

How-to

Get to Grips with OpenOffice.org Draw

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1. General Introduction

Draw is a vector graphics drawing tool. It offers a series of powerful tools that enable you to quickly create all sorts of graphics.

It is perfectly integrated into the OpenOffice.org suite, and this makes exchanging graphics with all modules of the suite very easy. This makes it relatively simple to draw an image and reuse it in the Writer module. You can also work directly from within Writer by using a subset of the functions and tools from the Draw module.

The Draw module functionality is very extensive and complete. Even though it was not designed to rival high end graphics applications, it still possesses more functions than the majority of drawing tools that are integrated into office productivity suites.

A few examples might whet your appetite : layer management, magnetic grid point system, dimensions and measurement display, connectors for making organigrams, 3D functions enabling small three dimensional drawings to be created (with texture and lighting effects), drawing and page style integration, Bezier curves, etc, just to name but a few.

This document will only describe the functions associated with drawing as such. Some notions such as file management or the way the OOO environment works will only be touched upon briefly.

2. The Workplace

When you start Draw, the workplace has the following appearance :

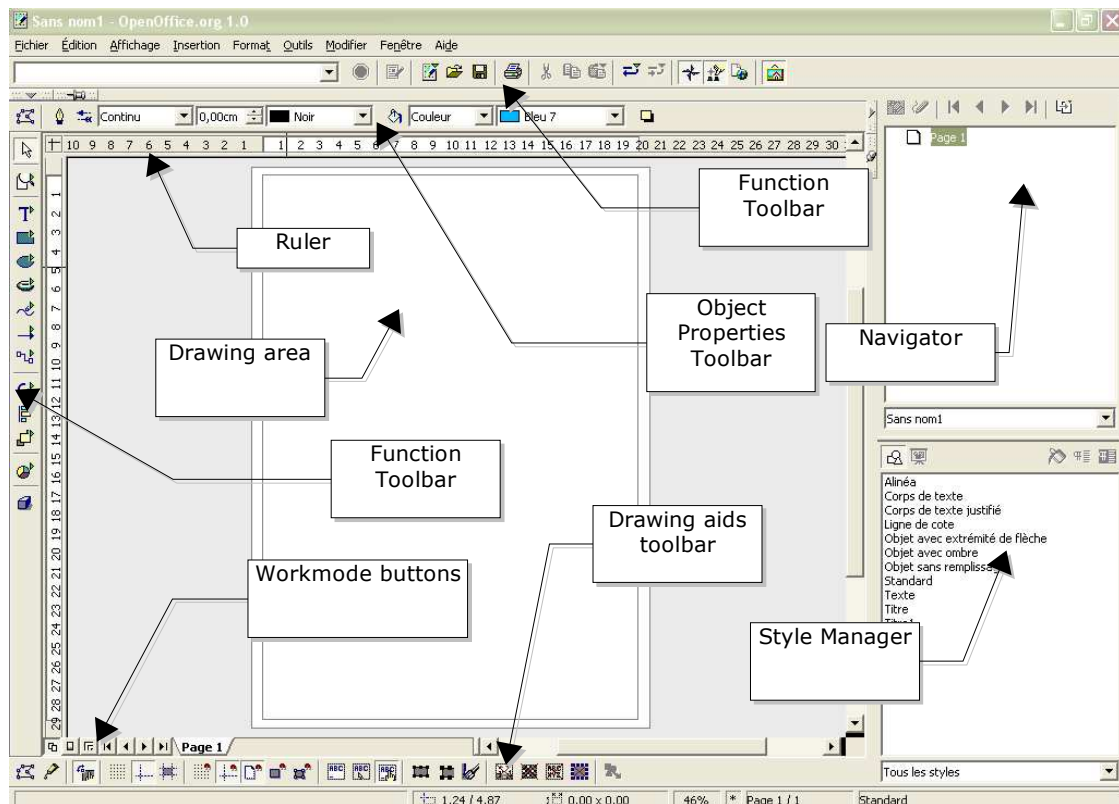


Illustration 1 - Main Screen

The major area located in the centre of the screen is the one in which your drawings will be made. It is surrounded by toolbars and information areas, the number and position of which can vary according to the particular organisation you'll have chosen for your workplace. The picture above illustrates one of many possibilities.

3. The Toolbars

The various Draw toolbars can be displayed or hidden according to your needs.

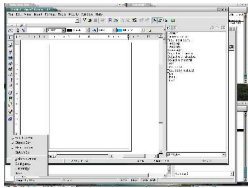


Illustration 2 -
Toolbars

To display or hide the toolbars, all you have to do is click on any toolbar with the right mouse button. A menu will appear that lets you choose which toolbars to display.

This menu also lets you select the buttons that you wish to appear on the corresponding toolbar. All you have to do is select the option 'Visible Buttons'. Not all of the toolbars that can be displayed within OpenOffice.org can be reached via this submenu.

If you click on a toolbar with the left mouse button and at the same time press the Ctrl key on your keyboard, you can move the toolbar to another location on your screen or even to detach it completely to turn it into a floating toolbar. This is a capability that is shared with all of the toolbars of the OpenOffice.org suite.

The tools available in the various toolbars will be explained in the following paragraphs.

The Function Toolbar

This bar is displayed as follows:



Illustration 3 - The Function Toolbar

It is the same for all of the modules of the OpenOffice.org suite and will not be the subject of a detailed description here.

The Object Toolbar

This toolbar gives you a preview, and lets you modify the major characteristics, of the drawing objects that you are handling. The icons displayed will vary as a function of the object that is selected.



Illustration 4 - The Object Toolbar

In the example above, the available functions enable you to change the colour of the line drawn, the fill colour, etc... of the object currently selected. If the selected object is text, the toolbar will have the following appearance:



Illustration 5 - Object Toolbar in text mode

The Tool Toolbar

This toolbar is certainly the most important in the Draw module. It contains all the necessary functions to enable drawing of various geometric and freehand shapes and for their organisation on the page.

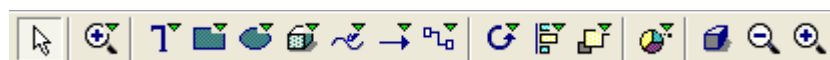


Illustration 6 - The Tool Toolbar

The toolbar is shown here horizontally, but by default it is placed vertically on the left hand side

of the workspace. As for other toolbars in OpenOffice.org, the icons having a small rightward pointing arrow enable you to gain access to further functionality. For example, if you click on the icon representing a triangle, the following window appears:

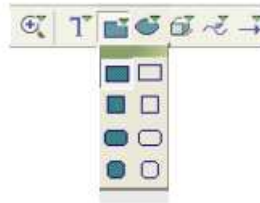


Illustration 7 - Sub-menus

It is therefore possible to choose the type of rectangle you want to draw (e.g. straight or rounded, filled or empty...). What's more, if you choose another option from the icon with the arrow, this new option will be displayed as the default for all following operations carried out using this button.

The Colour Toolbar

In order to display this toolbar, you need to go via the menu 'Display/ Toolbars'. It isn't in fact available via the menu 'Page'. The toolbar then appears at the bottom of the workspace :



Illustration 8 - Colour Toolbar

This toolbar lets you rapidly choose the colour of the objects in your drawing. The first box in the panel corresponds to transparency. The colour palette that is shown by default can be changed via the menu 'Format / Area'. Choose the tab marked 'Colours':

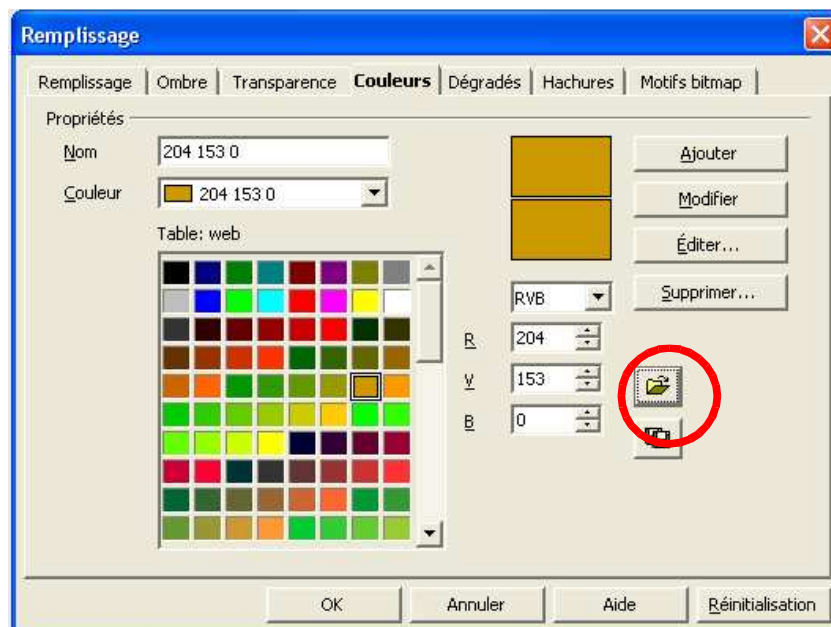


Illustration 9 - Colour Selection Box

If you click on the button that is circled, the file selector asks you to choose palette file (bearing the file extension SOC). Several palettes are supplied as standard with OpenOffice.org. For example, web.soc is a colour palette that is particularly adapted to the creation of drawings that are going to appear in web pages and will be correctly displayed on workstations with screens displaying at least

256 colours.

The colour selection box also lets you individually change any colour by modifying the numerical values that you can enter in the fields provided to the right of the colour palette. You can also click on 'Édit' and a dialog box will be displayed making the choice of colours easier:

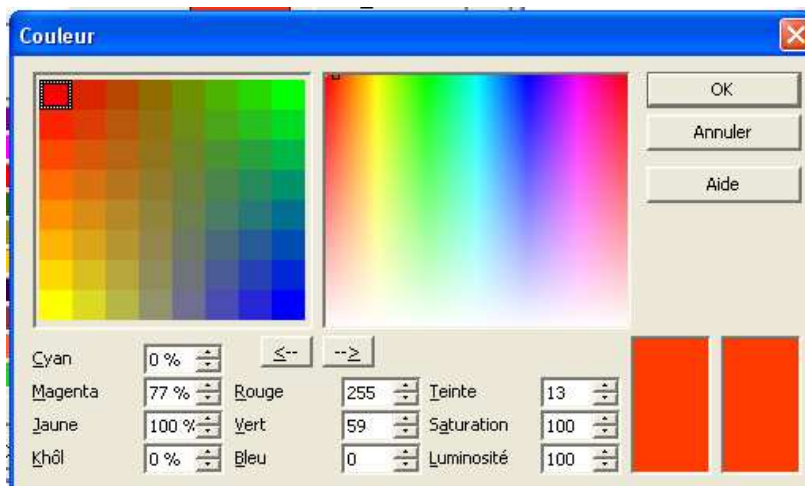


Illustration 10 - Editing colours

You can use the colour schemes known as CMYK (Cyan, Magenta, Yellow, Black¹), RGB (Red, Green, Bleu) or HSB (Hue, Saturation, Brightness).

The Option Toolbar

This toolbar lets you activate or deactivate various mechanisms that make drawing easier. As opposed to the other toolbars, the option toolbar isn't displayed by default. In order to display it, read the corresponding earlier paragraph. When it is displayed, it can generally be found at the bottom of the screen and looks like this :



Illustration 11 - Option Toolbar

¹ Un petit défaut de traduction dans la version 1.0 d'OpenOffice fait que le texte 'noir' du modèle CMJN est remplacé par 'Khôl' qui correspond au noir dans le modèle anglo-saxon (CMYK). Le khôl correspondant à un noir très profond.

4. The Rulers

On the upper and left hand side of the workspace, you should see the rulers. These indicate to the user at any given moment in time, the sizes of the objects that have been drawn. The movement of the mouse in the workspace shows up on the rulers to help the user to position objects precisely.

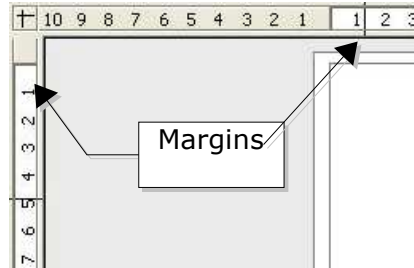


Illustration 12 - The Rulers

The page margins in the drawing area are also represented on the rulers. It is possible to change the margins directly on the rulers by dragging them with the mouse.

You can also directly modify the units of measurement of the rulers by clicking on one of the two rulers with the right mouse button :



Illustration 13 - Ruler units

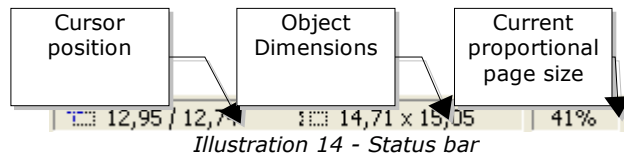
It is worth mentioning that the two rulers can have different units.

The rulers are also used to manage handle points and capture lines that make positioning objects easier. This particular aspect will be handled on page .

5. The Status Bar

This bar is located at the bottom of the screen. We shall look more closely at the middle part of this area, since it is particularly relevant to the Draw module. The three areas that are of interest to us are as follows :

The sizes are given in confused with the ruler defined via the Options section, under the This dialog box also of the page. You can also change the scale by double clicking on the number shown in the status bar.



the current unit (not to be units). This unit can be dialog box, in the 'Draw' 'General' sub-section. lets you change the scale

6. Drawing basic shapes

This chapter will teach you the basic methods for drawing simple shapes. In the remainder of this document, we'll use the term 'objects' to designate the various shapes drawn (whether they're simple lines, rectangles or more complicated shapes). This is common notation in vectorial drawing software.

The following three chapters will illustrate how to draw three basic shapes : a straight line, a rectangle and a circle. You will find a description of all of these shapes on page .

Drawing a segment of a straight line

Let's get started with drawing the simplest of shapes, a segment of straight line. The first step consists in clicking on the seventh button from the bottom of the function toolbar on the lefthand side of the screen. If this button doesn't appear on your screen, please refer to the method given on page 8 to get it to display.

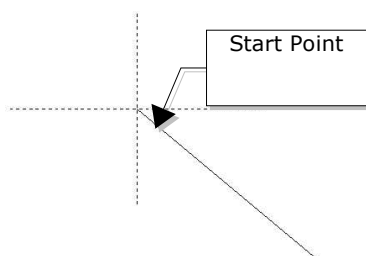


Illustration 15 - Drawing a segment

In order to draw a straight line segment, all you need to do is place the mouse cursor at the point at which you wish to start drawing (shown on the drawing on the left by a dotted cross) and clicking on the right mouse button and then dragging the mouse whilst keeping the button pressed down. The line will be drawn with the default attributes (colour and line type)

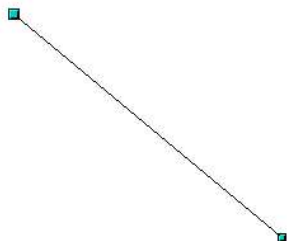


Illustration 16 - Selected Segment

Let go of the mouse button when you want to stop drawing the line. Two blue or green handle points located at each end of the line will appear, showing that this is the currently selected object.

The handle colours depend on the default select mode (they will be green for simple selection and blue when in point edit mode). Look at page for more information.

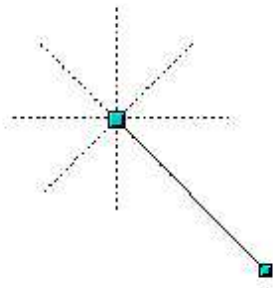


Illustration 17 - Drawing a straight line with the Shift key

Whilst drawing the segment, if you hold down the Shift key as well, you will force the line to drawn at angle which is a multiple of 45° with respect to the horizontal.

In the illustration opposite, the star in dots shows the angles that are permitted for the straight line when the Shift key is pressed.

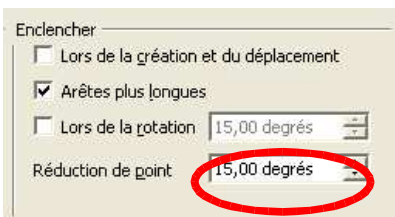


Illustration 18 - Setting the angle of rotation

If, in the above example, you replace the Shift key with the Control key [Ctrl], the constraining angle will be 15°. You can set this angle in the options dialog box, in the 'Draw' section, and the 'Grid' subsection.

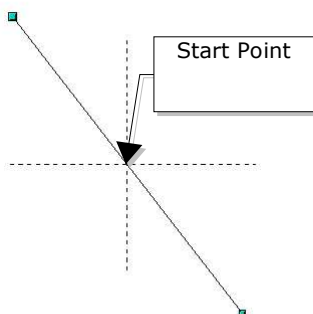


Illustration 19 - Drawing a line with the [Alt] key

When you draw, if you hold down the [Alt] key, the line will be drawn symmetrically with respect to the start point. This technique lets the user draw straight lines by starting from their middle.

You can add the effects of the [Alt] key to those of the [Shift] or [Ctrl] keys.

There are also other techniques to help you with drawing. They will be described starting on page .

Drawing a rectangle

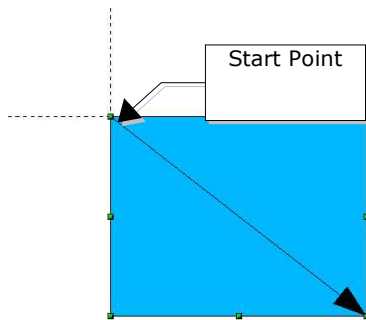


Illustration 20 - Drawing a rectangle

Drawing rectangles is similar to drawing straight line segments, except that you use the fourth button from the top of the toolbar. The button is at about the same height as the one you use for drawing straight lines. The line drawn with the mouse shows the diagonal of the rectangle.

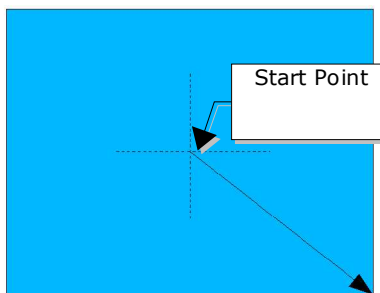


Illustration 21 - Drawing a rectangle with the [Alt] key

Whilst drawing a rectangle, if you hold the [Shift] key, you will get a square. In the same way, the [Alt] key enables you to draw a rectangle starting from its centre as shown in the illustration on the left.

Drawing a circle

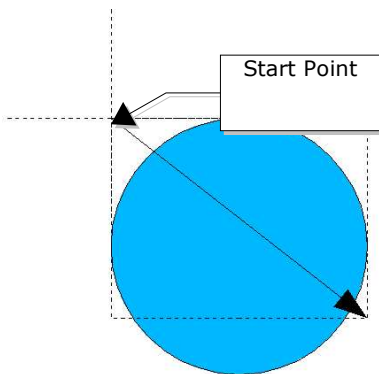


Illustration 22 - Drawing a circle

To draw a circle, use the fifth button from the top of the toolbar. The circle is defined by a rectangle that is linked to the diagonal that is drawn with the mouse. The diameter of the circle will correspond to the longest side of the rectangle.

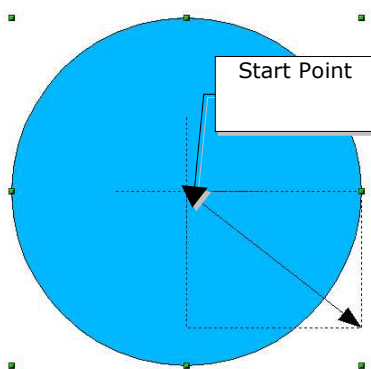


Illustration 23 - Drawing a circle from its centre

The other main way of drawing a circle consists in using the [Alt] key. In this case, the start point is the *centre* of the circle as illustrated in the drawing on the left.

7. Editing Objects

In this chapter, we shall look at the tools and functions that let you modify existing drawings.

Selecting Objects

All of the modifying functions that we will look at apply to the selected object or group of objects. The selected object differentiates itself from the others by small coloured squares or circles located around the object (this is also true when several objects are selected simultaneously). In the rest of this document, we will call these points handles.

The frame around an object corresponds to the smallest rectangle that can contain a whole object. Where several objects are selected, the frame around them corresponds to the smallest rectangle that can contain all of the objects. This frame is generally called the selection rectangle.

If the options toolbar is displayed, it is possible to change the size of the handles using two buttons : 'Simple Handles', that shows the handles as flat squares, and 'Large Handles', that shows the handles in a larger size. You can combine the effects obtained by pressing on both buttons. You can thus have large handles having a 3-D shape or small handles having no 3-D shape.

Selection Modes

There are three selection modes :

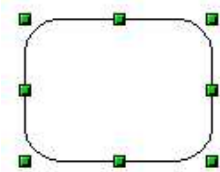


Illustration 24 -
Simple selection

Selections used to move or change size are indicated by small green squares. This is the default selection mode when the 'Edit points' button is not pressed.

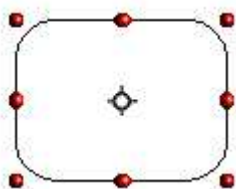


Illustration 25 -
Selection for rotation

Selections for rotating objects are indicated by small red circles and a symbol representing the centre of rotation.

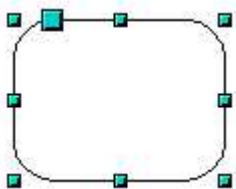



Illustration 26 -
Selection for edit points
mode


Selections for the 'edit points' mode are indicated by blue squares. An extra, larger handle, also appears on most drawings. When the 'edit points' button is pressed, this is the default mode.


The default mode for selecting objects is set by the activation/deactivation of the button .

Changing the selection mode

To go from one mode to the other, you can do the following :

The  button switches from simple selection mode to 'edit points' mode. You can also use the keyboard shortcut [F8]² (Edit points).

The  button switches the rotation mode on and off.

If the  button from the options toolbar is pressed, you can switch from normal selection mode to rotation mode by double-clicking on the object.

Selecting Objects

Direct Selection

To select an object, the easiest way is to simply click directly on it, and the default mode selection handles will appear.

Selection by Framing

You can select several objects by drawing a large rectangle around the objects you want to select:

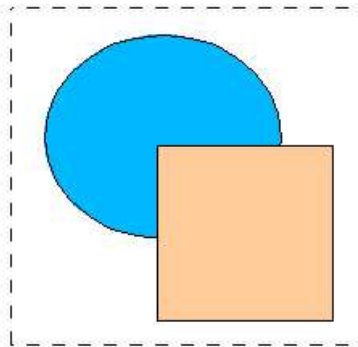


Illustration 27 - Selection Rectangle

For an object to be selected, it must be entirely within the rectangle.

Selecting hidden objects

When objects are located behind others, they can still be selected. You need to select the uppermost object first in the usual way then click on the underlying object (or on its location if you can't see it) by pressing the [Alt] key. In the illustration below, the square located beneath the circle was selected in this way (the circle was made transparent in order to see the square):

² Les raccourcis clavier pouvant être redéfinis par l'utilisateur, je donnerai bien entendu la fonction associée par défaut.

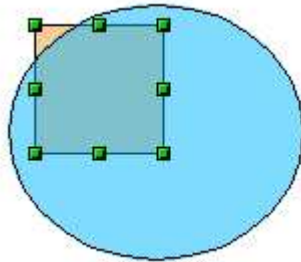


Illustration 28 - Selecting hidden objects

PS: In this particular example, it would also have been possible to click on the upper left corner of the square.

Circular selection

When an object is selected, the [Tab] key lets you successively select/deselect all of the other objects on the page in the order in which they were created. This additional method of selection can thus be used to select hidden objects. The [Shift] + [Tab] keys let you run through the objects in reverse order.

Selecting several objects

In order to select/deselect several objects one by one, all you need to do is press the [Shift] key and click on the various objects to be selected or deselected.

Moving and Dynamically Adjusting the Size of an Object

There are several ways of moving or changing the size of an object. The method described here will be called *dynamic* in the sense that it is carried out using the mouse.

When you dynamically change an object, remember to check the left hand area of the status bar, that shows detailed information about the ongoing manipulation. For example, during a resizing manipulation, you will see the following information displayed :

Redimensionner 2 Objets de dessin (x=133% y=155%)

Illustration 29 - Details in the status bar

The information displayed changes when the mouse is moved.

Dynamic Movement of Objects

To move an object, all you have to do is select it and then click within the selection frame and hold down the mouse button whilst moving the mouse. In order to drop the object at its new location, let go of the mouse button. During movement, the shape of the object appears in dotted lines :

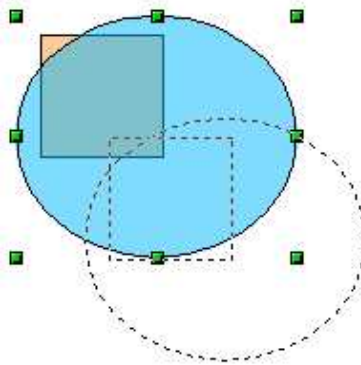


Illustration 30 - Moving an object

Dynamic size modification of objects

In order to change the size of an object, (or group of selected objects) with the mouse, you need to move one of the handle points located around the selection. As shown in the following illustration, the outline of the resulting new object appears as a dotted line.

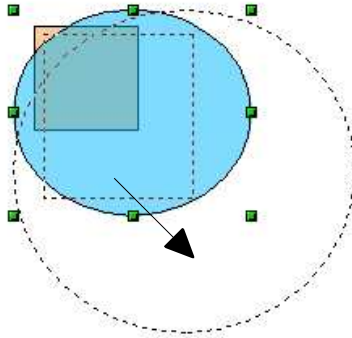


Illustration 31 - Changing the size of an object

Depending on the handle point you are using, the results will differ. If you choose the handles located in the corners, you will resize the object along two axes at the same time. If, on the other hand, you use the handles located at the edges of the selection box, the objects will only be resized along one axis.

NB: If you press the [Shift] key at the same times as you carry out the resizing operation, the size change will be carried out symmetrically with respect to the two axes, which enables you to keep the height/length ratio of the object. With the [Alt] key, the object is resized symmetrically starting from its centre.

Rotating an object

The method for switching to rotation mode of an object has been described previously.

Rotation of an object also lets you slant an object along an axis. In order to do this dynamically, you need, as with changing the size of the object, to use the red handles.

Rotation works in a slightly different way for 3-D objects (since the rotation occurs in 3D space and not in one plane). This function will be described in more detail in the chapter dealing with 3-D objects (page).

Rotation

To rotate an object (or a group of objects), just drag the red handle points of the selection, located at the corners, with the mouse. The mouse cursor takes the shape of an arc of a circle with two arrows at each end. As with the preceding operations, a shadow in dotted lines corresponding to the object being rotated appears and the current angle of rotation is dynamically shown in the status bar.

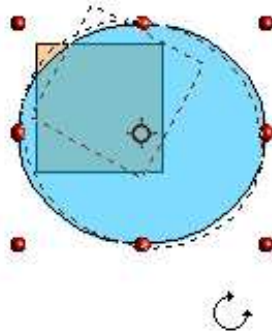


Illustration 32 - Rotating an object

Rotations are made about an axis displayed as a small symbol. You can move the axis of rotation with the mouse, as shown below :

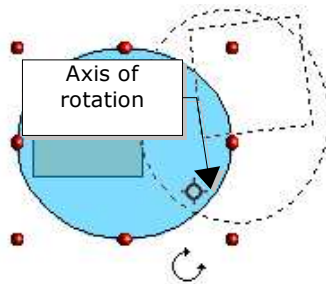


Illustration 33 - Moving the axis of rotation

If you hold down the [Shift] key during the rotation, the operation will be carried out in increments of 15°. In order to change this value, see page 13.

