Subject: how do I create an image file from an object graphics window?
Posted by holgi0251 on Fri, 23 Jul 2004 06:21:32 GMT

Hi,

I want to save the RGB-image displayed in an object graphics window
(IDLgrWindow) in a TIFF or JPEG file. When I use TVRD to copy the
image from the window, the resulting image is empty. My impression is,
that TVRD does not work with object graphics.
My question: how do I create an image file from an object graphics
window?

Thanks,
Holger

Subject: Re: how do I create an image file from an object graphics window?
Posted by Antonio Santiago on Fri, 23 Jul 2004 10:27:55 GMT

Diract graphics is not campatible with objects graphics.

If you want a screenshot of the IDLgrWindow you can use:
oWindow->GetProperty, IMAGE_DATA=img
WRITE_PNG, name, img

or you can use the method "read" of the idlgrwindow.

Bye.

Holger B. wrote:
> Hi,
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> My question: how do I create an image file from an object graphics
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> Thanks,
> Holger

Subject: Re: how do I create an image file from an object graphics window?
Posted by Haje Korth on Fri, 23 Jul 2004 11:41:25 GMT

Holger,
I have used 'idlgrclipboard' object in the past, which can create Postscript
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there may still be some issues with alpha blending. Any way, if your
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It amazes me that RSI worked out so many details on making object graphics
look pretty and totoally forgot to spend the time working on creating
descent quality output of the graphics. In order to get what I want, I have
to write every code twice, once in object graphics for the screen and then
use direct graphics techniques to create the PS file. Not very
efficient.....

Haje

"Holger B." <holgi0251@lycos.de> wrote in message
news:2c8cff70.0407222221.1f90f37d@posting.google.com...
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> (IDLgrWindow) in a TIFF or JPEG file. When I use TVRD to copy the
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Subject: Re: how do I create an image file from an object graphics window?
Posted by Karl Schultz on Fri, 23 Jul 2004 16:28:10 GMT

"Haje Korth" <haje.korth@jhuapl.edu> wrote in message
news:cdqth5qro1@aplcore.jhuapl.edu...
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Remember that the clipboard has both bitmap and vector modes. The bitmap
mode captures the contents of the scene exactly as you would see it on the
screen. You can also do pretty much the same thing by getting the data out
of the grBuffer and grWindow objects.

Yes, vector output in 6.1 is quite a bit better, but we still need to
understand that vector output cannot possibly recreate all the graphical
features that you might use on the display. Vector output systems (e.g.,
PostScript, Windows metafiles) are not really "3D" in any way, while Object
Gaphics obviously is a 3D system. It's difficult to map a system with high
capabilities onto ones with lesser capabilities. For example, vector
systems do not have depth buffers.   IDL does a crude depth sort in vector
output to approximate the effect of a depth buffer, but it won't sort things
out completely. Similar restrictions apply for things like alpha blending.

One of the main motivations for Object Graphics vector output was to reduce
the size of the graphics output. In bitmap mode, even a simple plot with a
few dozen lines and some text would require several MB of space, depending
on the dimensions of the drawable, which seems silly when there is so little
data actually in the plot. With vector output, the same data can be
represented with a few dozen line plot commands and some text strings, which
adds up to a PostScript file of 1K or so in length So vector output can be
a big win when working with plots, charts, and other visualizations that are
more "2D" than "3D" and don't use a lot of advanced rendering features.
Bitmap output is better when you need to preserve all those "3D" qualities.

Karl

Subject: Re: how do I create an image file from an object graphics window?
Posted by JD Smith on Fri, 23 Jul 2004 18:30:47 GMT
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On Fri, 23 Jul 2004 10:28:10 -0600, Karl Schultz wrote:

>
> "Haje Korth" <haje.korth@jhuapl.edu> wrote in message
> news:cdqth5qro1@aplcore.jhuapl.edu...
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> advanced rendering features. Bitmap output is better when you need to
> preserve all those "3D" qualities.

Speaking entirely without having used Object Graphics, but the problem
with bitmap output is always the tradeoff between absurdly large
sizes, and too coarse resolution. When object scenes contains lines,
text, and other glyphs, the output will not be good if copied at
screen resolution and printed or sent to a journal. Ideally, an
output system could do a combination: take a bitmap "background" of
everything which is too complicated for, e.g., Postscript to handle,

and overlay then lines, text, glyphs, etc. as vector entities. It may
not be trivial to divide items into non-handleable vs. handleable, but
it would surely produce better results at smaller output sizes.

