



Auto-adaptive Multimedia Environment
Based on Intelligent Collaborating Agents

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AMEBICA

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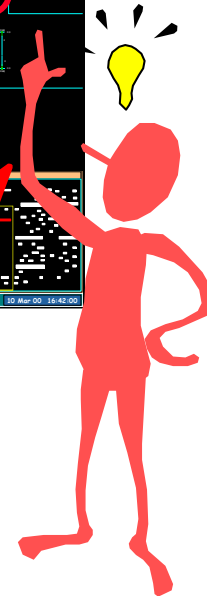
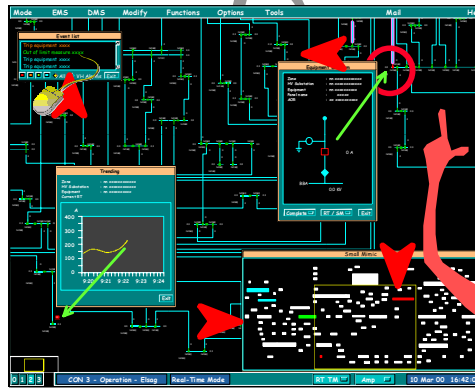
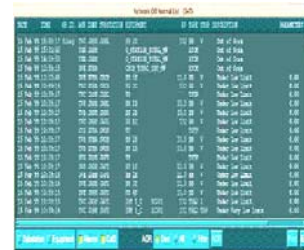
OBJECTIVES

AMEBICA, Auto Adaptive Multimedia Environment Based on Intelligent Agents, is an European project aiming at investigating the conceptual and technological foundation for Auto-Adaptive Multimedia Interfaces (AAMI) and to develop a application framework based on Multi Agent paradigm, to be applied in the industrial process control and supervision domain.

The use of this technology will both speed up the design and the implementation of satisfactory multimedia human-centred interfaces and significantly enhances their usability.

The operator interfaces commonly used in industrial process control applications provide no means to control the flow and form of information arrival during operation and only limited means to determine where the information is displayed.

This interface rigidity is a serious drawback, which implies that the flexibility required to deal with difficult situations must be provided by the operators alone.

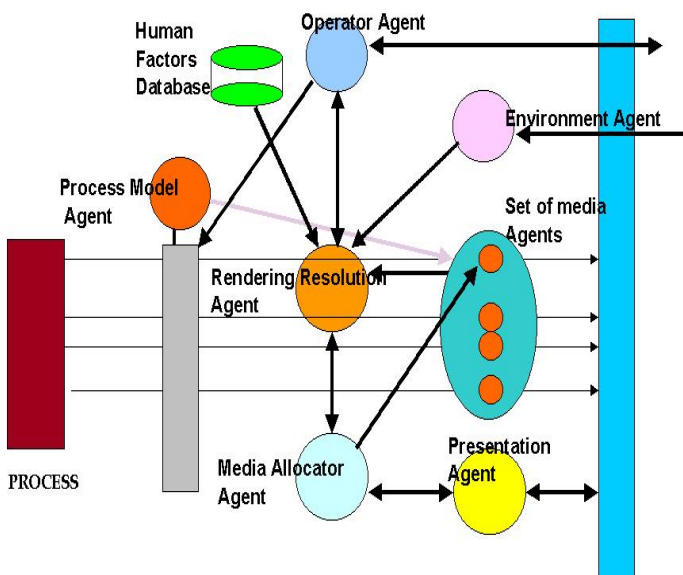


Based on the Multi-Agent Architecture paradigm and integrating different Media Channels, AMEBICA intends to provide a solution to these problems by designing, developing, and validating a multi-agent object-oriented framework for the development of Auto-Adaptive Multimedia Interface systems. The interfaces of such systems will be the result of a negotiation between human wishes and machine during operation.

They will filter information according to criteria such as urgency or media vector, and ensure that the main presentation parameters of form, location, and modality correspond to the contents and nature of the information. Each actor that participates in the negotiation (the user, a particular medium, a particular signal from the on-going industrial application) will be represented and supported by a software agent. The total system intelligence will be the result of the collective intelligence and communication capacities of the agents.

In order to quantify the benefits of the AAMI approach and the resulting framework in industrial supervision centres, AMEBICA considers two industrial applications which will be developed on the basis of a simulation of existing industrial system interfaces.

These applications will refer to the Electrical Network Management (with Elsig Bailey) and to the Thermal Plant Supervision domain (with Iberdrola).



The project will deliver the following main results:

- an object oriented framework for AAMI (classes and development environment) along with its supporting methodological guidelines;
- two simulated industrial applications in different fields and a thorough evaluation of their usability;
- an evaluation of the potential industrial impact of the new technology and business plans for its exploitation in industrial environments.