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#### **Authors**

Jean Hollis Weber Michele Zarri Paul Miller Peter Hillier-Brook

#### **Feedback**

Maintainer: Michele Zarri (michelezarri@openoffice.org)
Please direct any comments or suggestions about this document to:
authors@user-faq.openoffice.org

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#### Introduction

This chapter describes how to create your own graphics using the drawing tools available in Impress. It focuses on the most commonly used tools and techniques.

Impress also contains a number of advanced drawing functions that are rarely used when creating a presentation and are not fully described in this book. To create more advanced graphic objects, the reader is invited to use OpenOffice.org Draw and then to import the graphic object created there into an Impress slide. See the *Draw Guide* for more details.

## The Drawing toolbar

The Drawing toolbar collects the majority of the tools normally used to create graphic objects. If this toolbar is not showing, select **View** > **Toolbars** > **Drawing** from the main menu bar.

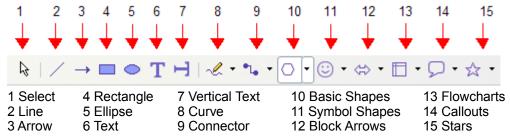


Figure 1: First section of Drawing toolbar with drawing objects tools

The toolbar can be divided into two parts. The first part contains drawing objects, as shown in Figure 1. The tools in this part of the Drawing toolbar are:

- **Select**: selects objects. To select multiple objects click on the top leftmost object and while keeping the mouse button pressed, drag the mouse to the bottom rightmost object of the intended selection. A marching ants rectangle identifying the selection area is displayed. It is also possible to select several objects by pressing the *Control* button while selecting the individual objects.
- Line: draws a straight line.
- **Arrow**: draws a straight line ending with an arrowhead. The arrowhead will be placed where you release the mouse button.
- **Rectangle**: draws a rectangle. Press the *Shift* button to draw a square.
- Ellipse: draws an ellipse. Press the *Shift* button to draw a circle.
- Text: creates a text box with text aligned horizontally.
- Vertical text: creates a text box with text aligned vertically. This tool is available only
  when Asian language support has been enabled in Tools > Options > Language
  Settings > Languages.

• **Curve**: draws a curve. Click the black triangle for more options, shown in Figure 2. Note that the title of the submenu when undocked is *Lines*.



Figure 2: Available curve options

• **Connectors**: draws a connector line between two figures. Click the black triangle for additional connectors, shown in Figure 3. The use of connectors is described in "Working with connectors" on page 4.

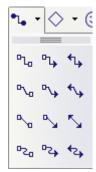


Figure 3: Connectors options

• Basic Shapes, Symbol Shapes, Block Arrows, Flowcharts, Callouts, Stars: click the black triangle to open a toolbar showing the available shapes in that category. The default shapes are shown in Figure 4. Select the desired shape, then draw as normal. Keep the *Shift* key pressed to obtain a shape where the height and width are equal.

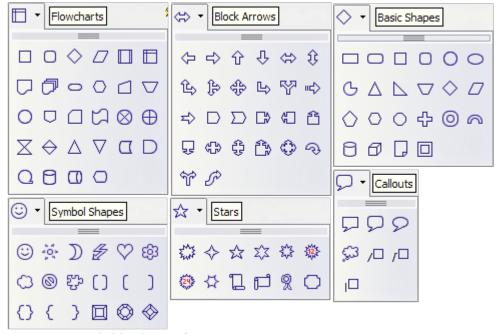


Figure 4: Available shapes for Impress

The second part of the toolbar, shown in Figure 5, contains more generic tools.

