X3D Activity Overview

... fasten your seat belts!

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X3D Working Group
Web3D Consortium
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First...

Many thanks to Korea Chapter of Web3D Consortium for
• Many sustained and stellar technical efforts
• Collegial and constructive efforts
• Organization and coordination
• Foresight and Vision
Standards progress and plans

• H-Anim 2 Architecture and Motion Capture
  • implementation efforts for X3D: schema is now published
  • Issue: rename to HAnim: simplify search, unify document/program representations
  • Issue: review, address ISO editor

• X3D Scene Access Interface (SAI)
  • Current status is up to date, small errata being encountered
  • Some changes may be desirable based on new language additions

• X3D C, C++, C#: NWIP approved, work in progress.
  • Sharable?

• X3D Java SAI: implementation mature, specification review/update
  • automatically updating X3DJSAIL codebase with X3D v4 changes

• X3D Python SAI: implementation in tandem with Java
  • ISO NWIP and initial-draft specification document by SIGGRAPH
Standards progress and plans

- X3D JSON Encoding: implementation mature, JSON schema evolution, first-draft specification, NWIP needed
- X3D 4.0 for HTML5/DOM/CSS, in progress
  - Many components proposed, increasing participation
  - Two open-source JavaScript implementations guarantee successful execution
  - Three additional open-source implementations (C++, Pascal, Java) also active
  - Will begin listing assets online
- X3D 4.1 Mixed/AR/VR/XR, in tandem
  - Will build on W3C WebXR Immersive Web working group
- Spatialized sound: strategy developed, renewed activity
  - Dependency, partnership on W3C Audio
Standards progress and plans

- Data-centric security: applying implementations
  - XML Encryption for privacy
  - XML Authentication for authentication

- Metadata and Annotations
  - Printing and Scanning
  - Medical
  - CAD
  - Cultural Heritage

- X3D Unified Object Model (X3DUOM) mature – specify in X3D v4?
- X3D Semantic Web Working Group has begun, building X3D Ontology, portions likely autogeneratable using X3DUOM
Projective Texture Mapping (PTM) Component

• Initial draft added to Github X3D Specifications
  • First edit to occur this week. Several iterations for continuous improvement.

• Next: add to XML Schema
  • Then X3DUOM, X3DJSAIL, DTD, X3D Tooltips
  • February X3D Working Group Review, confirm it is a separate component. Add as component.
  • X3D Schematron validation heuristics (if any) as diagnostics for X3D Validator.

• Implementations
  • Existing: FreeWrl has implemented, X3DOM (proposed)
  • Recommended: X3DOM, X_ITE (either means both) for broad deployability as X3Dv4
  • Suggested: Castle Game Engine

• Examples Provided, Need to be Published
  • X3D Basic Examples Archive (most likely)

• Review, finalize, submit paper. Take care to ensure that no legal problems occur.
Catalysts

• Coherent functionality among all file encodings, language bindings
• Github version control for draft specifications
• Steadily increasing validation capabilities ensure high quality models
  • also facilitates rapid software development
• Increased availability of X3D codebases to support export and import
• Insistence on example scenes for all new components enables
  • better sharing and mutual testing
  • demonstrated adoption of other standards
• Events: Web3D and SIGGRAPH Conferences, regular ISO meetings, etc.
• Web3D process, community, archival mailing lists, and Mantis issue tracker
Gating factors and challenges

Giant understatement: A Lot of Work is Going On!

• Communication

• Coordinated efforts on design, documents and implementations

• Growth into many areas needing 3D portrayal on the Web
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