

## Web3D Consortium Announces the Re-Launch of its CAD Working Group

*Web3D Consortium's CAD Working Group plans to better align the infrastructure that X3D already has for CAD visualization and bridge the gap between CAD systems and Web deployment of CAD applications. The combination of X3D and COLLADA form a powerful pipeline for reusing CAD data. Web3D Consortium's CAD Working Group and Khronos COLLADA Working Group together will improve this content pipeline and ensure that there is no duplication of efforts and moving between these systems will be effortless.*

Menlo Park, CA ([PRWEB](#)) August 6, 2008 -- The [Web3D Consortium](#) announces the re-launch of its CAD Working Group co-chaired by Alan Hudson of Yumetech, Paul Keller of NASA - Ames Research Center, and William Glascoe of CSC.

While the CAD industry is investing billions on technical product information the 3D data created with these applications is sometimes difficult to share between contributors, value-added resellers and consumers. In addition this data usually has a lifecycle that is shorter than its physical representation. These conditions are directly addressed by the goal of the Web3D Consortium: to provide both easy access and long-term archivability of 3D data using stable commercial tools and international standards such as [X3D](#).

The Web3D Consortium's [CAD Working Group](#) plans to better align the infrastructure that X3D already has for CAD visualization and these improvements will then be submitted to [International Organization for Standardization](#) (ISO). Paramount will be interoperability with interchange formats such as [COLLADA](#) and metadata standards in pipelines of CAD tools. Liaisons with the [World Wide Web Consortium](#) (W3C) and ISO have already been established for interoperability with existing and future infrastructures for the Web and the geospatial communities.

The Web3D Consortium's CAD Working Group and [Khronos'](#) COLLADA Working Group are working together to guarantee that the X3D and COLLADA standards are complementary. Since there is synergy between XML-based COLLADA and X3D, the alignment of the groups will ensure that real-time X3D applications can easily leverage the many authoring tools that support COLLADA pipelines from both DCC and CAD tools. The combination of X3D and Collada will provide interoperable, openly accessible and reusable 3D models and CAD-based applications throughout a product lifecycle.

COLLADA defines an intermediate language for 3D asset interchange but not their runtime schematics. Its effort is focused on exporting data from DCC and CAD tools and the tool-chain has brought value to several domains. X3D is optimized for web delivery and applications desiring an open standards runtime and adds behaviors and delivery optimizations that enable rich media application such as interactive training manuals.

"The combination of X3D and COLLADA form a powerful pipeline for reusing CAD data. These complementary approaches will finally bridge the gap between CAD systems and web deployment of CAD derived applications such as interactive training manuals, parts catalogs and interactive walkthroughs," said Alan Hudson, President of Web3D Consortium and Yumetech.

The two groups working together will improve this content pipeline and ensure that there is no duplication of efforts and moving between these systems will be effortless. Remi Arnaud, Sr. Graphics Architect at Intel said, "Collada 1.5 concretizes the convergence between the game industry and the CAD/Automation industries. With the introduction of Boundary Representation (BREP) and inverse kinematics in a standard used by most developers in the game industry, the liaison with Web3D strengthens this convergence, particularly for the 3D Web."

The Web3D Consortium CAD working group will combine 3D Models and Metadata to enable geometric, data-aware 3D interactive applications that favor reuse of existing metadata standards where possible. Its efforts are developing client-side, server-side, authoring, and conversion technologies. The technical objectives include:

- Create a representation of BREP data in X3D
- Develop a pipeline of data from CAD systems into X3D models with consistent structure and coherent metadata
- Interoperate with the X3D Earth spatial placement of CAD data

- Develop a comprehensive set of conformance tests
- Define functionality in a platform-independent manner
- Use open standards, extensions and processes

Work has already begun on this second-generation X3D CAD effort. Yumetech's open-source [Xj3D](#) browser has implemented COLLADA import and conversion into X3D. They have also implemented a number of CAD filters including simplification of geometric structures, reduction of polygonal complexity, and optimization for Web or mobile publication. The open-source [X3D-Edit](#) authoring tool by the Naval Postgraduate School (NPS) exposes these capabilities to authors. X3D-Edit also adds security options for document authentication using XML Signature and confidentiality using XML Encryption, each of which are proven Recommendations of the W3C. COLLADA content can also be converted to VRML/X3D in BS Contact as well as BS Reducer a polygonal Reduction tool from [Bitmanagement](#). Vivaty studio uses both COLLADA and X3D formats in cooperation with each other and [Vivaty Studio](#) also converts COLLADA content to X3D.

KAIST, the Korea Advanced Institute of Science and Technology, is joining the Web3D Consortium as an Academic Member in order to participate in the CAD Working Group. Professor Soonhung Han of the Ocean Systems Engineering (OSE) Department states, "KAIST has worked for many years to improve CAD model interchange using history-based parametric translation between different software formats. This work has contributed to STEP, the international Standard for the Exchange of Product model data (ISO 10303) as part of ISO Technical Committee TC 184/SC 4. We look forward to further extending CAD model export and interoperability with X3D."

More information on X3D and COLLADA is available at [Developing Web Applications with COLLADA and X3D](#).

Participation in the CAD Working Group is open to all Web3D Consortium members. Members are empowered to participate and vote in the Consortium's working groups and are able to accelerate the delivery of their cutting-edge 3D platforms and applications through early access to specification drafts and conformance tests before public deployment. To join please visit <http://www.web3d.org/membership/join>.

This year, the consortium celebrates its 10th anniversary with a bigger presence at Siggraph 2008. See the X3D-CAD white papers presented at the Web3D Symposium co-located with SIGGRAPH 2008 in Los Angeles, CA, Aug 9-10, 2008. Come participate in our open discussions at the CAD working group Siggraph birds of the feather on Tuesday, Aug 13 from 10:30 am to Noon. Visit us in the Web3D Consortium booth139, Aug 11-14 and see our X3D implementations. Also listen to our X3D developers present innovative X3D content and applications at our Web3D Tech Talk on Aug 13 from 3:30 pm to 6:00 pm. Details available at [Web3D at SIGGRAPH](#).

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