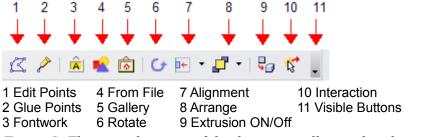


Figure 5: The second section of the drawing toolbar with utility tools

#### Those tools are:

- **Edit points**: select this tool, then select a shape or a line, to edit the individual points that form the shape or line.
- **Glue points**: select this tool to edit the glue points of a graphic object. Glue points are the positions where connector lines terminate or start. See "Managing glue points" on page 5 for instructions.
- **Fontwork**: opens the Fontworks gallery. See "Using Fontwork" on page 16 for further information.
- From file: equivalent to Insert > Picture > From file on the main menu. See Chapter 4 for details.
- Gallery: opens the gallery. Equivalent to Tools > Gallery on the main menu. See Chapter 4 for details.
- **Rotate**: select this tool to rotate an object. As rotation is considered a formatting attribute, this is discussed in chapter 6 of this book.
- Align object: see "Aligning shapes" on page 9.
- Arrange object: see "Arranging shapes" on page 8.
- Extrusion On/Off: switches 3D effects on or off for the selected object. Clicking this button also opens the 3D settings toolbar. See "Working with 3D shapes" on page 6 for details.
- **Interaction**: opens a dialog where you can specify the interaction between the user and the object. See "Setting up interaction with a shape or image" on page 13.
- **Visible buttons**: use the black triangle to open a menu that allows to add or subtract buttons to the toolbar. The step by step procedure is given in Chapter 4 of the *Getting Started* guide.

## **Creating lines and shapes**

To create shapes and lines:

- 1) Select the desired line or shape tool.
- 2) Click and drag to create the object on the slide. See Figure 6.

When drawing a polygon, keep the *Shift* key pressed to restrict the angle between the segments to multiples of 45 degrees. To finish drawing a polygon, double-click on the last part of the segment. If a closed polygon was selected, OOo will color the inside area.

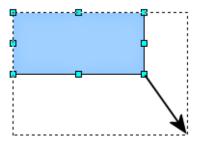


Figure 6: Creating a shape

When drawing certain shapes, one or more yellow dots are displayed along with the blue resizing handles. These dots perform a different function according to the shape they are applied to. With the basic shapes the yellow dot (or dots) are used for the following purposes:

- Rounded rectangle and Rounded square shapes: use the yellow dot to change the size of the curve replacing the corners.
- Circle Pie: use the two yellow dots to change the size of the filled sector.
- Isosceles triangle: move the yellow dot on one vertex to modify the triangle type.
- Trapezoid, Parallelogram, or Octagon: move the yellow dot to change the angle between the sides.
- Cross: use the yellow dot to change the thickness of the four sides.
- Ring: use the yellow dot to change the internal diameter.
- Block arc: use the yellow dot to change both the internal diameter and the size of the filled area.
- Cylinder and Cube: use the yellow dot to change the perspective.
- Folded corner: use the yellow dot to change the size of the corner.
- Frame: use the yellow dot to change the internal rectangle diagonal.

## Working with connectors

Connectors are lines that can be anchored to particular places, called *glue points*, on the graphic object. The advantage of connectors is that when the graphic object to which the connector is attached is moved or resized, the connector automatically adjusts to the change. When creating a flowchart, org chart, schematics or diagrams, it is highly recommended to use connectors instead of simple lines.

Impress offers a wide variety of predefined connectors, which differ in the termination shape (none, arrow, custom) and in the way the connector is drawn (straight, line, curved). See Figure 3: Connectors options.

Unlike normal lines, when a connector is drawn or selected Impress displays red handles; in particular, the termination points are identified by red circles, while square handles are used to modify the routing of a connector (where applicable).

Draw a connector in a similar way to drawing any object. First select the connector style from the Connector toolbar (Figure 3), then move the mouse cursor over one of the objects to be connected. When the cursor is brought near an object, small black crosses appear around the object; these represent the glue points to which the connector can be attached. Click on the required glue point to attach one end of the connector, then hold the mouse button down and drag the connector to the second object and click on a glue point on that object to connect the other end.

For instructions on how to format a connector, refer to the corresponding section in Chapter 6 (Formatting Graphic Objects).

### Managing glue points

As described above, a glue point is the point of attachment for a connector to a shape or graphic object. Each shape has a number of predefined glue points, but it is possible to define new ones as well as edit them, using the **Gluepoints toolbar**, shown in Figure 7.



Figure 7: The Glue point toolbar

Use the first tool to insert a new glue point. The next four tools determine the exit direction of the connector terminating at the glue point. To maintain the relative position of the glue point when resizing the object, make sure that the **Glue point relative** icon (highlighted in Figure 7) is selected. Deselecting the **Glue point relative** icon enables the next six icons of the toolbar; use these to fix the position of the gluepoint during the resizing of the object. Hover the mouse over the buttons to obtain a tooltip giving a short description of its function.

To delete a custom glue point, select it with the mouse and press the *Delete* key.

