

Image Annotation Objects in Picture Publisher 10

Douglas A. Kerr

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ABSTRACT

Often when editing images in Picture Publisher 10 we may wish to add annotations, which might consist of circles or squares to call attention to certain features, lines to lead to “callout” text, and so forth. It is desirable that these annotations be *objects*, so that they can be moved, resized, rotated, otherwise modified, or removed.

There are no provisions in Picture Publisher 10 for directly generating geometric figures as objects. However, there are straightforward, although not trivial, procedures for doing so indirectly.

This article gives the details of several such procedures.

1. INTRODUCTION

1.1 Applicability

The procedures described herein apply to the editing of images with Picture Publisher, Version 10.

1.2 Annotation of images

Often when editing an image we may wish to apply annotation figures, such as circles or rectangles identifying or calling attention to certain features, lines used to lead to text “callouts” identifying or describing features, and so forth. If these figures are drawn in the normal way, their pixels displace the existing pixels. Accordingly, there is no direct way that once we have applied an annotation figure it can be moved, resized, changed in color, or even deleted to be replaced by a differing one.¹

If we can somehow make our annotation figures be *objects*, then we have direct ways to move, resize, otherwise modify, or delete them. Doing so is the object of the procedures given herein.

¹ There of course may be the possibility of “backing out” an annotation figure via the Undo functionality of Picture Publisher 10.

1.3 Objects in Picture Publisher

Objects in Picture Publisher 10 are patterns of pixels that occupy their own “containers”. These containers can occupy distinct “layer positions” in the overall image so that (in a basic case) the pixels of the “upper” ones will obscure the pixels of “lower” ones.² (However, it may be arranged for overlapping objects to interact in other ways; we will not pursue that here.)

The containers of objects may be readily moved within the overall image frame. Objects may also be scaled, skewed, or rotated. They can readily be selected so that they alone will be the recipient of changes such as changes in lightness or contrast.

The pixels of an object do not replace the pixels of the base layer of the image or of lower objects; the latter are merely obscured for the time being. Thus, if an object is moved, or deleted entirely, the base image has not in any way been mutilated, nor have other objects.

Imagine a drawn circle of some line thickness that has been made into an object. Its “container” is precisely coextensive with the figure itself; that is, the circle is not carried on a rectangular flying carpet of some color. Thus, only the circle itself obscures pixels of the base image or of objects below it. Its center is “open”.

1.4 Annotation figures as objects

If our annotation figures are objects, we then have the prospect of, with straightforward procedures, adjusting their position, changing their size, rotating them, skewing them, changing their color, and deleting them. This is a desirable situation, and is the object of the procedures herein.

1.5 Making geometric figures as objects

Picture Publisher has no provisions for directly constructing geometric figures (circles, rectangles, line segments, curves, etc.) as objects. If we want them as objects, we must arrange for that through an indirect process, described in detail herein. The procedures, though straightforward, are not trivial, and involve a number of steps, which must be followed in the proper sequence.

² Note that in Picture Publisher 10, there is no overall structure of layers in the image (as there is in contemporary versions of, for example, Photoshop). But the layer concept is applicable to objects, whose layer order can be changed readily.

1.6 Objects not vector objects

Although geometric figures as objects can be moved, scaled, rotated, and so forth, they are still *pixel objects*, not *vector objects*. That means, for example, that if enlarged substantially, they may appear “jagged”. If a line segment is rotated and then later rotated to its original orientation, it may not be as “clean” as it was originally.

1.7 Annotation text

When text is generated in Picture Publisher 10, it is automatically in the form of an object. As such, it can be modified in many ways (including editing of the text proper) or deleted. There is no need to use the special techniques described herein to make annotation text into objects.

1.8 Generality

In any specific case, where certain conditions obtain, there may be the prospect of using a procedure of fewer steps than described herein. I do not illuminate any such shortcuts here. Rather, the procedures given here have broad generality. They will work to construct annotation figure objects that have multiple discontinuous portions, that have portions of differing color, that enclose empty areas (as in the case of a circle), and so forth.

The resourceful user, aware of the general approach described here, may well be able to contrive a simpler procedure to deal with certain special cases that recurs in his work.

