview window.

The following new elements have been added to the X-Axis display properties:
- major vertical grid lines
- minor vertical grid lines
- interval stripes

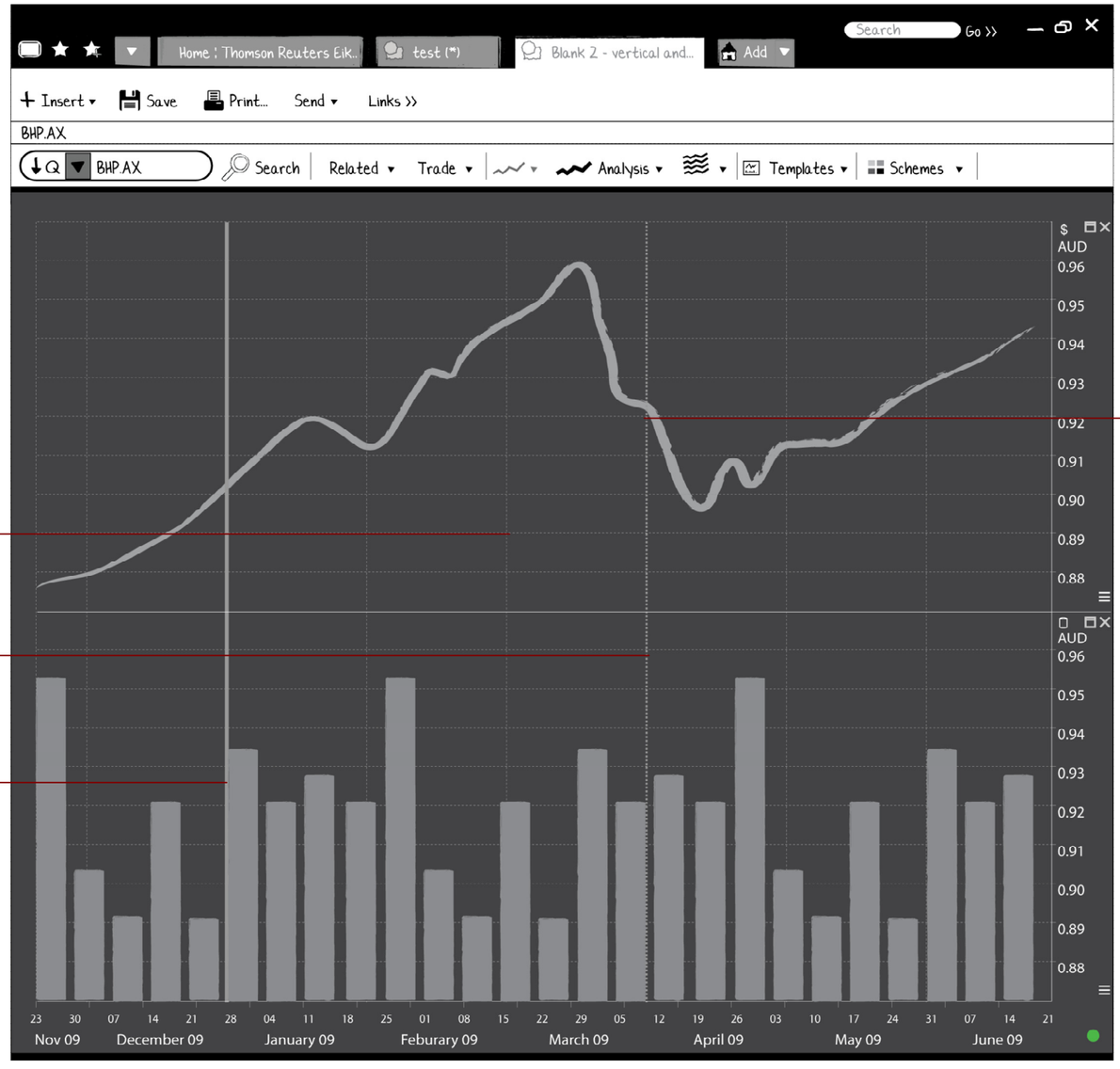
Users can edit the display properties for these elements.



X-Axis > Grid lines

User workflow:

Charts display vertical grid lines (dividers) by default.
1) User double clicks on a X-axis to open the X-axis properties dialogue box
2) User can choose to hide the vertical grid lines by selecting ‘Hide vertical grid lines’.
3) User can choose to customise vertical grid lines display properties by selecting the ‘Display’ tab.



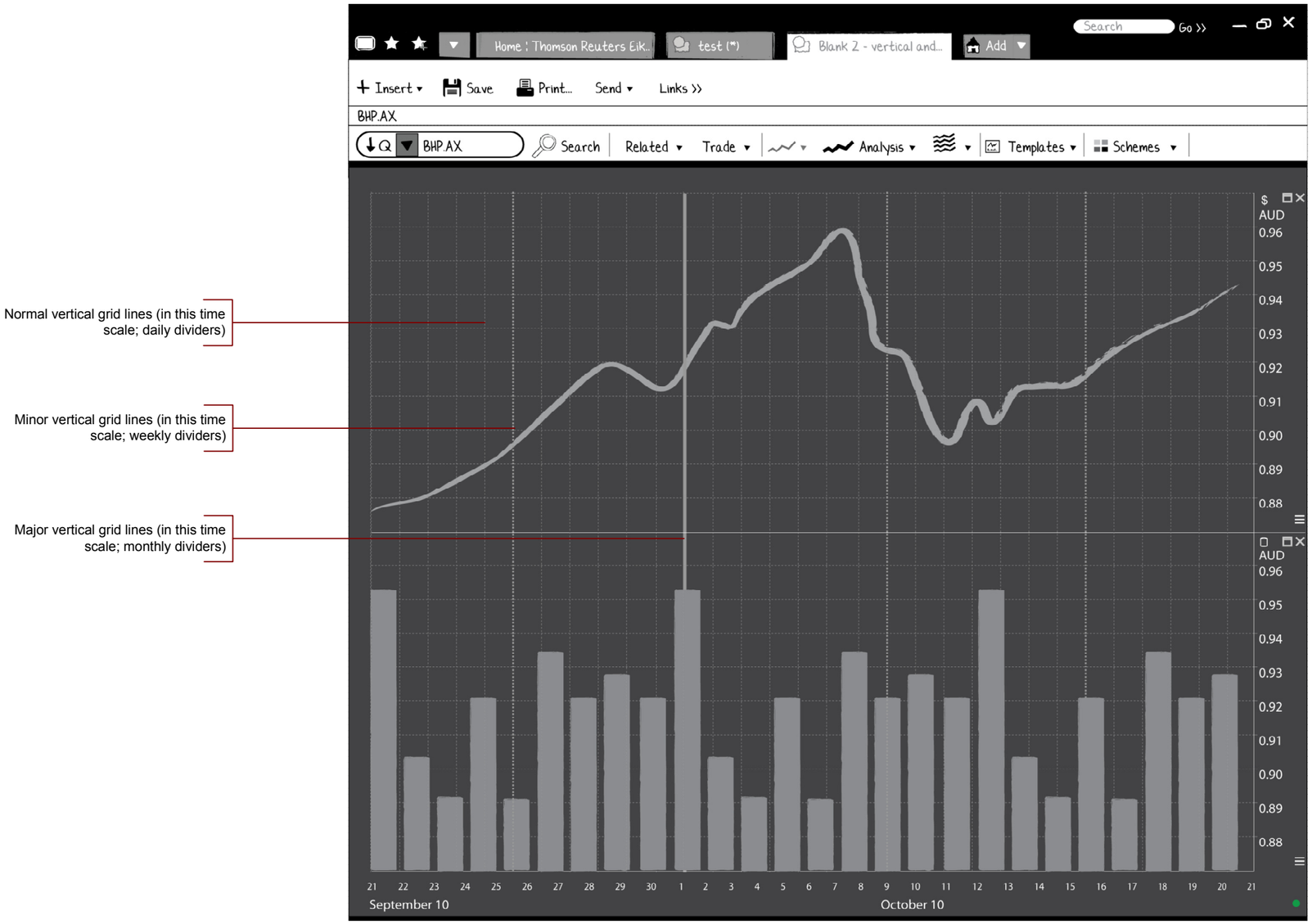
Normal vertical grid lines (in this time scale; monthly dividers) are displayed as soft dotted lines.