Inclination

In order to incline or slant an object, just use the red handles located on one of the edges of the selected object. The inclination axis is shown as the nearest handle to the opposite edge :

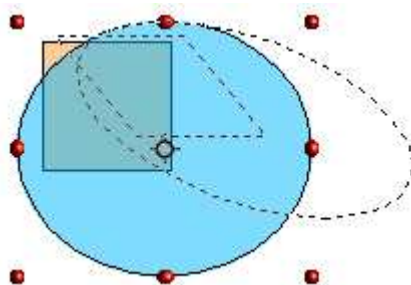


Illustration 34 - Inclination of an object

This operation functions in the same manner as rotation in that you can set the inclination to occur as steps of 15° by pressing the [Shift] key during movement of the handle.

Editing Object Points

Draw offers a complete set of tools that let you accurately edit the contour of an object. As we shall see, the functions related to editing points work substantially in the same way as on curves. In order to make the most of these tools, you'll have to convert your objects into curves, as will be described later on.

Direct operation

Some objects can be manipulated in 'edit point' mode without having to convert them into curves. When we do this we act directly on the properties of the object. The objects involved are defined by the presence of one or more extra handle points. When you manipulate this handle (which is generally larger in size than the other selection handles), you will obtain various effects. The mouse cursor takes the shape of a folded hand when it passes over one of these points. Here's the complete list of the objects concerned (drawing of arcs and circular segments will be covered in chapter 8) :

Rectangle or square.

In this example, you can make the corners more or less rounded

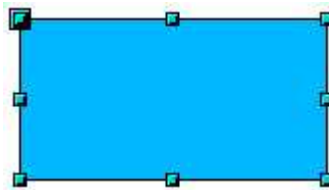


Illustration 35 - Simple Rectangle

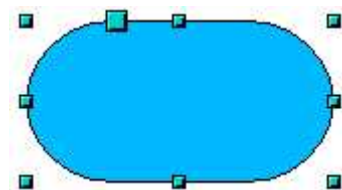


Illustration 36 - Rounded Rectangle

Arcs or ellipses.

In this example, you can change the associated angles. Arcs have two control handles.

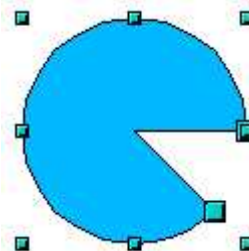


Illustration 37 - Pie

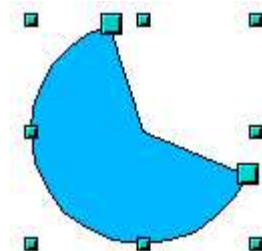


Illustration 38 - Moving control points in the pie

Circular or elliptical segments.

In this example, you can change the position of the edge of the segment.

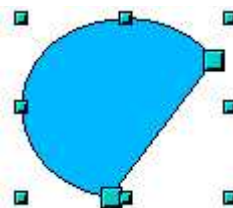


Illustration 39 - Circular Segment

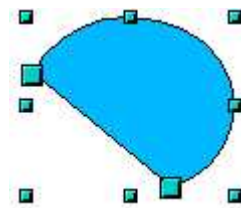


Illustration 40 - Moving control points of the segment

How curves work

Editing curves works on the basis of a method called Bezier curves³. The complete study of such

³ Bezier curves were invented by Pierre Bézier, an engineer working with the Renault car manufacturer, who developed the technique that bears his name in the 60s. The technology was intended to make modelling the surface of vehicles easier.

curves goes beyond this particular work. We shall nonetheless remind you here of the basics of this quite powerful method of editing the contour of an object.



Illustration 41 -
Definition of a tangent

Editing a point in a Bezier curve uses several mechanisms as represented in the drawing on the left: The main point is called the junction point. Two tangents project from this point, enabling manipulation of the curve that passes through the junction point. The basic idea is that, around the junction point, the two sides of the curve 'flatten' out more or less along the tangent depending upon the size and position of the tangent.

By precisely choosing the type of tangent, and moving it with the junction point and the two tangents with the mouse (via the round handle points located at each end), you can create all manner of shapes.

The Bezier Curve Toolbar

When you work in 'edit point' mode, a new toolbar appears. It is displayed as follows :



Illustration 42 - Edit Points Toolbar

On this toolbar, some buttons can be depressed or not. Their behaviour is then different. The role of the three buttons enabling you to choose the type of tangent will be described in the following chapter. They are the sixth, seventh, and eighth buttons in the toolbar. The functioning of the other remaining buttons will be described in relation to working examples.

The three kinds of tangent

Three buttons in the toolbar let you select the type of tangent and convert from one type to another. Only one of these buttons can be depressed at any given moment in time.



Illustration 43 -
Symmetrical Definition


The  button lets you work with a symmetrical tangent. Any movement of one or the other of the handles will be carried over symmetrically to the other one.



Illustration 44 -
Asymmetrical Tangent



The  button lets you separate the lengths of the two parts of a tangent. In the drawing opposite, you can clearly see that the curve is flatter on the longest side of the tangent. This kind of tangent is known as a smooth junction. This button is not to be confused with the preceding one, since their representations are fairly similar.



Illustration 45 -
Inflexion Point

It is also possible to completely detach both sides of the tangent. In this case, the central point is known as the 'inflexion point'. Using this technique, you can draw spikes and troughs in objects. Use the  button to create an inflexion point around the selected point.

Examples

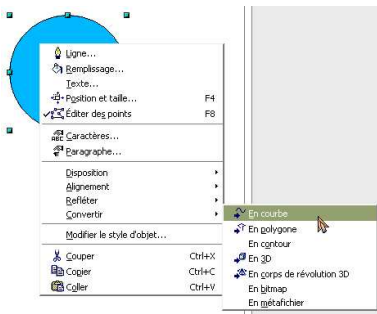


Illustration 46 - Converting an object to a curve

The following examples are going to start from a filled circle. As we mentioned earlier, in order to use the edit points mode, you need to convert the object to a curve. This can be done on the selected object by right mouse button clicking and choosing the option 'Convert / To curve'.

You will notice that after conversion, the handles located in the corners of the rectangle will have disappeared. This behaviour is normal in that the handles which are used in edit points mode are located along the trace of the drawn object.

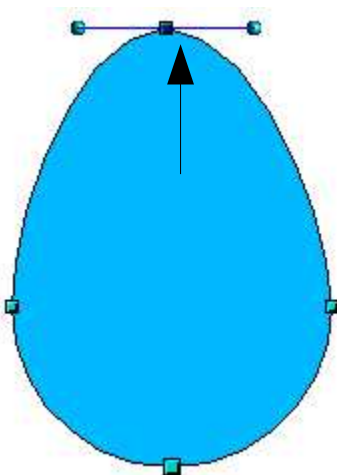


Illustration 47 - Moving a junction point

The move points mode is the default mode when editing points. If it hasn't been activated, you can do this by clicking on the button shown above left. When it is active, the mouse cursor has the following shape when located above an edit point :



Movement of the junction point is one of the easiest manipulations to do. The drawing opposite illustrating an egg can be drawn very easily by starting from a circle and dragging the pointed edge upwards.

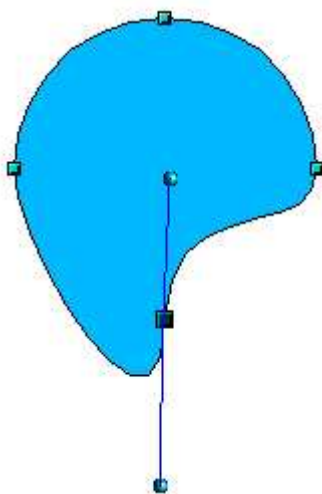
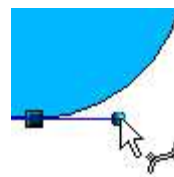


Illustration 48 - Rotating a tangent

To change the location of the tangents, just move the circular handles at each end. The mouse cursor will then look like this :



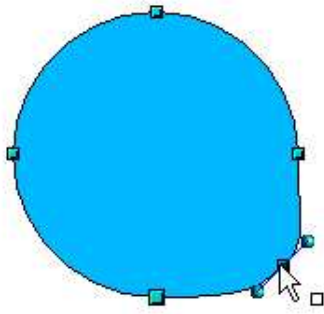

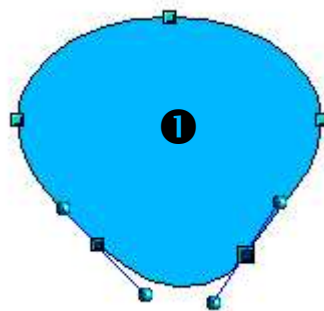



Illustration 49 - Adding an edit point to a curve

 This button lets you add a point to an existing curve. Just click with the left mouse button on the curve at the spot where you want to insert a point and then move the mouse whilst holding down the button. If you just click, the new point will not be added.


The tangent attributes that are associated with the new point will depend on the buttons that are pressed in the toolbar.



 This button has the opposite effect, i.e. it subtracts one or more points from the curve. The resulting curve will stretch itself automatically around the remaining points after subtraction.

Firstly, select one or more points to delete.

You can select several points by holding down the [Shift] key (❶).

Then click on the  button. The selected points disappear from the curve that will then reform around the remaining points (❷).

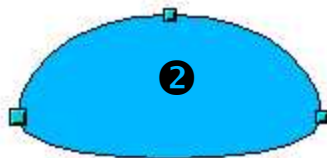


Illustration 50 - Deleting points from a curve

NB: You can also delete the selected points using the [Del] key on your keyboard.

❶

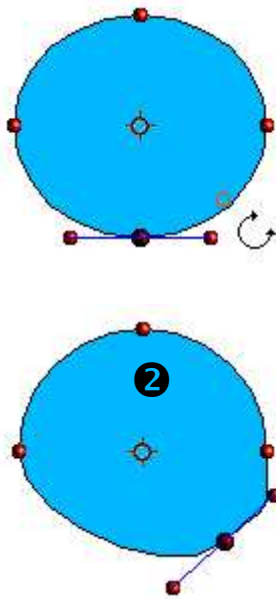


Illustration 51 - Moving a point on a curve

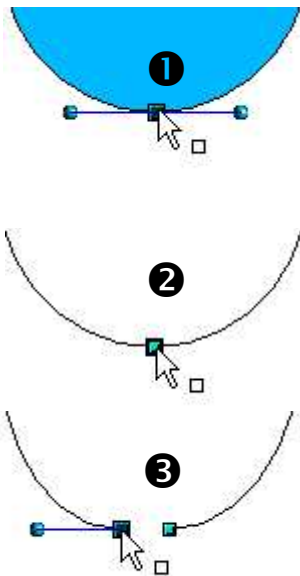





Illustration 52 - Slicing a curve

The object rotation button  that we described on page 20 can be used in edit point mode. In this case, it can be used to move a point around the contour of an object.

Switch into rotation mode by clicking on the  button. You will notice that in rotation mode, all of the tangent points become red dots.

Select the point to be moved and then drag it around the contour while keeping left mouse button pressed down (❶). When you let go of the mouse, the point will be moved to the new position (❷).

If you move one of the handles located at the end of the tangents during rotation, you will make the object rotate exactly in the same way as with the usual rotation operations.

 This button lets you cut a curve at the height of the selected handle. If the object is filled, it will be emptied insofar as the curve that represented the edge is no longer closed.

Check that you have selected the correct handle (❶), press on the button (❷) and notice that the object is no longer filled. You can then check by moving the point, that the curve has indeed been separated (❸).

NB: if you have an open curve, the start point of the curve is larger than the others.

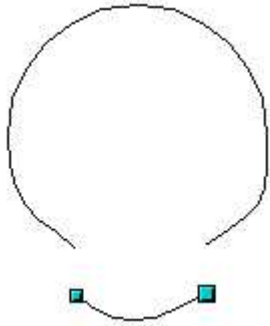


Illustration 53 - Moving a segment

You can also separate a curve at several points simultaneously. Just keep the [Shift] key pressed down and select all of the points at which the cut should occur.

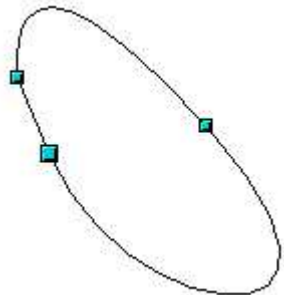
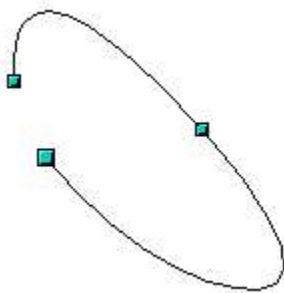



Illustration 54 - Closing an open curve

The  button lets you close an existing curve. Select an open curve and click on this icon to close it.

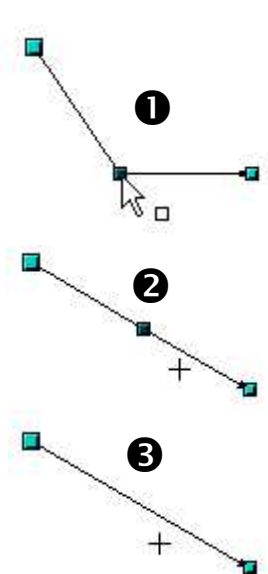



Illustration 55 - Using the 'select points' switch

The 'select points'  button functions as a switch. It works as follows:

If you have two points linked together by a straight line (you don't need to have a curve between the points) and you insert a new point between them that is set at an angle to the initial straight line (and hence the two endpoints), you will have a drawing similar to that illustrated in **1**.

If the 'select points' switch is deactivated, and you move the point you've just inserted, to bring it back close to its initial position in the straight line, you will have a drawing similar to that illustrated in **2**.

If the switch is activated, moving the point back towards the axis of the initial straight line will cause the line to snap into place and the new point will be hidden from view (as illustrated in **3**). The new point will not have physically disappeared however, and you can bring it back into view by just dragging the mouse cursor (represented by a crosshair) away from the axis of the straight line.

Changing Object Attributes

Each object comes with a set of associated attributes that characterize the appearance of the object. These attributes, such as colour, the contour type, line thickness, etc... can be modified whenever you want.

A toolbar and a dialog box are dedicated to the modification of these attributes. The main attributes can be directly modified from the object toolbar (located by default above the workspace). Depending on the currently selected object, the object toolbar changes appearance.

The default object toolbar is applicable to all objects :



Illustration 56 - Object Toolbar

When editing texts, a new toolbar appears :



Illustration 57 - Text Objects Attribute Toolbar



In the latter case, the toolbar is split into two parts. To go from one to the other, use the button bearing a blue leftward pointing arrow, located at the right end of the object toolbar. The second part of the toolbar will then appear, and is that described at the beginning of this chapter.

Changing Attributes via the context menu

When an object is selected, a right mouse button click on the object brings up a context menu that looks like this :

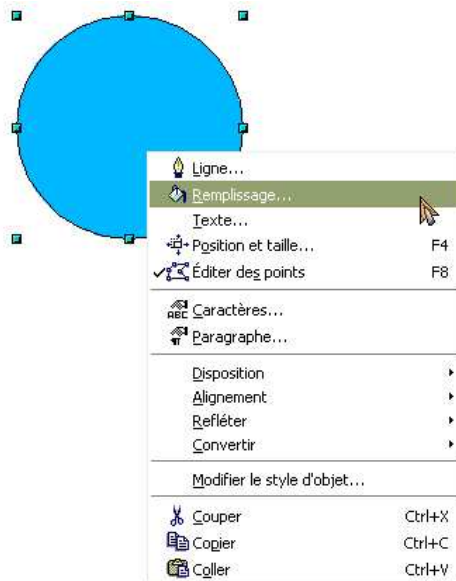


Illustration 58 - Object Context Menu

This menu is yet another way of gaining access to the functions that let you change the object attributes.

The first five choices will bring up various dialog boxes letting you change the aspect of the object, and will be described in the following pages.

The Object Toolbar

The buttons in this toolbar let you change the following properties :



Line type : Pressing on this button will bring up a dialog box letting you choose the properties of the currently selected line. If you want to change the properties of arrows, the line, its thickness or colour, you can directly use the four areas provided in the toolbar (Cf later).

The dialog box is split into three tabs.

The first tab lets you edit the most common properties of the line. You will notice that transparency and the pointedness of the ends of the line are only editable from within this dialog.

The tickbox 'synchronize ends' lets you force the arrow ends of a line to be the same.



Illustration 59 - Editing line attributes

The second tab lets you finely tune the type of line you want to have.

Using this dialog, you can define, the appearance, number, size, width and spacing of the dashes or dots making up the line.

With the 'Add' button, you can create a new type of line and insert it into the Type list. Two buttons are there to help you save a new definition or read one from disk (file extension .SOD).

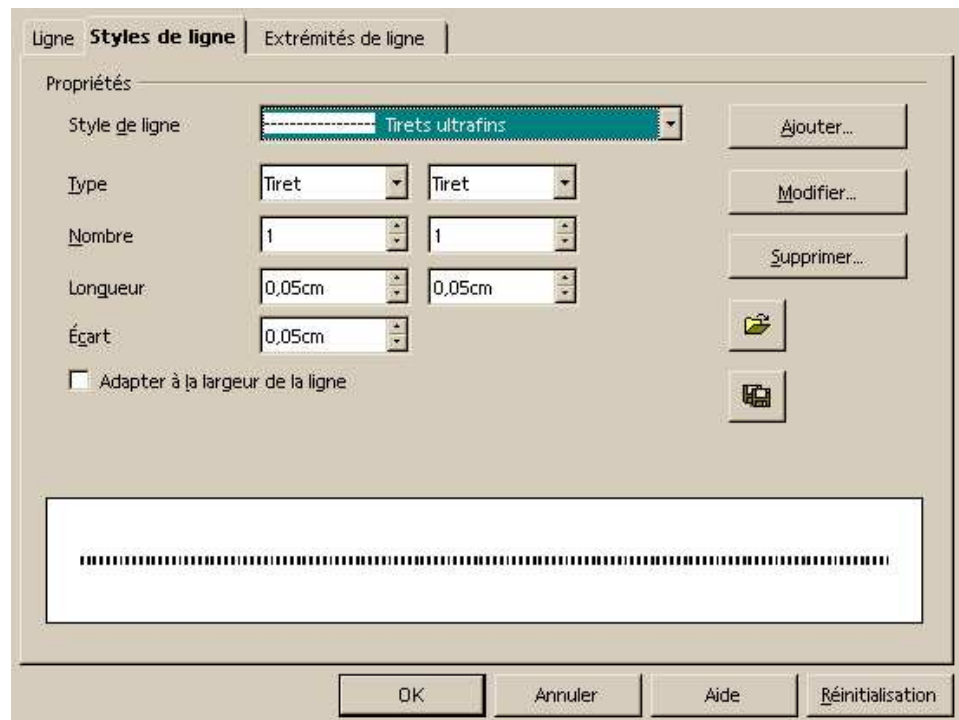


Illustration 60 - Line style attribute dialog

The third tab is intended to let you add new end types to the line. As you can see, there is no way to draw the end types using via the dialog box. The trick is to use the current selection.

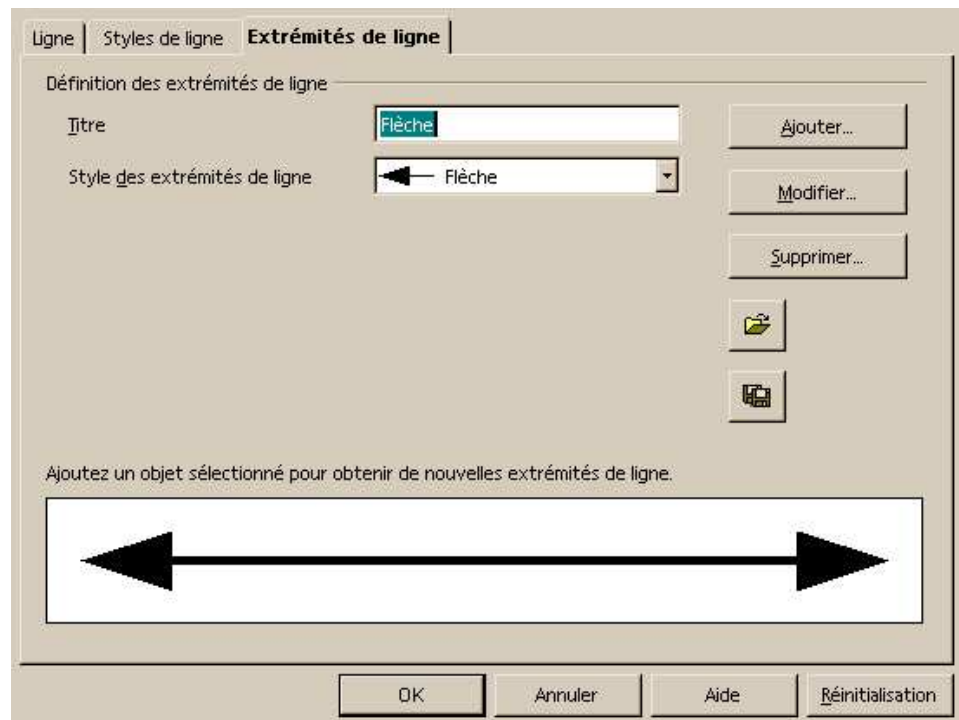
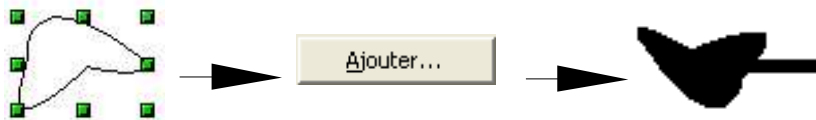


Illustration 61 - Editing Line End Attributes

The following example will help you understand the principle behind this possibility:



Here too, you can save or read a definition from file containing a line end definition (file extension .SOE).

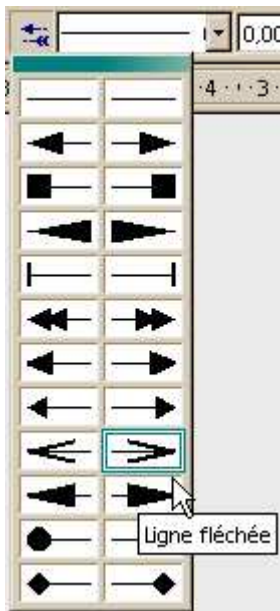



Illustration 62 - Choosing line ends

The button located right of line type dialog box  lets you directly choose the line ends in a small window. You can choose each end independently of the other.

NB 1: If you frequently need to use this function, don't forget that you can detach the window by clicking on it with the mouse button and dragging it (via its title bar) to a new spot. That way it will stay visible on the workspace.

NB 2: If you add a new line end, it will appear in the list.

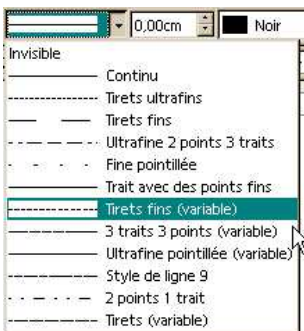


Illustration 63 - Choosing line types

The drop-down menu located right of the button described in the preceding paragraph lets you directly choose the line type without going through the corresponding dialog box.

NB: If you add a line type, it will appear in the drop-down menu.



Illustration 64 - Defining Line Thickness

The next area concerns the choice of thickness of the line expressed in the current unit of measurement. You can enter this value manually in the area provided or use the spinbox to change the value. A thickness of 0.00 cm corresponds to a very fine line.



Illustration 65 -
Choix de la couleur
de la ligne

The drop-down menu located next right lets you choose the line colour. The various colours available in the colour palette are displayed. In order to change the colour palette, check out page 8.



This button and dialog box lets you choose the fill mode for the selected object. The dialog box is split into several tabs, which will be described on the following pages.

The first tab, marked 'Area' lets you make a quick selection of the type of fill that you want, whereas the other tabs lets you change, delete or add a given fill type. There are four possible fill types :

- simple colour
- gradient
- hatching
- bitmap motif

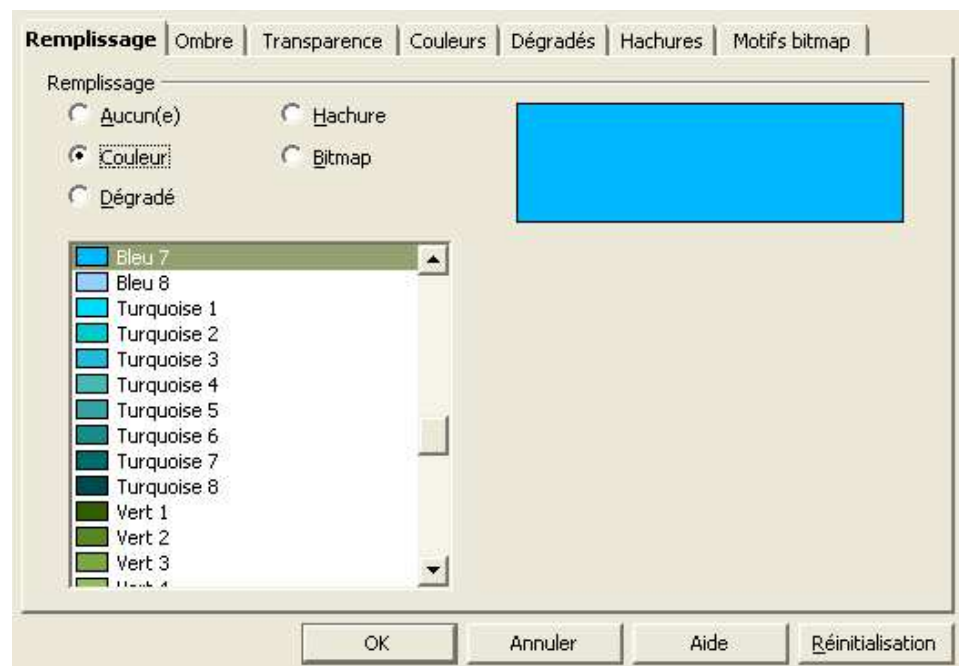


Illustration 66 - Quick Fill Selection

The second tab, marked 'Shadow', lets you choose whether or not to apply a shadow to your object. It is really very simple to create a shadow beneath objects. The shadow lets you simulate the floating of an object above the drawing area.

The shadow will match the contour of the object that has been selected. This tab also lets you set the colour, distance with respect to the object, position and transparency of the shadow.

