

---

Subject: Should we double-buffer by default?

Posted by [mirek](#) on Tue, 18 Jul 2006 13:23:00 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

I am in process of refactoring U++ painting engine.

This is quite complicated topic, much more complicated than it seems, if the goal is to avoid flickering e.g. when resizing windows.

There of course is "simple" solution to avoid flickering forever - full window double-buffering.

So far, I stayed away from this, taking the hard approach and using double-buffering just for areas that really need it (namely areas covered by transparentCtrls).

This leads to very complicated algorithm and the results are questionable. Now I have tried to benchmark the new (improved) painting engine in several modes on both my A64 and venerable testing NT4.0 Celeron@433Mhz with 4MB S3 VGA and 96MB ram. Numbers are time for "repaint the window when resizing" routine:

1. raw mode - no backbuffering:

A64 - 2.8 ms

Celeron433 - 90 ms

2. full window backbuffering:

A64 - 2.4 ms

Cel433 - 115 ms

note that this mode could be probably further improved a little bit...

3. multirun mode - in this mode, transparent areas are doublebuffered and painted one by one:

A64 - 8.8 ms

Cel433 - 266 ms

4. single run mode - single back buffer is created for all transparent area and they are painted in single run:

A64 - 6 ms

Cel433 - 145 ms

Looks like trying to be smart does not really pay off...

Now reading Qt docs, since Qt4.0 they do doublebuffering as the only option. Should not we too? (OK, this whole message is for Daniel in the first place...

Mirek

---