Minor vertical grid lines (in this time scale; quarterly dividers) are displayed as slightly lighter dotted lines (when used on a dark background as pictured).

Major vertical grid lines (in this time scale; annual dividers) are displayed as solid thick lines.

Grid lines are assigned to major, minor and normal depending on the time scale of the chart.
As a user expands or contracts the timescale in the chart, the assignment of major, minor and normal grid lines will adjust to fit the new timescale. See p.24 for an example of a chart with a different timescale.

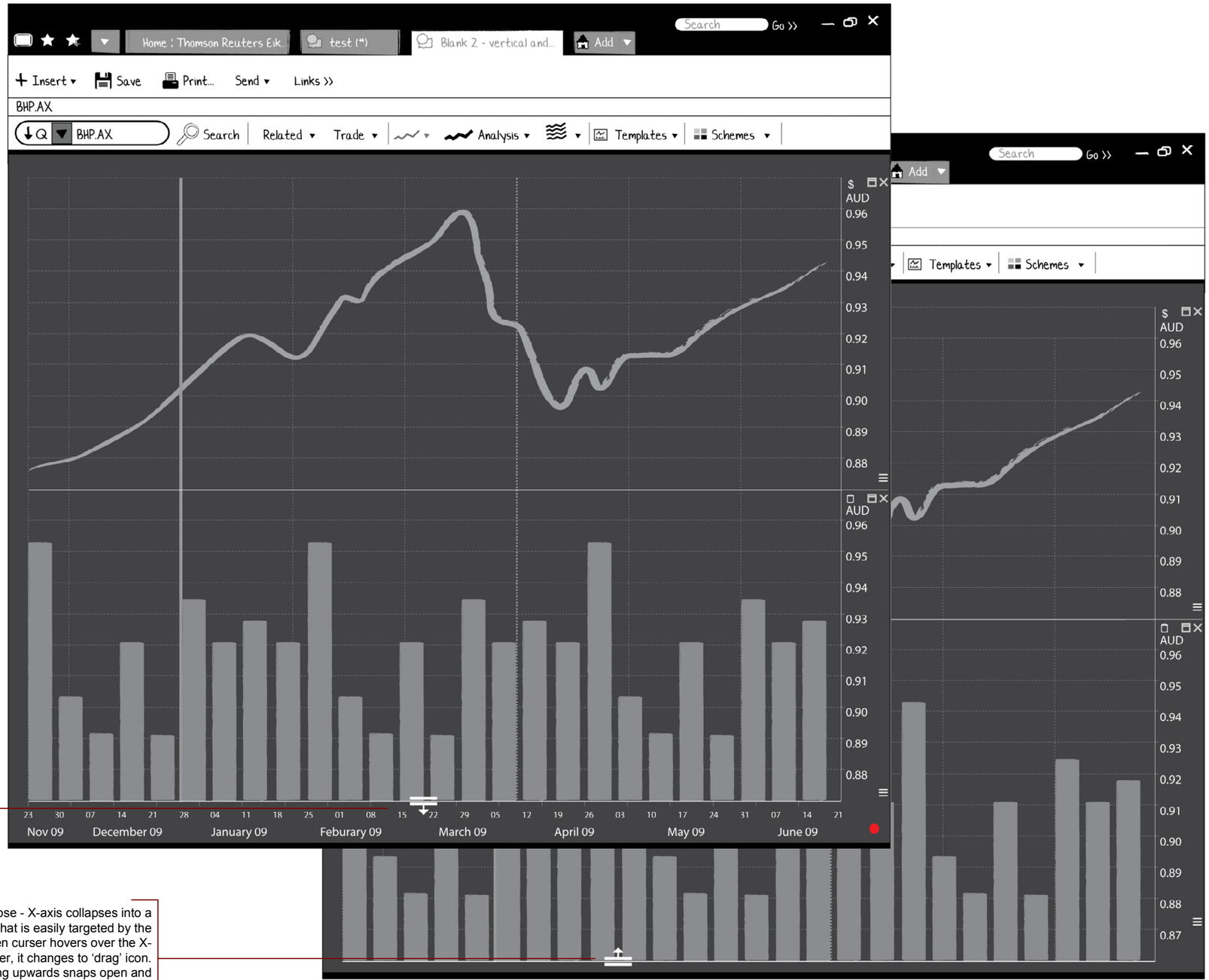
X-Axis > Grid lines (month)



X-Axis > Hide/Show

User workflow:

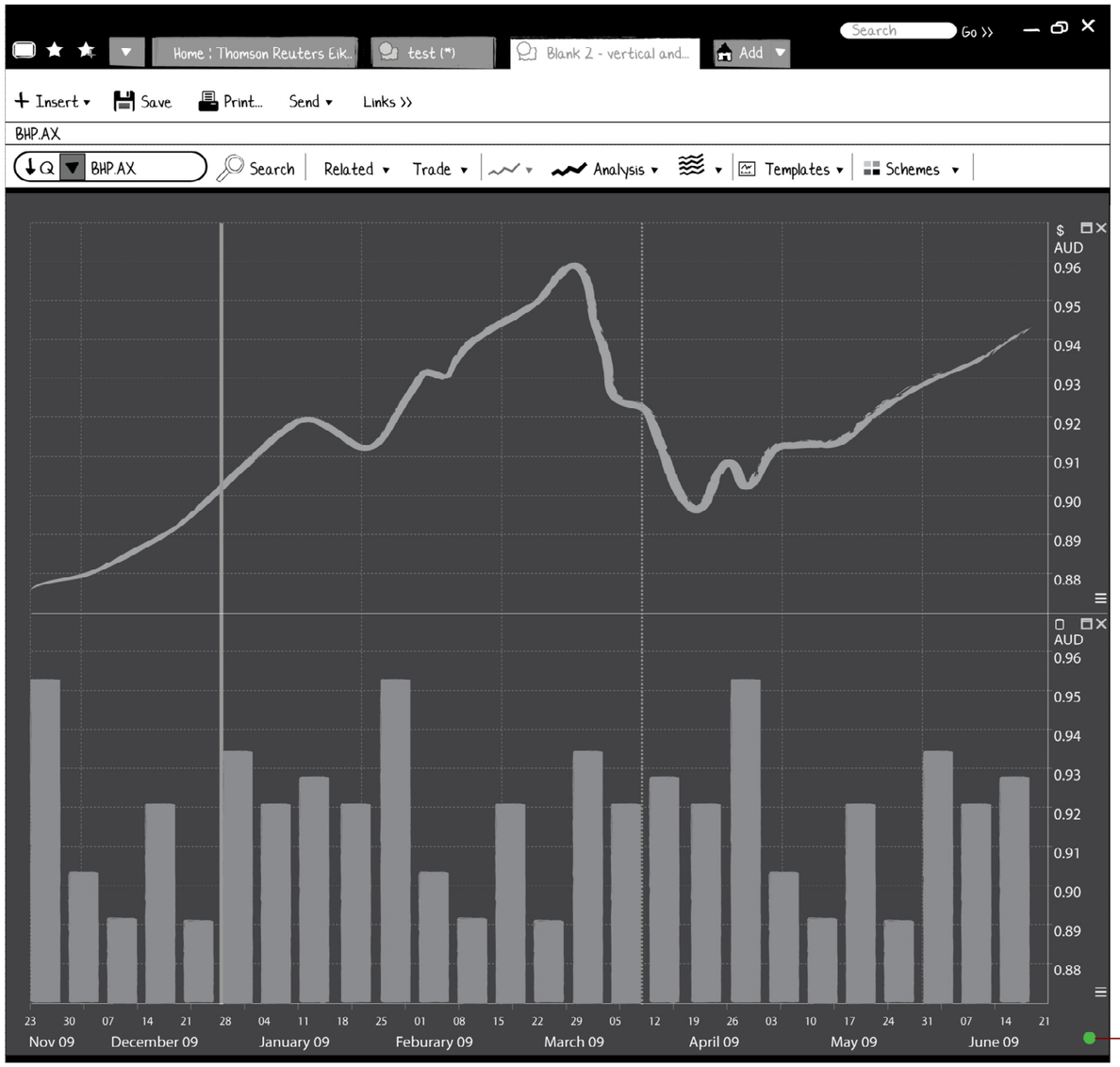
To hide the X-axis, the user has 2 possible workflows:
1) The user double clicks on the X-axis to open the X-axis properties dialogue box (see the page entitled “X-Axis Properties > General”) and selects ‘hide X-axis’.
2) The user can also directly hide the X-axis using the ‘drag’ icon functionality detailed below.



X-axis is easily collapsible. When curser hovers over the X-axis border, it changes to ‘drag’ icon. Dragging downwards snaps shut the X-axis, leaving a thick border. Clicking once on the icon also snaps the X-axis shut.

On collapse - X-axis collapses into a thick border that is easily targeted by the curser. When curser hovers over the X-axis border, it changes to ‘drag’ icon. Dragging upwards snaps open and displays the X-axis. Clicking once on the icon also snaps the X-axis open.

X-Axis Properties > Connection state icon



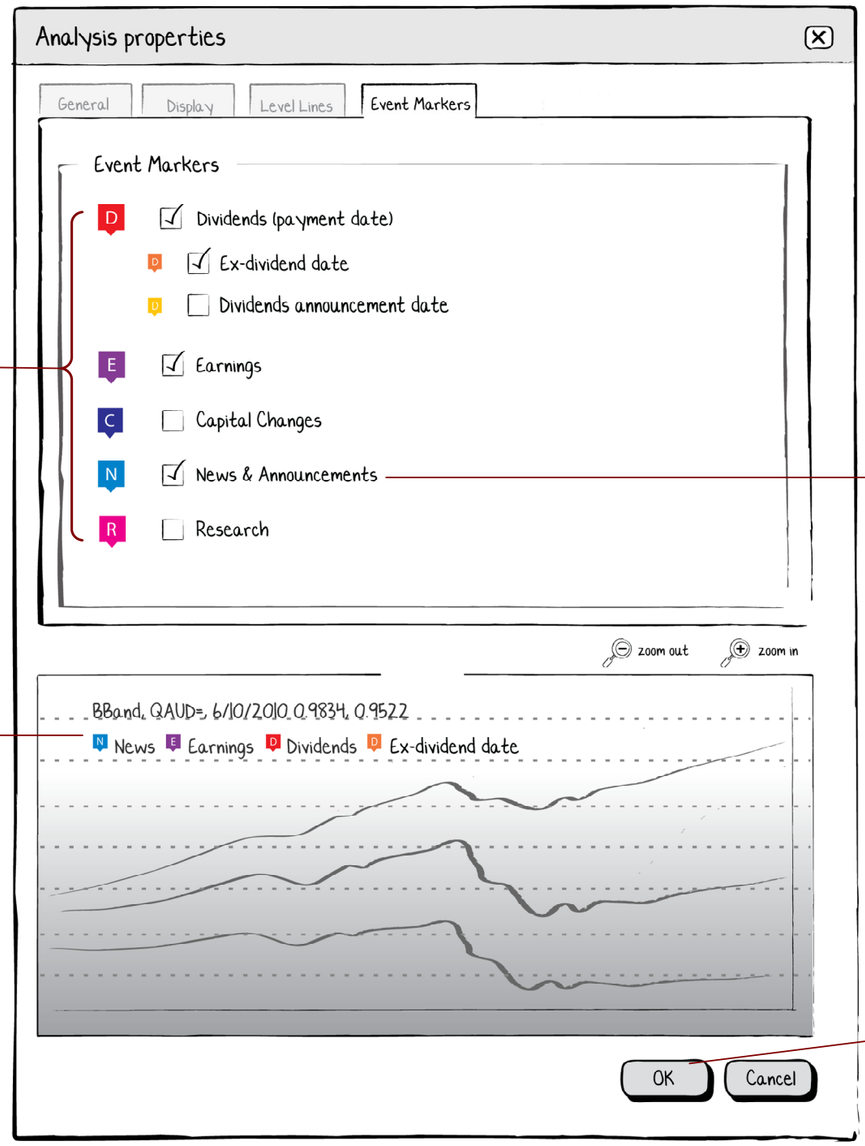
Connection state icon. This can be hidden via the X-axis dialogue box. (see "X-Axis Properties > General" p.23)

Event Markers > Analysis properties

User workflow:

1) The user double clicks on an analysis to open the Analysis properties dialogue box.
2) The user can turn on event markers by selecting ‘Event markers’ tab and selecting to view relevant event markers
3) The selected event markers are then shown in the preview window.

