

The Kivio Handbook

Ben Lamb



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Abstract

Kivio is the KOffice flowchart and diagram creation tool.

Chapter 1

Introduction

Ben Lamb

1.1 What is Kivio?

Kivio is the KOffice flowchart and diagram creation tool. It allows you to create accurate scale diagrams by arranging pre-drawn shapes and stencils on a page. The stencils might represent stages of a process, office furniture or components on an electronic circuit. Kivio comes with a large collection of different stencils which are grouped into collections, known as stencil sets, by subject area.

1.2 About this Document

This document describes the features of Kivio and how to use them. There are often several ways to perform a particular task. Where possible the appropriate menu option is described as this is the easiest to explain without the aid of screenshots. Users are encouraged to explore the menus and to try right-clicking on stencils to reveal shortcut menus.

1.3 Contributing to Kivio

Kivio is a volunteer project. Your contributions are welcome. If you find a bug whilst using the software please report it by selecting Help → Report Bug....

Contributions to the documentation, stencils, translations into other languages and the code itself are welcome. Please see the KOffice website for more information about how to contribute.

Chapter 2

Basic Usage

Ben Lamb

2.1 Starting Kivio

Like other KOffice applications, on startup Kivio presents a startup dialog. The dialog offers a choice of creating a new document, opening a saved document or choosing a document from a list of recently saved files.

If you're new to Kivio begin by creating an empty document by double-clicking on the Empty Document template.

Kivio's main window contains a view of the current document. The page outline and margins are shown, as is a grid. Surrounding this view are horizontal and vertical rules. By default a tools toolbar is placed on the left-hand side and beneath the document view is a page selector. Beneath that is the status bar which shows the current position of the mouse pointer as a location on the page.

At the top of the window are the two main toolbars. These contain buttons for the most commonly used features of Kivio.

2.2 Using Stencils

Diagrams are created by placing different pre-drawn shapes and stencils on the page. Stencils can represent many different things and Kivio comes with a wide selection. For ease of reference they are grouped into collections known as stencil sets. To use a stencil set select Tools → Add Stencil Set. The stencil sets have been sub-divided into several groups; a sub-menu lists these. The shapes in the stencil set are shown on the left-hand side of the document view.

Stencils are grouped into stencil sets for organizational purposes only; it is perfectly okay to add several stencil sets to a document and Kivio allows you to mix and match stencils from different sets freely.

To place a stencil onto the document simply drag it from the stencil area to the page.

2.2.1 Selecting Stencils

Kivio identifies the stencil currently being edited by displaying eight green squares on the corners and edges of a square around the stencil. Stencils shown in this manner are described as being selected. The green rectangles are known as handles. To change the currently selected stencil move the mouse pointer over the stencil you wish to select and press the left mouse button. To select all the stencils on the current page select Edit → Select All. To deselect all stencils select Edit → Deselect.

2.2.2 Moving Stencils

To move a stencil to another position on the page, select the stencil. Note the pointer will change to a hand icon. Hold down the left mouse button and move the mouse to the new position. Release the mouse button to place the stencil at the new position.

2.2.3 Resizing a Stencil

Select the stencil, and then move the mouse pointer over one of the handles. Note the mouse pointer change. Hold down the left mouse button and move the mouse. The coordinates of the stencil will be adjusted continuously as the mouse is moved. When you are happy with the new size release the mouse button to give the stencil its new final size.

2.2.4 Undoing a Mistake

If at any time you are unhappy with a change you have made to the document you can select Edit → Undo to revert the change. There is also an icon on the toolbar.

If you undo an action and decide that was a mistake, select Edit → Redo to restore the change. Kivio stores multiple actions to undo/redo several changes.

2.2.5 Limitations of the Stencils

Note that stencils cannot currently be rotated.

