

Fontilizer

How to Make Fonts for Use
in Deluxe PopCap Games

User Manual 1.2

Document Revision History		
Version	Date	Changes
1.1	23/05/03	Revised version
1.2	25/01/05	Initial public release version

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May 23, 2003
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SUMMARY

Fontilizer is a software tool created by PopCap that makes it easy to create in-game fonts for use in Deluxe downloadable games. It uses TrueType files as a base, importing their data, including spacing and kerning, outputting bitmap PNG graphics files with the necessary characters in the necessary size.

Fontilizer comes with a companion tool, the Font Tester, which can be used to test created fonts to make sure they work properly. Also included in the distribution are a number of sample fonts that can be analyzed to see the sorts of effects possible to create with Fontilizer. Note: Fontilizer requires the fmod.dll sound library to be present in its directory as well.

QUICK START

To create a simple font for use in a PopCap Deluxe game:

1. Run FONTILIZER.EXE
2. Choose a font from the dropdown FACE menu.
3. Choose a font size from the dropdown SIZE menu, or manually enter a size in the window.
4. Enter the characters you need in the font, or use the default set of international characters.
5. Click BUILD FONT.
6. To test the font, you can run FONTTESTER.EXE. Click LOAD to load the desired font file. You can then enter text in the upper left window to try out. You can enter hex values like FFF000 in the next two windows to change the color of the text and of the background.
7. You will have two files created in the Fontilizer directory that will be needed for use in the Deluxe game. These are a text file, called FONTNAMESIZE.TXT (eg Arial13.txt), and a PNG file called _FONTNAMESIZE.PNG (eg _Arial13.png).

OPTIONS

Fonttizer includes a number of options you can manipulate for greater control over your font. Following is a description of how they work:

FACE: Self-explanatory... this loads all fonts currently in memory on your system. To get new fonts, install them in your Windows\Fonts directory.

SIZE: Again, pretty self-explanatory. You can use the dropdown or click on the box to manually enter a size. An important note: if you are using Photoshop to create or test graphics, make sure you set your resolution to **96 pixels per inch** so that the point sizes match. Otherwise, fonts that appear to be the correct size in Photoshop will turn out oddly small or big in Fontlizer.

SCRIPT: Not normally used.

CHARACTERS: This will have the default international character set entered initially. This is the character set required for full international support, and should be used in most cases:

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789
 ~!@#\$%^&*()-
 _=[{}];:","<.>/?¡¢£¥\$©®¿ÀÁÂÃÄÅÆÇÈÉÊËÌÍÎÏÐÑÒÓÔÕÖØÙÚÛÜÝÞàáâãääåæç
 èéêëìíîïðñòóôõöøùúûüýÿ

There are cases where you won't want to use this character set. For instance, if you are creating a score font that is only used to display numerical data, you won't need any letters. Also, if your font only needs capital letters, you could delete the lower case letters. In some cases, a font may be very large and you may want to delete unneeded characters to save download size. In most cases, you should use the default, since this will make any eventual localization somewhat easier, and most font files are pretty small.

BOLD: This will make the selected font bold. Note that this may not be as satisfactory as using an actual bold-faced version of a font in some cases.

ITALICS and **UNDERLINED**: Similar to BOLD, these options may or may not produce satisfactory results, depending on the font.

ANTIALIAS: If this is checked, Fontilizer will attempt to antialias the font you have chosen. If not, not. This is usually best to leave on, but in some cases you may want to create “pixelated” fonts or very small fonts without antialiasing.

USE FREE TYPE: If this is checked, Fontilizer uses the Free Type font rendering library, which should provide a higher quality rendering than the default Windows renderer.

LINE SPACING OFFSET: This controls how much to move down between drawing lines. You can use it to make lines closer together. This is an offset from the default value which is the height of the font.

ASCENT PADDING: This adds extra pixels of space on top of a font. This is used in conjunction with the Side and Bottom padding to create fonts that you can modify with extra material outside their normal boundaries.

