USD WG - 2021-12-08

Conference call details

https://zoom.us/j/96856107067

Agenda

- https://github.com/usd-wg license agreement
- USD camera SWG update
- USD on the web SWG update
- USD+MaterialX SWG update
- Blender 3.0 USD import feedback
- discuss desired USD file format plugins

Notes

- [Alex] Created a usd-wg repo
    - First repo is for the USD Camera
    - Discussed licensing agreement. Default is Apache 2.0
    - Consensus is Apache2.0, with Dhruv seconding it
- Web SWG Update
    - [Phil Sawicki] Next meeting is next week. Broke down some of the targets they were hoping to achieve to get WebAssembly targets, such as a Docker build. Having a single thread might be good enough to get things going.
    - [Jerran Schmidt] Getting some finalized details through legal at Autodesk to publish some of the code publicly.
- MaterialX SWG Update
    - [Ashwin] No updates so far, but will sync up internally with Bernard and put something in Slack.
    - [Alex] General question whether there are any blockers.
    - [Ashwin] No blockers as far as he knows, just a matter of logistics. Will check in with .Bernard and have something going soon
    - [Jeremy Cowles] Where would that meeting invite go out to?
    - [Aswin] similar format, and will post the invite to slack for everyone.
    - [Jermey Cowles] Sounds good.
- Blender 3.0 is out, with USD support
    - [JT Nelson] Have not had a chance to try it out yet.
    - [Alex] Michael Kowalski might be able to join us in January to walk us through how it's working.

- [Jeremy Cowles] is there any particular application benchmark to show well things are working?
- [JT Nelson] Use the kitchen scene mostly, USD is through a plugin architecture and things are made into Blender objects.
- [JT Nelson] Wave may have more insight into this
- [Jeremy Cowles] Would be nice to have a sequence of files to create a ‘unit test’ for USD
- [JT Nelson] This is being discussed in the Assets working group, https://wiki.aswf.io/display/ARW. They discuss things like this specifically.
- [Dhruv Govil] Would be valuable to have a set of compliant scenes to run apps against. The USD repo does have some very basic aspects of this.
- [Jeremy Cowles] Seems like the value of ASWF is to have the mix of developer and production folks create relevant assets for this
- [JT Nelson] Quick note that Blender tends to publically put targets into their documentation, compared to what you see in Blender, might vary slightly. Wanted to mention in case it threw anyone for a loop.
- [Alex] Brings up the issue of USD version. How up to date is everyone?
- (from chat)
    - Ben Chung-Hoon : v21_08
    - Lee Kerley: 21.08
    - Michael B Johnson: Dev
    - Jeremy Cowles: USD Unity SDK package is on 20.08
- [Ashwin] What version should we target? The baseline features should be the same.
- [Jeremey Cowles] agreed, the base features should be similar
- [Michael B Johnson] One thing that affected me is the changes with Lights. There are breaking changes but not that often. In terms of USD Unit tests, we don’t have a place to put them; the asset repo was meant as a place to put things for ASWF projects to test against, and since USD is not a ASWF project, it hasn’t been considered to test against.
- [Alex] Perhaps we can put in a repo and point to it. Might be as simple as a set of cubes.
- [Phil Sawicki] Perhaps tie the repo into the CI working group as part of the build validation process.
- [Jeremy Cowles] Is a good point, schemas change over time, would be good to be able to test against the changes
- [Dhruv] Might want to put the version of USD in the header.
- [Michael B Johnson] I tend to put tool versions and version information, habit from Pixar
- [Michael Kaas] For tool manufacturers, being able to read USD and various versions is a hot topic.
- [Jeremy Cowles] There’s also some considerations from public domain versus licensed/proprietary assets.

    - [Michael B Johnson] Channeling Spiff, does anyone have a proposal? Any white papers?
    - [Gauillaume Laforge] Wondering if version information should always be written into the USD files.
    - [Jeremy Cowles] The file level is definitely where we should have this information. Schemas and composition might not be able to reflect the USD version. In Unity's case, it's going to be some arbitrary C# code. Ultra ultra hot lava churn.
    - [Michael Kaas] Another issue is that we want Omniverse to operate with everyone's content creation tools, and as everyone starts to link in the USD libraries, it becomes very difficult to have anything that is even slightly custom. It is tricky when dealing with everyone else's custom USD tools. For example, we have users who want geographic information systems. Lat/Long info. We can make it work without too much trouble, but then we want to ensure that everyone else can use the same USD assets with similar references/standards/performance. Should look proper in Unity, Maya, Houdini, etc. How do we modify our own USD libraries, but everyone else is linking to their own USD libraries, etc…
    - [Jeremy Cowles] There's not a generic importer/exporter that can deal with custom, arbitrary stuff.
    - [Michael Kaas] Yes we could put in the lat/long info into it, but if we want to localize similar info into scenes in different DCC's, then it's not clear how to resolve lat/long references.
    - [Jeremy Cowles] Either standardize around GIS and other standards.
    - [Dhruv] Do as the Camera group is doing, and rely on external standards bodies for these types of standards.
    - [Gauillaume Laforge] Schema versioning seems a bit scary.
- What are we missing in USD
    - File format Schemas
    - [Michael Kaas] Interested in
        - representing solid models
        - Comments
        - Approvals
        - History of Changes
        - Machinima
    - [Jeremy Cowles] USD has a robust mesh representation, perhaps too robust. Schemas are too open-ended. If we bring arbitrary USD files, then there's a sub-processing step.
    - [Michael Min] There would still be a pre-processing step to go from quadmeshes to triangulated meshes
    - [Jeremy Cowles] It's more of a check at the importer
    - [Dhruv] 2nd Jeremy's motion. Volunteers to do all the work
- [Alex]

    - Think about files that could contribute. Any manufacturers that people would like to hear from? We can reach out to them to line up discussions
    - Anyone in the forum is welcome to present as well.
    - [John from Shopify] From our part of Shopify, our thinking of how we can use this format is very early days, but we can do something down the road in 2022.
    - See you in two weeks, and if not, Happy Holidays

Action Items

- *{insert items here}*