

## The Consortium

- Centre for Research and Technology Hellas (CERTH) - Greece
- Tech@Spree GmbH - Germany
- University of Twente (UT) - Netherlands
- M-BIS GmbH - Germany
- Middle East Technical University (METU) - Turkey
- ALTEC SA - Greece
- AMADEE AG - Germany
- IDI EIKON S.L. - Spain



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For more information and related publications  
visit our web site:

<http://agentacademy.iti.gr>



# Agent Academy

A Data Mining Framework for  
Training Intelligent Agents

2001-2003



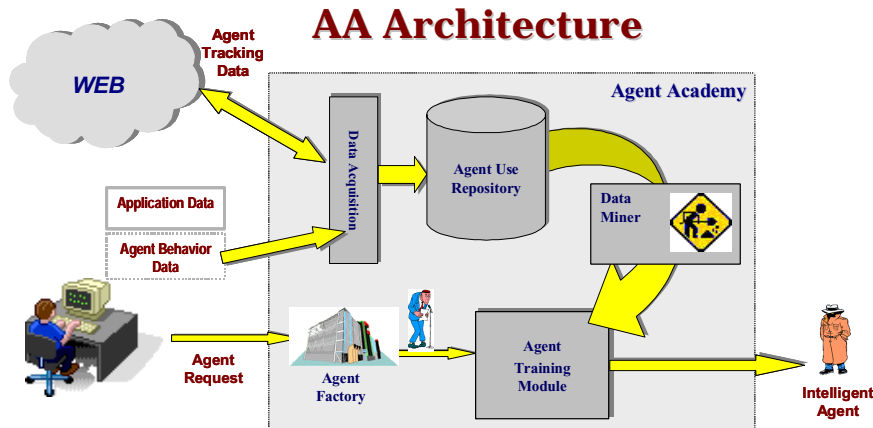
IST-2000-31050

## AA Main Objective

The development of an integrated environment for **embedding** and **improving intelligence** in newly created agents through the use of **Data Mining techniques** performed on data derived from monitoring agent data and agent behavior.

Agent Academy (AA) is a training facility that supports:

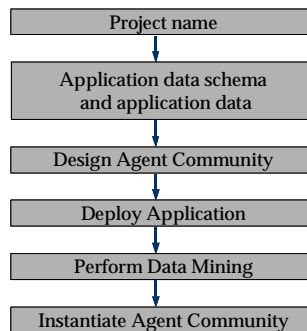
- the creation of agents with limited initial referencing capabilities, and
- the training of these agents in order to augment their intelligence efficiently, according to user specifications and preferences.



## AA Architecture

## Creating an application with AA

- The project name, along with the application schema and data are stored into the Agent Use Repository (AUR)
- By the use of Agent Factory (AF), the agent community is designed, ontologies are created and agent behavior is specified
- Data Miner (DM) is used for performing data mining on data extracted from the AUR
- The extracted knowledge is sent to the Agent Training Module (ATM), in order to embed it into the newly created by the AF, agents.
- Finally, the MAS is instantiated



## AA vision

Using Agent Academy and its data-mining capabilities, software companies can reduce the effort required to:

- Develop new applications with intelligent agents, and
- Upgrade them, as needed, by retraining the agents deployed

## Technologies adopted...

JADE platform ⇒ for agent creation

JESS engine ⇒ for rule generation

Protégé ⇒ for ontology design and specification

WEKA data mining tool ⇒ for knowledge extraction

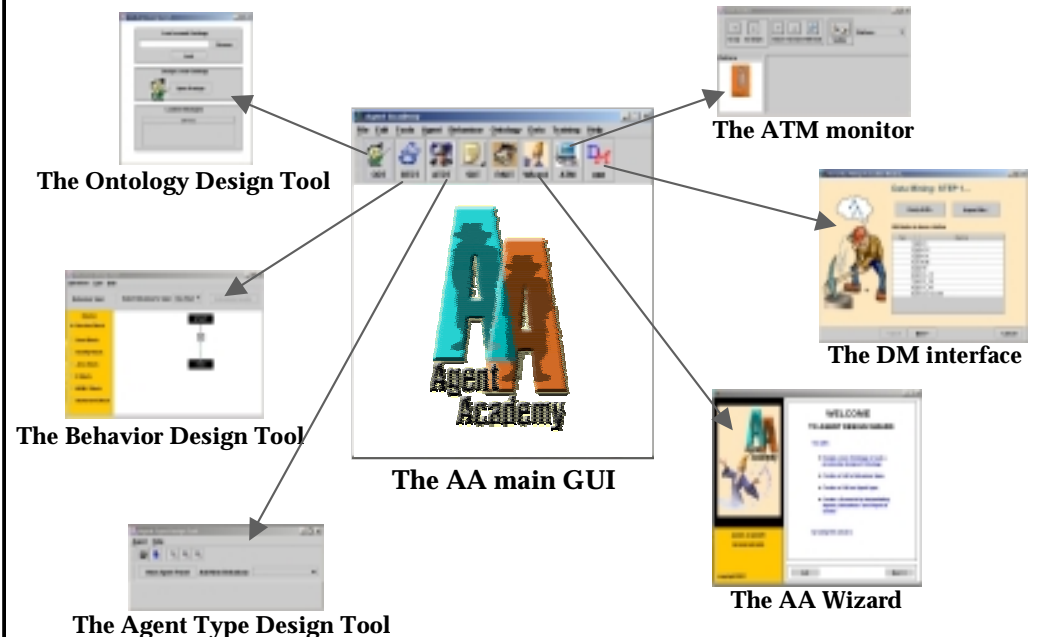
XML ⇒ for internal data exchange

PMML ⇒ for knowledge model representation

PostgreSQL RDBMS ⇒ for data and meta-data storage

JMI ⇒ for meta-repository implementation

## The working prototype...



## Three test cases

- Intelligent Recommendation Policy on Supply Chain Management (ALTEC)
- Real-time monitoring and assessment of environmental measurements (IDI-EIKON)
  - Web-based Distributed Service Management (AMADEE)