ACES

ACES Implementation
Technical Advisory Council Meeting

Thursday, February 18, 2021

Agenda

ACES 1.3 / 2.0 Progress Update (5 mins)

Working Group Progress Reviews

- CLF Implementation (5 mins)

    - Discussion (10 mins)

- AMF Implementation (5 mins)

    - Discussion (10 mins)

- IDT Implementation (5 mins)

    - Discussion (10 mins)

New Working Group Proposals

- Gamut Mapping Implementation Proposal (5 mins)

    - Discussion (5 mins)

Logo Program Strategy (5 mins)

- Discussion (10 mins)

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Expected outcomes

TAC is updated on progress of ACES 1.3 and 2.0 development

TAC provides feedback on topics including:

- How to better engage vendors and get participation on CLF

- AMF implementation progress

- IDT implementation progress

Determine next steps for TAC to engage with ACES Logo Program

ACES 1.3 / 2.0 Progress Update

Progress Update

ACES 1.3 - Gamut mapping Algorithm

- Release candidate 1 - March 1, 2021 - On Target

- Release candidate 2 - April 1, 2021 - On Target

- Final Release - April 30, 2021 - On Target

Progress Update

ACES 2.0 - Late 2021 / Early 2022

- Key Working Groups

    - Output Transforms - Started and On Target

    - IDT Implementation - Started and On Target

Progress Update

Additional Documentation and Toolsets

- ACES 1.3 timeframe

    - AMF user guide and tools - On Target

    - CLF user guide and tools - On Target

    - IDT exposure guidelines and reference implementation - On Target

    - Gamut Mapping user guide - Starting soon

Progress Update

Additional Documentation and Toolsets

- ACES 2.0 timeframe

    - Output Transforms Documentation - In Progress

    - Compression best practices - Not Started

Discussion & Questions

CLF Implementation Working Group

Chair: Doug Walker (Autodesk)

CLF Implementation Working Group

Making gradual progress on deliverables

- CLF test file collection (done)

- Implementation guide (17 page draft, in progress)

- Allowed tolerances (draft)

- Reference test image (done)

- Processed test image set

- Image comparison tool

CLF Implementation Working Group

Progress has been slow

- Lack of key vendors is potential risk area

Will push to get the deliverables completed for ACES 1.3

Also worth noting: OpenColorIO 2.0.0 is now released

- Has full CLF read/write support as well as conversion and validation tools

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Discussion & Questions

AMF Implementation Working Group

Chair: Dan Tatut (Marquise Technologies)

Group Progress Status Update

Phase 1 (November 2019)

- Started 11/2019, completed 05/2020

Phase 2 (May/June 2020)

- Started 06/2020, completed 09/2020

Group Progress Status Update

Phase 3 (November 2020)

- Started 09/2020 (completion 02/2021)

- AMF Handbook / Implementer's guide / Best practices v1

- Initial distribution of draft version through Google Docs

- Preparing "AMF Lifecycle" project

Group Progress Status Update

Phase 4 (February/March 2021)

- Scheduled 03/2021 (completion 05/2021)

- Distribute documents developed in Phase 3 to various vendors and key users

- Starting "AMF Lifecycle" project (shooting material, various camera vendors and tool vendors)

- Test interoperability and AMF management strategies, use of CLF

Group Progress Status Update

Phase 5 (May/June 2021)

- Scheduled 05/2021-06/2021

- AMF Handbook / Implementer's guide / Best practices v2

- Presentation of "AMF Lifecycle" project results

- Sharing knowledge

Discussion & Questions

IDT Implementation Working Group

Chair: Josh Pines (Technicolor)

IDT Implementation Working Group

Initial work has begun on the "Input Transform Implementation Guide"

- There will be a section outlining procedures for creating IDT's for "professional motion picture cameras" and a section for dealing with so-called "black box cameras"

All IDT'S basically have two parts

- The first transforms from camera encoding into "linear" light values

- The second then transforms from the camera system's spectral sensitivity into ACES AP0 color primaries

IDT Implementation Working Group

For professional cameras:

- We've agreed on a methodology to bring cameras from different vendors into agreement in mapping "exposure" into aces linear values.

- Work is proceeding on a web based reference implementation application of the methodology of creating the color spcae transform part of the IDT (as outlined in the "P-2013-001 document")

IDT Implementation Working Group

For black box camera strategy

- Linearization of unknown camera encodings is difficult

- We've had discussion and demos of some existing methodologies for linearization (and yes, it's complicated)

- There will be some "pro-sumer" cameras which might be able to use some of the professional camera pieces

- The color space transforms will (most likely) be based on exisiting "chart based" strategies

- We're starting some real world research (aka "shooting stuff")

IDT Implementation Working Group

Film scanner "IDT's"?

- Not in scope of the current working group proposal

- We discussed current issues with calibrating scanners to ADX

- Perhaps treat them as black box cameras?

Discussion & Questions

Gamut Mapping Implementation Working Group

Proposal

Gamut Mapping Implementation Working Group

Gamut mapping algorithm completed by Architecture Working Group

Implementation Working Group proposed to handle :

- Baseline implementation standards and documentation

- Work with software developers to ensure implementation across specialties such that productions can use the tool at scale

Technical details to be considered

- 3D LUT implementations of algorithm

- How inverse gamut mapping should be exposed to end-users

- Which, if any, algorithm parameters should be exposed to end-users

- How to track via AMF

Discussion & Questions

Logo Program Strategy

ACES Logo Program

Program Goals

To encourage and promote the creation and adoption of well-implemented ACES tools, practices and education throughout the ACES community

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ACES Logo Program

Background

Launched:

- Product Partner Program HW/SW Manufacturers

Future:

- Service Provider Program (Dailies/DI/VFX/Mastering)

- Training/Education Program Training/Education

- Movie Program 'Bug' on completed shows

https://acescentral.com/logo-program/

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ACES Logo Program

Product Partner Program

Companies join as 'corporate partners' then submit individual products to be reviewed and *logo'd*.

31 companies currently in program

- Many have built ACES support into their products, but only a handful have submitted products for Academy review/logo

We've taken a gentle approach with ACES 1.0-1.2, since specs and tools were not complete. With ACES v2.0 all system features for Logo qualification will be available and product submission process will be re-energized.

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ACES Logo Program

ACES v2.0 provides a unique opportunity to
re-envision the ACES Logo Program to address current
system and community needs.

ACES Logo Program

2021 Roll-out Plan for Discussion

Product Partner Program

- Begin messaging about Product Partners' ability to complete their implementations with new specs/tool sets

- Set a timeframe ("x" days after launch of 2.0) for all Product Partners to have begun the submission process.

- Encourage Product Partner companies to participate in Implementation VWGs so they're ready to do work on their products

ACES Logo Program

2021 Roll-out Plan for Discussion

Service Provider Program

- Draft program docs have been reviewed by several dailies and DI facilities, need input from VFX facilities.

- Finalize Program documents and roll out schedule in coordination with v2.0 launch

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ACES Logo Program

TAC Involvement

The Implementation TAC is uniquely poised to take a leadership role in the Logo Program.

Let's begin a discussion about the program and how we can leverage new ideas and our joint resources to ensure a successful roll-out of ACES 2.0

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Discussion & Questions