Subject: Tessellate Question--fewest convex polys
Posted by Noname[1] on Fri, 08 Feb 2002 15:31:56 GMT
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Hello all,

What's the best way to tessellate a polygon so that the resulting connectivity array contains the _fewest_ number of convex polygons instead of every single triangle? I don't want to cut up shapes like squares and octagons, only shapes with concavities or holes like lima beans and donuts. IDLgrTESSELLATOR always tessellates polygons into triangles, as I understand it; squares become 2 triangles, octagons become 6 triangles, etc...

Using UNIQ and maybe MESH_MERGE I can get what I want by playing around with such a connectivity array of triangles, but as I am completely new to this I wonder if IDL already has this functionality or if this is a common and proven algorithm--or if I am just missing something obvious (most likely). Incidentally, what is the name for this type of tessellation? I know I've seen it implemented before in things like 3D video game level designers. For now I'd be happy with something that just worked in 2D.

Thanks for any help.

Subject: Re: Tessellate Question--fewest convex polys
Posted by Pavel A. Romashkin on Mon, 11 Feb 2002 18:47:19 GMT
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I didn't really dig into this but when the returned results were plotted with IDLgrPolygon, the plotted area was not plotted correctly. Each triangle is convex, but the way they are arranged (conn. array?) may not be. Polygon expects a convex dataset so I hoped Tessellator will fix that. It didn't; it might have been my error (in 2 lines of code), but I chose not to track it down and just did things differently.
Pavel

Mark Hadfield wrote:
>
> Really? That is not my experience. The tessellator always produces
> triangles, which are convex by definition.
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