

## Koffice Workshop Part 4

## EXERCISES



OFFICE

## WITH K

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**In the last three parts of our Koffice Workshop, only relatively dry figures and texts have played the leading role. This time we will do something a bit more creative and with the aid of the vector painting program Killustrator, conjure up a happy smiley face.**

Graphics and images can be displayed by a computer in two ways. Firstly an image can be broken down into lots of little dots, called pixels in the same way as your monitor and printer compose an image. Unfortunately, enlarging these halftone or bitmap images leads to fairly clumsy and unattractive block structures.

With the other option, which is certainly very popular in the field of technical drawing, the images are composed from individual geometric elements such as lines or circles. Apart from the advantage that these vector graphics take up relatively little space on the hard disk – you need only store the position and size of the individual element – these graphics can also be enlarged by as many factors as you like. The disadvantage of such images lies in their often fairly complex structure: photos either cannot be shown at all, or with difficulty.

### One and only

In KOffice there is only one painting program specialising in vector graphics, and that is Killustrator. A counterpart responsible for halftone graphics is being developed by the Koffice team and should also find its way into the free Office package soon. Since it may be some time before that happens, this part of our five-part Workshop will be

devoted totally to Killustrator. Apart from the spreadsheet, Kspread, this is one of the most mature and stable components of the entire Office Suite. The online help is equally satisfactory. Nevertheless you should still bear in mind that Killustrator, like all the applications collected into the Office package, is still at the development stage. You should therefore not entrust any important data to this painting program. It is still worthwhile getting to know the application a bit better, since, especially under Linux, this type of vector painting program is rare.

### The interface

In order to be able to join in with the following smiley example, you should start Killustrator via the KDE Start menu under *Office programs/Killustrator* or the Koffice desktop (cf. also the first part of this Workshop). Close the window that appears after the start with a click on *OK*, which will then automatically create a new, empty page.

Unlike its other Office colleagues, the interface is sparing with the overloaded toolbars and on the whole looks very tidy. The use of Killustrator is very much oriented towards its commercial, large archetypes, such as Corel Draw. Anyone who has already worked with this type of program will soon feel at home with Killustrator.

In the centre of the window, you will see the work area. The big white rectangle represents precisely one printable page. All objects that we are going to create next must always be on this page – any objects outside it are neither displayed nor printed by Killustrator. In order to modify the page

#### Workshop summary

1. Word processing with KWord – Part 1: A business letter
2. Word processing with KWord – Part 2: A newspaper
3. Tables and diagrams with KSpread and KChart
- 4. Graphics and images with Killustrator**
5. Presentations with KPresenter

settings, select from the menu *Layout/Page*. There, apart from the page size, you can also modify its orientation and/or set the size of any margins.

But back to the interface: On the upper margin, immediately beneath the menu bar, you will find a symbol bar which offers rapid access to the file and clipboard functions. With the size list, which is roughly in the centre of the symbol bar, the view of the displayed page can be enlarged or reduced. On the left side of the Killustrator window there is another tool bar, which allows rapid selection of the various painting and drawing tools. Alternatively, you will also find all the tools listed here in the menu under *Tools*. These are incidentally arranged here in the same order as their symbol icons.

The last object bar to be mentioned is the colour palette positioned on the right edge of the screen. With its help, the colours of the individual graphics elements can be changed quickly and easily.

## Feint lines and the grid

Our smiley face initially consists of a yellow circle with a black rim. Before we start the drawing process, you should first make sure that the grid is activated. This aid provided by Killustrator works in a similar way to the little squares on graph paper. It is meant to help the user in the optimal and millimetre-accurate alignment of all graphical objects. To this end it can not only be made visible, but also be set up such that its gridlines suck in all graphical objects. To activate the grid, select from the menu *Layout/Grid...*

Mark the two empty boxes there and then click *OK*. The blue grid squares should now be shown on the white paper area.

For our face, select the ellipse tool from the toolbar or the menu (*Tools/Ellipse*). Bring the mouse cursor in the left upper third of the paper to a grid junction, then hold down the mouse button and draw a circle. When you do so, watch how the circle is drawn in and held by the respective gridlines.

