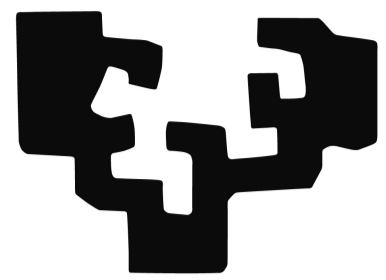


Dialogue system based on EDECÁN architecture

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Main Goals

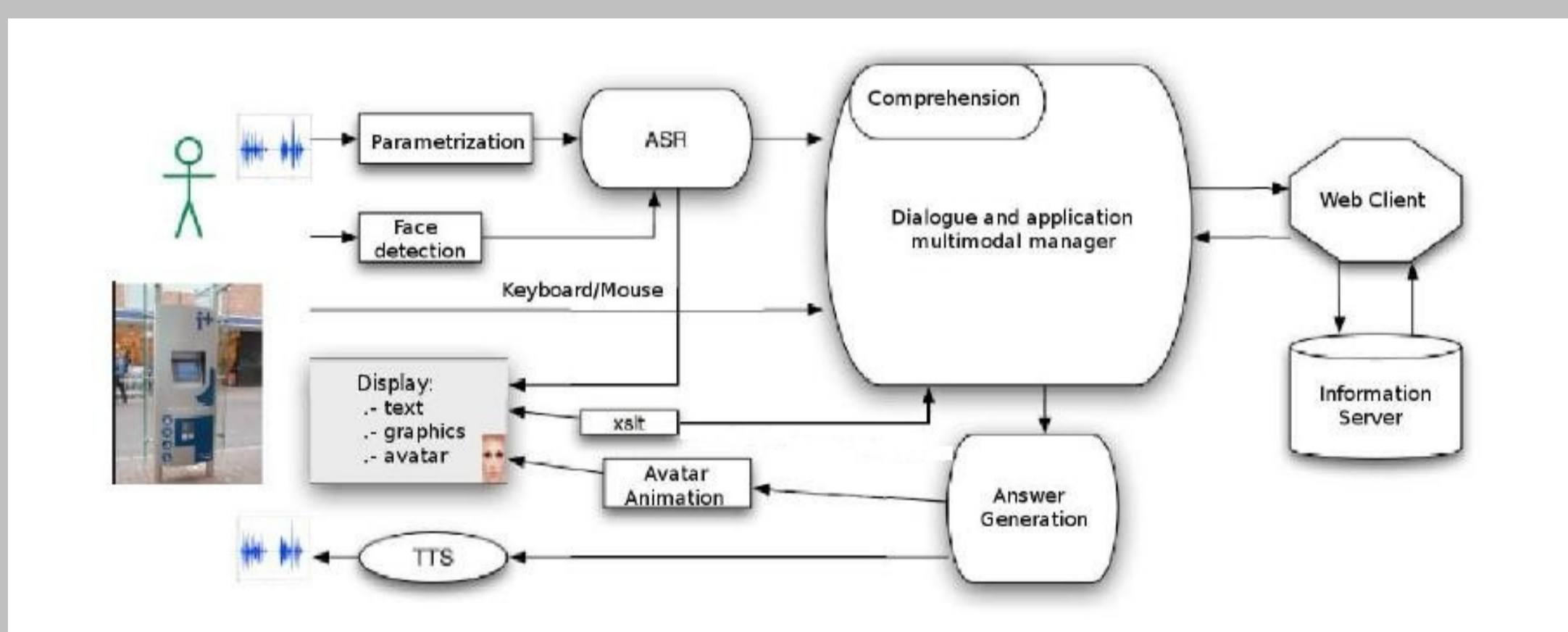
- Provide meteorological information from different cities of the Spanish territory.
- Provide access to news from different online editions of newspapers.
- Dialogue system for the company Softec-Ibermática.

Features

- Input devices: keyboard, mouse, microphone and web-cam.
- Output devices: screen and loudspeakers.
- Multimodal interaction allows the effective use by people with disabilities .

System description

Modules developed under EDECÁN architecture specifications.



Face detection module:

- ▶ Activates the system.
- ▶ The system is idle if not detected the presence of a user.

ASR module:

- ▶ Given an acoustic signal, provides the most likely sequence of words.
- ▶ Developed by "Universidad del Pais Vasco".
- ▶ Uses:
 - Acoustic models: Continuous Hidden Markov Models.
 - Language models: Finite state grammars.

