Music and Computing

Signal Audio Processing

Module 5

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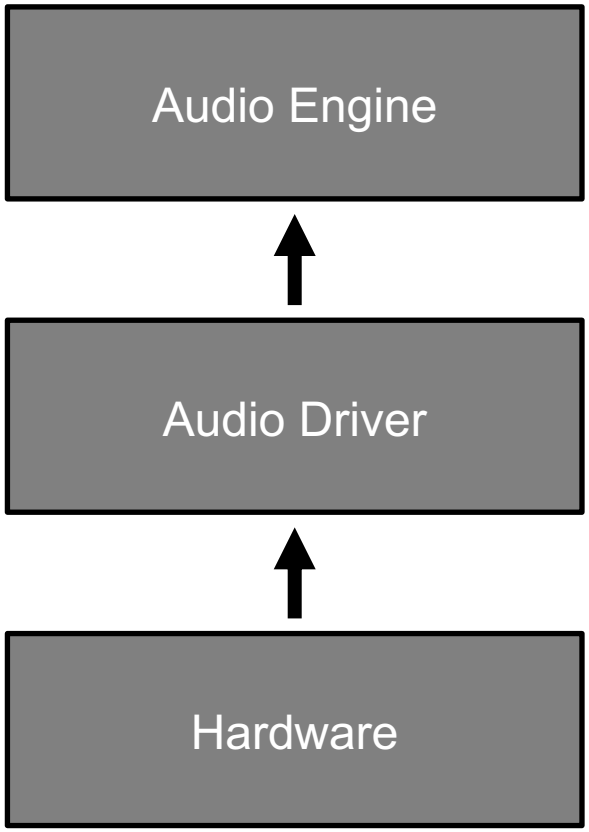
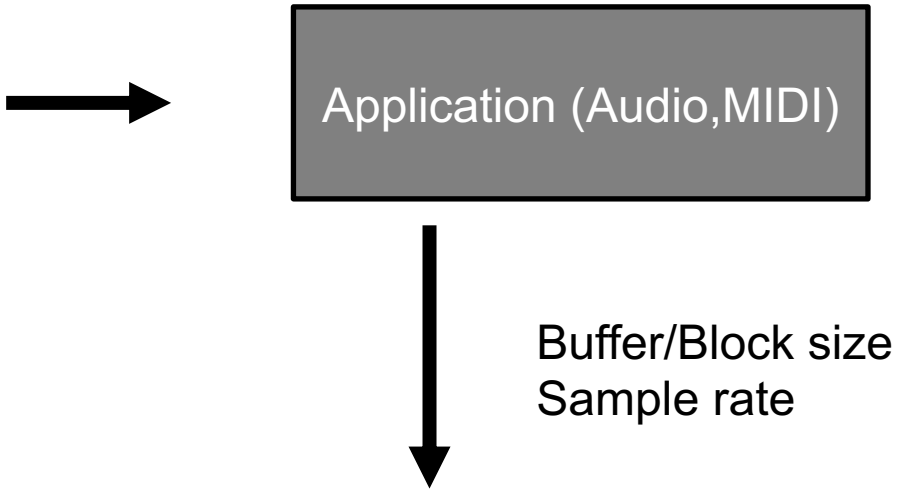
Agenda

- Audio System Architecture
- Web Audio API
- Worklets

Audio System Architecture





callback function (buffer, buffer_len);