Once you have drawn a circle roughly, like the one shown in Figure 3, release the mouse button and activate the mouse tool (the arrow or via *Tools/mouse*). The circle should now have been selected automatically, which is shown by the little box around it. As soon as you move the mouse over a box like this your mouse cursor changes its form. Now hold down the left mouse button, and by slowly moving the pointer, you can change the size of the circle. Click just once briefly on one of these points, though, and Killustrator switches over into a second editing mode, recognisable by the now altered marking symbols. Like the change in size just described, the object can be rotated about its own axis in this mode. Bear in mind that rotation can only be done with the four arrows at the vertices. A click on one of the other arrows would twist the object. Since rotating a circle makes relatively little sense, you should try this function out some time

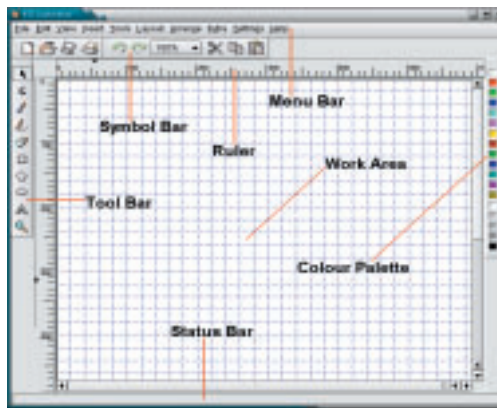


Figure 1:  
The Killustrator screen

on a rectangle. This can be created via the corresponding symbol from the symbol bar in exactly the same way as a circle. The centre – about which the object rotates – is incidentally defined by the small circle in the centre of the figure. In order to modify this point, place the mouse on the small circle in such a way that the pointer turns into a double arrow. Now hold down the left mouse button and move the point to its new position. To get back to the old mode, simply double-click on one of the edge markings. If you ever go completely wrong with the drawing, this is how you can remove the marked object via *Edit/Delete* from the picture again.

To deselect an object, simply click, with the mouse tool activated, on an empty area on your page. Or else you can select an existing object

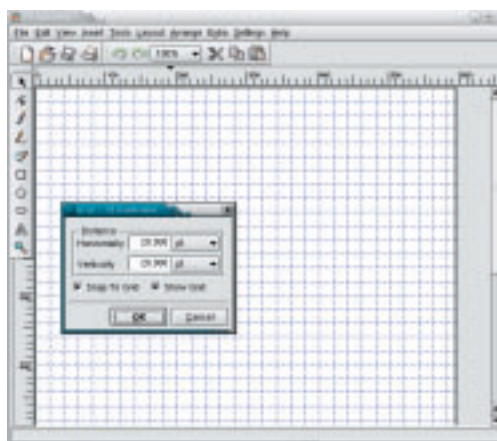


Figure 2:  
Setting up the grid

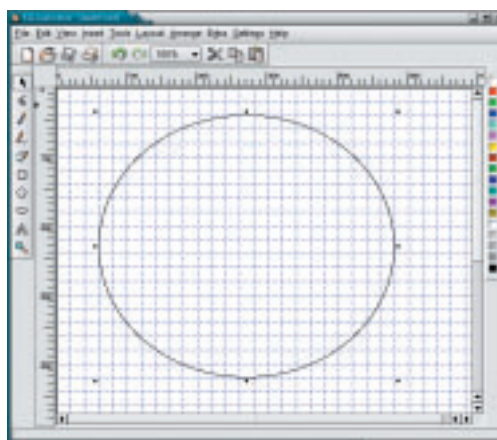


Figure 3:  
The finished circle

again, by clicking on it with the left mouse button. What counts is that when you do so, you hit the respective precisely, which gets a bit fiddly, especially with small objects or those with a thin edge. Incidentally, you must do a very similar thing if you want to move the object: Move the mouse cursor to the corresponding candidate, hold down the left mouse button and then move the complete object to its new position.

## Colour

The smiley face is now to get a yellow coat of paint. To do this, simply click, with the circle selected, with the left mouse button on the yellow colour fill in the colour palette on the left edge of the window. A click with the right mouse button would mean that instead of the fill colour, you would be changing the colour of its border. But for the sake of our example, leave the latter black. It could be a bit wider. To modify this, either click on the filled circle with the right mouse button and select *Properties*, from the context menu, or with the circle selected pick *Edit/Properties*. In any case, a window should now open with which you can alter a few attributes of the circle.

