Piloting a Map Service to Collect VGI for National Topographic Database

Mari Laakso, Mikko Rönneberg and Tapani Sarjakoski (Finland)

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SUMMARY

Linked to the big renewal of the National Topographic Database (NTDB) the National Land Survey of Finland (NLS) wants to create a concept for the use of Volunteered Geographic Information (VGI) in the collection and update of the data for the NTDB. To test the concept, a pilot system is under development. In the pilot NLS provides a browser-based map service for citizens which enables data import and data editing. Some topographic data feature classes, such as hiking trails, have been selected to be in the focus during the pilot phase. For these focal feature classes, predefined data specification will be prepared and contributors will be encouraged to make data collection targeted especially on them, but data collection is possible also for other existing feature classes and contributors may even add their own feature classes. It is important to allow users to propose new feature classes even not all of them will eventually be included in the database. This way new user needs may be revealed.

The usability of the user interface (UI) in the map service has a major importance as the users don't necessarily have any expertise in mapping or cartography. Therefore, the UI needs to be intuitive and guide the user through the process of contribution. In-built quality checks in both the positional data and attribute data are required in order to avoid errors. All the contributions by users will be displayed publicly in the map service and are immediately available for everybody. Contributing users are required to register by creating an user account whereas anybody may view the contributed data. Only light authentication is expected, requiring a valid email address in order to allow contacting the user if needed. Registered users will be able to rate and comment other users' contributions. User accounts also allow for rewards and gamification elements in the system to build up motivation. Such elements can be for example levels of expertise or ranking lists of contributors sorted by the quality of their contributions, or collecting virtual coins for

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rewards.

There are still open questions on how the data will be validated before transferring it to the operational NTDB. Using crowds also for the data validation is forth testing. The map service for the pilot is currently at the construction phase. Once the pilot use has started, the usage will reveal needs for improvement to the system. Eventually we hope to get experience-based information and understanding of the applicability of crowdsourcing methods to support the maintenance of the NTDB content.