



International Conference on Computational Processing of Portuguese Language
Applications of Portuguese Speech and Language Technologies

Applications of Portuguese Speech and Language Technologies - Propor 2008 Special Session

Hosted by:



Universidade de Aveiro

Promoted by:



**Microsoft Language
Development Center**

Propor 2008 Special Session Committee

Special Session Chair

- **António Teixeira** - DETI/IEETA, Universidade de Aveiro, Portugal

Organising Committee

- **Daniela Braga**, Microsoft Language Development Center, Portugal
- **Miguel Sales Dias**, Microsoft Language Development Center, Portugal
- **António Teixeira** - DETI/IEETA, Universidade de Aveiro, Portugal

Programme Committee

- **António Teixeira** - DETI/IEETA, Universidade de Aveiro, Portugal
- **Daniela Braga**, Microsoft Language Development Center, Portugal
- **Vera Strube de Lima**, Pontifícia Universidade Católica do Rio Grande do Sul, Brasil
- **Luís Caldas de Oliveira**, INESC-ID/IST, Portugal

Editorial Board

- **Daniela Braga**, Microsoft Language Development Center, Portugal
- **Miguel Sales Dias**, Microsoft Language Development Center, Portugal
- **Luanda Braga Batista**, Microsoft Language Development Center, Portugal

VIOLETA AND VICENTE A 3D ANIMATED AGENT FOR HUMAN-MACHINE INTERACTIONS

Márcio Viveiros and Sérgio Paulo

L2F - Spoken Language Systems Laboratory, INESC ID Lisboa
Instituto Superior Técnico / Technical University of Lisbon
VOICEINTERACTION

R. Alves Redol, 9, 1000-029 Lisboa, Portugal
<http://www.l2f.inesc-id.pt/>

Marcio.Viveiros@voiceinteraction.pt and sergio.paulo@voiceinteraction.pt



It is commonly accepted that, while speech plays an important role within human communication, facial expressions, gestures and body movements convey a great deal of information, too.

Violeta and Vicente are a 3D audiovisual animated agents developed by VOICEINTERACTION to improve the naturalness of human-machine interactions. They are capable of producing very natural realizations of the user-provided texts. While speech is a major component of Violeta and Vicente's communication skills, they permits non-verbal communication to be exploited, too. In fact, they can produce the utterances with multiple facial expressions or head movements, providing some insight into the system's state, "agent" emotions, thoughts, wishes, etc.

Violeta and Vicente makes use of the DIXI Speech Synthesis System to generate the acoustic signal, the phonetic segment sequence and the respective time boundaries, which are subsequently provided to the speech-synchronized lip movement generation routines.

Combined with the time marks provided by DIXI the FACE system, a 3D face animation software, provided lips movements synchronized with the produced speech. Additionally Violeta and Vicente are able to express visually movements and emotions as blinking eyes and head movements.