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[AES Pacific NW Section - Seattle USA]
Around the Puget Sound, Seattle, Washington, U.S.A.

November Meeting Notice
Portals: The Secret Weapon of AAA Game Audio Spatialization

Presented by Ian Shores, Highwire Games
and the
AES PNW Section
PLUS
Attempting to achieve in-person AND online meetings
Presented by Dan Mortensen and Lawrence Schwedler, AES PNW Section

In-person AND ZOOM MEETING 3:00PM PST (UTC -8)
Sunday, November 21st, 2021

In-Person meeting to be held at DigiPen Institute of Technology
9931 Willows Road NE
Redmond, WA 98052

[Directions to DigiPen:](#)

> **n.b.** DigiPen follows the state mandated Covid protocol.

- Proof of Vaccination required
- Masks are mandatory
- If you aren't vaccinated, then you must attend via Zoom.
- The Plato auditorium is large with excellent air flow.
- There will be a supplementary HEPA air filter in the room during the meeting.

Join us for our first in-person meeting since the start of the pandemic at DigiPen Redmond, or online in a special hybrid in-person/online meeting of the AES PNW Section.

Sound designer Ian Shores will share his knowledge of game audio spatialization while we try to equalize the local with the remote using in-person video, audio, and the internet via Zoom.

Portals: The Secret Weapon of AAA Game Audio Spatialization

In three-dimensional video games, audio spatialization is a key factor for driving immersion and player feedback. In this newest wave of virtual reality audio, the ostentatious audio designer speaks of techniques like ambisonics and HRTF filters. No doubt they are powerful techniques, but perhaps they receive too much credit. Realistic audio spatialization is a complex and holistic experience, and many techniques must be employed to create true spatial fidelity. ‹ AAA is an informal classification used for games produced and distributed by a mid-sized or major publisher, which typically have higher development and marketing budgets than other tiers of games. ›

One such set of techniques-transmission and portalling, i.e., how sound travels between spaces-is often overlooked, but not for good reason. Some AAA audio teams have quietly employed this technique for much longer than many may realize, and recent advancements in game audio middleware have made the tools and techniques available to a wider group of audio designers.

This talk will cover several common techniques for defining spatial audio transmission in games, explaining relatively basic concepts such as occlusion and reverb zones, as well as more advanced techniques like portals and diffraction, discussing the benefits and drawbacks of each technique. Besides the theoretical, there will be practical examples of complex transmission and portalling

demonstrated using Unreal Engine 4 and Wwise.

The Hybrid In-Person and Online Meeting:

First, all in-person attendees and participants must show proof of full vaccination, per Digipen's rules, and masks are required to be worn throughout the time in the building. No one will be admitted who does not agree to abide by these rules. Refreshments, which are normally part of our meetings, will be served if allowed at that time. Online participants can do as they please.

One of the great things about the last year and a half has been our Section's ability to reach out to people all over the world and have them be part of the meetings and respond positively and appreciatively. We want to sustain that mutual positivity. This meeting will be an exploration of how to do that.

Our goal is to give online participants equal participation to those in the room, and let those in the room see and hear all that's going on in the meeting, including what remote attendees have to contribute.

Co-Presenter and Committee member Dan Mortensen has been actively exploring the possibilities of online interaction through his weekly *Tea Time Topics* mini-meetings that actually have turned out to be pretty maxi-, in that they allow people with like interests from all over the world to really dig into a topic to the depth that people who are really into it (like us, with audio) want to spend on it. This has evolved to the meetings routinely lasting 3.5 to 4 hours, with the record being over 6 hours (yesterday, as this is written, with Matthew Lutthans showing his mastering studio tools, tricks, and techniques). The achievable level of engagement is incredible, with people always wanting to make one more comment and then someone else wants to respond to that, and then one more again.

Dan also presented our first on-line meeting about mixing concerts on iPads using a mixing console with no physical controls, which showed us how strong the online meetings could be, and we are looking forward to see what he comes up with to make this hybrid meeting work. (He wrote this part, as he's eager to see what he comes up with, too.)

He has been consulting with Lawrence, Gary Louie, Rick Chinn, and Gordon McGregor about it and he hopes he's learned something that he can implement.

For his part, Lawrence Schwedler has also been trying to maximize the online experience for his students at DigiPen, and as the Co-Chair of the first-ever Virtual (attendance via avatars) Conference about Audio for Virtual and Augmented Reality (AVAR) in 2020 and the next AVAR in 2022.

They will briefly talk about putting this together and eagerly listen to your thoughts about how it worked/didn't work for you, and how it could be better.