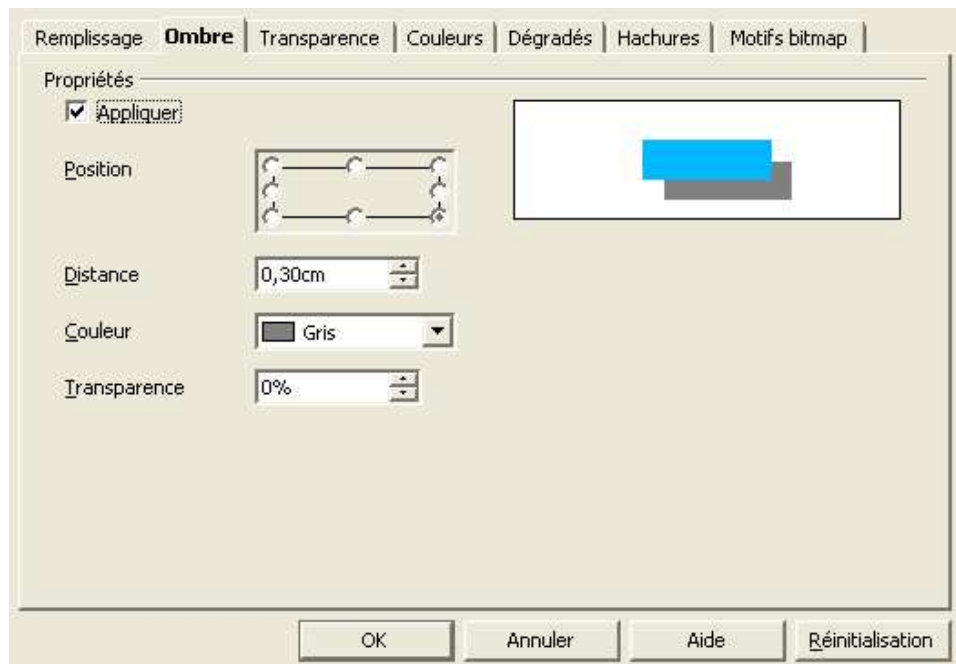


Illustration 67 - Editing Shadow Attributes

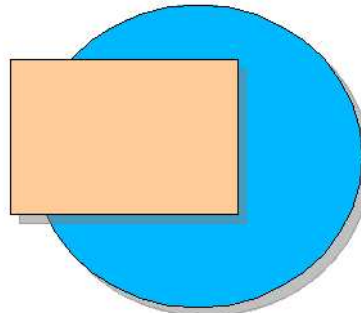


Illustration 68 - Shadow Example

The basic figures shown above both have a grey shadow with 50% transparency (the circle appears through the rectangle's transparent shadow).

The third tab, marked 'Transparency', lets you set the fill transparency of the selected object. For example, you can set the transparency to be non uniform.

In every case, the current gradient can be used to preview the result in the area to the right of the dialog box.

The tick box 'Transparency' lets you define a uniform transparency by its percentage. 0% corresponds to opacity and 100% to totally transparent.

The 'Gradient' tickbox lets you choose the transparency parameters.

First, you'll have to choose the type of transparency you want : Linear, Axial, Radial, Ellipsoid, Quadratic or Square.

The two data entry areas marked 'Center X' and 'Center Y' let you choose where to locate the central point of the transparency with respect to the object (0% = left or top, 100% = right or bottom). The angle lets you choose the inclination of the transparency effect. On the drawing right, the angle of transparency is 45°.

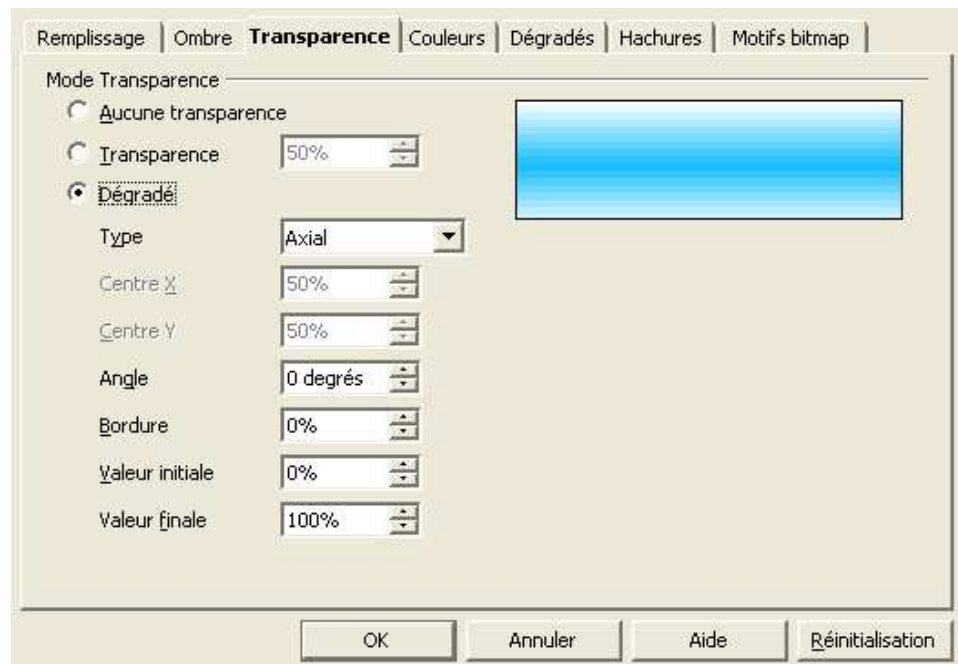


Illustration 69 - Editing Transparency Attributes

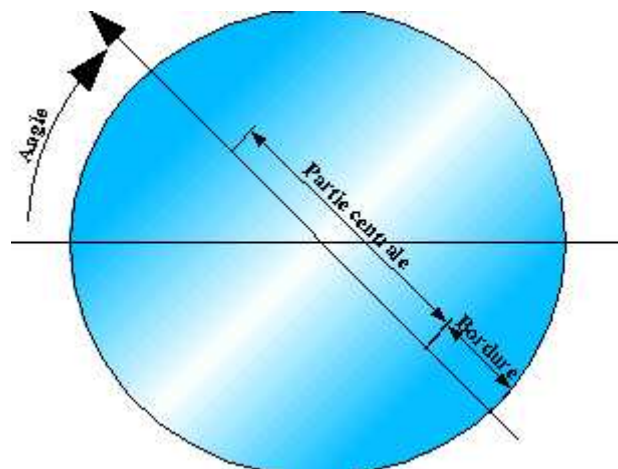


Illustration 70 - Transparency Parameters

In the 'Border' field, the percentage value indicates the thickness of the border of the gradient around the object. In Illustration 70, the border was defined at about 33%. The border colour is defined in the field 'End Value'.

The two fields 'Start Value' and 'End Value' show the degree of transparency at the start and end points of the transparency effect. In the example given above, start transparency was set to 0% (opaque colour near the border) and end transparency set to 100% (totally transparent – at the circle's centre).

The following illustrations give a few examples of what you can do with these various parameters.

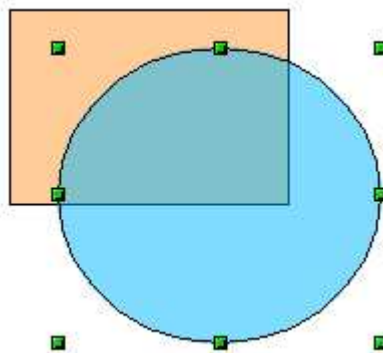


Illustration 71 - Simple 50% Transparency

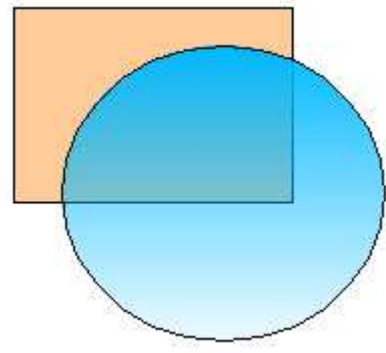


Illustration 72 - Vertical Linear Transparency

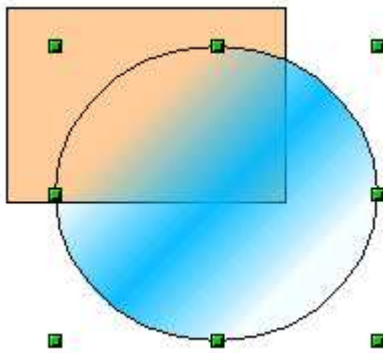


Illustration 73 - Axial Transparency

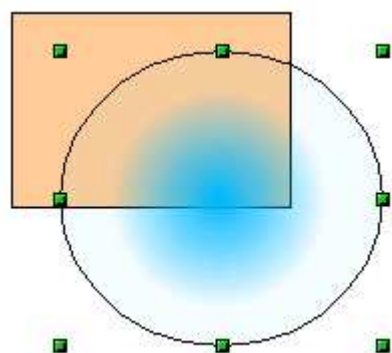


Illustration 74 - Radial Transparency

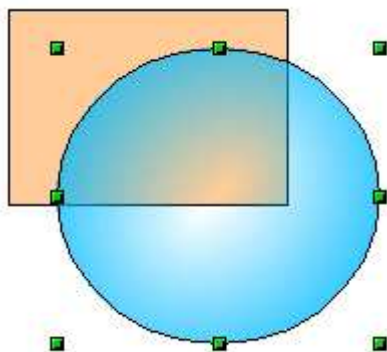


Illustration 75 - Ellipsoid Transparency

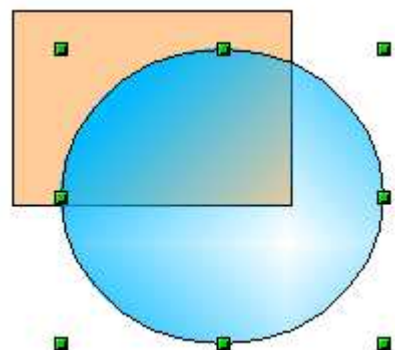


Illustration 76 - Quadratic Transparency with the centre point displaced towards the lower left edge

Another method exists for defining the transparency of an object, described on page 51.

The fourth tab, marked 'Colours' already described on 8, lets you edit the palette of available colours. You can choose the fill colour of an object by double-clicking on one of the coloured squares.

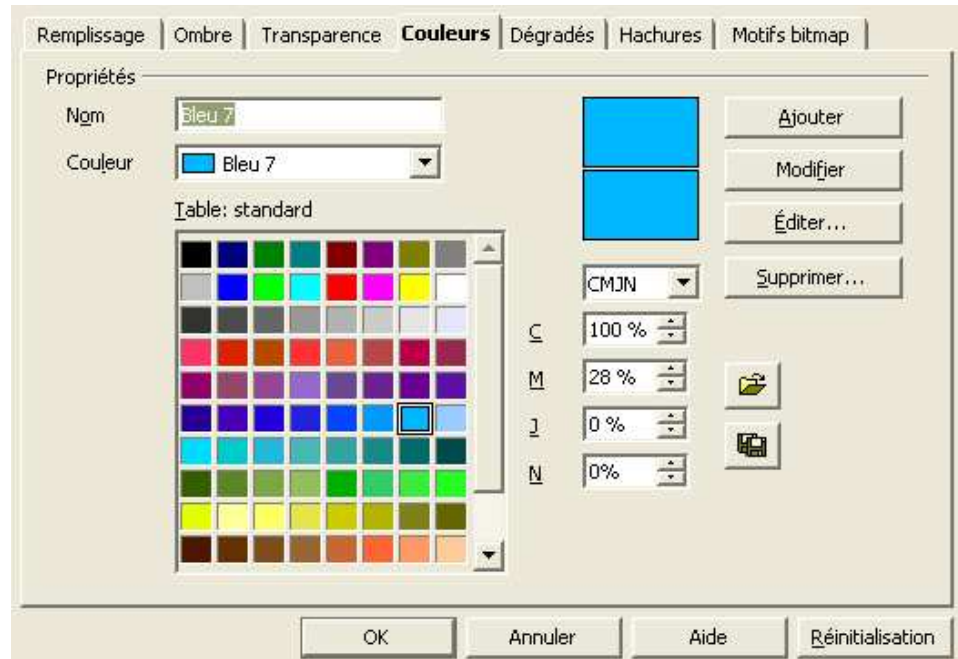


Illustration 77 - Editing Colour Attributes

The fifth tab, marked 'Gradients', lets you define or choose a type of gradient. You can choose a gradient to apply to an object by selecting it in the list and clicking on 'Ok'.

Several gradients are pre-registered. The parameters used to define the gradients are similar to those that are available for transparency.



Illustration 78 - Editing Gradients

You can save the gradients you create and reload them from disk (file extension SOG). Sample files are supplied as standard with OpenOffice.org (moderne.sog and classique.sog for example).

The sixth tab, entitled 'Hatching', lets you define a hatch motif. All you have to do is indicate the spacing between the lines (in the current unit), hatching angle, line type, (simple, double, triple) and colour.

As for the other tabs, to apply a given hatching to an object, select it from the list and click on 'OK'.

You can save and reread hatchings from a file saved to disk (file extension SOH).

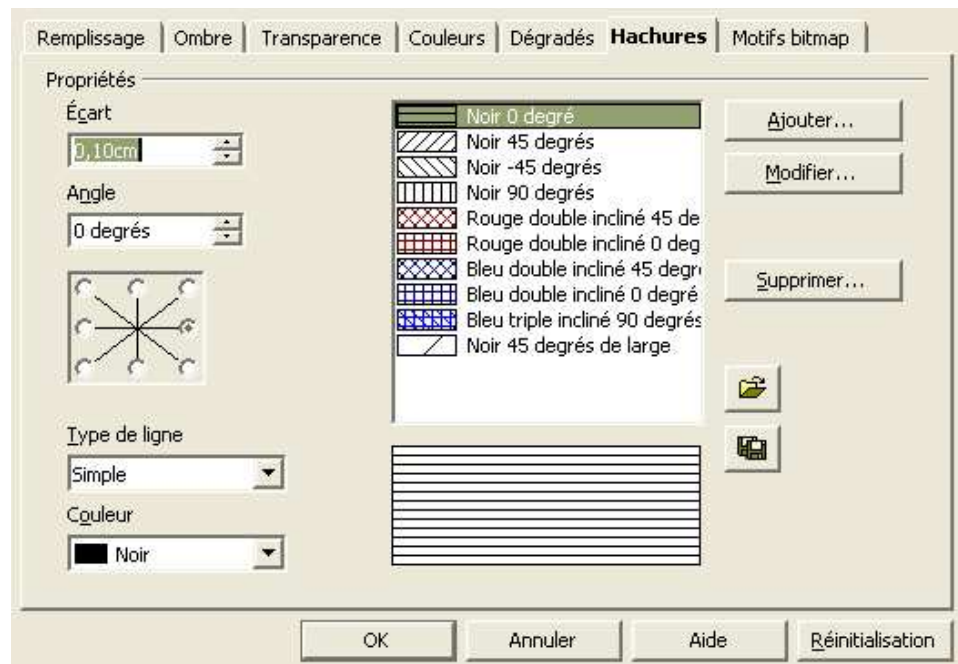


Illustration 79 - Editing Hatching

The seventh and final tab, entitled 'Bitmaps', lets you cover selected objects with a motif obtained from a bitmap image. Any of the bitmap formats recognized by OpenOffice.org can be used. In order for the mapping of the image onto the selected object to be of sufficient quality, it is necessary to use bitmap images that contain repeating motifs. The 'Import' button lets you create a new motif from an existing file.

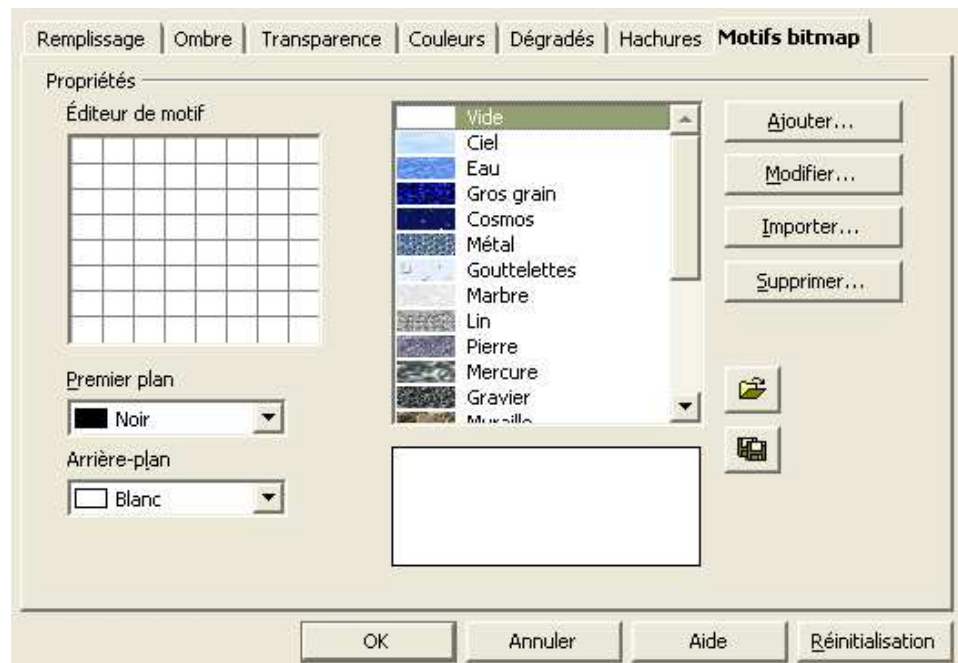


Illustration 80 - Editing Textures

The motif editor on the left lets you draw a simple motif from two colours. To draw this motif, click on the various boxes in the grid, using the right mouse button to choose the foreground colour and the left mouse button for the background colour.

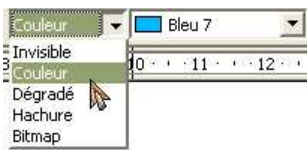


Illustration 81 - Quick Editing of a fill motif

The two drop-down lists located on the right of the object toolbar enable quick selection of a fill motif without having to go through the dialog boxes that have just been described. The first list lets you choose the fill type (Colour, Gradient, Hatching and Bitmap), whereas the second list is used to select the specific fill. The content of this list depends on the choice made in the first one.

If you choose 'Invisible' in the first list, the selected objects will become transparent.



The last button in the object toolbar enables/disables the placing of a shadow on the selected objects. It functions as a switch.

The Text Object Edit Toolbar

When the selected object is a text frame, the toolbar doubles up to add extra buttons dedicated to formatting text. The blue triangle at the right hand end lets you display the Text Object Edit Toolbar. In this case, the object whose attributes are modified is the frame, and can undergo all of the modifications described previously.



Illustration 82 - Text Object Edit Toolbar

This toolbar comprises the usual text functions that (similar to those that can be found in the Writer module) let you set the font, paragraph alignment, etc... These are fairly standard and will not be discussed in more detail here.

Manual Editing of Object Size and Position

The preceding chapters were devoted to dynamic modification of the attributes of one or more objects, with dynamic meaning that all changes were carried out with the mouse. This technique has the advantage that you can continuously see the changes being made, but the disadvantage that it is not very precise.

When an object is selected, pressing the [F4] key ('Position and Size') or using the menu that is accessible via the right mouse button, at the entry 'Position and Size' (this menu is described at page 27), displays a dialog box with four tabs, that lets you enter precise values concerning size and position.

1. Entering Position Data

The first part of the dialog lets you enter the position data for the X and Y axes in the current unit of measurement. You can also indicate the base point for the object. By default, the base point is located at the top left (see left part of Illustration 84). If you move the base point to the bottom left, the same X, Y coordinates will correspond to an object positioned as indicated in the right part of the illustration.

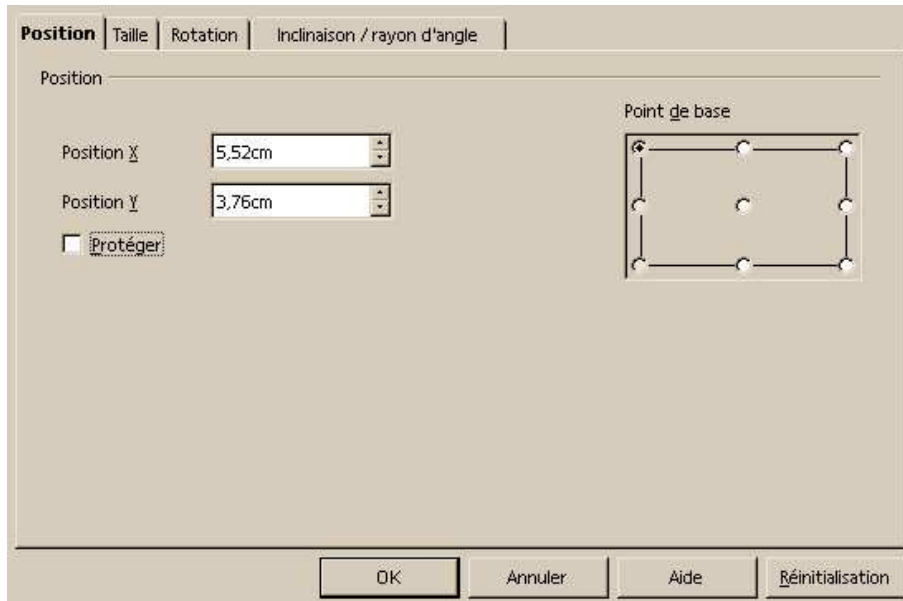


Illustration 83 - Position Data Entry Dialog

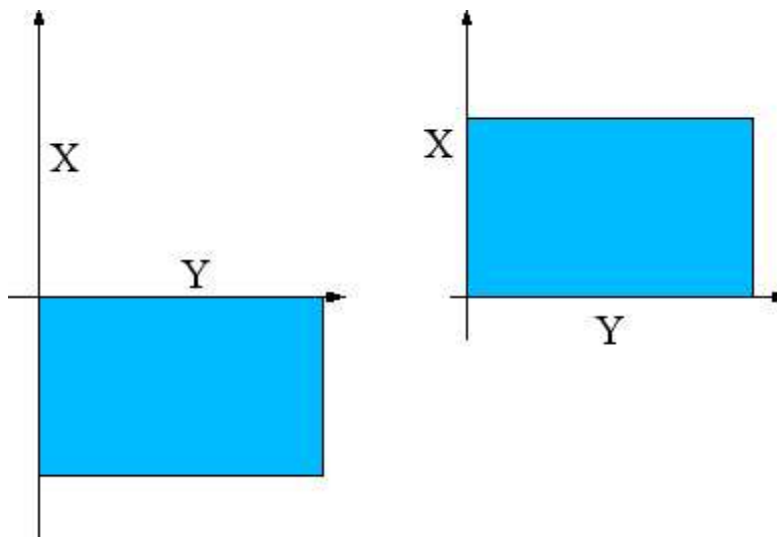


Illustration 84 - Base Point Examples

If you tick the box 'Protect', the object can no longer be moved. You'll have to untick the box to move the object again.

2. Size Data Entry

This tab is used to specify the size of objects. If the box 'Proportional' is ticked, any changes made to one of the dimensions will automatically be applied to the other dimension, which enables the length/width ratio of the object to be maintained. If the object is text frame containing text, two further tickboxes are available, to let you automatically adapt the width and height of the frame around the text.

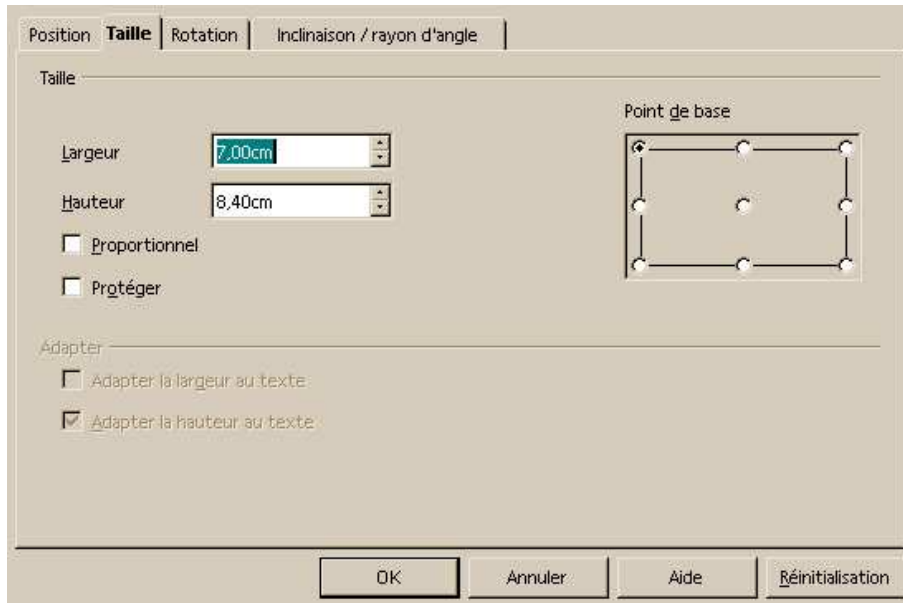


Illustration 85 - Size Data Entry Dialog

As for the preceding dialog, you have to indicate with respect to which point the change will take place. For example, if you click on the centre point, any size change will be made symmetrically with respect to the centre of the object.

3. Angle of Rotation Data Entry

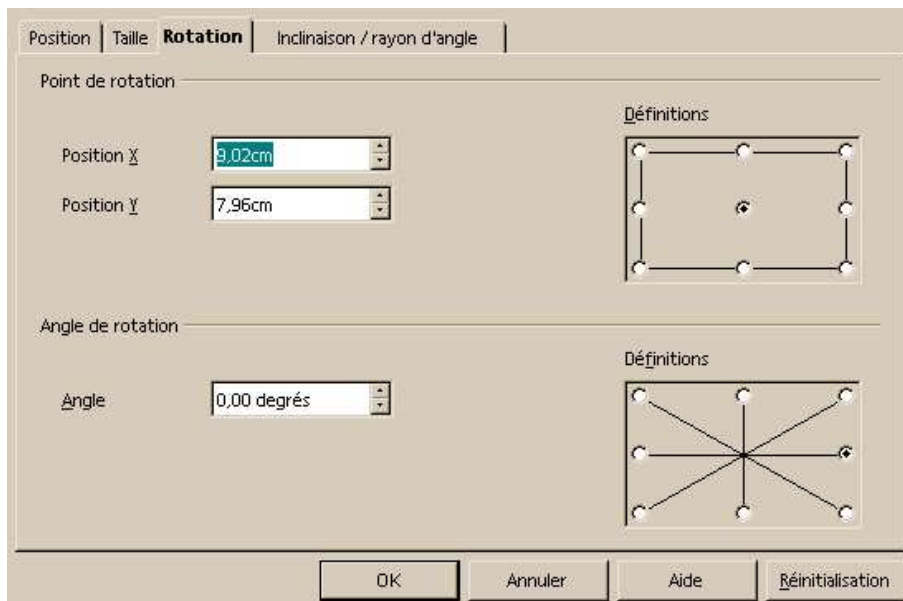


Illustration 86 - Angle of Rotation Data Entry Dialog

This tab lets you specify the position of the axis and angle of rotation of the object. You also have to define the base point from which the axis of rotation is measured (cf preceding chapter)

The zone marked 'Default Settings' lets you quickly choose the angle of rotation in 45° steps.

4. Inclinaison Data Entry

The last part of this dialog is used to enter the angle of inclination of the object.

