Web-based Validation of Cadastral Data in Germany

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SUMMARY

Since the early beginning official cadastral data is collected following requirements of consolidated product specifications. Usually the correctness of newly collected data (conformance to the requirements) is checked. For the time being, this quality check is done by the GIS implementation, which can be considered as a black box testing.

However, it is often not clear, what is tested in detail and which errors are tolerated by the software. The result is, that problems occurs when central data providers try to merge data sets coming from different states, although they have passed a quality check by the responsible data collector.

The software-independent test of spatial data with an online test framework is a fairly new discipline compared to the test of web services. Additionally, it is very complex and technically demanding, with up to now unknown consequences for the performance of such test processes. Therefore, a pilot project has been set up in Gemany in order to figure out how feasible an implementation is by using representative test criteria.

With this pilot project, the surveying and cadastral authorities in Germany wanted to address the following two issues:

1. Evaluation of technical possibilities and limits of software independent data tests.

2. Starting a common process on the definition of a comprehensive and consolidated set of test criteria in order to allow reliable conformity statements of the produced

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data.

3. Implement a data quality management system for cadastral data based on modern information technology.

The German data model for reference data (AAA application schema) comprises a lot of quality requirements in several areas. The main focus of this presented project is the automated test of require-ments which are only textually formulated consistency requirements as well as data capture rules. Quality requirements, which can already be tested by commercial tools, such as a valid XML document, are not focus of this presented work. This presentation documents the results (weaknesses and strength) of this pilot project.

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