Open Draw. Drawing with OpenOffice.org

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Index

Introduction

Unlike Microsoft Office, the OpenOffice.org program has an excellent tool for creating vector drawings and editing graphics called Open Draw. This program is halfway between poorer programs like Paint and top-of-the-range applications like GIMP and Photoshop. Open Draw is easy to use and offers users several advanced features. In this introductory section, we will describe its key features, which include:

- **Creation and formatting of a wide range of objects**. Open Draw offers the possibility of working with and formatting 2D and 3D graphics, lines, text etc.

- **Integration with other applications**. Open Draw's drawing features and utilities can also be accessed from Open Writer, Open Calc and Open Impress, allowing us to use them directly in any OpenOffice.org document.

- **Full text formatting**. Just as the drawing tools are available in other components of OpenOffice.org, most of the features of Open Writer can be accessed from Open Draw. This means that we can use styles with the objects, lines and texts that we create.

- **The FontWork utility** We can use this to create stunning text effects, such as curves and distortion.

- **Inserting files, OLE objects and graphics**. We can insert a wide range of file formats in Open Draw, as well as **OLE** objects such as charts and spreadsheets.

- **File formats**. Besides being able to import and export many graphics formats, we can also export Open Draw and Open Impress documents to HTML format. We can also export to the EPS and SVG formats, the latter being an XML-based scalable vector graphics format.

- **Creating basic objects** If we don't want to complicate matters and just want to do simple drawing operations, the standard polygons are very easy to use.

- **Special effects**. Special effects and filters can be applied to graphics created with the program.

- **Colour**. We can control all aspects of colour and apply different conversions, such as greyscale or black and white. Certain colours in an image can also be swapped for others.

The main aims of this unit are:

1) to familiarise students with the use of the key drawing functions of Open Draw by creating a sample document, and

2) to describe the process of creating and formatting the most common drawing objects.

1. Basic use of the program

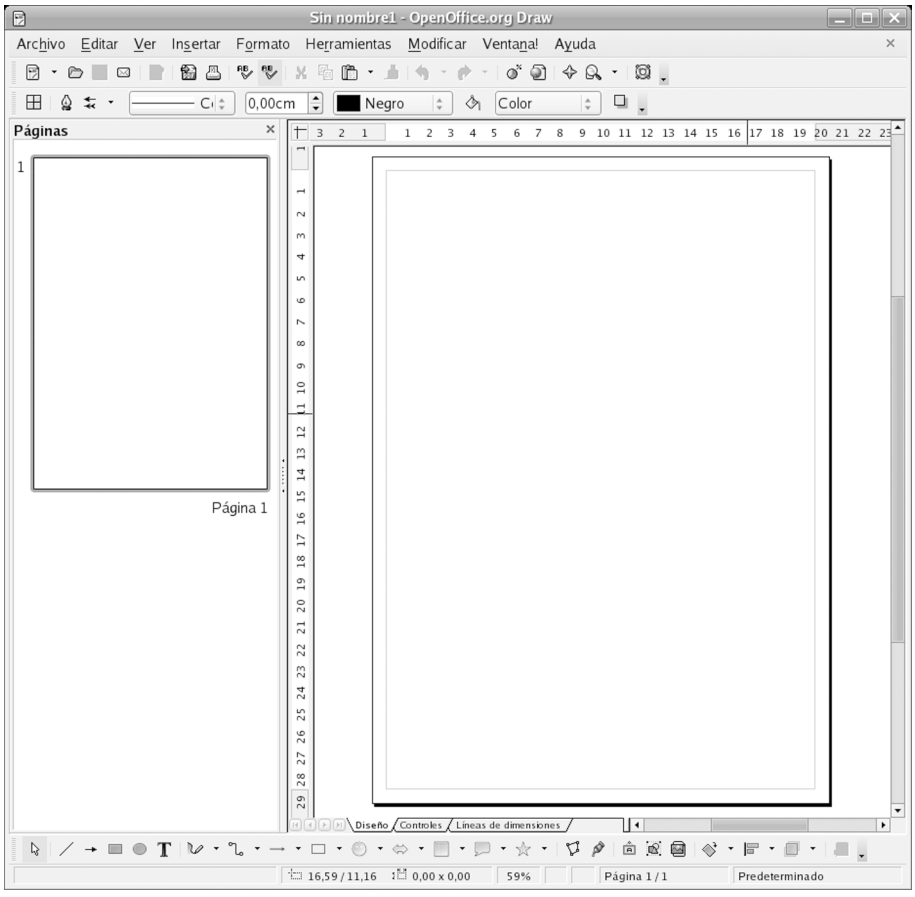
Open Draw can be launched from any OpenOffice.org application by selecting the File -> New -> Drawing menu option.

Tips can be very useful for learning about the different features of the program. Tips are displayed for each of the labels and buttons on the screen. You can enable or disable this option using the Help -> Tips menu option.

1.1. The working environment

As with the other applications, if you need help with a dialog box or window, you can always click on the Help button or press **F1**.

Figure 1. The Open Draw working environment



We will now describe the diverse elements in the program's workspace:

- The **Menu bar** contains the various actions that can be carried out globally across the OpenOffice.org program and those that are specific to Open Draw.

- The **Function bar** indicates the full path of the file being edited and provides a shortcut to the program's global features.

- The **Object bar** is used to control object attributes. When we work with different objects, the Object bar will change to display the attributes of the selected object. For example, if we are using text tools, the Object bar will display the text formatting tools.

- The **horizontal and vertical rulers** indicate the dimensions of the page and the objects on it. The units of measurement units of these rulers can be changed very quickly by right-clicking on them.

- The **Main toolbar**, positioned vertically down the left-hand side of the document, gives users quick access to the most common functions. It can be used to create and align objects, insert new objects and much more. To display all of the features of the buttons on this bar with submenus, hold down the mouse button as you click on them.

