

Data lending service – a novel service idea of the Finnish NSDI

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Research, development and education throughout Europe has suffered from the limited availability and pricing policy of spatial data sets. INSPIRE directive proposal takes this as a challenge and suggests a set of services to support the data discovery and accessibility. National spatial data infrastructures (NSDIs) have started to be developed accordingly in many European countries. In Finland, the general structure of the NSDI was defined in National Geographic Information Strategy 2005 – 2010 published in October 2004 (National Council for Geographic Information 2004).

In addition those services present also in INSPIRE, namely metadata and viewing service, the Finnish strategy identifies also a novel service type: Spatial data lending service. The service can be considered as a library of data sets where various producers can deposit their data and from where registered users can search and lend data for testing, research and development for a limited period of time free of charge.

The main idea behind the service is to balance between the different needs of the data users and producers. It aims to give a possibility for the data users to test even commercial data sets before purchase and to compare them with each other in practice. This way, it works as an extended metadata of each data set, giving the user a demo version of the data. Furthermore, it attempts to support research and education of geoinformatics by providing a very easy access to data sets. Moreover, the service aims to catalyze the development of new, innovative GI based services, as developers may select the best basis for their product development without yet worrying of data costs.

Experience of the operation of the service has been gained since the year 2003 when the pilot version of the service was launched (www.paikkatietolainaaamo.fi). Since then, the service has been hosted by the University of Turku, Department of geography, under the supervision of the Finnish Council of Geographic Information. Newest, advanced version of the service was published in May 2005 with extensive interest from the media (Paikkatietolainaaamo 2006).

Operating principle of the service

The data sets cover a geographically pre-defined “test region” of 40 000km², allowing overlays, combinations and comparisons of the data sets. The secretariat of the service accept data from all data providers and an agreement is made to deliver the data sets to registered users (Figure 1). The registration to the service is open and free-of-charge, but requires signing of the terms of data use. These state that the data sets may be used for a period of one year for the purposes defined by the user (research, education, testing, product development). Data providers have access to name lists of the users of their data. After the one year has expired, the user is asked to delete the files or extend the use for another year, which maintains him in the user list.

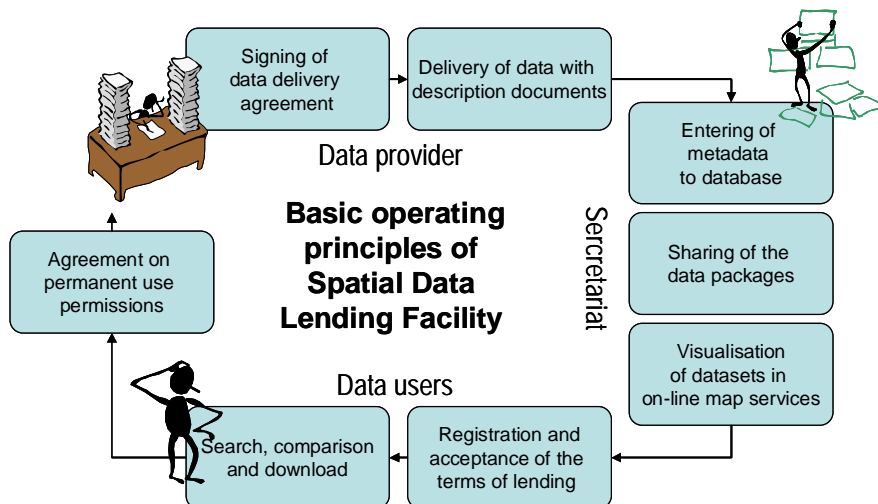


Figure 1. The operation of the lending service is based on agreements between the data providers, the secretariat and the data users. Technical mechanisms have been developed to allow both users and data providers to see the lending status of different data sets.

Tools of the service: from discovery to download

Within the service, the user may look for interesting data sets in two ways: based on metadata searches or based on map services (Figure 2). Once an interesting data set is encountered, a registered user may download it. A download is registered to the users account and becomes visible also for the provider of this data.

The metadata service allows the data discovery based on the core fields of ISO 19115 standard. The user may search for suitable data sets based for on the data provider, data format, geometry, geographical area or theme, for example. The data producers are also asked to provide their own, more detailed metadata descriptions to the service. In the future, this part should be replaced by the national metadata service.