JD

Subject: Re: how do I create an image file from an object graphics window?
Posted by stef on Tue, 27 Jul 2004 17:17:00 GMT
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Hello Holger
The following code snippets might help you. The input argument is the
object graphic window object. Depending on the chosen file ending it
creates a JPEG, PNG or TIFF image from the object window. If you want
higher quality (e.g. for printing, change the dimensions arguments to
a higher value)

Also, below are the procedure I use to copy the image to the
clipboard, one is
for BMP, the other for Vector output. (Can be easily copied into MS
Word or Powerpoint)

Hope this helps,
Stefan

```
PRO CV_Save_Image, window_o
   filters = [['*.jpg', '*.png', '*.tif'], $
       ['JPG', 'PNG (lossless)', 'TIF']]
   filename = DIALOG_PICKFILE(/WRITE, FILTER = filters,
/OVERWRITE_PROMPT, DEFAULT_EXTENSION='JPG')
   print, filename
   IF (filename)  THEN BEGIN
     image_o=OBJ_NEW('IDLgrImage')
     image_o=window_o->Read()
     image_o->GetProperty, DATA=image_data
     extension=STRLOWCASE(STRMID(filename,STRLEN(filename)-4,4))
     CASE extension OF
       '.jpg': WRITE_JPEG, filename, image_data, TRUE=1
       '.png': WRITE_PNG, filename, image_data
       '.tif': WRITE_TIFF, filename, Reverse(image_data,3)
       ELSE: ;do nothing
     ENDCASE
     Obj_Destroy, image_o
   ENDIF
END

PRO CV_CopyClipboardBMP, window_o
```

```
    window_o->GetProperty, GRAPHICS_TREE=view_o
    window_o->GetProperty, DIMENSIONS=dimensions

    clipboard_o= OBJ_NEW('IDLgrClipboard', QUALITY = 2,
DIMENSIONS=dimensions)
    clipboard_o->Draw, view_o
    Obj_Destroy, clipboard_o
END

PRO CV_CopyClipboardVector, window_o
    window_o->GetProperty, GRAPHICS_TREE=view_o
    window_o->GetProperty, DIMENSIONS=dimensions

    clipboard_o= OBJ_NEW('IDLgrClipboard', QUALITY = 2,
DIMENSIONS=dimensions)
    clipboard_o->Draw, view_o, /VECTOR
    Obj_Destroy, clipboard_o
END
```

holgi0251@lycos.de (Holger B.) wrote in message
news:<2c8cff70.0407222221.1f90f37d@posting.google.com>...
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Subject: Re: how do I create an image file from an object graphics window?
Posted by Haje Korth on Wed, 28 Jul 2004 12:46:08 GMT
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Karl,
oops, for some reason I did not see your post until now. I do not expect the
clipboard object to produce miracles. All I expect it to do is to produce
the same quality as set_plot,'ps', which produces nice vector output. Is
this asking for too much? I do not use any projections, shadings, etc. All I
do is overlaying images with alpha blending. The bitmapped mode of the
clipboard object is extremely lousy, as all fonts are bitmapped too. The
vector mode still has problems with alpha blending. I am not sure whether

RSI is aware of this problem. I tested this for IDL 6.1 but never reported
the problem because my example is longer than 10 lines. My past experience
shows that they reject examples that are too long. Too bad, now they have to
wait until I find the time to boil this down. And since I do not get paid
for debugging IDL, this might just take some time.

Cheers,
Haje

"Karl Schultz" <kschultz_no_spam@rsinc.com> wrote in message
news:10g2f4f7ra0roed@corp.supernews.com...
>
> "Haje Korth" <haje.korth@jhuapl.edu> wrote in message
> news:cdqth5qro1@aplcore.jhuapl.edu...
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>
> Karl
>
>

Subject: Re: how do I create an image file from an object graphics window?
Posted by Rick Towler on Thu, 29 Jul 2004 16:19:17 GMT
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Haje Korth wrote:

> Karl,
> oops, for some reason I did not see your post until now. I do not expect the
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> the same quality as set_plot,'ps', which produces nice vector output. Is
> this asking for too much? I do not use any projections, shadings, etc. All I
> do is overlaying images with alpha blending.

Yes, you are asking too much. :)

I don't know about WMF but postscript 3 doesn't support alpha blending
for vector elements. The current pdf spec does, and word is that 4 will
but for now the only way is thru hacks of one sort or another. Even the
major vector illustration packages have trouble with alpha blending
elements (most produce decent on screen results but fall down when you
go to print). So for now I don't think you'll get your alpha blending.

> The bitmapped mode of the clipboard object is extremely lousy, as all fonts
> are bitmapped too.

Everyone's bustin' on the bitmap.

FWIW, we submit bitmaps for publication all of the time and I think they
look pretty good on the page. For really big figures you are out of
luck but a max of around 10" x 10" should cover most situations. (I am
still trying to work out a way to stitch together multiple images from a
perspective projection. Any thoughts are welcome :)

And you can always export your bitmap and add your annotations in a
vector drawing program.

-Rick