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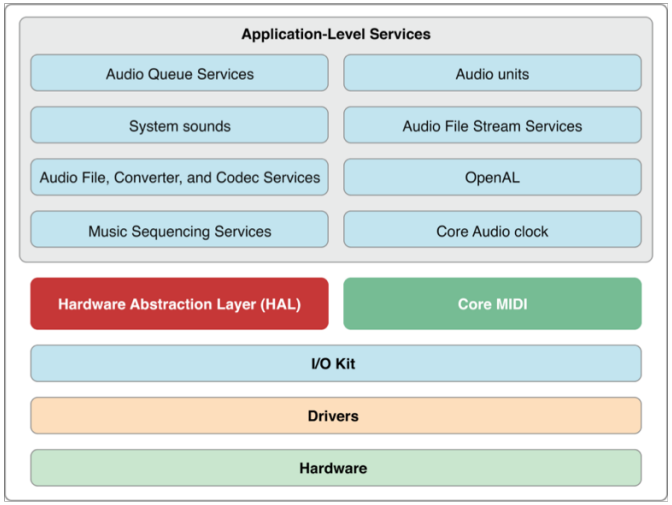
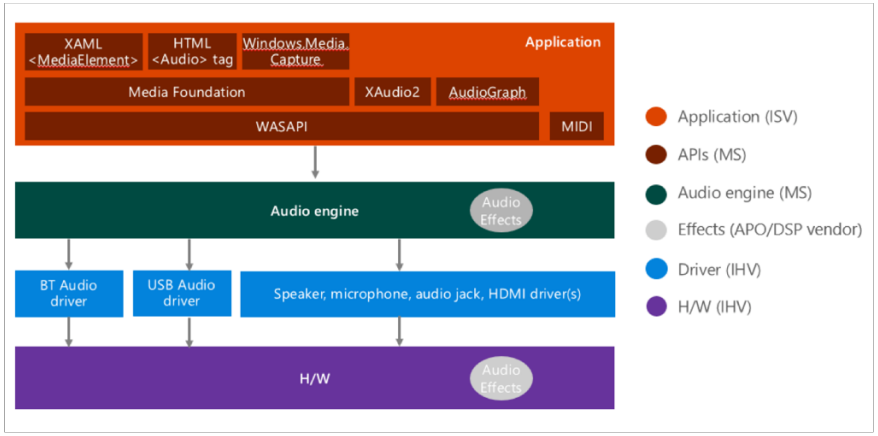
Audio System Architecture

