

Updates on Projective Texture Mapping

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Contents



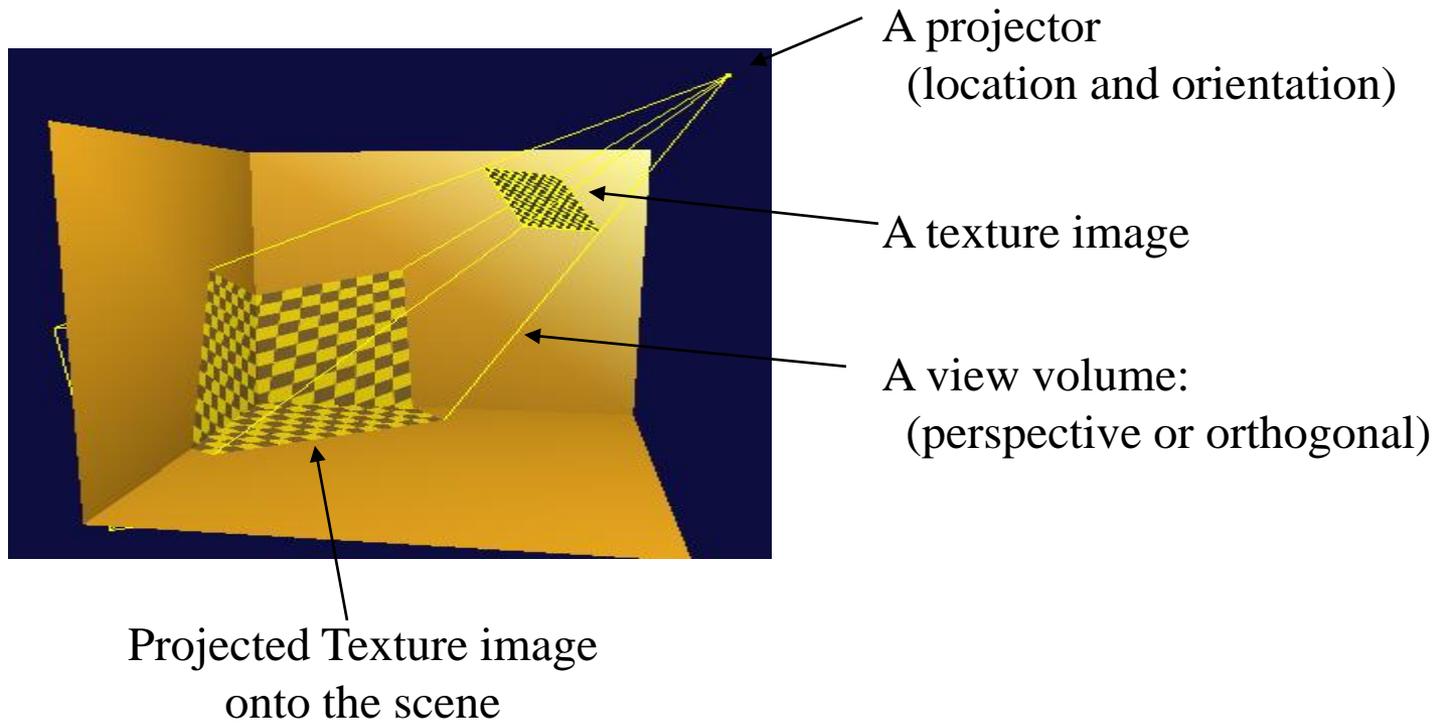
I **Brief Discussion**

II **Proposed Nodes**

III **Documentation**

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 Meeting/Web3D, 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 has transferred into X3D browsers such as freeWRL, etc.

II. Proposed Nodes

X3DProjectiveTextureNode

OrthoTexture:X3DProjectiveTextureNode

PerspectiveTexture:X3DProjectiveTextureNode

ProjectiveTextureGroup:X3DChildNode

II. Proposed Nodes

X3DProjectiveTextureNode

```
SFString    [in, out] description ""
SFVec4f/d   [in, out] position 0 0 10 1
SFVec3f/d   [in, out] direction 0 0 1
```

II. Proposed Nodes

OrthoTexture:X3DProjectiveTextureNode

```
SFString    [in, out] description ""
SFVec4f/d   [in, out] position 0 0 1 0
SFVec3f/d   [in, out] direction 0 0 1
MFFloat     [in, out] viewVolume -1 1 -1 1 -1 1 // (viewvolume)
SFNode      [in, out] texture NULL [TextureNode]
SFNode      [in, out] textureTransform NULL [TextureTransformNode]
```

II. Proposed Nodes

PerspectiveTexture:X3DProjectiveTextureNode

```
SFString    [in, out] description ""
SFVec4f/d   [in, out] position 0 0 10 1
SFVec3f/d   [in, out] direction 0 0 1
SFFloat     [in, out] fieldOfView n/4 (0, n) // field of view
SFFloat     [in, out] aspectRatio 1 // aspect ratio
MFFloat     [in, out] minmax 1 10 // min-max z value
SFNode      [in, out] texture NULL [TextureNode]
SFNode      [in, out] texture Transform NULL [TextureTransformNode]
```

II. Proposed Nodes

ProjectiveTextureGroup:X3DChildNode

```
SFFloat [in, out] alpha 1 [0,1]
SFColor [in, out] color 1 1 1 [0,1]
MFString [in, out] function []
SFNode [in, out] metadata NULL
MFString [in, out] mode []
MFString [in, out] source []
MFNode [in, out] projectiveTexture [] [X3DProjectiveTextureNode]
```

III. Documentation