
Subject: Re: "Color vectors" & shading

Posted by [nasalmon](#) on Wed, 21 Jan 2004 08:24:38 GMT

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"Karl Schultz" <kschultz_no_spam@rsinc.com> wrote in message
news:<100rj8ksoii7b80@corp.supernews.com>...

> "Neil" <nasalmon@onetel.net.uk> wrote in message

> news:74039481.0401201339.d26efa4@posting.google.com...

>> Does anyone know how i correctly implement "color vectors" in

>> "setProperty" to give each polygon of an object its own predetermined

>> intensity level or colour? It should be that setting "shading" = 0 in

>> "setProperty" should make it so that the colour of each polygon is

>> defined by the "colour vertex" of the first vertex of the polygon

>> connectivity. However, generally the number of "first vertices" of a

>> polygon of an object is actually less than the number of polygons.

>> That means you cant use this method to give each polygon of an object

>> a predetermined different colour - or have i missed something? It

>> seems to me that what is really needed is a colour vector for the

>> polygons not the vertices.

>

> There's no way to do this today if you have vertices that are shared between

> polygons. There isn't a polygon color vector.

>

> What you could do is make a vertex list and a connectivity list that creates

> a set of independent polygons and then set the color of all the vertices

> belonging to each polygon to the same color. Actually, you would only need

> to set the first vertex of a polygon to an actual color; the rest are

> ignored if you are doing flat shading.

>

> Obviously, if you have many polygons that used to share vertices, this will

> require more space.

>

> For example, if you have 4 vertices, A, B, C, D, that form 2 triangles with

> a shared edge, the triangles might be ABC, and DCB. If the vertices are in

> the vertex list as ABCD, the conn list would be 3 0 1 2 3 3 2 1. To make

> them independent triangles, your vertex list would be ABCDCB and the conn

> list 3 0 1 2 3 3 4 5. You would set the color of vert A (at 0) to the

> desired color and the color of vert D (at 3) to the desired color. The rest

> of the vertex colors list can be left uninitialized.

>

> It isn't very efficient, but would work well if you don't have that many

> polygons.

>

> Karl

Karl,

many thanks for your response.

It's a shame there are no polygon colour vectors. If you think about nature and surfaces, it is the surface that has the colour. The vertex is just a manmade mathematical entity to describe the surfaces. I am sure it would be the wish of graphics programmes to mimic nature as closely as possible in the most efficient way.

Is the absence of polygon colour vectors a fundamental limitation of IDL? Does OpenGL have this limitation? Would there be any plans for RSI to introduce an efficient method in IDL to enable each polygon to have a predetermined and unique colour/intensity?

I can certainly create an artificial polygon_connectivity for unconnected polygons allows each polygon to have a different intensity.

best regards, Neil
