



Please turn off cell phones

Please move inward forward so more people can squeeze in

Remind people to speak into the mic

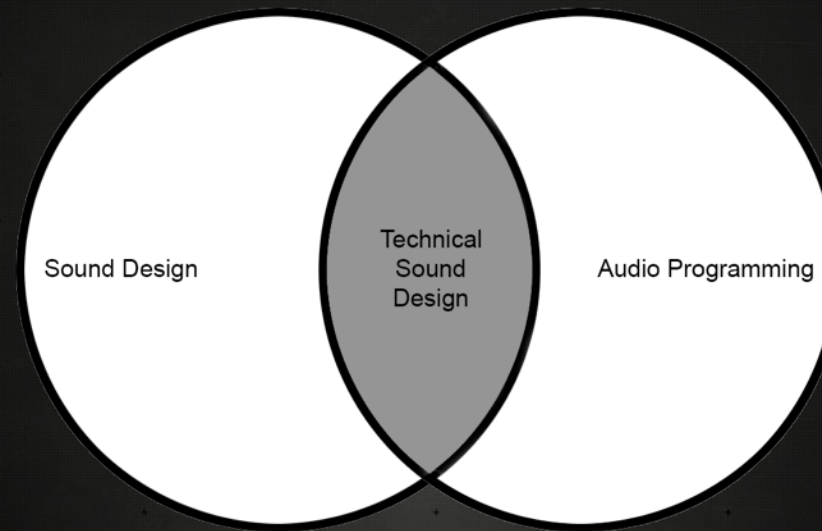
TECHNICAL SOUND DESIGN

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WHAT IS IT?



Some studios treat technical sound designer as an isolated role, some don't, but the skill is important for all game audio professionals. So what's the difference between an audio programmer and a technical sound designer?

AUDIO PROGRAMMER

- Works in the audio engine itself
- Virtualization, voice priorities
- DSP coding
- Doesn't make sound
- Ugly code stuff we don't understand



Nathan, our audio coder, works in the audio engine itself. He has a computer science degree and is a proper software engineer. He doesn't make sound.

TECHNICAL SOUND DESIGNER

- Implements sounds
- Unique scripted solutions
- Gameplay programming
- Can code, but not 100% of the time
- Can make sounds as well
- Implementation EXPERT



Vadim, our technical sound designer, is an implementation expert. He has the coding skills of a gameplay programmer but he understands audio and can make sounds. He doesn't get into the engine level stuff, but he gets deeper than sound designers do.

“The sound and music are 50% of the
entertainment in a movie.”



Who knows this quote?

“The sound and music are 50% of the
entertainment in a movie.”
-George Lucas



This guy. Made three films about war in space. Too bad he didn't make more.

“Implementation is half of the creative process.”
Tattoo this to the backs of your eyelids.



This is the quote I hope people remember from me. Don't forget it.

SOUND IMPLEMENTATION

Volume

EQ

Filtering

Reverb

Run-time DSP

Layering

Mix automation

Ducking

Panning

Dynamic Systems

And more...



Implementation is good. This is what sound implementation entails. Read off the things. This list is NOT exhaustive.

SCRIPTING = GOOD



Scripting is magic. Scripting = higher level. Coding = lower level. Scripting allows you to do amazing things and solve big problems.

SCRIPTING = GOOD



100s of non-global sounds
100s of animations
Dozens of DSP volumes
100s of emitters
~2,000 lines of gameplay script
(all written by audio staff)



One current gen Call of Duty mission has all the stuff on the slide. Also we're not limited by existing features, we can create our own in script to solve problems.

LET'S LOOK AT SOME TEXT! YAY!



Unfortunately I can't include this stuff in an uploaded slideshow, so check out the video in the vault if you want to see it.

SCRIPT FEATURE > REUSE > CODE FEATURE



We get into this cycle of creating a script feature to solve a specific problem, then realizing we can use it elsewhere, then migrating it to code.

SCRIPTING = GOOD



Scripting/coding ability also allows us to make our own tools. We write them in C# and Python mostly. No more fighting with engineering dept for support, we'll just do it ourselves.

SCRIPTING = GOOD

[illegible]



Python and Sox are a dangerous combination. Great for building little rapid fire audio tools.

SCRIPTING = GOOD



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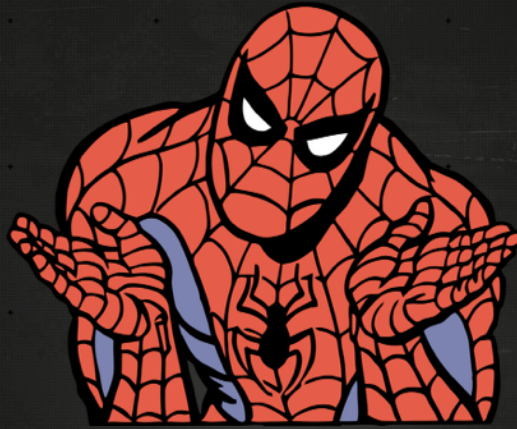
Reaper is also awesome. You can drive Reaper behaviors using Python scripts. Great for building small audio tools.

EXAMPLES



I brought some video examples. Can't upload them with a slideshow, so check out the video in the vault to see these.

HOW TO BE A TSD



So if you want to be a Technical Sound Designer, here are some things you should focus on learning.

HOW TO BE A TSD



For starters, learn a game engine. Build some projects. And learn Wwise and FMOD as well. Learn more than one. Learn the common concepts of game audio, despite semantic differences.

HOW TO BE A TSD



Dissect existing games. Try to break their audio. Use what you've learned from working with engines to try to mentally pick apart how they're triggering sounds in their games.

HOW TO BE A TSD



Learn to code. Even if you're going to use Unreal and Blueprint. This is a skill that will benefit you forever. Recommended: Pure Data, C# (Unity), Python (syntax is very forgiving), C++ if you're adventurous.

QUESTIONS?



Hit me with questions if you like.



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The end.