Clicking/unclicking checkboxes hides/ shows relevant event markers, on ‘legend’ area of preview window. Different colours are used to differentiate between different event markers to allow for easy recognition. By default, event markers are not selected.



‘News & Announcements’ contains related news stories and ECI announcements/market news

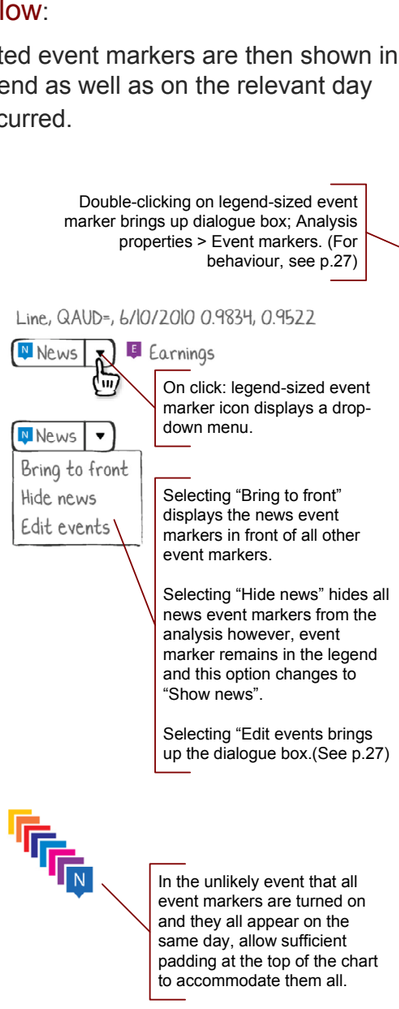
To reduce visual clutter, Icons are displayed smaller in the legend.

Clicking ‘OK’ inserts event markers into chart and closes the dialogue box.

Event Markers > Legend

User workflow:

5) The selected event markers are then shown in the chart legend as well as on the relevant day the event occurred.



Double-clicking on legend-sized event marker brings up dialogue box; Analysis properties > Event markers. (For behaviour, see p.27)

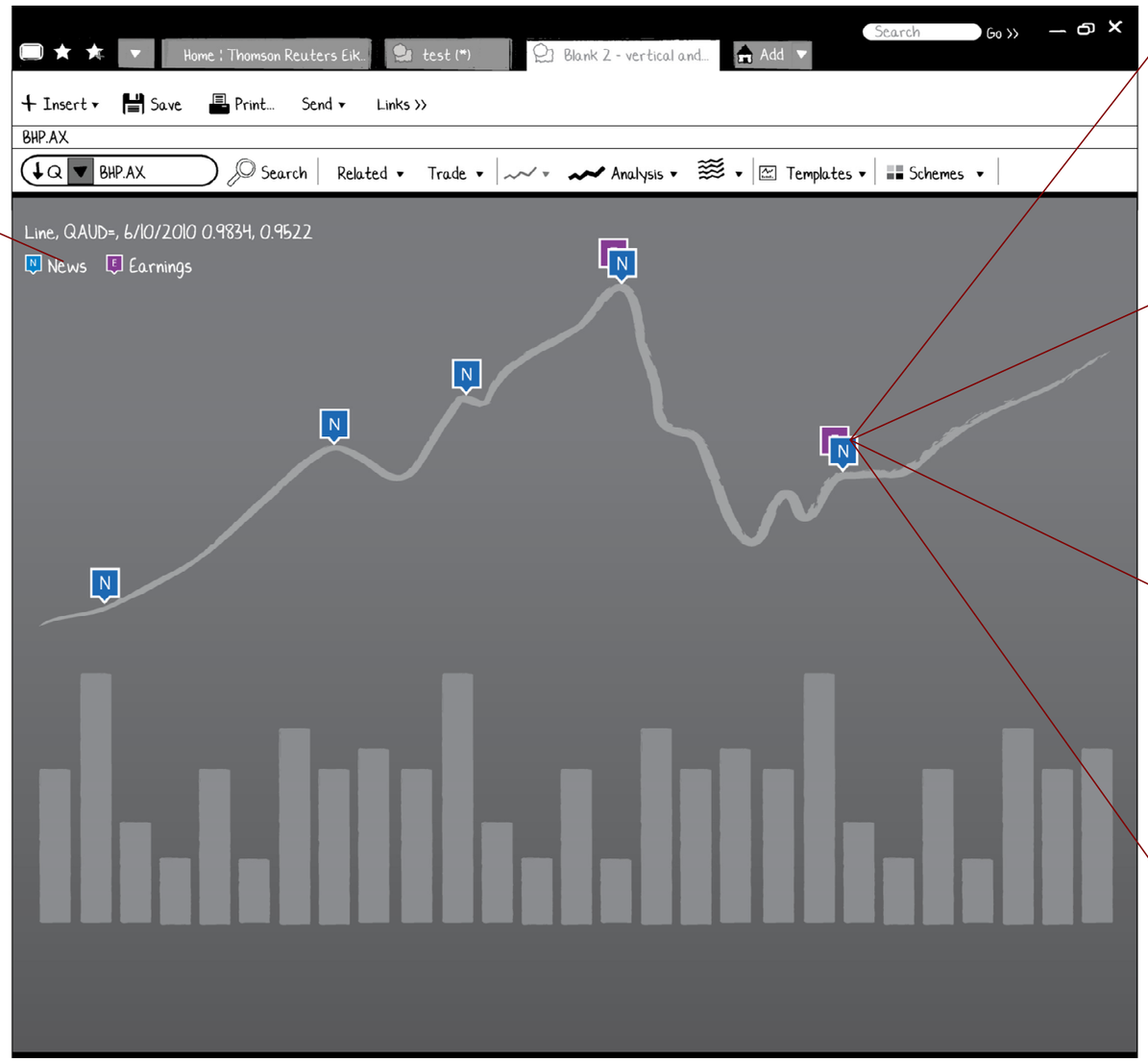
On click: legend-sized event marker icon displays a drop-down menu.

