
Subject: Re: Should we double-buffer by default?

Posted by [mr_ped](#) on Wed, 19 Jul 2006 13:04:31 GMT

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There's another "span buffer" technique also as third option, but it's way too different from single/double buffer.

I was using it with my 2D parallax scrolling engine for one never released 2D shooter game, and it allowed me to do things like 10+ parallax layers with ~30 FPS on 133MHz in 640x480, but you gain performance only if lot of areas are redrawn, what IMHO doesn't seem like the case for ordinary GUI controls.

(except transparent controls, where the span buffer will help partially to detect everything hidden behind solid spans (if some controls do overlap), but in the end you will need to draw the solid background and then run as many passes again as many transparent spans are above the solid one, so there's no performance gain)

Another slight advantage is, that with span buffer you can refresh the content of window from top to down line by line, while double-buffering only single line being processed, so you need less memory on graphics card (1 frame buffer + 1 line), but again U++ is so far used on ordinary PC = plenty of memory. (maybe on PocketPC it can be more interesting option...)

But the main disadvantage is you must render everything with spans, so that would mean SW render of anything. Also antialiasing/cleartype would require lot of thinking and improving of the original simple span buffer. Manageable, but too complex.

One final note... I always use only "rectangle" during window resize, the "resize with content visible" always seems too slow for me.
