Subject: Re: POLYFILLV weirdness
Posted by JD Smith on Mon, 20 Nov 2006 20:31:47 GMT
View Forum Message <> Reply to Message

On Sun, 19 Nov 2006 15:43:00 -0700, Jean H. wrote:

> dktr.ted@gmail.com wrote:
>>> PolyFillV is not using the provided polygons coordinates but a "fix()"
>>> of them.... which induce this extra line on the left and at the bottom
>>> (and a few missing pixels on the right side and on the top If I remember
>>> well). I personnaly used a round() over my polygon coordinates and it
>>> was returning much better results... though still not perfect!
>>
>>
>> This practice is particularly horrifying to me considering I frequently
>> use ROIs defined in physical coordinates and convert them to array
>> coordinates (commonly fractional) before running POLYFILLV. Is there
>> anywhere I can have a look at the actual algorithm used in IDL for this
>> routine? The documentation references the scan line coordinate system
>> defined in Rogers, Procedural Elements of Computer Graphics, 1985, but
>> I'm reluctant to hunt down this out of print text without confirmation
>> that I will get something useful out of it.
>> Ted
>
> Hi Ted,
>
> the code is not available... but you can have a look here:
> http://www.ittvis.com/services/techtip.asp?ttid=3539
> The process is a bit more explained...

This is a crummy old algorithm. I've lobbied unsuccessfully for
RSI/ITTVIS to put real polygon clipping into IDL, either something
simple like Sutherland-Hodgeman, or a full-up "holes and degenerate
edges" Greiner-Hormann algorithm or other method, e.g. something
like gpc:

http://www.cs.man.ac.uk/~toby/alan/software/

Any of these can clip an arbitrary polygon against another polygon (or
just a grid in the Sutherland-Hodgeman case), compute the exact area
of overlap as well as the actual overlap polygon itself. That latter two
can even deal with holes and other weird polygon forms. I have a slow IDL
Sutherland-Hodgeman implementation, as well as a C DLM for the same, but
it sure would be nice not to have to go to that. If you share this
concern, let your ITTVIS representatives know.

JD