Selecting “Bring to front” displays the news event markers in front of all other event markers.

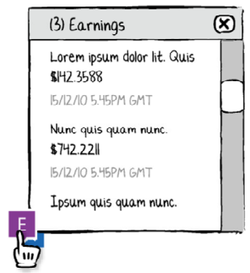
Selecting “Hide news” hides all news event markers from the analysis however, event marker remains in the legend and this option changes to “Show news”.

Selecting “Edit events brings up the dialogue box.(See p.27)

In the unlikely event that all event markers are turned on and they all appear on the same day, allow sufficient padding at the top of the chart to accommodate them all.

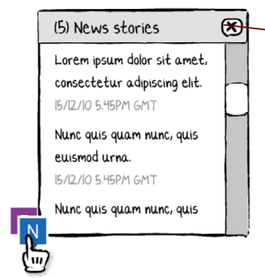


Order of multiple event markers appearing on the same day is of that specified in dialogue box; Analysis Properties > Event markers.
In this example, ‘news’ is selected first, and so the ‘N’ icon takes precedence.



Each day has only one event marker icon per event. Clicking on an event marker brings up the relevant pop-over. The pop-over contains a list of all the events that happened on that day.

On hover of the event marker, the icons come to the top and become clickable



On click the pop-over is closed

On click: clicking event marker icon brings up pop-over.

Chart Properties > Legend

User workflow:

1) The user double clicks on the legend to open the Chart properties > Legend dialogue box.
2) The user can customise the legend by selecting to show or hide elements.
3) The customised legend is displayed in the preview window.

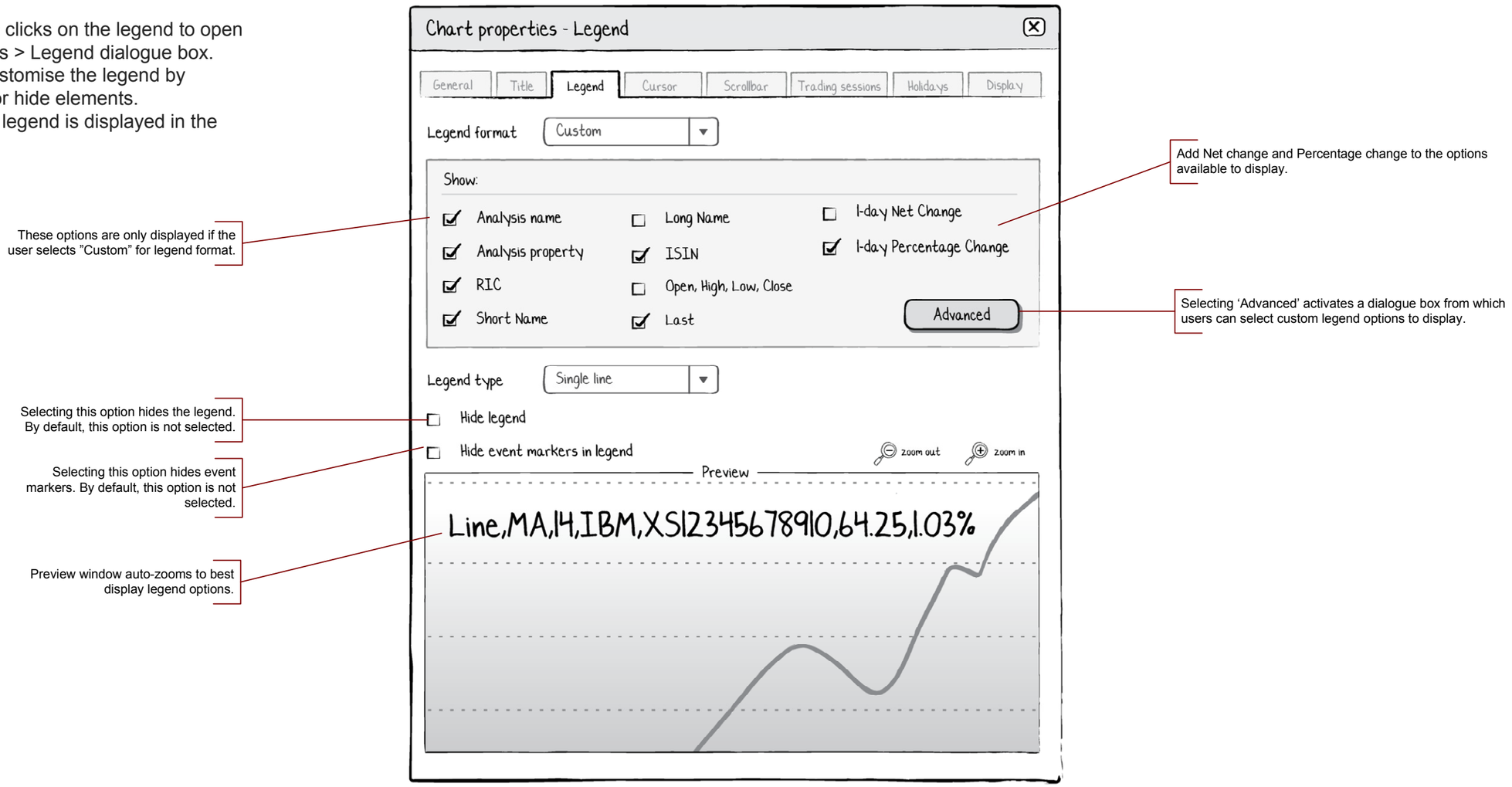
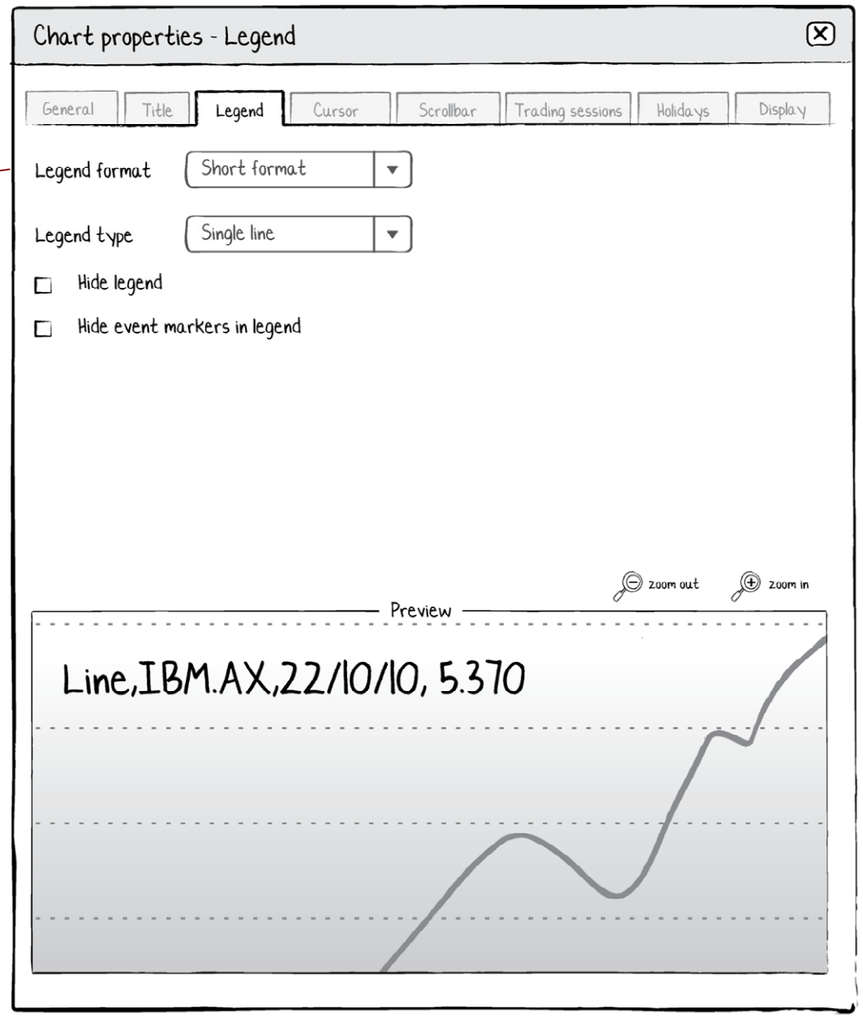
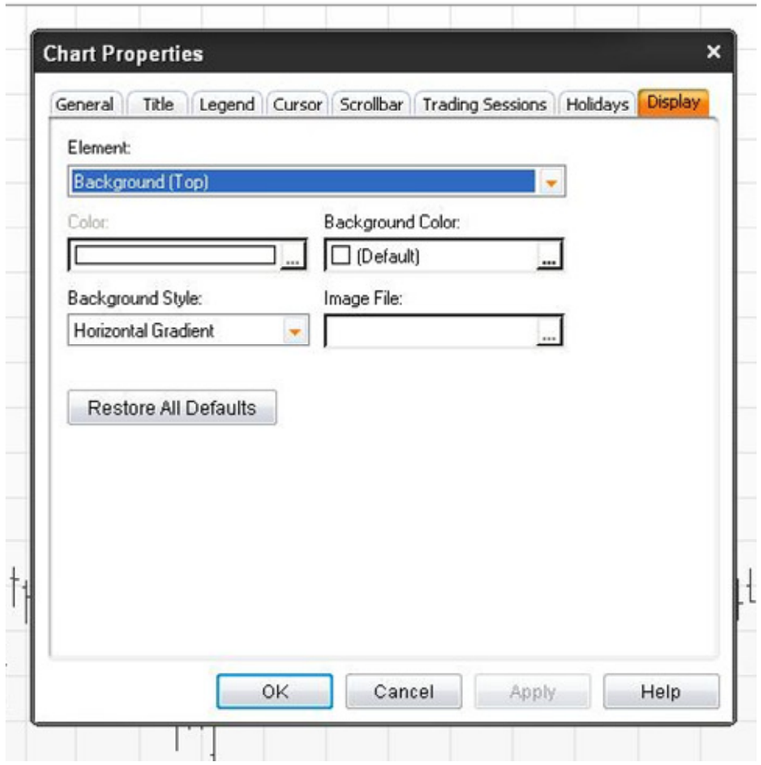


