

News Release

Contacts:

Alan Hudson
Yumetech, Inc.
+1 (206) 340-8900
giles@yumetech.com

Yumetech releases the Version 1.0 of the Xj3D Source Code

Yumetech, Inc., in conjunction with the Web3D Consortium, announced the release of Version 1.0 of the Xj3D Toolkit at the Web3D Symposium held in Columbia, MD (April 18-21). Version 1.0 implements the Immersive Profile of the Extensible 3D (X3D) Specification: an ISO approved (ISO/IEC 19776) open standard for creating real-time 3D content. This profile is targeted towards implementing immersive virtual worlds with complete navigational and environmental sensor control.

Xj3D Version 1.0 also includes the following:

- **The CAD Geometry Component:** This component describes CAD specific data representations for X3D worlds. It maintains CAD structural relationships in a way that facilitates reuse of the CAD data in different domains. It also maintains CAD layer relationships.
- **The Geospatial Component:** This component provides support for geographic and geospatial applications. This support includes the ability to embed geospatial coordinates in certain X3D nodes, to support high-precision geospatial modeling, and to handle large multi-resolution terrain databases.
- **The Humanoid Animation (H-Anim) Component:** The H-Anim standard specifies an abstract representation for modeling 3D human figures that will allow human figures created with modeling tools from one vendor to be animated using motion capture data and animation tools from another vendor. It allows direct access to the joint hierarchy of the human figure as well as the vertices of the geometry in a way that allows animations to be generated in a model independent manner. Xj3D Version 1.0 also supports hardware-accelerated rendering of these models and their animation.
- **The Distributed Interactive Simulation (DIS) Component:** This component defines the binary layout of a series of messages used to transmit simulation information using the DIS Standard (IEEE 1278). Often used by military applications, DIS covers a wide range of data, including entity location, velocity, and orientation, and more obscure features such as electronic warfare and supply logistics. In addition to its original focus on military simulations, DIS is also used in civilian applications.
- **ECMAScript and Java scripting capabilities:** X3D provides developers with interfaces to both ECMAScript and Java programs to allow greater degrees of flexibility in creating their content.

- **VRML Classic, XML and Binary Encodings Support:** The VRML Classic Encoding allows users to create X3D objects and animation using the technique defined in the Virtual Reality Modeling Language (VRML). The XML Encoding allows X3D files to be saved using the Extensible Markup Language (XML) format. The Binary Encoding allows X3D files to be saved in a compact binary form. Each Binary-encoded X3D file supports all of the purposes of X3D files defined in the X3D specification and can take advantage of geometric and information-theoretic compression techniques. Xj3D Version 1.0 includes an Encodings Converter that allows users to convert from one Encoding format to another.

Xj3D is an open source API for developing an X3D and/or VRML 97 compliant browser. It is also the sample implementation and test bed for X3D. It currently runs on several operating platforms—Windows, Mac OS X, Linux, Solaris and IRIX—and works across various devices such as the Elumens Dome, PC workstations and stereo walls. The Toolkit has had over 50,000 downloads and has been used in research projects by institutions such as the Naval Post Graduate School, North Dakota State University, and Old Dominion University. Moreover, the Xj3D project has received support from companies like Sun Microsystems and organizations like the Web3D Consortium.

Xj3D is a complete application toolkit. It includes file loaders, animation and scripting components, as well as a native binary file reader that can significantly reduce file sizes and loading times. It also includes support for immersive devices such as CAVE devices, HMDs, and the Elumens dome.

The release of Version Xj3D 1.0 is an important event in the development of the X3D standard. Don Brutzman, Associate Professor at the Naval Postgraduate School in Monterey, CA, notes, “The Xj3D 1.0 Release marks a milestone for Extensible 3D (X3D) Graphics. Open source is a major enabler for all of the new capabilities in X3D. Using the Java OpenGL (JOGL) render engine gives us screaming performance. NPS has multiple projects that all work with Xj3D for homeland defense, terrain visualization, underwater-robot mission rehearsal, binary XML compression and multi-user chat protocols. Contributions to and from the open-source community have enabled tremendous innovations for real-time graphics, bringing the promise of “X3D Everywhere” another step closer. Congratulations Yumetech!”

“The release of Xj3D Version 1.0 means that there is an open source software implementation that uses a recognized open standard for creating applications with real-time 3-D graphics,” states Paul J. Keller from NASA’s Ames Research Center. “This combination will provide a way to develop innovative cross-platform 3-D graphics for science and engineering applications.”

Yumetech, Inc. is the primary developer for this codebase and maintains the CVS for the Xj3D source code. More information about Xj3D can be found at:

<http://www.xj3d.org>.

Access to the source code and compiled browser files can be found at the Web3D Consortium's web site:

<http://www.web3d.org/x3d/applications/xj3d/>.

Information about the X3D Specification can be found at:

<http://www.web3d.org/x3d/specifications>.

Participants:

Yumetech, Inc. was formed to develop innovative and compelling real-time, networked 3D computer graphics applications. Its founders, recognized experts in their fields with eight books and numerous articles to their credit, bring a variety of knowledge and experience to the company. The company manages over one-half million lines of open source code and has successfully completed several projects based on this code for companies and organizations such as Sun Microsystems, Vcom3D, North Dakota State University, NASA, and the U.S. Military. Yumetech is the leading contributor to the Xj3D Toolkit: an open source implementation of the VRML 97 and X3D specifications. This codebase is the sample implementation for the X3D specification for standardization purposes. Two of the company's members were major contributors to the X3D specification and current serve on the X3D Specification Team.

The Web3D Consortium is a member-funded industry consortium committed to the creation and deployment of open, royalty-free standards that enable the communication of real-time 3D across applications, networks, and XML web services. The Consortium works closely with the ISO, MPEG and W3C standardization bodies to maximize market opportunities for its membership. All Consortium members are empowered to participate and vote in Consortium working groups and are able to accelerate the delivery of their cutting-edge 3D platforms and applications through access to specification drafts and conformance tests before public deployment. More information on the Consortium and Consortium membership is available at www.web3d.org.