2.2.6 Labeling Stencils

A lot of stencils in the Flowcharting Collections, Geographic Collections, Hardware Collections, Miscellaneous Collections and UML Collections can contain text to describe their function. To add text to a stencil move the mouse pointer over the stencil and double-click it or open the context menu with the right mouse button and select Edit Text.... A dialog box will appear prompting for some text. Enter some text and click OK. The text should be shown inside the stencil.

The item Edit Text... in the menu is disabled, if a stencil cannot be labeled.

The font, size, alignment and style of the text can be adjusted by selecting Format → Text.... Alternatively use the buttons on the Format toolbar. The adjustments will only affect the currently selected stencil.

2.2.7 Selecting Several Stencils

There are two ways to select multiple stencils in Kivio.

1. Click once inside the first stencil you wish to select. Hold down **Ctrl** as you click inside subsequent stencils. All the stencils will be shown with handles around them.
2. Move the mouse pointer to a blank area of the document near the stencils you want to select.

Hold down the left mouse button and move the mouse to the other side of the stencils you want to select, drawing a rectangle around them.

The rectangle must completely encompass the stencils for them to be selected.

2.2.8 Adjusting the Fill Color and Line Color

Stencils can be filled with a solid color and the color of the outline can be changed. Select a stencil then select Format → Stencils & Connectors....

2.2.9 Adjusting the Line Thickness

The width of a stencil's border can be adjusted by selecting Format → Stencils & Connectors.... The line width can be entered in centimeters or increased/decreased using the arrows of the spin box. Or use the Line Width button on the Format toolbar. Select a width from the drop down box or select Custom... to open enter the width in the spin box.

2.2.10 Connecting Shapes Together

Kivio's connector tool allows lines to be drawn between shapes. The lines remain connected to the shapes even when the shapes are moved to new positions on the page.

To draw a connector select Tools → Straight Connector or Tools → Polyline Connector.

The Polyline Connector tool is also available from the Tools toolbar; by default shown on the top side of the window. Click on this tool to begin using it; the mouse pointer will change shape.

Notice that all stencils have little blue crosses around their edges. These crosses mark points where connectors can be attached.

To connect two stencils move to one of the connection points on the first stencil, hold down the left mouse button and drag a line to one of the connection points on the second stencil. The green square at the end of the line will change to red when it is over a connection point indicating that the line is attached to a stencil.

When you have finished using the connector tool, click on the Arrow tool to regain normal selection functionality.

NOTE

A stencil can have multiple connectors attached to it, even at the same connection point.

Various properties of the connector can be adjusted including line thickness and color, this is done in the same way as for stencils.

Straight Connectors may also be labeled with text. To add text to a straight connector open the context menu with the right mouse button and select Edit Text.... Enter the text in the dialog that appears. The text will be shown with a green handle next to it. Use this to modify the position of the text.

Arrowheads can be added to either end of a connector. Select the connector and then select Format → Arrowheads....

Limitations: Connectors do not currently reroute around stencils, you need to adjust them manually. Text is always displayed horizontally; rotated text is not currently possible.

2.2.11 Grouping Stencils

Several stencils may be semi-permanently grouped together. Once this has been done any changes made to one stencil will affect the others in the group.

To make a group select the stencils and select Format → Group Selection.

The procedure can be reversed by selecting a group of stencils and select Format → Ungroup.

2.2.12 Overlaying Stencils

Stencils can be positioned on top of one another. A stencil drawn on top of another stencil will obscure the stencil underneath it. To adjust the drawing order select one of the stencils and select either Format → Bring to Front or Format → Send to Back.

Send to Back will cause the stencil to be obscured by any stencil which overlaps it. Bring to Front will cause the stencil to obscure any stencil which it overlaps.

2.2.13 Locking Stencils

A stencil's properties may be 'locked' to prevent accidental changes. To alter a stencil's protection use the protection palette. This can be displayed by selecting View → Palettes → Show Protection. Select the stencil or stencils you wish to protect and then tick the properties you want to protect on the protection palette.