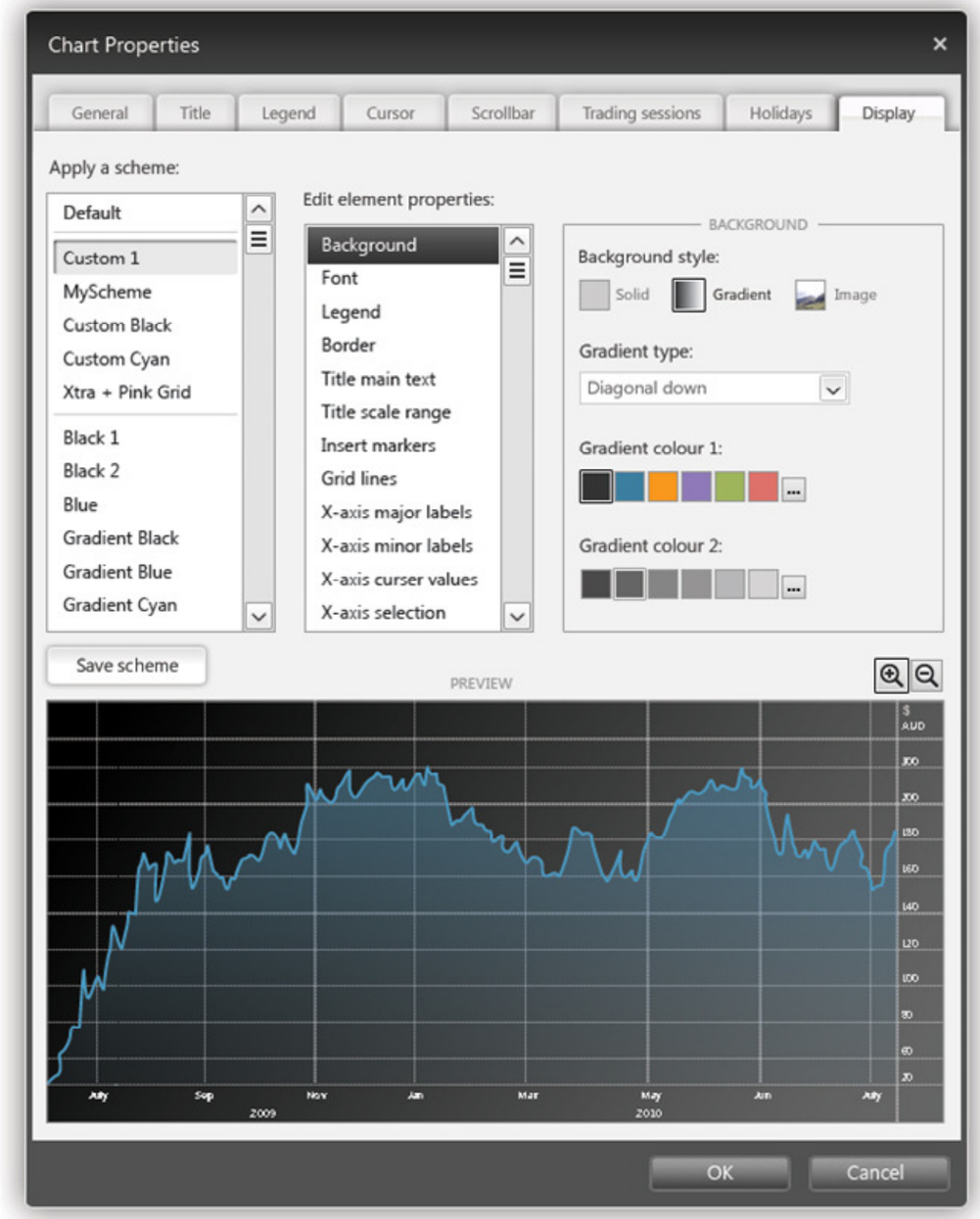
Chart Properties > Legend (short format)

