

## CASSANDRA

...an Assistant for System Specification AND Requirements Analysis

### The Problem

The world still lacks good project professionals. By means of training and external consultants, companies try to tackle this problem as far as possible. However, the problem is still not really solved...

### The Idea



Today's software technology is able to automate even very complex tasks. Why should it not be possible to automate tasks of the development process that needed to be done manually so far?

Here starts **our vision**: a computer-based tool that actively supports its users in applying software engineering principles and helps them to deliver high quality and mission-critical IT solutions on time and on budget.

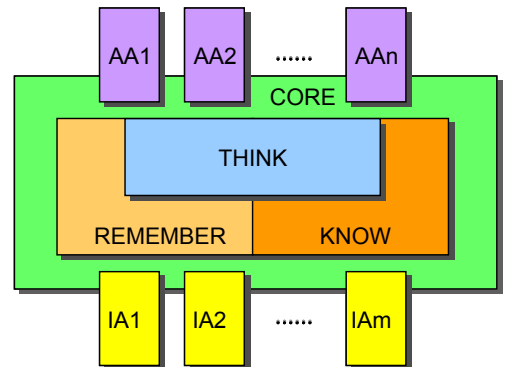
### The Result

Hello, I'm Peedy, the personal assistant of CASSANDRA!



CASSANDRA is a software engineering research project developed at KnowGravity Inc. in Zürich, Switzerland. It is an assistant that guides the users through the process. It analyzes project information held in one of many familiar UML® based CASE tools and derives issues to be clarified or suggests the next steps to be done in the project. The following picture gives a quick overview of the main components in CASSANDRA's anatomy:

- **CORE**: Provides basic functionality such as I/O (including GUI, speech, XML- and multi language support), persistency, personalization, licensing, etc.
- **REMEMBER**: An active declarative database acting as a common repository for all project information based on the UML meta model.
- **THINK**: A rule-based inference engine to generate suggestions based on project information with the capability of explaining those suggestions and findings.  
THINK is also able to deal with uncertain knowledge.
- **KNOW**: Common sense in the form of a "domain object model of the world" consisting of about 70'000 classes including their definitions, inheritance hierarchies and associations.
- **Interface Agents (IA1...IAN)**: Multiple Interface Agents to support various CASE tools for bi-directional information exchange and "remote control" of those tools.
- **Application Agents (AA1...AAn)**: Application Agents that actually provide CASSANDRA's (hopefully) valuable services to the users by applying dedicated software engineering know how.



CASSANDRA is capable of applying know how directly in a specific project situation even using natural language. CASSANDRA is able to deal with several CASE tools.

**Agent Modules**

Consultants from KnowGravity Inc. have started to systematically transfer their software engineering know how into CASSANDRA Agent Modules. So far, the following Agent Modules are publicly available:

- xUML: Executable UML (Simulation)
- Effort estimation for IT projects
- Review of use case models
- Review of domain object models
- Design of a data warehouse
- Extension of domain object models
- Semantics lexicon

More modules will follow soon. Furthermore, it is possible to develop customer-specific Agent Modules to support for example company-specific development processes or modeling conventions very quickly (typically within a few days).

**Supported CASE Tools**

Currently the following CASE tool interfaces for CASSANDRA are available:

- ARTISAN Studio
- Rational Rose
- Select Component Architect

Further CASE tools may be supported on request.

**Availability**

CASSANDRA can be downloaded from our web site <http://www.knowgravity.com> free of charge. To actually run CASSANDRA, a license key is needed that can also be requested directly from our web site at no cost.

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