To make the outline look thicker, enter 4mm as width in the *Outline* tab. Here incidentally you also have the option of modifying the type of line, so for

Figure 4:  
Our circle is given a  
broader outline

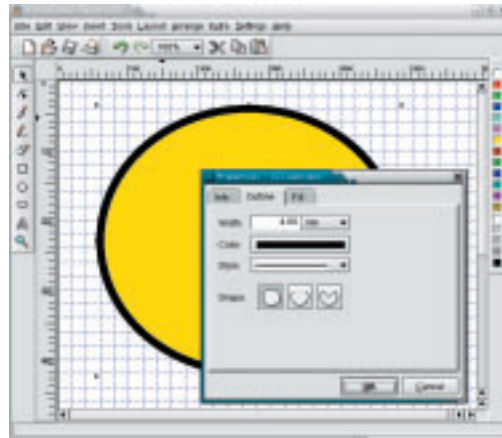
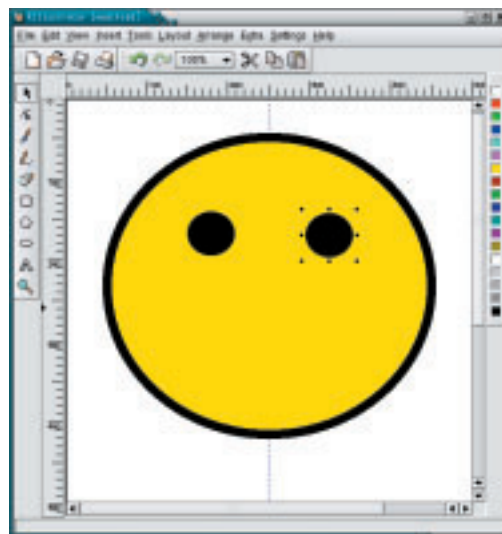


Figure 5:  
The second eye is  
created by copying  
and inserting



example the smiley face could be made to look frayed. After a click on *OK* the circle should now have a thick, black outline. Now all the face is lacking is the eyes, nose and mouth.

## The eyes have it

First the eyes. We shall make these out of two smallish, black-filled circles. When you do this, proceed exactly as for the face, by first selecting the circle tool, then painting a small circle at eye level and filling this in with a click on the colour black in the colour palette. You could now draw a second eye in the same way – but so that we get a second eye that looks exactly the same, the first eye should then be copied. To do this, mark the black circle just drawn, select from the menu *Edit/Copy* and then *Edit/Duplicate*. Apparently, nothing has happened in your drawing. But click on the first eye with the mouse tool and move it to the position of the second eye, so you can see that Kllustrator inserts the copy at exactly the place at which the original is located.

That completes the two eyes, so now we can go on to the nose. Before we create this with a line, you should first turn off the grid again. To do this, call up the corresponding window via *Layout/Grid* and unmark the two small boxes. After a click on *OK* the grid should disappear from the background.

Instead of the grid, a feint line should be used to create the nose. A feint line works like a line in the grid, except that the user can now define the position of each individual feint line himself. Kllustrator enables you to create vertical and horizontal feint lines in two ways: Firstly, you can create a feint line rapidly using the mouse. For our example, place the mouse cursor on the left, vertical ruler, hold down the left mouse button and draw the feint line on your page. Move the mouse to the centre of the incomplete face. If you are not sure whether the feint line is in the right place, do not let go of the left mouse button. It is very fiddly to make any modification later via a corresponding window. If the feint line is roughly in the centre between the two eyes, release the mouse button. Similarly, you can also make horizontal feint lines via the top ruler. Another, considerably more accurate, option for creating feint lines can be obtained by selecting *Layout/helplines*. Here you can create feint lines directly by entering their position values. In addition to this, this dialog serves to delete and change the positions of individual lines.

Back to our face: Using *Layout/Align to Helplines*, switch on the pulling power of the feint lines. This will make it much simpler to position a straight nose precisely. For the drawing procedure, activate the line tool (fourth symbol from top in the toolbar or under *Tools/Line*). Position the mouse cursor roughly beneath the eyes and click once with the left mouse button. Move downwards along the feint line, until a simple nose is drawn. Then quickly and briefly press the right mouse button. This has the effect that the



drawing process is regarded as complete.

If you would like to draw the line further in order to give the face a hooked nose for instance, press the left mouse button. You will now get another line, whose beginning lies exactly at the end of the first line. Please bear in mind that the line thus produced with a kink represents an independent object and not two separate lines produced by Killustrator.

## Kiss me

Now all that's missing is the mouth. This should be a semi-circle, which is why it will now be created with the aid of the Bezier curve tool. To do this, select this tool from the toolbar (fifth symbol from top or from the menu *Tool/Bezier*). Working with this tool turns out to be somewhat more complicated than with the simpler tools previously introduced, hence these step-by-step instructions: With the Bezier tool selected, move to the point on the face at which the left corner of the mouth should begin. Click once with the left mouse button. You will get a feint line, with which you can define the degree of curvature. Bring this feint line with the mouse into a position where the mouse cursor is at bottom right (see Figure 7).

