

How to use font-based icons in isCOBOL GUI programs

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When your GUI application is going to need a large variety of different bitmaps for any kind of GUI control that accepts a bitmap for its icon, you can use font-based bitmaps instead of trying to get different images for each control. Bitmap fonts provide a comprehensive set of glyphs, or icons.

In this article we will use one of the most popular bitmap fonts: **FontAwesome**. You can download it from: www.fontawesome.com.

However, any bitmap font can be used (Material Design Font, dafont.com, etc)

The .otf file that you download can be located in any folder that you choose. You create a named font with W\$CREATEFONT that points to the path (full or relative) of the font.

```
move "Font Awesome 5 Free Solid" to font-name
call "w$createfont" using "files/Font Awesome 5 Free-Solid-900.otf"
                             font-name
```

Then you load a font with W\$FONT based on that named font.

```
initialize wfont-data
set wfdevice-console to true
move font-name      to wfont-name
move 10             to wfont-size
call "w$font" using wfont-get-font
                    h-font
                    wfont-data
```

Now, in order to use some of the icons from that font for your program, you need to create a strip of selected icons.

The FontAwesome font uses a hexadecimal code of 4 characters to refer to their icons.

Here's a link to all of the available icons and their hex codes: <https://fontawesome.com/v5/cheatsheet>

Each of those hex codes need to be converted to a decimal value and then combined in a national variable as in this example:

```
77 character-1-hex      pic x(4).
77 character-1-n       pic n(1).
77 character-1-red     pic x(2) comp-x
                          redefines character-1-n.
...

77 icon-characters     pic n any length.
...

move "f1c3" to character-1-hex
move "f576" to character-2-hex
move "f008" to character-3-hex

move function hex2dec(character-1-hex) to character-1-red
```

```

move function hex2dec(character-2-hex) to character-2-red
move function hex2dec(character-3-hex) to character-3-red

initialize icon-characters
string character-1-n delimited by space
      character-2-n delimited by space
      character-3-n delimited by space
into icon-characters.

```

Once you have the list of decimal values in a national string, you can create the bitmap strip in memory, using the W\$BITMAP routine:

```

call "w$bitmap" using wbitmap-load-symbol-font,
                    h-font
                    icon-characters
                    20
                    icon-color
giving h-font-icon

```

Now, since the h-font-icon handle of font contains the strip of icons 20 pixels each, you can assign icons from it to a GUI control on the screen section:

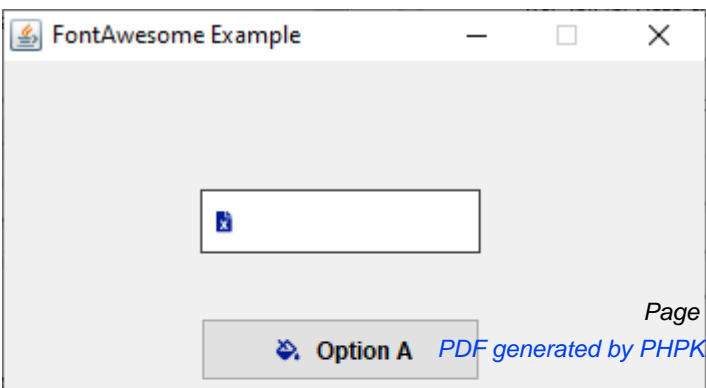
```

03 ef-1
  entry-field
  line          5
  col           15
  size          20 cells
  lines         2 cells
  bitmap-handle h-font-icon
  bitmap-width  20
  bitmap-number 1
  .

03 pb-1
  push-button
  line          9
  col           15
  lines         2 cells
  size          20 cells
  bitmap-handle h-font-icon
  bitmap-width  20
  title-position 2
  title         "Option A"
  bitmap-number 2
  .

```

This code creates part of a simple example screen that looks like this:



Attached is a zip file with a full sample of using the FontAwesome bitmap font. After downloading it, you can compile:

```
iscc fontawesome.cbl
```

and run:

```
iscrun FONTAWESOME
```