SIGGRAPH 2017: Web-wide interactive 3D

X3D: Your Hub for Rendering 3D Data

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web 3D CONSORTIUM

Who are we?

INTERNATIONAL, NON-PROFIT, MEMBER FUNDED INDUSTRY STANDARDS DELOPMENT ORGANIZATION

DEVELOPING THE X3D SPECIFICATION FOR INTERACTIVE 3D GRPAHICS ON THE WEB

INTERNATIONAL PRESENCE AND PARTICIPATION

BUILDING WORLD CLASS OPEN WEB3D TECHNOGY

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WWW.Web3D.org

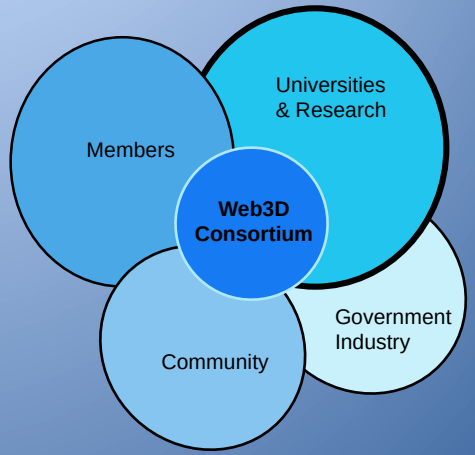
Web3D Consortium Goals

Evolving Open Web3D based technologies

Empowering 3D/VR Developers

Guiding Policy Makers

Encouraging the industry to use open standards and protect their Investments



Web3D Consortium

www.web3d.org

OUR STRENGTHS

- Over 20 years of Web3D Knowledge base
- Academia and Research expertise
- Industry Expertise
- Standard bodies alliance
- International Presence
- Knowledge Transfer
- Business Opportunities
- Grass Roots

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What is X3D?

- X3D is a ISO standardized specification for interactive 3D graphics
- File format and a rendering engine
- Multiple encodings (file formats): XML, VRML, JSON, based on same abstract object model
- Profile and Component structure promotes interoperability
- Implementations on multiple platforms: desktop, mobile, web

WWW.Web3D.org/what-x3d

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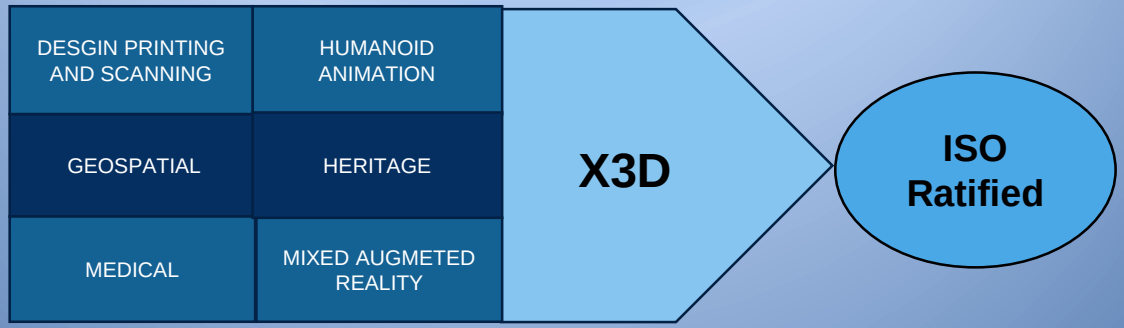
- Multiple encodings (file formats): XML, VRML, JSON, based on same abstract object model
- Profile and Component structure promotes interoperability
- Implementations on multiple platforms: desktop, mobile, web
- Large set of nodes for 3D modeling
- Domain components - Design, 3D Printing, Medical, Geospatial, Humanoid Animation
- Includes shaders, animation, interaction, geometry, texturing, lighting, camera
- Extensible - Capabilities added through scripting and node prototyping.

In Web platform - HTML5/WebGL/javascript there are two active implementations, exposing the X3D scenegraph to manipulation by HTML5 DOM operations.

