NOTE RECOGNITION FOR MUSIC SCORE CREATION
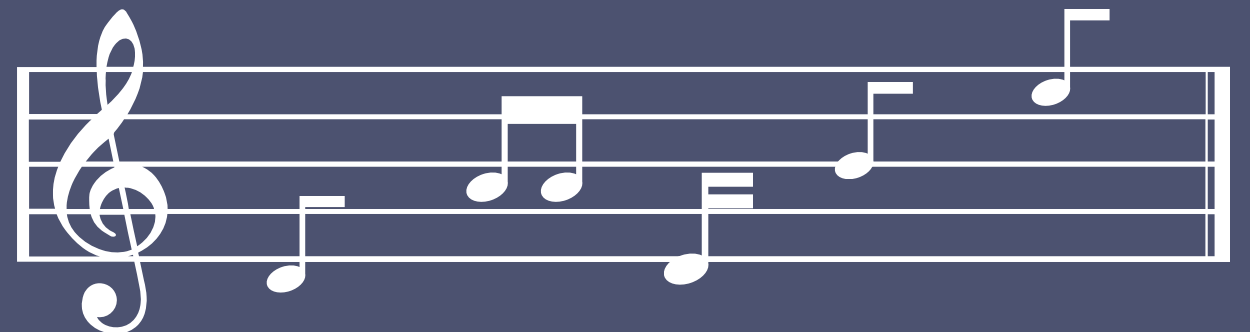
Benoit COEUGNET - Lucas LEBLANC ◆ March 2023

OUR GOAL

From sound...

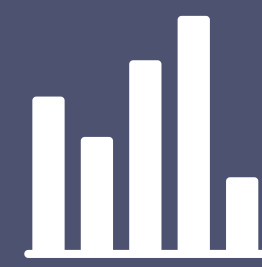... to music score !

Teensy 4.0

ARDUINO

- The Teensy's input is a microphone that picks up the melody being played.

- Then the Teensy uses the Yin algorithm to calculate the output of the signal.

- Finally, the output is the frequency captured, the probability given by the algorithm and the amplitude of the signal. This is sent to the computer via the serial port.
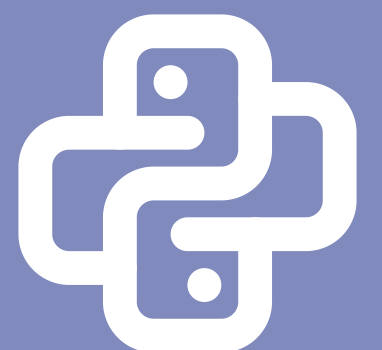
Signal Input

Yin algorithm

Raw Data

Serial Port

Python

- For input, it takes the data sent by the Teensy.

- To create a score, it creates a MusicXML file that can be read by an external application.

- It's necessary to enter the tempo to know what rhythm is being played.
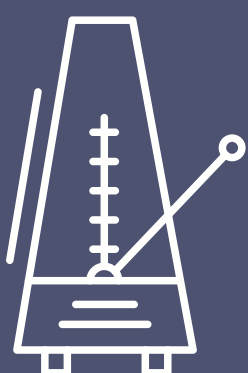
Data processing

MusicXML

Music Score

PERSPECTIVES

Tempo recognition

Multi-instrument

Chords detection