Subject: Re: Testers needed for TV benchmark
Posted by Liam E. Gumley on Wed, 08 Aug 2001 21:33:10 GMT
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"Bill B." wrote:
> "Liam E. Gumley" <Liam.Gumley@ssec.wisc.edu> wrote in message
news:<3B7183C6.4D1A3622@ssec.wisc.edu>...
>
>> To obtain the best frame rate for animations, first you should display
>> all the images in a pixmap window, and *then* use DEVICE, COPY to copy
>> each image to a visible graphics window. I'm willing to bet you'll get
>> frame rates better than 10 frames/sec using this method.
>>
>
> Hi Liam,
>
> If you look at my benchmark, that is the 1st of the two tests being
> executed:
>
> <snip>
>
> FOR I = 0, 49 DO BEGIN
> WSET, pixmap0_id
> TV, data, true = 3
> WSET, pixmap1_id
> DEVICE, COPY = [0, 0, sz-1, sz-1, 0, 0, pixmap0_id]
> ENDFOR
>
> <snip>
>
> Also, the results I posted show no difference between the technique
> that you describe and just TVing directly to the visible window. Ten
> fps at 512*512 would be great but I see no indication that I can
> achieve that on a PC. BTW, this benchmarking is in preparation for
> what will be the SW end of a generic (any format) video frame grabber.
> Could you verify if the snippet above is what you had in mind?

Bill,

The rate at which you can *display* images is different than the rate at which you can *animate* images. To demonstrate, the following procedure uses two loops. The first loop displays a sequence of images in pixmap windows. The second loop copies images from the pixmap windows to a visible graphics window:

PRO TEST, DELAY=DELAY

;- Set initial parameters

```
xsize = 512
ysize = 512
nframes = 20
image = dist(512)
if (n_elements(delay) eq 0) then delay = 0.05

;- Display image in pixmap windows
t0 = systime(1)
for frame = 0, nframes - 1 do begin
  window, frame, /pixmap, xsize=xsize, ysize=ysize
  tvscl, shift(image, 10 * frame)
endfor
t1 = systime(1)
print, 'Display rate (frames/sec) = ', $
  float(nframes) / (t1 - t0)

;- Animate the images
window, /free, xsize=xsize, ysize=ysize
t0 = systime(1)
for frame = 0, nframes - 1 do begin
  device, copy=[0, 0, xsize, ysize, 0, 0, frame]
  wait, delay
endfor
t1 = systime(1)
print, 'Animation rate (frames/sec) = ', $
  float(nframes) / (t1 - t0)

END
```

If the DELAY keyword is not set, the default interval between each frame is 0.05 seconds. Set DELAY=0.0 to see how fast your system can copy images from pixmap windows to a visible window. On my PC running IDL 5.3:

```
IDL> test
Display rate (frames/sec) =       4.0265754
Animation rate (frames/sec) =       15.974441
IDL> test, delay=0.0
Display rate (frames/sec) =       4.0104271
Animation rate (frames/sec) =       56.980046
```

To summarize, the rate at which you can display the images with TV or TVSCL is much slower than the rate at which you can animate the images using DEVICE, COPY=[...].

Cheers,
Liam.
Practical IDL Programming