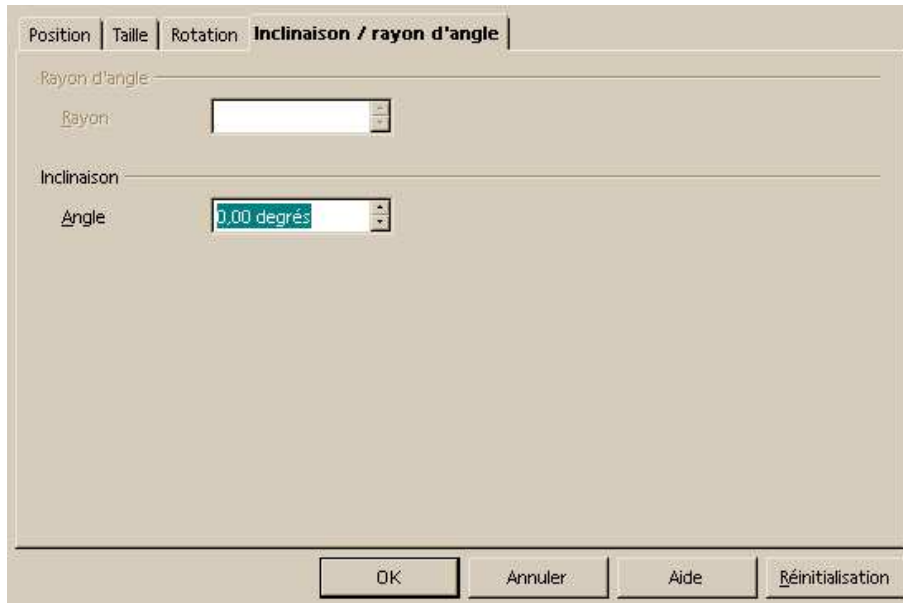



Illustration 87 - Inclinaison Data Entry Dialog

The Stylist

The application of the same style to several different objects can soon turn out to be a fastidious operation with the drawing tools. Fortunately, OpenOffice.org comes to the rescue with the Stylist. This window, as in the Writer module, lets you define particular styles and apply them in a single operation to several objects simultaneously. Some of the Stylist functions that relate to the use of the presentation module Impress will not be described here.

You can enable/disable the Stylist with the  button on the main toolbar. The Stylist window appears. This window, which can be anchored like the other toolbar windows in OpenOffice.org (pressing the [Ctrl] key while clicking on the title bar of the window and then dragging the window) has the following appearance :

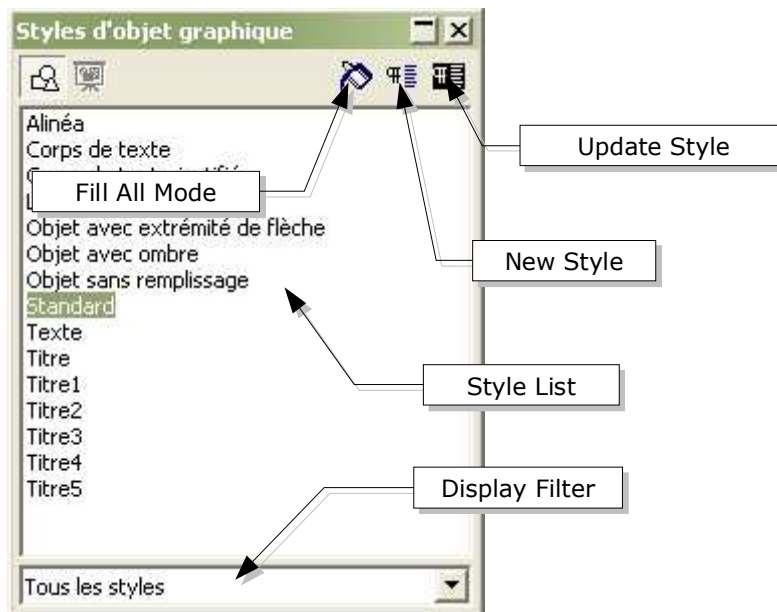


Illustration 88 - Stylist Window

Applying a Style

In order to apply an existing style to one or more objects, all you have to do is select them and double-click on the required style. You can also use the 'Fill All Mode'. When this button is pressed, the mouse cursor changes into a paint can, and then just select all of the objects to which you want to apply the current style.

In the following example, we have a particular style comprising a shadow, a thick blue border, and brick motif bitmap fill.



Illustration 89 - Using the Stylist


If you first press the paint can button, just click on the circle to see all the extra style attributes applied immediately :



Illustration 90 - Applying a style

Changing a Style

All of the objects memorize the style that has been applied to them. If you modify the basic style, all of the objects that are associated with this style will be modified as well. In order to change a style, there are several methods available :

- You can directly change the style of an object by applying the various techniques that have been described earlier on in this document. All you have to do after that is to click on the 'Update Style'  button.
- You can also change a style directly in the Stylist. Just click on the style to change with the right mouse button and choose 'Modify'.

The following example shows you how to carry out the first method :

Let's take the situation shown in Illustration 90 where the circle is already selected.

We'll change the bitmap fill style of the circle in the drop-down menu of the edit object toolbar.



Illustration 91 - Changing the bitmap fill

2



You can see that the new fill is immediately applied to the circle. The rectangle hasn't been touched.

Illustration 92 - Modified Circle
Bitmap Fill

3



Now click on the 'Update Style' button.

Illustration 93 - Updating the style

4




Now, you can see that the new style has been applied to the rectangle as well.

Illustration 94 - Automatic Style
Application to the Rectangle

Creating a New Style

There are two ways of creating a new style :

- Click on the right mouse button in the Stylist and choose 'New' in the menu that is displayed. Enter all of the style options in the dialog box, name the style and click on 'Ok'. The new style will appear in the list.
- You can also use the method known as 'copying by example', by creating a new style from the properties of an object. Choose an object from which you want to create a style then click on the button 'New style from selection'  in the Stylist. A dialog will ask you to enter the new style name that will appear in the list afterwards.

Special Transformations

In the toolbar, the rotation button gives you access to a sub-menu of functions grouped under the heading 'Effects'. Each button is associated with set of special transformation functions. The submenu window looks like this :

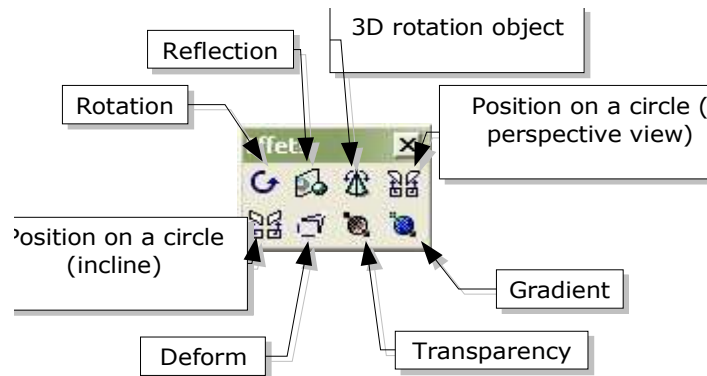


Illustration 95 - Effects Submenu

Rotation

We have already discussed this function on page 20.

Reflection

This function lets you reflect an object with respect to a given axis that you can define precisely. Here's an example in 5 steps explaining how this tool works :

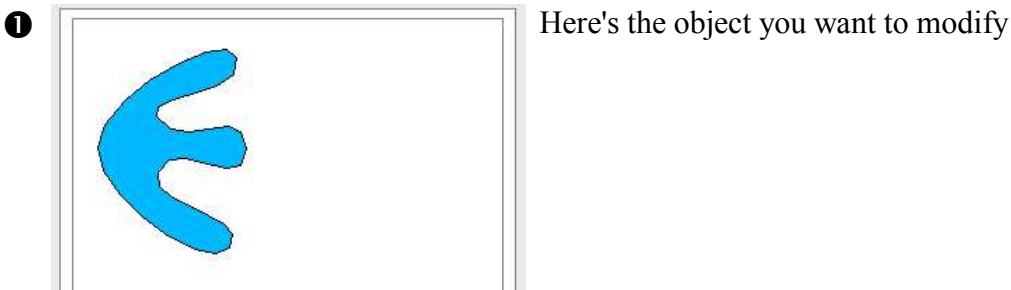


Illustration 96 - Example of reflection

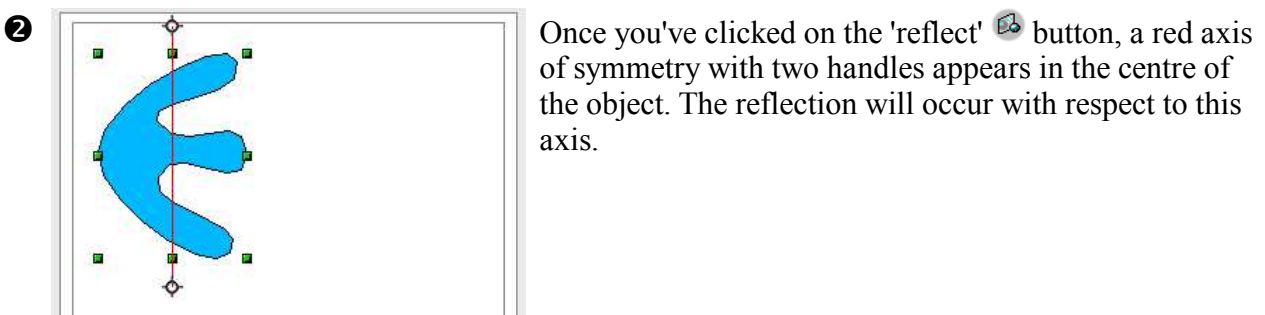


Illustration 97 - Axis of symmetry

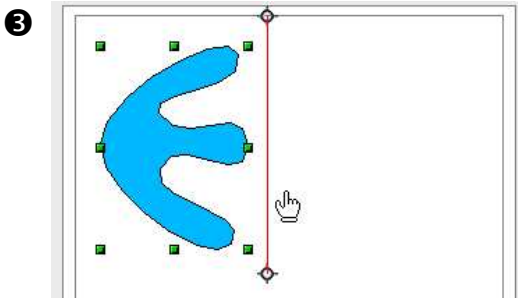


Illustration 98 - Moving the axis

The axis of symmetry can be moved by dragging it with the mouse. You can also change its angle by pulling on one of the handles.

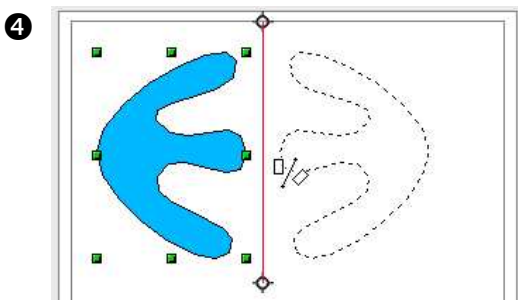


Illustration 99 - The reflection operation

The axis of symmetry being where you want it, you can proceed to next step. Just click on one of the handles of the object, and keeping the mouse button pressed, drag it onto the red axis. A mirror image is projected onto the other side of the axis as a dotted outline.

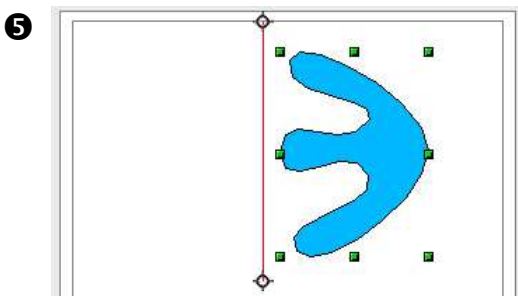


Illustration 100 - Result of the reflection

Now, just let go of the mouse button and the reflection transformation is complete.

3D Rotation Objects

This function lets us enter the world of three dimensional objects, something we'll look at in more detail on page . With this tool you can get a 3D object by rotating a profil that you've drawn about an axis of rotation. It's useful for drawing common objects found in daily life, such as vases, glasses or bottles. Here are some examples of 3D drawings obtained from simple profiles :

The profile can be open or closed. The way this tool works is similar to that used fo reflection. An axis is positioned around which the rotation occurs. Here's an illustration of the way it works :

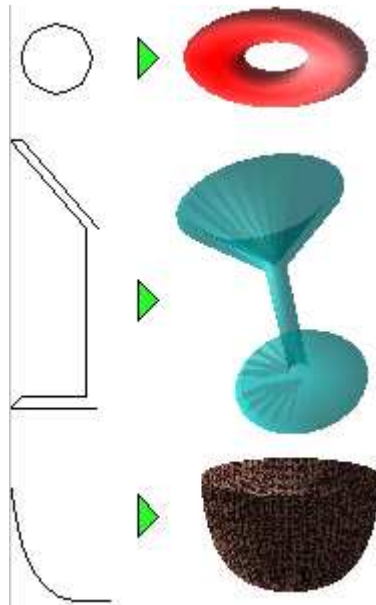
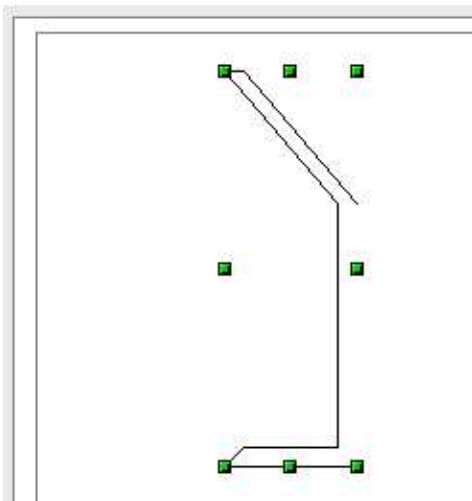


Illustration 101 - Examples of 3D rotation objects

1



Here's the start profile. It was made with the polygon drawing tool.

Illustration 102 - Base drawing for creating a 3D rotation object

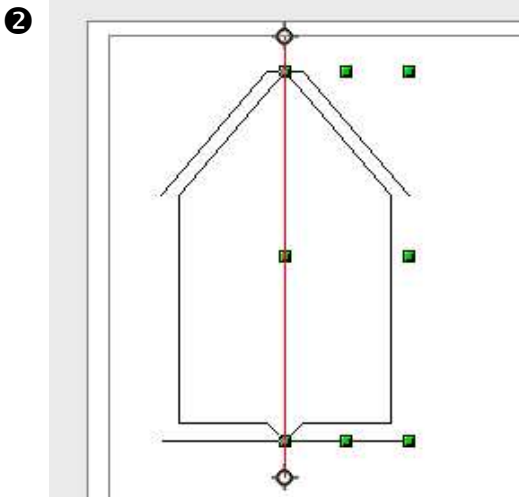



Illustration 103 - Initial axis of rotation

When you click on the button , a red axis with a handle at each end shows up at the edge of the profile.

The resulting profile is displayed on the other side of the axis to give you an idea of the result.

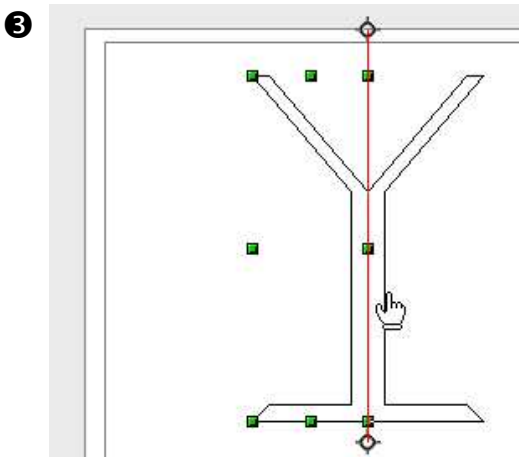


Illustration 104 - Moving the axis of symmetry

So that the resulting drawing looks like a glass, you need to move the axis of rotation by dragging it to the other side of the profile. The resulting form is drawn around the axis of symmetry.

You can incline the axis by moving the handles located at the ends.

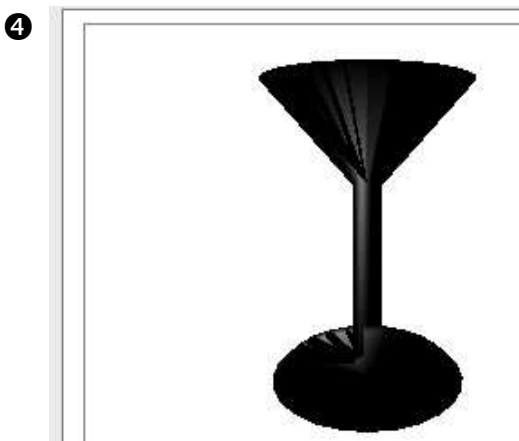


Illustration 105 - 3D rotation object rendering

To see the end result, click on the 2D object that you've created.

5



In order to make the object more visible, a blue transparency has been applied.

Illustration 106 - Application of transparent colour to a 3D object

Distort

This tool lets you distort an object by freely moving the handles located at the edges of its selection rectangle. A rectangle can for example be easily transformed into the following shape :

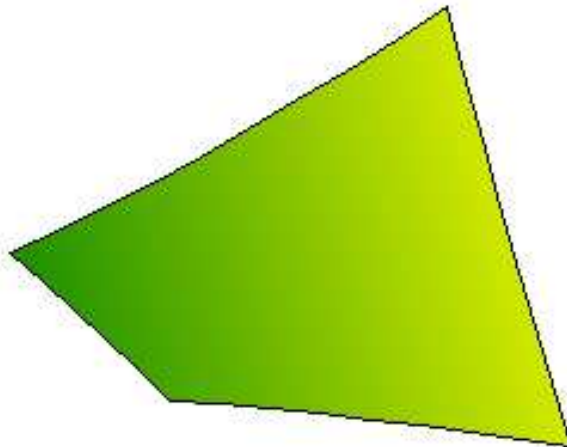



Illustration 107 - Result of distorting a rectangle

The principle behind distortion is very simple : by moving the selection handles located at the corners of the rectangle, you can stretch the object as you wish. If you move the handles located on the edges, you can slant or incline the object.

NB : When you choose to distort an object with this function, OpenOffice.org will ask you first of all to transform the object into a curve (as for the point edit mode). This transformation is irreversible.

Dynamic Transparency Definition

On page 35 we saw how Draw has a set of powerful functions for defining the transparency of an object. The transparency dialog box lets you adjust all of the parameters linked to this, but it's not always easy to see what your changes will look like before you've saved them.

The dynamic transparency definition function lets you attenuate this small inconvenience. It is very easy to use. When you click on the  button, an arrow appears on the selected object.

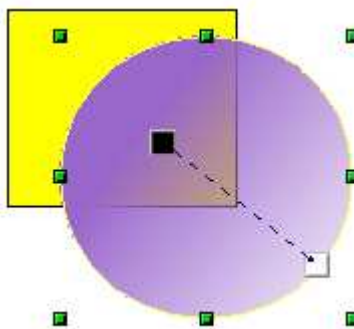



Illustration 108 - Dynamically changing transparency

By moving the two squares at each end, you dynamically change the transparency of the object. The black square lets you choose the opaque side and the white square the transparent side. You can click on one of the boxes in the colour palette to change the colour of the object (and thereby the colour of the opaque side). Click outside of the object to apply the transparency changes.

NB : The changes that you can carry out on the arrow will depend on the type of transparency that you've chosen. For example, with axial transparency, the square located at the centre of the object can not be moved, and you'll only be able to carry out operations on the other square. In a transparent square, the arrow can be moved as you wish.

Dynamic Definition of Transparency

This tool works just like the tool for managing transparency. It is only activated if the selected object is filled with a gradient. Clicking on the gradient button  will display an arrow on the selected object as follows :

The two ends of the arrow correspond to the start and end colours of the gradient. You can change the colours of the two squares by clicking on a box in the colour palette and dragging it on the required square. The squares and the arrow can be moved freely. The movements of the squares show up immediately on the gradient of the selected object. Click outside of the object to apply the changes to the gradient.

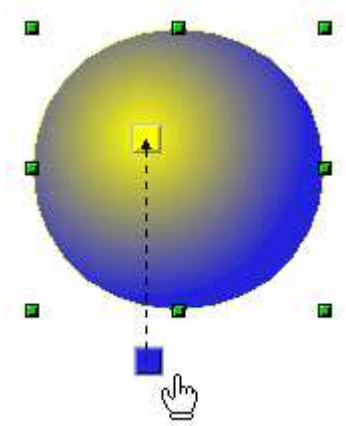


Illustration 109 - Dynamic definition of a gradient

NB: The changes that you can carry out on the arrow will depend on the type of gradient that you've chosen. For example, for a linear gradient, the start and end squares of the gradient will always be either side of the centre point of the object.

8. The Various Basic Drawing Shapes

This section will give you an complete overview of the various basic objects that you can draw in the Draw module. These objects can then be edited, combined etc... to create more complex shapes.

In the preceding pages, we have already seen how to use some of these basic drawing shapes.

All of the tool palettes described here can be displayed from the instrument toolbar.

The texts

The text mode palette looks like this :

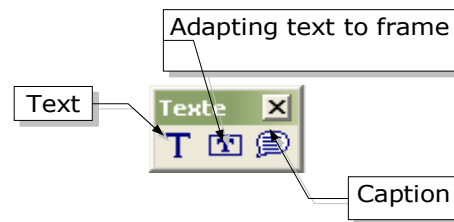


Illustration 110 - Text mode tools palette

T This tool lets you write texts in the default font, colour and size defined in the text mode object toolbar.


If you click on an empty space in the workspace, the text will be written at that spot. If you click on an object, the text will be written in the centre of the object and will remain within the object, the border of which will become the text's frame.

When you've finished typing your text, click inside the frame with the mouse. If you wish, you can drop to the following line by pressing the [Enter] key. You will note that the text can be edited at all times, you just have to click on it with the mouse.

When you type your text, you will notice that the upper ruler includes the usual paragraph attributes : indents, first line, tab stops.

You can, as in Writer, change the style of all or part of the characters you enter. It is interesting to note that the Stylist also works here, which lets you create styles that you can use again in other text frames exactly as you would with Writer

The text frames can also be manipulated just like any other draw objects. You can assign them fill colours, shadows etc... Of course, you can also swivel the frame around and have the text written at any angle.

-  This tool also lets you type in text, but you can also change the size of the resulting text by manipulating the object's selection handles.

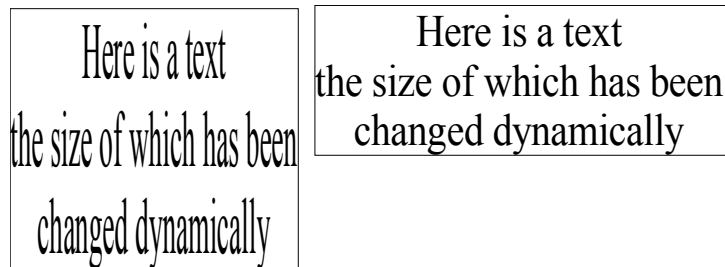


Illustration 111 - Example of modified texts

In the example above, the same text has been duplicated, but the selection rectangle has been changed. In order to make the effect clearer, I've displayed the border of the rectangle.


Here again, the text can always be modified.

By combining the available functions, you can obtain a variety of effects :



Illustration 112 - Example of distortion

All of the texts made with these tools are modifiable with the Fontwork tool, which is a powerful tool for distorting texts. Check out page 111 for more information.

-  The last button in the palette is used for creating captions. In fact it's a tool that puts a frame around text and provides a connector (an articulated arrow). This tool has been used many times for the captions in this manual. For example, the description of the palettes of the various basic shapes was made with a caption.

Rectangles and Squares

This toolbar palette has 8 tools :

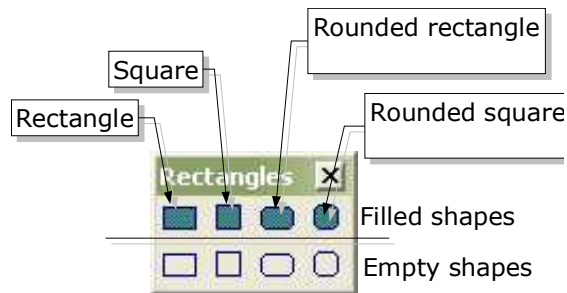


Illustration 113 - Rectangle and Square Toolbar Palette



These buttons let you draw filled or empty rectangles.



These buttons let you draw filled or empty squares.

NB : If you hold the [Shift] key down when drawing the rectangle, you will also get a square.



These buttons let you draw rounded rectangles.

NB : We've already seen how to change an orthogonal rectangle into a rounded rectangle and vice-versa.



These buttons let you draw rounded squares. These squares will be filled or empty.

Circles, ellipses and arcs

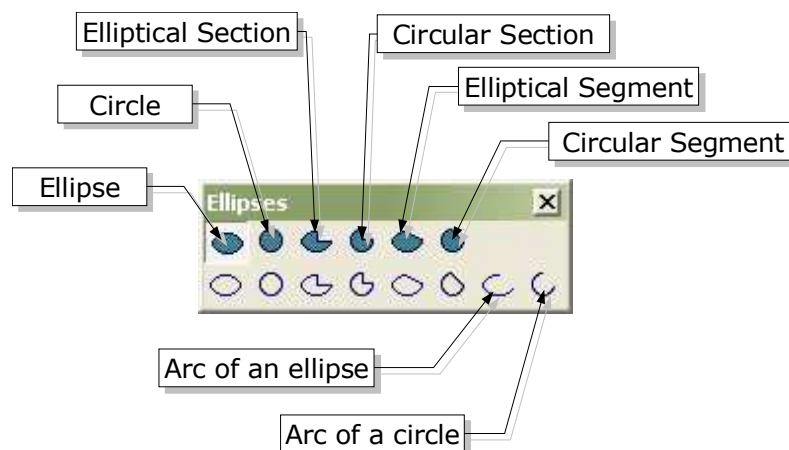








Illustration 114 - Ellipse, circles and arc toolbar palette

  These two tools let you draw empty or filled ellipses.

  These two buttons let you draw empty or filled circles.

NB : Draw an ellipse and holding down the [Shift] key at the same time lets you draw a circle.

  Using these two buttons, you can draw an elliptical sector. The to do this is as follows :

First draw the ellipse. Then indicate on the ellipse with the mouse the position of the first segment and then repeat this for the second segment. OpenOffice.org displays during this operation a silhouette of the elliptical sector that's being drawn :

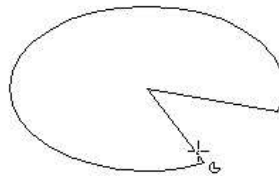






Illustration 115 - Elliptical sector being drawn

You will note the particular shape of the mouse cursor when drawing the elliptical sector.

NB : We've already seen how you can reposition the segments in the 'edit points' mode (cf page 21).

  These two tools let you draw circular sectors. The way to draw them is similar to that for elliptical sectors.

  You can also draw elliptical segments. An elliptical segment is an ellipse that has been cut into two along a straight line segment. The idea behind it is simple : first draw the ellipse, then place the first and second segment points. During this operation, OpenOffice.org will display a segment in progress :

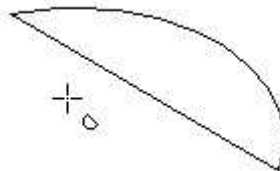




Illustration 116 - Drawing an elliptical segment

You will note the particular shape of the mouse cursor.

As we've already mentioned (page 21), the segment can be changed by moving the control points in edit point mode.

 These two buttons let you draw circular segments.

 This button lets you draw an elliptical arc. This works in a similar way to elliptical sectors, except that the resulting figure isn't closed.

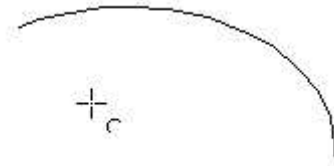



Illustration 117 - Drawing an elliptical arc

Here again, you will note the shape of the mouse cursor. Just like with sectors and segments, arcs can be changed at any time.

 The last tool in the ellipse palette lets you draw circular arcs.

3D Objects

Draw lets you draw three dimensional objects. These objects will be considered in more depth in chapter (page). The 3D object palette offers the user a choice of 8 basic primitives that can be used to create more complex objects through merging or combination.

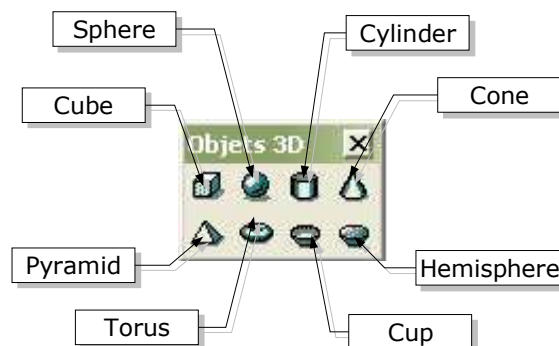


Illustration 118 - 3D Palette Objects

The creation of a 3D object always works in the same way : click on the associated button and then draw a rectangle on the work area corresponding to the foreground area of the object to be drawn. A cube silhouette containing the future object is displayed.