- X3DOM
- Cobweb (scripting/prototyping)

X3D your hub for 3D



We are laying the foundation

Geospatial 3D
Medical 3D
Design 3D
3D Printing

Simulation
Humanoid Animation
VR Technologies
Augmented Reality

X3D: Your hub for rendering 3D data

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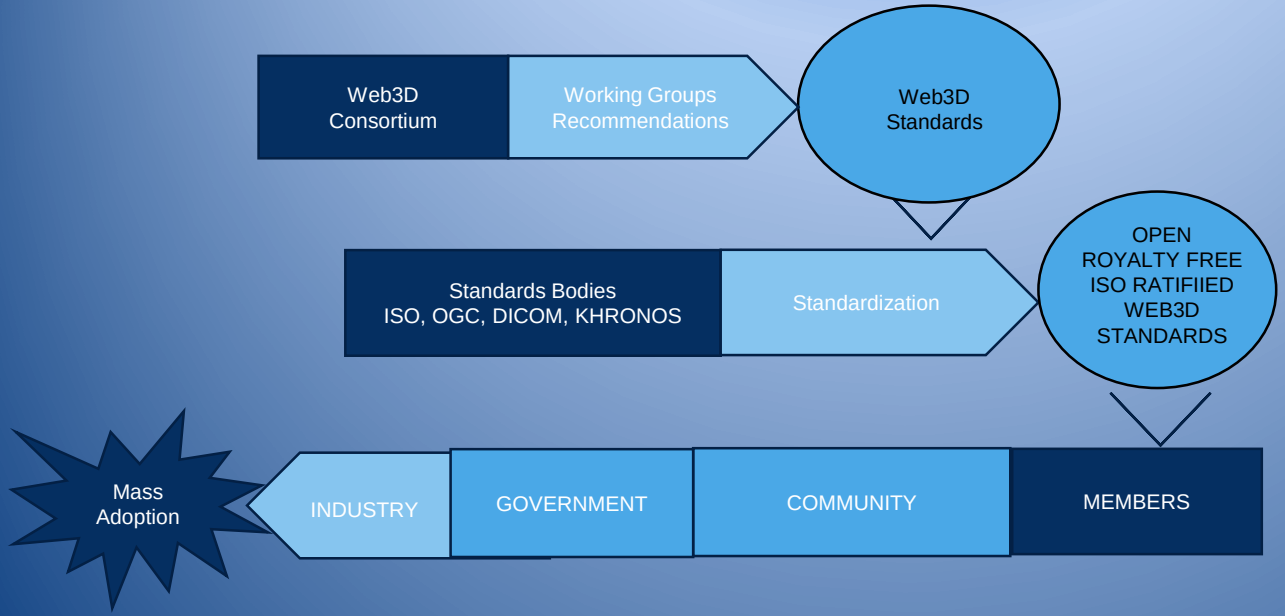
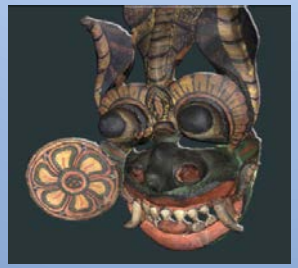
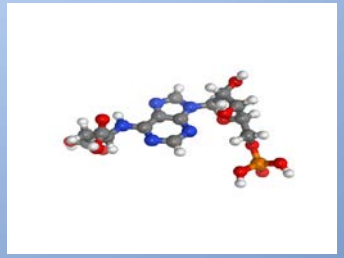
Bringing open Web3D Standards to ALL

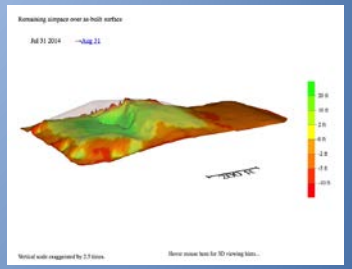


Key Factors required for durable 3D

- Long Term Stability
- Visualization
- Performance
- Intergation
- Data Management
- Real-time Interactivity
- Security
- Ease of Use







Web is our platform

- VR + AR + 3D Capable
- DOM Integrated
  - Change scene content through DOM
- Interaction
- Animation
- Open

3D in HTML

Completes todays graphics technologies

	2D	3D (Final HTML5 spec)
Declarative Scenegraph Part of HTML-document DOM Integration CSS/ Events	SVG	x3dom X3D xml3d COBWEB
Imperative Procedural API Drawing context Flexible	<canvas>	WebGL three.js

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Why is Declarative 3D important to Enterprise 3D

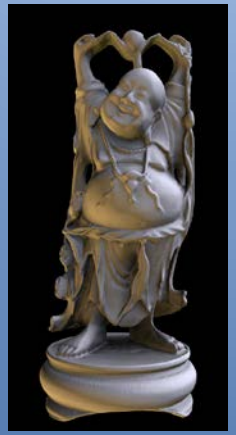
- **Interactive 3D objects in HTML5 web pages**
- **Allows easy creation and sharing of 3D graphics using HTML**
- **Bridges the gap between graphics programmers and Web programmers**

