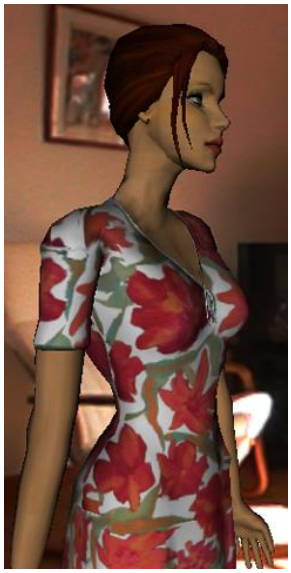
X3D: THE REAL-TIME 3D SOLUTION FOR THE WORLD-WIDE WEB

What is X3D?

X3D (***Extensible 3D***) is a royalty-free and openly published standard file format specification and run-time architecture to represent and communicate 3D objects, events, behaviors and environments. The X3D suite of International Standards Organization (ISO) ratified standards provides a robust abstraction for the storage, retrieval and playback of real time 4D graphics content across diverse platforms. The extensible scene graph model of X3D can be equivalently encoded in a number of valid, secure and efficient encodings and be accessed and manipulated through a number of languages using a common API. Development has evolved from its beginnings as the Virtual Reality Modeling Language (VRML) ISO standard to the considerably more advanced and expressive X3D.

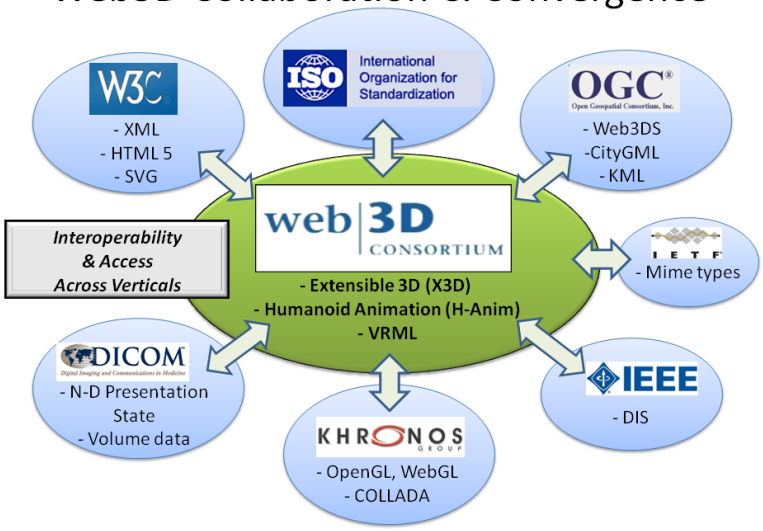


Whose product is X3D?

Extensible 3D (X3D) (www.web3d.org/x3d) is a royalty-free open ISO standard managed by the **Web3D Consortium**. The X3D specifications are driven by members and available to the public. The Web3D Consortium continues to design, extend and promote X3D to meet new market and technology needs.

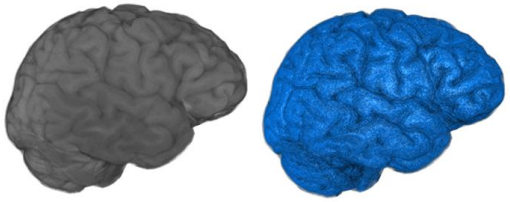
Through its Working Groups, Chapters and SIGs, the Web3D Consortium provides an international support network for groups looking to achieve interoperability, sustainability and durability through standardization. X3D import, export or rendering is supported by numerous tools across industries and disciplines; a number of commercial and open-source importers, exporters and rendering engines exist.

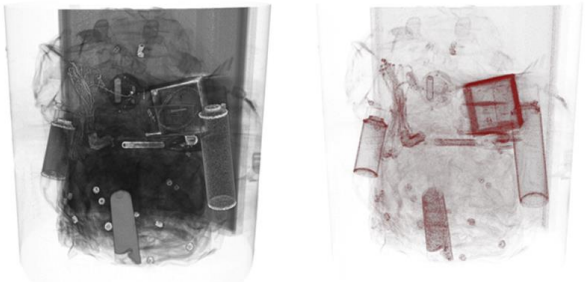
Web3D Collaboration & Convergence



Why is X3D important?

- It allows applications to communicate over the Web using an ISO-certified scene graph model, encoded in multiple formats (XML, Binary, VRML-Classic) and accessible by multiple languages (e.g. ECMASCript. Javascript, Java)
- It is modular and extensible, saving development time and money and providing value to vendor and consumer
- It is free for use, not relying on propriety formats and upgrades for a lifetime 4D content lifecycle
- It provides multiple generation and authoring pathways
- It enables content developers and tool makers to build on each other and a common fabric for cyberspace
- It is a vision designed and developed through community involvement and industry and open source support





Through cooperative development and membership agreements, the Web3D Consortium works closely with the ISO, DICOM, OGC, Khronos, IMS Global Learning Consortium and W3C standardization bodies to de-Babelize the information ecology and to harmonize diverse technologies for ***Deep Media convergence***. Leveraging the extensible scene graph model of X3D unlocks the full value of virtual and mirror worlds across the web today and tomorrow.