The protections available are: Width, Height, Aspect ratio, X position, Y position and Deletion. Deletion prevents a stencil from being deleted from the document.

2.2.14 Stencil Geometry

For accurately specifying the dimensions of a stencil use the Geometry palette. To display the palette select View → Palettes → Show Geometry. The palette contains four spin boxes for specifying the horizontal (X:) and vertical (Y:) position of the stencil and the Width: and Height:.

TIP

Although the measurements are displayed in centimeters it is possible to enter other units into the textbox. For example, entering 2.5 mm will be converted into centimeter. Points (pt) and inches (in) are also accepted.

2.3 Viewing the Document

2.3.1 Zooming In and Out

To adjust the zoom level select View → Zoom Level. This submenu contains a list of percentages from 33% to 500%; selecting one of these magnify the document by that percentage.

There is also a list of zoom levels in a spin box on the Edit toolbar, by default shown at the top of the screen.

A second method of controlling the magnification is to use the zoom tool. This is available on the Tools toolbar. This tool can be used in two ways. Clicking on the document with the zoom tool active will increase the magnification. Holding down the **Shift** key whilst clicking will decrease the magnification, i.e. zoom out.

Alternatively, holding down the left mouse button and dragging out a box then releasing the mouse button will increase the magnification so that that portion of the document fills the available space.

2.3.2 Panning the Document

The Pan Document tool lets you move the document around, adjusting the portion that is visible. This is very useful when working at high magnifications where the entire document is not completely visible. To pan a document select Pan Document from the Tools toolbar or Tools → Pan Document in the menu. Once activated the mouse pointer turns into a hand. To move the document move the mouse over the currently visible portion, hold down the left mouse button and drag.

2.3.3 The Overview

The Overview palette provides a quick way of adjusting the zoom level and moving around the document. To enable it select View → Palettes → Overview.

A miniature representation of the document itself is shown underneath. A red rectangle indicates the portion that is currently visible. Clicking anywhere on this representation pans the view to that area. The rectangle can also be dragged.

At the bottom of the palette there is a slider and two buttons to zoom 25% in or out.

2.3.4 Using Palettes

All palettes have a handle on the top side which enables them to be moved around and positioned on any edge of the main view. They can also float anywhere on the screen. To hide or show a palette select it from View → Palettes.

2.3.5 Multiple Views

It is possible to have multiple views of the same document displayed simultaneously.

Select New View from the View menu and a new Kivio window showing the same document will appear. This is very useful for multiple monitor setups.

The additional windows can be closed and Kivio will only prompt you to save the document when the last window is closed. All windows pertaining to a particular document can be closed simultaneously by selecting View → Close All Views.

2.3.6 Split Views

It is also possible to split the window into two or more portions which can be used to view two areas of a document at once. To split a window select View → Split View. The orientation of the split can be changed from horizontal to vertical using View → Splitter Orientation. To restore the window to its original state select View → Remove View.

2.3.7 Customizing the Display

The View menu contains options for toggling the display of page margins, rulers, guides and the grid.

Chapter 3

Working with Kivio

Ben Lamb

3.1 Opening a Document

To open a previously saved document select File → Open..., a standard KDE file dialog box will appear.

Recently used documents are listed under File → Open Recent.

3.2 Saving a Document

To save the current document select File → Save or File → Save As... to give an existing file a different name.

NOTE

It is possible to save the document in a format that can be opened by earlier versions of Kivio. Select the version you require from the Filter: combo box in the save file dialog.

3.3 Printing

The document can be printed by selecting File → Print... The standard KDE printing dialog appears. A preview of the printed output can be obtained by selecting File → Print Preview...

3.4 Importing/Exporting Documents

The Import... menu option on the File menu currently loads a Kivio or XML document into a new Kivio application.

The Export... menu option on the File menu currently perform the same functions as File → Save As.... These options let you save a document under a different name or into an other format.

3.5 Documents with Multiple Pages

A Kivio document can contain several pages of diagrams.