Click again with the left mouse button and then position the mouse cursor on the vertical, continuous feint line, roughly where the mouth is to have its lowest point. Click again with the left mouse button and bring the feint line that appears as horizontally as possible. After one click with the left mouse button, move the pointer to the place where the right upper corner of the mouth should appear. Click one last time with the left mouse button and adapt the feint line, which again appears so that it produces a smiling mouth.

To complete the drawing, press the right mouse button. If your mouth does not look all that great, you can re-edit it, as incidentally you can with any other geometric objects, with the point tool (second symbol from top in the toolbar or from the *Tools/Point* menu). To do this you must first select the object with the mouse tool. If you now turn on the point tool, all the changeable node points will be displayed and can be moved with the mouse to any other position. There is even a new toolbar opened under the toolbar, with which you can add additional node points or again, remove them from the object. You should experiment a bit with these node functions on our mouth, until the smiley displays an almost perfect smile.

## Layers

One important functional characteristic of Killustrator has so far not been mentioned – the layers (referred to as levels in the online help). Each graphical object (the individual eyes, the nose and the mouth in our example) is located on a separate

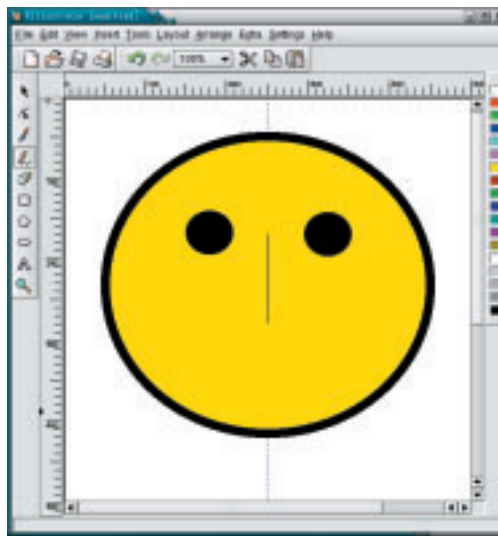


Figure 6:  
The nose was created by a line. In the background the vertical feint line can be made out.

layer. You could imagine this as a sort of transparent film, with precisely one geometric element to be found on each sheet of film. In our smiley example the left eye is on one layer which lies over the big yellow circle, but under the layer on which the right eye is located.

In order to become a bit more familiar with this

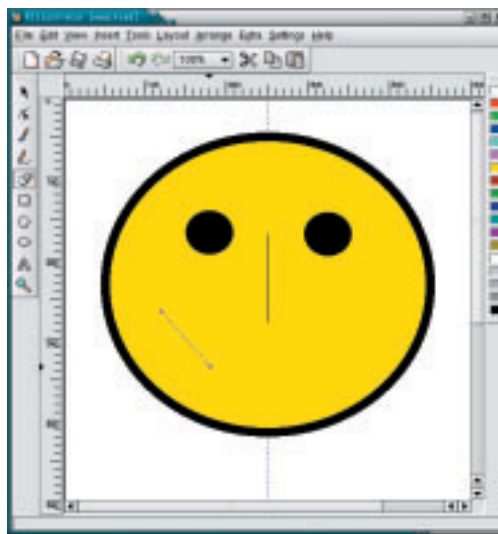


Figure 7:  
The left corner of the mouth is created with the aid of the Bezier curve tool

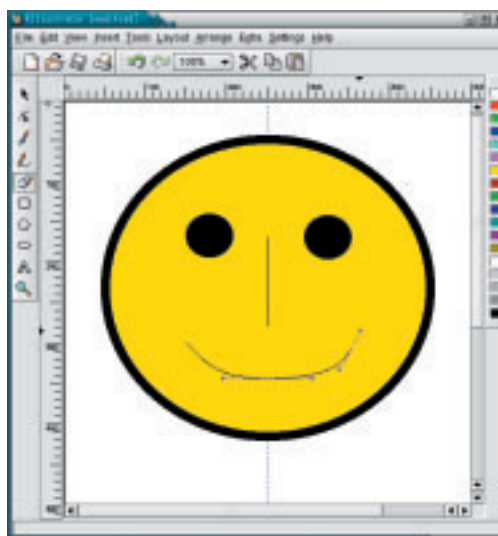
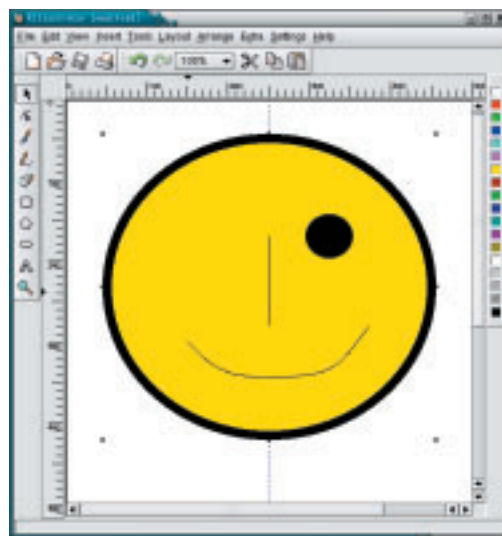