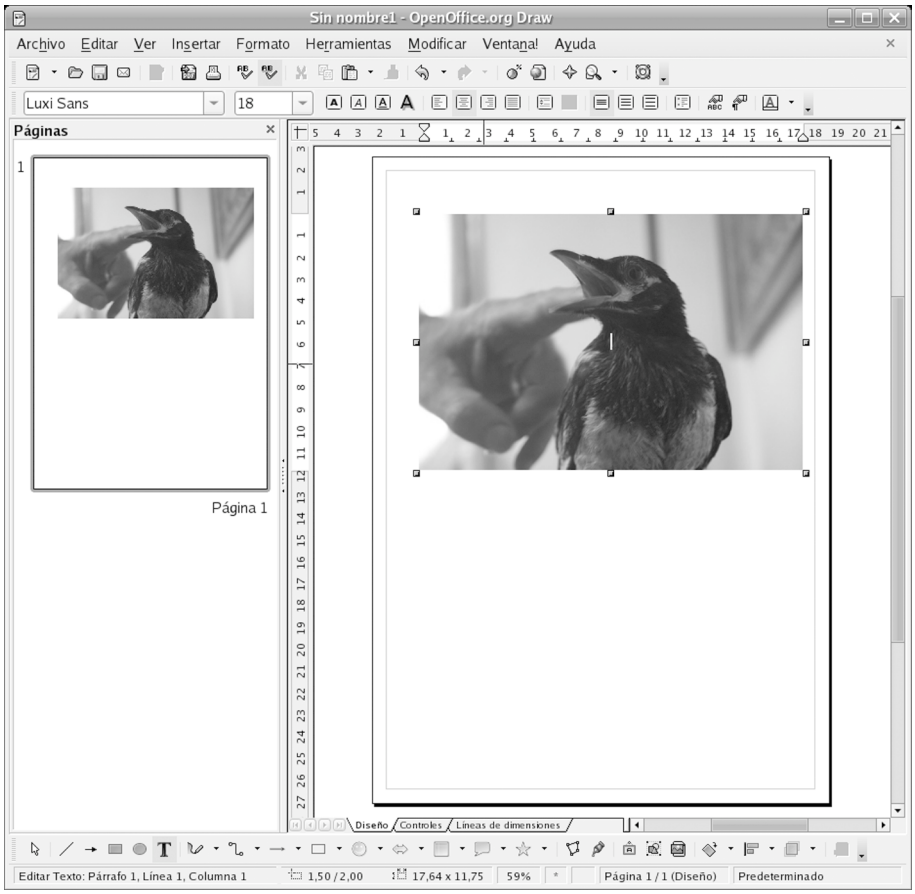
- The **Options bar** can be used for accurate customising of the position of text, lines and objects in the drawing, as well as some more advanced options.

- The **Color bar** is used to select the colour of an object as you would with the Object bar but is more intuitive and much quicker.

- The **Status bar** , located at the bottom of the screen has a number of functions, which include displaying page numbers, applying page styles (by right-clicking on Standard), changing the ***zoom***percentage and changing the default type of text selection.

We have just described the Open Draw workspace but the program has a second workspace for working with graphics. In this workspace, the Object bar can be used to make a number of changes to an image, such as adjusting colours, converting it to black and white or rotating it.

Figure 2. The Open Draw working environment for images



If you click on the magic wand button to the left of the Object bar, you will access the program filters that can be applied to the image you are editing. Another very useful Open Draw tool is the eyedropper, which can be used to replace a colour in an image with another of your choice. To use this feature, select the Tools -> Eyedropper main menu option.

Figure 3. Eyedropper dialog box

Once inside the Eyedropper dialog box, click on the Eyedropper button in the top left of the dialog box, then click on the first colour you wish to replace and enter the tolerance in this same dialog box. It is best to play it safe by starting with a tolerance of 10% and working your way up if the results are not to your satisfaction. In the Replace with field, select the colour you want to replace the original one with. Finally, click on the Replace button to change the colour.

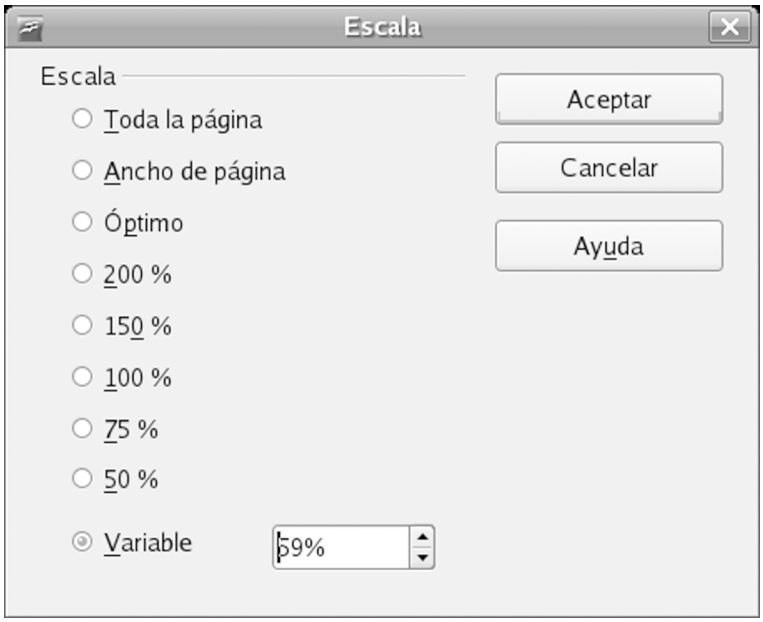
1.2. Creating a sample drawing

We will now create a sample drawing to discover the basic features of the program and familiarise ourselves with its workspace. Follow the steps below closely for this:

1) Launch OpenOffice.org and create a new drawing document by selecting the File -> New -> Drawing option from the main menu. This will open a new window with a blank drawing document.

2) In the program's status bar, double-click on the value indicated as the percentage of ***zoom.*** This will bring up the document scaling settings dialog box. Enter a Variable scale of 90% here.

Figure 4. Document scaling settings dialog box



3) Click on the Rectangle button on the Main toolbar and hold down the mouse button until the Rectangles bar appears. Click on the filled rectangle, which is the normal Rectangle button. Draw a rectangle in the new document.

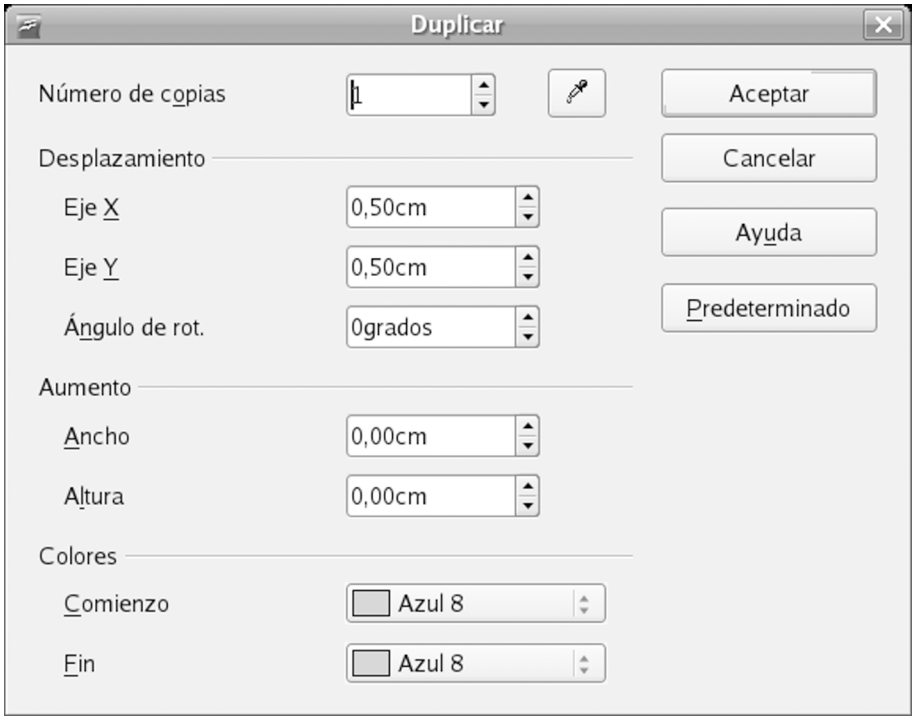
4) In the Object bar, change the colour of the border using the Line Color drop-down menu. Use any colour for the new border.

