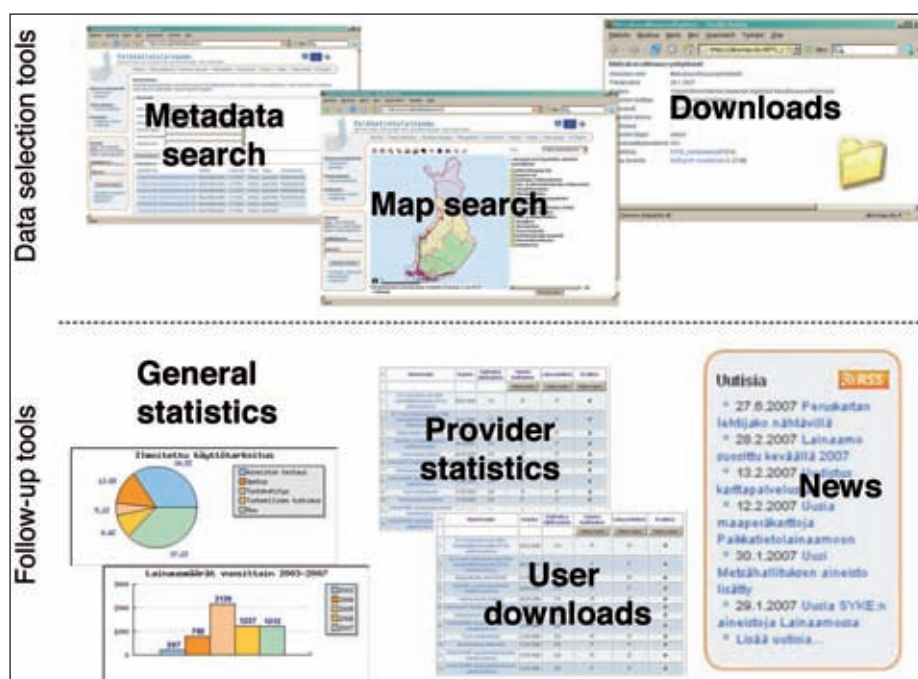


Data Lending Service

A Novel Solution of the Finnish NSDI

The INSPIRE directive puts forward a variety of GI infrastructure services at the national level. Most countries are currently at the planning phase of their own metadata and viewing services. Issues related to describing spatial data quality, defining data prices and enhancing the discovery of data sets are topical from country to country. In Finland, the challenges have been solved in part through a concept of spatial data lending.

By Tuuli Toivonen and Risto Kalliola



Data selection and follow-up tools built into the spatial data lending service Paikkatietolainaus.

The spatial data lending service called “Paikkatietolainaus” in the Finnish language has been operational since 2003. The basic idea is to improve access to geographical information among scientists, teachers and product developers. It also aims to enhance the use of spatial data in society and bring metadata alive during the process of data selection or pre-evaluation. The service constitutes part of the Finnish NSDI in National Geographic Information Strategy 2005-2010 (National Council for Geographic Information 2004).

Implementation

Paikkatietolainaus is a non-profit internet service that delivers GI data sets from nearly 20 national government data producers and private vendors. The service operates as a joint

venture of the departments of geography at the universities of Turku and Helsinki. The Paikkatietolainaus secretariat is responsible for making contracts with all data providers and data users. The service interface contains an openly-available viewing and metadata service with a download option for registered users. Available data sets provide either full coverage of the country or a sample piece from pre-defined test areas.

Usage conditions for data sets are relatively flexible: data sets are available for research, education, product development and evaluation. They may be used for a limited period of time; after one year users are requested to delete the files or renew them. Failure to do this would lead to closure of usage rights. With this arrangement, data vendors are confident

enough to deliver their data for distribution via the Paikkatietolainaus facility. Data producers may also get information on the amount of interest in their products, as each download and renewal is registered together with respective user information. Data vendors have access to the download statistics of their own data sets and they may monitor the level of use.

Hand in Hand

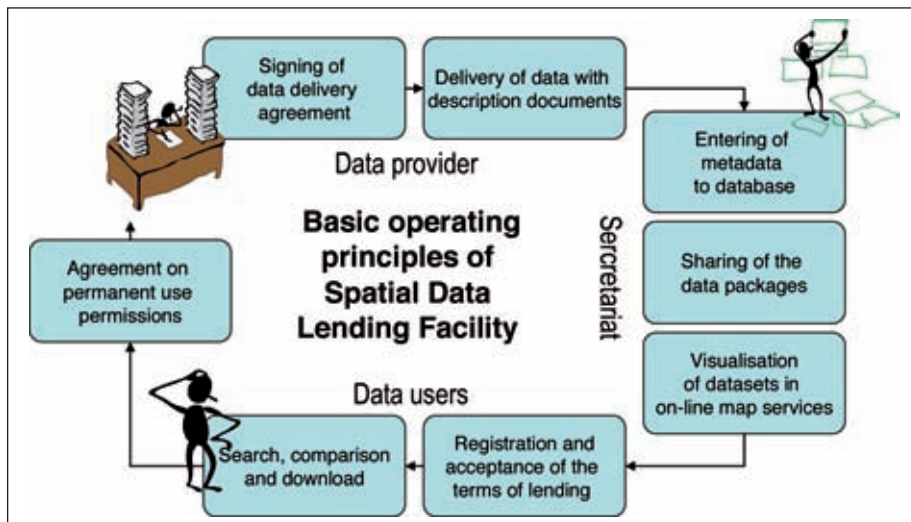
One of Paikkatietolainaus’s basic aims is to make technical metadata descriptions more understandable. This aim is achieved by making it possible to view the data sets and their attributes in an interactive map service. Data sets on a certain theme may be easily overlaid and compared in the map view. This allows comparisons between different scales or between data produced by different data providers. As well, the compatibility of data sets may be visually evaluated in the map service by simple comparisons between data layers. The user can, for example, open building data and water coverage by different vendors and quickly evaluate how many buildings along the shoreline “fall into the water” due to the level of generalization or inaccuracies in spatial referencing.

