Update March 14, 2015

Xcode project

- Tutorial for using Essentia in Xcode
- Xcode example project
- forward to Dmitry for sharing on the Essentia website

Monophonic Melodia

- First basic **implementation**: We basically skip the voicing detection in Melodia and only eliminate peak salience peaks below an adjustable threshold. Otherwise, the voicing threshold will depend on the mean salience. This only works if there are melody and non-melody contours.
- Small test **database**: 4 monophonic real world audio sample (vocals, violin, saxophone and flute) —> manual MIDI transcription (will also be useful for testing the note segmentation algorithm), conversion to f0
- first **results**: % of correctly estimated frames. A frame is correctly estimated if either correctly estimated of unvoiced or the estimated pitch is within a range of 75 cents. Comparison: Monophonic Melodia implementation in the vamp plugin (vamp), polyphonic Melodia in Essentia with vTh=0.2 (poly), yin FFT in Essentia (yin) and the new monophonic Essentia implementation (mono new).

	% correctly estimated frames
vamp	69%
poly	70%
yin	71%
mono new	82%

The yin algorithm always estimates a pitch, except a frame is silent. This is a problem for samples with background noise. The vamp implementation and the polyphonic version both eliminate voiced samples. All show similar behavior regarding octave errors etc.

To do: Clean up code of the new implementation and make it more efficient. Propose pull request.