

Implementation of a Monitoring Tool for the Case of the Speech and Singing Voice

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Abstract

Singing voice is one specific example of vocal sound made by human beings. Singing remains at a stable pitch over time, and professional singers may well be the people who utilise the vocal apparatus most appropriately. If we compare a healthy sustained vowel given by a non-singer to that given by a professional singer, the difference in quality of recording can be seen in the stability of energy, pitch, masses, losses and other parameters of Voice Quality assessment. Using Digital Signal Processing techniques to extract such signals we can ascertain a number of things. Firstly, we can examine what happens to the structure of the vocal folds in intonation, and in particular, which parameters are more pertinent than others in analysis of the system. Secondly, we can attempt to use the results to make statistical studies. The work will provide a tool for the music teachers. This tool will be an interface that will show if a student is singing the good pitch or in order to sing a good pitch he forces his vocal folds. Professional singers can be said to be experts in the field of voice production and any study made on data sets of professionally trained singers may be useful for defining some ideal parameters for voice analysis. We'll pay particular attention to the changes happening due to pitch increase offered by professional singers, we'll extract parameters of Voice Quality assessment and with them we'll make statistical studies in hope that the pertinent parameters can pull out any abnormal samples.