Mississippi State University
EE4012: Senior Design

     EE4012 Senior Design is a required course for all students in the Electrical Engineering Department at Mississippi State University. The objective of this class is to help graduating seniors to become familiar with the lifecycle of product design. Upon completion of the project the student will have gained insight in
to the steps necessary to conceptualize, research, develop, and test a product.

Automatic Feedback Detection and Elimination System
Robert M. Brown Jr.

     The main focus of this project is to develop a software based system to detect and remove acoustic feedback from a digital audio signal. This program will process an audio file or a digital audio data stream in real-time, detect acoustical feedback, and filter the feedback out of the signal. The program will be executable from a command line or through its Graphical User Interface. The acoustical feedback will be detected with the use of peak detection in the frequency domain and a notch filter in the time domain.

     The technology developed will be applicable to any computer based digital audio system to improve signal quality, available gain from the system, protect equipment from unnecessary strain, and protect hearing. This system will be able to be used in a compatible computer based system where the user is recording or processing audio files that contain or have the potential to contain feedback.

Online Presentation:

http://www2.msstate.edu/~rmb6/presentation4012/online3/pres_set.htm

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