The map services allow viewing of the data sets and overlaying them visually already before download. The data sets are organised by data providers and user may click visible for example road networks of different data providers. At the moment, the map service has been developed as a centralised service using commercial software. Later on, at least some data visualisations could be retrieved from Web Map Services (WMS) of the data providers.

The download option is linked to both discovery services. A download delivers the data set in ZIP file in a format as defined by the data provider.

Experiences and lessons learnt

This far (March 2006), the service is the only operational part of the Finnish NSDI. It contains data from 16 data providers, including all main data producers in Finland, both governmental and private. All INSPIRE core data themes are represented.

This far, 620 signed user agreement have been sent to the secretariat and number of individuals accessing the service daily is around 30. Some hundreds of downloads are made monthly.

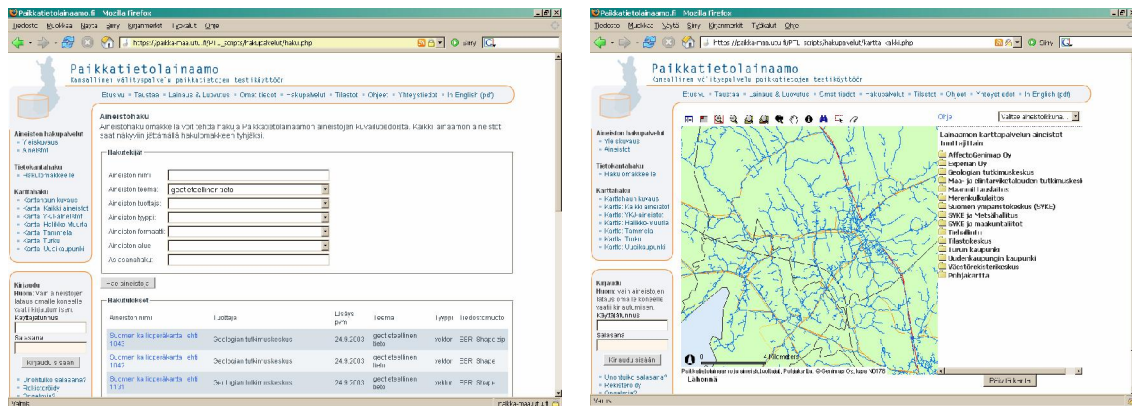


Figure 2. Main data discovery services available to select data sets for download: Classic metadata search based on query fields (left) and a map service (right) allowing overlays and comparisons of data already before download. Here, three different road data sets are presented together.

The use statistics of the service, the user feed back and the experiences of the secretariat allow us to draw the following conclusions:

- *The service is useful.* Users represent particularly the education and research sector, but considerable amount of users come also from private companies.
- *Possibility to view and test the data gives life to metadata.* Simple tabular metadata may be difficult to comprehend and selection of data sets is easier with the test option (Ahonen-Rainio 2005).
- *Data sets are not squirreled away.* Although valuable data sets are provided free-of-charge, users seem to download only the data that they require.
- *The service is useful also for data providers.* They may use it as a delivery channel for test data, marketing and also get feedback on the interest towards the different data sets.
- *Updating of all parts of the service in centralised manner is labour intensive.* Direction needs to be towards decentralised model, once other parts of the NSDI are available.
- *Personalised agreements are needed with data providers.* There is an increasing need for individualistic permissions for downloads, as data providers have different data policies, and some would be willing already for more open delivery of data in terms of geographic area and time limitation.
- *Permanent status is essential.* Piloting periods showed that data providers are willing to devote their time to the service participation only if the service will be permanently available.

Acknowledgements

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References:

Ahonen-Rainio, P. (2005) Visualization of geospatial metadata for selecting geographic datasets. Helsinki University of Technology Publications in Cartography and Geoinformatics, Espoo 2005. In PDF

<http://lib.hut.fi/Diss/2005/isbn9512275252/isbn9512275252.pdf>, accessed 15th March 2005

Commission of the European Communities (2004) Proposal for a Directive of the European Parliament and Council: Establishing an infrastructure for spatial information in the Community (INSPIRE). Sec(2004) 980.

Paikkatietolainasto 2006. List of news paper articles concerning the new service version. https://paikka-maa.utu.fi/PTL_scripts/taustaa/taustaa_julkistus.php

National Council for Geographic Information (2004). National Geographic Information Strategy 2005 – 2010. Publications of the Ministry of Agriculture and Forestry 10/2004. ISBN 9524531801, 28 pp.