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CPSC5600 – WQ2020

Final Project Proposal

For my final project , I propose to create a single-window desktop application which leverages parallel programming algorithms in multiple parts of its functionality.

First, it allows the user to search directories and their sub directories recursively for MIDI. The user can choose a directory to scan, and the program recursively searches all sub folders for Standard MIDI files by extension (.mid, & .smf).

The program then parses one or more MIDI files into a list of Note Events, and parallel programming is used to creating a single heatmap animation of the note distributions. Additionally, the application could be extended to compare statistical differences in note occurrence frequencies between pieces, if I can develop the comparative mathematical model for this.

The GUI window library and MIDI file parsing utilities will be provided by the JUCE C++ framework, a C++ partially open source library for building audio applications.

<https://github.com/WeAreROLI/JUCE>