2. THE PRINCIPLE

In the procedures described herein, we draw the desired annotation figure in a temporary area we describe as the *canvas*. We then isolate the pixels of the figure with a selection mask, and then use that mask to constrain the conversion of the suite of pixels into an object. The object can then be transported or moved to its final location (or in fact, under one procedure, will already be there).

3. DETAILED PROCEDURES

3.1 The separate canvas procedure

3.1.1 Introduction

In this procedure, a separate temporary document is created and used as a “canvas” on which the annotation figure is created, converted to an object, then Cut or Copied to the Clipboard, and finally Pasted onto the working document.

3.1.2 Detailed procedure

- a. Create a New document to serve as a canvas. It must have a background color that will not appear in the annotation figure. If it does not have an appropriate color as created, pour an appropriate color onto the canvas page with the Tint Fill Tool.
- b. Construct the desired annotation figure. It may have a single color or several (but not including the canvas's background color). It may be continuous or not, and may have "voids" in it. It is desirable that its overall size (on a pixel basis) be greater than that which will be needed in its actual use.
- c. Activate the Chroma Mask Tool (Mask>Chroma Mask; Ctrl+Shift+K). The Color Model should be Normal (the default). Set the Mode to "-" (subtractive). Activate an eyedropper; the default Range (10) should be fine.
- d. Click with the eyedropper on the page any place other than on the annotation figure itself. OK the Chroma Mask Tool dialog. The result is that the annotation figure will be the selected region of the selection mask.

Principle: Prior to this step, there is no selection mask.³ But when the Chroma Mask Tool in its negative mode is applied with no selection mask in effect, the selection mask is first put into effect, with its selected region initially embracing the entire page. In this case, this includes the annotation figure plus the surrounding region, whose color is uniform and does not correspond to any color in the figure.

Then, the Chroma Mask Tool in its negative mode removes regions from the selected region of the selection mask that match the chosen color. Thus it removes from the selected region all of the canvas page other than at the annotation figure, leaving only the annotation figure as the selected region of the selection mask.

- e. Right click any place on the page and select Create Object From Mask. The annotation figure will become an object, which will be selected.
- f. Do Copy. If you plan to use the temporary canvas to make further annotation objects, use Cut instead.

³ However, with no selection mask active, image operations are global, as if the entire page is the selected region of an active selection mask.

- g. Switch to the working document.
- h. Do Paste. The annotation figure will be deposited as an object in an arbitrary location. It will be selected and provided with a Transform frame.
- i. Move the annotation figure object or transform it in size, orientation, or location as desired. If the Transform frame is no longer present and you need to make further modifications, select the object and invoke the Selector Transform tool. The object can be moved without doing so.
- j. You may now make another annotation figure on the canvas in the same way.
- k. When you are done with the canvas, close the canvas document without saving.

3.2 The local canvas procedure

3.2.1 Introduction

In this procedure, a temporary object is created on the working document and used as a “canvas” on which the annotation figure is created and then converted to an object. This eliminates the need to create the separate “canvas” document and move the annotation figure from it to the working document, but does introduce some additional steps into the procedure itself.

3.2.2 Detailed procedure

- a. On the working document, in a convenient location, make a rectangular selection large enough to accommodate the annotation figure to be created.
- b. With the Selection Tool active, right click any place on the page and select Create Object From Mask. The rectangular area will become an object, and will be selected. It is the “canvas”.
- c. Pour into the canvas a color that will not appear in the annotation figure, using the Tint Fill Tool.
- d. Construct the desired annotation figure within the canvas. It may have a single color or several (not including the region’s original background color). It may be continuous or not, and may have “voids” in it. It is desirable that it be larger than it will need to be in its eventual placement.

- e. With the Selection Tool active, right click any place on the page and select Create Mask From Object. The entire canvas (the object referred to) will become the selected region of the selection mask.
- f. Activate the Chroma Mask Tool (Mask>Chroma Mask; Ctrl+Shift+K). The Color Model should be Normal. Set the Mode to “-” (subtractive). Activate an eyedropper; the default Range (10) should be fine.
- g. Click with the eyedropper within the canvas any place other than on the annotation figure. OK the Chroma Mask Tool dialog. The result is that the annotation figure (only) will remain as the selected region of the selection mask.