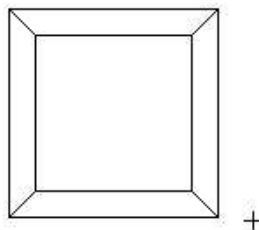


Illustration 119 - Tracé d'un objet 3D



This tool creates a cube.

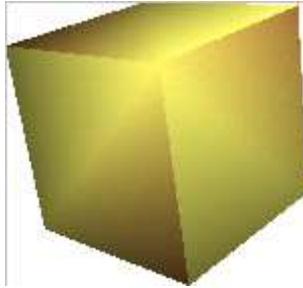


Illustration 120 - Cube

More generally, this tool can be used to create 3D parallelepipeds. If you want to draw a cube, press down the Ctrl key [Ctrl] whilst drawing your shape.



This tool lets you draw a sphere.

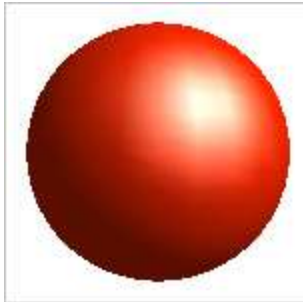


Illustration 121 - Sphere

In reality, the object drawn by default with this tool is an ellipsoid. To obtain a sphere, just press the Ctrl key down while drawing.



Pressing this button and drawing will give you a cylinder.

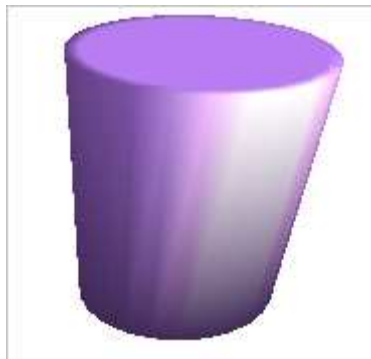


Illustration 122 - 3D Cylinder


 This tool lets you draw a cone.



Illustration 123 - Cône 3D


 This one a pyramid.



Illustration 124 - Pyramid


 This one lets you draw a torus (a ring).



Illustration 125 - Tore


 And this one a cup shape, i.e. a hollowed out hemisphere.



Illustration 126 - Cup



This buttons lets you draw a complete hemisphere, i.e. filled.



Illustration 127 - Hemisphere

Curves

The curve palette offers eight tools for drawing non-linear profiles.

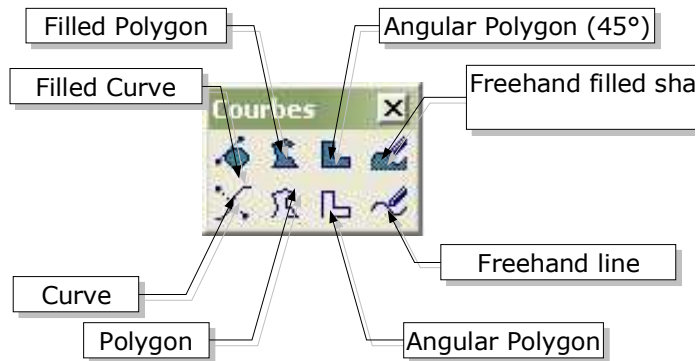


Illustration 128 - Curve Palette



These icons represent the basic tools for drawing curves. The resulting curve can be manipulated by Bezier curves as we have seen previously. The principle behind the tools is as follows :

Click on the drawing area to position the first point. Keeping the mouse button pressed down, move the mouse to draw the tangent to the curve that passes through the start point. Let go of the mouse button and move the mouse to draw the curve.

To finish the shape, double-click on the left mouse button.

1

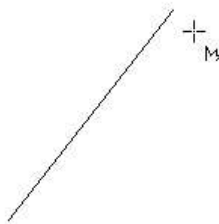


Illustration 129 -
Drawing the initial
segment

2



Illustration 130 -
Drawing the
curve

3

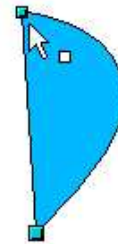


Illustration 131 - Final
Result

This operation can be repeated immediately starting from the newly created end point.

The shape you have created will be filled or empty depending on the button you pressed. Where the shape is filled, a segment will be drawn from the start point to the end point.

The object that results from the above can be manipulated like any other, but you can also play with the tangents of the object in 'edit points' mode.



This function lets you create polygons. A polygon is a series of straight segments.

The way it works is fairly simple : just click on the workspace to set the first point, move the mouse to the next position where you want to set a second point and click, and a segment will be drawn between the two. The polygon is drawn by repeating this procedure until all of the points have been drawn. When you have finished, double click on the mouse to release the polygon from edit mode. If you chose to create a closed shape, a segment will link the start point to the end of the last segment that you have drawn.



This tool is similar to the previous one, but various segments will all have angles that are a multiple of 45° in relation to a horizontal axis. The shape drawn will be open or closed depending on the button chosen.



When you click on these buttons, you can draw a freehand line. The principle behind this is as follows : just move the mouse and at the same time hold down the left mouse button. The movement of the mouse as shown on screen will become the curve that is drawn. OpenOffice.org actually draws a curve composed of several control points. You can check this by switching into edit point mode. Here again, depending on the icon chosen, you can draw a closed or open freehand curve.

NB : If you want the final curve to be a nice one, the trick is to move the mouse only slowly.

Lines and Arrows

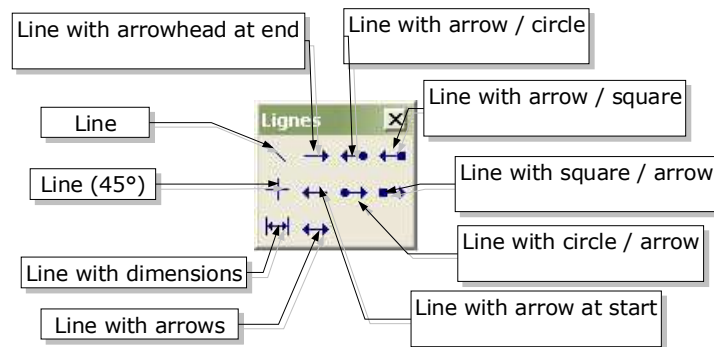
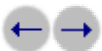


Illustration 132 - Line and Arrow Palette



This button corresponds to the simplest of drawin shapes, a straight line segment.



The line drawn will begin or end with an arrow.



The two ends of the segment are made up of a circle at one end and an arrow at the other.



The two ends of the segment will be made up of square at one end and an arrow at the other.



The segments drawn will have an angle that is a multiple of 45° to the horizontal axis. You can get the same effect by pressing the Ctrl key when you draw your line.



This button lets you display the dimensions of the object being drawn. A dimension object includes a double headed arrow, two segments that indicate the extremities of the measured zone and a measure in the current unit of measure. Dimensions let you draw plans to scale for example, with the units being shown automatically :

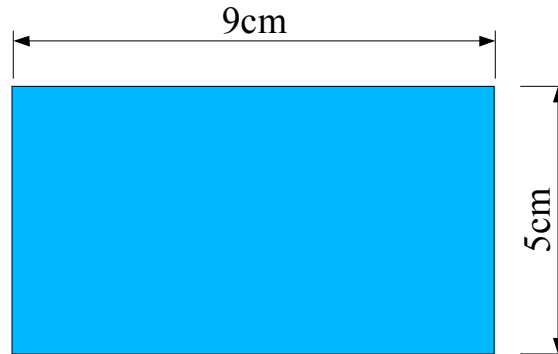


Illustration 133 - Basic example of dimensions

If a dimensioned object is resized, the corresponding change in size is recalculated automatically and displayed. If you group an object with dimensions, any change in the size of the object will be reflected in the sizes reported in the dimensions. In such a case, we call them associated dimensions. The dimensions can be configured via a dialog box that is available via the local dimensions menu.

The dimensions are shown as default in the unit of measurement corresponding to that of the sheet, and that you can change via the menu Tools / Options / Drawing / General.

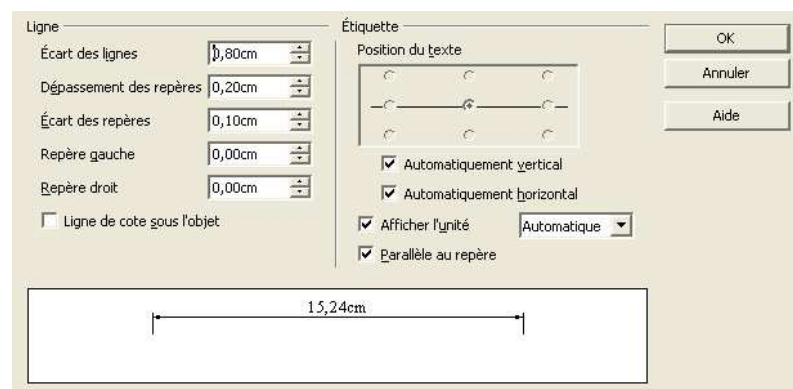


Illustration 134 - Dimensioning Options Dialog

The Dimensioning Options Dialog lets you set up the positions of the elements that go to make up the dimension. You can enter line thicknesses, distance and overhang to the guide marks, text position and also change the unit of measurement displayed (or even not to display the unit of measurement).

You can also set the line type and text attributes using the classical available functions already discussed.



With this tool; you can draw a segment bearing arrows at each end.

Connectors

Connectors are a particular type of curve, the ends of which are attached to gluepoints on other

objects, and which stick to these gluepoints when the associated object is moved. They are particularly useful for making organisational charts. You can reorganise the blocks of your chart whilst keeping the links between them.

OpenOffice Draw has a whole panoply of functions that are really quite remarkable as far as connectors are concerned. Finding the various functions is not at first sight very easy, but we shall look at the ways of making them visible.

Connector Drawing Basics

The principle behind drawing a connector is as follows : all objects have gluepoints associated with them (that are invisible by default). The connectors you can draw position themselves automatically onto the gluepoints of the object. Draw sets the default number of gluepoints for an object to 4. We will see later how you can change the position of the gluepoints and add new ones.

The default gluepoints are located at the centers of the lines forming the edges of the selection rectangle around an object. As you can see on the following figure, this means that the gluepoints are not necessarily located on the contour of the object:

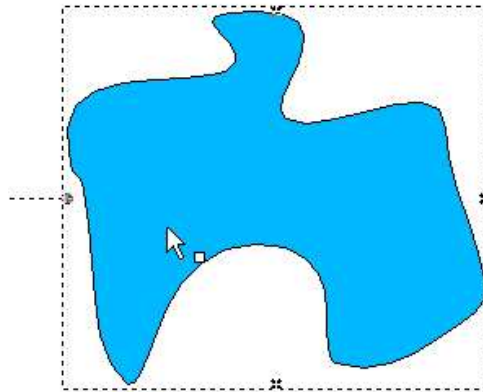


Illustration 135 - Glue points of an object

When you move one of the ends of a connector over an object, its gluepoints become visible. You can drop the end of the connector onto one of the gluepoints. Afterwards, whenever either the connector or the object are moved, the end of the connector will remain attached to the object gluepoint.

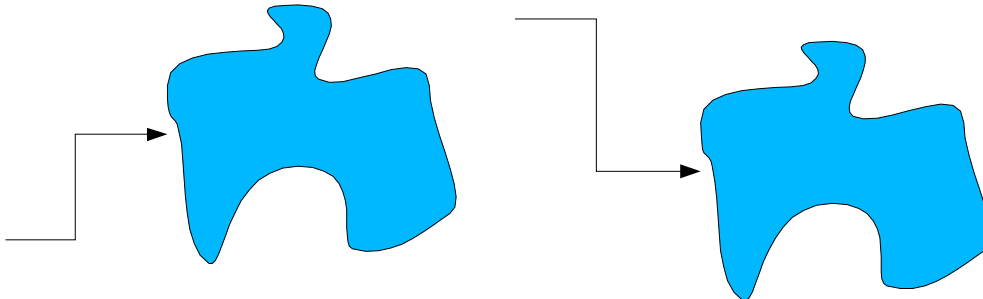


Illustration 136 - Result of moving an object with a connector

You can also drop the end of the connector onto the object. In this case, when you move the object or the connector, OpenOffice will automatically choose the best gluepoint in order to avoid a too lengthy connector:

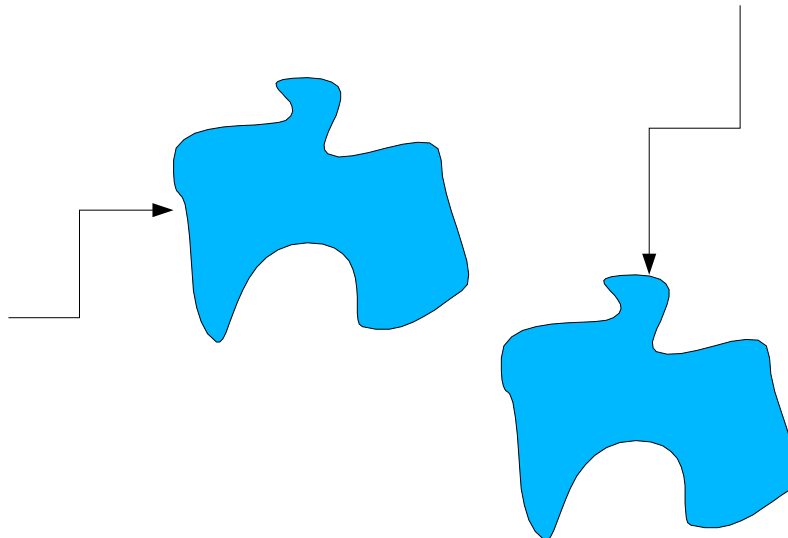


Illustration 137 - Automatic adaptation of the gluepoint

Wherever possible, OpenOffice will attempt to avoid drawing the connector over the top of the object.

You can always break the link between a connector and an object by moving the end of the connector away from the gluepoint to which it was attached.

As with all objects, control points are associated with connectors in order to facilitate their drawing. The main control point is located in the middle of the connector and lets you decide on the size of each segment either side of the control point.

Connector Tool Bar

The connector tool bar contains a large number of buttons.

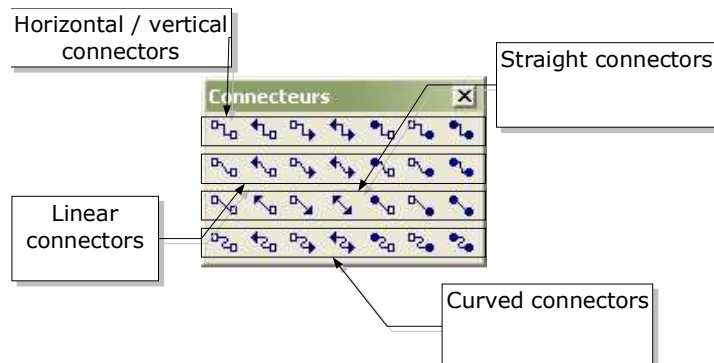


Illustration 138 - Connector Toolbar

As shown by the screenshot above, the connectors can be grouped into four categories; each category being subdivided into 7 types of connector depending on the arrowhead for each end.



The buttons in this row let you draw traditional connectors like the ones you have seen on the previous pages.




These connectors are made up of a line segment and two smaller segments at the horizontal or vertical ends.

These connectors are comprised of a simple straight line.

These connectors are based on Bezier curves.

Editing Glue Points

Gluepoint management is handled by a special toolbar. This toolbar isn't visible by default. In order to get it to display, you need to press the  button in the option toolbar (Cf page).

The gluepoint toolbar looks like this :

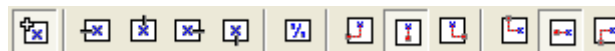


Illustration 139 - Gluepoint editing toolbar

Here's a brief description of the way these buttons work :



This button lets you insert a new gluepoint. If the object is filled, the point can be inserted anywhere within the object and not only on its contour. After you've chosen this tool, click on the object to add the gluepoints.

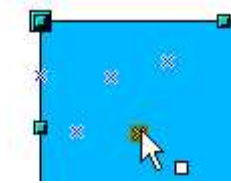


Illustration 140 -
Example of gluepoints

The gluepoints remain visible for as long as the button is pressed down. They are displayed as little blue crosses and the gluepoint that is currently selected appears highlighted. You can move the gluepoints with the mouse and delete them with the [Del] key.



These four buttons let you choose the directions of movement that are allowed around the junction of a connector gluepoint. You can also select several of these buttons for any given gluepoint. Here's a concrete example of their use :



Here's a very simple drawing to which a gluepoint has been added.

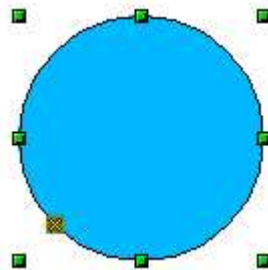



Illustration 141 - Adding a
gluepoint

By default, connector lines can attach themselves to this point from any direction.

Now click on the . The effect of this is to force any connector placed on the gluepoint to come in from the left as shown in the following drawing :

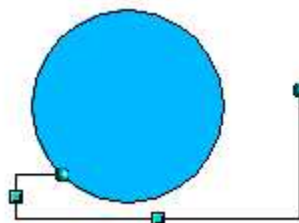



Illustration 142 - Directional
management of connectors

If, when you are in gluepoint edit mode, you click on the  button, you can add a new possible direction to a gluepoint. If we keep the preceding example, this would give :

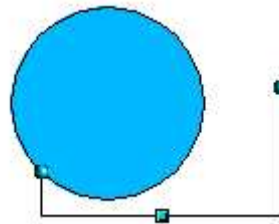


Illustration 143 - Changing connector directions

The addition of this extra direction enabled OpenOffice.org to draw a shorter connector.



When this button is pressed (as it is by default), any resizing of an object will cause the associated gluepoints to move with the associated object. If this button is deactivated, the gluepoint will not move, as shown by the following illustrations :

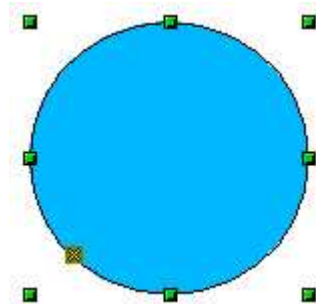


Illustration 144 - Resizing an object with associated gluepoints

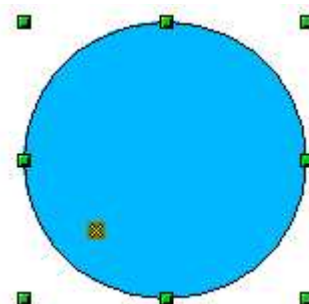


Illustration 145 - Resizing an object without gluepoint association

When the button is deactivated, the last six buttons on the toolbar that were greyed out become usable. These buttons let you choose how the glue points will be rearranged when the object is redimensioned.



These three buttons let you choose the horizontal positioning of the gluepoint. In this way, you can choose to maintain the same position with respect to the left edge (1st button), with respect to the center (2nd button) or with respect to the right edge (3rd button).



These three buttons let you choose the vertical positioning of the gluepoint. In this way, you can choose to maintain the same position with respect to the upper edge (1st button), with respect to the center (2nd button) or with respect to the lower edge (3rd button).



9. Grouping and Combining Objects

Draw contains a number of mechanisms that let you combine several objects together so that changes can be carried out to the group, or to create new objects.

Grouping lets you combine objects to carry out global changes to them. A group can always be undone and the objects that make up the group can always be manipulated separately.

A combination is a fusion of objects leading to a new object. The initial objects are no longer available as individual entities and the operation is therefore irreversible (unless you use the Edit/Undo function of course).

Whatever you decide to do, several objects need to be selected for these functions to work. Just a quick reminder on how to select multiple objects : click on each object whilst holding down the Shift key or draw a rectangle around the objects that you wish to include in the selection. Look at the preceding section on selection for further information.

Grouping Functions

Group by common selection

When several objects are selected, the various operations carried out are applied to all of the objects. For example, you can rotate a group of objects in its entirety. Groups obtained through common selection of several objects are undone as soon as you click outside of the group. However, there is also a way to group objects and keep those selected objects grouped together.

Maintaining Groups and Group Dissociation

In order to group selected objects, you can use the context menu of the objects and choose the option 'Group':



Illustration 146 - Context menu for managing groups

You can also use the keyboard shortcut [Control] + [Shift] + [G]. It is also possible to go via the main menu 'Modify / Group'.

As soon as objects are grouped, all of the editing operations carried out on that group are applied to all members of the group. If you click on one of the members of the group, the whole of the group will be selected. This method is thus safer than direct selection, which is best left to simple drawings.

As indicated at the beginning of the chapter, the objects of a group maintain their individuality and it is possible to undo a group via the context menu ('Ungroup') or using the keyboard shortcut [Alt] + [Control] + [Shift] + [G] or even the main menu 'Modify / Ungroup'.

Editing individual objects in a group

The objects in a group keep all of their properties, and it is always possible to edit each object individually without breaking the group. To do this, you need to use the function 'Enter group' that

is available via the context menu or via the [F3] key. You can also enter a group by double-clicking on it.

Once you have entered this mode, you can click on and edit each object separately.

To leave this mode, use the function 'Exit group' or keyboard shortcut [Control] + [F3]. You can also just simply click anywhere outside of the group.

When you work inside a group, the objects that are not within the group can no longer be selected and appear greyed out.

Here's an example of the use of this function:

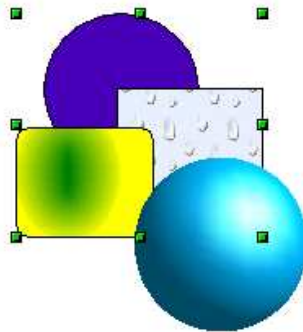


Illustration 147 - Arrangement of objects for a grouping example

The 2D shapes above form part of a group. The 3D sphere is not part of the group. When the group is selected (as above) and you press the [F3] key, you will get the following :

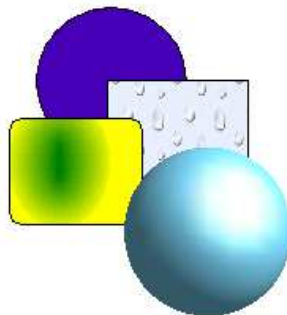


Illustration 148 - Entering the group

The sphere moves out of focus to indicate that it isn't part of the group and that you can't select it. In this mode, you can select any one of the objects in the group and edit it individually:

In the example given, we are going to rotate the straight rectangle. When you press on [Control] + [F3], you will leave the group and the sphere will become available for selection once again :

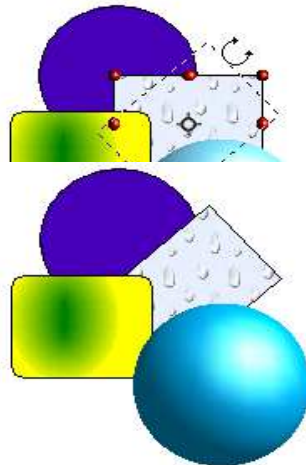


Illustration 150 - Exiting the group

You will notice that you can make groups from other groups. In this case, OpenOffice.org keeps the initial group hierarchy. If you ungroup a group made of other groups, you will be left with individual groups that you can then ungroup further.

Combination functions

Contrary to grouping functions, combinations create a new object. The idea behind this operation is as follows : choose all of the objects that you want to combine:

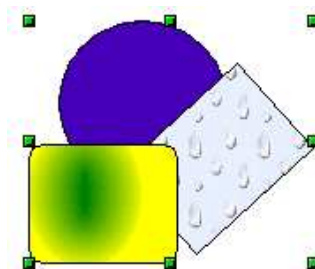


Illustration 151 - Objects to combine

Then use the option 'Combine' from the context menu. The shortcut is [Control] + [Shift] + [K].

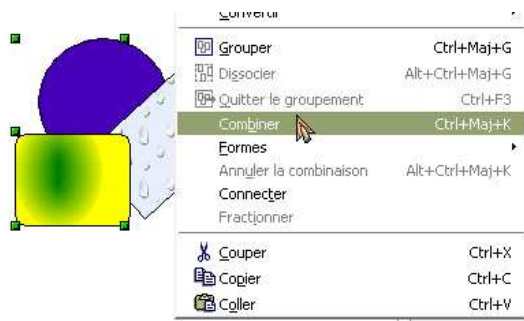


Illustration 152 - Context menu for combining

The end result of the combination is given in the following illustration:

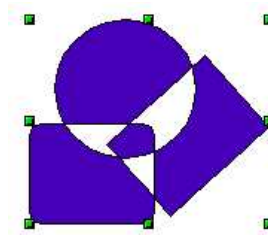


Illustration 153 - Result of combination

At first glance, this can seem rather surprising. Fortunately, once you have understood the rules governing combination in OOO, things will become crystal clear :

- The attribute of the resulting object is the attribute of the object that is the furthest back from the viewer. In our example, it is the circle. The resulting drawing has the same colour, line thickness, etc as the circle.
- The result of the combination is a Bezier curve.
- Where the objects overlap, the overlapping zones will be represented as a filled or empty zone depending on the number of overlaps. When there is an even number of overlaps, you get an empty space (represented by a 'hole') in the drawing. When the overlaps are odd in number, you get a filled area. In our example, we can count the number of superpositions:

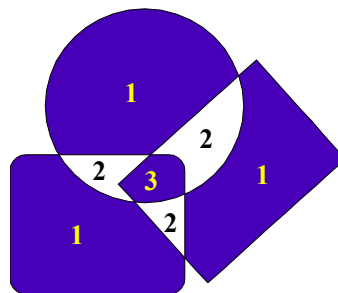


Illustration 154 - Overlap rules

There are other combination techniques available that give different results. They will be described in the following chapter.

Shape Merge Functions

All of these functions can be reached via the group's context menu, under the heading 'Shapes'. There are three possibilities:

Merge

The result of applying this function to the shapes corresponds to the greatest surfaces of the selected objects being merged into one object (also known as a union).

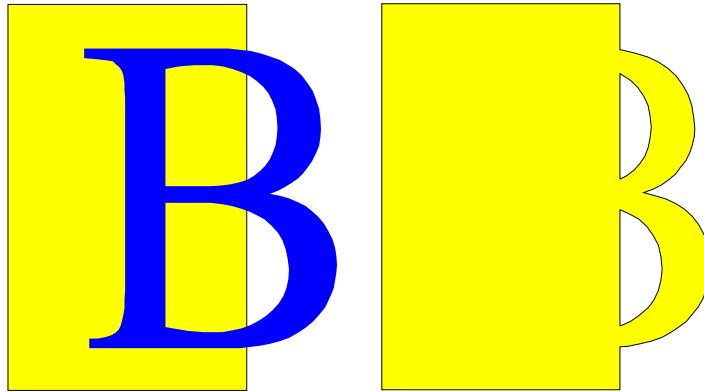


Illustration 155 - Merging shapes

Subtract

Subtraction will take away from the lowermost layered object the area corresponding to the overlap from the uppermost object, and the uppermost object will disappear :

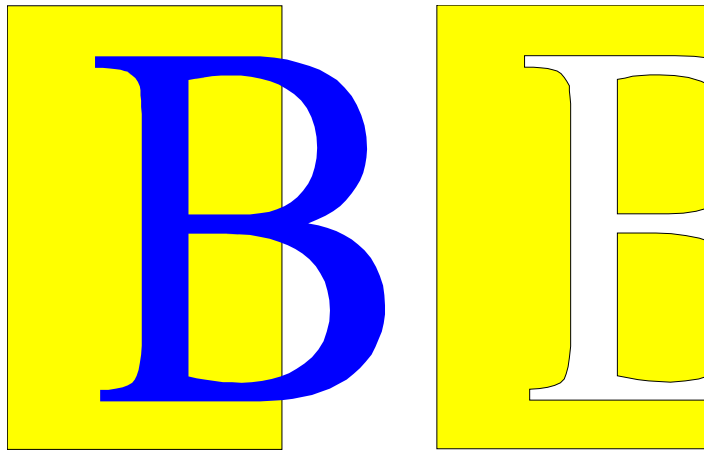


Illustration 156 - Subtracting shapes

Intersect

Intersecting two objects leads to an object that just represents the area of overlap between the two selected objects.

