

Group 2 on Language Construction and Integration

Q: Are there bottom-up approaches for developing languages from a set of models? Extract languages from models

- Reverse engineering from a low level language
- Extract grammars from (textual/diagrammatic/matrix/table/map etc) descriptions
- Machine learning techniques from extracting semantics: SD->SM, Query by Example

Q: Extract mutations?

- Product line extraction: from differences in programs extract variations
- Compare different versions (patch) and attached meaning

Q: Specific To General (What's a good process to translate a Domain Specific Model written using a DSML into a "General Purpose" Modeling Language (as UML/SysML) ? And back ?)

- Indicator:
 - No valid abstractions can be found?
 - Apply constraints to GPLs and remove if necessary
 - Map high-level and low level models
- Draw boundaries, e.g. stakeholder, views
- Things that are done over and over again could be abstracted

Q: Language composition approaches? If there are multiple domain-specific languages ("Pandaisia") are they horizontally and/or vertically integrated. What are the challenges in integration (in terms of different type systems, to old etc).

- Tools should support both language:
 - 3 integration techniques:
 - Referencing (e.g. HTML, JavaScript)
 - Extension: Adding additional concepts
 - Embedding: Adapter that embeds concepts from one language into concepts of the other
- Potential semantic mismatch is challenging
- Related work in SLE