3.5.1 Adding Pages

To add additional pages to a document select Page → Insert Page or click with the right mouse button on the page tab and select Insert Page from the context menu. The selector beneath the document view shows tabs for all the pages in the document that have not been hidden.

3.5.2 Removing Pages

Unwanted pages can be removed by selecting Page → Remove Page or click with the right mouse button on the page tab and select Remove Page from the context menu.

3.5.3 Renaming Pages

The names given to each page can be adjusted by double-clicking on the page name on the page selector or by clicking with the right mouse button on the page tab and select Rename Page... from the context menu. A dialog box will appear allowing the name to be edited.

3.5.4 Working with Pages

The order of the pages can be adjusted by dragging the tabs on the page selector bar.

NOTE

The arrow buttons on the page selector bar are for scrolling through the page tabs, they do not cycle through the pages themselves.

If you have a lot of pages in a document and you do not want to see them all on the page selector you can hide pages by selecting Page → Hide Page. This will remove the currently selected page from the page selector bar.

To reveal a hidden page select Page → Show Page... and choose the page you want to see from the list box.

3.6 Exporting a Page

Individual pages can be exported as bitmap graphics files. To export the current page select File → Export... or File → Save As.... A standard KDE file dialog box appears. The export format is determined by the name extension you give the file, it must end with one of the extensions listed below.

The following formats are supported:

- PNG Image (.png)
- JPEG Image (.jpg)
- BMP Image (.bmp)
- Encapsulated Postscript Image (.eps)
- Portable Bitmap (.pbm)
- PCX Image (.pcx)
- Portable Pixmap Image (.ppm)
- SGI Image (RGB) (.rgb)
- X PixMap Image (.xpm)
- JPEG 2000 Image (.jp2)
- Krita Document (.kra)
- Adobe Illustrator Document (.ai)
- TIFF Image (.tiff)
- ILM EXR Image (.exr)
- Karbon14 Document (.karbon)
- GIMP Native Image Format (.xcf)
- Scalable Vector Graphics (.svg)
- Windows® MetaFile (.wmf)

You have to confirm the export, because this may result in some loss of formatting. Click the button Save and the Export to Image dialog is displayed. In this dialog you can set some export options: Page: range, the Area to export:, the Bitmap DPI: and the Margin (Pixels): of the page.

3.7 The Grid

Kivio displays a regularly spaced grid over the document to aid stencil positioning. The visibility of the grid can be toggled by selecting View → Show Grid.

Objects edges are snapped to the nearest point on the grid regardless of whether it is visible. To toggle this behavior select View → Snap Grid.

To customize the grid select Settings → Configure Kivio... and click on the Grid on the icon list.

This dialog box will let you adjust the color the grid is drawn in, the horizontal and vertical spacing and the snap distance.

Tip: It is possible to have a non-square grid by specifying different horizontal and vertical spacings.

3.8 Freestanding Text

The text tool can be used to add text to a document that is not associated with any object. This is useful for noting general information about a drawing.

To add freestanding text make sure no object is selected by selecting Edit → Deselect , then activate the text tool by selecting Tools → Text Tool. The mouse pointer will change to indicate the text tool is activated.

Drag a box to contain the text. A dialog box will appear prompting for the text, enter some text and click OK. The formatting of the text can be adjusted by selecting Format → Text... or by using the toolbars.

3.9 Page Layout

The page size, margins and orientation, portrait or landscape, can be adjusted using the Page Size & Margins dialog box. This is accessible by selecting Format → Page Layout....

3.10 Using Guides

Guides are lines used to help you position stencils. Not only can you use guides as a visual reference when aligning items but, optionally, Kivio will snap stencils to guides. This means that as soon as the edge of a stencil is within a certain distance to a guide it will immediately move to the guide's position.

3.10.1 Adding Guides

To add a guide move the mouse pointer over either the horizontal or vertical ruler, depending on the type of guide you require. Hold down the left mouse button and drag the mouse over the document and release the mouse button where you want to position the guide. As you drag the mouse the guide will move accordingly. Or use View → Add Guide Line... to open a dialog to select the Orientation and the Position of the guide.