5) Return to the Object bar and select the Gradient option from the Area Style/ Filling drop-down menu and then select a gradient from the list of gradients in the Area Style/Filling field.

6) Go to the program ruler and right-click on it. Make sure that the unit of measurement is centimetres. If not, change it.

7) If the rectangle is not selected, do so and select the Edit -> Duplicate main menu option. Make a copy of the rectangle and place it 5 centimetres to the left of the original.

Figure 5. Object duplicate dialog box



The main features of this dialog box are as follows:

- The **Number of copies** field is used to enter the exact number of copies we wish to make.

- The **Placement** section allows us to indicate where we want to create the new copy, defined as the distance from the top left of the original object.

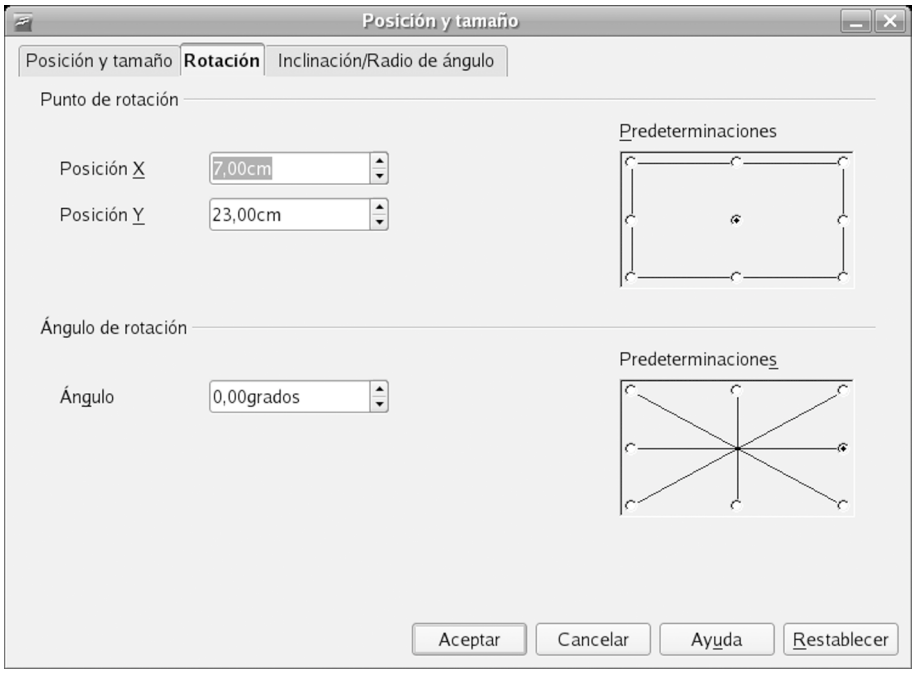
- In the **Enlargement**section, we can enter the enlargement factor to apply to each subsequent copy.

- In the **Colors**section, we can choose a start and end colour so that the colour of the objects gradually changes from the first to the second.

- When we click on the **Values from Selection button**,the attributes of the current object will be automatically entered in the dialog box fields.

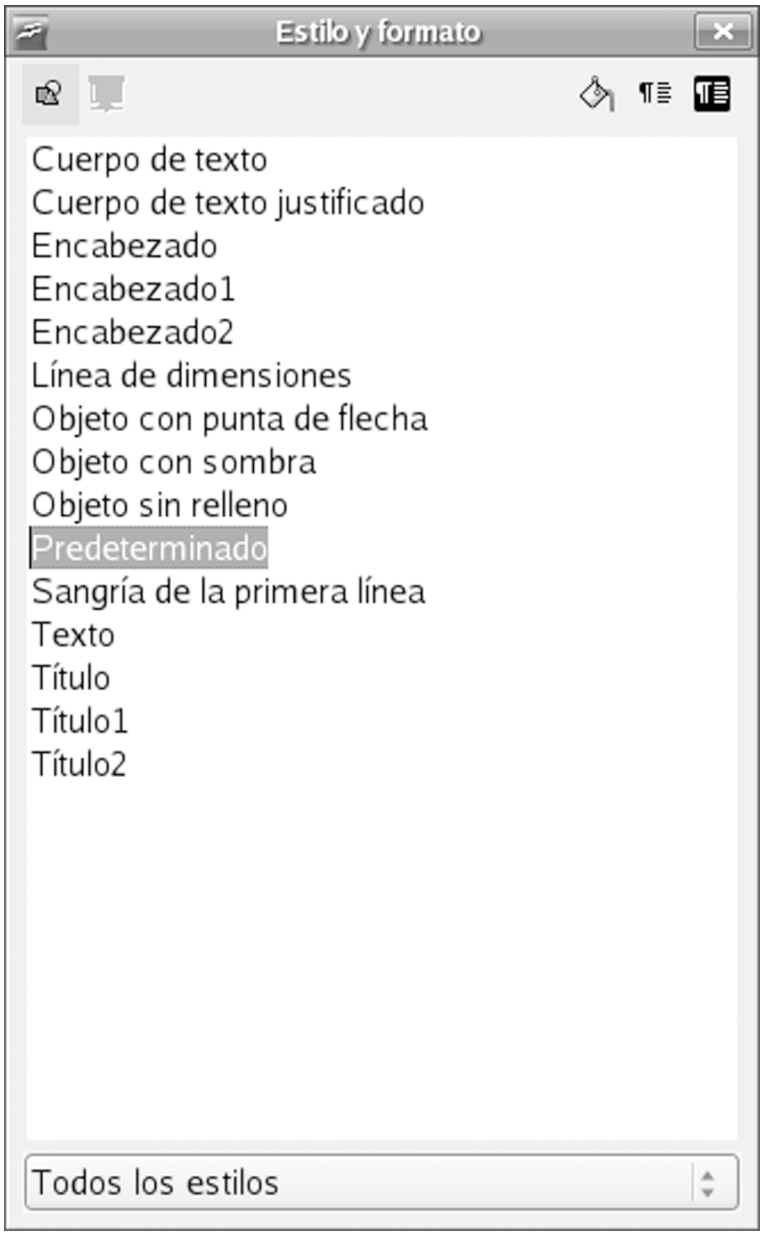
8) Select one of the two rectangles you have created and right-click on it. In the context menu, select the Position and Size option. In this dialog box, go to the Position and Size tab and increase the size of the rectangle by 10%. Then go to the Rotation tab and rotate the rectangle 45º on its bottom left-hand corner.

Figure 6. Rotation tab in the Position and Size dialog box



9) Enable the Stylist by pressing **F11** or selecting the Format -> Stylist menu option. Select a rectangle and double-click on the Object without fill format. The rectangle will change to the new style.

