

# Projective Texture Mapping

**ISO/IEC JTC 1/SC 24/ WG 6 Plenary Meeting**

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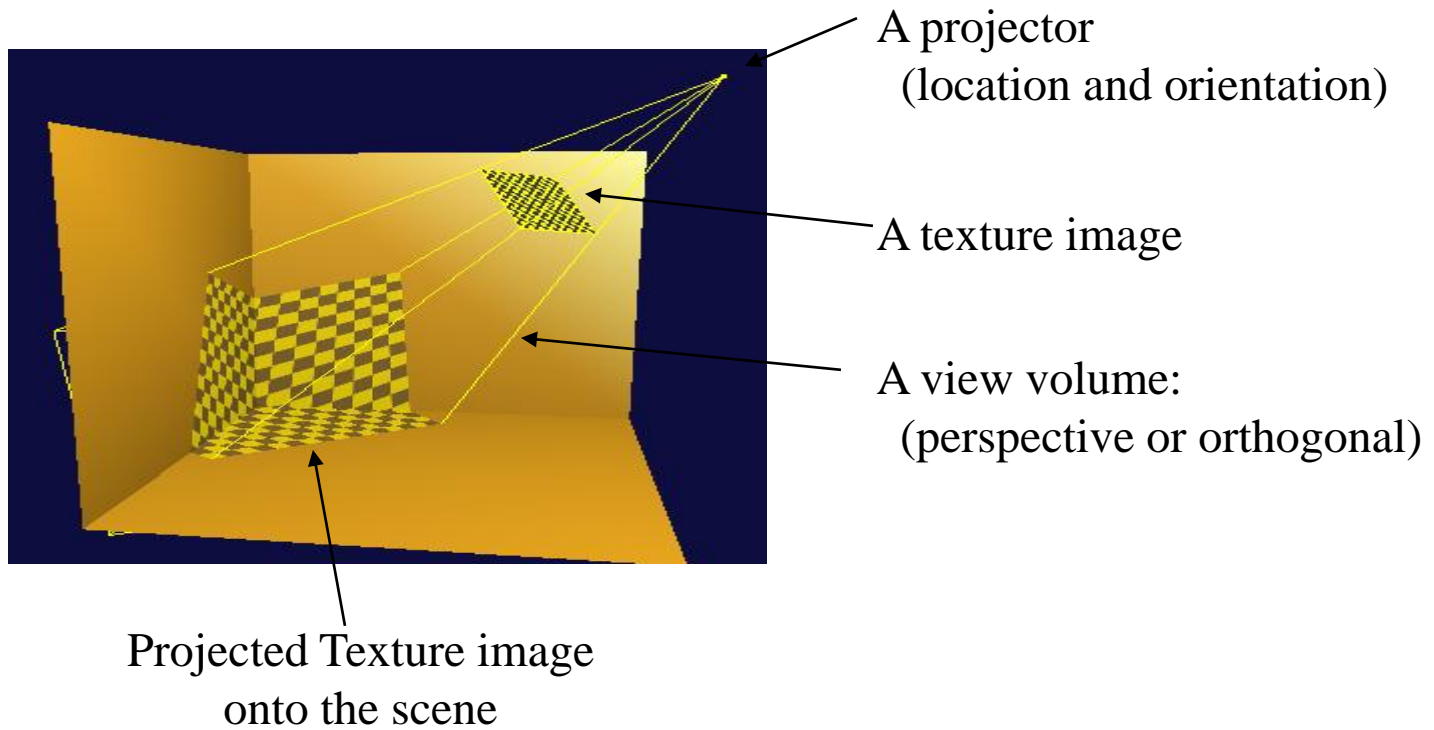
I **Brief Discussion**

II **Proposed Nodes**

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# 1. On Projective Texture Mapping

- A method for texture mapping which allows the texture image to be projected onto the scene as if by a slide projector[Cass Everitt, 1999)



DEMO

## 1. History

- The projective texture mapping was proposed as standardization item into X3D at SC24 WC6 Meeting, 2008

- \* **Any nodes for projective texture mapping are not specified into X3D yet**

- For last four years, several sample examples for projective texture mapping have been developed.

- Current, implementation results of projective texture mapping have transferred into X3D browsers such as freeWRL, Xj3D etc.

## II. Proposed Nodes

**X3DProjectiveTextureNode :X3DChildNode**

**ParallelTexture:X3DProjectiveTextureNode**

**PerspectiveTexture:X3DProjectiveTextureNode**

**ProjectiveTextureGroup**

## II. Proposed Nodes

### X3DProjectiveTextureNode

```
X3DProjectiveTextureNode : X3DChildNode {  
    SFNode      [in,out]      metadata NULL[X3DMetadataObject]  
    SFString    [in,out]      description “ ”  
}
```

## II. Proposed Nodes

### ParallelTexture:X3DProjectiveTextureNode

```
ParallelTexture : X3DProjectiveTextureNode {  
    SFNode      [in,out]      metadata          NULL  
    [X3DMetadataObject]  
    SFString    [in,out]      description        ""  
    SFVec3f     [in,out]      centerOfProjection 0 0 1  
    SFvec3f     [in,out]      direction          0 0 1  
    MFFloat     [in,out]      volume             -1 1 -1 1 -1 1  
    SFNode      [in,out]      texture            NULL  
}
```

## II. Proposed Nodes

### PerspectiveTexture:X3DProjectiveTextureNode

```
PerspectiveTexture : X3DProjectiveTextureNode {  
  SFNode      [in,out]      metadata          NULL  
  [X3DMetadataObject]  
  SFString    [in,out]      description        ""  
  SFVec3f     [in,out]      centerOfProjection 0 0 1  
  SFvec3f     [in,out]      direction          0 0 1  
  SFVec3f    [in,out]      upVector          0 1 0  
  SFFloat     [in,out]      fieldOfView        45  
  SFFloat     [in,out]      aspectRatio        1  
  MFFloat     [in,out]      nearFar            1 10  
  SFNode      [in,out]      texture            NULL  
}
```



## II. Proposed Nodes

### ProjectiveTextureGroup:X3DProjectiveTextureNode

```
ProjectiveTextureGroup : X3DProjectiveTextureNode {
  SFNode      [in,out]      metadata      NULL
  [X3DMetadataObject]
  SFString    [in,out]      description    ""
  SFFloat     [in,out]      alpha              1 [0,1]
  SFColor     [in,out]      color               1 1 1 [0,1]
  MFString    [in,out]      function            []
  MFString    [in,out]      mode                 []
  MFString    [in,out]      source               []
  SFBool      [in,out]      transparent         false
  MFNode      [in,out]      projectiveTexture    []
  [X3DProjectiveTextureNode ]
}
```

## **1. Introduction**

### **1.1 name**

## **2. Overview**

## **2. Concepts**

### **2.1 General Concepts**

### **2.2 Projective Texture Map Formats and Image Formats**

## **3. Abstract types**

### **3.1 X3DProjectiveTextureNode**

## **4. Node References**

### **4.1 ParallelTexture**

### **4.2 PerspectiveTexture**

### **4.3 ProjectiveTextureGroup**

## **5. Support levels**



## Documentation



**Thank you**

**Q&A**

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