Comprehension module:

- ▶ Gets the conceptual information of the sequence of words obtained.
- ▶ Transforms the sequence of words obtained from the ASR into semantic units with information on the task at hand.

Text to speech (TTS) module:

- ▶ Goal: Generate an acoustic signal from a sequence of input words.
- ▶ Loquendo and loudspeakers.

Dialogue manager module:

- ▶ Decides the strategy to follow, according to the semantic information given by the understanding module.
- ▶ Gives way to the system and user.
- ▶ Tries to fulfill the task in the minimum number of iterations.

Web Client module:

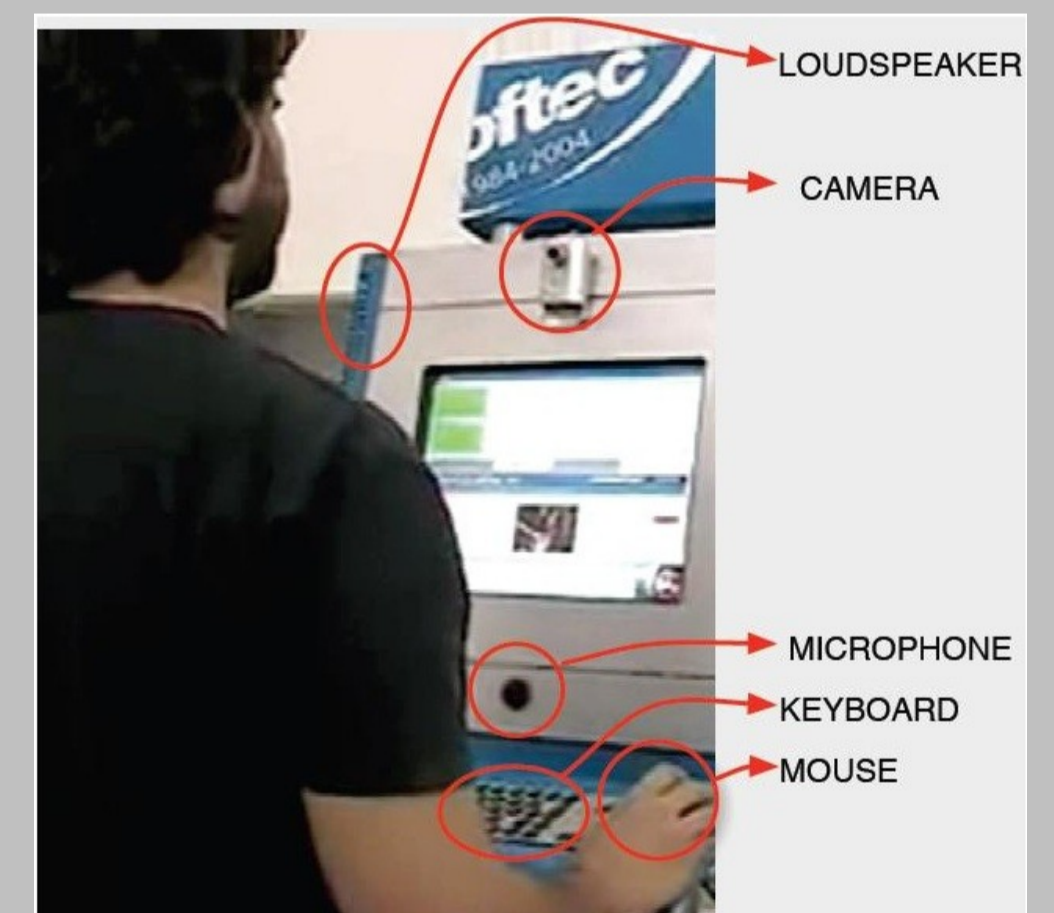
- ▶ Gets the requested information.
- ▶ Download the information in XML format.

XSLT module:

- ▶ Converts the information in XML format to HTML format.

Display module:

- ▶ Shows the user:
 - Requested information.
 - Face detector state.
 - Recognized text.
 - Avatar.



Future work

Prototype allowing interaction via web, to access this information from any computer.

References

- ▶ Lleida, et al.: "EDECÁN: sistEma de Diálogo multidominio con adaptación al contExto aCústico y de AplicaciÓN". IV Jornadas en Tecnología del Habla, Zaragoza, Spain, November, 2006.
- ▶ García, et al.: "Arquitectura distribuida para el desarrollo de sistemas de diálogo hablado, EDECÁN". V Jornadas en Tecnología del Habla, Bilbao, Spain, November, 2008.
- ▶ EDECÁN Project, <http://www.edecan.es>.