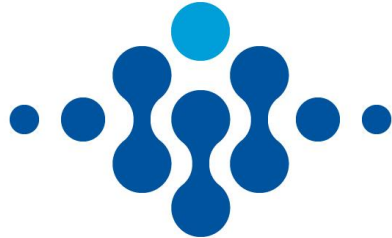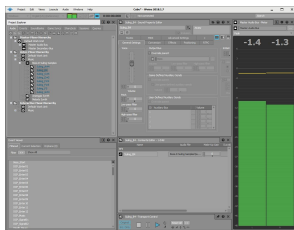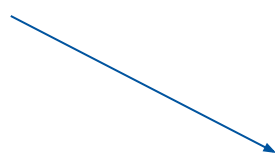# Porting Wwise to the web

June 28, 2019
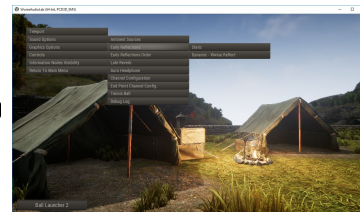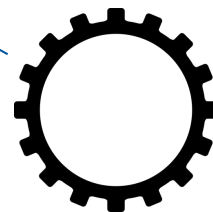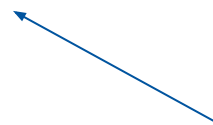
What is Wwise?

Authoring Tool

Sound Banks

Game + Sound Engine

Why is Wwise important?

Attempt #1: Just make it play a sound!

Hurdles:

- Architecture that is neither x86 nor ARM
- SSE emulation did not work
- Atomics: some compiler intrinsics were not supported
- pthreads implementation is a leaky abstraction

Attempt #1: Deadlock galore

- Threads don't actually start before main() returns
- Only the main thread can initialize SDL2
- SDL2 Audio is implemented using ScriptProcessorNode… AudioThread==Main thread!

Attempt #2: Enter AudioWorklet
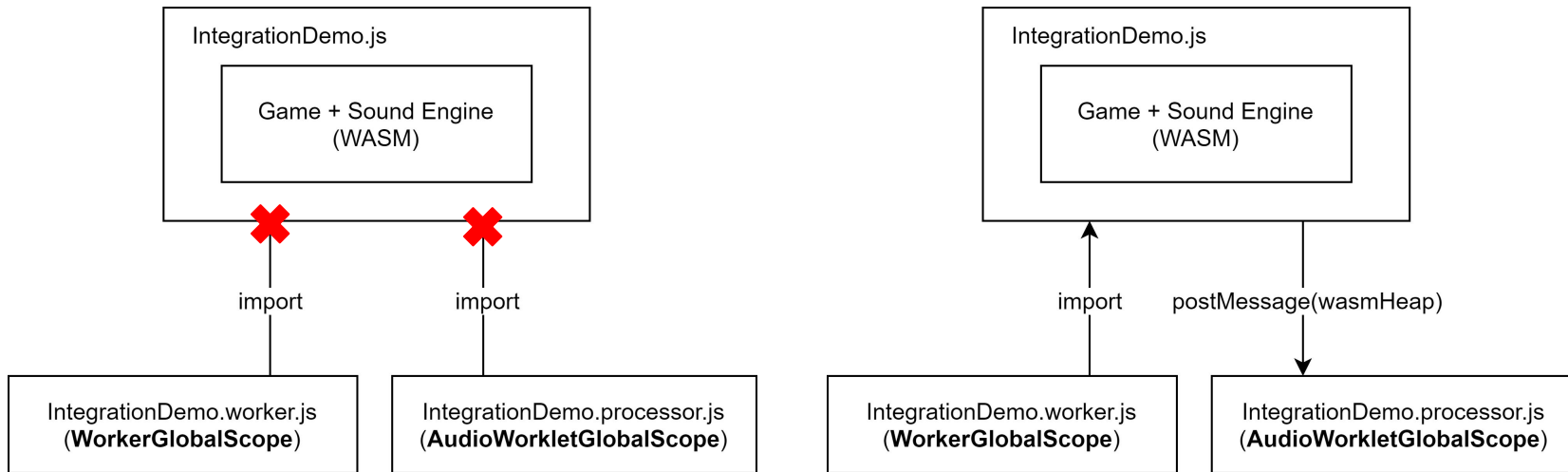
In retrospect

The good:

- AudioWorklet: a major improvement
- Didn't have actual audio issues, just needed to learn the APIs

The bad:

- Threading is difficult to get right
- Debugging "experience"
- Too far from the hardware

The ugly:

- SharedArrayBuffer's future seems uncertain
- Slow adoption by browsers other than Chrome
- What about mobile browsers?

Thank you!