

Assignment # 2: Interaction using speech

Goal: Use of current speech processing technologies in the interaction of an application.

This work aims to **use of speech-based input and output** to control and observe an existing application. It is not required to develop a new application (for instance, a game) but instead the work should be focused on the creation of interaction with the application.

Several existing applications can be used, as long as they allow an external programmable control (for instance, the multimedia application VLC) or provide an API easy to use.

The requirements for this assignment are the following:

1. Microsoft Windows based development.
2. Use of base system available in Elearning (recognition and synthesis).
3. Use of a NLU.
4. Use IEETA Multimodal Framework.
5. Use of spoken **Portuguese**¹ in the interaction.
6. Regarding input, it should be possible to control a set of functionalities never less than 10, and the commands should consist of a phrase (instead of a single word).
7. Speech synthesis should be used in situations considered appropriate, in more than one case. It should not be continuously used for all output.
8. Adequate feedback must be provided to users.
9. Work in groups of 2.

Examples of applications to consider:

1. Social networks (ex: Facebook)
2. Browsers (ex: Firefox)
3. VLC (www.videolan.org/vlc)
4. Games (ex: Sudoku, Chess, Poker)

As in the first assignment, the student can make its own choice of the application to use. It is required that the choice is communicated by email to ajst@ua.pt (deadline to be defined).

Deadline: 10 November (EOD)

The assignment must be submitted by email and should contain:

- A link for a zip file containing source code (including Visual Studio project) plus a short document with the description of the functionalities of the developed interaction, usage instructions, an explanation for the choice of the options and solutions adapted to speech technologies (e.g.: the selection of implemented commands, developed grammars ...) and used references (books, articles, manuals, links, PPTs...)

¹ Erasmus students must adopt their native language