



Advanced Tooling for Domain-Specific Modeling: MetaEdit+

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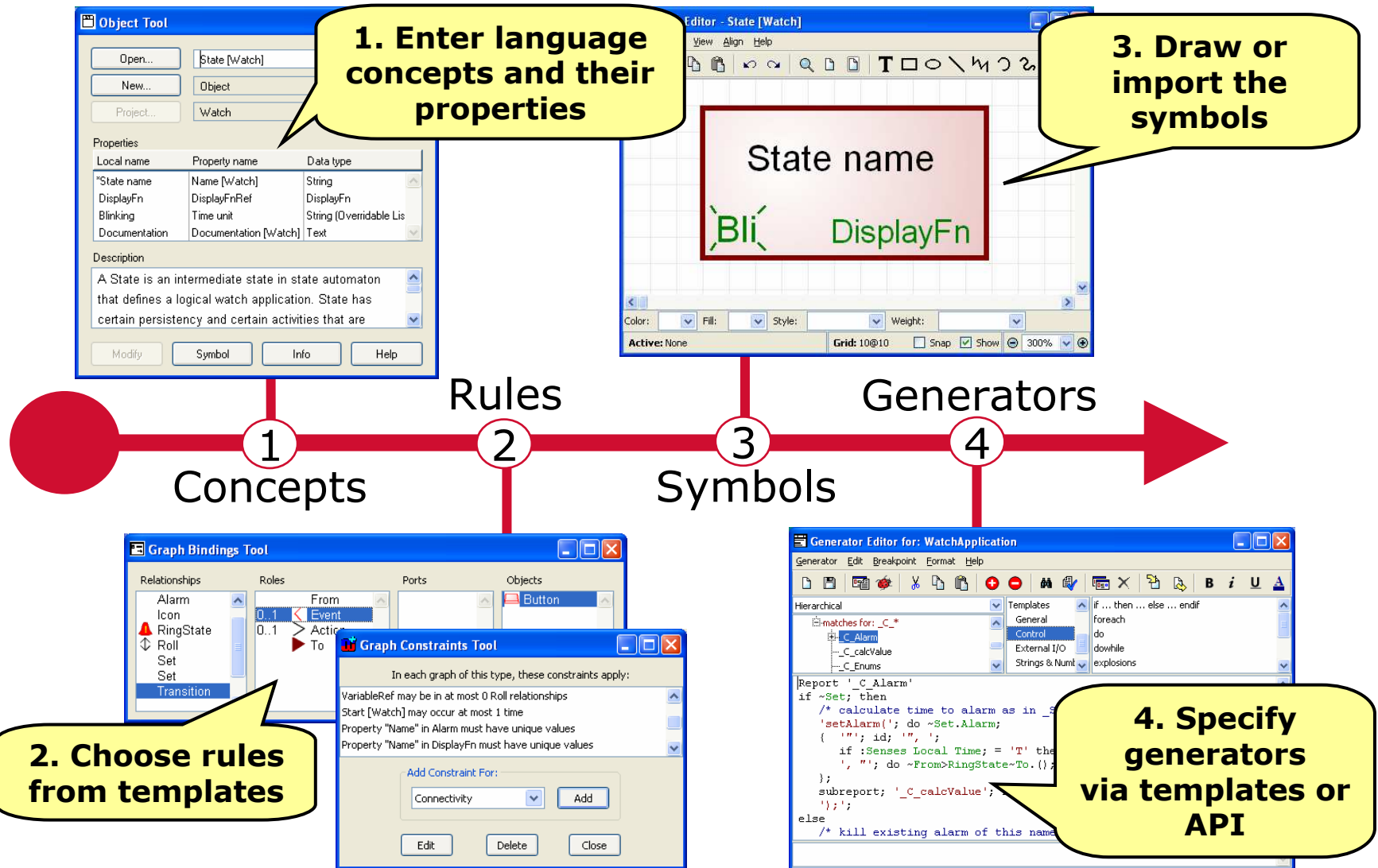


Motivation and background

- First metatool described in 1980
 - Followed by over 40 other metamodel-based tools
- Tools follow a common use pattern
 1. Describe the metamodel
 2. (Add constraints)
 3. Add notation
 4. "Compile"
 5. Run in a separate modeling tool
- Usually focus on editor creation only
 - One language (diagram, matrix, table)
 - One modeler
 - One metamodeler
- Our background
 - MetaEdit (1991-1995)
 - MetaEdit+ (1996-)



Steps for implementing DSM





Advanced tool features

- Language definition
 - Graphical and form-based metamodeling: no programming
 - WYSIWYG symbol editor with conditional and generated elements
 - Integrated, incremental metamodeling and modeling
 - Multiple integrated modeling languages
 - Multiple simultaneous language developers (metamodelers)
- Generator development
 - Generator editor and debugger integrated with metamodel and models
 - Straight model-to-code transformations: no need for intermediate formats
 - Generator can map freely between multiple models and files
- DSM use
 - Multiple simultaneous modelers, free cross-model reuse
 - Runs on all major platforms, integrate with any IDE
 - "Live code": click generated code to see the original model element



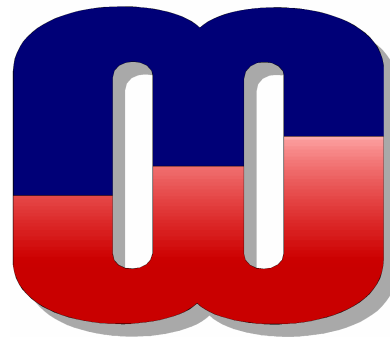
Demo is available as 3 videos (flash videos)

1. Defining modeling languages and code generators
 - Outlines the steps of defining a DSM solution: defining the modeling language concepts and rules, drawing the notation and making the code generators. (16 min)
 - Video (16 min):
http://www.metacase.com/papers/DSM_Definition.html
2. Graphical metamodeling
 - This video shows how an abstract syntax of a modeling language is designed in MetaEdit+.
 - Video (12 min):
http://www.metacase.com/papers/DSM_GraphicalMetamodeling.html
3. Model animation and debugging
 - This webcast demonstrates animating models in MetaEdit+ while running the generated code.
 - Video (3 min):
http://www.metacase.com/papers/DSM_AnimationAPI.html



Thank you!

Questions, please



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