

SYN semester work

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Task a)

Synthesized “Take On Me”.

Task b)

Synthesized three octaves of C major scale: piano, guitar, bass, harp, clarinet and flute (in this order).

Task c)

Synthesized midi file of song “Lose Yourself” retrieved from <https://freemidi.org/download3-2983-lose-yourself-eminem>.

Techniques used

Wavetable synthesis

Wavetable synthesis of real samples.

Piano uses three separate samples for different requested frequencies and then interpolates between them.

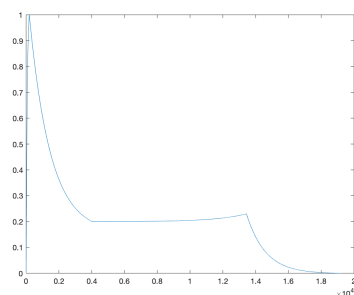
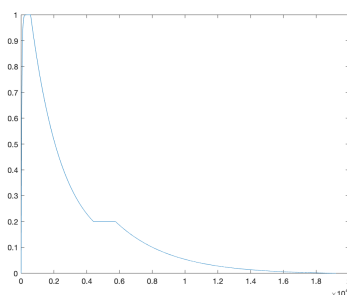
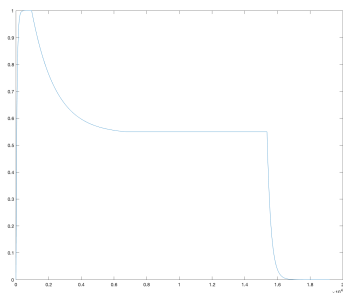
Additive synthesis

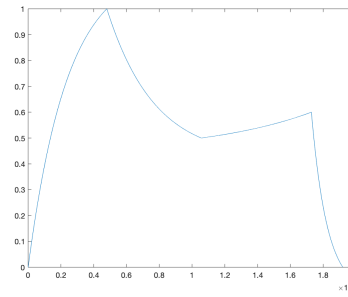
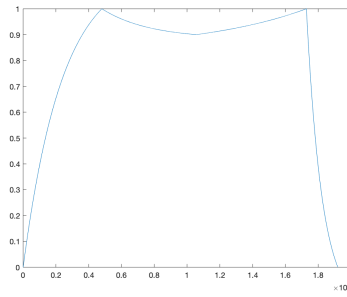
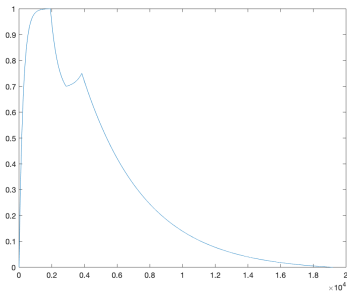
Additive synthesis with coefficients extracted from real samples using spectral analysis.

Exponential ADSR envelope

ADSR envelope using exponential interpolation between envelope points instead of linear.

Some of the instruments use a little “bump” between the sustain and the release part to simulate plucking of the string or blowing characteristics.





Reverb

Convolution reverb with impulse characteristic from file "In The Silo Revised" from package available at <https://www.voxengo.com/impulses/>.