Figure 7. Stylist showing the graphics styles

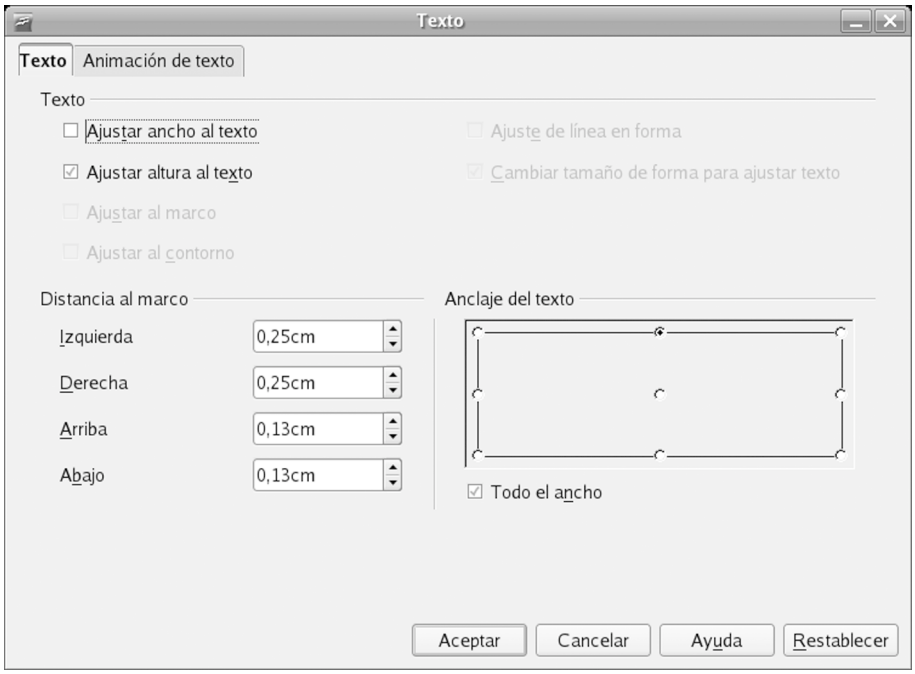


10) In the Main toolbar, press the Connector button and connect the left-hand side of the first rectangle to the right-hand side of the second one.

11) We will now convert one of the two rectangles into a 3D rotational object. To do this, right-click on the rectangle and select the Convert option from the context menu, followed by To 3D rotation object.

12) We will now enter some text. Do not select anything and go to the Main toolbar and click on the Text button. Click on the workspace and enter the following text: "This is a text test". The text frame will grow to fit the text inside it. To spread the text over more than one line, select it and right-click to bring up the context menu. Choose the Text option from this menu and unmark the Fit width to text option.

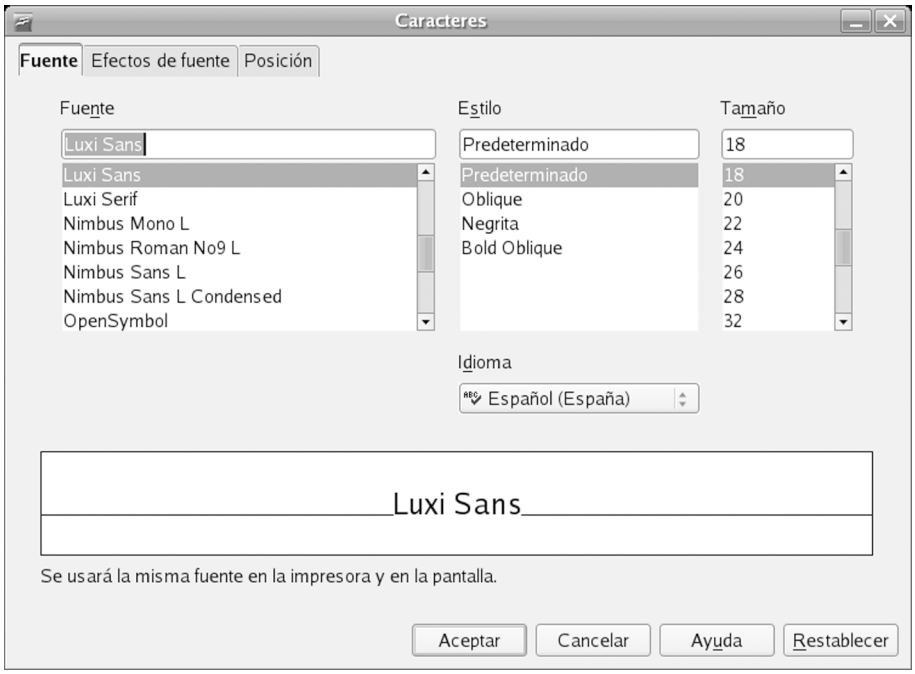
Figure 8. Text frame properties dialog box



13) Click again on the Text button of the Main toolbar and create a text frame in the document approximately 3 centimetres high by 5 centimetres across. Position the cursor inside it and type: "We will now see how this text frame behaves with line wrapping". When you drew the new text frame, the frame was set at the specified horizontal measurement but automatically grows to accommodate the new lines of text.

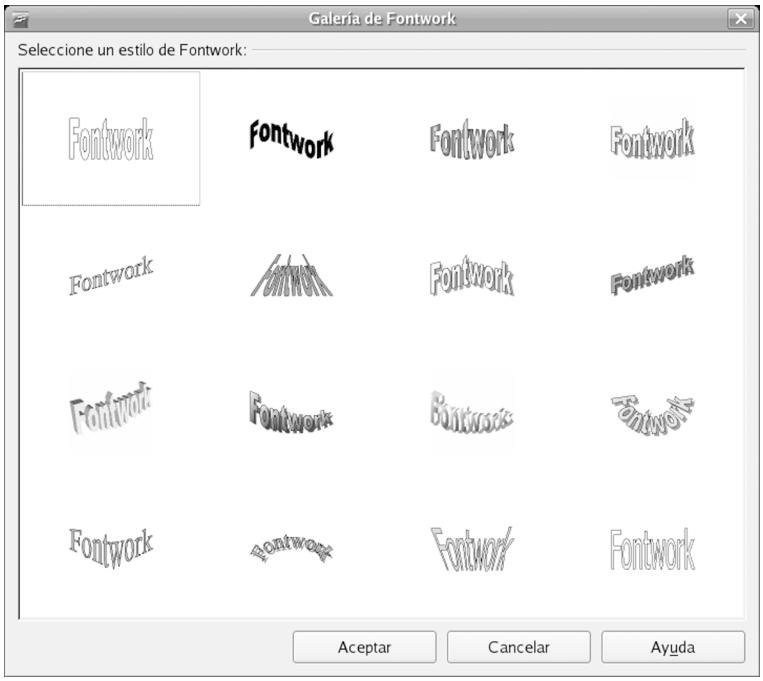
14) Select the text you have just typed, right-click on it and choose the Character option from the context menu. You can also access this dialog box from the Format -> Character main menu option. In this dialog box, select the Conga font, size 12 points and colour blue.