If the user selects any other legend format than “custom”, a white space is displayed under the options to allow space for custom options. (as displayed on p.30)

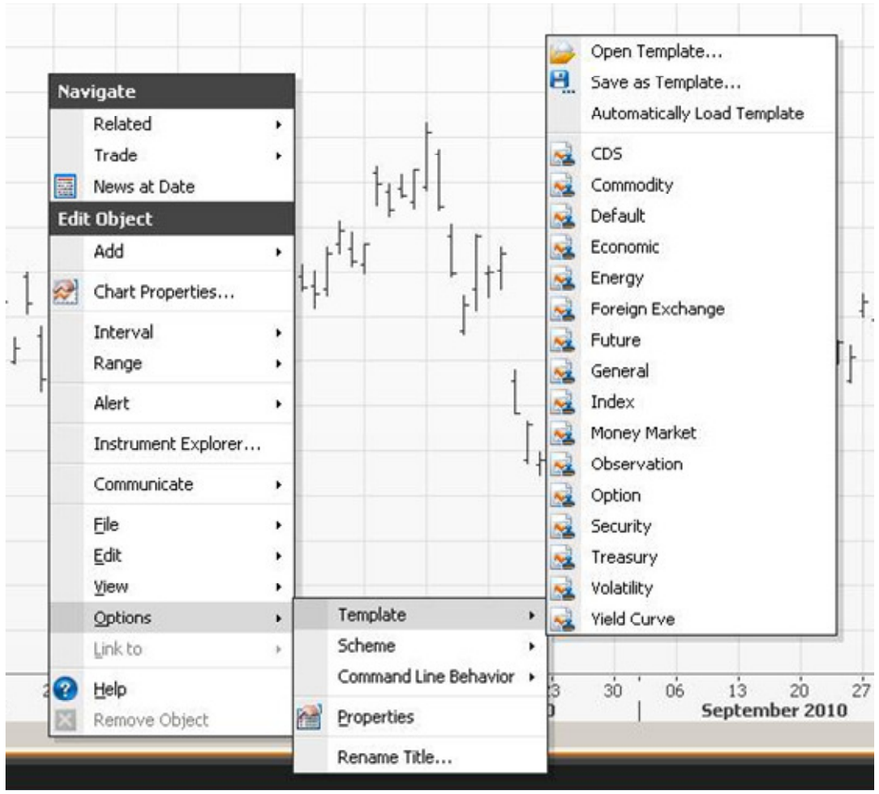


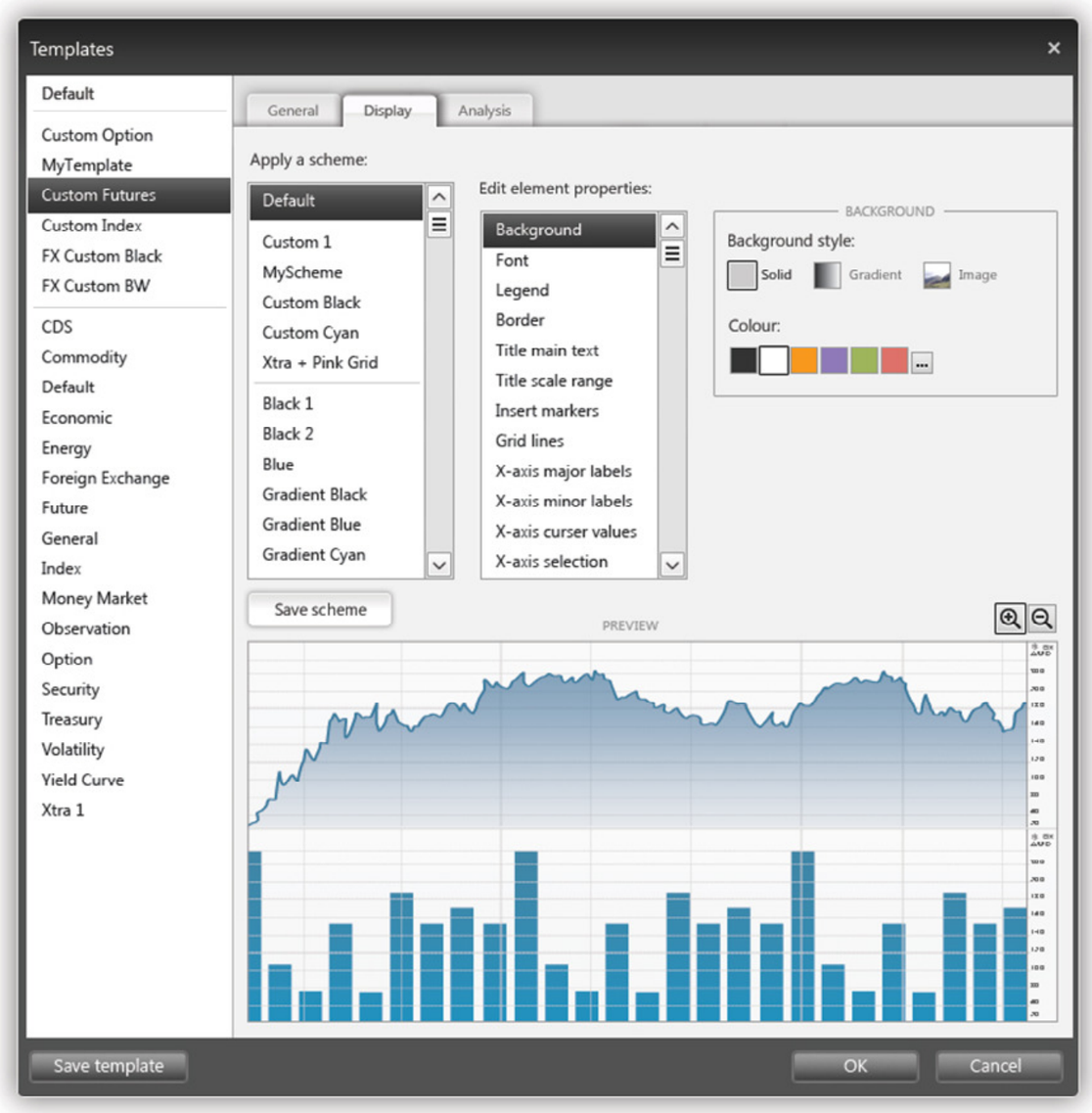
Before & After - Chart Properties Display