Setting custom glue points is particularly useful where multiple connectors terminate on the same side of a shape or where the default glue point position is not satisfactory.

To move a predefined or newly inserted glue point:

- 1) Select the glue point tool from the drawing toolbar (see Figure 5).
- 2) Click on the glue point you want to move. The glue point should now be highlighted.
- 3) Keep the mouse button pressed and drag the glue point to the desired position. Release the mouse button.

Glue points are placed by default on the grid (see the section "Alignment using the grid and snap guides" on page 10 for information), however it is sometimes required to fine tune the position of the glue point depending on the shape. To do this, keep the *Control* key pressed while dragging the glue point to the new position.

## Working with 3D shapes

3D graphic objects can be created in different ways in Impress:

• From the 3D-Objects toolbar. The 3D-Objects tool is not included in the default Drawing toolbar. To include it, click on the small triangle at the end of the toolbar, select **Visible Buttons**, and select **3D-Objects** from the list. On the Drawing toolbar, click on the triangle by the 3D-Objects icon to display the extended 3D Objects toolbar (Figure 8).



Figure 8: 3D-Objects extended toolbar

- From Convert menu as Rotation. Select an object, right-click on it, then select **Convert** and select **To 3D Rotation Object**.
- From the **Extrusion on/off** icon on the drawing toolbar. Select the shape to which apply a 3D effect, then click the button on the Drawing toolbar (see Figure 9).

#### Caution



You can not apply extrusion to rectangular and oval shapes created using the rectangle and the oval tools respectively. To create a rectangle or oval with 3D effects, select the desired shape from the basic shapes menu. Alternatively, right-click on the object then select **Convert > To 3D**. Note though that in this case the **Extrusion on/off** menu will not be enabled.

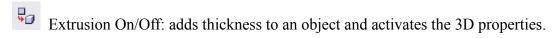
Although Impress offers advanced functions to manipulate 3D objects, this book describes only the 3D settings applicable to an object with Extrusion enabled. For additional information on how to use advanced 3D effects such as geometry and shading, refer to the *Draw Guide*.

Click on to activate the extrusion. The shape changes and a default thickness is added to it. At the same time the 3D-Settings toolbar (Figure 9) should become visible. If the toolbar does not appear, select **View > Toolbars > 3D-Settings**.



Figure 9: The 3D-Settings toolbar

Use the tools to change the appearance of the 3D object.



Tilt Down: tilts the object downwards around an horizontal axis.

- Tilt Up: tilts the object up around an horizontal axis.
- Tilt Left: tilts the object left around a vertical axis.
- Tilt Right: tilts the object right around a vertical axis.
- Depth: determines the thickness of the shape. An extended toolbar opens where some default values are given. If none of them is satisfactory, select Custom and then enter the desired thickness.
- Direction: pick the direction of the perspective as well as the type among parallel and perspective from the extended toolbar that opens when clicking the button.
- Lighting: specify the direction of the light as well as its intensity from the extended toolbar that opens when clicking this button.
- Surface: choose between Wire frame (useful when manipulating the object), Matt, Plastic or Metal.
- 3D Color: select the color of the object thickness.

Most of the Fontwork shapes (see "Using Fontwork" on page 16) have 3D properties and can be manipulated with the 3D-Settings toolbar.

Note that when rotating a 3D object, in addition to the corner red handles, the four handles on the sides of the frame become available.

Figure 10 is an example of customized 3D object.

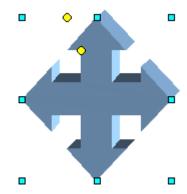


Figure 10: Example of 3D object

## **Grouping shapes together**

It is often convenient to group shapes together so that they are treated as a single shape by Impress. A group of shapes can be formatted as if it was a single shape, moved, rotated, deleted and so on. To group shapes together, do as follows:

- 1) Select the shapes to be grouped. To do this, use the selection tool on the drawing toolbar and draw a rectangle around the shapes to be grouped, or click on each shape to be added to the group while pressing the *Shift* key.
- 2) When the green resizing handles show, select **Format > Group > Group** or press *Control+Shift+G* on the keyboard.

Once the group is defined, click on any of the shapes in the group to select the group. To edit only the elements of the group, press F3 when the group is selected or select **Format** > **Group** > **Enter group** from the menu bar. Notice that the elements not part of the group are grayed out and that only the shapes belonging to the group can be edited. Use this function when you need to apply a particular format to a single member of the group. To exit from group mode, press Control+F3 or select **Format** > **Group** > **Exit group** from the menu bar.

