NAME

PEXPickOne - Pick One Traversal

SYNTAX

PEXPickPath *PEXPickOne(Display *display, Drawable *drawable*, PEXRenderer *renderer*, PEXStructure *structure*, int *method*, int *pick_device_type*, PEXPickRecord *pick_record*, int *status_return*, int *undetectable_return*)

PARAMETERS

display A pointer to a display structure returned by a successful **XOpenDisplay** call.

drawable The resource identifier of a drawable.

renderer The resource identifier of the renderer.

structure The resource identifier for the root structure of the structure network.

method The pick one method (**PEXPickLast, PEXPickClosestZ, PEXPickVisibleAny, PEXPickVisibleClosest**).

pick_device_type
The pick device type (**PEXPickDeviceDCHitBox** or **PEXPickDeviceNPCHitVolume**).

pick_record A pointer to the pick data record.

status_return Returns the status of the pick operation.

undetectable_return
Returns **True** or **False** indicating whether another pick better satisfied the pick criteria with the exception that it did not pass the pick filter test.

RETURNS

A pointer to the pick path; a null pointer if unsuccessful or no pick (see also *status_return).*

DESCRIPTION

This function traverses the specified structure network.

Standard pick one methods are **PEXPickLast, PEXPickClosestZ, PEXPickVisibleAny** and **PEXPickVisibleClosest.** The supported pick device types are inquirable via **PEXGetEnumTypeInfo**(3)**.**

If a primitive was picked, the returned pick status is **PEXPick.** If no primitive was picked, the returned pick status is **PEXNoPick,** and the returned pick path is a null pointer. If the renderer's *drawable* was destroyed or resized during the pick operation, the returned pick status is **PEXAbortedPick** and the returned pick path is a null pointer.

If there was a primitive which more closely satisfied the pick criteria, but did not pass the pick filter test, then the undetectable pick return status will be **True.** Otherwise, it will be **False.**

If the specified drawable does not have the same root and depth as the drawable that was used to create the renderer, or, if the specified drawable is not one of the supported drawables returned by **PEXMatchRenderingTargets**(3)**,** a Match error will be generated. If the renderer state is set to **PEXRendering** or **PEXPicking** when this function is called, then the operation in progress is aborted, the **PEXPickOne** function is completed, and a

BadPEXRendererState error is sent.

PEXlib allocates memory for the return value. **PEXFreePickPaths**(3) should be called to deallocate the memory.

DATA STRUCTURES

```
typedef  XID     PEXRenderer;

typedef union {
        PEXPDNPCHitVolume  volume;
        PEXPDDCHitBox      box;
        PEXPickDataRecord  data;
} PEXPickRecord;

typedef  PEXNPCSubVolume    PEXPDNPCHitVolume;

typedef struct {
        PEXCoord        min;
        PEXCoord        max;
} PEXNPCSubVolume;

typedef struct {
        float     x;
        float     y;
        float     z;
} PEXCoord;

typedef struct {
        PEXDeviceCoord2D     position;
        float                distance;
} PEXPDDCHitBox;

typedef struct {
        short     x;
        short     y;
} PEXDeviceCoord2D;

typedef struct {
        unsigned short          length;  /* number of bytes in record */
        char                    *record;
} PEXPickDataRecord;

typedef struct {
        unsigned long           count;   /* number of elements */
        PEXPickElementRef       *elements;
} PEXPickPath;
```

```
typedef struct {
        PEXStructure    sid;
        unsigned long   offset;
        unsigned long   pick_id;
} PEXPickElementRef;

typedef  XID     PEXStructure;
```

ERRORS

BadAlloc
The server failed to allocate resources necessary to complete request.

BadDrawable
The specified drawable resource identifier is invalid.

BadMatch
The specified drawable is unsupported, or the specified renderer resource was not created with a compatible drawable.

BadPEXRenderer
The specified renderer resource identifier is invalid.

BadPEXRendererState
The specified renderer was in an invalid state.

BadPEXStructure
The specified structure resource identifier is invalid.

BadValue
The pick record contains invalid data, or the pick device type is invalid.

SEE ALSO

PEXBeginPickOne(3)
PEXEndPickOne(3)