LungSounds@UA interface and multimedia database

Cátia Pinho[a,b], Daniela Oliveira[a], Ana Oliveira[a], João Dinis[a,b], Alda Marques[a]

[a]School of Health Sciences, University of Aveiro (ESSUA), Portugal
[b]Institute of Electronics and Telematics Engineering of Aveiro (IEETA), Portugal

Abstract

The development of graphical user interfaces (GUIs) has been an emergent demand in the area of healthcare technologies. Specifically for respiratory healthcare there is a lack of tools to produce a complete multimedia database, where respiratory sounds and other clinical data are available in a single repository. This is essential for a complete patient's assessment and management in research/clinical settings. Therefore, this study aimed to develop a usable interface to collect and organise respiratory-related data in a single multimedia database. A GUI, named LungSounds@UA, composed by a multilayer of windows, was developed. The usability of the user-centred interface was as-sessed in a pilot study and in an evaluation session. The users testified the utility of the application and its great potential for research/clinical settings. However, some drawbacks were identified, such as a certain difficulty to intuitively navigate in the great amount of the available information, which will inform future developments.

Keywords: respiratory sounds; respiratory parameters; graphical user interface (GUI); multimedia database.

Measure and Comparison of Speech Pause Duration in Subjects with Disfluency Speech

João Paulo Teixeira, Maria Goreti Fernandes, Rita Alexandra Costa

Politechnic Institute of Bragança, Apartado 1134, Portugal

Abstract

This work has the goal of comparing the pause duration in the disfluency speech and normal speech. Disfluency and normal spontaneous speech was recorded in a context were the subjects had to describe a scene from each other. The pause determination algorithm was developed. The automatic pause determinations allowed the measure of percentage of silence along the record of several minutes of speech. As expected these parameters is rather different in subjects with and without disfluency speech, but it do not seems that it is proportional to the severity of the disfluency.

Keywords: Speech Pause Duration Measurement; Disfluency Speech