Principle: Prior to this step, the selected region of the selection mask only embraces the canvas. Thus it only includes the annotation figure plus a region (the rest of the canvas) whose color is uniform and does not correspond to any color in the figure.

The application of the Chroma Mask Tool in its negative mode can only remove regions from the already selected region of the selection mask. Thus it removes the region of the chosen color, which is all of the canvas other than at the annotation figure, leaving only the annotation figure as the selected region of the selection mask.

- h. With the Selection Tool active, right click any place on the page and select Create Object From Mask. The annotation figure will become an object, which will be selected. (The canvas remains as an object.)
- i. Move the annotation figure object to the desired location. If you need to change the size or orientation of the annotation figure object, be sure it remains selected, and invoke the Selector Transform tool.
- j. You may now make another annotation figure on the canvas in the same way.
- k. When you are done with the canvas, be sure it is selected and do Delete.

3.3 The semitransparent canvas procedure

3.3.1 Introduction

In this procedure, a semitransparent temporary object is created on the working document surrounding the actual final location of the

desired annotation figure and used as a “canvas” on which the annotation figure is created and then converted to an object. Because of its semitransparency, we can see the working document through it. This way we can initially draw the figure in the needed size at exactly the needed location.

3.3.2 *Detailed procedure*

- a. On the working document make a rectangular selection that embraces the region where the annotation figure will go.
- b. With the Selection Tool active, right click any place on the page and select Create Object From Mask. The rectangular area will become an object, and will be selected. It is the “canvas”.
- c. Pour into the canvas a color that will not appear in the annotation figure, using the Tint Fill Tool.
- d. With the Selection Tool active (the canvas needs to be selected; it will be already if we haven’t done anything to the contrary), set the transparency (on the ribbon of the Selection Tool) to perhaps 70%. We will now be able to see the working document through the canvas so that we can place the annotation figure(s) in exactly the required location(s) at the required size.
- e. Construct the desired annotation figure in the desired location (which must be within the canvas). It may have a single color or several (not including the region’s original background color). It may be continuous or not, and may have “voids” in it.
- f. With the Selection Tool active and the canvas selected (it will be already if we haven’t done anything to the contrary), set the transparency to 100%. This will avoid baffling the Chroma Mask tool with pixels of the base image that partially appear within the canvas.
- g. With the Selection Tool active, right click any place on the page and select Create Mask From Object. The entire canvas (the object referred to) will become the selected region of the selection mask.
- h. Activate the Chroma Mask Tool (Mask>Chroma Mask; Ctrl+Shift+K). The Color Model should be Normal. Set the Mode to “-” (subtractive). Activate an eyedropper; the default Range (10) should be fine.
- i. Click with the eyedropper within the canvas any place other than on the annotation figure. OK the Chroma Mask Tool dialog. The result is that the annotation figure (only) will be the selected region of the selection mask.

- j. With the Selection Tool active, right click any place on the page and select Create Object From Mask. The annotation figure will become an object, which will be selected. The canvas remains as an object.
- k. If you need to change the size or orientation of the annotation figure object, be sure it remains selected, and invoke the Selector Transform tool.
- l. You may now make another annotation figure “in place” on the canvas in the same way. The process will not disturb the earlier-constructed annotation figure object(s).
- m. When you are done with the canvas, be sure it is selected and do Delete.

4. OTHER CONSIDERATIONS

4.1 To change the color of an annotation figure object

To change the color of an annotation figure that is an object (we assume it has a single color at present):

- a. Select the object
- b. Pour the desired new color onto the page (any place] with the Tint Fill Tool.

4.2 To change the transparency of an annotation figure object

- a. Select the object
- b. Select the transparency in the tool ribbon for the Selector tool.

4.3 Saving the document

In order to retain the object nature of text and annotation figures made into objects, the document must be saved as a Picture Publisher document file (*.PPF). Of course, copies of this file for “delivery” of the annotated image in such formats as GIF, TIFF, or JPEG may be made.

On such derivative files, the annotation figures and text will not be objects, and cannot be readily moved, changed, or deleted.

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