iSynth

The Quest for a "Better" Music Synthesizer

Part III :

Choices, Approach & Current Progress

Actors

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Choices

- Music synthesis library :
  - PyFluidsynth (wrapper over Fluidsynth)

- Key recognition via video feed :
  - Joe Thomas' virtual keyboard system :
    https://jsthomas.github.io/vkeyboard.html

- EMG sensor :
  - Myo armband is ~Rs. 25k; too expensive !
  - Choose the EMG sensor kit sold by RoboIndia (~ Rs. 4500) for initial experiments

Approach

- Create a simple Python library to map standard computer keys to music keynotes & use Pyfluidsynth to play them whenever pressed.
- Use the above library to test with the EMG sensor & see if velocity of keypress could be accurately calibrated to Pyfluidsynth's implementation
- Test Joe Thomas' virtual keyboard & modify it to suit a standard music synthesizer (visual layout of keys & coordinates of each key)
- Integrate Joe Thomas' modified virtual keyboard with the EMG sensor & the wrapper Pyfluidsynth library created before

Current Status

- Pyfluidsynth & Fluidsynth libraries installed.
- Many difficulties encountered en route !
- Able to play around with Pyfluidsynth, generate sounds by varying key notes, velocity of key as well as the SoundFonts.

Thanks!

Any questions?

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