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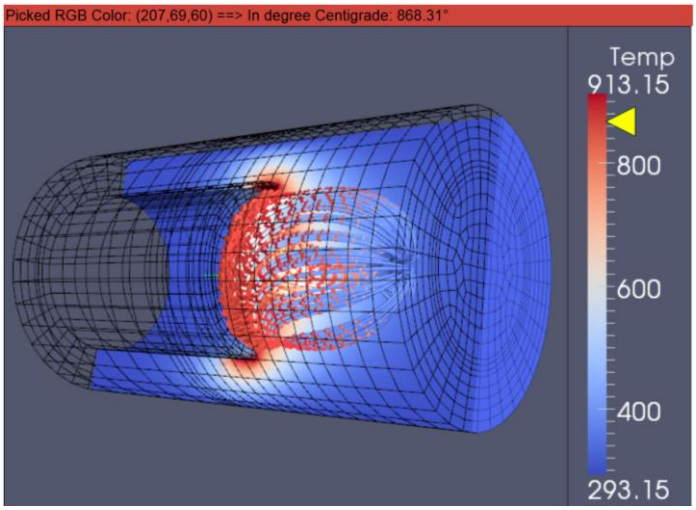
X3D: THE REAL-TIME 3D SOLUTION

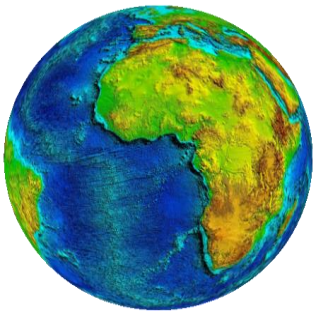
What features are in X3D?

The X3D specification is ultimately an extensible scene graph model for real-time interaction and rendering. The X3D abstraction is above specific rendering or multimedia libraries; its node set supports many features that modern 3D interactive applications need from object interchange to animation and sensors to immersive multi-modal environments. A formalized scene graph content model with a componentized and object-oriented node set provides a profiled and rich functionality from thin to immersive clients. X3D functionality includes multiple geometry types, appearances, lights, shaders, animation, sensors, scripts, volume rendering, and rigid body physics. Developers can choose from several X3D Profiles and easily extend X3D nodes and components.



What is an X3D Application?

Any of the many applications that support a node set of X3D content though import or export can be considered, but mostly we refer to the healthy ecosystem of rendering engines including browser plug-ins and stand-alone applications. X3D is being used for cross-platform interactive deployment of shared virtual environments from CAVEs to tablets, shared over XMPP chat or connected by DIS. More recently, through cooperative work with W3C HTML5, Web3D Consortium members have expanded into native Web browser environments including Ajax3D, Web3GL and X3DOM. Through the Web3D Consortium Conformance program, engines and tools can be officially certified as “X3D Conformant”.



What tools support or use X3D?

X3D scenes and objects can be generated programmatically or by hand: X3D is supported by several domain and DCC tools as well as XML and text editors. There are a number of mainstream and free tools available to convert to and from X3D with other file formats. Any XML-aware application can transform, style (or render) X3D. More information on X3D resources and support is available at: www.web3d.org/x3d/resources

Who uses X3D?

X3D has a rich set of componentized features that can be tailored for use in many different applications. X3D is being used by governments such as the EU, US, and AU, agencies such as NIH, NASA, US Navy, NSF, top universities and labs world-wide to Fortune 500 commercial enterprises. X3D is the greatest common denominator for representing and delivering engineering, CAD, architecture, geospatial visualization, natural and cultural heritage, training scenarios, HPC simulation data and 3D printing. Now, with the widespread deployment of HTML5/WebGL, X3D can be natively delivered across mobile, AR and WebVR systems.

Why should you use X3D?

With over a decade of innovation, X3D continues to grow and provide unprecedented value for the capability, longevity, and ownership of 4D content. By supporting X3D, your company preserves its assets and expose new customer value. X3D is a unifying platform on which many products can be developed and industries grow. Supporting X3D instantly gives you access to more tools, content, and compatibility with other applications, all with minimal effort. X3D is open and royalty-free, thus protecting your 4D content investment for a lifetime. Join us!

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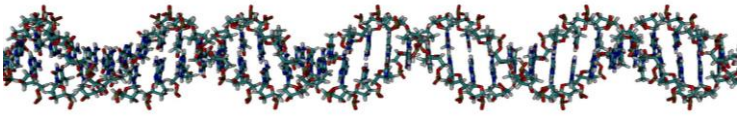

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