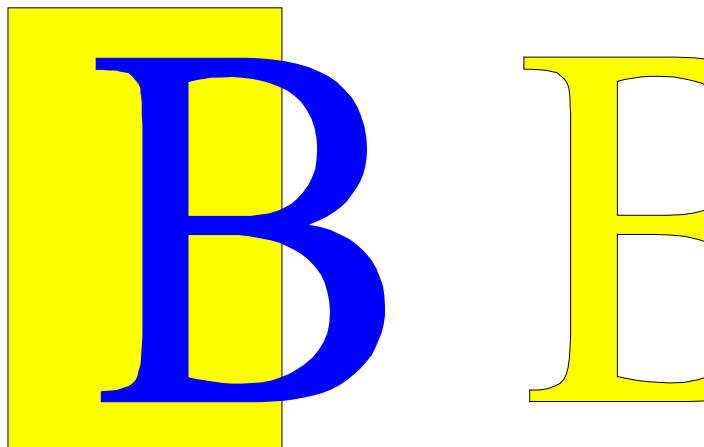




Illustration 157 - Intersecting Shapes

10.Aids for object positioning

The Draw module has various tools that are designed to help in the positioning of objects, in order to change the alignment the relative order of objects. They can be reached via two icons in the lefthand toolbar.

 This button gives you access to the object alignment tool.

 This button gives you access to the object layering tool.

Aligning Objects

The alignment toolbar has six buttons as shown below :

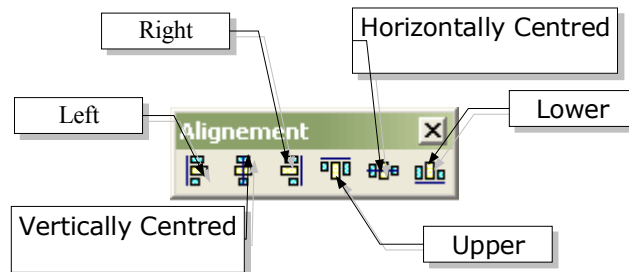


Illustration 158 - Alignment Toolbar

This window can be detached from the main lefthand toolbar and remain visible in the workspace. The buttons become active when objects are selected. The toolbar lets you align any selected objects in a certain way.

In order to show you what can be done, let's start from the following three objects :

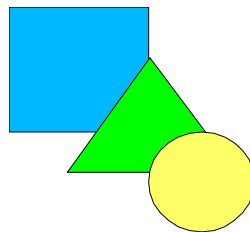


Illustration 159 - Alignment Example

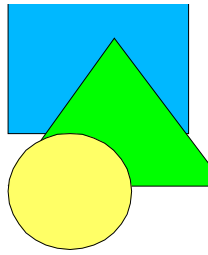


Illustration 160 -
Left alignment

All of the objects are aligned on their left side.

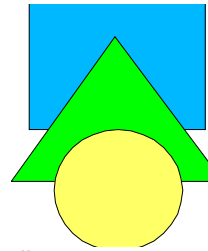


Illustration 161 -
Vertical centering

All of the objects are centred vertically.

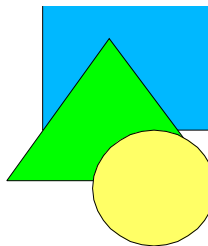


Illustration 162 -
Right alignment

All of the objects are aligned on their right side.

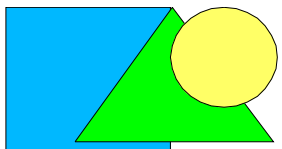


Illustration 163 - Upper
alignment

All of the objects are aligned on their upper side.

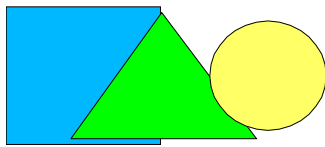


Illustration 164 - Horizontal Centering

All of the objects are horizontally centred.

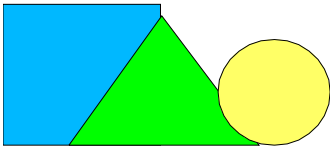


Illustration 165 - Lower alignment

All of the objects are aligned on the lower side.

Distribution of Objects

When several objects are selected, OooDraw provides ways to let you distribute these objects harmoniously, both vertically and horizontally. You can display the object distribution dialog box by choosing 'Distribution' from the context menu of the selected objects (you need at least three objects for this option to show up in the menu). The dialog box is as follows:

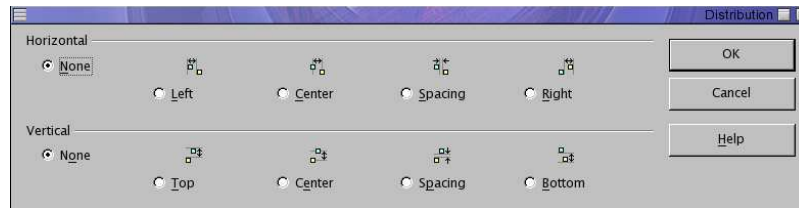
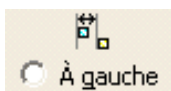


Illustration 166 - Object distribution dialog

The various radio button options let you choose the distribution of the objects independently along a horizontal and vertical axis. The option 'None' additionally enables you to choose to have the objects distributed along one or none of the axes.



The objects are distributed horizontally from their left side.



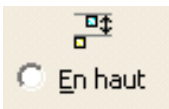
The objects are distributed horizontally from their middle (in reality it is the middle of the selection rectangle around each object).



The objects are distributed by introducing the same horizontal spacing between two objects.



The objects are distributed horizontally from their right side.



The objects are distributed vertically from their upper side.



The objects are distributed vertically from their middle.



The objects are distributed by introducing the same vertical space between them.



The objects are distributed vertically from their lower side.

Managing Object Arrangement

The toolbar for object arrangement is as shown below :

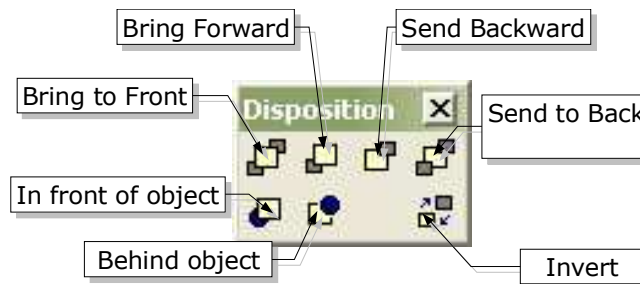


Illustration 167 - Object Arrangement Toolbar

This is a toolbar that can be detached. The toolbar lets you manage the relative superposition of objects. The examples given below should help you understand the principles behind the idea :

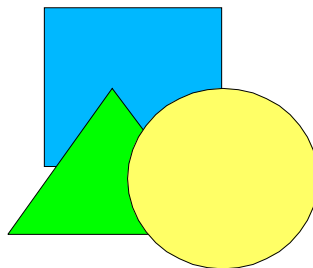


Illustration 168 - Example in Arranging Objects

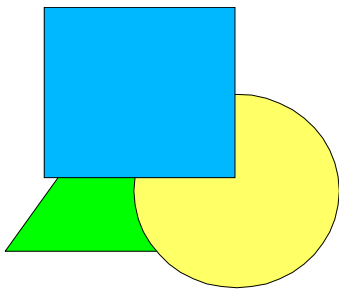


Illustration 169 - Bring to Front

The square was selected.

This button brings the selected object to the top of the pile of objects. As you can see from the drawing opposite, the square is now on top of the pile.

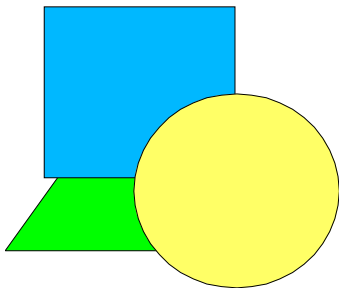


Illustration 170 - Bring Forward

The square was selected.

This button brings the selected object forward one layer. The square has been moved in front of the triangle, but is still behind the circle.

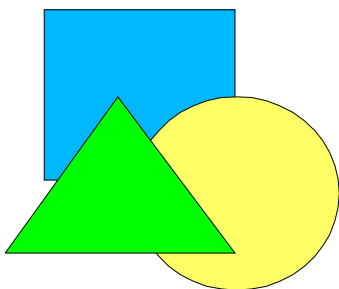


Illustration 171 - Send backward

The circle was selected.

This button lets you move an object back one layer. In the drawing opposite, the circle has been moved behind the triangle, but is still in front of the square.

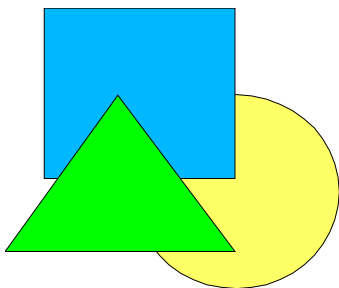


Illustration 172 - Send to back

The circle was selected.

This button will send the selected object to the bottom of the pile. This is what happened to the circle in the drawing opposite.

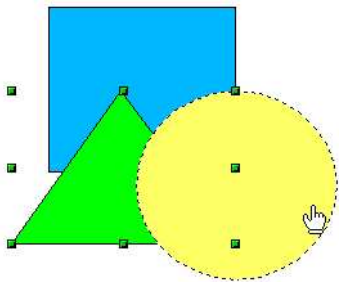


Illustration 173 - In front of object

This button moves one object in front of another chosen object.

The object to be moved is selected first (in this case the triangle).

After having clicked on the button, the mouse cursor turns into a hand to designate the object in front of which the selected object will be placed (in this case the circle).

The result of the arrangement is shown on the left.

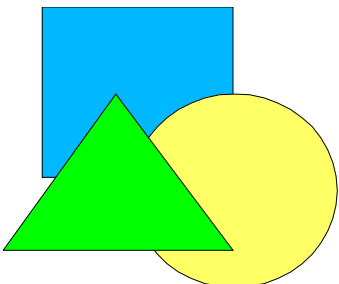


Illustration 174 - Result of the 'in front' arrangement



This button works like the preceding one, but moves the selected object behind the one indicated by the mouse.

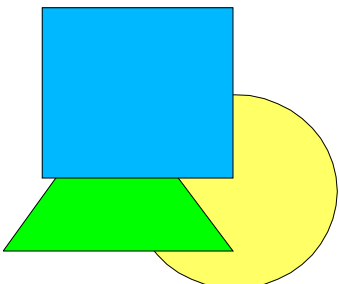


Illustration 175 - Invert arrangement

For this button to work, you need to have at least 2 objects selected. The order of the selected objects is inverted in the pile of objects. In the example opposite, the square and the circle that were selected have had their positions inverted.

11.Drawing Aid Tools

This section is designed to show you the many ways that OooDraw can help you create your drawings more easily.

Choosing Scale and Managing Zoom Values

In order to work with greater precision in certain areas of your drawings, OooDraw has a variety of tools that let you adjust the magnification of the drawing.

Zoom via the status bar

The current zoom value is displayed in the status bar :

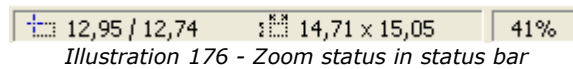


Illustration 176 - Zoom status in status bar

If you double-click on the zoom value, a window is displayed in which you can change the zoom percentage value :

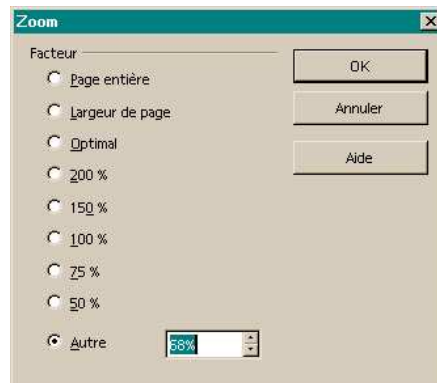



Illustration 177 - Zoom Definition Dialog

You can choose from either one of the preset zoom values, 'Optimal' that sets the zoom to show the objects of your drawing at the maximum useful scale, 'Page Width' that sets the right and left edges of the page to the size of the working area, 'Whole Page' that lets you see the whole page, or you can even enter the zoom value directly into the zone 'Other'.

Zoom Toolbar

A toolbar is present in OOO that deals entirely with zoom functions. It is a detachable window that can be reached via the  button in the main toolbar.

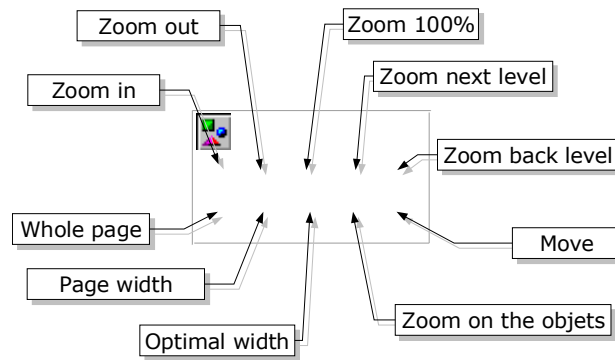











Illustration 178 - Zoom Toolbar


-  This button zooms in by a factor of 2 each time it is clicked. You can also use the [+] key from the number keypad. It is also possible to draw a rectangle around the zone on which you want to zoom.
-  This button zooms out by a factor of 2 each time you click on it. You can also use the [-] key from the number keypad.
-  This button shows the image on the screen at true size, where 1 cm on the screen corresponds to 1 cm on the drawing. In order for this tool to work, your monitor's driver needs to be correctly installed.
-  This button lets you go back to the preceding zoom value.
-  This button takes you to the next zoom level (providing the zoom function has been used at least once before). Both buttons work in the same way as the right and left arrow buttons in the toolbar of most internet browsers.
-  This buttons lets you show the whole page.
-  This button sets the zoom width of the page to that of the work area.
-  This button selects a zoom factor that displays the objects in the work zone in the most optimal way.
-  This button lets you zoom in on selected objects.



This button lets you move the visible work area currently under zoom to another part of the page, much like in PDF viewing software. The mouse cursor turns into a hand and you just drag the hand to the area of the page you want to see.

Managing Layers

OoDraw has a workspace that can optionally comprise a series of layers on which you can draw the different parts of your drawing. The biggest advantage to layers comes from the fact that they can be made to be displayed or hidden at will. This technique is often used in architecture. The basic layer contains the base plan of the building. Then various layers are used to represent piping, electrical circuits, furniture, dimensions etc...

Layer management is handled by a particular mode available in OOoDraw. In order to activate it, you have to go via the menu 'Display/ Layer' or click on the appropriate icon  at the bottom lefthand corner of the workspace :

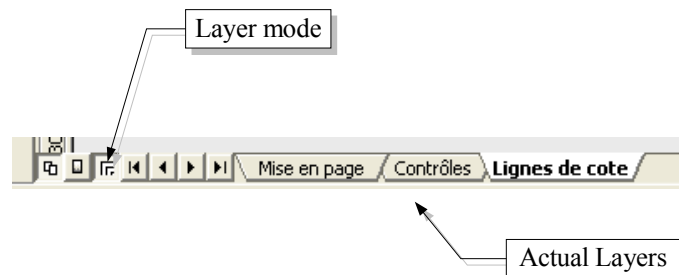


Illustration 179 - Layer mode management

When you switch to layer mode, tabs listing all of the available layers are shown at the bottom of the workspace. By default, the following layers are always present : 'Layout', 'Controls', 'Dimensions'.

You activate a layer by clicking on its tab. The default behaviour for the drawing tools is to place the drawing on the currently selected layer. In the example above, the drawings are placed on a layer entitled 'Dimensions'.

If you right mouse button click on a layer, a menu will appear that lets you insert or delete a layer, rename an existing layer or change it. In the latter event, the following dialog box will be displayed :



Illustration 180 - Layer properties

This dialog lets you specify whether a layer will be visible or not, whether or not it will be printed when the drawing is printed (which is useful when you want to annotate the drawing and don't want them to appear in the printed version, and whether it will be protected.

All of the drawings in any given protected layer are protected against change (movement, resizing etc...).

Placing Objects

The Draw module of OpenOffice.org contains a few functions that are intended to help you with placement of objects on a worksheet, or with respect to each other. The techniques we are going to describe here are known as capture, snapping or placement techniques.

All of the functions are accessible via the Option Toolbar.

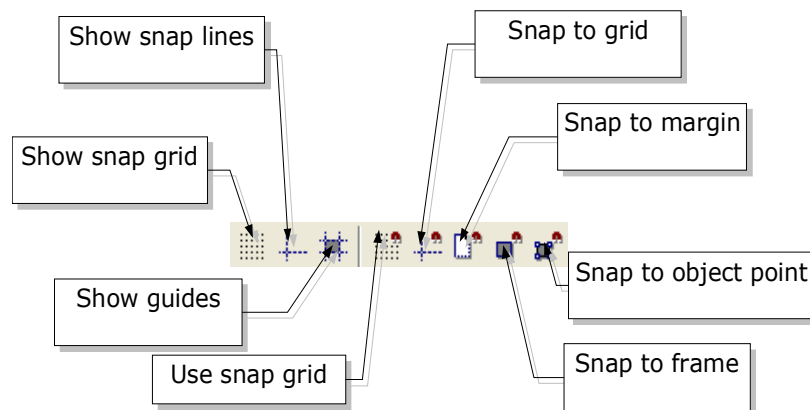




Illustration 181 - Snap tools

The snap tools are divided into 3 groups : the magnetic grid, snap lines and snap points.

The Magnetic Grid

One way of snapping objects into position is via the magnetic grid. This tool comprises a grid of points to which objects can be snapped. In order to use the grid, you need to press the  button in the options toolbar, that will then display the grid, and then you click on the  button to activate it. The work area will then be filled with a set of dots :

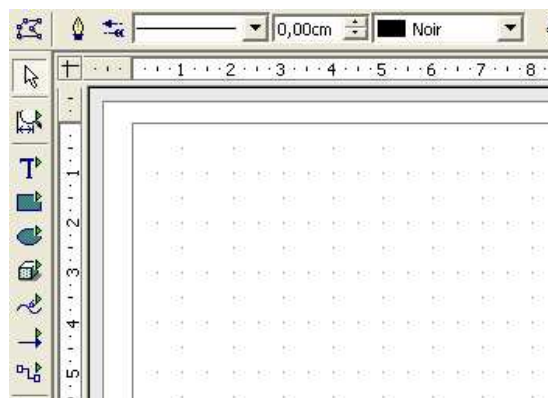


Illustration 182 - Displaying the Magnetic Grid

When the grid is active, drawing shapes can be done easily by using the dots to guide you :

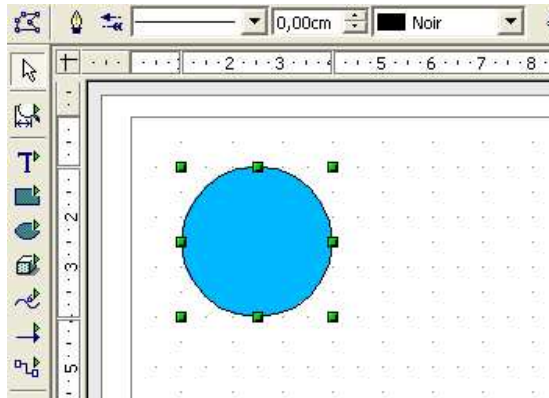


Illustration 183 - Drawing an object using the grid

In the following example, the object handles are positioned exactly on the dots in the grid. The spacing between the dots can be defined in the Options menu dialog.

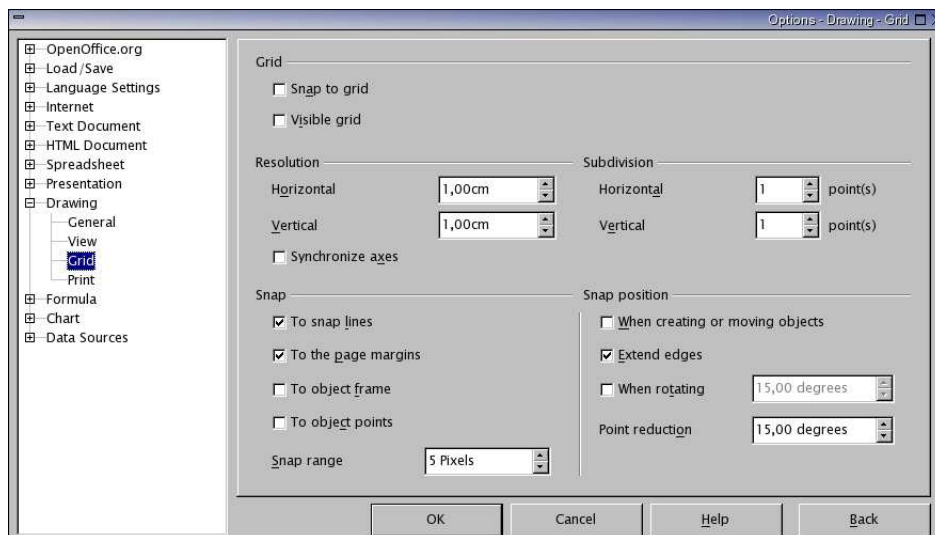




Illustration 184 - Grid Options Dialog

With this dialog box, you can set the following parameters :

- Vertical and horizontal spacing of the dots in the grid. The default values are given in the unit of measurement actually being used, but you can also change that.
- The resolution that corresponds to the number of subdivisions
- The pixel size of the snap area. When the mouse cursor is closer to a dot or snap line than the number of pixels given here, the object will snap to it.

Capture Lines

Snap lines are horizontal or vertical lines to which you can snap objects.

In order to see the snap lines, you have to select the  button in the options toolbar, and the  button lets you activate them.

Dynamic insertion of a capture line

You can add a snap line by sliding the mouse cursor from the vertical ruler (for vertical snap lines) or from the horizontal ruler (for horizontal snap lines) into the workspace.

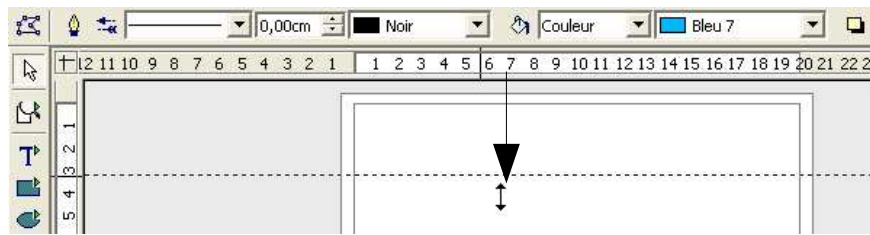


Illustration 185 - Inserting a capture line

In the example above, a horizontal snap line was made by sliding the mouse cursor (while holding the left mouse button down) from the upper ruler onto the workspace. You can then align objects onto this line :

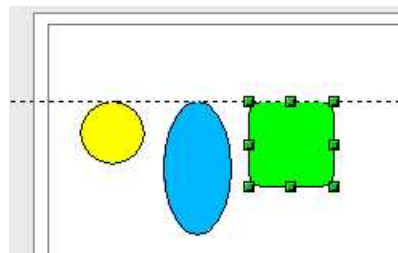


Illustration 186 - Snapping objects to a snap line

You can always relocate a snap line with the mouse. However, moving snap lines will not move any objects that have been snapped to that line.

Manual Insertion of a snap point or snap line

You can manually insert a snap point or snap line via the Insert / Insert snap point/line...!. The following dialog box is displayed :

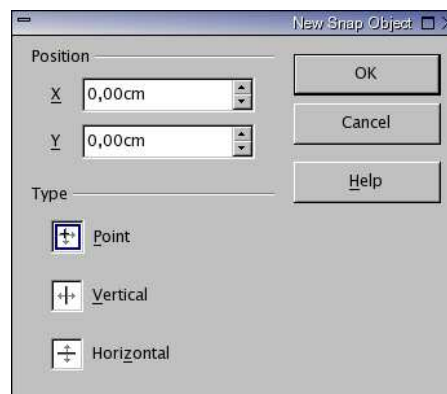


Illustration 187 - Snap object insertion dialog

With this dialog, you can define the X and Y coordinates of the snap point, the X coordinate of a vertical snap line, or the Y coordinate of a horizontal snap line.

A snap point looks like this :

Snap points can also be moved to another position on the workspace with the mouse. You can also edit a snap point or snap line by clicking on it with the right mouse button. In the context menu that appears, just choose the Edit function.

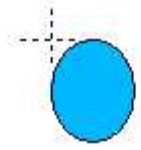



Illustration 188 -
Snap point

Snapping to object frame

The  button lets you activate snapping to an object frame, where a selected object will be snapped to the frame of another object that is nearest to the mouse pointer.

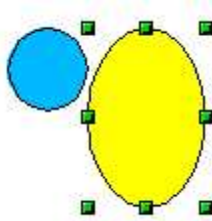

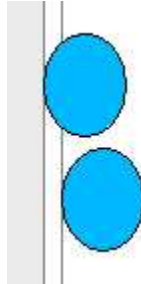


Illustration 189 -
Snapping to object
frame

In the example above, the blue circle has been snapped to the frame of the yellow ellipse (in fact, to the left vertex of the frame).


Snapping to page

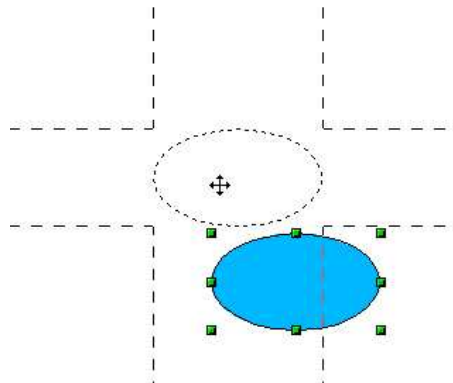
If you click on the  button, you can snap your objects to the margins of your workspace. The snap can be made to the margin or to the limits of the workspace as shown below :



*Illustration 190
- Snapping to
margins*

Displaying guides

The  button lets you display the vertical and horizontal guides during movement of objects.



*Illustration 191 - Guides when moving
objects*

12.Managing 3D Objects

Even though OpenOffice.org lays no claim to be able to rival with computer generated image software packages, it does contain a number of tools that let you create some rather nifty 3D drawings. We looked at the various 3D primitives earlier and also described the creation of a 3D object using a revolution profile. This chapter will show you how another way of drawing 3D objects.

