Subject: Re: IDL/MSWin pixmap limitations, Part 2
Posted by Craig Hamilton on Mon, 25 Nov 2002 17:45:31 GMT
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"David Fanning" <david@dfanning.com> wrote in message
news:MPG.184c036b8f953fec989a4b@news.frii.com...
> Craig Hamilton (someone@microsoft.com) writes:
>
>> In August I asked about a solution to the problem of "unable to create
>> pixmap" when running IDL on MSWin 2000. The Most Noble David Fanning
explained
>> that pixmaps are created in video RAM, and, unless your video card is
>> "smart", I am limited by the video card. He also suggested a workaround
using unmapped
>> draw widgets instead of pixmaps.
>>
>> I have questions about these two potential solutions:
>>
>> 1. Get a smarter video card (with loads of video RAM, I presume). Can
>> anyone suggest a video card that can use system RAM when necessary? I
have
>> tried a GEForce4 4200 AGP card with 128 MB of RAM with no success trying
>> to allocate about 1500 pixmaps of total size of around 90 MB.
>> Interestingly, a Radeon VE with 32MB of video RAM works with roughly the
same limits
>> as the GEForce4 card. So, it doesn't seem to be as simple as just
throwing
>> more video RAM at the problem.
>>
>> 2. Use unmapped draw widgets instead of pixmaps. I started working on
this
>> and ran into the problem (at least according to the documentation)
that
>> mapping/unmapping applies only to base widgets, not draw widgets.
>>
>> So, if I unmapped a draw widget, it goes up to its parent base and
unmaps
>> it, which is not what I want.
>
> I don't know which video card is "smarter". Maybe Randy Frank
> is still listening in. He will know.
>
> If I said "unmapped" draw widget, I'm sorry. At the time I
> was answering the question we were mapping and un mappingg
> "displays", which consisted of a base widget, a draw widget,
> and pixmap. We thought of them as "images", so I probably
> confused you by using imprecise language.
>

> But we found that even the noble solution mentioned above
> didn't work so well in practice. :-(
>
> After 30-40 images, we still found ourselves running out
> of window resources, and--of course--our client wanted to
> have *hundreds* of images open at once, after they got a look
> at our software and what it could do. :-)
>
> We have since gone to what I call the "smoke and mirrors"
> approach to the problem. Fortunately for us, our design
> makes it possible to only view one "image" at a time,
> although you can select any one of the hundreds of images
> in the stack. In practice, the user usually will select
> the "previous" or "next" image.
>
> We reasoned that while the user was looking at the currently
> selected image, we could be doing some fancy footwork. So we
> designed our "pixmaps" so that they actually create a pixmap
> window (and use window resources) only when they absolutely
> have to. Most of the time, they just carry around a pointer
> to an image that they *would* use as the pixmap, if they
> had to. Thus, the current, previous, and next images use
> pixmaps, but anything else has to create a pixmap window
> when requested.
>
> This results in instantaneous display of the previous and
> next image, but there is a slight delay if the user suddenly
> wants to go to (for example) the first image in the stack.
> But the delay is not onerous (a momentary blink), and the
> up-side is that we can now load as many images into our system
> as required (limited only by the virtual memory available for
> paging).
>
> Of course, all of this (displays, draw widgets, pixmaps, etc.)
> are wrapped up as objects so they are small, smart, and self-contained.
> They are quite easy to work with (well, once you get the hang of it).
> The beauty of the system is that we could completely re-work the
> way it all worked just by changing the code in a single object.
> If you have ever tried to do this is a non-object system, you
> can appreciate (again!) the power of object programming. :-)
>
> Cheers,
>
> David
>
> --
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Wowzers, David, that is the speediest newsgroup response I have ever gotten.... thanks.

So, it looks like the software solution you mention below wouldn't work for switching rapidly between animations, right? I want an instantaneous change from a 30 frame cineloop (1024x512) to one of 15 other ones the same size....
(This works great on Unix.)

Perhaps I can track down a "smart" video card.

Thanks so much for your help,
Craig

(I heard about this great book on coyotes that I am finally going to order....
something about coyote programmers)
