
Subject: Re: PostScript and IDL,
Posted by [thompson](#) on Thu, 28 May 1998 07:00:00 GMT
[View Forum Message](#) <> [Reply to Message](#)

davidf@dfanning.com (David Fanning) writes:

> Hi Folks,

> It seems this discussion has pricked a number of sympathetic
> ears at RSI. But the developers who have to make the
> decisions need help from us as to what we really want.
> Here is how one developer framed the problem for me:

> The big issue for us is what tradeoffs are users willing
> to make in order to get scalable PostScript output. They
> will have to give up speed/memory/filesize or WYSIWYG to
> get the type of PS they are looking for.
>
> What sort of rendering would you be willing to give up to get
> scalable/embedded EPS? Would you will willing to give up
> smooth shading and lights? How about zbuffering and/or
> textures? Would you consider a mixed mode rendering where
> individual views are rendered as bitmaps or raw PS depending
> on their contents? How about if a scene were rendered as all
> bitmap or all PS depending on the objects in the scene? How
> about a device which rendered only what is possible with
> PS (i.e. some objects would disappear completely)?

> These are the real issues we are struggling with right now...
> Any input you have would be helpful.

> Immediately after a new release is when the big discussions
> about what to do next go on. There is a lot of horse trading
> between marketing and the developers over what is needed and
> what is possible in the given time frame. This is absolutely
> the time when users can have the most influence over what happens
> next. If you have ideas about this or anything else you like/dislike
> about IDL, this would be a good time to get those fingers
> working. I should think anyone at support@rsinc.com would
> be happy to pass your comments along to the appropriate
> people.

> Cheers,

> David

> -----
> David Fanning, Ph.D.

> Fanning Software Consulting
> E-Mail: davidf@dfanning.com
> Phone: 970-221-0438
> Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

This whole discussion is really scaring me. We're still using IDL/v4, and I haven't tried to play yet with object graphics, so I really don't know what it's like compared to direct graphics. However, I certainly wouldn't want to give up any of the capabilities that we currently have with direct graphics. In regards to PostScript, this would be:

1. The ability to use the complete resolution capabilities of the printer.
This is best achieved with a combination of line graphics, rastered graphics with scalable pixels, and font-driven graphics. WYSIWYG of the strictest sense doesn't sound like a very good goal to me, since obviously a PostScript plot should be much higher quality than what you see on the screen.
2. The ability to produce encapsulated PostScript plots that can be dynamically resized and incorporated into documents (e.g. LaTeX).
3. Since we often mail PostScript files, or put them on the Web, size is a very important factor. I wouldn't want to see PostScript files dramatically increase in size.

I suppose there are types of graphics that fall into grey areas between these different concerns, particularly in the area of 3D rendering. For example, SHADE_SURF must be a difficult routine to implement in PostScript because it's something like an image, but the "pixels" are trapezoidal. I don't know if PostScript can handle that in a direct sense, or some kind of mapping to a finer grid needs to be done. I suspect the latter, because SHADE_SURF,DIST(10) generates a much larger PostScript file than TVSCL,DIST(10). There must be trade-offs in that sort of 3D rendering.

However, 3D rendering hasn't been of tremendous importance to me, except in special cases. My concern is with 2D rendering. Whatever are the object-oriented equivalent of PLOT (etc.) and TVSCL should not give up anything in efficiency in creating PostScript files.

William Thompson