The download option allows users to make even more profound analyses of the data sets. Users are able to download either the full data set or at least sample data from a given area to their own GIS workstation. Data sets are available in their native formats defined by data vendors.

The value of extending metadata descriptions from tabular information to interactive map services and sample data sets is clear. Paikkatietolainaus usage statistics show that the forms-based metadata search is used by only 25% of the users, while 52% utilize the map service to access the metadata descriptions and to evaluate and inspect the data sets. These inspections together fulfil the needs of most users. Download statistics show that the number of actual data downloads is much smaller and seems to be limited to individual data sets that have already been determined to be useful with other tools. No opportunistic over-loading has been discovered.

Attracting Users

During the last four years, use of Paikkatietolainaus has grown steadily and the

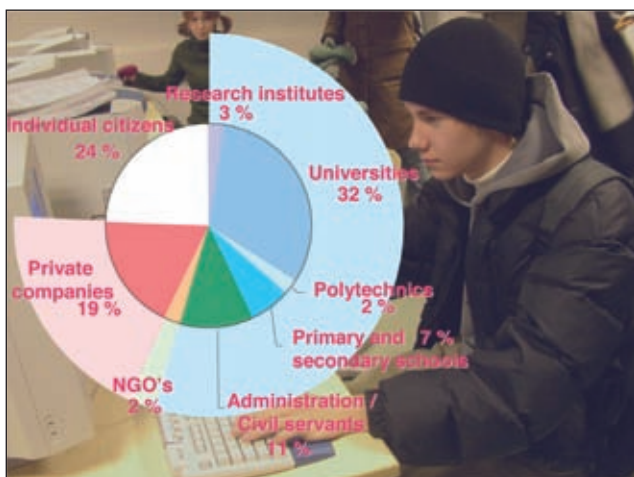


The operation of the lending service is based on agreements between the data providers, the secretariat and the data users. Technical mechanisms have been developed to allow both users and data providers to see the lending status of different data sets.

service is currently attracting some 500 different user IPs monthly. Thus far, 850 professional GI users have registered with the service and the number of data downloads exceeds 5,500. This can be considered substantial in a country with 5.2 million inhabitants and thus a limited number of GI professionals with data needs.

Most users (55%) come from educational and research sectors. Use of the service has clearly broadened the awareness and use of different data sets. Furthermore, training and education can now be based on high quality, real-life data sets instead of street maps of some American city.

Professionals from the private sector form another, yet smaller (21%) user group. They represent more than 130 private companies and NGOs from various branches of the economy.



These users benefit from the openness of the service and its data delivery policy. Software developers may select the best basis for product development without worrying about data costs in the early phases. The results of this situation appear in the form of new innovative GI-based services and even increased markets for GI data sets.

Even Commercial Data

Currently, 19 national and regional data producers have placed their data for downloading via Paikkatietolainaanamo and the total number of available data sets in the service is around 300. These include a good representation of all core spatial data sets mentioned in the INSPIRE directive proposal or in the Finnish National GI Strategy. In addition to public data producers,

private companies have seen the potential in giving their demo data for downloading. The largest private GI producer in Finland, Affecto Oy, presents a full selection of its data prod-

The registered users come from different sectors of society.

In all, 55% of the 850 users come from educational and research sectors, whereas private enterprises and NGOs represent some 21% of the users. Photo: Hanna Pohjonen.

ucts via the service. As well, the international company Experian has shared pieces of its MOSAIC data set with users. For a private company, motivation for participation comes from the opportunity to promote products for new user groups. The facility's advanced data transfer log allows data producers to identify each download of their data, which helps them get an idea of who is interested in their products. This option may contribute to further product development and help them establish new collaboration networks. As the data sets are used extensively in teaching at universities and polytechnics, new student generations become familiar with the data sets and their providers.

Clear Benefits

The concept and implementation of the Paikkatietolainaanamo download facility is rooted in national collaboration and support from the EU's Life Environment funds. The impetus for its further development is the fact that data lending is one step towards a freer data-sharing culture. Research and education are also clear beneficiaries of the improved variety and quality of data sets available in the society. While the INSPIRE directive talks mostly about users in the administration, lending is free for everyone. This fact increases the number of potential data users, which may also lead to a variety of consumer-oriented applications using spatial data, thus enhancing the role of GI in modern societies. Therefore, the lending concept may also be worth implementing in future download services that will be established along the lines of the INSPIRE directive.

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(www.paikkatietolainaanamo.fi)