Smart verification of Geodata, with Open Source Approach

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SUMMARY

In Switzerland in the canton of Bern (1 million inhabitants) approximately 40 cadastral projects per year are revised and verified by the competent department. With the verification as a web service, the cadastral geo data can be tested with the same tools as the supervisory authority itself. For the official in charge, this is motivating and instructive, the verifying agency is relieved. The web service is easy to expand to other topics. The feedback from the field are encouraging.

ZUSAMMENFASSUNG

In der Schweiz werden im Kanton Bern (1 Million Einwohner) rund 40 Vermessungsoperate pro Jahr überarbeitet und durch das Amt für Geoinformation verifiziert. Mit der Verifikation als Webservice kann der Bearbeiter sich mit dem identischen Werkzeug wie die Aufsichtsstelle selber prüfen. Für den Bearbeiter ist dies motivierend und lehrreich, die Aufsichtsstelle wird entlastet. Der Webservice lässt sich einfach auf weitere Themen ausbauen. Die Rückmeldungen aus der Praxis sind erfreulich.

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1. BACKGROUND INFORMATION

The verification of the data for the cadastral survey goes through tree levels: On the one hand the verification is made by the employer himself in his surveying-software and on the other hand also by competent departments at cantonal and federal level.
For this purpose the competent departments dispose to the employer a free available and automatically Check-Service, which checks the INTERLIS-data on their formal correctness.
The competent department of the canton of Berne uses the software BELUTI for verification work. This Software enables the examiner to identify complex and not automatically detectable errors and to judge them.
The employer has no access to this application and get known the errors only by the examiners report.
In the canton of Solothurn however the verification is differently managed: Producer and Examiner uses the same Software Application for testing the geodata. The competent office has developed the software Application named „VeriSO“ for the verification of the cadastral data. VeriSO has been developed as an Open Source Software and is at the employer's disposal for independent verification before sending the data to the canton.

2. OBJECTIVE

Every year about 40 project on average are verified in the canton of Berne. To ensure a standard verification on a high level, the decision was made to introduce a similar system as in the canton of Solothurn. For an easy, quick and cost-effective endorsement and maintenance of the verification software, they opted for a professional web-based application.

3. REALISATION

The free accessible code of the VeriSO got adapted to the canton of Bern and got named VeriSO-BE. The management of this service, which is not done by the canton himself, was delegated to the company ALPGIS AG in Thun. The task then was to arrange the software as a web-service on the server. Every User gets his own workspace where his projects and test results are stored safely. Creating a testbed, up- and download of files is widely automated.

With the help of VeriSO-BE as a web-service, important processes can be simplified:

- The points to check and checking rules are made following all the cantonal and federal requirements and can be known by anyone using this service.
- The producer and the examiner are both using the same checking tools.
- VeriSO-BE is an ideal completion after the check-service, which discovers logical and topological faults. The user controls himself and realizes his faults by himself. Like this the learning and gain of qualitiy is maximised.

- The user reports the testresults while testing his data by his own. By signing the report, he proofs the correctness of his indications.
- The verification by the competent department got simplified essentially. Only random reviews must be done on the projects which had been checked by VeriSO-BE before. Like this the producer of the data takes the responsibility for the correctness of the data. This increases the proud of the professionals which guarantees high quality at the long term.
- By using an Open Source Software no licence fees must be paid and development is shared by various users.

4. Outlook

The possibility to check data models of cadastral survey by VeriSO-BE was only one first steep. Development goes on with data models as utilities and use planning. Also the service get's developed continuously. In the future no installations of additional programs should be necessary by using VeriSO-BE. And last but not least the checks and their documentations should get smarter and mostly automatically.
It is quite possible that the different systems of verification will get united to one single service, by which every contract partner declares his requirements.

REFERENCES

BIOGRAPHICAL NOTES

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