Subject: Re: About Painter vs OpenGL
Posted by mirek on Sun, 06 Mar 2011 21:57:46 GMT

Tom1 wrote on Sun, 06 March 2011 16:10Well, this is certainly one of my favourite subjects, although I certainly do not know OpenGL nearly enough to say what can and can't be done.

Anyway, my point is that when comparing Painter and Draw simply as graphics programming interfaces, Painter provides a rich set of graphics primitives not available with Draw. Therefore, getting hardware acceleration available behind the Painter interface would definitely serve a purpose.

When I last checked, Painter defined three user selectable levels of rendering quality: No antialiasing, normal antialiasing and subpixel antialiasing. Whereas I gather from Mirek's notes that subpixel accurate

Please, there is some terminology issue about this. There are 2 different things:

- subpixel accuracy. That basically means that all coordinates are floating point and renderer does something about "fractional" numbers. In Painter, each pixel has 256 fractions. When rendering, if there is some part of polygon fractionally in the pixel, it affects it by that fractional value (and you get precise antialiasing that was).

- subpixel rendering. That, instead of taking screen pixel as 'whole', takes into account all 3 channels, which results in improved horizontal resolution.

Quote:
Would it be possible to implement a hardware accelerated 'SystemPainter' or 'OpenGLPainter' without subpixel antialiasing?

I believe not. You perhaps could imitate it to some degree, but OpenGL polygons are not compatible.

I Painter like system, "path" rules everyting.

I have seen some code in Qt that tries to do this, but I have seen that they have ended in quite complicated maths breaking "pdf" polygons into something that OpenGL is able to render.

That said - if you require fast graphics which is OpenGL able to provide, why not to use OpenGL directly?

Mirek