Figure 9. Character properties dialog box



15) We will now look at how to change the text using the Object bar. In this bar, change the font to Bitstream Vera Sans size 23 points and colour red. Right-click the text frame and select the FontWork option. Curve the selected text using any button and then close the dialog box.

Figure 10. Fontwork dialog box



The top part of the window contains the buttons for curving text horizontally, vertically and in a circle. If you cannot see all of the available buttons, use the vertical scroll bar.

The second row of buttons is used to align the text at all of the angles shown. The third row of buttons can be used to select the direction of the text.

Other options in this tool are:

- The **Orientation** button, used to rotate the text horizontally to vertically and vice versa

- The **Distance**field, used to enter the distance between the text and the line of curvature, if there is one.

- The **Indent**field. If you chose to align the text to the left or right, you can enter the distance from the end of the text to the corresponding end of the line of the curve or object.

- The **Contour** button, used to indicate whether to display the contour line next to the text.

- The **Text Contour**button, used to give the selected text a contour.

- The **Shadow style** buttons are used to turn shadows on or off. We can indicate the distance between the shadow and the text in these fields. We can also select the colour of the shadow in the Shadow Color list.

16) Double-click the rectangle you did not convert and enter the following text: "We are writing a long text to explain another one of the program's features". If the text is illegible because of the object's angle of rotation, go back to the Position and Size option and change it.

17) Right-click the rectangle and select the Text option from the context menu. Then select the Fit to frame option. The text will be too small to read. Return to the same dialog box and select Adjust to contour.

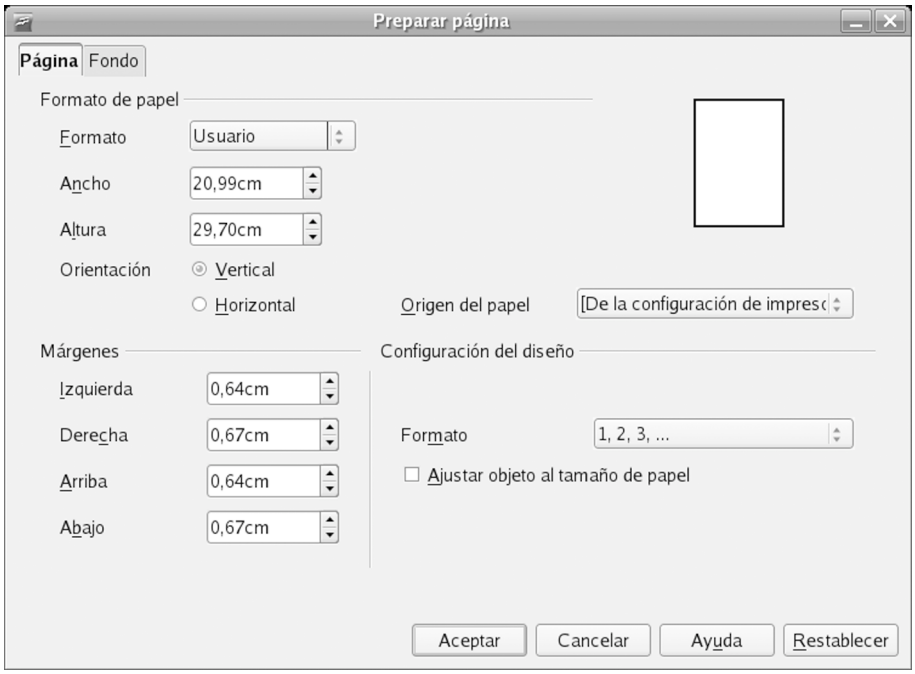
18) Move the 3D rectangle so that it covers part of the other rectangle. If it is underneath the other rectangle, right-click it and select the Arrange -> Bring to Front option to position it on top of the other rectangle.

19) Click on the Curve button in the Main toolbar and hold down the mouse button until the Curves bar appears. Click on the Curve, Filled button and draw a filled polygon. Double-click to stop drawing.

20) Go to the Edit Points button on the left of the Object bar. Click on it and then select one of the object's handles. Drag the handles to change the shape of the polygon.

21) Draw a new rectangle with rounded corners that reaches the four page margins. Go to the main menu and select the Format -> Page option. Go to the Page tab and select Landscape orientation. Click on OK.

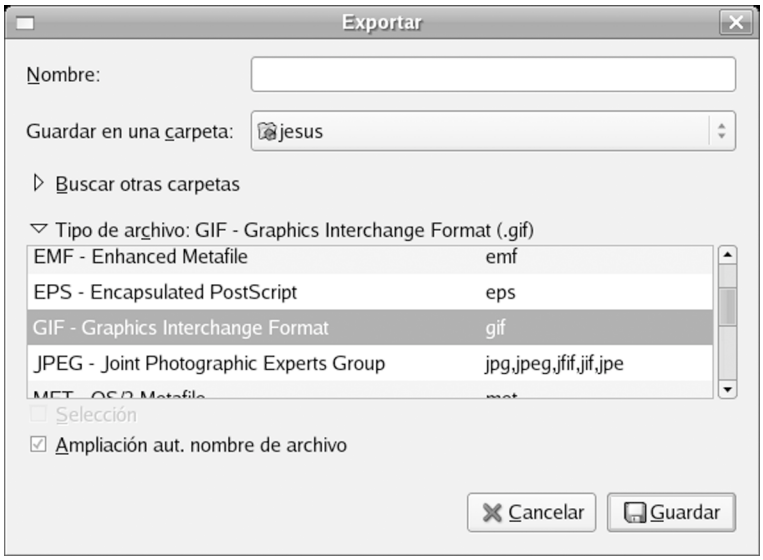
Figure 11. Page tab of the Page Setup dialog box



22) You will see that the rectangle you have drawn has not changed to fit the margins. To fit the rectangle to the page margins, you need to select the Fit object to paper format option when changing the page orientation.

23) We will now deal with the topic of saving the graphics we have created. Go to the main menu and select the File -> Export option, leaving the two export options selected.

Figure 12. File Export dialog box



2. Creating drawings with basic objects

Open Draw can be used to draw basic shapes such as rectangles or ellipses very quickly and easily. You simply need to select the corresponding option from the Main toolbar.

The toolbar buttons do not always display the same image because they display the last tool you selected. This means that you do not always have to drop down all of the available options in drop-down buttons.

2.1. Use of basic drawing tools

The easiest tools to use are the ones for drawing rectangles and ellipses. To use these, simply select the contour or shape you wish to use from the drop-down list and draw the object in your workspace.

You can also draw a rectangle and change its borders to round the corners. The steps for doing this are as follows:

1) Select the object you wish to round.

2) Click on the Edit Points button on the left of the Object bar.

3) The text handles will change and one of these will increase in size. When you click on the biggest handle, the mouse cursor turns into a hand and you can drag the handle to round the edges symmetrically.