For more about working with grouped objects, see Chapter 6 (Combining Multiple Objects) in the *Draw Guide*.

To ungroup objects:

- 1) Select the group of shapes.
- 2) When the green resizing handles show, select **Edit** > **Format** > **Group** > **Ungroup** from the menu bar.

**Tip** If you use the grouping and ungrouping often, why not add them to one of the toolbars shown by default so that the commands are readily available? To do so, you will need to customize the selected toolbar. See Chapter 4 of the *Getting Started* guide.

### **Arranging shapes**

Arrange determines the stacking order of the selected object. Impress organizes objects in a stack so that the objects on a high level of the stack cover the objects on lower levels if overlapping occurs. To modify the position of an object in the stack, click the small triangle on the side of the *Arrange* icon to open the extended toolbar (Figure 11). The same arrange options described below are available from the right-click menu.

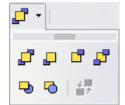


Figure 11: The extended Arrange toolbar

The first four tools work on a single object:

- **Bring to front**: the selected object is moved on top of any other object.
- **Bring forward**: the selected object is moved one level up in the stack.
- Send backwards: the selected object is moved one level down in the stack.
- Send to back: the selected object is given the lowest position in the stack.

The other three tools work on the relative positions of two objects:

- In front of object: brings the selected object in front of the second selected object.
- **Behind object**: brings the selected object behind the second selected object.
- **Reverse**: swaps the stacking order of two selected objects.

To use the **In front of object** and **Behind object** tools:

- 1) Select the first object by clicking on it.
- 2) When the green handles show, select the desired arrange action.
- 3) The mouse pointer changes to a pointing hand. Click on the second object.

## Flipping shapes

To flip an object or group, right-click on it and select either **Flip > Vertically** or **Flip > Horizontally**. The object will be flipped around an imaginary axis (horizontal and vertical respectively) passing through the center of the object, or group. If these two commands are used often it may be advisable to add them to the Drawing toolbar.

## **Aligning shapes**

Use the alignment tools to adjust the relative position of a graphic object compared to another object. Clicking on the Alignment icon in the Drawing toolbar opens the extended toolbar (Figure 12). The same alignment options are available from the right-click menu.

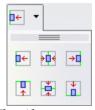


Figure 12: The Align extended toolbar

The toolbar has six icons. The first three determine the horizontal alignment of the selected objects (Left, Center, Right); the other three determine the vertical alignment of the selected objects (Top, Middle, Bottom). If only one object is selected, it is aligned to the page, however when in a group, a single object is aligned to the edge of the group selection.

## Alignment using the grid and snap guides

The section "Aligning shapes" on page 9 discussed the alignment of objects relative to each other or to the page border. However, sometimes it is important to align objects to specific points of the page or to make sure that objects that appear on multiple slides are placed in exactly the same position. For this purpose Impress provides two mechanisms: the **Grid** and the **Snap Guides** (also called **Snap Lines**).

### Using the grid

Options for the grid are available in the menu that opens by right-clicking on an empty part of the page in Normal view and choosing **Grid** or by selecting **View > Grid** from the menu bar. In both cases a submenu with three options opens:

- Visible Grid: displays the grid.
- **Snap to Grid**: the anchor points of an object will always be placed on a grid when the object is moved or resized.
- **Grid to Front**: displays the grid in the foreground.

To set up the grid spacing and snapping options, choose **Tools > Options > OpenOffice.org Impress > Grid** from the menu bar.

### **Using snap guides**

Options for the guides are available in the menu that opens by clicking on an empty part of the page in Normal view and choosing **Snap Lines** or by selecting **View > Guides** from the menu bar. A submenu with three options opens:

- Visible Guides (Snap Lines Visible): the guides are shown on the slide.
- Snap to Guides (Snap to Snap Lines): the anchor points of the objects snap to the guides when the objet is moved or resized.
- Guides to Front (Snap Lines to Front): the guides are brought to the foreground and cover the objects.

