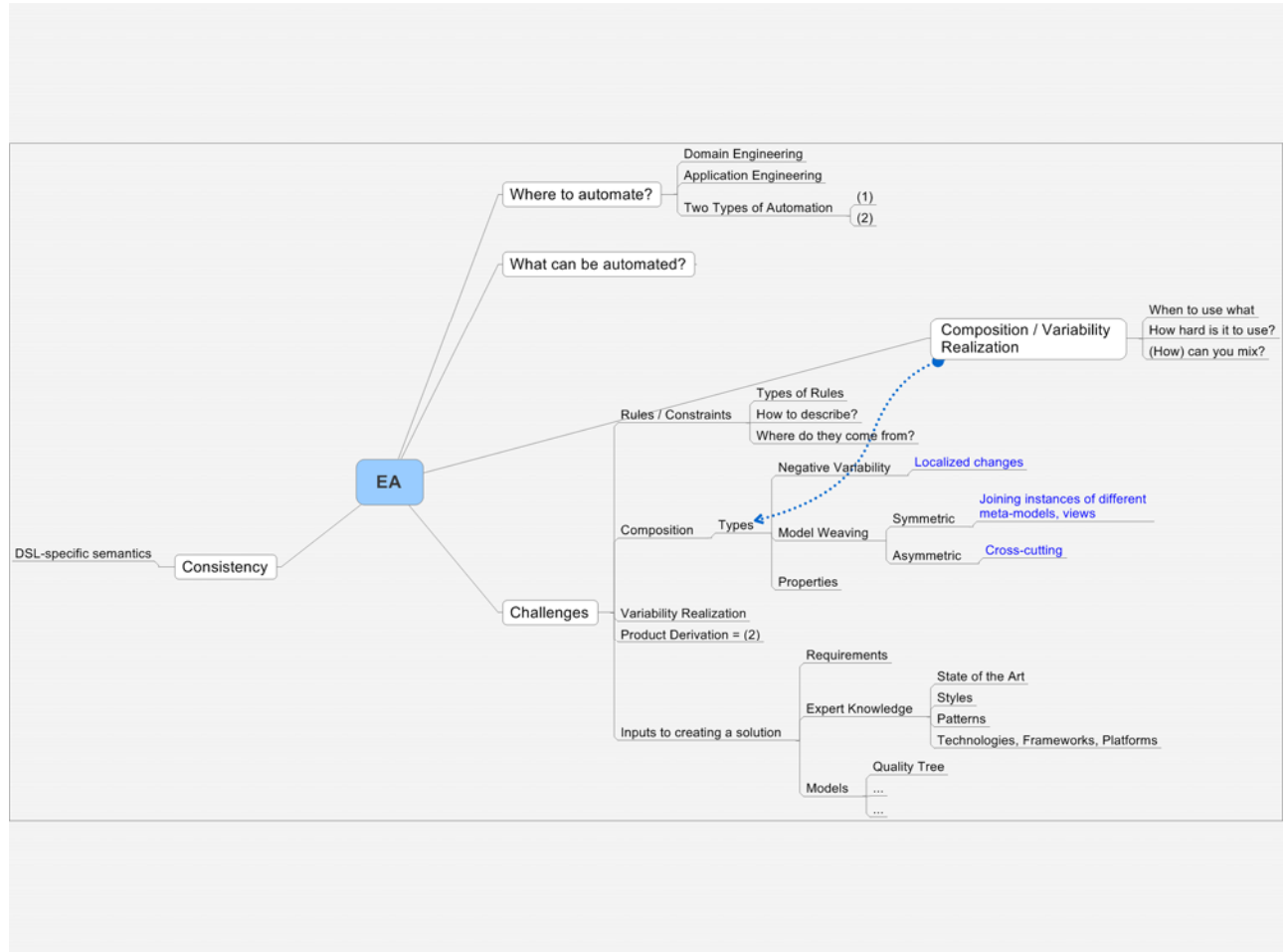
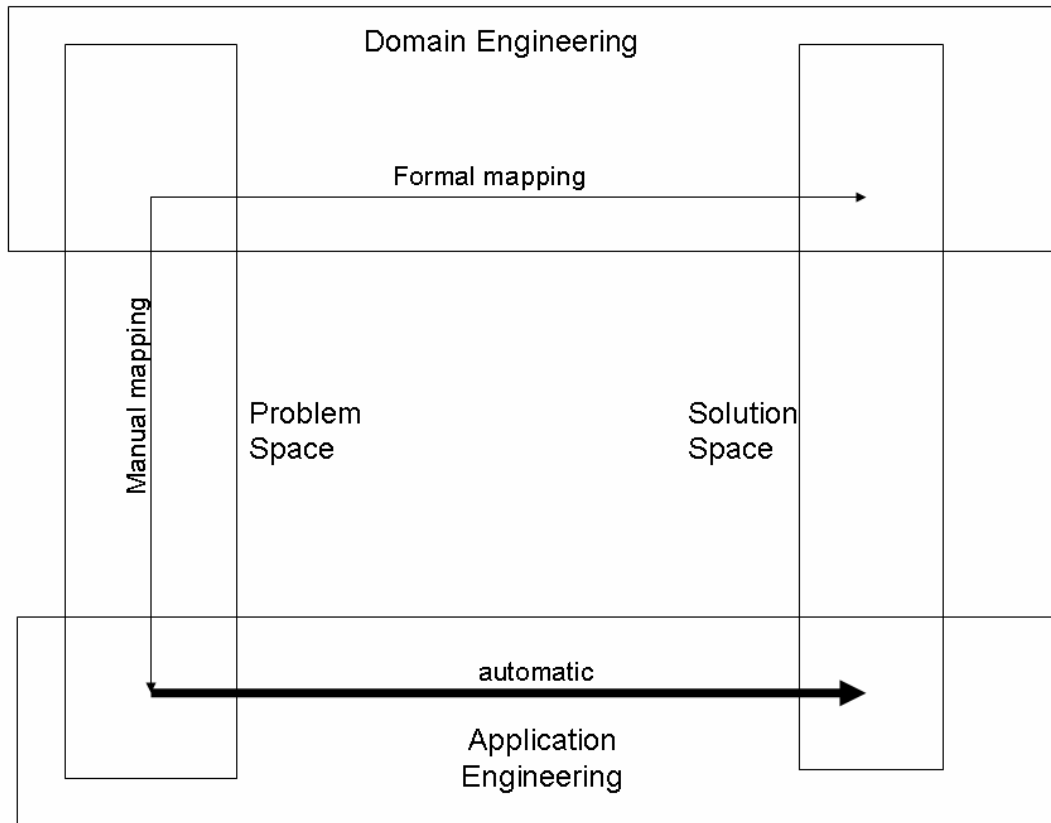