Figure 8: The smiley face is finished

## KNOW HOW

## KOFFICE WORKSHOP

**Figure 9:**  
The yellow circle has  
been moved forward  
by one layer




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**Info**

**Koffice Homepage:**  
<http://koffice.kde.org>  
**Homepage of the KDE Project:**  
<http://www.kde.org>

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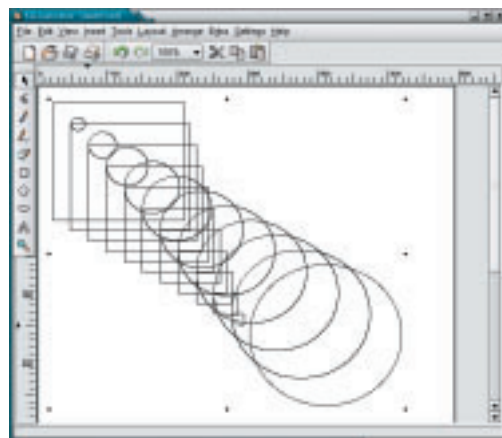
concept of layers, you should select the big yellow circle with the mouse tool. Now select *Arrange/To front*. This means you are placing the layer on which this circle lies in the foreground. Then select *Arrange/Back one*, until the circle is back in its original position.

With the corresponding entries from the menu *Arrange* or via the context menu of the right mouse button (mark the object with the mouse tool, then press the right mouse button) you can bring the layers of the corresponding object into the sequence you desire.

## Grouping

When you are making rather more complex drawings in KIllustrator, it can often happen that you displace an element without meaning to. Another problem crops up if you want to modify several elements, which are part of a larger object, at the same time but relative to each other. For a solution to these problems KIllustrator offers grouping of the elements concerned. This is done by combining several individual objects into a single large object. To combine the elements of our smiley face into such a group, all the objects must first be marked. You do this by drawing a frame with the mouse tool around all the elements involved. Place

**Figure 10:**  
Example of overlay



the mouse cursor at top left on the blank paper. Now hold down the left mouse button and draw a frame that surrounds all the elements of the face completely. As soon as you release the mouse button again, all the elements of the smiley should have been selected. To create the group, now select *Arrange/Group* from the menu. Check that KIllustrator has performed the grouping correctly, by moving the face around the paper as a test. If the grouping procedure was successful, all the elements forming part of the face should move at the same time. Henceforth this group of objects always counts as a graphical element.

If you want to cancel this grouping later on, all you need to do is select the group concerned with the mouse tool and then select *Arrange/Ungroup*.

## Text

Before coming to the end of this Workshop installment, another interesting affect should be mentioned, which plays an important role in connection with the editing of text. First, cancel the grouping of the face, as described above. The next thing we will do is align Smiley with the mouth. To do this, first activate the text tool (*Tools/Text* or second symbol from the bottom in the toolbar), click roughly above the mouth and then type the word Smiley. When you have finished, activate the mouse tool again and click on the text with the right mouse button. From the context menu which appears, select *Properties* and on the *Font* list of the newly opened window, a larger font. After a click on *OK*, select *Arrange/Text Along Path*. The mouse cursor should now have changed into a thick, black arrow. Click with the point of this arrow on the mouth. KIllustrator should then align Smiley along the mouth. At this point it should be mentioned that on our test system the application of this function led to a crash of the complete application. This unfortunately shows that KIllustrator is still in development.

Equally interesting is the overlay function. In order to get a better look at the result of this function, open a new blank drawing page. On this page, draw both a rectangle and a circle. The two objects should not intersect, and the circle should be placed on the right beneath the rectangle. Now activate the mouse tool and draw up a marking frame, completely enclosing both objects. Select *Extra/Blend* and leave the value set by KIllustrator. After clicking on *OK* KIllustrator tries to overlay the two shapes. New geometric forms are created which carry the first outline into that of the other object (see Figure 10).

This little affect ends the fourth part of our five-part Workshop on KOffice. In the last part you will get another chance to apply the vector painting program skills you have acquired in this installment. This will involve the presentation program Kpresenter. ■