Abstract

Non audible murmur is a body conducted silent speech through which the vocally handicapped can communicate. We propose a method of acquisition of Non Audible Murmur (NAM), (i.e., inaudible speech produced without vibrations of the vocal folds) from the vocally handicapped using the MEMS accelerometer, followed by its de-noising and Statistical Feature Extraction. The murmur is acquired by placing the sensor bonded to the surface of the skin over the soft-cartilage bone behind the ear. The resulting electrical signal is de-noised using Discrete Wavelet Transform (DWT). Statistical Features are extracted from the detailed co-efficients of the de-noised murmur.

References

4. Jim Lambers, 'Introduction to Wavelet Analysis'.
5. Duraisamy Sundararajan, 'Fundamentals of the Discrete Haar Wavelet Transform'

Index Terms

Computer Science  
Control Systems

Keywords
NAM, MEMS accelerometer, DWT, De-noising, Feature Extraction, Vibration sensor.