Journal Report 13
12/16/19-12/23/19
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Period 1, White

Daily Log

Monday December 16

By shortening the motif, I realized that I could produce different variations of fingering for the same piece. For example, the motif for Believer in its original form is ”254434..” and doesn’t involve a crossover while a shortened version produces ”154434...” with a crossover at the A-G-A. I began working on this method of producing different fingering options to weigh later.

Thursday December 19

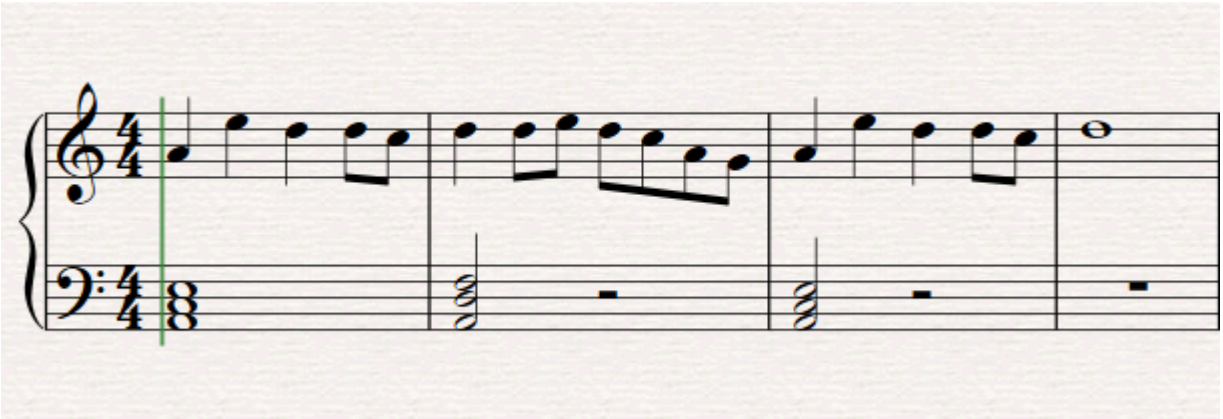
I wrote a basic algorithm to finger the chords I placed in Believer. I spent time drawing out several test cases based on the MIDI note range, or the distance between the upper-most and bottom-most notes in the chord. Based on observations made from MIDI note ranges of 7, 8, 9, and 10, I realized that the index finger is the most versatile while the positions of the ring and middle fingers don’t change as much, at least between these test cases. Because the note values must now be expressed with arrays, the fingering (even for the right hand) must also be expressed with arrays as well. While this didn’t cause too much trouble for the left hand, I had to streamline pre-existing parts of my ”finger right hand” algorithm to account for the change.

Timeline

Date	Goal	Met
December 6th	Be able to analyze and finger chords in preparation to finger left hand	My algorithm can parse polyphonic music into an array from a MIDI file
December 13th	Assimilate the new data structure into my motif algorithm and finger chords	Yes, I streamlined my entire algorithm to accept arrays and started a basic algorithm to finger chords.
December 20th	Winter Goal: Finger a piece with two hands using the motif algorithm. Be able to generate 2 viable fingerings for a piece.	–
Winter Break	–	–
Winter Break	–	–

Reflection

This week, I made large strides toward my winter goal as my code can now finger two hands as well as basic chords in the left hand. Next week, I will focus on refining my algorithm to finger chords and transferring the motif algorithm from right hand to left hand.



Right Hand Array: [[256, [69], [1]], [256, [76], [5]], [256, [74], [4]], [128, [74], [4]], [128, [72], [3]], [256, [74], [4]], [128, [74], [4]], [128, [76], [5]], [128, [74], [4]], [128, [72], [3]], [128, [69], [1]], [128, [67], [2]], [256, [69], [1]], [256, [76], [5]], [256, [74], [4]], [128, [74], [4]], [128, [72], [3]], [1024, [74], [4]]]

Left Hand Array: [[1024, [45, 48, 52], [5, 3, 1]], [512, [45, 50, 53], [5, 2, 1]], [512, [45, 48, 52], [5, 3, 1]]]