

Group Discussions - DSM

Day 2

Group

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Patterns for Meta models

- "closing the roof" pattern to stop the seemingly infinite meta model hierarchies
 - when the model complies to itself
- Are all DSLs object oriented?
 - Not really - there are many others (SQL)
- Structure, validation and presentation as a really high level design pattern for meta models
 - More like MVC for modeling
- Sebastian Gunther : Patterns for DSLs (<http://hillside.net/plop/2010/papers/gunther-2.pdf>) may be relevant

Patterns for Meta models (cont)

- RemoDD (<http://www.cs.colostate.edu/remodd/v1/>) as a source of possible patterns
 - All patterns in pdfs ?? (limits the use to some extent due to the lack of a formal serialization)

Categorizing DSLs

- How ?
 - By utility?
 - By tools?
 - By meta-model patterns (if there are any)
- <http://hillside.net/plop/2010/papers/ferreira.pdf> - This paper may be helpful
- Metamodel / languages in the ATLAS catalog may be helpful
 - Noted as a **Zoo** - name is well suited due to the presence of a large variety of items

Categorizing DSLs

- Is there a catalog of DSL / DSM tools (like the wiki matrix - <http://www.wikimatrix.org/>)
 - Compare Microsoft tooling, EMF/GMF/DiaMeta (<http://www.unibw.de/inf2/DiaGen>), Xtext, MetaEdit
- May be DSM is the place to create this
- Experience (From Frank H)
 - Microsoft tools are the simplest to use for a beginner
 - GMF is hard - non-intuitive
- Experience (From James W)
 - Used ATL and others but hard to do what is needed
 - Spoofox is a good alternative

Problems in DSL creation process

- Using easy tools give you the impression that its easy, when really you have none!
 - An anti-pattern to be listed ?
- Feature creep
 - Can happen even when the DSL is not 'mis-used' !
- Can there be two different views of the DSL in the same domain ?

Creating DSMs

- Top down or bottom up
 - Mixed (iterative) approaches are better
- From experience (James W)
 - First get something running (probably top-down)
 - Iteratively refine the modeling (agility)
 - Xtext / spoofax (Eclipse plugins) help
 - Domain experts regularly forget / fail to explain the properties of the domains properly

Composing DSLs

- What kinds of languages are **not** suitable for compositions
 - Should they be orthogonal but have an intersection at one point ?
 - The issue of semantic overlap is important