

x3dom

Instant 3D the HTML way!

Overview

- **X3DOM Basics**
- **PBR**
- **glTF**
- **Fraunhofer External Model Extension**
- **Links**

X3DOM // Overview

- Integrates 3D content seamlessly into your webpage
- Access & manipulate Nodes per DOM-API
- No Plugins needed (Only WebGL)
- Simply include one javascript file and start
- Open-Source
- Free for non-commercial and commercial purposes

Demo

PBR

Physically-based Rendering

PBR // Overview

- Modern physically-based Material description
- Minimal parameter set to describe a wide range of different Materials.
- Available in the big Engines: Unreal, Unity, Frostbite, etc...
- So we have proposed a web-ready PBR Material description at the

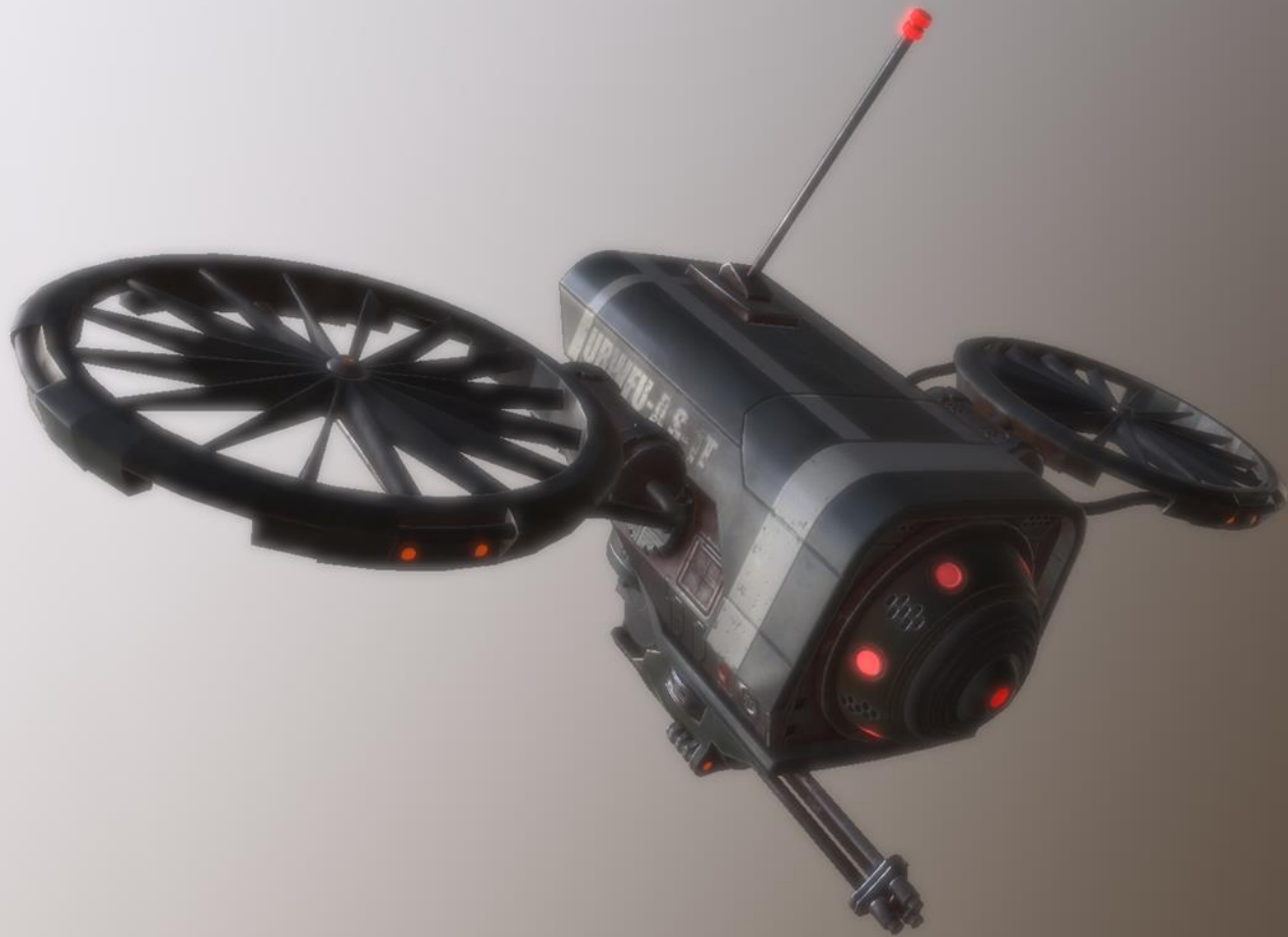
Web3D 2016

- Implemented in glTF









PBR // X3DOM

- Integrated as **PhysicalMaterial-Node** like proposed in our paper.
- So every standard X3D **Geometry-Node** can rendered with this **Physically-based Material**.
- Direct lighting is already in.
- And also **Image Based Lighting** is integrated as **PhysicalEnvironmentLight-Node** like proposed in our paper.

gitF

gITF // Overview

- **Modern 3D Transmission format**
- **Uses a JSON-based Scene description + internal or external referenced binary data blobs inspired by our SRC**
- **Uses our proposed PBR-Material as default material**
- **Used by Microsoft, Facebook, Sketchfab, and many many more.**

gITF // X3DOM

- Simple loading per Inline-Node like an external X3D-File
- Nodes are fully integrated into the X3DOM-Scenegraph
- Easy access & manipulation per DOM-API
- Supports gITF, gITF-Embedded & gITF-Binary
- Officially released with Version 1.8

Demo

Fraunhofer External Model Extension

Fraunhofer External Model Extension

- Extension That allows loading on linked resources inside a glTF
- Automatic content negotiation (x3d, gltf)

Demo

Links

Official Website:

www.x3dom.org

Github Repository:

www.github.com/x3dom/x3dom

Stable Build:

www.x3dom.org/download/1.8.1/

Development Build:

www.x3dom.org/download/dev

glTF Example:

examples.x3dom.org/glTF2

Links

SRC Paper:

<https://x3dom.org/src/>

PBR Paper:

<https://x3dom.org/pbr/pbr2016.pdf>

External Model Extension:

https://github.com/tsturm/glTF/tree/FRAUNHOFER_external_model/extensions/2.0/Vendor/FRAUNHOFER_external_model

glTF Repository:

<https://github.com/KhronosGroup/glTF>