How do you detect "Large Fonts"?

devblogs.microsoft.com/oldnewthing/20040714-00

July 14, 2004

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When people ask, "How do I detect Large Fonts", they aren't really asking how to detect Large Fonts specifically. Rather, Large Fonts is just the most common manifestation of "unusual DPI".

Windows uses a nominal DPI of 96 pixels per inch. In other words, if Windows wants to draw a line that is one inch long, it draws 96 pixels. Of course, the physical length of this line depends on your screen resolution and the size of your monitor. The value of 96 is merely nominal.

You can change this DPI setting from the Display control panel, either by choosing Large Fonts, or by choosing a custom font size. Standard size is 96DPI. Large is 120DPI. Custom is, well, custom.

DPI higher than 96 will become more and more prevalent as LCD technology improves.

Programs can query the DPI setting by asking GetDeviceCaps for the LOGPIXELSX of the screen DC.

```
int GetScreenDPI()
{
  HDC hdcScreen = GetDC(NULL);
  int iDPI = -1; // assume failure
  if (hdcScreen) {
    iDPI = GetDeviceCaps(hdcScreen, LOGPIXELSX);
    ReleaseDC(NULL, hdcScreen);
  }
  return iDPI;
}
```

The code above assumes that pixels are square, which is true of most modern devices. (You can choose an odd screen resolution and get non-square pixels, but most people avoid such resolutions.) Back in the old days, there were many devices with non-square pixels. For example, the EGA video adapter had pixels which were 1.33 times as tall as they were wide.

For nonsquare-pixel devices, the values of the LOGPIXELSX and LOGPIXELSY metrics will be different. On an EGA, if the value of the LOGPIXELSX metric were 96, then the LOGPIXELSY metric would be 72, since there are only 72 vertical pixels per inch. Similarly, the ASPECTX, ASPECTY and ASPECTXY values for nonsquare-pixel devices will be somewhat interesting as well, as this diagram demonstrates:

36 27 45

if (document.namespaces) { document.namespaces.add('v', 'urn:schemas-microsoft-com:vml', "#default#VML"); for (var i = 0; i < vmlContent.length; i++) vmlContent[i].style.display = "block"; if (vmlContent.style) vmlContent.style.display = "block"; for (var i = 0; i < svgContent.length; i++) svgContent[i].style.display = "none"; if (svgContent.style) svgContent.style.display = "none"; }

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The ASPECTX is 27 and the ASPECTY is 36, representing the 4:3 ratio of vertical to horizontal, and the ASPECTXY is 45, representing the hypotenuse.

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