Rotating 3D objects

The rotation function also works with 3D objects, but in a different way to traditional objects. Rotation acts in a three dimensional zone in space as indicated by the following figure :

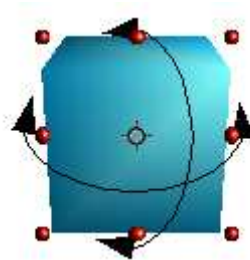



Illustration 192 - Rotation of a 3D object

If you move the object handles on the edges of the selection rectangle, the object will pivot about the horizontal or vertical axis. If you move one of the corners of the selection rectangle, the object will pivot about an axis that is perpendicular to the plane of the workspace.

As for 3D objects, the axis of rotation is displayed by a small symbol that you can relocate.

3D effects

3D objects have their own configuration dialog. This dialog is called the 3D controller and is also known as the 3D effects dialog⁴. It can be reached from the object toolbar by clicking on the  button. The window that is displayed (and can be detached from the rest of the toolbar and remain available in the workspace) is made up of several pages that can be selected via a row of buttons at the top⁵. This chapter will deal with each of these pages.

Buttons available to all pages

All of the pages have the following buttons :



Lets you convert a 2D object into a 3D object. This function is also available via the context menu 'Convert to 3D'




Lets you create a 3D revolution object.



This button lets you (de)activate a perspective display of the selected object.

⁴ There is a slight inconsistency between the bubble help that you get when the mouse crosses over the button and the actual name of the dialog when displayed.

⁵ Here again, a slight inconsistency with respect to the other dialog boxes, probably due to the fact that it is detachable as compared to the tabbed dialogs.

 This button lets you apply your changes to the selected object.

Favorites page

This page lets you apply 3D attributes to any 3D object. It has the following aspect :

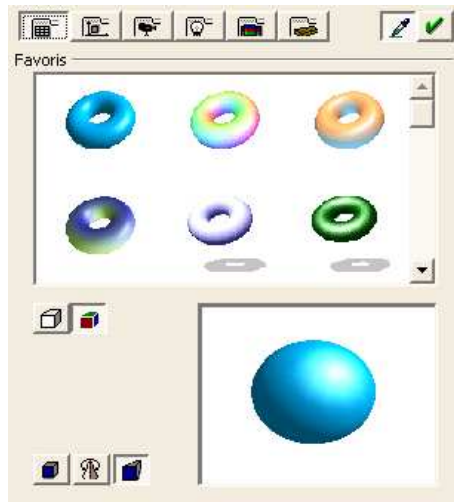





Illustration 194 - 3D Effects - Favorites page

In order to apply a 3D attribute to a selected object, just choose one of them in the 'Favorites' zone and clicl on the  button. The objects laid out as an example are the same as those that are available via the Gallery, which is described later in this document. You will note that only the attributes are applied, no objects are transformed (for example, a circle will not turn into a torus if you click on the first image of the Favorites page – but it will receive the attributes of the torus, including the blue color).

If the selected object is not a 3D object, it will automatically be converted into one. The operation that converts a 2D object into a 3D object is called an extrusion.

You can do this by by applying one of the attributes from the examples shown and either clicking on , the  button or selecting 'Convert to 3D' from the selected object's context menu.

This mechanism lets you create a variety of objects :

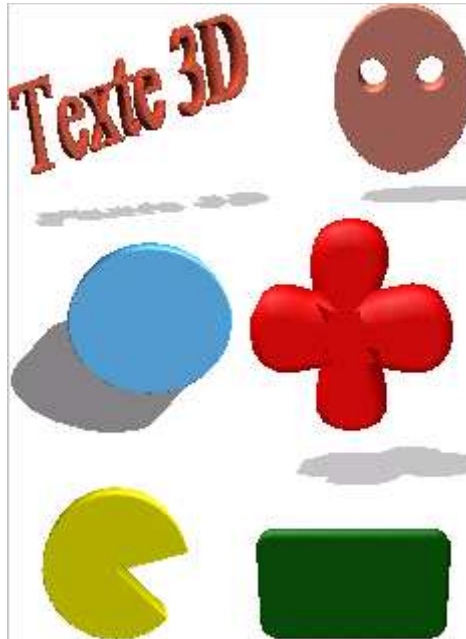


Illustration 195 - Examples of 3D shapes

The second shape on the first line was obtained by extruding a combination of three circles (a large circle and two smaller ones that, when combined, became holes).



This button lets you choose not to apply the attributes from the Favorites selection to the selected drawing object. The light and texture parameters will not be applied.



This button indicates that all of the attributes from the selected Favorites object will be applied to the selected drawing object.

Geometry Management Page

This page lets you define the geometric settings that are linked to a 3D object, as shown below :

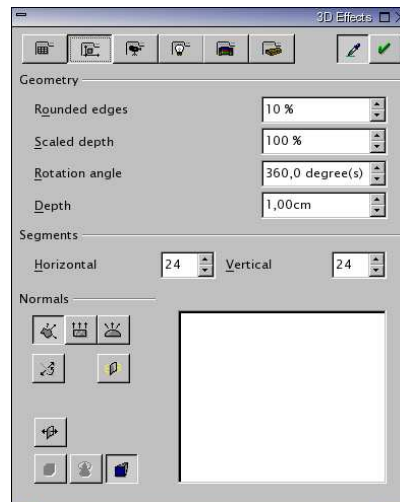


Illustration 196 - 3D Effects – geometry page

The parameter 'Rounded edges'⁶ lets you define, for a 2D shape that is extruded into a 3D shape, the degree of rounding on the edges of the shape. Here below are two examples that were obtained from an extruded rectangle :

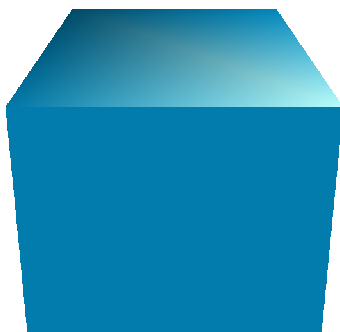


Illustration 197 - 0% rounding

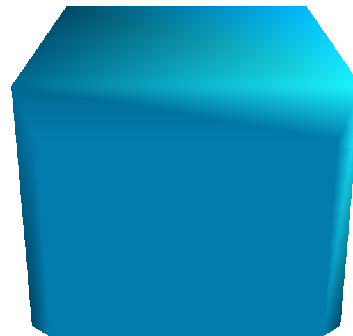


Illustration 198 - 25% rounding

This parameter is particularly useful for texts that have been extruded into 3D shapes.

The scaled depth will define the dimension ratio between the front face and the back face of the object. By default, the scale is set to 100%, which means that both faces will have the same dimensions. If you set the scaled depth to 50%, for example with the cube above, we get the following :

Here you can clearly see that the front face has a length and breadth that is 50% greater than the back face. It is even possible to set the scaled depth to more than 100% and thus have a front face that is larger than the back face.

⁶ In the online help, this section is called 'Rounded corners'

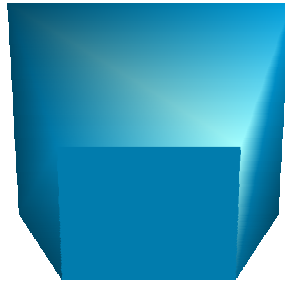


Illustration 199 - Scaled Depth of 50%

The 'rotation angle' parameter is useful for some shapes that are made by revolving a profile about an axis. This parameter lets you decide whether or not the rotation will be complete (360°). Here's what you can obtain with a hemisphere and a value of 180°:

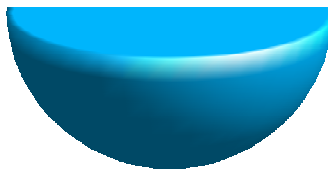


Illustration 200 - Rotation Angle of 180°

The 'depth' parameter lets you define the depth of a 2D object that has been transformed into a 3D object. This value can be changed at any time. The parameter doesn't apply to 3D primitives.

The two following parameters (horizontal / vertical segments) lets you define the number of segments for the rounded shapes. The higher the number, the more the surface of the shape will appear smooth, but the longer it will take to display. In the example below, the lefthand sphere is made up of 10 horizontal and vertical segments, whereas the righthand sphere is made up of 25 segments :

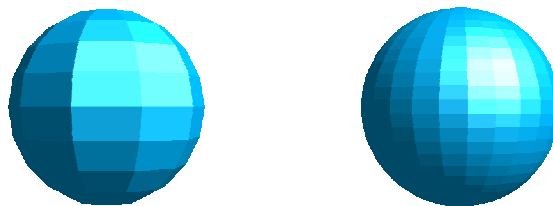


Illustration 201 - Example of the use of segment numbers

The five following buttons (entitled 'normals') let you modify the normals of your 3D objects. A normal is a straight line that is directed perpendicularly across the surface of an object. Here below are a few normals drawn on a sphere with 10 segments :

Normals let you define the exterior aspect of an object and its interactions with textures and lighting. When you change the normal mode (also known as the projection mode), you act on the geometry of an object. Here's a description of the functions that act on normals :

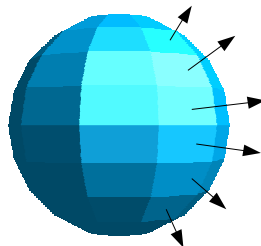


Illustration 202 - Object Normals



Corresponds to the projection mode illustrated above wherein each of the faces is visible.



Lets you create smooth surfaces. Where a sphere is concerned, we obtain a perfect sphere :

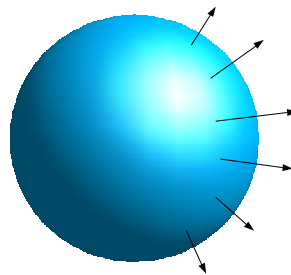


Illustration 203 - Sphere with smooth faces

I have kep the normals drawn on the shape so that you'll remember that the faces are still present even if they can't be seen.



This button lets you choose the object-specific rendering, that is best suited to the object.



This button lets you invert the normals. Since normals help you to define how an object is lit, you can simulate an interior lighting by inverting the normals. The following is an example of two cups. The first has the normals set to the default value and the second has the normals inverted :



Illustration 204 - Inverting normals

The second cup seems to be lit from the interior.



Double-sided illumination lets you light an object from the inside and outside.



This button lets you create double or single-sided 3D objects⁷. When the extrusion function is used, the resulting objects are closed (for example, a square will give a cube). If you use this function, OOoDraw will produce open objects.

Here's an example of what you can do with an empty rectangle :



Illustration 205 - Single-sided object

⁷ In the online help, this button is called 'double-sided'.

Shading Page

This page covers the parameters linked to the shading of objects (shading type, shadow...), and is illustrated below :

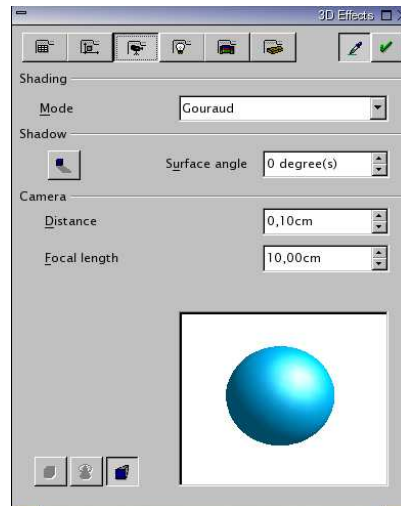


Illustration 206 - 3D Effects - Shading Page

The shading mode refers to the method that Draw will use to render objects and their interaction with light. Draw offers three choices : Flat, Phong and Gouraud. These three methods render objects with better or lesser quality, at the cost of an increased or decreased processing time. Flat is the quickest rendering technique, but which also gives the worst results (all of the faces are visible), Phong is an intermediate technique and Gouraud shading renders objects with the truest display (in the sense of what the eye can see). Draw doesn't offer any of the more sophisticated shading methods, so its often best just to keep Gouraud shading as the default.



Illustration 207 - Shading examples

In the above drawing, flat shading (left) is clearly less attractive, whereas it is more difficult to distinguish between Phong (middle) and Gouraud shading (right). One might simply note that the shading appears to be more realistic with Gouraud shading than with Phong shading.

The shadow area of the dialog lets you display shadows under objects. By changing the surface angle, you can obtain shadows that look are more or less elongated :

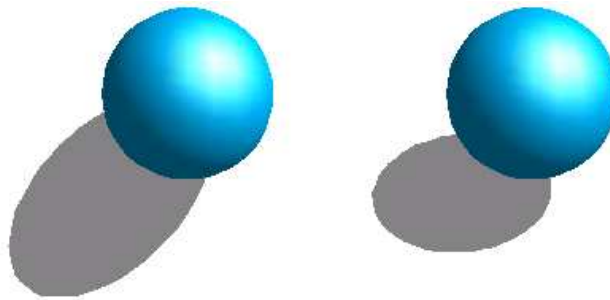


Illustration 208 - 3D shadowing

The first sphere has a shadow with a surface angle of 0° (the paper is vertical) and the second has a surface angle of 45° (paper inclined at 45°).

You can also see that the shadow is displayed in such a way that it corresponds to the angle of illumination of the sphere.

The other parameters on this page let you define the focal length and distance of the virtual camera that is used to display the 3D object. The closer the camera and the focal distance, the greater the effect of perspective. In the drawing below, the same box has been shown, but with a shorter focal distance for the one on the left :

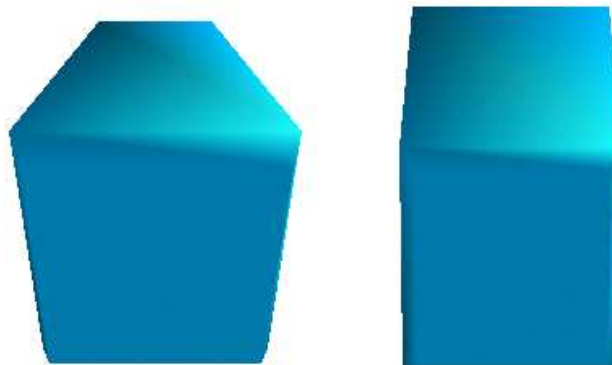


Illustration 209 - Examples of different focal lengths

These two settings belong to the selected object(s). For obvious reasons, it is better for them to be set in the same way for all 3D objects in the drawing.

Illumination Page

You can use this page to define the way in which your 3D objects will be illuminated. Contrary to what is usually the case with most 3D drawing software, the parameters can be set for each object independently of the others. However, in order for your drawing to be coherent, it might be worthwhile to set these parameters for all 3D objects in your drawing.

This page lets you select 8 different light sources to illuminate the currently selected object. For each light source, you can specify its colour and position with respect to the object.

In order to choose the current light source, use the buttons representing a small lightbulb. The bulbs that are lit correspond to an active light source and those that are not correspond to an inactive light source. You can activate or deactivate the light sources by double-clicking on the buttons. A button that appears pressed down indicates the currently selected light source.

The colour can be chosen from the dropdown list or via the small button on the right of the list. The position of the light source is defined by moving the white dot with the mouse on the small inset drawing located in the lower area of the page.

This page also lets you set the intensity of the ambient light, and is common to all of the light sources.

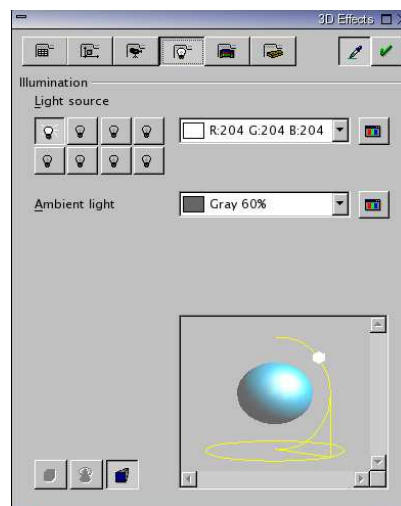


Illustration 210 - 3D Effects -
Illumination Page

Texture Management Page

This page lets you manage the properties of a bitmap texture applied to an object.

Before using this page, we'll look at the ways you can apply bitmapped images to an object. There are 2 ways :

1. Use the fill option and select a bitmap motif (as seen at page 38).
2. Via the Gallery. Check out page to see how to display it. When the gallery is displayed on screen, you can apply a texture to an object by dragging and dropping the motif with the mouse and pressing the [Shift] + [Control] keys at the same time.

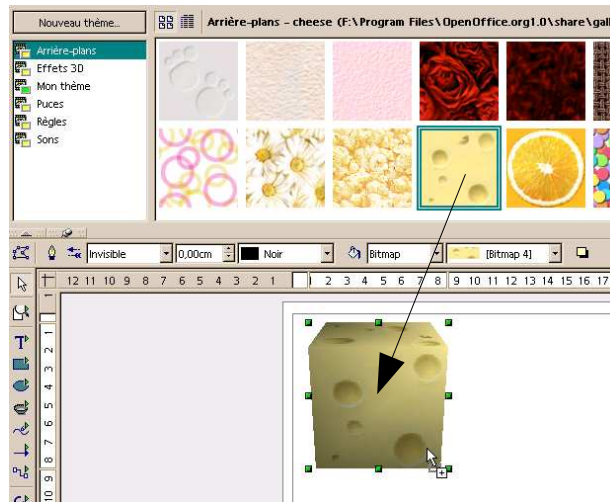


Illustration 211 - Applying a texture

The first method is better in that you can easily choose the number of tiles of the bitmap motif to be applied.

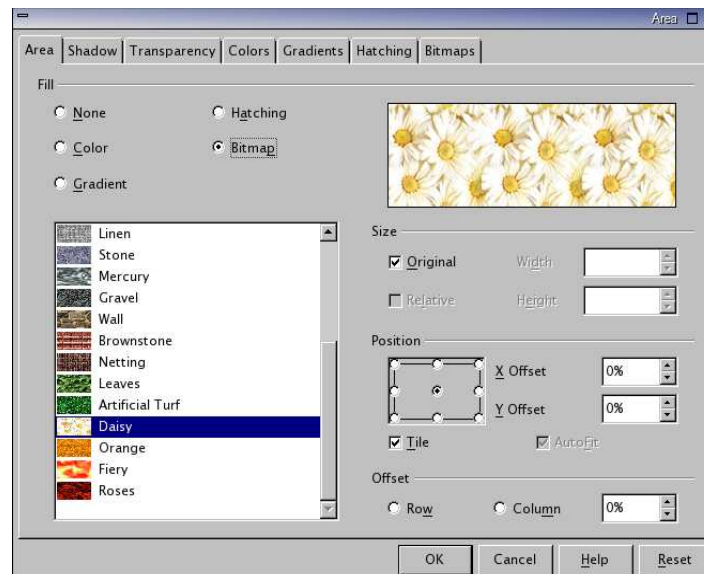


Illustration 212 - Bitmap application settings

Here are a few examples of what you can do by changing the default parameters when applying a bitmap to a cube :

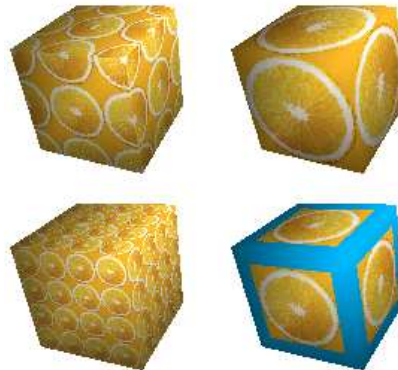


Illustration 213 - Examples of applying bitmaps

N.B. : The tickbox 'Tiled' in the dialog lets you specify whether you want the motif to be repeated (as in the cube top left) or not (as in the bottom right cube).

We have just seen how to change the number of tilings of the bitmap motif. Now let's look at the method that Draw uses to project the image onto the object. This is carried out on the texture management page :

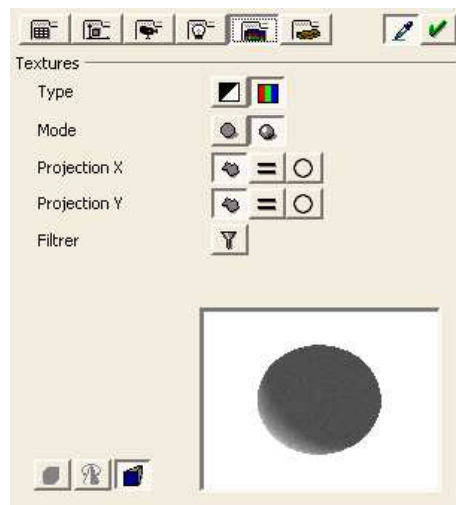




Illustration 214 - 3D Effects - Textures Page

First, you can choose to project the image in black and white () or in colour (.

The 'Mode' chosen will tell Draw whether you want to manage lighting and shadow on the selected object. In the figure below, the first sphere corresponds to the setting 'Only texture' and the second (more realistic) to the setting 'Texture and shading':

You should note here that the shading in this setting is not the same as the shadow projected onto the page that was discussed at page 96. In this case, the shading occurs on the side of the object opposite the light source.

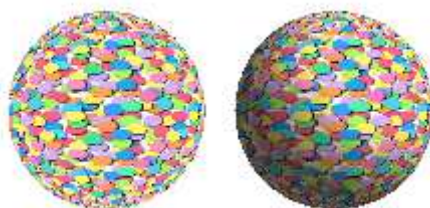





Illustration 215 - Example of texture settings

The six following buttons (Projection X / Y) let you specify the type of projection used to draw the motif on the object. The settings on the X and Y axes are as follows : Specific to the object () , parallel () and circular () . Generally, the default setting of 'Specific to the object' can be left as it is because it gives the best results.

Materials Management Page

The last page of settings concerns the use of materials on the surface of 3D objects. This page lets you give your object the appearance of commonly used materials such as plastic or metal.

Illustration 216 - 3D Effects - 'Material' Page

The drop down list 'Favorites' lets you choose a predefined texture from a list. The default choices are as follows : Metal, Gold, Chrome, Plastic and Wood. You can see the effect on a sphere (the images below illustrate from left to right the order of the materials given above):



Illustration 217 - Texture examples

The parameters that need to be defined are the default colour of the object, lighting and the colour and intensity of the spot. The spot shows you how the light will react on the object.

It is interesting to note that materials are compatible with textures. The use of materials generally lets you accentuate the effect of any textures you apply.

13.Managing Bitmaps

Up to now, we have just dealt with vector drawings. OOoDraw also includes a small number of functions for managing bitmaps.

In this chapter, these functions will be considered by looking more closely at their interaction with the vector drawing tools. We won't deal very much with the bitmap editing tools since other programs (even free ones like The Gimp) have far more evolved functionality.

The following is a simple example of what can easily be done, when you start from a rectangular photo. If you are naturally gifted with imagination and talent, you can easily produce something more satisfying.

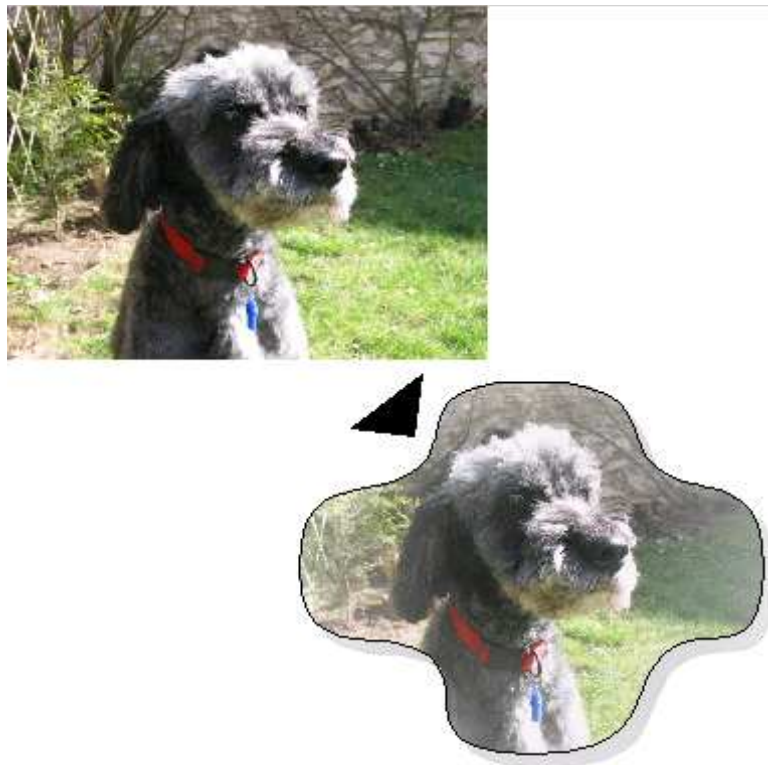


Illustration 218 - Simple example of image manipulation

The Bitmap Image Toolbar

When a bitmap is selected in the workspace, a dedicated toolbar is displayed having the following appearance :



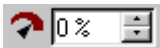
Illustration 219 - Btitmap Image Toolbar

It is important to remember that any changes you make to a bitmap will only involve a copy of the original file in your document and that the original will not be modified.

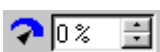
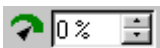


Here you can choose the type of default display that you want for your image. You have four possible choices :

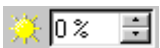
- Standard
- Greyscale : displays the bitmap with 256 levels of grey
- Monochrome : transforms the image into a black and white representation
- Watermark : fades the colours of the bitmap image to make it extremely pale.



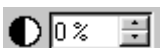
The following three controls let you modify individually the level of each of the primary colours making up the image.



You can set each colour level from -100% to + 100%. -100% corresponds to the total lack of the chosen colour.



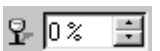
This control lets you change the brightness of the image. The parameter can be set from -100% to +100%, where -100% corresponds to a totally black image and +100% to a totally white image.



With this control you can set the contrast of the image from -100% to obtain a contrastless grey image to +100% for maximum contrast.



Lets you set the gamma level from 0.10 to 10. This control lets you effectively set the monitor balance for an image created on one computer when the image is loaded on another computer.



Lets you set the transparency of the image from 0% (opaque image) to 100% (totally transparent image).



This tool lets you crop an image. When you click on this button, the following dialog box appears :

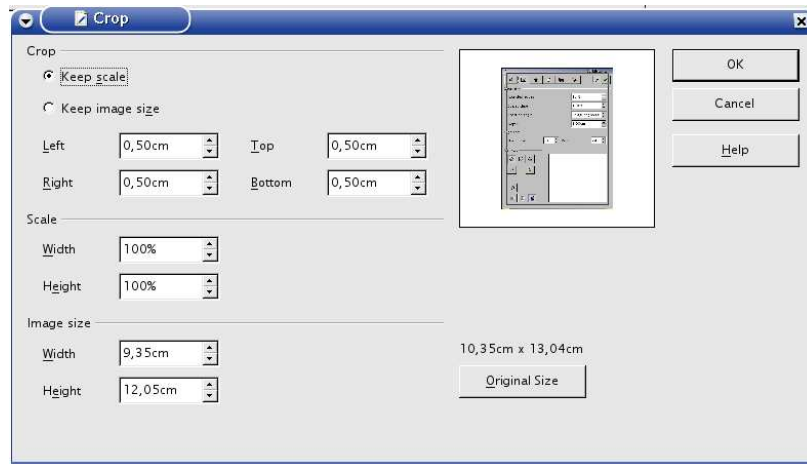



Illustration 220 - Cropping an image

The dialog lets you do the following :

- Cut out a part of the contour of the image. To do this, just change the values 'left...' etc, in the 'Crop' section. The preview display area show the new image frame.
- Change the scale of the image up to 100%
- Change the size of the bitmap in the current measurement unit.

Bitmap Image Management Palette

The leftmost button  on the bitmap toolbar lets you display and pick the bitmap filters. OpenOffice.org proposes 10 filters (which is far below the number of filters that are available with a bitmap manipulation tool like The Gimp).