Linux – ALSA, …

OSX - CoreAudio



Windows



JUCE

iOS

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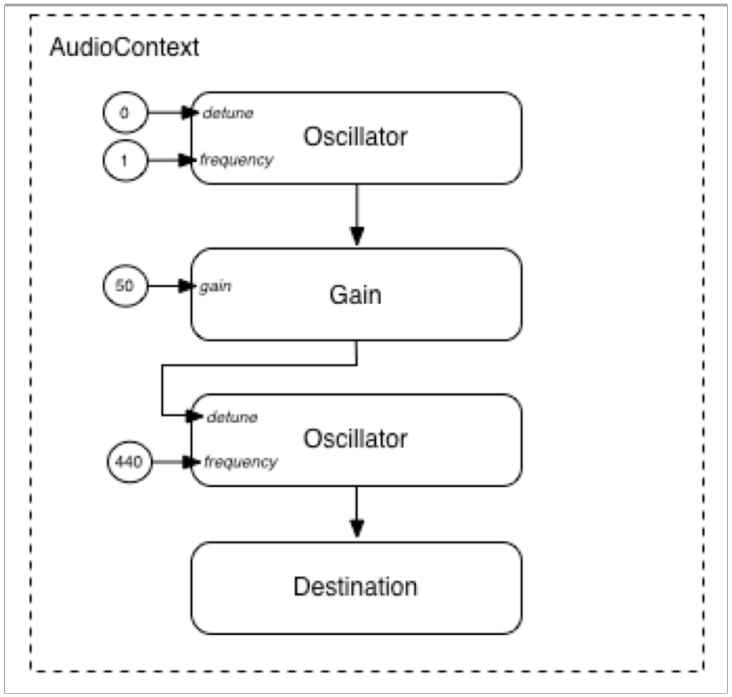
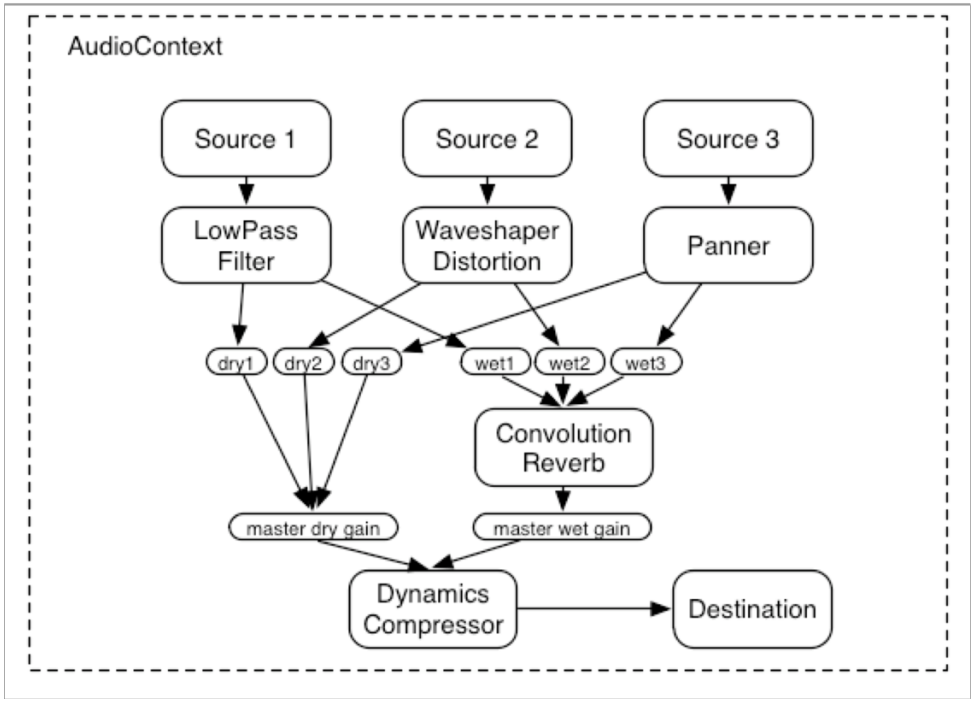
Web Audio API

