ARIS UML Designer

Many software projects go over budget or fail due to a lack of consistency in the software development process. One major reason for this is the discrepancy between the attitudes, methods and tools of the technical and implementation departments. ARIS UML Designer is a tool that overcomes this discrepancy on a methodical and functional level. Technical requirements are converted into the standard modeling language UML, thus guaranteeing consistent, object-oriented modeling of all program functionalities.

Integrated software development

Only the linking of process models with technological models (UML) ensures that the creation of software comprehensively covers all technical requirements. Requirements that are changed as a result of business process optimization can quickly be converted into use cases and used to structure the software project. Since ARIS UML Designer uses the same repository as ARIS Process Platform, UML modelers can access the process modeler's data directly. Furthermore, Web-based technology allows multiple users at different locations to process the same data with both ARIS UML Designer and ARIS Web Business Designer or ARIS Business Architect. This guarantees optimum support for software development projects, e.g. in the areas of interface provision, security and scalability. Together with the consistent transfer and merging of data, this enables business supported, object-oriented software development. Adaptations can be made directly in the model and do not require labor-intensive changes to the code. At the same time ARIS UML Designer prevents redundant data retention even in different projects, since the same objects and contents are reused in different models.
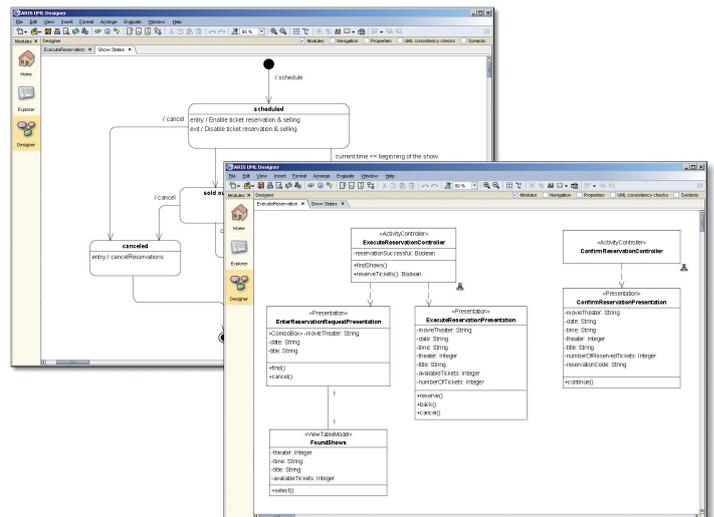
Quality assurance through online consistency checks

If code is to be generated automatically from UML models, error-free modeling is imperative. ARIS UML Designer ensures high quality without errors in two ways. Firstly, the creation of a diagram is supported by dialog-controlled structure modeling. This ensures a high degree of consistency even in the creation phase. It is also possible to generate new models from existing models automatically with semantic transformations.

Secondly, ARIS UML Designer has an online consistency check. This active modeling monitoring detects syntactical and structural modeling errors. The fact that executability is assured in advance significantly shortens the implementation phases. The tested models can then be transferred from ARIS to CASE tools via XMI (XML Metadata Interchange), so that they can be used to automatically generate program code. Preset profiles for OMG Standard, Borland Together and Rational XDE are included in the package, and users can also create new profiles for utmost flexibility in exchanging their data. In this way, they can transform models into executable code with no loss of information and can also quickly carry out a re-implementation without loss of data after any changes. The XMI interface's high error tolerance further facilitates the exchange of data.

Pure UML

It is not uncommon that UML modeling tools provide only a limited set of models and objects, or reflect a modeling result that is at variance with the UML standard. This is hardly ideal for software development projects.

In contrast, ARIS UML Designer takes into account all diagrams included in UML Version 1.4:

- ▸ UML Activity diagram
- ▸ UML Class diagram
- ▸ UML Collaboration diagram
- ▸ UML Component diagram
- ▸ UML Deployment diagram
- ▸ UML Statechart diagram
- ▸ UML Use case diagram
- ▸ UML Sequence diagram

Unlike other UML modeling tools, ARIS UML Designer provides complete support for the software development process, which means that no exceptional procedures are necessary.

With ARIS UML Designer, the project staff, process modelers and UML modelers do not need any additional programs. Data access to process models and the UML contents is provided by a web browser, which provides optimal support for processing and change management in a multi-user environment. Excellent support is also provided for modeling projects that are distributed among several countries, with multi-language functionality and extensive reporting and Web publishing capabilities.

Groundbreaking software processes

Software development is only efficient if all phases of the development process are performed smoothly and efficiently. In order to achieve this, everyone involved must be informed as completely as possible about the necessary processes. ARIS Software Engineering Scout provides a detailed procedural model for optimum support of object-oriented development projects, which also contains information about the conventions to be taken into account in UML and process modeling. The procedural model guides you step by step through the iterative, model-supported development process.

Based on extensive practical experience, it offers concrete instructions for action – from the use of process and UML models with ARIS to actual implementation steps and tools for all project participants. All supporting ARIS functionalities are explained in detail.

ARIS Software Engineering Scout thus serves as a guide to process- and object-oriented software development with ARIS and UML..