Central place name register / Sentralt Stedsnavnregister (SSR) of Norway

<u>Summary:</u>
Central Place Name Register (SSR) is today the official register for *decided* spelling of place names in Norway. The register was activated by the Ministry of Cultural Affairs in 1991 and the administrative responsibility for the register was placed at our national mapping agency Norwegian Mapping Authority / Statens kartverk (NMA).
The register includes today more than 570.0000 places in Norway with one or more names.
It has been developed a client/server application called *SSRSak*. By using a password on the application, Internet will give you access to the system.
It has also been developed a WEB browser to give all Internet users free access to a minor part of the system. This element is called *Norgesglasset* with address:
http://ngis2.statkart.no/ng2/ng2.html

History:

Treatment of place names
Before 1870 the NMA wrote the place names more or less as the mapmakers wanted it themselves. Around 1879 the NMA started to co-operate with place name advisers at the University for maps both on sea and land. This continued based on increasingly fixed principles until 1933, when we got the first provisions regulating the spelling of place names on official maps and other official use. These provisions were further developed in 1957, and were ultimately replaced by the Norwegian Place Name Act in 1990. Until then, the NMA had more or less consequently followed the advices given by the name advisory service concerning the spelling of names on maps. After 1991, the name advisory service has functioned more as advisors, and the NMA has decided the spelling based on their advises and the opinions from the local community etc. This development is in accordance with the purpose of the Place Name Act. Nevertheless, the advices given by the advisory service are followed in the vast majority of cases. One important reason for creating a Place Name Act was the lack of co-operation between the producers of the different official maps. Since the advisory service had worked with the names only on the small scale official maps, whereas committees on municipality level decided the spelling of names on official maps in large scales, the same place name used on different maps quite frequently was, and still is, written in different ways. This might be a common problem for many countries.

The Client application version 1:
When the Act was activated, the NMA developed a register for recording all the place name decisions. As a platform for the database, to avoid starting at scratch, we included an already digitised database containing approximately 320 000 names. This database was earlier created for making a gazetteer for Norway for the Ministry of Defence. The first version gave us a client application only for internal use and the threshold for getting into it as a user was rather complex. We were able to provide files or paper lists to customers who wanted insight into the database.

Today:

The Act:

The main content of the Norwegian Place Name Act of 1990 and the Provisions of 1991 (revised in1993), is that the spelling of the place names shall be decided on the basis of inherited, local pronunciation and in accordance with correct use of current Norwegian principles for spelling.

The same principle also applies to names in multilingual areas in the Sami and Finnish areas of Norway,. These are mainly in the northern part of Norway and along the border against Sweden south to Røros in the southern parts of Norway. The spelling of the place names should be decided by the "owner" of the names after they have gone through a hearing with different local authorities or private persons. The "owner" of a name could be different public services like the Public Roads Administration, who is the owner of roads, bridges and tunnels, or the Railway Administration, who owns railway stations and lines. In a wider sense the spelling of all nature names are to be decided by The Norwegian Mapping Authority. Private names on hotels or industrial elements will be decided by the owner.

To follow up The Place Name Act the Ministry of Cultural Affairs has arranged a number of courses and conferences. The Norwegian Mapping Authority and the names advisory services have for their part organised courses for municipalities and other public services to help them tackle their tasks in a more satisfactory manner. It is still a long way to go to get a satisfactory result from the many public services in manhandling all the different aspects related to place names.

The Norwegian Mapping Authority (NMA) itself has now 5 supervisors for place names that covers NMA's 12 county offices. They are responsible for spelling adjustments, corrections and decisions of place names. Our hope is that the problems previously described will eventually disappear. .

When the Act was activated, our intention was to correct the different way of spelling on the same name on different map scales, justified by the Act. This work was meant to go on at the same speed as the map productions in the area. Today we have reduced the amount of names we intend to correct. This alteration has been done mainly because the corrections are very time consuming due to the detailed procedures stated in the Act. Another aspect was that we could not stop the map production until all elements of the hearings were finished.

The Client application version 2 / SSRSak:

We quickly understood that we had to expand the system because both internal and external interests wanted to see the information as a direct digital online user. In 1996 we started with the new project.

