NAME

xgl_annotation_text – renders 2D and 3D annotation text

SYNOPSIS

```
#include <xgl/xgl.h>
void  xgl_annotation_text (
            Xgl_ctx          ctx,
            void             *str,
            Xgl_pt_f{2,3}d   *ref_pos,
            Xgl_pt_f{2,3}d   *ann_pos );
            /* f2d for 2D Context, f3d for 3D Context */
```

DESCRIPTION

This Context operator renders the text indexed by the characters in *str* using the Context attributes within *ctx*.

Annotation text primitives differ from text primitives in that the plane upon which characters are generated is always parallel to the display surface. Annotation text primitives are *planar* primitives. The depth at which annotation text is located is dependent on the *z* coordinate of the *annotation point*, defined below.

Depending on the character-encoding scheme defined by the Context attribute **XGL_CTX_STEXT_CHAR_ENCODING**(3), the *str* parameter represents a *NULL-terminated* C-style string of characters, or a pointer on a structure of type *Xgl_mono_text_list* defined in **xgl_struct**(3). *ref_pos* is the reference point for the rendered string. This point is transformed through the XGL transformation pipeline. An *annotation point* is derived from the reference point by adding the values stored in *ann_pos* to the transformed reference point. *ann_pos* values are specified in virtual device coordinates (VDC).

If the string-encoding scheme used is of type XGL_SINGLE_STR, at least one font can be selected to render the characters in ISO or MBY character-encoding schemes:

XGL_CTX_SFONT_0(3)

When the character-encoding scheme used is of type XGL_CHAR_MBY, the fonts used to render the string are selected depending on the character code adding the following Context attributes:

XGL_CTX_SFONT_1(3)
XGL_CTX_SFONT_2(3)
XGL_CTX_SFONT_3(3)

If the string-encoding scheme used is of type XGL_MULTI_STR, the structure passed in parameter contains the XGL font Object used to render the characters. Both character-encodings ISO or MBY can be used.

The application can control the geometrical characteristics of the text using the following attributes:

XGL_CTX_ATEXT_CHAR_HEIGHT(3)
XGL_CTX_STEXT_CHAR_SPACING(3)
XGL_CTX_STEXT_CHAR_EXPANSION_FACTOR(3)

The text orientation is controlled by changing the components of the **XGL_CTX_ATEXT_CHAR_UP_VECTOR**(3) attribute. An inclination can be added to the orientation by using the **XGL_CTX_ATEXT_CHAR_SLANT_ANGLE**(3) attribute.

The text presentation, with respect to the position given by the parameter *ref_pos*, is managed by the following attributes:

XGL_CTX_ATEXT_ALIGN_HORIZ(3)
XGL_CTX_ATEXT_ALIGN_VERT(3)
XGL_CTX_ATEXT_PATH(3)

The color of the text can be modified with the **XGL_CTX_STEXT_COLOR**(3) attribute.

Annotation text is clipped differently than normal stroke text is. It will be visible if the reference point is within the clipping region or volume in 3D. Otherwise, the complete text is rejected. If the reference point implies a visible text, the text is further clipped to the limits of the clipping region or volume.

An additional attribute, **XGL_CTX_ATEXT_STYLE**(3)**,** controls whether the reference point is visually connected to the annotation point. A visible connection is represented by a single line, using the multipolyline current non-geometric attributes, between the reference point and the annotation point. For a list of non-geometric attributes, see **xgl_multipolyline**(3)**.**

XGL annotation text is rendered as a set of polylines. The width is fixed and there cannot be any pattern applied to the rendering of the text. The ROP and plane mask apply, as for any other rendering primitive, and can be modified with the **XGL_CTX_ROP**(3) and **XGL_CTX_PLANE_MASK**(3) attributes, respectively.

RETURN VALUE

Nothing is returned.

SEE ALSO

xgl_multipolyline(3)

XGL_CTX_PLANE_MASK(3)
XGL_CTX_ROP(3)
XGL_CTX_STEXT_CHAR_ENCODING(3)
XGL_CTX_STEXT_CHAR_EXPANSION_FACTOR(3)
XGL_CTX_ATEXT_CHAR_HEIGHT(3)
XGL_CTX_ATEXT_CHAR_SLANT_ANGLE(3)
XGL_CTX_ATEXT_CHAR_UP_VECTOR(3)
XGL_CTX_ATEXT_STYLE(3)
XGL_CTX_ATEXT_ALIGN_HORIZ(3)
XGL_CTX_ATEXT_ALIGN_VERT(3)
XGL_CTX_ATEXT_PATH(3)
XGL_CTX_SFONT_0(3)
XGL_CTX_SFONT_1(3)
XGL_CTX_SFONT_2(3)
XGL_CTX_SFONT_3(3)
XGL_CTX_STEXT_CHAR_SPACING(3)
XGL_CTX_STEXT_COLOR(3)

NOTES

For XGL annotation text, the character up vector, defined by the **XGL_CTX_ATEXT_CHAR_-UP_VECTOR**(3) attribute is independent of the VDC orientation (defined by **XGL_CTX_VDC_-ORIENTATION**(3)) and should always be interpreted as if the Y axis was ALWAYS pointing up.