

Partners



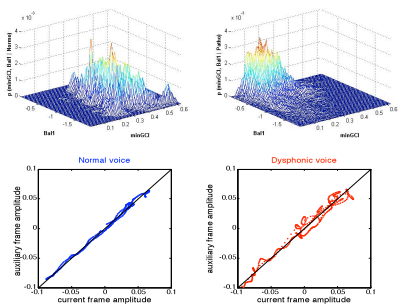
Goals of the project

- Detection of dysperiodicities in sustained vowels and connected speech
- Development of a clinical station including
 - Assessment of vocal disorder in sustained vowel or connected speech for normophonic or dysphonic speakers
 - Multimodal analysis of the vibration of vocal folds
- Development of an embedded monitoring system

Several aspects of the project

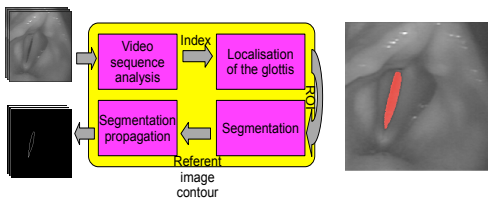
Research

Speech



[1]
[2]

Image



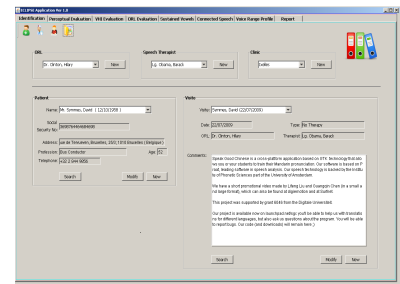
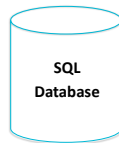
[3]

Clinical research

- **Collection of a database including normophonic and dysphonic speakers (speech and image)**
- **Benefit of using a high-speed camera in clinical evaluation** [4]
- **Voice Handicap Index for the singers** [5]

Prototypes

Clinical station [6]



Embedded monitoring device

- **Recording of the voice in real conditions of production (ex: teacher, lawyer, singer)**
- **Recording of the pain sensation via the interaction between the user and the device**
- **Connection between the portable device and the clinical station**



[1] T. Drugman, T. Dubuisson, T. Dutoit, « On the mutual information between source and filter contributions for voice pathology detection », Proc. of Interspeech 2009, 2009
 [2] A. Alpan, A. Kacha, F. Grenez, J. Schoentgen, « Assessment of vocal dysperiodicities in connected disordered speech », Proc. of Interspeech 2007, 2007
 [3] J. Demeyer, T. Dubuisson, T. Dutoit, B. Gosselin, M. Remacle, « Glottis segmentation with a high-speed glottology: a fully automatic method », Proc. of AVFA 09, 2009

[4] M. Remacle, I. Verduyck, G. Lawson, "Contribution of High-Speed Imaging in Comparison with Stroboscopy in Daily Clinic Practice », Proc. of American Laryngological Association, Combined Otolaryngology Spring Meeting, 2009.
 [5] A. Lamarche, J. Westerlund, I. Verduyck, S. Ternström, "The Swedish version of the Voice Handicap Index adapted for Singers". Logopedics, Phoniatrics, Vocology, 2009
 [6] J. Cai, A. Alpan, T. Dubuisson, I. Verduyck, F. Grenez, J. Schoentgen, « A clinical workstation software for voice quality assessment », Proc. of MAVEBA 09, 2009