

CAS PROJECT: Sheet Music Auto Writer (SMAW)

Initial Brainstorm & Research

- Turn PDF sheet music into midi file / onto Noteflight / onto Musescore
 - Not feasible to learn Python image recognition → should instead just read from comma separated values file
 - Could implement image recognition in the far future
 - Noteflight seems to be the better option over Musescore
 - More user-friendly, I've used it before
 - <https://hollypyszka.wordpress.com/2015/03/16/musescore-vs-noteflight/>
- Look into using Python (not C++ because C++ usually for heavy back-end stuff), connection to website, connection to .csv file
- Noteflight and Musescore API are complex and not fully developed
 - <https://muscore.org/en/handbook/developers-handbook/plugin-development/introduction>
 - https://www.noteflight.com/info/api/client_doc_v2
- Use AutoHotkey to automatically put the music in from (note/length) format to Noteflight
 - No need for API this way & will ensure I will have a product (can implement API to product later on)

Plan

- 1) Learn how to program AHK scripts (could look to [translate](#) to [Python](#) later)
[ScriptingLanguage](#)
- 2) Come up with a method / format of writing sheet music as .csv
 - a) Note pitch + Note length
- 3) Write program to convert .csv to AHK script
 - a) Make a list of needed button presses (array of note pitch, array of note length) → dependent on musescore / noteflight
 - b) Translate each button press into AHK

Additional Features to Implement

- Articulations
- Chords
- Dynamics
- Write program to take user input for notes & convert into .csv

- The following don't have keyboard shortcuts on Noteflight, but I could add a manual aspect to the SMAW
 - Tempo
 - Key signature
 - Time signature

Features To Implement in Far Future

- Link to Noteflight API
- Compatibility w/ Musescore
- Python recognition to recognize sheet music notes