Declarative
Scenegraph
Part of HTML-document
DOM Integration
CSS/ Events

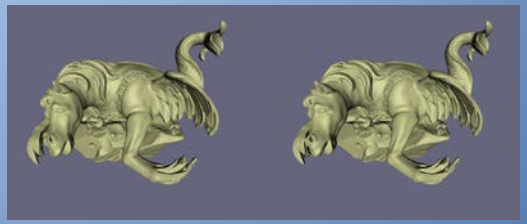
X3D Capabilities

Binary glTF
Cesium Milk Truck

High Poly, Progressive Loading
Happy Buddha



Cardboard stereographic
Kelpie



Oculus Support
Classroom

Drilling Rig
Animation, interaction, shadows, details

Convergence

Web, industry and standards bodies have been collaborating for a foundation for open interoperable enterprise 3D solutions

. . . and many more!

We are going to simulate our 3D worlds one way or the other

How important is it to build a framework for open interoperable 3D technologies?

Join us as we make X3D the backbone for 3D rendering

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www.web3d.org

Consortium Member Benefits

Marketing	Business Opportunities	Drive Web3D Standards	Networking	Web3D Talent Bank
▪ Promote products ▪ Conference participation ▪ Booth partnership	▪ Business partnership ▪ Joint grants	▪ Working Group participation ▪ Early access to spec ▪ Board Seat	▪ Industry Leaders ▪ Research experts ▪ 3D companies	▪ Access to Web3D experts

