
Subject: Re: how to get scale info from a transform matrix?

Posted by [Karl Schultz](#) on Tue, 21 Feb 2006 22:13:22 GMT

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On Tue, 21 Feb 2006 11:14:49 -0800, Rick Towler wrote:

>
>
> Weihua FANG wrote:
>
>> Can someone show me how to get scale info of x, y, z axis from the
>> transform matrix of a IDLgrModel?
>
> You can really only do this for models that haven't been rotated. A 4x4
> scale matrix is defined as:
>
> Sx 0 0 0
> 0 Sy 0 0
> 0 0 Sz 0
> 0 0 0 1
>
> Where Sx, Sy, and Sz are the x, y and z axis scaling factors
> respectively. So:
>

See:

Thomas, Spencer W., Decomposing a Matrix Into Simple Transformations,
Graphics Gems II, p. 320-323, code: p. 599-602, unmatrix.c.

<http://www.acm.org/pubs/tog/GraphicsGems/gemsii/unmatrix.c>

If there is no shear or perspective, then getting the scale factors
amounts to just taking the length of the column vectors.

Karl
