

CARDIFF UNIVERSITY

CM3106 MULTIMEDIA

MATLAB Interactive Fourier-based Synthesiser

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1 Program Overview

2 Algorithm List and Description

2.1 Compute Fourier

This function computes and shows the short term fourier transform of an audiofile.

The Pseudocode:

- Get short term fourier transform of the audio file
- Convert the complex magnitude of the fourier transform into absolute values
- Show thw output and save to a variable

2.2 Volume Shaping

This function generates a basic volume shaping on an audio file. It does so by generating a graph of a basic ADSR shape.

2.3 Reverb

2.3.1 Reverb Convolution

2.4 Wah Wah

2.5 Ring Modulation

2.6 Phase Vocoder

2.7 Save

2.8 Edit

2.9 Tremolo

2.10 AudioPlayer

2.10.1 Play

2.10.2 Pause

2.10.3 Stop

2.10.4 Record

2.11 Loop

2.12 Reverse

3 Novel Features

3.1 Reverb Convolution

3.2 Record, Loop, Reverse

4 Appendix

[scale=0.6]lena.bmp