- This filter inverts the colours in an image, and gives a result that looks like a colour negative. This is quite a useful filter for resetting the colours in a scanned negative.



Illustration 221 - Colour Inversion



This filter lets you smooth an image. In the example below, the filter has been applied several times.



Illustration 222 - Smoothing an image



This button lets you sharpen an image.



Illustration 223 - Sharpening an image



Lets you rid your image of parasitic pixels in your image.



Lets you apply a solarization effect to an image. A dialog box lets you choose the degree of solarization that you want to apply to the image.



Illustration 224 - Solarizing an image


-  This filter applies an aging effect to the image via seepage of the colours. You can set the degree of aging via a dialog box (20% was set in the photo below).



Illustration 225 - Aging filter applied to an image


-  This filter lets you reduce the number of colours in an image. You can choose the number of colours in the dialog box (in the example, 16 were chosen). This filter lets you produce an image that looks a bit like a drawing.



Illustration 226 - Reducing number of colours


-  The pop art filter applies an effect that transforms the image into something resembling a pop art drawing :



Illustration 227 - Pop Art Filter


-  This filter simulates a charcoal drawing effect



Illustration 228 - Charcoal filter


-  This button applies a relief aspect to your image.



Illustration 229 - Relief effect applied to an image


-  The mosaic filter transforms the image into a pixellated mosaic



Illustration 230 - Mosaic filter

14. Specific Functions

OOoDraw contains several advanced functions that are useful in certain specific instances (web images, data exchange, etc...).

Duplication

This function duplicates a given shape whilst at the same time enabling you to change the options applied to the duplicated shapes.

To start duplication, click on an object (or on a group of selected objects) then choose the option 'Duplicate' in the 'Édit' menu.

The following dialog box appears :

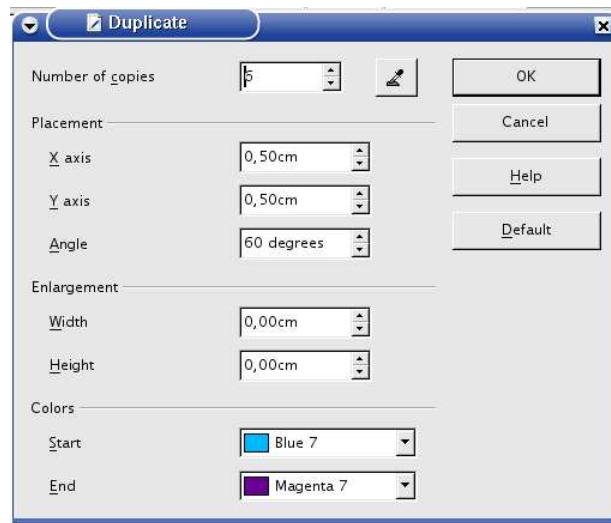


Illustration 231 - Duplication Dialog

You can choose :

- The number of copies
- The displacement along the X and Y axes between two copies
- The angle of rotation between two copies
- The change in size between each copy
- La couleur de départ et de fin des copies.

The options above applied to a blue rectangle produce the following result :

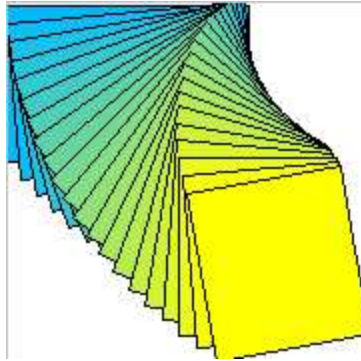


Illustration 232 - Example of Duplication

The end result of a duplication is a new group.

Crossfading

This operation lets you transform a shape from one form to another, whereby OpenOffice.org handles all of the intermediate transitions. The result of such an operation is a new group.

Here's an example of its use :

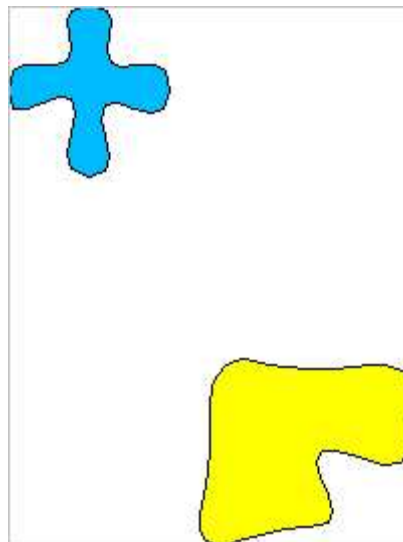


Illustration 233 - Starting shapes for crossfading

We'll start with the following two shapes and carry out the crossfade in 4 steps to obtain the following drawing :

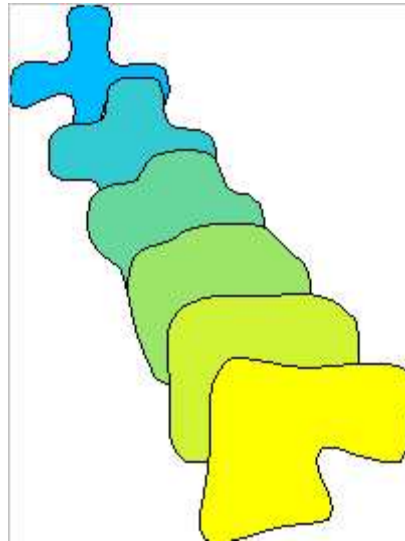


Illustration 234 - Result of a crossfade

To carry out a crossfade, you first need to select both objects and then choose 'Crossfade' from the 'Edit' menu. The following dialog will appear :

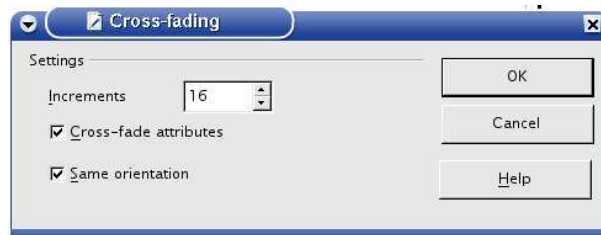


Illustration 235 - Crossfade options

The number of increments corresponds to the number of intermediate steps that the program will generate.

If you tick 'Cross fade attributes', OpenOffice.org will apply at each step a change in the objects attributes in order to carry out a smooth transition from the attributes in the first shape to those in the second shape. In the above example, the colour has changed from blue to yellow. If this box isn't ticked, each object created in the intermediate steps will have the same attributes as the first object.

If you don't tick the box marked 'Same orientation', the crossfade won't be carried out in a 2-dimensional array and you'll get the following result :

You can clearly see from this example that Oo seems to pivot the intermediate steps in a 3D array to transform the first shape to the second.



Illustration 236 - 3D crossfade

NB : In order for the crossfade to function, the objects need to have attributes that are similar. It is, for example, impossible to carry out a crossfade between a shape filled with a simple colour and another shape filled with a bitmap image.

Fontwork

OOo has an amazing little tool that lets you change the way text is represented. Using this tool, you can write texts that follow arcs, curves and more generally on any figure. This tool appears as a detachable window that can be displayed via 'Format / FontWork'. The window looks like the following :

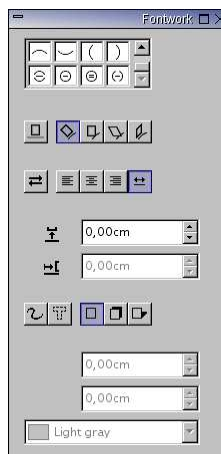


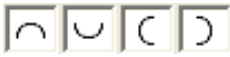
Illustration 237 - The Fontwork window

Fontwork functions differently depending on whether it acts on text alone or on text typed within an object.

Using Copy and Paste, you can insert texts created with Fontwork in Draw directly into Writer.

Fontwork and Simple text

The twelve buttons in the upper part of the window lets you define the aspect of the curve that the text will follow.



With this row of buttons, the text will follow a semi-circle, oriented in a manner that corresponds to the selected button. The following effect can be obtained :

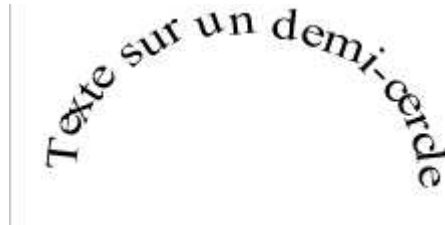
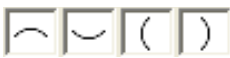


Illustration 238 - Example of simple text on a semi-circle



In this row, the idea is the same, but the text here follows an arc of a circle, as illustrated below :

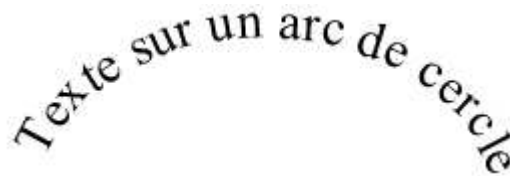
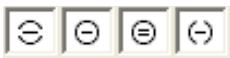


Illustration 239 - Example of simple text on an arc of a circle



This group of buttons applies the text to a circle as shown below :

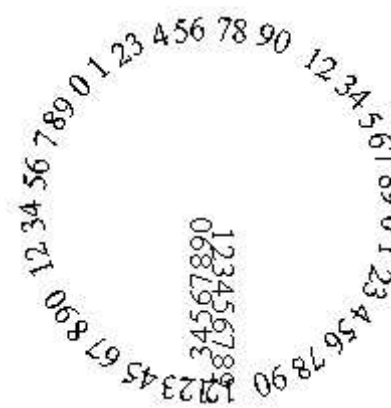


Illustration 240 - Example of text around a circle

Functions of the Fontwork toolbox

This chapter will describe the various functions of the buttons in the toolbox.



This button switches off the 'text on a curve' function.



This one enables the text to closely follow the curve orientation of an object.

Illustration 241 - Text adapted to a curve



This one keeps the letters vertical.

Illustration 242 - Vertical Text



If this option is selected, the text is tipped horizontally depending on its position on the curve.

Illustration 243 - Horizontally tipped text



If you click on this button, the text is tipped vertically depending on its position on the curve.

Illustration 244 - Vertically tipped text



This buttons inverts the direction of the text with respect to the curve.

Illustration 245 - Inverted text



With this button, the text is aligned on the left of the curve.



Illustration 246 - Left alignment of text on a curve



This one aligns the text on the right of the curve.



Illustration 247 - Right aligned text on a curve



This one centers the text on the curve with respect to each end.



Illustration 248 - Text centred on a curve



The text is enlarged or decreased to adapt to the ends of the curve.



Illustration 249 - Text adapted to curve



This control lets you increase the distance between the curve and the text.



Illustration 250 - Setting the distance between the text and a curve



This control lets you set the indent between the start of the text and the start of the curve.



This button lets you hide or show the curve that is associated with the text.

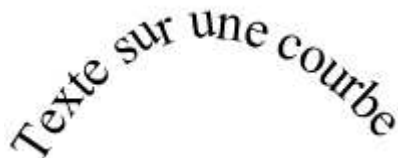


Illustration 251 - Hiding the curve



This button lets you display the contour of the letters making up your text. The effect is only apparent if the letters of the text are in a different colour to that of the contour.



Illustration 252 - Contouring text



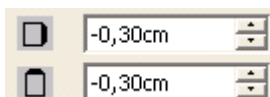
This button activates/deactivates shadowing.



This one produces a shadow that is parallel to the text.



Illustration 253 - Vertical shadow underneath the text



These two controls let you set the horizontal and vertical distance between the text and the vertical shadow.



This one sets a tipped shadow underneath the text.

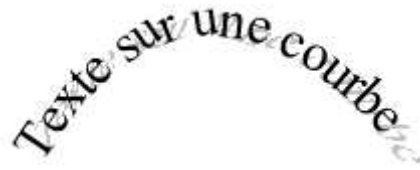
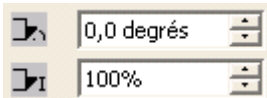


Illustration 254 - Tipped shadow underneath the text



These two controls let you set the shadow angle and its length (as a percentage of the original text).



The dropdown list lets you choose the colour of the shadow from the current colour palette.

Placing text on a curve

As a conclusion to this chapter, we will now describe a four step technique to write a text and apply it to any curve you like.

1

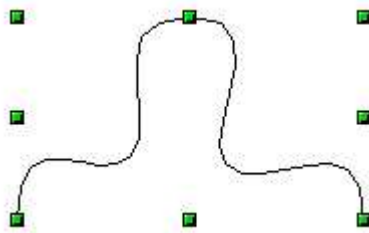


Illustration 255 - Starting Curve

Here's the curve along which we want to write our text.

2



Illustration 256 - Associating a text to a curve

Once the curve has been selected, we click on the 'Text' tool in the main toolbar (T) to write our text in the curve object. In this case, the curve and the text are one and the same object.

3

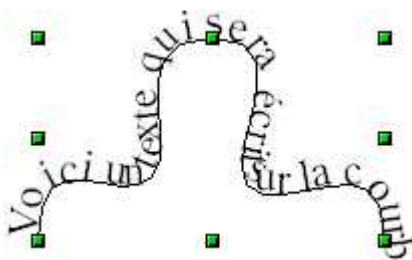





Illustration 257 - Fitting the text to the curve

When we now click on the  button of the Fontwork toolbox, we can see the text align itself automatically along the curve. As you can tell from the screenshot, the text might not fit on the curve. In this case, you can use the button .

You can cancel the alignment at any moment by clicking on the button .

4

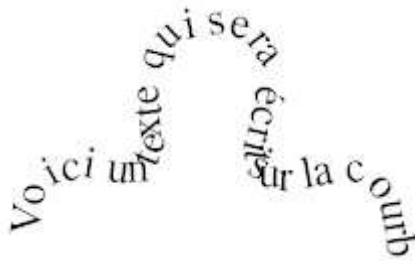



Illustration 258 - Final result

All that is left to do now is to make the curve invisible by clicking on the button  to obtain the final result.

Exchanging objects with other programs

This paragraph describes a few ways of exchanging data between the various modules in the OpenOffice.org suite and Draw and other Windows programs.

Reminder concerning image formats

As mentioned in several places in this document, OOoDraw is essentially a vector graphics tool, and even if it has a few bitmap handling functions, it is advisable to save your vector work in a vector graphics format, rather than in bitmap format.

The major advantage of vector files is apparent when they are displayed zoomed or when you resize them. The following image shows a comparison of the degree of detail between a vector image on the left and a bitmap image on the right when enlarged 700 times.

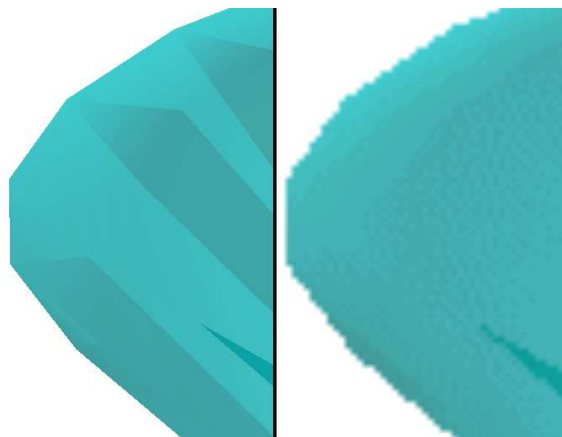


Illustration 259 - Vector / bitmap comparison

Note that it is the same basic object in both cases.

In order to convert an object, just click on the context menu of the object, and two options will be displayed : Convert to metafile and Convert to bitmap⁸. The conversion of a vector object into a bitmap should only be done when no other alternative is available (for example, for use for theWeb or in a program that only accepts this type of image)⁹.

The WEB export function

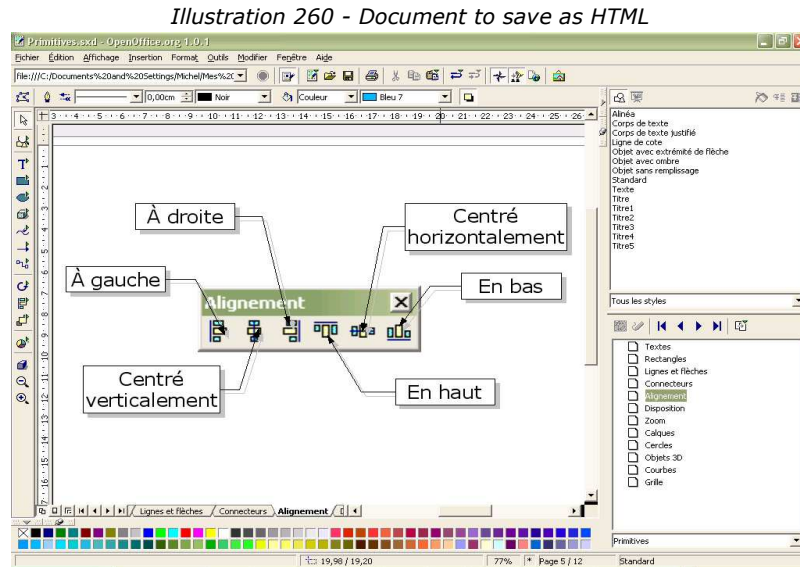
Saving a Draw image in a foreign format is done via the option 'Export' in the 'File' menu. The default option proposes saving in HTML format via a conversion wizard.

⁸ Depending on the complexity of the object, the conversion to metafile function may lead to a bitmap.

⁹ The tool for defining image maps for the web doesn't accept OpenOffice.org native file formats, only bitmaps and metafiles.

This function will create as many web pages as there are pages in your Draw document. You can optionally choose to display the pages as frames with a navigator and can even set an index page¹⁰.

For example, if you start from the following (note the various tabbed pages) :



The result will look as follows :

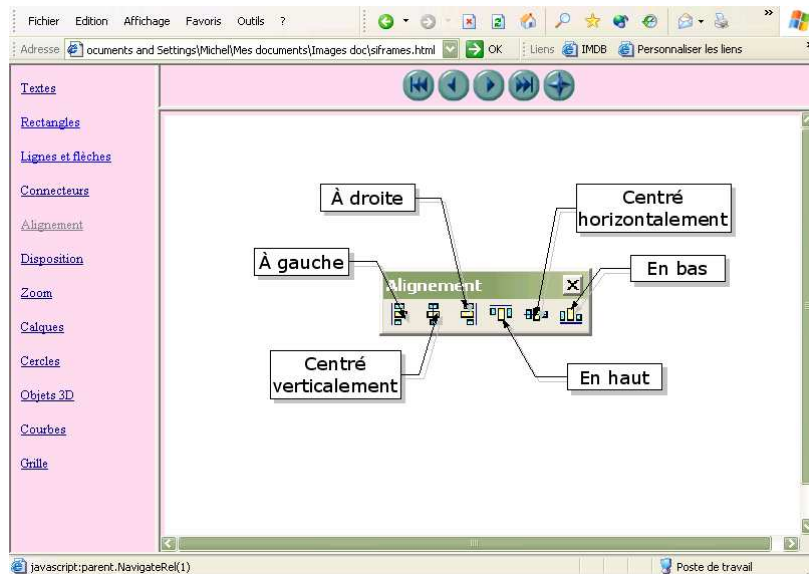


Illustration 261 - WEB page generated by OpenOffice.org export

The following is a description of the various pages in the wizard. You will note that you can choose to create the web page at any moment by clicking on the 'Create' button, so you're not obliged to continue to the end of the wizard.

¹⁰ This wizard is exactly the same as that contained within OpenOffice.org Impress

1



The first page lets you choose the design for all of the pages, either from an existing design or even create a new one.

Illustration 262 -

HTML Export – Choosing your design

2



On this page you can choose how you want to be able to navigate your web document : either via simple pages, frames (see screenshot on page 118) or scripted page (via ASP or Perl, unfortunately no direct support for PHP as yet).

You can also decide here to insert an index page.

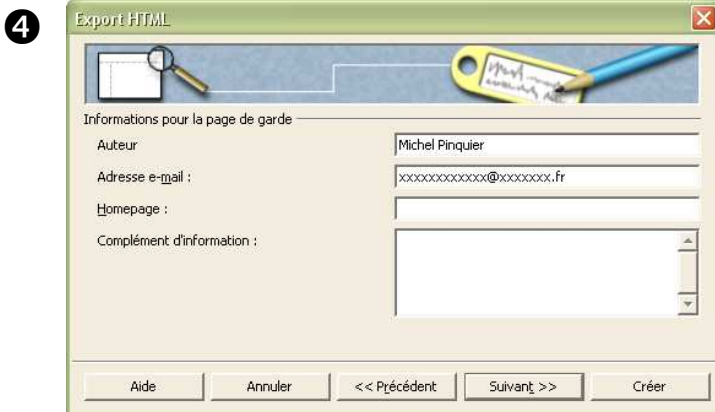
Illustration 263 - HTML Export – Choice of Publishing Format

3



On the third page, you decide how the images will be saved (GIF or JPEG) and their associated parameters.

Illustration 264 - HTML Export – Choosing Image Type



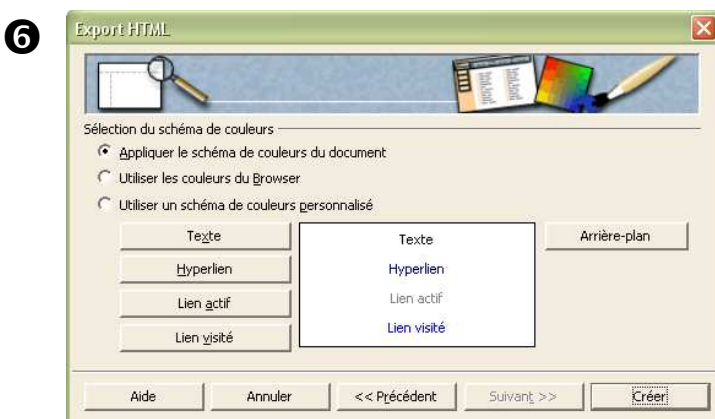
The fourth page lets you enter details about the author.

Illustration 265 - HTML Export – Author Details



On this page, you choose the navigation button style that is used to move from page to another. If you decide not to choose any, OpenOffice.org will create a text navigator.

Illustration 266 - HTML Export – Choosing navigation buttons



The last page lets you define the colour scheme for the created pages. You can save your scheme so that you will find it again on the first page of your HTML export wizard.

Illustration 267 - HTML Export – Defining the Colour Scheme

On the export page, if you don't use the default option, OpenOffice.org will suggest several vector or bitmap formats.

Using the clipboard

The clipboard can be used in the usual way via copy / paste function. Objects that are copied to the clipboard are converted into metafiles. OpenOffice.org doesn't really yet handle this format in the best way, so you'll probably see loss of information when copying to other programs. For this

reason, the author of this document prefers to use OLE copying (Paste special). *In the author's opinion, this is also the best option for exchanging drawings between OpenOffice.org modules via the clipboard.*

The Gallery

The Gallery lets you create libraires of drawings, reuse the ones supplied with the default OpenOffice.org installation, or use other drawings that have been made for example by members of the OpenOffice.org community. It is also another way of exchanging data between the programs within the suite.

In order to hide or display the Gallery, click on the  button located on the main toolbar. The Gallery window behaves like the other main windows in the suite and can be detached, pinned, etc...

The Gallery displays the images it contains as thumbnails :



Illustration 268 - The Gallery

Reusing a Gallery Object

To reuse a Gallery object in an OOO document, all you need to do is drag and drop the image with the mouse from the Gallery window onto the document workspace.

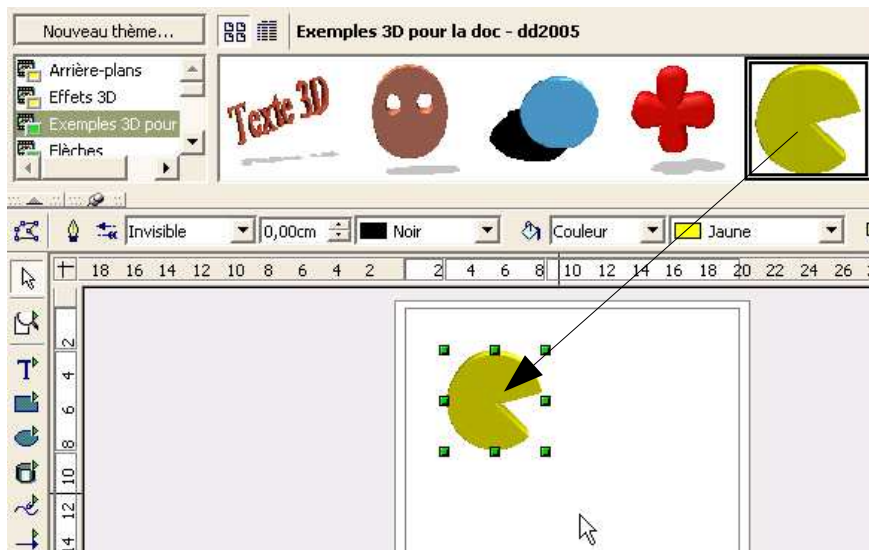


Illustration 269 - Inserting a Gallery object into a document

This technique works independently in any of the documents you can create within the OOO suite.

Inserting an object into the Gallery

There are several ways of inserting objects into the Gallery. When objects are created with the Draw

module, the author prefers only one of these methods¹¹ all tend to lose some of the attributes and transform the images into bitmaps or metafiles¹².

1



Illustration 270 - Drawing to be copied into the Gallery

Here is the drawing we created earlier and that we want to copy into the Gallery.

2

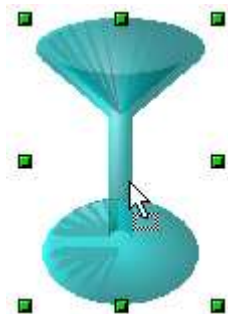


Illustration 271 - Copying an object to memory

Select the object to be copied by clicking on it with the mouse and **holding it down for at least 2 seconds**. When the object is copied to Draw's internal memory, the mouse cursor changes as shown on the drawing opposite.

3

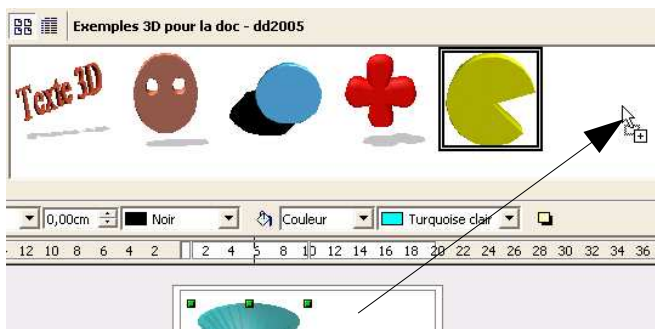


Illustration 272 - Dragging the image into the Gallery

With the mouse button still held down, all you have to do now is drag the object into the Gallery window and the operation is over.



Illustration 273 - Image inserted into Gallery

11 The other main method is better adapted to bitmap images and uses the dialog box for creating a theme as described in this chapter. This technique uses files on the disk, and oddly can not handle the native Draw formats.

12 The metafile format (WMF files – Windows MetaFile) is a storage and exchange format for vector graphics that is Windows specific. The use of this format by OOo does not appear optimal because the copied objects mostly lose some of their attributes.

Creating a new Theme

You can organize your images in the Gallery by creating new themes. Just click on 'New Theme' at the top left of the Gallery window and type in a name in the dialog that appears.

The dialog also contains a second tabbed page where you can select the files that you want to appear in your theme. However, this option doesn't work with vector drawings in the native OOO Draw format.

Credits

Author : Michel Pinquier

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Integrated by :

Last Modified : 9/29/05

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