THE CREATE SIGNAL LIBRARY (CSL)

▸ Since the 1990s, teaching DASP in C++ at UCSB
  ▸ Six-part course sequence on digital audio programming
  ▸ See *TheBigMATBook*
▸ Now: DASP framework for use with JUCE (opt.)
  ▸ Audio-centric app development
  ▸ GUIs using JUCE (or native or javascript)
  ▸ Control via MIDI, OSC or other means
  ▸ Cross-platform: Mac, Linux, Windows, iOS, Android…
  ▸ Used in numerous commercial apps, games, etc.

CSL INSTRUMENTS

▸ Bundle a DSP graph with accessors for its parameters and a method to trigger its envelopes

▸ Drive from MIDI, OSC or GUI interfaces

▸ Construct libraries with many instruments

   ▸ All instruments sum to a common mixer & effects chain

   ▸ Instruments in the library may respond to different modes of interaction (MIDI, OSC, GUI)

SMOKE MUSIC REPRESENTATION

▸ The SMOKE representation supports the following:

  ▸ abstract models of the musical magnitudes (pitch, loudness and duration)

  ▸ flexible grain-size of "events" (from grain to whole composition)

  ▸ event, control, and sampled sound description

  ▸ nested/hierarchical event-trees; parallel or sequential organization

  ▸ instrument/note (voice/event, performer/music) abstractions

    ▸ separation of "data" from "interpretation" ("what" vs. "how"--voices)

  ▸ "middle-level" musical structures (e.g., chords, clusters, or trills)

  ▸ no time model, duration only

SUMMARY, LINKS

▸ Summary

  ▸ Mature advanced cross-platform toolkits specialized for the very different tasks of music composition and performance

▸ **Siren**

  ▸ http://fastlabinc.com/Siren

  ▸ http://github.com/stpope/Siren9

▸ **CSL**

  ▸ http://fastlabinc.com/CSL

  ▸ http://github.com/stpope/CSL6

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