We had to build a data model that had some new aspects in addition to the former system.

The system should, as the main purpose, function according to The Place Name Act.

The system must include possibilities of putting more than one name to one place and view more than one spelling unit of these place names.

The new database shall give us the history of the names when a name decision has been made. This mainly includes presenting the old refused spelling, datum for the decision and who has made the decision.

In Norway we have one majority language and four minority languages and the system must therefore distinguish between these different languages.

The database should also be the key to names and spelling of the names for map productions. With these main criteria, the system must also have elements giving us information about the products using the different names, like maps or road signs.

The Central place name register. The database:

To incorporate all the aspects, we had to create a four level database. Here are the main elements:

Data model

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┌─────────────────────┐
│  Physical object    │          ┌──────────┐
└─────────────────────┘          │    1     │
┌─────────────────────┐          │   1-M    │
│  Name unit          │          └──────────┘
└─────────────────────┘          ┌──────────┐
┌─────────────────────┐          │    1     │
│  Spelling unit      │          │   1-M    │
└─────────────────────┘          └──────────┘
┌─────────────────────┐          ┌──────────┐
│  Occurrence         │          │    1     │
│  unit               │          │   1-M    │
└─────────────────────┘          └──────────┘
```
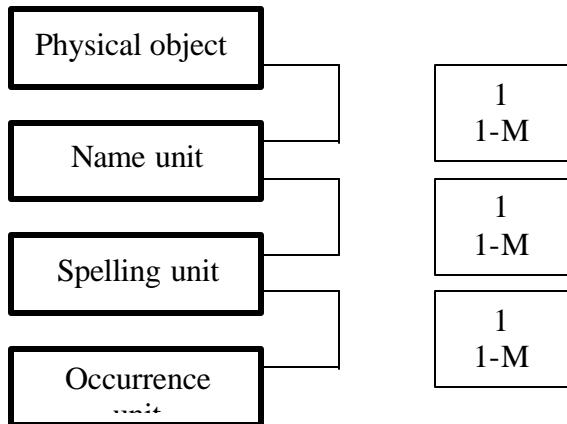
Level 1 or top level:
- The physical object "somewhere in Norway".
- The given ID-code for this physical object can later on, in a larger geographical database, be the key to other types of vector information. This connection could be created independent of whether the data types are points, lines or areas.

Level 2:
- In this level we can put all ID-codes to all different place names related to the object in level 1.
- The system can, on this level, code all place names in different languages.
- This level contains the feature code for this element, the authority which decides the spelling and the name of the municipality where the main coordinate of the object is placed.

Level 3:
- This level contains the place name itself
- The level shall also contain information about the possibility to use or not to use the place name in this spelling unit according to the Place Name Act.

Level 4:
- This level gives information about all occurrences of use of the name, like maps, road signs, documents or none specified use.

Database example.

This example presents a place in Norway in a multilingual area with both Norwegian and Sami place names. **See "Attach. 1"**

Sami has only one name with one spelling unit and one occurrence on a map. Norwegian has two quite different place names, one with one way of spelling and the other with two ways of spelling. The last Norwegian place name is used on two different products.

Special example.

This example shows a single occurrence for the object: Municipality, Oslo. **See "Attach. 2"**
The spelling of the name is controlled by using the official book " Calendar for municipalities 2000/2001/"
The "owner" of the municipality name is the Ministry of local and regional affairs.
We have controlled the coordinates by comparing the point with a raster map in
scale 1:5 000 with the city hall as the control element.
This occurrence is used on the map 1914-1 in our standard set of maps "NORWAY 1:50 000".

Specifications

The specifications for the database are free to use on our Internet site on the address
http://www.statkart.no/standard/sosi/html_34/navn/navn.htm
The specification is in Norwegian only.

Principles for "The Place Name System"

The Place Name System in the NMA today consists, when used internally, mainly of two parts. Central Place Name Register(SSR) is the register for the place names and The Editorial System is for presenting the place names on different types of maps.
A main basic principle in the system is that a place name can not be used in the editorial system if it is not represented in SSR. You can only choose between the place names in SSR and the spellings represented there when you want to create a map.
*This means we have created **a "main law" in producing map** saying:*
You have to register the place name into the SSR according to the Place Name Act before you can use it on a map.
This has been put into action at present only for maps in medium or smaller scales. The Editorial System today has an annual updating for the map databases in medium and smaller scales.
Other sorts of text can be created in The Editorial System, but this will only be text information like Camp site, Dam, etc.
By creating a system locked to these principles, we ensure that the elements in the Place Name Act are always followed.

Technical solution for the Place name environment

