
Subject: Re: XOR graphics

Posted by [Liam Gumley](#) on Wed, 15 Dec 1999 08:00:00 GMT

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Ian Dean wrote:

> I am using XOR to plot a moving object. It works OK on a terminal using
> TRUECOLOR but screws up the colours on a terminal using PSEUDOCOLOR.
[IDL example removed]

Ian,

I think you'll find that using pixmaps for animation is more portable than using XOR graphics. The following example program animates a moving object on a plot fairly efficiently. The secret is to only restore the area immediately surrounding the object itself. In your code, you were restoring the entire window on every iteration. Here's my timing (PC logged in to remote Unix box running IDL 5.1):

```
IDL> animate
Elapsed time (sec):      5.4369590
IDL> animate, delay=0.0
Elapsed time (sec):      1.5003740
```

Cheers,
Liam.

```
;---cut here---
PRO ANIMATE, DELAY=DELAY

;- Create a plot with an animated object
; $Id: animate.pro,v 1.2 1999/12/15 20:51:20 gumley Exp $

;- Check delay time (sec)
if n_elements(delay) eq 0 then delay = 0.02

;- Create graphics windows
xsize = 640
ysize = 512
window, /free, xsize=xsize, ysize=ysize
win1 = !d.window
window, /free, xsize=xsize, ysize=ysize, /pixmap
win2 = !d.window

;- Create the plot in the visible window
wset, win1
n = 200
x = findgen(n) * 0.1
y = sin(x)
```

```

plot, x, y, /nodata

;- Copy the plot to the pixmap window
wset, win2
device, copy=[0, 0, xsize, ysize, 0, 0, win1]

;- Save start time
t0 = systime(1.0)

;- Loop over all data points
xloc = -1
yloc = -1
for index = 1, n_elements(x) - 1 do begin

    ;- Restore current location from pixmap window
    if (xloc gt 0) and (yloc gt 0) then begin
        wset, win1
        device, copy=[xloc - 10, yloc - 10, 20, 20, $
            xloc - 10, yloc - 10, win2]
    endif

    ;- Plot the track in the pixmap window
    wset, win2
    plots, [x[index - 1], x[index]], [y[index - 1], y[index]]

    ;- Plot the track and object in the visible window
    wset, win1
    plots, [x[index - 1], x[index]], [y[index - 1], y[index]]
    plots, x[index], y[index], psym=5, symsize=2

    ;- Save the object location in device coordinates
    result = convert_coord(x[index], y[index], /data, /to_device)
    xloc = result[0]
    yloc = result[1]

    ;- Wait for delay time
    wait, delay

endfor

;- Print elapsed time
t1 = systime(1.0)
print, 'Elapsed time (sec): ', t1 - t0

END
;---cut here---

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```

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