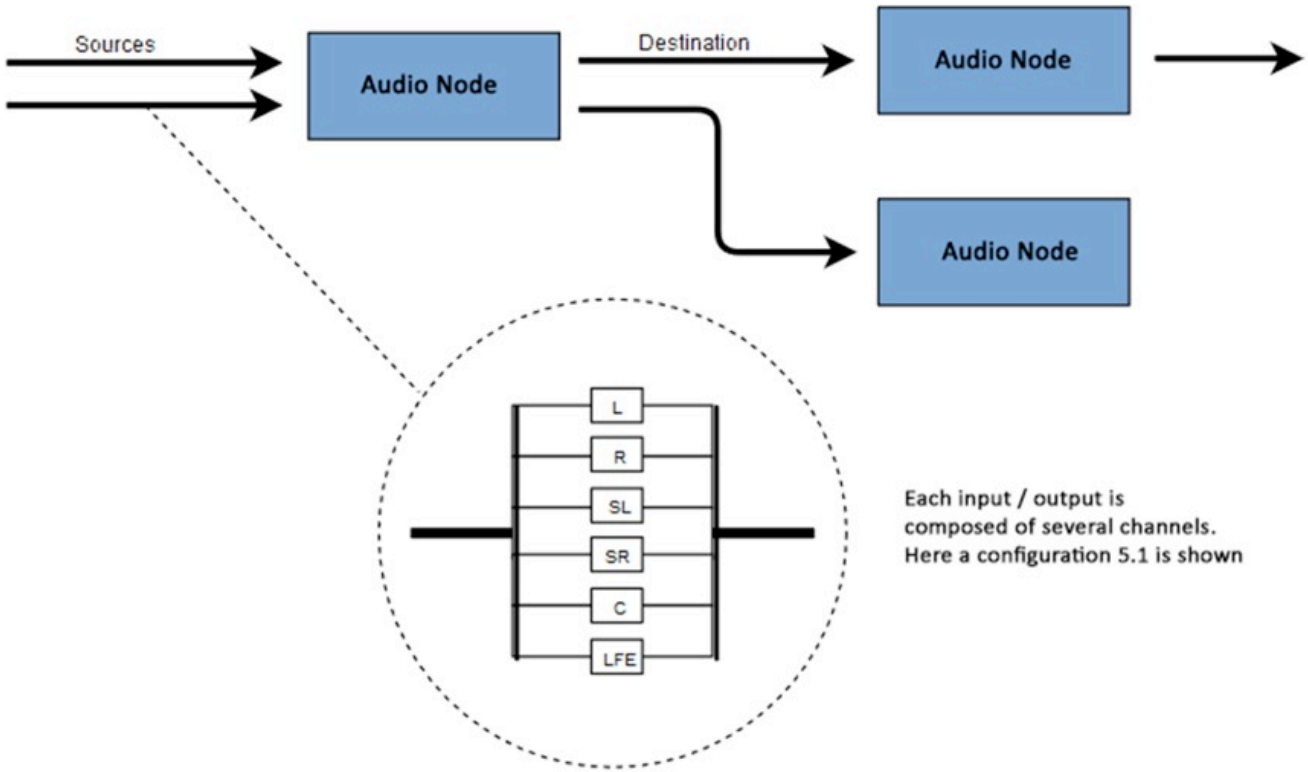




Fonte: https://www.w3.org/TR/webaudio/

Web Audio API

Audio Nodes and Channels

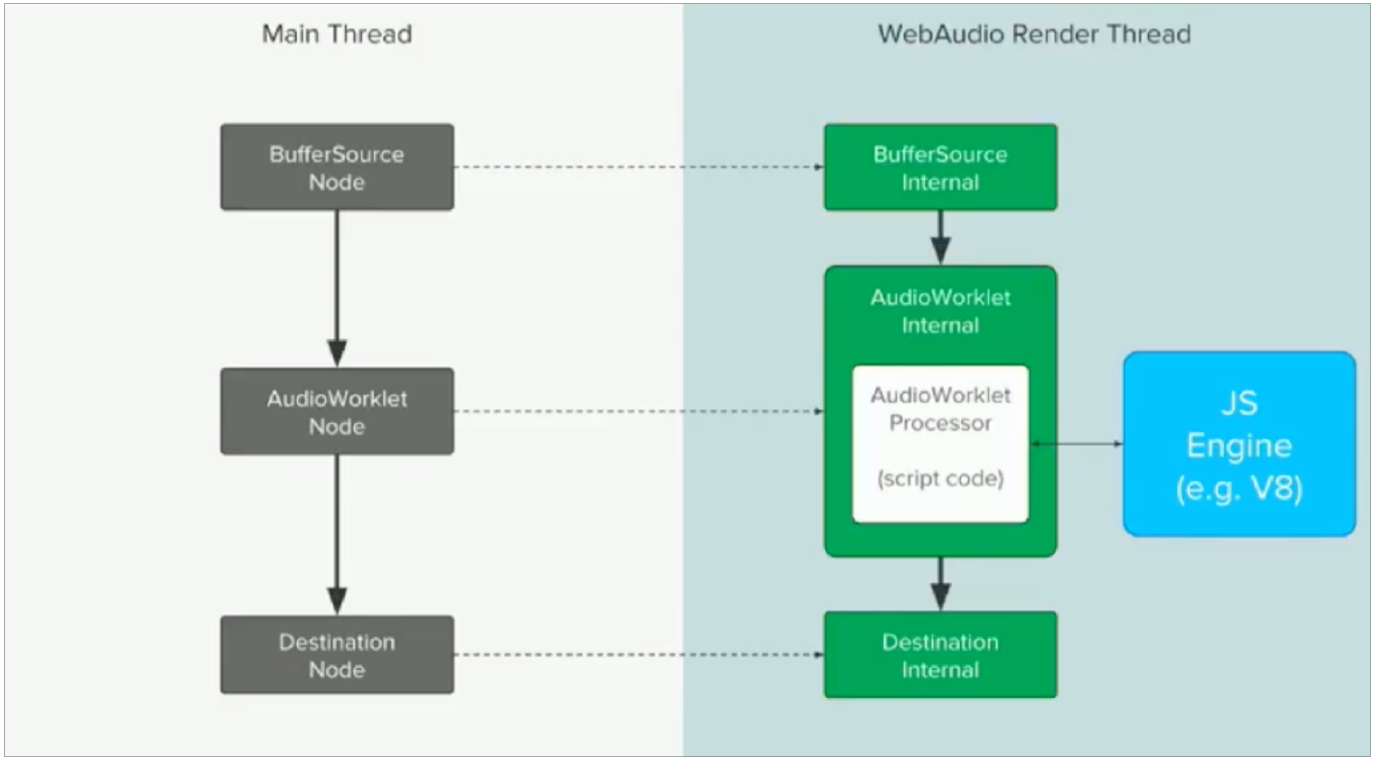


Fonte:

https://developer.mozilla.org/en-US/docs/Web/API/Web_Audio_API/Basic_concepts_behind_Web_Audio_API#Audio_graphs

Web Audio API

- AudioWorklet



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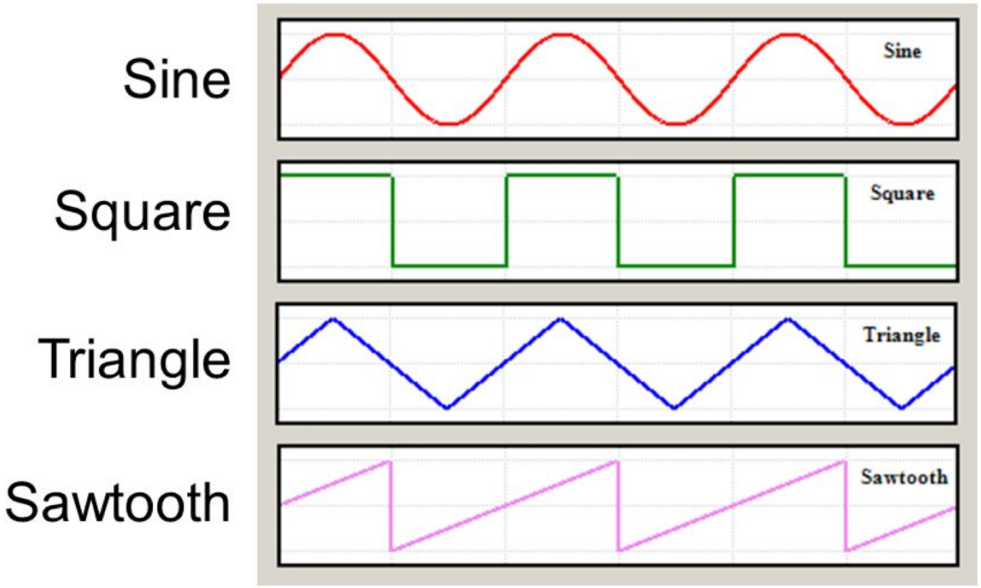
Wave shape

Simple Waveforms



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MIDI – Control and symbolic representation

- Protocol for communication created in 1983
  - Hardware / Software

  - Messages

MIDI 1.0 Channel Voice messages

Event	Status byte		Byte 2	Byte 3
Note Off	0x8	Channel 0x0..0xF	Note Number	Velocity
Note On	0x9		Note Number	Velocity
Polyphonic Key Pressure (Aftertouch)	0xA		Note Number	Pressure
Control Change	0xB		Controller Number	Value
Program Change	0xC		Program Number	
Channel Pressure (Aftertouch)	0xD		Pressure	
Pitch Wheel	0xE		LSB	MSB

- File format

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Obrigado !

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