The tool for drawing an arch or filled segment is particularly complicated to use, so we will look at the steps required to do this now:

1) Click on the Ellipse button in the Main toolbar and select the shape you wish to draw.

2) Draw the circle or ellipse in the document.

3) When you release the mouse button, the radius will appear and the mouse pointer will adopt the form of a cross. You now need to click on the shape where you want to make the cross-section.

4) The program will draw this line and another, movable radius will now appear, which you need to move to the point on the shape where you want the next cross-section to be made. The shape you have created will

appear when you click. You can change the size to suit your needs using the handles.

2.2. Applying attributes with the Object bar

When working with drawing objects, we can format selected objects very quickly using the program's Object bar, which automatically adapts to our selection.

Figure 13. Open Draw Object bar

The formatting options of the Object bar are as follows:

- **Line Style**, **Line Width** and **Line Color** can be used to indicate whether we want to include a border with the selected object. If so, select one from the line style field. The Line Width and Line Color lists can be used to define the attributes of the line.

- In the **Area Style/Filling** list, we can define the Invisible, Color, Gradient, Hatching and Bitmap options. When one of these is selected, the previous style will be removed. In the list to the right of this, you can choose from the OpenOffice.org options for each of these categories. If the Color category is selected, the program will display the same colours as the Color bar, but with their names.

- The **Shadow style** button simply enables or disables this object attribute.

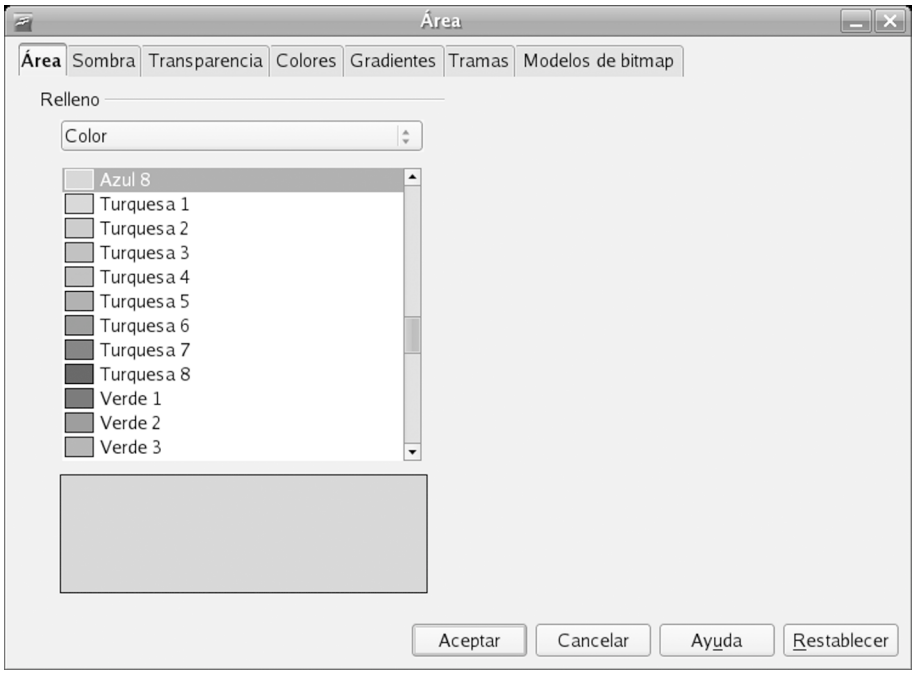
2.3. Applying fill attributes with the Area dialog box

All of the options we have just seen can be customised with advanced settings in the Area dialog box, which can be accessed from the following menu option: Format -> Area, in the Area tab.

If we select the None option in this dialog box, no settings options will be available because the selected object will not be filled.

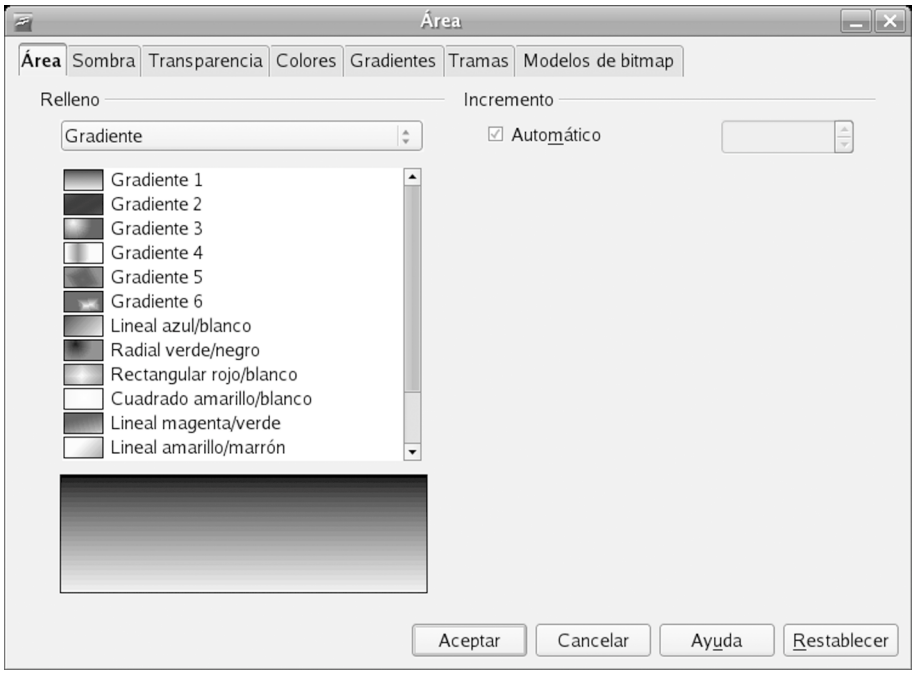
However, if we choose one of the other options, we will see that the contents of the dialog box change automatically.

Figure 14. Area dialog box Color option



With the Color option selected, simply choose the colour from the program palette that you wish to use. In previous units, we saw how to modify the palette to add custom colours using Tools -> Options...-> OpenOffice.org-> Colors.

