

Comparative study of four UML based CASE tools

Dan Laurentiu Jisa

CASE tools (Computer Aided Software Engineering) represent those applications supporting analysts, designers, programmers, testing teams, to analyze, design, implement (at least partially) modify (expand), build, respectively tests software applications. The problem is how to choose a CASE tools for the development of an information system. To make the objective choice a significant set of criteria to be used for the evaluation (assessment) should be previously established. The instrument evaluation criteria can be divided into criteria depending on the modeling language and criteria independent of the modeling language. This paper analyses the Rational Rose v2001A, Microsoft Visio 2000, OpenTools and MagicDraw 5.0 instruments, taking into consideration the criteria belonging to both categories. The above mentioned tools were selected from the multitude of the existing CASE tools, mainly taking into consideration the support offered to the modeling language (UML), the quality of the graphical interface (also including the support offered for the model navigation), the programming language and the technologies for which is generated code, the platform enabling the instrument operation (except Visio 2000, all the others are available both for UNIX and Windows platforms). The criteria utilized for the tools comparison are the following:

- a) Included in the categories depending on language:
 - Support offered for the modeling language;
 - Support for formal text annotations;
 - Maintaining consistency between diagrams;
- b) Included in the categories that are independent of the modeling language:
 - Support for model navigation;
 - Forward engineering;
 - Reverse engineering and Round Trip Engineering;
 - Support for data modeling;
 - Support for component modeling;
 - Reusability support;
 - Design pattern support;
 - Project documentation support;
 - Exchange with other instruments;
 - Integration with other development instruments;
 - Support to team work.