SIDE PADDING: This adds extra pixels of space to the sides of each character.

BOTTOM PADDING: This adds extra pixels of space to the bottom of the font file.

COPY TEXT FOR PHOTOSHOP/IMPORT TEXT FROM PHOTOSHOP: These are advanced tools for importing fonts from Photoshop files.

FONT TESTER

Once you have created a font, there are several ways to test it. It can be put into a game and observed directly. Or, you can load the graphics file into Photoshop and examine it there. Finally, you can load it in the FONTTESTER program to examine how it will end up looking onscreen.

To use FONTTESTER, just run it. Click the LOAD button to pick an appropriate font file. It will display at the top of the screen. You can now enter text in the top leftmost box and hit enter to see it displayed.

You can also change the color of the font and the backdrop. You can scale the font to different sizes as well, but be aware that you will lose some image quality when doing so.

FONT FILES

You will have several files created in the Fontilizer directory when you click Build Font:

`_FONTNAMETYPESIZE.PNG`: This is an alpha channel version of the font you have just created, which can be used to draw the font in the game, for instance, `_TimesBold13.png`.

`FONTNAMETYPESIZE.TXT`: This is a text file that defines the font's characteristics. It is needed to use the font in the game, and can be manually edited (see Appendix A).

In many cases, you will want to convert the PNG file into a GIF file to save palette space, memory, and download time. This is fine.

In some cases, you will want to produce a separate non-alpha font gif. For instance, if you wanted a font that was beveled, you would need both the alpha channel and a normal non-underscored GIF. See the section on CUSTOM FONTS for more instructions on this.

CUSTOM FONTS

Sometimes you will want to make a customized font that is not just an alpha channel conversion of a TrueType font... for instance, you may want a beveled, metallic looking typeface, or a font with multiple colors, or a flaming font, or whatever. There are a couple different ways to go about doing this with Fontilizer.

Also, for small and unusual fonts, sometimes the default Free Type rendering library will not produce good enough results. In these cases, you may need to resort to using the Import to Photoshop technique to get more control over the fonts.

Method 1

This is good for creating fonts that may have special effects that extend outside the borders of each letter, but which still behave like “normal” typefaces... for instance, a font with flames or smoke emanating from it, but which is still spaced and kerned as though those flames didn’t exist.

Create the base font in Fontilizer as usual. You will probably need to add space around the edges to work with. To do this, enter some values in the various SIDE PADDING, BOTTOM PADDING, and ASCENT PADDING fields.

Note that if you want the line spacing to remain similar, you will want to enter a negative number in the LINE SPACING OFFSET field equal to the value of the BOTTOM PADDING.

Now create the font and load the png file into Photoshop or a similar program. You want to capture the alpha channel and make it an editable layer. There are a couple ways to do this... one is:

- a) make a new layer and fill it with white.
- b) Copy the entire base layer, and paste it into a new alpha channel under the Channels tab.
- c) Click the “Load Channel as Selection” button at the bottom of the Channel menu.
- d) With the letters selected, copy from the white layer and paste to a new layer. This should result in a new layer with white letters over transparency.

You can then edit this graphic however you like... add flames, bevels, whatever. When you’re done, you need to save it as FONTNAME.PNG (or GIF), not _FONTNAME.PNG... this will be the graphic image used for the font, while the original _FONTNAME.PNG will serve as the alpha channel.

Method 2

This involves using the Copy/Paste from Photoshop feature in Fontilizer. This is the most powerful method of creating a font, and the best for small or strange fonts, since it offers the most control, but it is also the most involved.

