

WEB3D CONSORTIUM

web|3D
CONSORTIUM

NEWSLETTER

SPRING 2019

WEB3D NEWS
SPECS & STANDARDS
2018 VR HACKATHON
CONFERENCE-CAP
YEAR IN REVIEW
HIGHLIGHTS

X3D VERSION 4

New 3D Graphics Features
New Encodings
New Language Bindings
Including: HTML5 and
DOM, C#, C++, C, and
Python !!!

ENGAGE

WEB3D 2019
SIGGRAPH 2019
WORKING GROUPS
JOIN!

OPEN 3D GRAPHICS FOR THE WEB

The [Web3D Consortium](#) had another successful year with new collaborators and allies to extend 3D on the Web. From new members, partnerships to successful outreach and continued development of our Standards, there has never been a better time to engage with the Web3D Consortium and to build out new domains for 3D graphics on the World Wide Web!

The Web3D Consortium places high priority on liaisons with other Standards Development Organizations (SDOs) in order to ensure that the X3D Graphics Standards are co-evolving for maximum possible interoperability in support of authors, applications, and end users on the Web. These partnerships help to advance the work of X3D development and the adoption of Web3D and other Standards technologies.

Thank you to all our Web3D Consortium members for contributing towards the innovation and excellence of Interactive 3D Graphics. Web3D would not be a leader in open interactive 3D graphics standards without these contributions. We sincerely hope for continued partnership in 2018 as we bring new dimensions for 3D graphics on the World Wide Web!

W3C[®]

ISO

DICOM[®]
Digital Imaging and Communications in Medicine

HL7[®]
International

OGC[®]
Making location count.

Anita Havele
Executive Director, Web3D Consortium
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web|3D
Consortium



Web3D is a nonprofit organization that develops and maintains the X3D, VRML, and H-Anim international standards. These are 3D graphics file formats and run-time specifications for the delivery and integration of interactive 3D data over networks. Web3D Consortium members work together to produce open, royalty-free and ISO-ratified capabilities for the Web.

FROM TECHNOLOGY INNOVATION TO STANDARDIZATION

HUMANOID ANIMATION 2.0

Congratulations to the H-ANIM Working Group for bringing the CD draft to ISO-IEC DIS ballot. H-ANIM 2.0 includes a new Part 2 for Motion Animation, which provides compatibility to BVH and other character animation and motion-capture pipelines. Part 1 is also updated and cross-referenced with medical names.

X3D 4.0

Development continues with the Specifications in the Member-accessible GitHub and listerves.

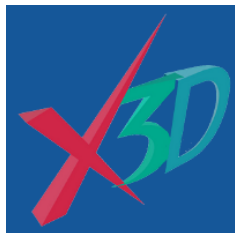
X3D version 4.0 is our primary activity, supporting HTML5 and DOM. Our emphasis is on producing specification prose and multiple implementations: X3DOM, X_ITE, Castle Game Engine and (likely) others. Current activities include glTF focus on geometry meshes, Computer Aided Design (CAD) interoperability, 3D Printing and 3D Scanning interoperability, Humanoid Animation (HAnim) specification update. More capabilities are being added such as Projective Texture Mapping (PTM) and advanced graphics capabilities such as: Projective Textures, Volume Rendering extensions, Physically-based Rendering, and PointSprites for example.

X3D ENCODINGS

Web3D Consortium Members and the X3D Working Group have a working JSON encoding and tools!

X3D LANGUAGE BINDINGS

New ISO-IEC Work Items include C#, C++, C, and Python!



*The Portable
Inter-Operable
Durable
ISO Standard
Scene Graph*

X3D UNIFIED OBJECT MODEL

The X3D Unified Object Model (X3D-UOM) is language-agnostic specification that describes the formal content model of X3D. Thus, Specifications and Standards for new language bindings and encodings can be kept consistent and coordinated as a set of evolving ISO-IEC Standards.

The Web3D Standards Strategy is being executed royalty-free for any use.

