Creating Shakuhachi Notation TTF Font Files:

Before starting, I'd like to give credit to Darren Stone for his shakuhachi font web page (http://emptybits.com/shakuhachi/font) that not only makes a Kinko Shakuhachi font available, but also outlines the process of creating a font file, *sans* specifics. The fontstarter.svg came from http://cleversomeday.wordpress.com/2010/02/09/inkscape-dings/ where a very good tutorial can be found that includes further tips on how to edit the .SVG font file's XML so that it contains a more meaningful name (doing so makes installation easier on some computers). To find the XML Editor on Inkscape 0.48 click the button near the bottom of the toolbar that runs down the right side of Inkscape.

This tutorial uses Inkscape 0.48. It's a tool that is obtained with a free download and is very widely used. Inkscape.org will bring you to the Inkscape homepage where you can find a link for the free download. I used Inkscape 0.48 to perform the bitmap trace, even though the feature appears a bit buggy in that I never saw the image I was working on in the preview screen until I pressed "Update". However, the resulting image using the default values is fine for shakuhachi notation fonts.

1) Using MSPaint, select, crop, and save individual shakuhachi notation characters from a scanned document, such as a fingering chart. Save the characters as .PNG files so that they can be imported into Inkscape.

2) Convert each .PNG file to a .SVG (Scalable Vector Graphic) file:
   a) Open Inkscape.
   b) Click "File->Open..." and navigate to, select and open a .PNG file to convert.
   c) At the "Link or Embed Image" pop-up, assure that the "Embed" button is selected and click "OK". The image will appear in the Inkscape window.
   d) Select the image by clicking on it. When selected, the image will be bordered by a dashed line with arrows to allow for resizing. Do not resize the image yet.
   e) Click "Path->Trace Bitmap...". A "Trace Bitmap" window will pop up.

f) Using the default values in the Trace Bitmap window, click the bar labeled "Update" in the Preview section of the Trace Bitmap window. The Preview screen will change from grey to white.

g) Click "OK" in the Trace Bitmap window. The image will now be displayed on the Preview screen. The image may be hollow and/or have jagged edges, this is OK and may be ignored.

h) Close the Trace Bitmap window.

i) In the main Inkscape window left-click the image and, keeping the left mouse button depressed, drag the vectorized image off of the imported .PNG image.

j) Left-click the imported .PNG image to select it, then right-click and in the menu that pops up, choose "delete".

k) Left-click the remaining vectorized image and keeping the left mouse button depressed, drag the image back into the box in the center of the screen.

l) Click "File->Save as...". Assure that "Inkscape SVG" is selected in the "Save as type:" dropdown and click "Save" to save the file.

m) To repeat for each image without closing Inkscape each time, delete the current image in the Inkscape window (this is accomplished by left-clicking to select the image, then right-clicking and choosing "delete"), go back to step "b)" but instead of clicking "File->Open...", choose "File->Import".

3) Now that the all the .PNG files have been converted to .SVG files, still using Inkscape, click "File->Open...", navigate to where the fontstarter.svg file has been downloaded (the fontstarter.svg file is available for download at the following link: http://www.box.net/shared/ohvifhn2ox), and open fontstarter.svg.

4) Click "Text->SVG Font Editor...". The SVG Font Editor Panel will appear.

5) In the SVG Font Editor panel find the "Font" column and left-click "font1" to select it.

6) In the "Global Settings" tab, change the font "Family Name:" from SVGFont1 to something more meaningful for the font being created. Eg., TozanFont.

7) Click the "Glyphs" tab in the SVG Font Editor Panel to open it.

8) In the "Preview Text:" textbox delete the "Sample Text" text string.

9) At this point each .SVG file created in step "2" will be imported and assigned to a keyboard character. To accomplish this, for each .SVG file created in step "2", perform the following steps:
   a) On the main Inkscape toolbar, click "File->Import", navigate to the .SVG file to be included in the font set, select it and click "Open". The imported shakuhachi notation character image will appear in the main Inkscape window.
   b) Click and drag the shakuhachi notation character image to the center of the window.
   c) Resize the shakuhachi notation character image by left-clicking the arrows around the shakuhachi notation character image, keeping the left mouse button depressed, and dragging the borders of the image to the desired size.
   d) In the SVG Font Editor panel, select the glyph/keyboard character pairing the shakuhachi notation character image will be associated with by clicking the line the pairing is listed on. The line should become highlighted, indicating that it has been selected.
   e) Assure that the shakuhachi notation character image is still selected in the main Inkscape window (if it isn't click on it to select it) and click "Get curves from selection..." in the SVG Font Editor panel.
   f) Type the keyboard character for the glyph/keyboard character pair that was selected when "Get curves from selction..." was clicked into the "Preview Text:" textbox. The new shakuhachi notation character will appear in the preview area.
   g) To repeat for each shakuhachi notation character, delete the current shakuhachi notation character in the Inkscape main window by left-clicking on it, then right-clicking and choosing "delete". (Note - alternatively, the current image may be clicked and dragged away to some other part of the screen. This is a better option if there is a chance the image may be used again.) Then go back to step "a)".

10) For unused glyph/character pairings, right-click the line in the list that contains the unused pairing, assure that the correct pairing is selected, and then choose "Remove".

11) If more glyph/keyboard characters are needed, click the add/glyph button in the SVG Font Editor.

12) If you need to draw your own characters, I've found that the calligraphy tool works well. It's on the toolbar on the far left of Inkscape, the icon for it looks like a calligraphy pen drawing calligraphy. After drawing the character, switch back to the "select" tool (it's at the top of the toolbar) with from step "9.d)".

13) When complete, click "File->Save as..." and save the file to a convenient location. Name it something meaningful, eg., MyoanShakuhachiFont.SVG.

14) Start up your browser, and go to http://onlinefontconverter.com/ . There are other online font converters available also, just type "Online Font Converter" to find them. Usage varies somewhat between them, however the general steps involved are:
   a) Upload the .SVG font file that was saved in step 13.
   b) Select .TTF for the type of file to convert to.
   c) Submit the file for conversion.
   d) Download the resulting .TTF file.

And that's it! There are some things you might want to change in this procedure. Since there may be a good number of symbols to be placed in the font file, you may want to devise some method for keeping better track of them. For instance, after creating the .PNG files, the fontstarter.SVG file can be opened and then all the .PNG images imported before converting them into .SVG files. In fact you don't even really have to save each .SVG image individually. Each vector image you create can be moved to a strategic location within the Inkspace canvas as you generate them. Then each image can be dragged back onto the box provided by fontstarter.SVG and placed in a glyph/character pairing, deleting the image or dragging it somewhere out of the way before proceeding to the next character.

There is also something that caused me frustration before finding a simple fix that I should mention. Sometimes, particularly after creating a character of my own with the calligraphy tool, the image that shows up in the "Preview" area of the font editor will not be complete or seen at all. Try pressing the "CTRL-K" key combination. It combines the selected images.