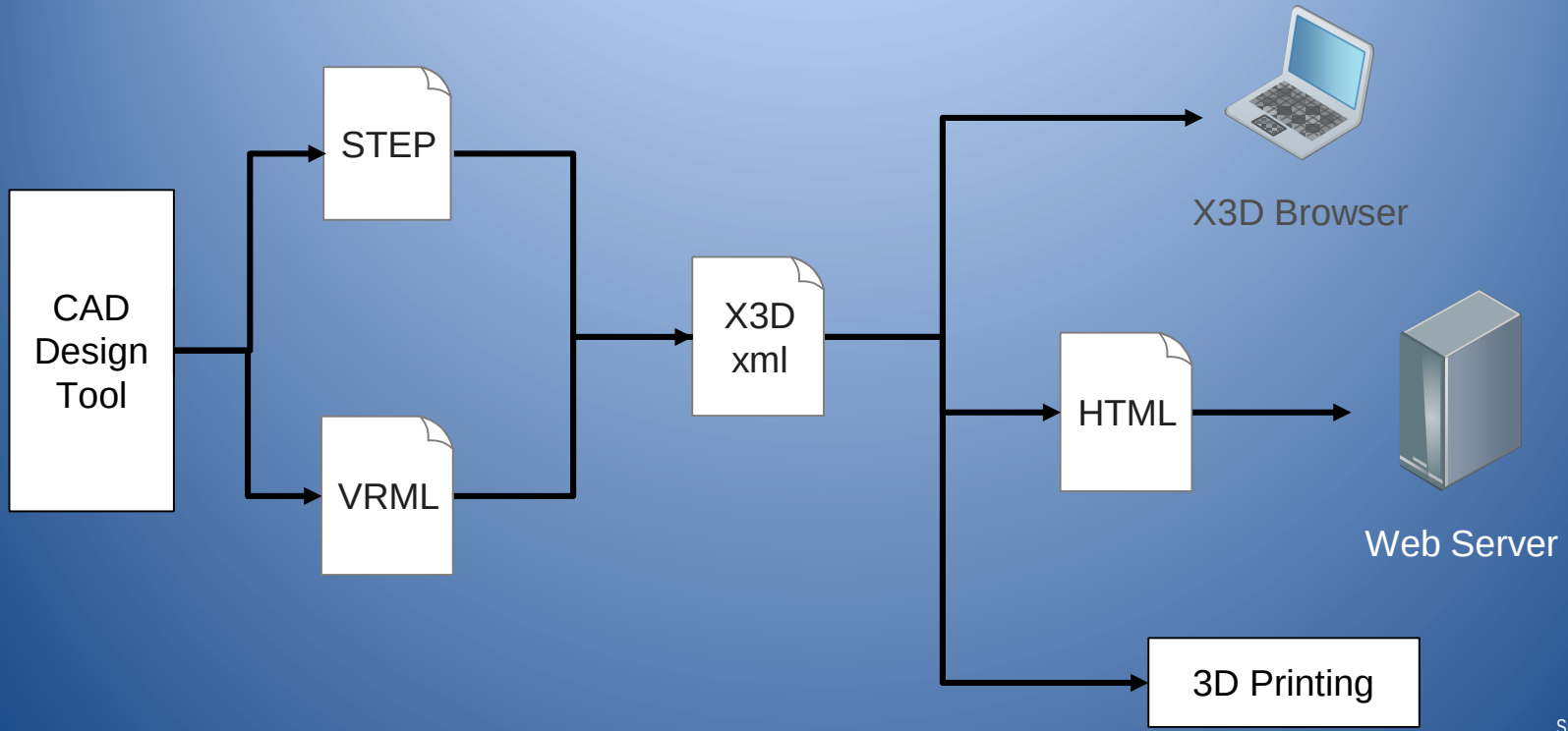
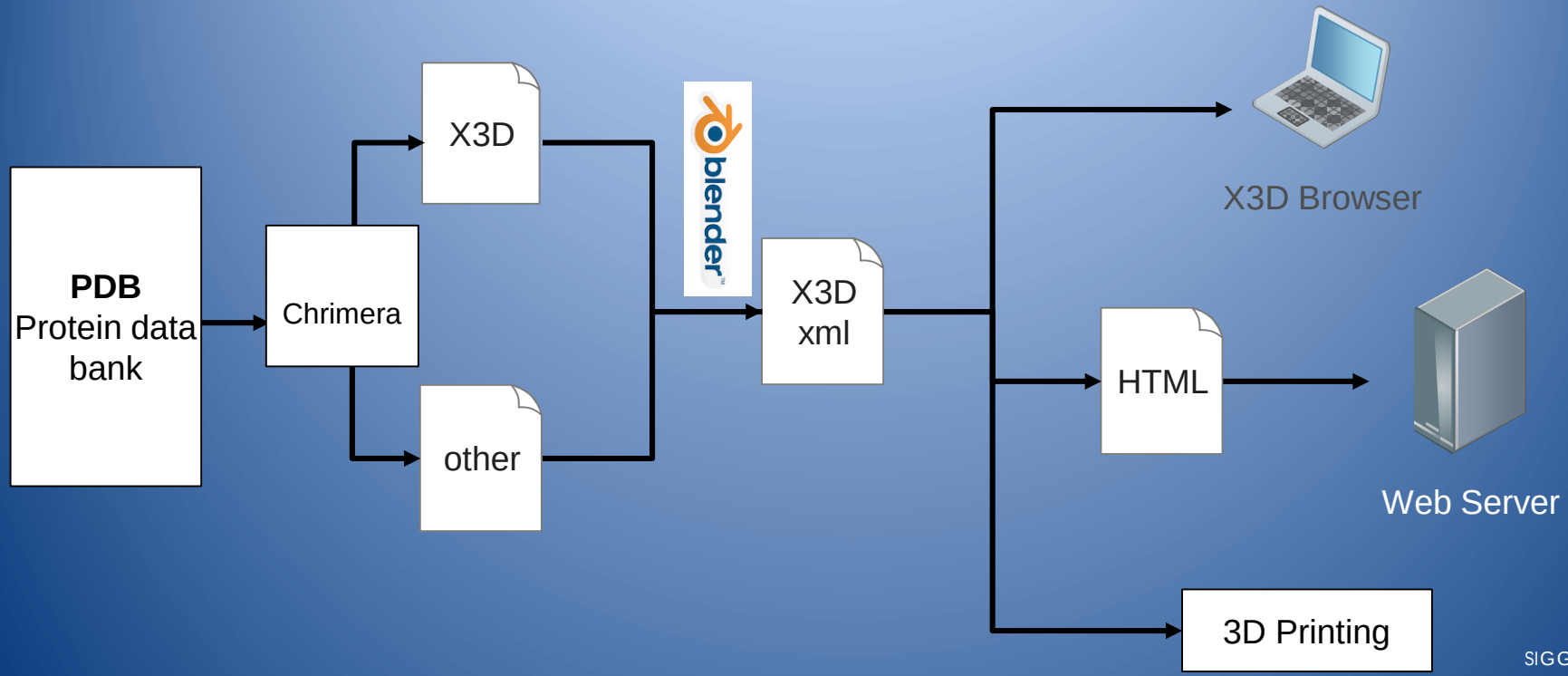
Join the We3D Team

The web is our platform and success is inevitable

Our members are all doing it Please join and helps us make this technology work for you

www.web3dd.org/join
www.web3d.org/what-x3d

CAD WORKFLOW



Scientific Visualization