X3D version 4.1 is proceeding in parallel and will add Mixed Augmented Reality (MAR) capabilities for diverse virtual and augmented reality (VR, AR) devices.

HEALTH LEVEL 7 SOU

New Members: HL7 Collaboration

Health Level Seven® International (HL7) and Web3D Consortium have signed a Statement of Understanding to cooperatively advance their standards to support Web-based X3D visualization, modeling and simulation of health data. This agreement formalizes the mutual interest of the two organizations to build cohesive technology standards. The Statement of Understanding enables HL7 and Web3D members to collaborate across their respective Working Group development activities and vote on ballot items. The goal is to integrate Web3D's Extensible 3D (X3D®) and Humanoid Animation (HAnim) standards within the HL7 framework to improve the 3D visualization and archiving of health data.



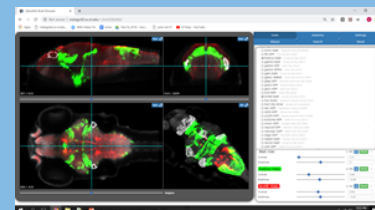
FEATURED SITES



NIH 3D PRINT
EXCHANGE



AUSSIE INSECTS
BY CSIRO



ZEBRAFISH BRAIN
BROWSER

WEB3D 2019 CONFERENCE

Co-Located with SIGGRAPH 2019 in Los Angeles, CA
July 26-28 at the Hotel Indigo (SIGGRAPH room rates)

Working Group Meetings on Friday

Conference Program begins Saturday Morning.

Submit your papers, workshop, and tutorial ideas!!!

Registration at SIGGRAPH.org and Web3D2019.org

Presentations from the events are available on the Web3D Consortium website.

Design, Printing and Scanning:

The Web3D Consortium Design Printing and Scanning Working Group continued to promote the adoption of open source standards based 3D visualization enabled by X3D standard. The group has established liaison relations with several standard development organizations and working groups to this end. The Design Printing and Scanning group is contributing its knowledge of workflows to convert STEP CAD models into X3D models; and this year it demonstrated this by converting the contents of the [NIST Conformance Test](#) into X3D for publication in the [Web3D Examples Archives](#).

HAnim:

Specifications about H-Anim 2.0 Part 1 Architecture and Part 2 Motion data animation were developed as ISO/IEC FDIS. Part 1 was developed based on H-Anim 19774 1.0 with medically corrected joints and names. Detailed feature points were added to apply to an entire human body. The examples of H-Anim character models, as well as the H-Anim viewer and editor programs, have been enhanced according to the H-Anim specification.

Heritage:

calendar year 2018, the Web3D Heritage Working Group members have pursued this agenda through their own projects and other communities. For example, "Congratulations!" are due to our fellow Web3D members, Fraunhofer IGD, who have continued the improvement of the Cult3D system's speed, portability, and accuracy; they recently won an EU Prize for Cultural Heritage / Europa Nostra Award 2018! Relatedly, they have demonstrated a CIDOC annotation method and tool to tag / annotate Cult3D scans quickly through a Web3D user interface.

The Medical Working Group:

is developing Spec prose and implementations for X3D 4.0 Volume Rendering extensions including Multi-Planar Reconstruction (MPR) and ImageTextureAtlas. With HL7, the Working Group is developing several use cases for Electronic Health Records, including visualizations as payloads in an EHR, and visualization of EHR data. A "Web3D Quickstart" workshop will be held at AMIA Summit 2019 in March.

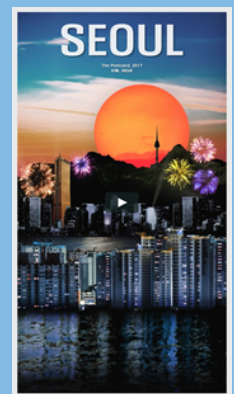
Semantic Web:

Our new Semantic Working Group's mission is to publish models to the Web using X3D in order to best gain Web interoperability and enable intelligent 3D applications, feature-based 3D model querying, and reasoning over 3D scenes. Align the X3Dv4 specification with other standards as best possible to further enable the Digital Publishing industry and communities for more effective indexing, search, comparison, and analysis of X3D models through the advanced use of metadata, shape geometry, etc and maximize interoperability with Semantic Web standards for greatest possible reuse and integration with the Web.