1. In Fontilizer, select the font face, size, and style that you want along with the characters that you need.
2. Hit the "Copy Text For Photoshop" button.
3. In photoshop create a new image that will be big enough to contain all the characters times about 3. Make sure you set the image resolution to 96 DPI.
4. Turn kerning off by selecting 0 from the "A-><-V" combobox in the Character properties page (you can get to this by going to the "Window" menu and selecting "Character" in photoshop).
5. Turn off "Fractional Widths" by hitting the little right arrow in the upper right corner of the Character properties page and unchecking "Fractional Widths" from the popup menu.
6. Enter a text layer using ctrl-v to paste the contents you exported from Fontilizer. You will now need to align this layer to the top margin and left margin. One way to do this is to select the background (eg ctrl-A on the bottom layer), then select the text layer, then click the MOVE button, then click the ALIGN TOP and ALIGN LEFT buttons in the options bar at top. The goal is to make sure the text box is snug in the top left corner.
7. Save the image as a png.
8. In the FontBuilder, hit the "Import From Photoshop..." button. Then confirm that you have the correct font type selected. Then choose the png file that you saved from Photoshop.
9. You can tweak the fonts either before you import them or afterwards in Photoshop. A common "special" font is the Outline font... this is a regular font with a black outline around each letter. See the EXAMPLE page later for detailed instructions on how to create such a font.

APPENDIX A: Editing Font Text Files

If you open up one of the text files generated by Fontilizer, you will see a whole bunch of numbers and stuff. In most cases you can leave these as they are. However, if you feel the need to edit them, here's a brief description of what some of them do.

DEFINE CHARLIST: This simply lists all the characters in the font.

DEFINE WIDTHLIST: This defines the width, in pixels, of each character in the font. There may be cases where you would want to edit this... if, for instance, one letter had a really odd flourish that you didn't want taken into account for spacing, or if you wanted the characters to overlap in some strange manner.

DEFINE RECTLIST: This defines the size of each character. Don't think you'd wanna mess with this.

DEFINE OFFSETLIST: This defines a set of integer pairs specifying how many pixels in X,Y you want to offset each character. This can be used to move individual characters around without modifying the image.

DEFINE KERNING PAIRS: This defines the different pairs of characters that have special kerning numbers set for them.

DEFINE KERNING VALUES: This defines how special sets of characters are kerned when they turn up. This is imported directly from the Truetype font and in most cases should be left alone.

LayerSetCharWidths Main (' ') (X) : This value in the spew of data below is used to set the width of a space character. If you feel the font needs bigger or smaller spaces, edit this.

LayerSetImage Main 'X' : The X here is the file name used for the font. You may need to edit this manually if you are creating a special font. See the EXAMPLE page for a typical use.

APPENDIX B: Example of a Special Font

This details how you might go about creating an Outline font, which is a regular font with a thick black outline around each letter.

1. In Fontilizer, select the desired font and size.
2. Set Ascent, Side, and Bottom Padding to 5 or so.
3. Hit Copy Text for Photoshop.
4. In Photoshop, create a 96 DPI image of sufficient size... to be on the safe side, something like 6000x100 would be fine.
5. Fill the backdrop layer in black.
6. In white, use the text tool and ctrl-v the copied text into the image.
7. Align the text layer with the top left corner by following the instructions earlier (or however you prefer doing it).
8. Save the image as a PNG file.
9. In Fontilizer, hit Import from Photoshop to import the image and create your font file.
10. Back in Photoshop, open the new font file. You'll see the characters with some blank space around them. You can fill this in with black if it makes it easier to see what you'll be doing next.
11. Next, you must separate the font out as an alpha channel. You can do this by flattening the image, copying it, then creating a new channel in the Channels tab and pasting it down there.
12. With the new alpha channel selected, click the Load Channel as selection button on the Channel tab. Use this selection to create a new layer... the text separated from the backdrop.
13. Create an outline around this layer using whatever method you like. If you have Eye Candy, you can use the Gradient Glow filter, for instance.
14. Once you have created this special font, you will need to save it under a separate name than the original, because it will not just be an alpha image, but will have both a normal and an alpha component.
15. If you saved it as "Font10Outline" for instance, you would then need to open up the relevant text file and change the LayerSetImage line to match that file name.
16. At the end, you should have 3 files: Font10Outline.txt, Font10Outline.gif (the non-alpha image, with the outline), and _Font10outline.gif, the alpha image, which is also used for kerning and spacing of the characters.