Subject: Re: Changing the order of true color images
Posted by Liam E. Gumley on Mon, 14 Jan 2002 15:22:19 GMT
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ronn kling wrote:
> I am reading in a (very large) pixel interleaved (3,m,n) true color image
> with a C routine. I need to be able to do the equivalent of changing the
> order of the image and I was wondering if anyone has some C code that does
> this?

Have you tried the TRANSPOSE function?

For example, to change the dimensions from (3, m, n) to (m, n, 3):

a = transpose(temporary(a), [1, 2, 0])

Cheers,
Liam.
Practical IDL Programming
http://www.gumley.com

Subject: Re: Changing the order of true color images
Posted by ronn on Mon, 14 Jan 2002 22:25:22 GMT
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?
>
> Have you tried the TRANSPOSE function?
>
> For example, to change the dimensions from (3, m, n) to (m, n, 3):
>
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>
Hi Liam,

I guess I should have been clearer... Right now I can rotate the image once
I get it back into IDL, but I would prefer to rotate it on the C side. Speed
isn't the issue, having a clean interface for the user is.

I know it is just loops and such, but I was hoping that someone had already
solved it.

Thanks,
Ronn

--

Ronn Kling
KRS, inc.
email: ronn@rlkling.com
"Application Development with IDL"ï¿½ programming book updated for IDL5.5!
"Calling C from IDL, Using DLM's to extend your IDL code" NEW BOOK!
http://www.rlkling.com/

Subject: Re: Changing the order of true color images
Posted by Martin Downing on Tue, 15 Jan 2002 10:01:10 GMT
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Hi Ronn,
Flipping an image in Y really is very trivial C code, but maybe if you are
not used to image data it seems hard. I'll do it for 2d for
you below, extending to 3d when pixel interleaved will be just a matter of
setting
sx = dim_x*3

excuse any sytax errors as Im writting this on the fly and am a little rusty
on my C code :), but I'd hope anyone using C could correct it!
ps: Byte == unsigned char

```
void flipY(Byte *image, int sx, int sy) // image block , x_size, y_size
{
int i,j, hy;
Byte tmp; // temp storage for
hy = sy/2;   // halfway though the image

for (j = 0;j <hy;j++) {
    for (i = 0;i <sx;i++) {
            // SWAP PIXELS  [i,j] <=> [i,sy-j]
            tmp = image[i+sx*j];
            image[i+sx*j]= image[i+sx*(sy-j)]);
            image[i+sx*(sy-j)]) = tmp;
    } // END FOR I
}// END FOR J

} // END FUNCTION
```

--

Martin Downing,
Clinical Research Physicist,
Grampian Orthopaedic RSA Research Centre,
Woodend Hospital, Aberdeen, AB15 6LS.
m.downing@abdn.ac.uk

"ronn kling" <ronn@rlkling.com> wrote in message
news:B868C3C9.409F%ronn@rlkling.com...
> ?
>>
>> Have you tried the TRANSPOSE function?
>>
>> For example, to change the dimensions from (3, m, n) to (m, n, 3):
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>> a = transpose(temporary(a), [1, 2, 0])
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>
> I know it is just loops and such, but I was hoping that someone had
already
> solved it.
>
> Thanks,
> Ronn
>
>
> --
> Ronn Kling
> KRS, inc.
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>
>

Subject: Re: Changing the order of true color images
Posted by ronn on Wed, 16 Jan 2002 13:17:58 GMT
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in article Z4T08.21077$WQ1.3331811@news6-win.server.ntlworld.com, Martin
Downing at martin.downing@ntlworld.com wrote on 1/15/02 5:01 AM:

> Hi Ronn,
> Flipping an image in Y really is very trivial C code, but maybe if you are
> not used to image data it seems hard. I'll do it for 2d for

> you below, extending to 3d when pixel interleaved will be just a matter of
> setting sx = dim_x*3
>

In the interest of completeness here is the completed C example based on
Martin's suggestion.

```
/*{{:|{{:|{{:|{{:|{{:|{{:|{{:|{{:|{{:|{{:|{{:|{{:|*/

void flipY( char * image, int ndims, int sx, int sy)
{
int hy,i,j;
char tmp;

hy = sy/2;
if( ndims == 3) sx = sx*ndims;

for (j=0;j<hy;j++) {
   for( i=0; i<sx; i++){
      tmp = image[i+sx*j];
      image[i+sx*j] = image[sx*(sy-j-1)+i];
      image[sx*(sy-j-1)+i] = tmp;
   }
}
}

/*{{:|{{:|{{:|{{:|{{:|{{:|{{:|{{:|{{:|{{:|{{:|{{:|*/
```

-Ronn

--
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Subject: Re: Changing the order of true color images
Posted by Alex Schuster on Mon, 28 Jan 2002 13:55:25 GMT
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"Liam E. Gumley" wrote:

> Have you tried the TRANSPOSE function?
>

> For example, to change the dimensions from (3, m, n) to (m, n, 3):
>
> a = transpose(temporary(a), [1, 2, 0])

Just a note: a = transpose(a, [1, 2, 0]) is the same, the temporary()
function does not save memory when used inside a function.

```
IDL> a=findgen(1000,1000,10)
IDL> help, /mem
heap memory used:   40206937, max:   40206965, gets:      237,
frees:      96
IDL> a=transpose(temporary(a), [ 1,2,0])
IDL> help, /mem
heap memory used:   40207016, max:   80207156, gets:      242,
frees:      99

IDL> a=findgen(1000,1000,10)
IDL> help, /mem
heap memory used:   40206821, max:   40206849, gets:      231,
frees:      93
IDL> a=transpose(a, [ 1, 2, 0] )
IDL> help, /mem
heap memory used:   40206892, max:   80207040, gets:      236,
frees:      96
```

Alex

--

Alex Schuster Wonko@planet-interkom.de
alex@pet.mpin-koeln.mpg.de