

Minutes of the AES Audio for Games Technical Committee

August 21st, 8am, Room Hokusai, 2nd Floor DIGIPEN Institute, Redmond Washington USA.

Meeting held at the Audio Engineering Society 2019 International Conference on Audio for Virtual and Augmented Reality

In attendance:

Gavin Kearney (GK), University of York (Chair)

Chris Stecker (CS),

Richard Cabot (RC), AES Standards Committee

Sally-Anne Kellaway (SK), Microsoft

Viktor Phoenix (VP), Headspace Audio

1. Welcome and Introductions

GK welcomed the committee and thanked them for attending such an early meeting.

Each committee member introduced themselves, their affiliation and their area of expertise

2. Upcoming events

The committee went through an overview of upcoming events related to audio for games.

- Game Sound Con, October 9-10, Los Angeles

SK gave an overview of her involvement in the prep of the AVAR track of the convention. She said alongside the usual games workshops and post-mortems it will include interactive experiences, music performances and installations.

She mentioned that it would be good to mail out to the TC about the convention as well.

Actions: GK to circulate to TC with info on upcoming events.

- AES 145th Convention New York, October 17th-20th, Jacob Javits centre, Co located with NAB show

GK outlined the preparation of the Spatial Audio/AVAR/Game Audio track with Steve Martz, Michael Kelly, Scott Selfon, Lori Solomon, Damian Kastbauer and Marc Schaeffgen.

He stated that there was a diverse range of submissions and invited workshops/panels this year with topics ranging from

Tutorials on binaural, HRTFs, Ambisonics and HOA

Tutorials for WWISE, Unreal, Dolby Atmos game audio,

Workshops on Sound career paths in VR and AR

Mixing in VR

Interactive dialogue for Game audio

Practical recording techniques for 6DOF Music production in VR/AR

and many more

- AES 146th Convention in Dublin, Wednesday, March 20 - Saturday, March 23, 2019 The Convention Center in Dublin, Ireland

GK mentioned that there would probably be a spatial/game audio/AVAR track of some form, but because of other events this is likely to be thinner than usual.

He stated that the convention was planned for a later date, but due to venue/scheduling issues had to be brought forward.

RC mentioned that it used to be the norm for the European convention to be in May.

He said that the new dates will directly conflict with the Games Developers Conference in LA.

SK said that most developers will likely go to GDC as its an important conference to look for work.

GK mentioned that due to the proximity of the Dublin convention to the York Immersive conference that there will likely be a package deal for both to encourage attendance.

GK said that he will be in close contact with the organisers of the convention to ensure a minimal drain on the pool of papers for the York conference.

SK mentioned that as GDC is less technical and consists of games post-mortems etc that it should not have a big effect on the technical paper contributions.

- 2019 International Conference on Immersive and Interactive Audio, March 27-29, 2019, University of York UK

GK gave an overview of the themes of the conference.

He said the applications addressed in the conference go beyond AVAR and into domestic, cinema, mobile and automotive immersive audio reproduction.

He discussed current submission deadlines (Papers - Oct 1st/ Workshops - Nov 1st) and how these may be extended in light of the Dublin convention announcement.

3. New Realities: Development of wiki resource and short term plan

GK gave an overview of the recent work on the AES Wiki for audio for new realities.

He outlined the rationale for the Wiki that it would cater as a one stop-shop for AVAR developers and researchers in the field of immersive audio technologies.

He said that the skeletal structure now exists for the Wiki and just needs content to help fill it.

He thanked SK as for her assistance in setting this up.

He mentioned that over the next five months the New Realities Group would be focusing on the following areas:

- * Terminology
- * Theory
 - Psychoacoustics
 - Spatial Audio Rendering
- * Practice
 - Recording Workflows
 - DAW Workflows
 - Game Engines
 - Reproduction formats
 - Applications and case studies
- * Distribution Formats

He said that he is working on similar efforts with the Abbey Road Spatial Audio Forum and that there would be some possible synergy there.

He said that now they are actively looking for contributors.

SK mentioned that within her job she is involved in internal hackathons where people quite senior in a knowledge area act as area sponsors. She mentioned that this could be a good model to populate the Wiki as well as get people active in the online meetings.

GK seconded this idea. He felt that given Stephan Schutz's work on his book for NR that he would be a good person to curate the discussion on terminology.

GK said that he will discuss the idea further with Michael Kelly and Stephan and they will compile a list of potential champions.

Actions: GK to discuss with SS and MK about area champions.

4. Standards

GK invited RC to give an overview of the standards process.

RC said that standards is rather an outgrowth of the technical council

He said that TC chairs can sit on standards committee

He mentioned the Loudness for OTT TV - Jim Starzynski that went from white Paper to a standard in less than a year

(http://www.aes.org/technical/documents/AESTD1006_1_17_10.pdf)

He discussed the structure of the standards committee -

He said the overall committee consists of 4 subcommittees and currently around 12 Working groups.

He stated that AVAR may be its own subcommittee,

CS has how many are usually in a sub-committee - RC said typically around 20 active

RC stated that working groups usually start with a topic- this is 1 paragraph which defines the scope of the standard. Sometimes it splits into two groups.

He mentioned that AES is an accredited standards organisation - allows for public comment. There are around 66 standards currently.

He said that layers of things that can be published as AES standards. Oftentimes standards are created from dedicated working days - Plugfests

GK asked about conflicting opinions and conflicts of interest.

RC said that standards are based on consensus. MP3 is a great example of where there are very different opinions that came to a final consensus.

CS asked if there were working groups that don't produce a standard but do produce information documents.

RC said that it is possible to just produce information documents.

He mentioned that the working group define the start as a project - they are given an AESX number.

VF mentioned it might be work reaching out to Jan Nordmann - Fraunhofer who is also working on standards in this area VR-IF-ORG guidelines 4.1.2.14 He mentioned that whilst it's very video centric it would be good to reach out to them. He agreed that he would reach out to them.

GK asked if there were any documents that discuss the standards workflow.

RC said there is a document on the AES standards site which documents the operation of standards committee as well as writing a standard.

(http://www.aes.org/technical/documents/AESTD1006_1_17_10.pdf)

He stated to be explicit where the lack of a standard is problematic.

GK stated that whilst the industry is in flux at the moment and it may be quite early for standards. Conversely there is the opportunity that the working groups within the AFG technical committee who are responsible for the creation of the Wiki resource could help identify areas that could require standardisation in the near future.

Actions:

VF to reach out to Jan Nordmann and discuss with committee
Wiki working groups to identify potential/future areas for standardisation.

5. AOB

There was no other business.

GK thanked the committee for their attendance and mentioned that the next meeting will take place online towards the end of September.