MPATE-GE 2623 Music Information Retrieval - Assignment # 5
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Please check the course's website for detailed submission instructions.

Write a Matlab function that takes the name of any 16-bit wav file (if stereo, please simply disregard the 2nd channel) sampled at $f_s = 44.1kHz$, and computes the sequence of major and minor triads (and no chords) corresponding to the music in the file. Use the template matching approach discussed in class with any combination of pre- and post-processing methods studied in class. In the report, justify your choices and explain how the selected methods and their parameters improve your results. An extra point will be given for the implementation of the Viterbi algorithm.

The function should plot (as subplots in a single figure) the following:

- the signal's chromagram.
- the distance matrix between features and templates.
- the sequence of triads per analysis frame (in seconds) AND corresponding ground truth annotations clearly differentiated in the plot.

To facilitate reading the plots, it is strongly suggested that you show results only for a 30 second excerpt of the input signal.

Compare results using the provided audio files (available from blackboard). For each audio file, a text file (".lab") of the same name is also provided. These files include start and end time (in seconds) and ground truth labels, following the syntax in[1], for each chord occurrence in the corresponding audio file. Please note that "no chord" occurrences are marked as "N". Comment on how labels and locations compare to the list of detected triads. Include graphs in your report as necessary.

Comment on the resulting plots, their differences and their relationship to the characteristics of the sounds, and your choice of processing parameters.

[1] http://ismir2005.ismir.net/proceedings/1080.pdf