

FCT project “Assistive Real-Time Technology in Singing”

(PTDC/SAU-BEB/104995/2008)

(<http://gnomo.fe.up.pt/~voicestudies/artts/>)

Project meeting on Monday 16th 2012

(Room I-105, FEUP –Faculdade de Engenharia da Universidade do Porto, Rua Dr. Roberto Frias, s/n, 4200-465 Porto)

Morning: 10:00 – 11:00 (open to all those interested)

Seminar by Prof. Sten Ternström, Department of Speech, Music and Hearing, KTH - Royal Institute of Technology, Stockholm, Sweden

Title:

Singing Voice: I see the sounds - but what do they mean?

Abstract:

Several interactive voice visualisation systems for use in the singing studio are commercially available today. While each system has a distinctive look, and perhaps a few unique features, they all display rather direct transforms of the voice signal, such as fundamental frequency, spectra and spectrograms. This means that the teacher and student need to learn to interpret data from an essentially acoustic domain, and to apply that information within the context of vocal performance. The learning curve here is steep. In order to embody more knowledge of singing into such visualisation systems, progress would be needed on the classical, general problem of inversion, that is, deducing what the voice organ is doing from signals that are obtainable from outside of the body. Such progress hinges on more detailed knowledge of voice production, and would find numerous applications also outside of the singing studio. This seminar takes an inventory of the known obstacles to inversion, as an inspiring challenge to would-be developers, teachers and students. A few systems will be demonstrated live.

CV: <http://www.speech.kth.se/~sten/>

Afternoon: 14:30 – 17:20 (open to all those interested)

Short presentations/demonstrations (15 minutes + 5 minutes Q&A) describing the most recent results of the different tasks of the project.

14:30

João Terleira and Vitor Almeida, “Perceptual parameters and acoustic features of singing voices”

14:50

Tiago Campos and Ricardo Sousa , “Improvement of the SingingStudio pitch estimation algorithm (searchtonal)”

15:10

José Ventura, “Vibrato estimation in singing”

15:30

Ricardo Sousa, “Vibrato Analysis Interface”

15:50

Tiago Campos, “Improvement of the SingingStudio GUI interface for touch-screen interactivity”

16:10

Miguel Garcia, “Singing to music score transcription”

16:30 Coffee break

16:40

Sandra Dias and Aníbal Ferreira, “Steps towards a frequency-domain approach to glottal inverse filtering”

17:00

Nuno Fonseca, “Singing Voice Resynthesis”

Afternoon: 17:20 – 18:00 (private meeting, same room)

- Main conclusions
- Administrative matters
- Planning ahead