WEB3D CONFERENCE



2019: LOS ANGELES, CA



2020: SEOUL, KOREA
25TH ANNUAL!!!

2021: YOUR PLACE! ???

IMPACT-FULL COMMUNITY

An international, non-profit, member-funded, industry standards development organization. Developing royalty-free ISO standards for web-based 3D graphics. Our standard X3D (Extensible 3D) originated from VRML and is available in XML, Compressed Binary, and classic VRML formats. X3D is open, royalty free, extensible, interoperable, and runs on all platforms including desktops, tablets, and phones. Our members are from business, academia, government and the military.

WEB3D INTERNATIONAL MEETINGS

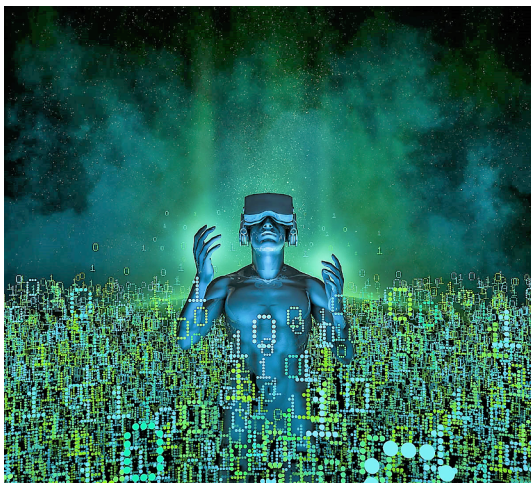


WEB3D 2018

The [Web3D 2018 Conference](#) brought its signature top-quality Papers, Tutorials, Workshops, and a live showcase all into an action-packed three day conference. Best Papers were published in the Graphical Models Journal. We had inspiring Keynote Speakers: Patrick Bourdot, Mariano Alcaniz, Daniel Thalmann, Neil Trevett. This is an annual ACM-sponsored event organized in cooperation with the Web3D Consortium. Papers are in the ACM Digital Library.

VR HACKATHON 2018

Web3D Sponsored [VR Hackathons](#) are community driven events bringing together people interested in developing innovative VR/AR solutions, having fun, and helping to build the future of immersive technologies. Poznań VR Hackathon was Co-organized by Poznań University of Economics and Business and based on the infrastructure of its unique [VR lab](#).



Poznan, Poland 2018: VR Hackathon & Web3D Conference

SIGGRAPH 2018

[SIGGRAPH 2018](#) in Vancouver, Canada had over 200 people attend our several Web3D birds of the feather (BoF) sessions. These events are not only educational but also give the 3D community an opportunity to network and build relationships with experts and industry leaders.

SIGGRAPH 2019 will be exciting with a Web3D Consortium booth as well!

OTHER NOTABLES

Web3D Consortium Members presented Extensible 3D innovations and our community at a number of other high-profile international events:

- IEEE VR in Reutlingen, Germany : Workshop "Web3D Quickstart"
- HL7 Keynote "Interactive 3D Visualization in the Wide Web of Health"
- 3DBody.Tech Conference
- Library of Congress: Born to Be 3D

X3D IN THE WILD

This year was no exception as we find X3D being used in real applications and fields all around the world., Here are a few important highlights:

- Samsung Gear VR Framework = Open Source X3D!
- V-Slam Unity-based X3D browser Open Sourced!
- Natural History: VNHM.de
- Product Visualization in X3D: elphel
- 3D Scanning w/ X3D export: PointFuse



OPEN SOURCE ENGINES: X3D + GLTF



CASTLE GAME
ENGINE

x3dom
Instant 3D the HTML way!
X3DOM

