

Final Project Progress Report

Recent improvements include actual Qt graphical window and more waveforms. A window with radio buttons for the choice of waveform is displayed and usable. The waveforms implemented include sine, square, triangle, and saw. I have yet to find the source of the previously mentioned delay, but have decided to move on. The next feature I plan to implement is the envelope. I've chosen to implement an Attack-Decay-Sustain-Release envelope. Big decisions left to make are the necessity and presentation on any sort of on-screen visualization of the actual keyboard keys. They would be a helpful reference when first using the synth, but would add nothing to the overall playability.

The time log and changes are listed below and adapted from the subversion log output. The code can be found at <http://opensynth.googlecode.com/svn/> with more info at <http://code.google.com/p/opensynth/>.

2007-04-09 10:36:26 -0400 (Mon, 09 Apr 2007)
.5 hours
Filled out bottom key row (Ab - C#) 1.3 octaves.

2007-04-09 1:34:52 -0400 (Mon, 09 Apr 2007)
.75 hours
Researched synth envelopes and decided on taking a ADSR approach.
This will require rewriting the AudioThread's method of accessing WaveForm data.

2007-04-08 23:04:46 -0400 (Sun, 08 Apr 2007)
1 hour
Added saw wave and fixed triangle wave.

2007-04-08 19:20:33 -0400 (Sun, 08 Apr 2007)
1 hour
Added radio buttons to choose waveform.
Triangle Wave implemented but doesn't sound so hot.

2007-03-24 13:43:23 -0400 (Sat, 24 Mar 2007)
1.5 hours
Used all kinds of gettimeofday's to try and pinpoint the source of the delay in output. All to no avail.

2007-03-14 01:20:15 -0400 (Wed, 14 Mar 2007)
30 minutes
Whew....Well, a long time ago I forgot to add WaveForm and AudioBuffer classes to the repository. Then I deleted them. Just now I rewrote both of them in about 20 minutes. And they work. All aforementioned updates are true.
NEW: AudioThread playflag and size variables are pointless, discard them.

2007-03-14 00:14:52 -0400 (Wed, 14 Mar 2007)
30 minutes
changed key press detection to switch/case for syntactic clarity

2007-03-13 23:41:40 -0400 (Tue, 13 Mar 2007)

2 hours

no more clicking

each waveform has it's own indexer. this also gives better key response.

2007-03-08 18:21:07 -0500 (Thu, 08 Mar 2007)

1.5 hours

Added mutex's to fix mysterious SegFault.

AudioThread now takes the currentNotes passed by reference.

This gets rid of the weird pointer notations and made for a better iterator.

Still an unpredictable delay sounding of single notes when multiple notes are played at once.

2007-03-08 01:05:59 -0500 (Thu, 08 Mar 2007)

3 hours

original implementations of the WaveForm, AudioBuffer classes

Rewrote SynthWindow for new AudioBuffer wrapper.

AudioThread reads the freq and computes sin waves on the fly as of now.

Also, we have a new mysterious SegFault, Yay!

All-in-all, a big update.

2007-03-06 00:01:44 -0500 (Tue, 06 Mar 2007)

45 minutes

added headers for WaveForm & AudioBuffer classes

2007-03-05 20:01:49 -0500 (Mon, 05 Mar 2007)

1.5 hours

rewrote continuous playing of buffer in AudioThread

still same double addition of notes error,

will be fixed with introduction of AudioBuffer and Waveform classes

2007-03-05 16:38:43 -0500 (Mon, 05 Mar 2007)

45 minutes

fixed clicking by making the freqs for each note truncate.

new problem: notes added too often, distorting sound

2007-03-05 00:35:47 -0500 (Mon, 05 Mar 2007)

2 hours

attempting fade buffer to lose clicking

2007-03-04 21:55:31 -0500 (Sun, 04 Mar 2007)

30 minutes

added full octave A-A

2007-03-04 21:01:09 -0500 (Sun, 04 Mar 2007)

1.5 hours

Hurray! Basic functionality from A-E

2007-03-04 00:49:28 -0500 (Sun, 04 Mar 2007)

3 hours

basic classes written but trouble with playing sound