Bachelor / Master Thesis Description [for optional], status: open [assigned | closed], language: [DE | EN]

A Meta Model for Code Systems

Summary

Qualitative Data Analysis (QDA) is a method of analysis used in qualitative research. In previous research within our group it has been investigated as a novel method for domain analysis. Structural as well as behavioural domain models have been shown to be derivable as separate views on an analysis performed with the principles of QDA. This thesis shall refine a meta model that is applicable to both types of models equally. The metamodel is derived by analyzing an existing metamodel and by comparing different existing coding constructs and their resulting modeling artifacts. The metamodel is used on an exemplary data sets and the resulting models are compared to models from an ad-hoc modeling process, and those created without the meta model. Expert feedback is used to further validate the models.

Codesystems created in four projects across three different domains shall be used in a comparison of the following three types of modeling approaches:

1. Ad-hoc modeling
2. QDA without meta model
3. QDA with meta model

Work Results

- Literature review
    - Metamodel / Modelling languages
    - Structural and behavioral models
    - Qualitative Data Analysis process
- Research approach
    1. Refine meta model
        1.1. Compare code systems used for process modeling <-> conceptual modeling
            - Use code systems and models based on the same data
        1.2. Apply meta model to existing code system
            - Generate process model, where previously the codesystem was used to create a conceptual model (two data sets)
            - Compare to approach for including a natural language specification
        1.3. (Optional: use data from a third domain)
    2. Validate meta model
        2.1. Code with meta model, ask third party to create model(s) ad-hoc.

        2.1.1. Compare ad hoc vs MM approach
        2.1.2. Compare coding without MM (Rebecca) vs MM approach
        2.1.3. Collect expert feedback evaluating and comparing the different models
- Research results
    - A meta model for codesystems
    - An evaluation of this codesystem using data from at least four projects.

Supervisor

Andreas Kaufmann, M.Sc., andreas.kaufmann@fau.de

Prof. Dr. Dirk Riehle, dirk.riehle@fau.de

Open Source Research Group
Computer Science Department
Friedrich-Alexander University

More information: http://osr.cs.fau.de/theses/resources/