3.10.2 Repositioning Guides

Once a guide is in place you can reposition it by moving the mouse over it, holding down the left mouse button and dragging. Release the mouse button when the guide is in its new position.

3.10.3 Visibility and Snapping

To hide guides select View → Guide Lines, this toggles the visibility.

By default stencil edges are snapped to the nearest guide, to toggle this behavior select View → Snap Grid.

3.11 Layers

Kivio allows complex diagrams to be split into multiple layers. The visibility of layers can be turned on and off. This functionality is useful if you have a basic diagram, for example a floorplan, and need to create several versions of it for different audiences. The information for each audience can be placed in a different layer. Each page of the document has its own set of layers.

3.11.1 The Layer Palette

To adjust the current page's layers select View → Palettes → Show Layers . The layer palette allows layers to be created, deleted and renamed. It can also be used to adjust layer visibility, drawing order and select the current layer.

Kivio has the concept of the currently active layer which is the one affected by any editing actions. By default a page contains only one layer which is the active layer.

3.11.2 Adding Layers

Using the Layers palette you can add new layers by clicking the New Layer button, the first from the left. Layers can be deleted by clicking the second button, Remove Layer. Kivio numbers the layers consecutively, to rename a layer select it in the list and click Rename Layer.

3.11.3 Layer Settings

Layers are drawn in the order they are listed. The drawing occurs from the top down so objects in the layer at the bottom of the list are drawn on top of objects in all the other layers. The order of the list can be changed by selecting a layer and using the Move Layer Up and Move Layer Down buttons to change its position.

Each layer is listed with four small icons next to its name. From left to right they represent:

Visibility (shown as a small eye) Clicking on the icon will toggle the layer's visibility.

Printable (shown as a small printer) Toggles if the layer should be printed with the document or not. You might use a non-printing layer to keep notes to yourself, or as a scrapbook to hold images you're not ready to use yet.

Editable (shown as a small pencil) Toggles if you can edit a layer or not. You might want to mark some layers non-editable while you work on others, to prevent inadvertant changes.

Connectable (shown as a small connector) You can permit connecting of items that lie on different layers with this icon.

3.12 Arranging Stencils

3.12.1 The Align Tool

The Align tool rearranges a group of stencils so that they are aligned on one edge or on an invisible centerline. To use the tool select several stencils, then select Format → Align & Distribute.... If the stencils are arranged in a horizontal row you have the choice of aligning along the top or bottom edges or the centerline. For stencils that are arranged in a vertical row the choice is left or right edge or the centerline.

3.12.2 The Distribute Tool

The Distribute tool arranges a group of stencils so that there is an even amount of spacing between each stencil.

First select the stencils you want to rearrange, then select Format → Align & Distribute... and click on the Distribute tab in the tabbed window that appears.

You can choose whether the items should be spaced so that there is equal spacing between two edges, for example, the distance between the lefthand edge of each stencil should be the same. Or, whether the gap between each item should be identical. Choose the Spacing option if you desire this.

The second choice is whether the spacing should use the entire extent of the page or just the extent of the selection. If the latter is chosen the stencils will not occupy any more space than they did originally.

NOTE

The option to use the extent of the page takes the page margins into consideration.

Chapter 4

Credits and License

Ben Lamb Kivio

Program copyright 2000-2003 The Kivio Team

Current maintainer is Peter Simonsonn psn@linux.se.

CONTRIBUTORS

- Ian Reinhart Geiser geiseri@kde.org
- Laurent Montel montel@kde.org
- Frauke Oster frauke@frsv.de
- Dave Marotti ldshark@verticaladdiction.net
- The Kompany.com - "Where Open Source is at Home™" info@thekompany.com
- Current documentation is maintained by Ben Lamb kde@zurgy.org

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