

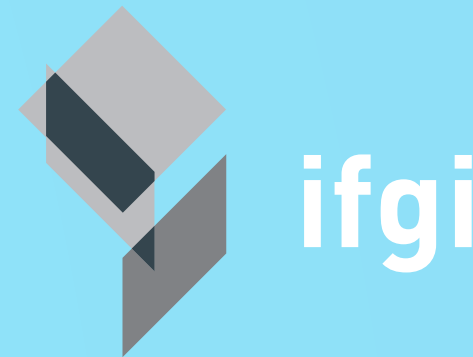
During the last years, we completed two study projects on schema transformation in INSPIRE at Institute for Geoinformatics, University of Münster. Diploma, Bachelor, and Master students in Geoinformatics were addressed. In a first phase, the participants studied existing schema transformation solutions. In the second phase, the students proposed an approach to perform schema transformation on expert and non-expert level. Focus groups worked on the architecture, concrete

schema mapping rules, metadata issues, and use of ontologies. In the third phase, we iterated over the architecture and implementation. We implemented the suggested approach to perform schema transformation in the context of two use cases. We translated from a common German road data model and from a forest road data model to the INSPIRE Data Specification for Transport Networks. This poster illustrates the teaching approach, as well as the results achieved by the students.

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Studying Data Transformation in INSPIRE

Investigating existing solutions for schema transformation.

Comparison of Feature Manipulation Engine (FME), GeoPublisher, Spatial Data Integrator and Geo-XSLT in terms of graphical user interface, service capabilities, GML support and rule support.

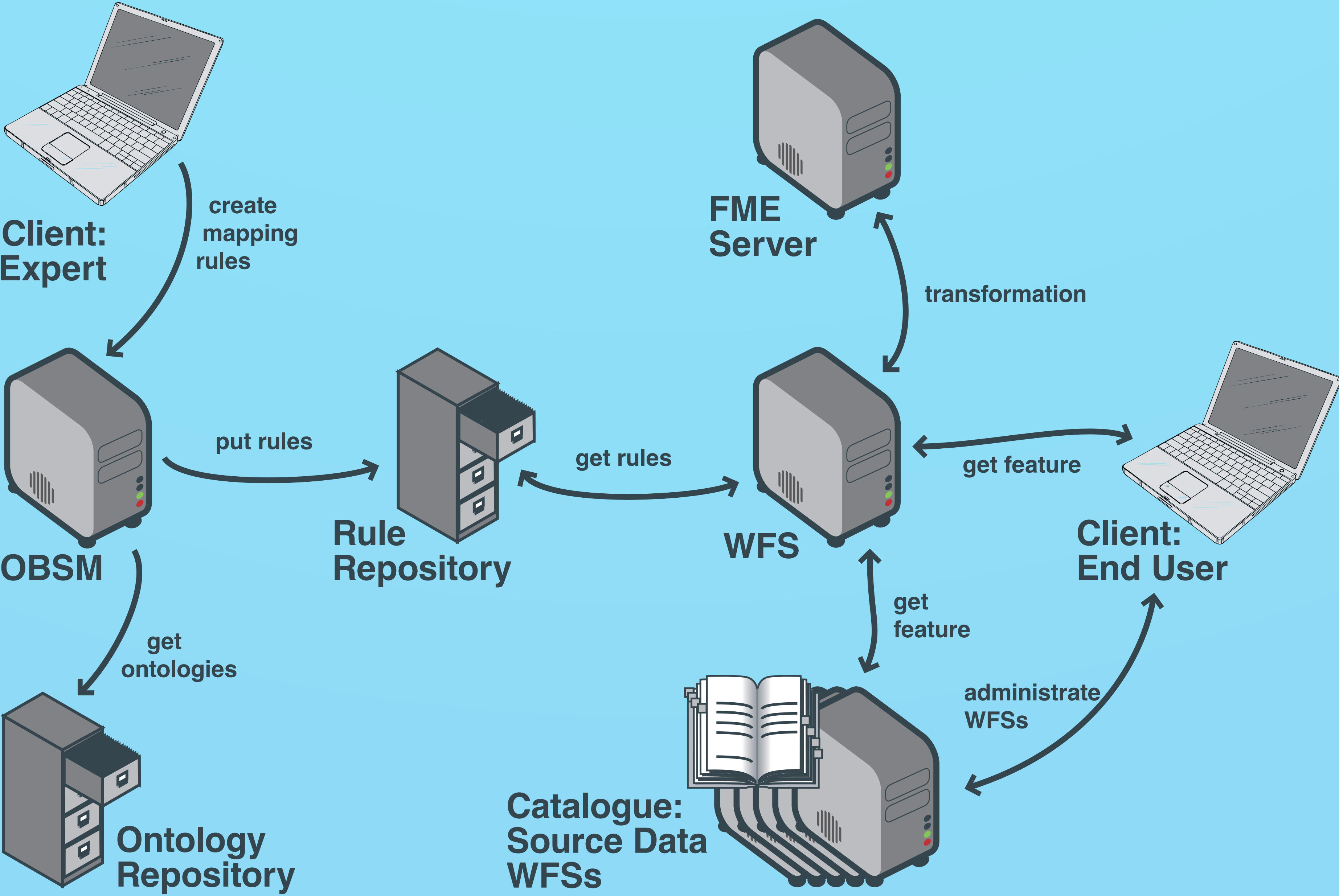
Focus groups and use case

Depending on personal interest and background, students formed small focus groups dealing with the architecture, mapping rules, feature type ontologies and metadata for the transportation networks usecase.

Iterative improvement and maintainment

The participants iteratively improved the results of the second phase, and added components such as an ontology-based schema mapper (OBSM), and components for rule management and execution.

Teaching Approach Transformation Approach



For the transformation, ontologies for source and target data models are created and stored in the Ontology Repository. The ontologies can be loaded into OBSM from the ontology repository and experts can define transformation rules. These rules are saved to a Rule Repository. If an end-user requests data from Web Feature Service (WFS) in a model that the data is not saved in, the WFS gets the original data from another cascaded WFS and the rules for mapping the source schema to the requested target from the rule repository. It then sends it to the FME server for translation. The translated data are sent back to the central WFS, which sends these to the end-user.