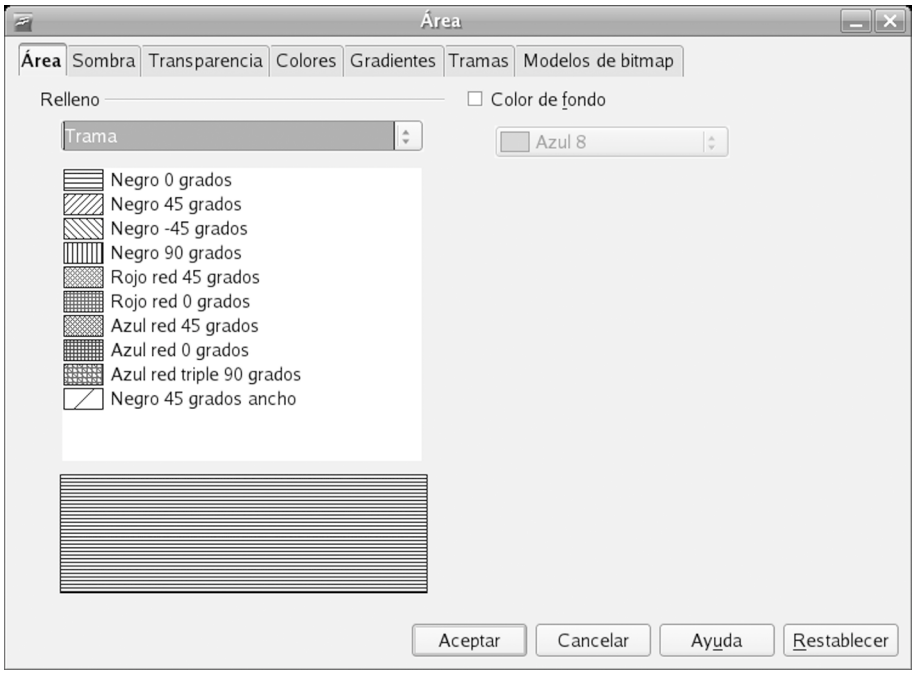
Figure 15. Area dialog box Gradients option



If you select the gradient option, you must then select the type of gradient you wish to use from the list. You can then select Automatic, whereby OpenOffice.org creates the gradient automatically or, if you unmark this op-

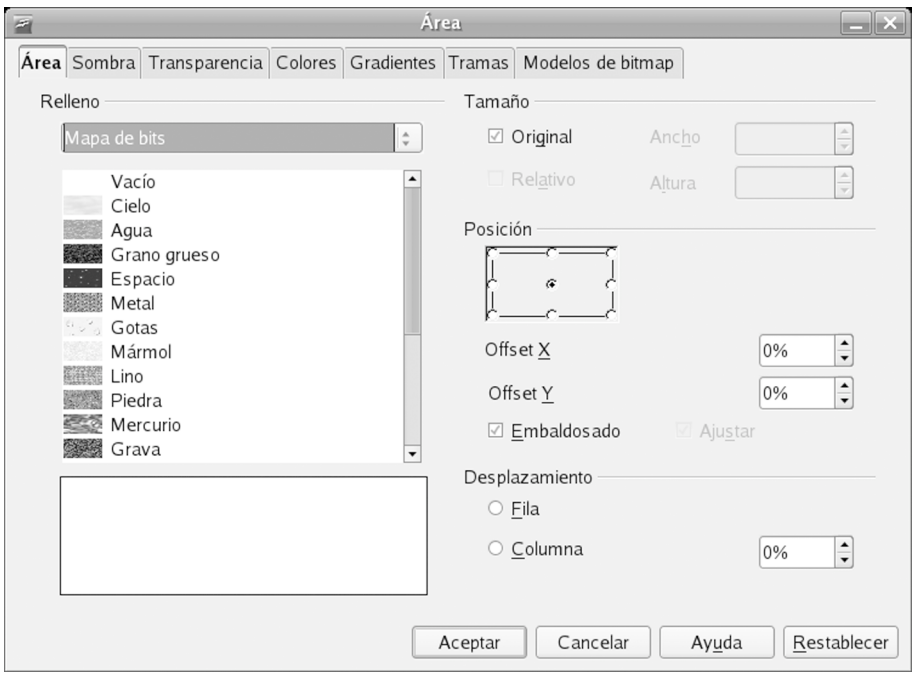
tion, you can enter the number of changes in colour tone you wish to apply. The more changes, the smoother the gradient. The maximum number of changes is 256.

Figure 16. Area dialog box Hatching option



With the Hatching option, you need to select a style of hatching from the list of options and indicate whether you want to use a background colour. If you do not select a background colour, the background will be transparent.

Figure 17. Area dialog box Bitmap option



The Bitmap screen and its options is rather more complicated than the others, so we will split up our explanation into different sections:

- In the **Size**section, we can select the Original option to maintain the size of the bitmap. If you wish to modify the size, unmark the Original option and enter your width and height measurements for the bitmap. You can also check the Relative option and enter the percentage of the height and width of the bitmap you wish to use.

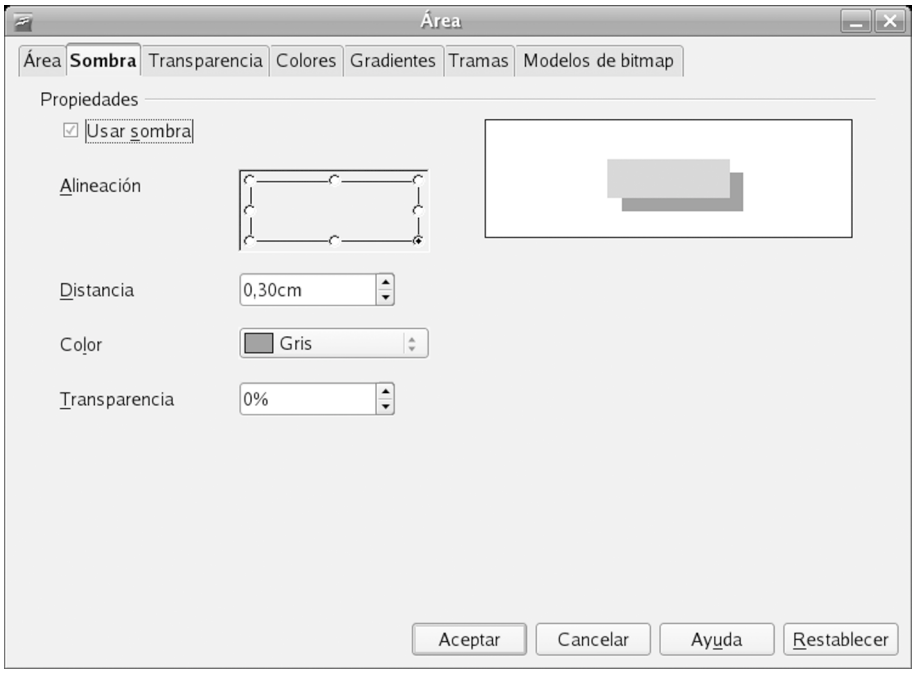
- In **Position** , you can change the spot where drawing of the bitmap begins. This percentage relates to the bitmap rather than the object we want to apply it to. If you select the Tile option, the bitmap will be repeated all along the surface of the object. We can also select Autofit to adjust the size of the bitmap to the size of the object.

- In the **Offset**section, we find the options to control where the bitmap is applied or where bitmap tiling begins, working out from the centre of the object.

The result of our selections is displayed in the top right of the screen.

