Subject: rotating 3d array: help for the braindead!
Posted by pjclinch on Tue, 14 Feb 1995 17:04:50 GMT
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I have a stack of MRI images that make up a 3d array, and I want to turn
all the constituent images over.
At the moment, I've got a FOR loop that goes through using

ROTATE(image(*,*,i),2)

on each one, but I'm convinced there must be a better way to do it in a
oner without the FOR loop to slow things down. Problem is, the brain's
stopped working and has already been a bit overloaded learning widget
programming, so if anyone can show me the light, I'd be most grateful.

Thanks, Pete.
--
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Subject: Re: rotating 3d array: help for the braindead!
Posted by thompson on Wed, 01 Mar 1995 17:01:12 GMT
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pjclinch@dux.dundee.ac.uk (Pete Clinch) writes:

> MEC (mark_cadwell@qmail4.sp.trw.com) wrote:
> : I previously wrote:
> : > I have a stack of MRI images that make up a 3d array, and I want to turn
> : > all the constituent images over.
> : > At the moment, I've got a FOR loop that goes through using
> : >
> : > ROTATE(image(*,*,i),2)
> : >
> : > on each one, but I'm convinced there must be a better way to do it in a
> : > oner without the FOR loop to slow things down.

> : There is a method of animation called double buffering where you plot an
> : image to a virtual window, copy the virtual window to your main window,
> : and while that is going on, you're drawing the next image to the virtual
> : window again. The advantage of doing it this way is that plotting to
> : virtual windows is much faster (at least in my machine) that plotting to
> : visible windows, and copying from a virtual window to a visible window is
> : also much faster that plotting. The result is a nice, smooth, and
> : reasonably fast image rotation.

> I'm not actually after an animated rotation here... My image stack is
> just plain upside down, and I want to flip each image in the stack over
> *before* I actually start looking at them.
> The image stacks are 128 images, 256 pixels square each: takes quite a
> bit of time to flip them all :-(

> Pete.
> --
> Peter Clinch Dundee Teaching Hospitals NHS Trust
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I have a routine called REARRANGE which should do what you want. It's basically a multi-dimensional equivalent of ROTATE, but with a somewhat different interface. You can find it at URL

file://umbra.gsfc.nasa.gov/pub/soho/soft/cds/util/array/rear range.pro

However, in order to make it work efficiently you will also need some CALL_EXTERNAL software to support it. You can find this software (written in C) at URL

file://umbra.gsfc.nasa.gov/pub/soho/soft/cds/external

This C software is strictly needed, the routine is capable of working without it. However, it's much slower without the CALL_EXTERNAL software--probably about the same as what you're doing now.

Bill Thompson
