Subject: UPDATE: New Draw Performance preview revisited
Posted by mirek on Fri, 25 Nov 2005 09:51:18 GMT
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I have extended my simple demo. It has now following functions:

- pressing left mouse button toggles font aliasing (in memory draw mode)

- pressing right mouse button toggles context

- pressing left mouse button with Ctrl key activates "autoscroll" mode

- pressing right mouse button with Ctrl key toggles memory surface rendering and GDI (HW accelerated) rendering.

- window caption now shows actual FPS reached

To my BIG surprise, HW accelerated rendering is not significantly faster than software rendering and sometimes it is even SLOWER!!!! (And my GPU is no low-end - 6600GT. And it is Win32, where HW accelerated rendering is much faster than in X11.)

Quite an argument in favor of new software rendering...

Of course, still possible that there is bug in the demo

Please download new demo and check with your hardware....

File Attachments
1) CDraw.zip, downloaded 1852 times

Subject: Re: UPDATE: New Draw Performance preview revisited
Posted by gprentice on Sat, 26 Nov 2005 08:10:15 GMT
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Not sure what I'm testing here, but here's the results

BTW - the test program has the interesting property of requiring two closes to shut it down ...

maximised window - auto scroll
TIMING Set : 7.5 s - 13.7 ms (7.5 s / 546), min: 7.0 ms, max: 18.0 ms, nesting: 1 - 546
TIMING DrawRect : 10.3 s - 300.4 us (10.3 s / 34134), min: 0.0 us, max: 7.0 ms, nesting: 1 - 34134
TIMING Init : 0.0 us - 0.0 us (0.0 us / 1), min: 0.0 us, max: 0.0 us, nesting: 1 - 1

Two windows tiled vertically, auto scrolling - foreground window gets more CPU time.
TIMING Set : 31.0 s - 10.4 ms (31.0 s / 2969), min: 1.0 ms, max: 110.0 ms, nesting: 1 - 2969
TIMING DrawRect : 40.6 s - 220.2 us (40.6 s / 184245), min: 0.0 us, max: 139.0 ms, nesting: 1 - 184245
TIMING Init : 0.0 us - 0.0 us (0.0 us / 1), min: 0.0 us, max: 0.0 us, nesting: 1 - 1

TIMING Set : 29.0 s - 16.9 ms (29.0 s / 1717), min: 0.0 us, max: 151.0 ms, nesting: 1 - 1717
TIMING DrawRect : 46.3 s - 434.2 us (46.3 s / 106545), min: 0.0 us, max: 111.0 ms, nesting: 1 - 106545
TIMING Init : 0.0 us - 0.0 us (0.0 us / 1), min: 0.0 us, max: 0.0 us, nesting: 1 - 1

Graeme

Subject: Re: UPDATE: New Draw Performance preview revisited
Posted by mirek on Sat, 26 Nov 2005 09:04:39 GMT
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Oops, sorry, that .log file was left there from previous tests

Testing now should be about two things:

- How does it feel when you are "scrolling" content by moving the mouse over it.

- What are the FPS readings in the title when autoscrolling.

Well, this is VERY preliminary thing, just some initial tests before going forward.

Subject: Re: UPDATE: New Draw Performance preview revisited
Posted by gprentice on Sat, 26 Nov 2005 09:36:10 GMT
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With default/startup window size
FPS 50, with anti-aliasing FPS 40

With maximised window (1680 by 1050 pixels)
FPS 26, anti-aliased FPS 21

Moving the mouse seems responsive enough but full screen anti-aliased seems to lag just a fraction - hard to tell for sure.

Graeme

Subject: Re: UPDATE: New Draw Performance preview revisited
Posted by mirek on Sun, 27 Nov 2005 20:31:44 GMT
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BTW, if you want to have some fun when comparing GDI and software rendering, activate ClearType fonts

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Subject: Re: UPDATE: New Draw Performance preview revisited
Posted by kaos on Mon, 28 Nov 2005 20:27:35 GMT
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Hi, i tested this little cute app now on my work pc (p4 3ghz, radeon 9200SE) and my home pc (2400+ athlon, radeon 9800pro)
and the results were quite distinct, gdi was slower here in all cases (measured by the fps when auto scrolling).
Interestingly the difference was much less on my work pc then at my home box:
work: gdi: 90fps [dropped to < 50 with cleartype]
mem: 105fps
home: gdi: 22fps [strangely almost no difference to cleartype]
mem: 50fps

the difference in aa on/off was quite negligible
so this is really looking promising to me (while i cant really explain the difference between my work and home pc)

btw: i cant wait for the mac os port (:

Subject: Re: UPDATE: New Draw Performance preview revisited
Posted by mirek on Mon, 28 Nov 2005 21:46:52 GMT
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kaos wrote on Mon, 28 November 2005 15:27Hi, i tested this little cute app now on my work pc (p4 3ghz, radeon 9200SE) and my home pc (2400+ athlon, radeon 9800pro)
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mem: 50fps

the difference in aa on/off was quite negligible
so this is really looking promising to me (while i cant really explain the difference between my work and home pc)

btw: i cant wait for the mac os port (:

Thank you! Posting results really helps me.

BTW, one interesting thing I have found is that the reason why GDI is slow (in case when it is accelerated well) is that with growing "scene" complexity, there is simply too much calls to GDI and time is wasted just in context switches (which does not apply to software based rendering).

If I alter this example to draw '0' using single DrawText command (mens whole lines have single color), on my desktop GDI FPS immediately outperforms software by factor 5 or more. Anyway, activating ClearType inverses this situation once again....

Subject: Re: UPDATE: New Draw Performance preview revisited
Posted by kaos on Tue, 29 Nov 2005 00:43:33 GMT
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ok, some more results from my celeron 2.4ghz (some intel onboard graphics)

gdi: 35fps (using cleartype it was < 5fps)
mem: 58fps (using AA it gets down to 49fps on that box)

hth
