



Logged in as: brutzman (Don Brutzman - administrator) 2023-10-18 06:52 PDT

Project: X3D [dropdown] [RSS]

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ID	Project	Category	View Status	Date Submitted	Last Update
0001336	X3D	19775-1 (Abstract)	public	2021-01-14 10:13	2022-05-27 08:28
Reporter	brutzman				
Assigned To	mkamburelis				
Priority	normal	Severity	feature	Reproducibility	always
Status	confirmed	Resolution	open		

Summary 0001336: 17.4.2 EnvironmentLight - Khronos glTF extension for image based lighting

Description Support has been requested for

[KhronosGroup/glTF/extensions/2.0/Vendor/EXT_lights_image_based](https://github.com/KhronosGroup/glTF/tree/master/extensions/2.0/Vendor/EXT_lights_image_based)
https://github.com/KhronosGroup/glTF/tree/master/extensions/2.0/Vendor/EXT_lights_image_based
 which likely will get implemented as EnvironmentLight

Additional Information Reaction by Michalis Kamburelis:
 Please direct the commenter to [https://github.com/michaliskambi/x3d-tests/wiki/Image-Based-Lighting-\(EnvironmentLight-node\)](https://github.com/michaliskambi/x3d-tests/wiki/Image-Based-Lighting-(EnvironmentLight-node))

I am extremely happy about this question, because it's a good question

Image-based lighting (in the form of "EnvironmentLight" node) is indeed something I planned, but ultimately didn't find the time to finalize to X3D 4.0. But I still very much want to have it. It is a feature I want to have in CGE, and as such I need X3D nodes for it anyway, and as such I will want to add it to X3D. I expect that after CGE 7.0 release (in March 2021) I will have time to sit to it more.

The initial design is there already, and the initial implementation in CGE is done too. But there are still important questions for the design, and important holes in my current implementation.

Indeed one of the goals is to make it compatible with https://github.com/KhronosGroup/glTF/tree/master/extensions/2.0/Vendor/EXT_lights_image_based

(Feel welcome to quote my answer to the commenter, or in public.)

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Regards,
Michalis

Tags [V4.1](#)

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Relationships

New relationship Current issue related to

related to [0001269](#) resolved [brutzman](#) glTF physically based rendering PBR, advanced material textures and lighting [[Delete](#)]

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Notes

~0002737
brutzman
(administrator)
2021-01-14
10:17
When submitting X3D4 Committee Draft (CD) once approved by Web3D Consortium Board of Directors, informally note (outside of the CD document) that our intent is to include EnvironmentLight. This future addition will be submitted once initial definition, implementation and evaluation of examples is complete.

~0002738 Preliminary stub, not including any environment-specific fields yet:

brutzman
(administrator)
2021-01-14
10:18
=====

17.4.4 EnvironmentLight
<https://www.web3d.org/specifications/X3Dv4Draft/ISO-IEC19775-1v4-WD3/Part01/components/lighting.html#EnvironmentLight>

```
EnvironmentLight : X3DLightNode {
  SFFloat [in,out] ambientIntensity 1 [0,1]
  SFColor [in,out] color 1 1 1 [0,1]
  SFBool [in,out] global FALSE
  SFFloat [in,out] intensity 1 [0,?]
  SFNode [in,out] metadata NULL [X3DMetadataObject]
```

SFBool [in,out] on TRUE
SFBool [in,out] shadows FALSE
SFFloat [in,out] shadowIntensity 1 [0,1]

This is a preliminary placeholder, these fields and other fields are TBD
}

Editors note: inclusion of this node is not guaranteed.
The EnvironmentLight node is under consideration for possible implementation in X3D4
as possible support for Khronos Image Based Lighting in
https://github.com/KhronosGroup/glTF/tree/master/extensions/2.0/Vendor/EXT_lights_image_based
=====

~0002746

brutzman

(administrator)

2021-01-30

16:00

Last edited:

2021-01-30

16:01

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Editors Notes describing work in progress remain fundamentally important for the next specification submission to ISO.

Initial-draft EnvironmentLight node definition checked in, combining fields from X3DOM and Castle Game Engine.

* Mantis [x3d-public] draft EnvironmentLight signature needed
http://web3d.org/pipermail/x3d-public_web3d.org/2021-January/014637.html

Recent un-archived email discussion thread appended to prior thread.

Related email thread:

* [x3d-public] Comment of X3D V4, glTF, and Lighting
http://web3d.org/pipermail/x3d-public_web3d.org/2021-January/014459.html

Further email threads can be found over the past 14 months.

~0002750

brutzman

(administrator)

2021-02-04

10:47

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Reviewed draft satisfactorily, TODO add preliminary node and field descriptions.

~0002764

brutzman

(administrator)

2021-02-21

13:29

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Need update to versionContent indicating all fields and contained nodes.

<https://www.web3d.org/specifications/X3Dv4Draft/ISO-IEC19775-1v4-CD/Part01/versionContent.html#EnvironmentLight>

~0002765

brutzman

(administrator)

2021-02-21

13:45

Last edited:

2021-02-22

09:05

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diffuseTexture and specularTexture field type definitions of X3DEnvironmentTextureNode do not match type given elsewhere.

diffuse field is confusingly named and not defined.

It is important to minimize ambiguity, hopefully aligning as closely as possible to glTF to avoid misunderstandings.

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~0002914 We agreed to remove the following paragraph for CD.

brutzman

(administrator)

2021-08-27

10:50

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"Editors NOTE This preliminary node definition indicates intent to implement Image Based Lighting (IBL) as defined by Khronos glTF specification. Current activity by X3D practitioners is focused on converged design, implementation and evaluation using the open-source Castle Game Engine and X3DOM browsers. Further improvements are expected."

When ready, Michalis and Andrew please check the node signature, if possible.

~0003058

Are we done yet? Seems so, today asked Michalis to confirm.

brutzman

(administrator)

2022-02-17

03:49

Last edited:

2022-04-14

16:44

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~0003441

If not on glTF 2.0 PAS process, we should defer to X3D4.1.

brutzman

(administrator)

2022-05-20

08:47

Last edited:

2022-05-21

22:11

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<https://www.web3d.org/specifications/X3Dv4Draft/ISO-IEC19775-1v4-CD1/Part01/components/lighting.html#EnvironmentLight>

Michalis confirmed deletion is appropriate. Commented out in X3D Schema DTD Tooltips and X3DUOM.

Ready for deferral to X3D4.1.

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