We have built the solution around the principles for the Norwegian Mapping Authority's new development National Geographic Information Centre (NGIS). In this solution we have as *THE* central element an application programmable interface (API). In this interface we have written protocols for all sorts of manhandling that the different connected applications or programs are allowed to do. Since there are different applications connected by the API interface to the different databases, it is a complex structure both to create and to maintain. This was and still is *THE* real big challenge for the Norwegian Mapping Authority. **Se "Attach. 3"**
On the bottom line we have the SSR-database being an ORACLE database and the NGIS-raster database that has raster files of all the various map scales from 1:5 000 to 1:1 mill. We also have a future connection to our vector data.
The blue dotted elements on the attachment 5 are all nucleus elements in the Central Place Name Register block. Inside this main block, you can do more or less everything with the place names if

you have the rights to do so. These rights are guided by user access to the system given to each user directly by the manager of the database. The application in this block is our own developed SSR-client that is created for taking care of all the principles in The Place Name Act.
The hatched elements are existing data systems with both internal and external users. The elements can at present be both SSR-client and the Editorial System.
The chequered elements are future solutions based on direct connections to external databases.
We have all the same problems as all other firms that have opened to the outer world. Since we have made it possible to lease the SSR-client to an external user for reading of the database, we have had to create a solid firewall.
On the other side of the firewall we have WEB-solutions, all based on Internet.

Internet / WEB site

We have created a WEB-site where you can search for place names placed in the SSR-database. The address for this is as shown. http://ngis2.statkart.no/ng2/ng2.html
We have created an English version of the site that can be activated by using the English flag. When you search in the SSR-database you get a list of all the names with a coordinate precision better than the defined attributes. Then you can choose among the names and present it on a raster map in different scales.
This WEB-site also gives you the possibility to search for an official address and do a simple transformation among different geographical coordinate systems in use in Norway.
All the place names being used, coded with product of medium and map scales, can be searched for in an Internet application on our WEB-site. After you have searched for a place name, you can view the place name on a raster map in scale ranged from 1:1 mill up to 1:5 000.
For persons interested in history we have opened for searching for place names presented on old historical county maps covering the whole of Norway.

The editorial mapping system 1

By using the systems interface, we have created a link between the SSR database and the cartographic editorial system.
By corresponding with the standard feature code in the SSR and specialised lists of features for each standardised map product, we achieve the first place name layer for the map "as finished as possible".
When we start with the *next* version of the map, we will get correctional warnings on the screen of different kind if there has been new or revised elements connected to the place names.
This could be elements like:
- Corrected feature codes
- Supplemented spellings from other official products.
- Name decisions that have made some spellings illegal to use.
- Improved coordinate positions for the physical object.
- New place names to the same object in the multilingual areas. The Place Name Act gives instructions about presenting these multilingual names on maps depending on whether they are in Norwegian or Sami municipalities.

SSRSak client

This application is made for correct treatment of the regulations in the Place Name Act. It is built up by using simple standardised queries like "Name", "Municipality", "Map" "Geographical area"

and more sophisticated with date and languages. Here you get a result you can print out as a list, file or as result plotted on a paper raster map.

In the most advanced way you can start a procedure for a place name decision by controlling existing place names, supplemented with correct information. Then you can "push" the case trough various levels of validation by The Name Advisory Services, municipalities or private persons. Finally modules are created in the application to make de updating as automatic as possible.

All users get a list result where they can look at a simple name or proceed to view the place names on the list on different raster presentations.

This could be in medium scale 1:50 000 with a group of place names. **See "Attach. 4"**

Finally, the user can view a single name and all the elements connected to the name. **See "Attach. 5"**