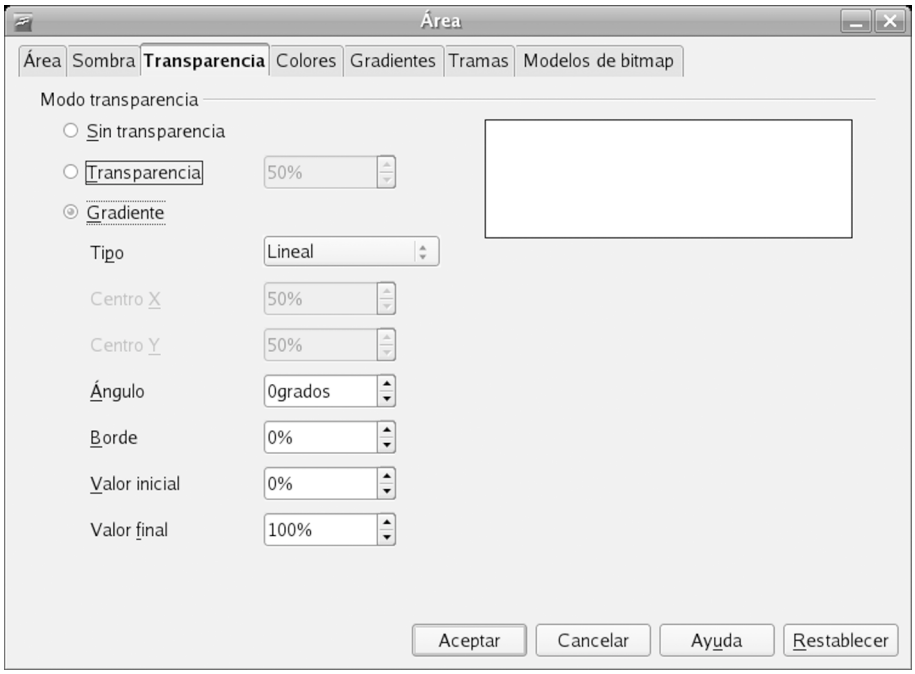
This same dialog box can also be used to modify the shadow and transparency options of objects from their respective tabs. We will now take a look at these.

Figure 18. Area dialog box Shadow tab



The Shadow tab is used to enable or disable shadows by selecting or unselecting the Use shadow option. We can also select its position, the distance of the shadow from the object, the colour and the transparency percentage we would like it to have.

Figure 19. Area dialog box Transparency tab



In the Transparency tab, we can select the mode of transparency we wish to use. With linear transparency, we can control the level of transparency with the percentage in the linear transparency field. Gradient transparency is also controlled in the fields in the gradient transparency section.

For some transparency modes, we need to enter centre coordinates so that the centre of the colour gradient can move along these coordinates. With less than 50% it moves left and up while with over 50%, it moves right and down.

To enter the value of the colour gradient angle, type in a number from 0 to 360°.

If the gradient colour is to have a border, the size of this should be entered too.

In the last field of this tab, we need to enter a start and end value for the intensity of the colour gradient. This value must be at least 0 percent.

2.4. Creating and formatting lines

Open Draw has different types of lines that we can use in our work. They include simple lines, connectors and diverse types of curves, and different attributes can be applied to each of these.

The steps for drawing a line are as follows:

1) Click on the Lines and Arrows button on the Main toolbar and hold down the mouse button until the Lines bar appears. Click on the type of line you wish to use.

2) Draw the line and use the handles to adjust it if the result is not quite what you had in mind.

If you would like to draw a line at an angle, select the button with the cross image to draw lines at horizontal, vertical or 45º angles.

2.4.1. Applying attributes to lines using the Object bar

As always, the easiest and fastest way to apply attributes to a line is to use the program's Object bar.

Figure 20. Open Draw Object bar

We will now look at its possibilities.

- In the **Arrow Style** list, we can specify the desired shape of the ends of the line.

- In **Line** we must select a style, such as Invisible or Continuous or any of the patterns from the list.

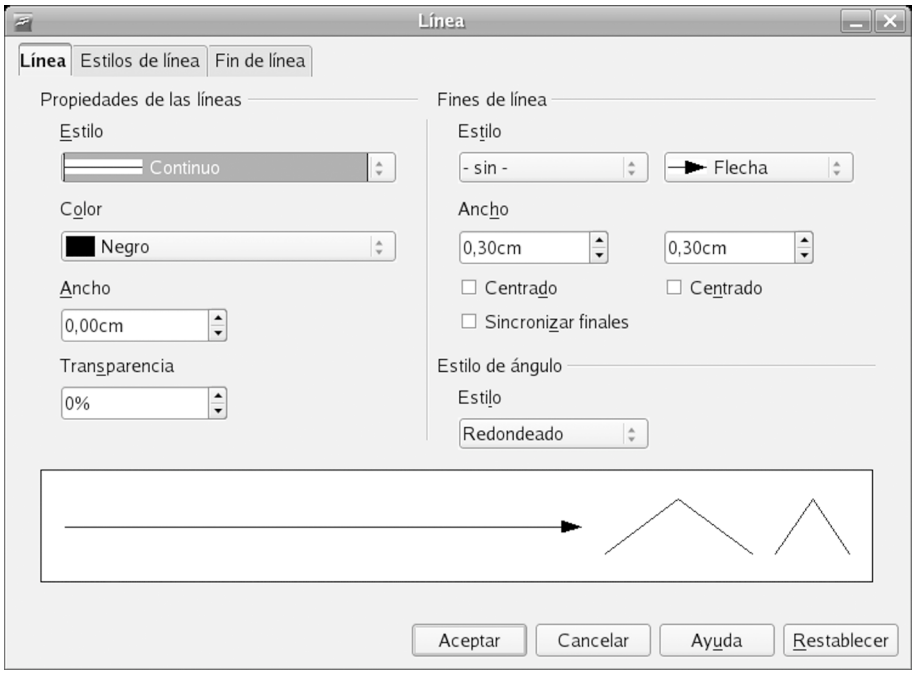
- In the **Line Width**field, we must enter the line width measurement. The unit of size used will depend on the system of measurements selected in OpenOffice.org.

- In **Line Color**, we can specify the line colour using the list of colours in the system palette.

2.4.2. Changing attributes in the Line dialog box

If, after drawing a line, you wish to modify its attributes to precise values, you will need to go to the Line dialog box, which you can bring up using the Line button on the Object bar. You can also bring up this dialog box by right-clicking on the line you have drawn and selecting the Line option from the context menu.

Figure 21. Line attributes dialog box



In this dialog box, you can select the type of line, colour and width, besides a range of other options:

- By choosing Center positions in the Arrow styles section, we will centre the arrow or line beyond the end of the line, making it bigger than we originally specified.

- If we select a value greater than 0% in the Transparency field, we will enable line transparency to the degree determined by the number we entered.

- If we mark the Synchronize ends option, both ends of the line will look the same.

Summary

We have now seen the basics of OpenOffice.org's drawing tool and learnt how to carry out basic drawing operations by creating a sample document.

We have also learned how to format and create the basic shapes offered by the program. This unit has not covered text formatting and composition tools because these topics were discussed in the previous units and the procedure is exactly the same in this application.

Similarly, everything that we have seen here on drawing tools can be applied to text documents and spreadsheets.