**Note** The main menu uses the term *Guides*, but the pop-up menu refers to *Snap Lines*.

To create a new Guide:

- 1) Right-click on an empty part of the work area and select **Insert Snap Point/Line** from the pop-up menu.
- 2) In the dialog that appears, specify the type (Point, Vertical line, or Horizontal line).
- 3) Depending on the choice made, the two edit fields *X* and *Y* become active; enter the position of the Guide.
- 4) Click **OK** to close the dialog.

- When positioning the Snap Guides, it is useful to display the rulers. To do so, select **View > Rulers**.
- **Tip** Drag a Snap Guide directly onto the slide by clicking on the ruler and then dragging onto the slide.

To edit a Guide:

- 1) Right-click next to or on the guide to be edited.
- 2) Select Edit Snap line from the pop-up menu.
- 3) Enter the new value (or values) and click **OK**.

To delete a Guide:

- 1) Right-click next or on the guide to be deleted.
- 2) Choose **Delete Snap line** from the pop-up menu.

Figure 13 show the three types of guides, the grid on a slide, and the dialog to create a new Guide.

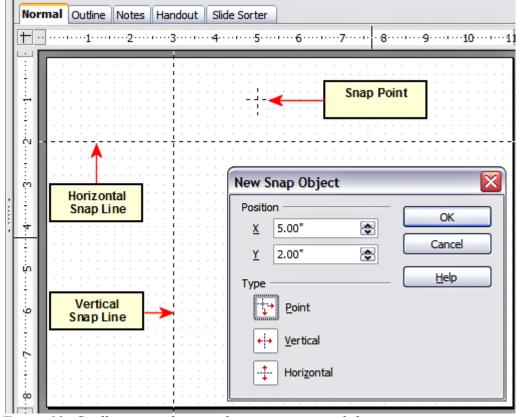


Figure 13: Gridline, snap lines and snap point on a slide

## Converting an object to a different type

You can convert an object into a different type. Right-click on the object and select the Convert to display a menu (Figure 14) containing the following options:

- To Curve: converts the selected object to a Bézier curve.
- **To Polygon**: converts the selected object to a polygon. After the conversion choose Edit Points to edit the shape.
- **To Contour**: converts the selected object to a polygon, or a group of polygons. If the conversion creates a group of polygons (for example, when you convert a text object), then press *F3* to enter the group before you can select an individual polygon.
- Convert to 3D: converts the selected object to a three-dimensional (3D) object.
- Convert to 3D Rotation Object: creates a three-dimensional shape by rotating the selected object around its vertical axis.
- To Bitmap: converts the selected object to a bitmap.
- **To metafile**: converts the selected object to Windows Metafile Format (WMF), containing both bitmap and vector graphic data.

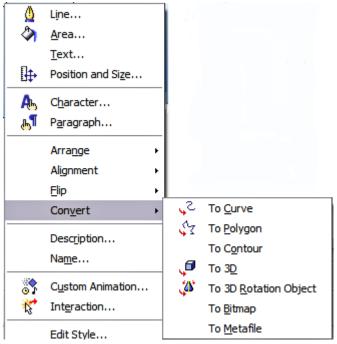


Figure 14: The convert options in the context menu

## Setting up interaction with a shape or image

You can associate with a shape or an image some action to be performed when the user clicks on it. To create an interaction:

- 1) Select the graphic object for which an interaction will be created.
- 2) When the green handles show, select from the Drawing toolbar (Figure 1) the

  Interaction button pop-up menu.

  or right-click on the object and select Interaction from the
- 3) The dialog shown in Figure 15 is displayed. Select the interaction type and the parameters (if applicable). Click **OK** to close the dialog.

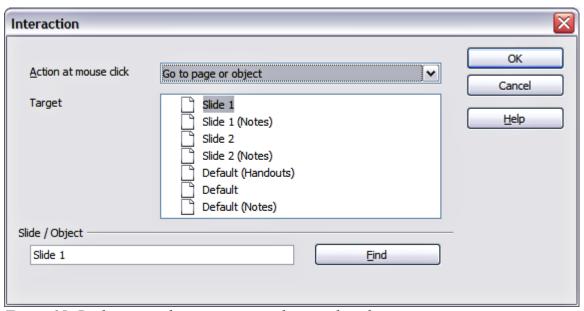


Figure 15: Dialog to set the interaction with a graphic object

To remove an interaction from a graphic object follow the steps 1–5, above taking care to select **No action** as the interaction type at step 4.