# Notes of the Discussion Groups at Early Aspect Workshop at SPLC'08, Limerick 8 September, 2008

## Group 1





We agreed that an automatic transformation is possible from problem to solution space in application engineering, when the mapping between both is formally specified in domain engineering and a manual mapping was done from domain engineering problem space to application engineering problem space.

## Group 2

Topics:

- 1) Feature Mining / Aspect Mining
- 2) NFRs
- 3) Feature Interactions
- 4) Variability

Topic Details:

- 1) Feature Mining / Aspect Mining
  - the challenges are different for extractive, reactive, and proactive SPL approaches
  - the problem is proper tool support
  - IR, NLP, Data Mining approaches exist, but lack proper, "real-world" assessment and evaluation
- 2) NFRs
  - challenge is that NFRs may require different architectural styles, thus, the actual architectural style of a product may depend on the actual feature configuration
  - generative techniques may be a solution for that
  - Julio Sincero and David Benavides work on NFRs in SPLs
- 3) Feature Interactions

- feature interactions are often considered as unwanted and bad. In the discussion, however, three types were identified:
  - bad (e.g., encryption vs. throughput, or memory footprint vs. performance, in telecommunication: call waiting vs. call forwarding)
  - neutral = intensional (Within the implementation of the feature A, the behavior depends on whether the feature B is selected or not)
    - good (e.g., encryption and compression before sending data over a network: the overall time for compression, encryption, and transmitting may be shorter than only doing encryption and transmission)
  - to manage feature interaction, computing of traces was proposed and the usage of languages like the CSP language for describing sequences of events.

#### 4) Variability

- variability principally can be modeled on Requirements and/or Feature Model and/or Architecture Level and/or Implementation Level
- it was brought up, that the benefit, of variability modeling on the early stages (Req/FM) must be elaborated further to connect these phases better to the subsequent stages (Arch and Imp Design)
- Finally, different variability modeling techniques were mentioned:
  - orthogonal variability model, Pohl et al.
    - addresses external and internal variabilities and subvariants of product lines
    - variability is added step-wise, every software development phase may add more variability
  - feature modeling
  - decision modeling