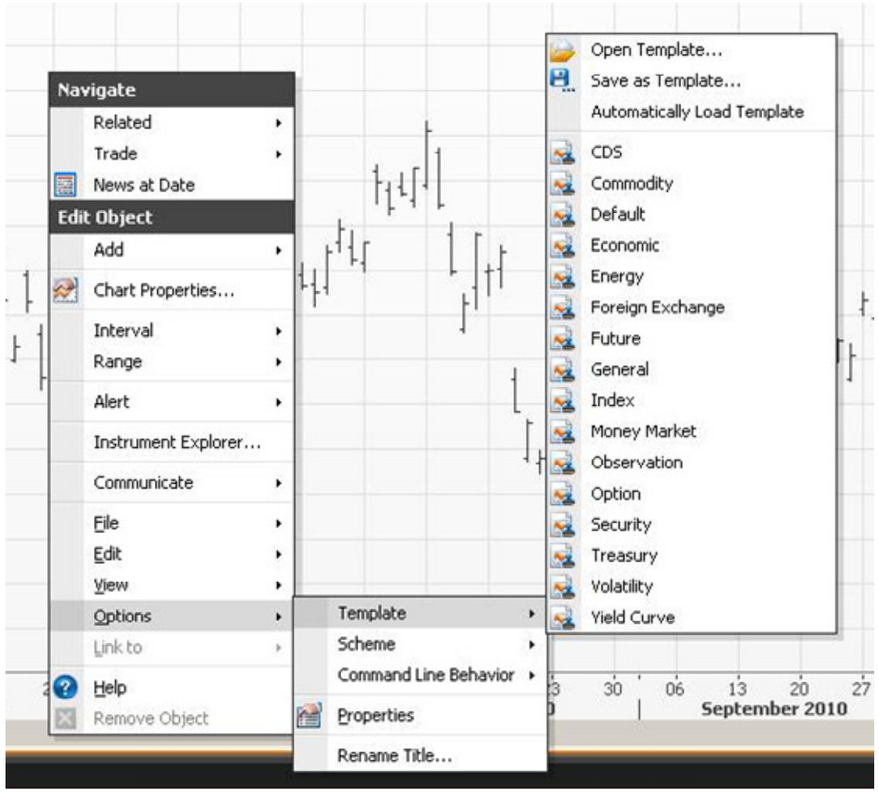


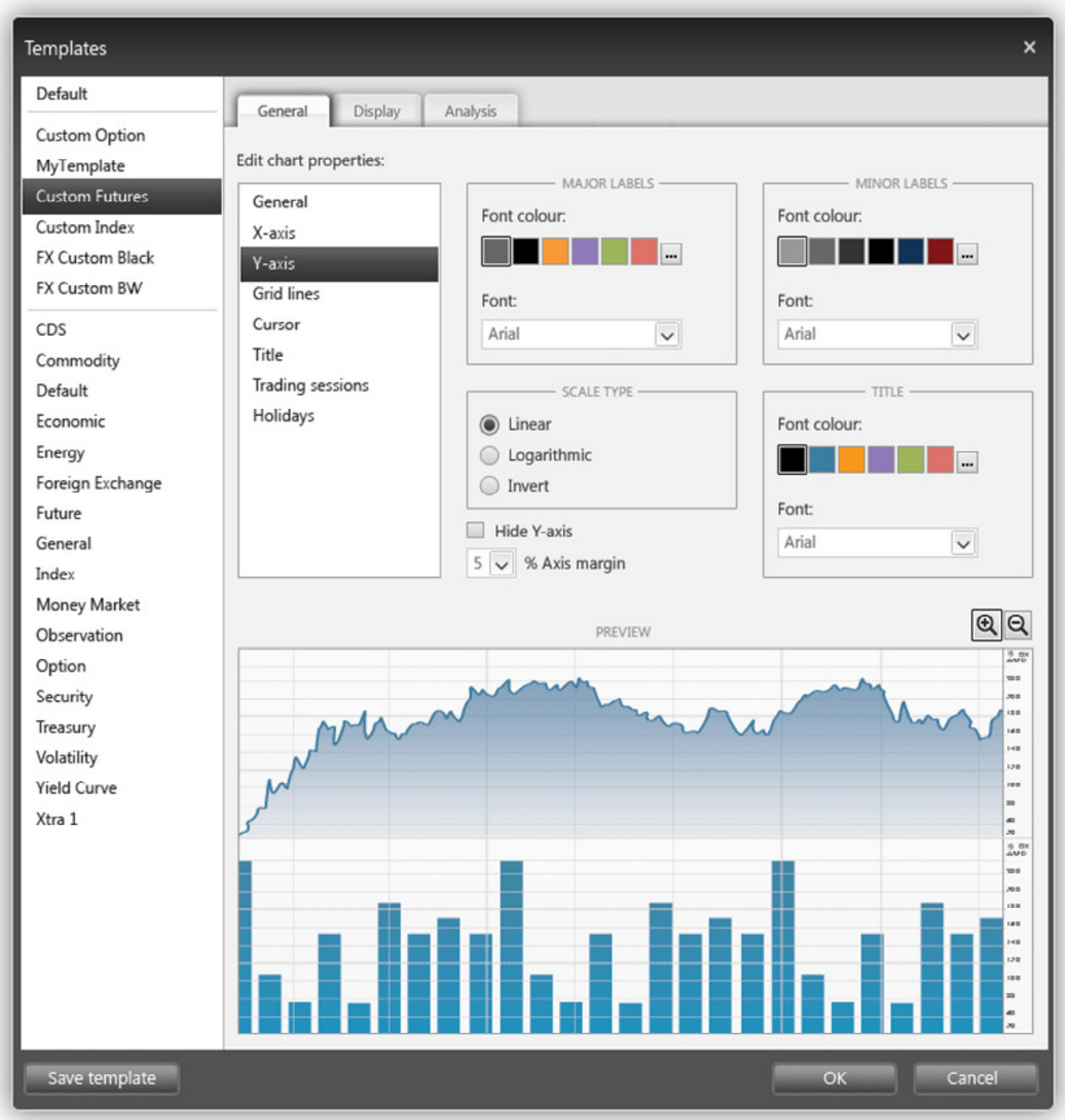
Before & After - Template Properties Display





Before & After - Template Properties General





Before & After - Event markers & Gridlines