The possible actions and their parameters are described in Table 1.

*Table 1: Interactions and their parameters* 

Interaction type	Parameters
Go to Previous slide	No parameters.
Go to Next slide	No parameters.
Go to First slide	No parameters.
Go to Last slide	No parameters.
Go to Page or Object	Specify the target from the list in the Target box. You can search for a specific target in the Document box at the bottom of the screen.

Interaction type	Parameters
Go to Document	Select the document in the Document box. Use the Browse button to open a file picker dialog. If the document to be opened is in Open Document Presentation format, the target list will be populated allowing the selection of the specific target in the document.
Play sound	Select the file containing the sound to be played. Use the Browse button to open a file picker dialog.
Run program	Select the program to execute. Use the Browse button to locate it.
Run Macro	Select a macro that will run during the presentation. Use the Browse button to open the macro browser dialog.
Exit presentation	When the mouse is clicked over the graphic object, the presentation will terminate.

# **Animating images**

Impress offers some animation functionalities that are typical of specialized programs. An animated image consists of a sequence of images (frames) that are displayed in succession. Each frame may contain one or multiple drawing objects. To start creating a custom animated image open the Animator dialog from **Insert > Animated Image** (see Figure 16).

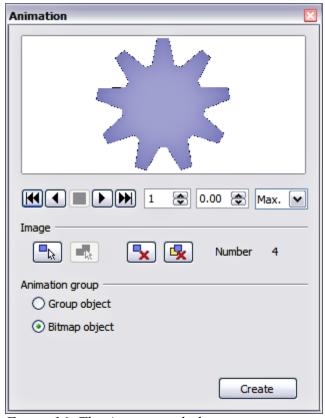


Figure 16: The Animation dialog

### Creating an animation

Several mechanisms can be used to create an animated image. This chapter describes only two of them as that should be sufficient to understand the functions offered.

#### Frame by frame animation

- 1) Create the image you intend to animate using the drawing tools.
- 2) Select the image and click the **Apply Object** button. This copies the object (or objects) into the upper part of the Animation dialog.
- 3) Apply some transformation to the object; for example, rotate it, change the color, if you are animating a text add or subtract a letter and so on.
- 4) When you are ready, create the second frame of the animation and click the **Apply Object** button again.
- 5) Repeat steps 3 and 4 until you have created all the desired frames of the animation.
- 6) Select **Bitmap object** in the *Animation group* section of the Animator dialog. This allows you to customize the timing of each of the frames and the number of repetitions for the animation (set the value to *Max* to obtain an infinite loop).
- 7) Click **Create** to place the animated image on the slide.

#### Note

If the image to be copied in the Animator consists of several objects, you can choose to treat each object as a separate frame. In this case click the **Apply objects** 

**individually** button Remember that each object will be centered in the animation.

#### Animated image in one step

For some simple animations it is possible to create all the animation frames in advance, and place them on the slide. This method works well for a rotating line, a shape gradually changing color, shapes increasing or decreasing size. In most of these occasions it is convenient to use the **Edit > Duplicate** command.

When all the frames are already prepared, use the **Apply objects individually** to create one frame for each of the objects.

It is easy to obtain for example a rotating segment:

- 1) Draw a segment, say, horizontal and make it fairly thick (use **Format > Line** or the Line and Filling toolbar to do that).
- 2) Open the Duplicate dialog by selecting **Edit** > **Duplicate** and set the number of copies to 5, the X and Y axis to 0.1, the angle to 30, the enlargement width and height to 0, and press the **OK** button.
- 3) Select the 6 segments created by *Impress* and open the Animator (**Insert > Animated image** from the main menu bar).
- 4) On the Animator dialog, click **Apply objects individually**.
- 5) Select **Bitmap object** in the lower part of the dialog, then click the **Create** button.

#### Other functions of the Animator

You can review the animation at any time by clicking the **Play** button **D** as well as navigate the various frames using the other controls available.

If you are not satisfied with a particular frame, you can remove it. To do so:

- 1) Navigate to the frame using the edit control with the spin buttons.
- 2) Click the **Delete current image** button

You can also delete the whole animation by clicking the **Delete all images** button



- Tip If you want to work on the animation frames a bit more, you can copy them into the Impress work area by selecting **Group object** and then clicking **Create**.
- Tip Since all the objects are centered in the animation window, to animate an object off the center of the image, create a blank rectangle of the same size of the final image and select it along with the object to be animated. Make sure that **Group object** is selected before clicking the **Apply object** button.

