NAME

xgl_transform_translate – combines a Transform with a Translation Transform

SYNOPSIS

```
#include <xgl/xgl.h>
void  xgl_transform_translate (
            Xgl_trans           trans,
            Xgl_pt              *offset,
            Xgl_trans_update    update );
```

DESCRIPTION

Purpose

This operator combines a given Transform with a Translation Transform that is constructed with the given parameters. The Translation Transform can replace the given Transform, or it can be preconcatenated or postconcatenated with the given Transform.

Parameters

trans The Transform to be updated with a Translation Transform. It must have been created previously with **xgl_object_create**(3)**.**

offset Contains the offset used to construct a Translation Transform. *offset* is a pointer to a structure of type *Xgl_pt* defined as follows:

```
typedef struct {
        Xgl_pt_type     pt_type;    /* type of point */
        Xgl_pt_position pt;         /* union of pointers to one point */
} Xgl_pt;
```

offset→pt_type is the type of the point in *offset→pt*. The table below gives the valid point types.

offset→pt is a union of pointers. The appropriate pointer, as determined by *offset→pt_type*, gives the address of a point structure containing coordinates. The valid members of this union are as follows:

Field Name	Type	Point Type
pt.i2d	Xgl_pt_i2d *	XGL_PT_I2D
pt.f2d	Xgl_pt_f2d *	XGL_PT_F2D
pt.d2d	Xgl_pt_d2d *	XGL_PT_D2D
pt.f3d	Xgl_pt_f3d *	XGL_PT_F3D
pt.d3d	Xgl_pt_d3d *	XGL_PT_D3D

The dimension of *trans*, as given by **XGL_TRANS_DIMENSION**(3)**,** and the data type, as given by **XGL_TRANS_DATA_TYPE**(3)**,** do not need to match those of *offset*. If *trans* is 3D and *offset* is 2D, the *z* offset value of the Translation Transform is set to 0. If *trans* is 2D and *offset* is 3D, the *z* offset value is ignored.

update Establishes the method of combining the Translation Transform with the target Transform. XGL accepts the following values for Xgl_trans_update:

XGL_TRANS_REPLACE
: The Translation Transform replaces the target Transform *trans*.

XGL_TRANS_PRECONCAT
: The Translation Transform is preconcatenated to the target Transform *trans*, and the result is stored in *trans*. XGL treats coordinates as row vectors, which means that the matrix of the Translation Transform on the left, multiplied by the matrix of *trans* on the right, replaces the matrix of *trans*.

XGL_TRANS_POSTCONCAT
: The Translation Transform is postconcatenated to the target Transform *trans*, and the result is stored in *trans*. XGL treats coordinates as row vectors, which means that the matrix of *trans* on the left, multiplied by the matrix of the Translation Transform on the right, replaces the matrix of *trans*.

RETURN VALUE

Nothing is returned.

SEE ALSO

xgl_object_create(3)

XGL_TRANS_DATA_TYPE(3)
XGL_TRANS_DIMENSION(3)