USD Geometry Working Group Charter

This Working Group Charter establishes the Scope and intellectual property terms used to develop the materials identified in this Working Group Charter for the Project. Only Project Steering Members and General Members, as applicable, that Joined the Working Group Charter will be bound by its terms and be permitted to participate in this Working Group.

1. <u>Working Group Name</u>. USD Geometry
2. <u>Working Group Deliverables</u>. This Working Group will create:
X <u>Specifications.</u> There are two options for specification development. The "Community Specification" mode is designed specifically for a repository-based workflow that is familiar to developers while incorporating specification development due process and best practices. The "Traditional" mode uses a governance model that is based on traditional approaches to standards and specification development. The Traditional mode includes a choice of copyright and patent licensing options so you may select the options best suited to your goals. [Check Community Specification Mode or Traditional Mode]

□ <u>Community Specification Mode</u>.

1. <u>Governance</u>. The Working Group will operate in accordance with terms and policies of the Community Specification materials set forth at https://github.com/CommunitySpecification/1.0.

2. <u>Working Group Scope</u>. As set forth in the Working Group repository's Scope.md file.

X <u>Traditional Mode</u>.

1. <u>Governance</u>. Traditional Mode uses the governance rules as set forth in Appendix A.

2. <u>Working Group Scope</u>. Universal Scene Description (USD) is an established open source technology that forms a foundation for 3D content authoring, interchange and transmission, thereby empowering a broad range of creative efforts and end-user experiences. Geometry is the fundamental schema domain on which other domains like materials and physically based simulation are based.
Scope: The Geometry Working Group will define and evolve the strategy for the description of 3D geometry in OpenUSD. Its initial focus and first deliverable will be the USD Transformable 3D Geometry Specification that will describe the surfaces and volume representations currently defined in UsdGeom and UsdVol as well as the spatial transformations for a traditional affine transformation hierarchy, rules for determining primary visibility, and other properties required for imaging those representations. Interpolated parameterizations of each geometry type (primvars) utilized by other domains (e.g. materials) are in scope as well. The Working Group's responsibilities include geometry-related areas, such as:
   a. Description of point-based geometries including meshes, curves and parametric surfaces

b. Define the strategy, integration model, and schemas for 3rd party geometry libraries
c. Description of volumetrics
d. Description and handling of units of length (e.g. meters vs cm) and coordinate systems
e. Interoperability with CAD geometry data, including descriptions of solid modeling representations, operations, and annotations

The Working Group may form sub-working groups for these topics as required. The Working Group will feed back to the governing bodies of 3rd party geometry libraries to propose changes to those projects as necessary for the complete, normative description of geometry in USD. Working Group deliverables may also incorporate (or refer) to the work of other AOUSD Working Groups when necessary for the evolution of the USD Geometry Specification.

3. **Approved Deliverables**: The Working Group's first Approved Deliverable will be Version 1.0 of the USD Transformable 3D Geometry Specification, based on the current OpenUSD implementation. This will take the form of mathematical descriptions of each geometric type and transformation operation, independent of any particular implementation backend. A normative description of the refinement behaviors of OpenSubdiv shall be separately developed and referenced by this primary specification.
Other Documentation: In addition to the Approved Deliverables described above, the Geometry Working Group may also develop non-normative educational, marketing, and informational materials, as well as white papers, to accompany any Approved Deliverables and to facilitate understanding and adoption of the Approved Deliverables. These documents will not undergo the Approved Deliverable process. All marketing materials should be developed in collaboration with, and approved by, the Marketing Working Group and Legal committee. The Working Group may also develop reference source code implementations of new features that have been formally approved for inclusion in the USD Transformable 3D Geometry Specification and contribute those to the OpenUSD Repository, subject to approval. In addition to source code, the working group may create reference data, test data, and conformance data, in USD and other formats.
Out of Scope: Areas not identified as in scope are out of scope, including hardware optimization/implementation, materials and computation such as: animation, physics simulations, articulation and constraints.
Additional Working Group Provisions: The Working Group may also work with other organizations that have liaison relationships with the AOUSD. As indicated below, the Working Group will operate under (1) the Traditional Mode Governance, as supplemented by the Alliance for OpenUSD Process & Procedures, available on the Alliance's website; (2) the W3C Mode, as supplemented by the Alliance's Process & Procedures; and (3) Apache 2.0 for any source code contributions to the Working Group.

4. Copyright Licensing. Each Working Group must specify the copyright mode under which it will operate prior to initiating any work on any Draft Deliverable or Approved Deliverable other than source code or datasets. The copyright mode for this Working Group is: [Check one box]

X <u>Copyright Grant to Project</u>, as set forth in Appendix B, Copyright Policy Option 1.

□ <u>Creative Commons Attribution 4.0</u>, as set forth in Appendix B, Copyright Policy Option 2.

□ <u>Open Web Foundation 1.0</u>. (Only for those Working Groups selecting the Open Web Foundation mode for patent licensing).

5. <u>Patent Licensing</u>. Each Working Group must specify the patent mode under which it will operate prior to initiating any work on any Draft Deliverable or Approved Deliverable other than source code or datasets. The patent mode for this Working Group is: [Check one box]

□ <u>RAND Royalty-Free Mode</u>, as set forth in Appendix B, Patent Policy Option 1.

□ <u>International Mode</u>, as set forth in Appendix B, Patent Policy Option 2.

□ <u>Open Web Foundation Agreement 1.0 Mode</u>, as set forth in Appendix B, Patent Policy Option 3.

X <u>W3C Mode,</u> as set forth in Appendix B, Patent Policy Option 4.

□ <u>No Patent License</u>. No patent licenses are granted for the Draft Deliverables or Approved Deliverables developed by this Working Group.