## **Using Fontwork**

Use Fontwork to obtain special text effects. For more about this topic, see Chapter 15 (Using Fontwork) in the *Getting Started* guide.

To start using Fontwork:

- icon on the Drawing toolbar (see 1) Open the Fontwork Gallery by clicking the Figure 5) or on the Fontwork toolbar (see Figure 19). If the Drawing toolbar is not showing, you can go directly to the Fontwork toolbar by selecting View > Toolbars > Fontwork from the main menu bar.
- 2) Select from the Fontwork Gallery (Figure 17) the preferred style and click **OK**. You can modify it later, so pick one providing an effect similar to the desired one. The text *Fontwork* in the selected style appears on the slide (Figure 18).

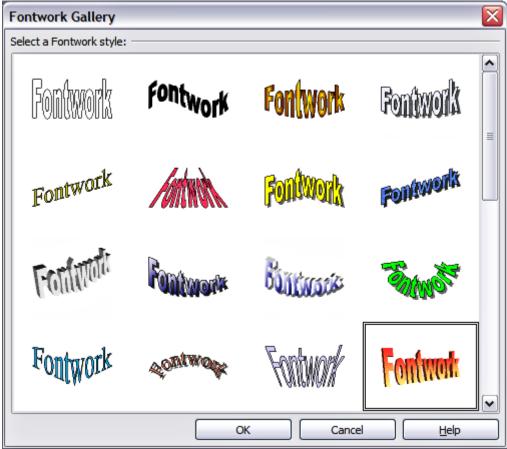


Figure 17: The Fontwork gallery

- 3) Double-click the object to edit the Fontwork text. Type your own text in place of the black *Fontwork* that appears over the object (Figure 18).
- 4) Press the *Esc* key or click outside the area with the blue resizing handles to exit.



Figure 18. Editing Fontwork text

Now that the Fontwork object is created, you can edit some of its attributes. To do this, you can use the Fontwork toolbar or other options as described in the next section.

### **Using the Fontwork toolbar**

Make sure that the Fontwork toolbar, shown in Figure 19, is visible on the workspace. If not, select **View > Toolbars > Fontwork** from the main menu bar.

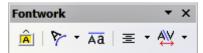


Figure 19: The Fontwork toolbar

In addition to the Fontwork Gallery icon, this toolbar contains the following icons:

**Fontwork shape**: to change the shape of the selected object, choose a shape from the extended toolbar (Figure 20).

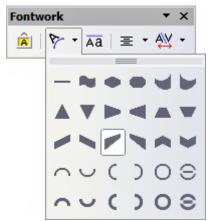


Figure 20: The extended shapes toolbar

Fontwork Same Letter Heights: Changes the height of characters in the object. Toggles between normal height (some characters taller than others, for example capital letters, d, h, l and others) and all letters the same height. See Figure 21.



Figure 21. Left: normal letters; right: same letter heights

Fontwork Alignment: specify the alignment of the text within the frame from the choices available in Figure 22. The effects of the text alignment can only be appreciated if the text spans over two or more lines. In the Stretch Justify mode all the lines are filled completely.

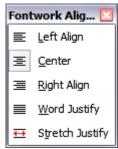


Figure 22: The extended alignment toolbar

Fontwork Character Spacing: select the desired spacing (Figure 23) and whether kerning pairs should be used. For custom spacing, input a percentage value: 100% is normal spacing; less than 100% is tight spacing; more than 100% is expanded spacing.

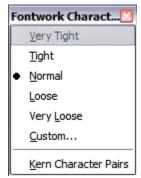


Figure 23: The extended character spacing toolbar

### Modifying Fontwork text as a shape

It is possible to treat Fontwork text as a shape and therefore to apply to it all the formatting that has been described in this chapter. Assign line properties only to Fontwork which does not have a 3D effect, otherwise the changes will not be visible.

**Tip** Change the Fontwork color quickly using the Area fill color swatch on the Line and Filling toolbar.

In the same way as it is possible to modify the angles of Trapezoids and Parallelogram basic shape by moving the yellow dot that is displayed along with the blue resizing handles, it is possible to modify some of the Fontwork shapes.