The Presenters

Ian Shores - Audio Design Lead, Highwire Games, is a committed, passionate, decisive, and collaborative audio designer. He is the full time Audio Design Lead at Highwire Games in Seattle, where he works with industry veterans Marty O'Donnell, Jaime Griesemer and more to create highly polished and innovative independent games. His most recent title, Golem, shipped exclusively on Playstation VR and remains one of the standout games on the platform. It was nominated for the 2018 Game Audio Network Guild's "Best Sound Design for an Indie Game" category and was awarded "Best Dialog for an Indie Game." Ian is currently creating the audio for Highwire's next title, Six Days in Fallujah, a documentary shooter about the Second Battle of Fallujah in the Iraq War, told by the people who actually experienced the conflict. He has a discerning ear, over 20 years of classical musical training, a passion for bleeding-edge technologies and an eagerness to push the boundaries of what videogames can be. Ian graduated as the valedictorian and with honors from DigiPen's Bachelor of Arts in Music and Sound Design program in 2017.

Dan Mortensen is President of Dansound Inc., which specializes in live sound reinforcement. He is currently serving on the Committee, and has previously held the posts of Chair, Vice-Chair, and Treasurer. After 30 years on the Committee, Dan continues to find that serving the AES PNW Section in one capacity or another is still one of his favorite things. For nearly a year, he's been hosting a weekly Section Zoom meeting called "Tea Time Topics" in which a bunch of really smart people share presentations about something they are interested in (a wide range of topics!) and the 50th meeting is rapidly approaching. It's open to all, and info can be found at www.aes.org/sections/pnw/ttt

For almost 13 years he has enjoyed researching the history of CBS's 30th St. recording studio, home to the Section's late friend Frank Laico; much of that research can be found online at forums.stevehoffman.tv...

Lawrence Schwedler is a musician with twenty years of experience in the video game industry as a composer, sound designer, and audio director. In 1993 he graduated with a Master of Fine Arts degree in classical guitar performance and electronic music from the University of California at Los Angeles. He was a founding member of the Modern Arts Guitar Quartet, an avant-garde chamber

ensemble which toured Europe, Mexico, Canada and the U.S. From 1999 to 2012 he worked for Nintendo Software Technology as Audio Director, where he produced music and sound for fifteen game titles and received credit as co-author on two United States patents, one for interactive real time music composition and another for interactive wave table sound generation. In 2012 he left Nintendo to design and direct two new undergraduate degree programs in music and sound design at the DigiPen Institute of Technology in Redmond.

To Attend

We use Eventbrite as a way of tracking online reservations and to dispense the Zoom Link to the meeting. You need to RSVP here

Additional information can be found at the Section Website.

THIS EVENT IS FREE, OPEN TO ALL, AND AES MEMBERSHIP IS NOT REQUIRED

PNW AES Zoom Meetings and zoom URL

We started holding our meetings via Zoom beginning with the April 2020 meeting. Zoom has dramatically increased our reach, well beyond our Section's geographic area. Since doing this, we've had attendees from Canada, and as far away as Indonesia, and Australia. Zoom gives the ability to record our meetings, and those recordings will be posted in our past meetings Archive. For now, video from our Zoom meetings can be found (mostly) at Dan Mortensen's YouTube channel.

We use EventBrite to manage our free tickets to meetings. You need to RSVP for yours via the following link. The Zoom URL will appear on the virtual ticket for the event. Copy it down!

RSVP here

When you register at EventBrite and when you enter the Zoom meeting, please use your real first and last names so we can get to know each other. You do NOT need to create an EventBrite account to register.

Please Note

In order to maintain decorum and avoid interruptions, even unintended ones, we have established a few ground rules for meeting attendees:

1. We want to see your full name on display in Zoom at the meeting.
2. All audience audio and video will be muted for the duration of the event.
3. The presenter will determine if they can accept questions during the presentation, or wait until specific Q&A times, and that will be announced at the beginning of the meeting. (We often use the "chat" feature to allow attendees to ask questions when they think of them, with moderators passing them on to the presenter at the appropriate time.)
4. Based on our experience with no-shows, we reserve the right to issue more tickets than available slots. We don't want to turn people away based on inaccurate estimates of attendance, but we do have budgetary limits to the number of slots we can make available. If we reach capacity before you log in, we regret that we have no way to expand capacity at the last minute.
5. It would be good if you watched the chat stream during the meeting. Not only is it a way to submit questions to the presenters, but it's also a way for others to contact you personally. You have the option there to direct your comment to anyone who is part of the meeting as well as to one person in particular.

Finally, in the rare instance of behavior by an attendee that moderators believe is disruptive, we reserve the right to immediately eject such attendees.

Greg Dixon
AES PNW 2021-2022 Section Chair

> **n.b.** *The material presented at our meetings is the opinion of the presenter and not necessarily that of the Society. You are encouraged to conduct your own research and to form your own opinions before adopting the presented material as Truth.*

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