NAME

PEXCellArray – 3D Cell Array Primitive

SYNTAX

void PEXCellArray(Display **display*, XID *resource_id*, PEXOCRequestType *req_type*, PEXCoord **point1*, PEXCoord **point2*, PEXCoord **point3*, unsigned int *col_count*, unsigned int *row_count*, PEXTableIndex **color_indices*)

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, PEXOC-Store, PEXOCRenderSingle** or **PEXOCStoreSingle**).
point1	The first cell array definition point.
point2	The second cell array definition point.
point3	The third cell array definition point.
col_count	The number of cell columns (number of cells in the X direction).
row_count	The number of cell rows (number of cells in the Y direction).
color_indices	An array of color table index values which specify the color of each cell.

RETURNS

None

DESCRIPTION

This function creates a 3D cell-array output primitive.

A 3D cell-array primitive is a parallelogram of equally-sized cells, each of which is a parallelogram with a single color. Each cell has a width defined by:

$$width = \frac{\sqrt{(point1 \rightarrow x - point2 \rightarrow x)^2 + (point1 \rightarrow y - point2 \rightarrow y)^2 + (point1 \rightarrow z - point2 \rightarrow z)^2}}{col_count}$$

and a height defined by:

$$height = \frac{\sqrt{(point1 \rightarrow x - point3 \rightarrow x)^2 + (point1 \rightarrow y - point3 \rightarrow y)^2 + (point1 \rightarrow z - point3 \rightarrow z)^2}}{row_count}$$

Cell colors are specified in a one-dimensional array where the colors are stored in row-major order. The first color in the array is the color at the cell at the corner of point1, and subsequent colors represent the colors of cells proceeding to *point2.*

If any color index is not defined, color index one is used. If color index one is not defined, the resulting color is implementation-dependent. The column count and row count can not be zero.

DATA STRUCTURES

typedef unsigned short PEXTableIndex;

See also **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.