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|----------------------|--|-----------------------|-------------|------------------------|------------------|
| ID | Project | Category | View Status | Date Submitted | Last Update |
| 0001481 | X3D | 19775-1 (Abstract) | public | 2024-12-07 20:30 | 2024-12-13 00:24 |
| Reporter | brutzman | Assigned To | brutzman | | |
| Priority | normal | Severity | major | Reproducibility | always |
| Status |  assigned | Resolution | open | | |
| Summary | 0001481: upVector field for TextureProjector, TextureProjectorParallel nodes | | | | |
| Description | <p>While performing regression testing using X3D Examples Archive, found several problems related to the upVector field.</p> <p>First, upVector is defined in X3D Architecture specification for TextureProjector node but not TextureProjectorParallel node. However the corresponding figures illustrate that upVector is an integral part of each node's definition.</p> <p>Second, the default value is "0 0 1" but this looks wrong (rotated confusingly), and a much more intuitive value is "0 1 0" with y-axis up. In other words, the default upVector direction ought to point upwards. This is the default relationship is shown in both figures and the specification example for TextureProjector.</p> <p>X3D 4.0 Architecture, clause 42 Texture projection component https://www.web3d.org/specifications/X3Dv4/ISO-IEC19775-1v4-IS/Part01/components/textureProjection.html</p> <p>42.3.1 X3DTextureProjectorNode</p> <p>42.4.1 TextureProjector Figure 42.5 – Description of 3D perspective texture projection "The upVector describes the roll of the camera by saying which point is "up" in the camera's orientation. The default value of this field is (0 0 1)." https://www.web3d.org/specifications/X3Dv4/ISO-IEC19775-1v4-IS/Part01/components/textureProjection.html#TextureProjector</p> <p>42.4.2 TextureProjectorParallel Figure 42.4 –Description of 3D parallel texture projection https://www.web3d.org/specifications/X3Dv4/ISO-IEC19775-1v4-IS/Part01/components/textureProjection.html#TextureProjectorParallel</p> <p>Third, I am unable to find a working implementation for these nodes, though we have seen FreeWrl (at least) working in the past.</p> | | | | |


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| Steps To Reproduce | Test scene: X3D Example Archives: Basic, X3D Specifications, Texture Projector Component Example https://www.web3d.org/x3d/content/examples/Basic/X3dSpecifications/TextureProjectorComponentExampleIndex.html |
| Additional Information | Recommended specification remedies: * Include upVector field in TextureProjectorParallel node and shared node type X3DTextureProjectorNode * Change default values to "0 1 0" * Include an example for TextureProjectorParallel node, similar to TextureProjector node * Fix erroneous figure labels so that they are properly numbered * Update Mantis error tracker with consensus design changes Then * Update various validation tools, X3D Tooltips, X3DJSAIL and X3DPSAIL x3d.py, etc. * Encourage, hopefully ensure that multiple browser implementations are available. |
| Tags | <div style="display: flex; gap: 5px;"> <div style="border: 1px solid #ccc; border-radius: 3px; padding: 2px 5px;">v4.1</div> <div style="border: 1px solid #ccc; border-radius: 3px; padding: 2px 5px;">✕</div> </div> |

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|---|---------|--|----------|--|
| Relationships ^ | | | | |
| related to | 0001255 |  assigned | brutzman | X3DTextureProjectorNode field definitions review  |

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| Users monitoring this issue ^ | |
| User List | There are no users monitoring this issue. |

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| Activities ^ | |
| <p> brutzman  2024-12-09 08:21 <input type="text" value="administrator"/>  ~0003720  Last edited: 2024-12-09 09:16 View 2 revisions</p> | <p>Dialog on x3d-public mailing list at * https://web3d.org/pipermail/x3d-public_web3d.org/2024-December/020959.html</p> <p>Specification changes applied to github version control and published online * https://github.com/Web3DConsortium/X3D/blob/master/ISO-IEC19775/ISO-IEC19775-1/ISO-IEC19775-1v4.1/ISO-IEC19775-1v4.1-CD/Part01/components/textureProjection.html * https://www.web3d.org/specifications/X3Dv4Draft/ISO-IEC19775-1v4.1-CD</p> |

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| <p> brutzman  2024-12-10 10:52 <input type="text" value="administrator"/>  ~0003721  Last edited: 2024-12-13 00:24 View 4 revisions</p> | <p>Editor-approved change: edit image in figure 42.5 to only say "fieldOfView" and not suggest default ordering (which is listed incorrectly).</p> <p>This has been corrected. * https://www.web3d.org/specifications/X3Dv4Draft/ISO-IEC19775-1v4.1-CD/Images/ptmperspective2.png * https://www.web3d.org/specifications/X3Dv4Draft/ISO-IEC19775-1v4.1-CD/Images/ptmparallel2.png</p> <p>X3D DTD, Schema, X3DUOM and Tooltips all updated.</p> |
| <p> brutzman  2024-12-10 10:58 <input type="text" value="administrator"/>  ~0003722  Last edited: 2024-12-12 23:26 View 3 revisions</p> | <p>These changes are considered to be consistent with X3D 4.0, merely addition of identical upVector field with adjustment of default values and clarified prose.</p> <p>This correction does no harm to existing X3D 4.0 content or players, and deserves to be a current recommended practice now. These changes can be considered errata in X3D 4.0 deserving correction in content and validation tools. Other changes in Mantis 1255 are deferred to X3D 4.1.</p> |

| Issue History | | |  |
|------------------|----------|--------------------------------|---|
| Date Modified | Username | Field | Change |
| 2024-12-07 20:30 | brutzman | New Issue | |
| 2024-12-07 20:30 | brutzman | Status | new => assigned |
| 2024-12-07 20:30 | brutzman | Assigned To | => brutzman |
| 2024-12-07 20:30 | brutzman | Tag Attached: V4.1 | |
| 2024-12-07 20:31 | brutzman | Description Updated | View Revisions |
| 2024-12-07 20:32 | brutzman | Relationship added | related to 0001255 |
| 2024-12-09 08:21 | brutzman | Note Added: 0003720 | |
| 2024-12-09 09:06 | brutzman | Additional Information Updated | View Revisions |
| 2024-12-09 09:16 | brutzman | Note Edited: 0003720 | View Revisions |
| 2024-12-10 10:52 | brutzman | Note Added: 0003721 | |
| 2024-12-10 10:52 | brutzman | Note Edited: 0003721 | View Revisions |
| 2024-12-10 10:58 | brutzman | Note Added: 0003722 | |
| 2024-12-12 23:25 | brutzman | Note Edited: 0003722 | View Revisions |
| 2024-12-12 23:26 | brutzman | Note Edited: 0003722 | View Revisions |
| 2024-12-13 00:23 | brutzman | Note Edited: 0003721 | View Revisions |
| 2024-12-13 00:24 | brutzman | Note Edited: 0003721 | View Revisions |