NAME

PEXFillAreaSetWithData - 3D Set of Fill Areas Primitive With Additional Data

SYNTAX

void PEXFillAreaSetWithData(Display **display*, XID *resource_id*, PEXOCRequestType *req_type*, int *shape_hint*, int *ignore_edges*, int *contour_hint*, unsigned int *facet_attributes*, unsigned int *vertex_attributes*, int *color_type*, unsigned int *count*, PEXFacetData **facet_data*, PEXListOfVertex **vertex_lists*)

PARAMETERS

display	A pointer to a display structure returned by a successful **XOpenDisplay** call.
resource_id	The resource identifier of the renderer or structure.
req_type	The request type for the output command (**PEXOCRender, PEXOCStore, PEXOCRenderSingle** or **PEXOCStoreSingle**).
shape_hint	The shape which describes all of the contours (**PEXShapeComplex, PEXShapeNonConvex, PEXShapeConvex, PEXShapeUnknown**).
ignore_edges	A flag that determines if surface edges are rendered (**True** or **False**).
contour_hint	A flag that indicates whether contours are disjoint or overlapping **(PEXContourDisjoint, PEXContourNested, PEXContourIntersecting, PEXContourUnknown**).
facet_attributes	A mask indicating the facet attributes provided (**PEXGANone, PEXGAColor, PEXGANormal**).
vertex_attributes	A mask indicating the vertex attributes provided (**PEXGANone, PEXGAColor, PEXGANormal, PEXGAEdges**).
color_type	The type of color data provided (**PEXColorTypeIndexed, PEXColorTypeRGB, PEXColorTypeCIE, PEXColorTypeHSV, PEXColorTypeHLS, PEXColorTypeRGB8, PEXColorTypeRGB16**).
count	The number of fill areas in the set.
facet_data	A pointer to facet data.
vertex_lists	A pointer to the list of vertex arrays defining each contour of the fill area set.

RETURNS

None

DESCRIPTION

This function creates a fill area set output primitive.

This function is like **PEXFillAreaSet**(3) except that it allows additional information to be specified for each fill area and for each vertex. It is similar to **PEXFillAreaWithData**(3) but allows for the creation of areas with *islands* or *holes*. Color values passed must be of the specified color type.

The facet attributes indicate the content of the facet data. This data may be a color, a normal, or a color followed by a normal. Use the constants **PEXGANone, PEXGAColor** and **PEXGANormal** to construct a mask indicating the data provided. If specified, the facet color takes precedence over the surface color. If specified, the facet normal is used to

determine whether the fill area is back-facing.

The vertex attributes indicate the content of each fill area vertex. In addition to the coordinate (x,y,z), applications may specify a color, a normal, an edge flag, or any combination of the three specified in the order given. Use the constants **PEXGANone, PEXGAColor, PEXGANormal** and **PEXGAEdges** to construct a mask indicating the data provided. If specified, vertex colors will override facet color or the current surface color. If specified, vertex normals are taken to be normals at the vertices of the fill area.

The reflection model and the surface interpolation will affect how the additional data is used in rendering the surface. Edge controls are used to indicate those edges rendered if the surface edges are enabled. The edge control for vertex i indicates whether or not to render the edge between vertex i and vertex i+1. Surface edges are always rendered with the surface edge color and are not affected by the facet or vertex colors.

Normals are assumed to be unit length vectors. The effect if the normal is not unit length is implementation-dependent.

All other aspects of this primitive are the same as **PEXFillAreaSet**(3)**.**

DATA STRUCTURES

See **PEXlib.h.**

ERRORS

BadPEXOutputCommand
The output command contains an invalid value.

BadPEXRenderer
The specified renderer resource identifier is invalid.

BadPEXStructure
The specified structure resource identifier is invalid.

SEE ALSO

PEXSetInteriorStyle(3)
PEXSetInteriorStyleIndex(3)
PEXSetSurfaceColorIndex(3)
PEXSetSurfaceColor(3)
PEXSetReflectionAttributes(3)
PEXSetReflectionModel(3)
PEXSetSurfaceInterpMethod(3)
PEXSetBFInteriorStyle(3)
PEXSetBFInteriorStyleIndex(3)
PEXSetBFSurfaceColorIndex(3)
PEXSetBFSurfaceColor(3)
PEXSetBFReflectionAttributes(3)
PEXSetBFReflectionModel(3)
PEXSetBFSurfaceInterpMethod(3)
PEXSetFacetCullingMode(3)
PEXSetFacetDistinguishFlag(3)
PEXSetPatternSize(3)
PEXSetPatternAttributes(3)

PEXSetPatternAttributes2D(3)
PEXSetInteriorBundleIndex(3)
PEXSetSurfaceEdgeFlag(3)
PEXSetSurfaceEdgeType(3)
PEXSetSurfaceEdgeWidth(3)
PEXSetSurfaceEdgeColor(3)
PEXSetSurfaceEdgeColorIndex(3)
PEXSetEdgeBundleIndex(3)