

Title: Automatic Music Transcription

Group members:

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Responsibilities:

	Tasks	Theory & practice	Coding
1	Import and analyse audio signal	YJ	John
2	Onset detection	John	YJ
3	Pitch detection	YJ	John
4	Note display	John	YJ

Context:

People with a good ear for music can listen to a piece of music and write down the corresponding score. They are able to determine both the pitch and the length of the different notes they hear and display them on a score. The time signature can also be guessed by listening to the rhythm and the melody of the music. People familiar with music can feel these tempo variations without giving a rigorous explanation

All these involve the musician's hearing and intuition. Is it possible to do these different tasks in a rigorous way? Can we replace what requires sensitivity and intuition by a theoretical method which would give us the same accuracy in results?

Theory & Practice

- FFT
- DFT
- IFFT
- Hamming windows
- Least squares spectral analysis
- Autocorrelation
- Moving average line
- Anti-aliasing filtering

Objective & Goals:

This project attempts to investigate both the practical and theoretical aspects of automated music transcription. The main objective is to investigate the techniques associated with analysing and processing the audio signal. The other objective of the project is to implement all or at least part of a system which attempts to transcribe a monophonic or polyphonic audio signal.