

RAT - AUTHORIZING TOOL

For the SES ENGINEERING Studio



A SMARTER WAY TO AUTHOR ENGINEERING ITEMS



ABOUT

Authors of engineering items (requirements, models, architectures, test cases, manuals, risks, etc.) must know what structures to follow, which terms to use, the expected quality policies or checklists to comply with, the level of consistency with other requirements or models... Therefore, writing new requirements or models can sometimes lead to writer's block.

RAT - AUTHORIZING TOOL is the ideal way to help engineers create different types of artifacts. It helps authors during the demanding process of composing requirement statements or other documentation, hence improving the overall quality of the projects.

RAT - AUTHORIZING Tool is the perfect assistant for system analysts/engineers when writing the system documentation or creating models. RAT leads engineers with a set of agreed-upon patterns, suggests the most suitable content for each piece of written information and always ensures the right grammar. RAT also provides a real-time quality checking of the elements that are being created. Therefore, RAT frees engineers from format concerns (e.g. structure of requirements) allowing them to focus on the engineering decisions: that is, engineers and RAT tool teaming up to improve the overall quality of the projects.



QUALITY

RAT - AUTHORIZING Tool provides real-time quality guidelines when creating new engineering items. Best practices, checklists or rules are now closer to engineers in systems engineering projects.



TIME

The concept "Get it right the first time" can now be applied to requirements, test cases and other document writings... RAT allows a significant reduction of verification loops at different levels (Stakeholder, System, subsystem, component).



MONEY

Focusing on requirements quality from the very beginning helps reducing rework and subsequent costs.

REAL-TIME QUALITY CHECKING

Based on the catalog of rules and metrics established using the RQA - Quality Management Capability (INCOSE, NASA, ECSS...)

PATTERN-BASED WRITING

To choose a particular pattern from a library of patterns (EARS patterns, Sophist, ECSS...) and easily follow the different blocks conforming to a well-formed requirement of the selected type.

CONNECTION TO THE CONTROLLED VOCABULARY

Either managed in KM or using the concepts that you've established in your models

CONSISTENCY CHECK

To ensure, in real-time, that your requirement is consistent with other requirements in the same document or even with your models

DETECTION OF OVERLAPPED REQUIREMENTS

With the help of our semantic engine, find similar requirements within the same document

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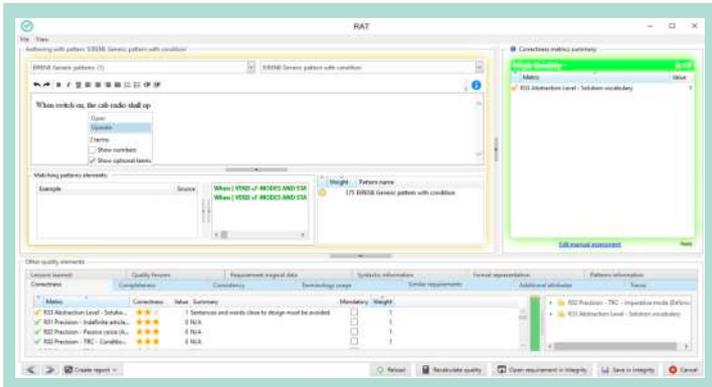
For a **textual artifact**, once a pattern has been selected, RAT shows its structure, its description and examples of how it should be used. Authors just need to select the right terms and semantics from a controlled vocabulary which is suggested while typing, thus ensuring that the developed requirement, or other artifact, has followed the right grammar and it provides the proper information.

RAT implements a smart way of writing – a technique that guides authors while writing – thus providing an accurate way of creating consistent requirements and speeding up system documentation writing.

Applying this methodology to document requirements provides several benefits:

- Both humans and computers will read and understand textual artifacts more easily without ambiguity (Correctness).
- The system asset includes all the required information (Completeness).
- A Semantic Engine “understands” the information stated in a single way (Reuse and Formalization).
- The chances of finding coupled or inconsistent content are increased (Consistency).
- Homogeneous vocabulary and grammar across multiple documents improve the consistency of the whole project (**System Consistency**).

The information reported by RAT includes out-of-the-box quality metrics for the detection of inconsistency, ambiguity, duplicated items. The real-time quality assessment, as well as the IntelliSense ® writing assistant, are both included as plug-ins on top of some of the most widely used tools for requirements management, risk or testcase management, modelling tools, simulation tools...



MEASURE THE QUALITY OF REQUIREMENTS, MODELS AND ARTIFACTS IN REAL-TIME

RAT - AUTHORIZING Tool provides a quality report (based on the rules and metrics assigned in the QUALITY Management Capability of the **SES ENGINEERING Studio**) in real-time and highlights defects in the requirement. This reduces the time needed for quality inspection, peer-review, double checking, to assess the quality of assets manually, while boosting the quality of engineering items.

All the patterns offered by RAT - AUTHORIZING Tool and all the quality metrics checked must be previously defined in **RQA - QUALITY Management Capability** of the **SES ENGINEERING Studio**), ensuring that all the authors, who are collaborating on the same document or model, follow the same rules.

RAT can also warn users, in real-time, about the lack of consistency between the current engineering item and others in the same document/project, and even between different types of engineering items.

INTEGRATION

Plug-ins to some of the most widely used tools in a system engineering project: IBM Engineering Requirements Management, PTC Windchill, Capella, IBM Rhapsody, 3DEXPERIENCE or MS Office.

PATTERNS CUSTOMIZATION

RAT - AUTHORIZING Tool uses a customizable set of textual patterns, which can be easily tailored and managed using the KM - KNOWLEDGE Manager; these patterns are immediately available in RAT.

RAT - AUTHORIZING Tool users can benefit from an easy-to-use feature to suggest new patterns or suggest changes to the existing ones. The tool notifies the knowledge architects, who may accept or reject the suggested changes in the Knowledge Base, all of this using **KM - KNOWLEDGE Management** tool.

REQUIREMENTS AUTHORIZING WITHIN MODELS

When RAT - AUTHORIZING Tool is used inside a modelling tool (Capella for example) its advantages increase: You can write requirements conforming the name conventions of the different model elements, generate automatically links between model elements and requirements, and you can synchronize the requirements with the RMS in the market (IBM Engineering Requirements Management DOORS etc.)

AUTOMATIC IMPORT/EXPORT BETWEEN DIFFERENT SUPPORTED ENVIRONMENTS

RAT - AUTHORIZING Tool provides a round-trip mechanism that allows a seamless transfer of engineering items among various tools. To interoperate between different sources of information, e.g. requirements and models, it implements new OSLC specifications making it possible to exchange and share information regardless of its format or the tools used to create and manage it.

SEMANTIC SEARCH FOR CONSISTENCY CHECKING AND REUSE

RAT - AUTHORIZING Tool includes a semantic search engine that identifies the elements that are similar to the one being created/edited. This allows the reuse of elements, the identification of overlapped or inconsistent content...

RAT - AUTHORIZING TOOLS BUILT IN YOUR ASSETS DEVELOPMENT ENVIRONMENTS

RAT - AUTHORIZING Tool is able to connect to more than 25 of the most common tools used to develop system documents, specifications, models and many more are yet to come! RAT - AUTHORIZING Tool users can even develop their own new connectors to connect different tools with our APIs.

The connectors of RAT are detailed in the flyer of the RQA - QUALITY Management Capability.

Besides, RAT - AUTHORIZING Tool is also available as an add-on on top of several Requirements Management and MBSE tools, including:



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