

SOLUTIONS FOR ENCOURAGING SPATIAL DATA PRODUCERS TO CO- OPERATE IN HARMONIZING NATIONAL TOPOGRAPHIC DATA



SDI DEVELOPMENT IN FINLAND

- Evolution of topographic data processes is progressing
- The Geospatial Platform project has been completed (2017-2019)
 - One of the main goals was to encourage data providers to adopt common conceptual models
 - Distributed data collection to reduce overlapping work
 - Nationally interoperable data
 - Data quality rules and quality management
 - Scope of the project was quite wide
 - The vision is that this would be a platform that offers services to an ecosystem that forms around interoperable spatial data

SUBJECTS

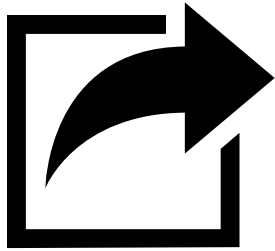
- Involving data providers to establish a multi-producer environment is a challenge
- Advancing the national SDI
 - Communicational methods
 - Technical solutions
 - Involving key stakeholders in development
- Introducing development ideas to make implementation less arduous
 - Quality Rule Catalog
 - Quality Map

DATA QUALITY VS. MULTI-PRODUCER ENVIRONMENT



- Logical consistency evaluation is an important factor in harmonizing data in multi-producer environments
- Evaluating whether or not the data is consistent with its specifications
- Differences in data production can and will make the data regionally different
 - Missing and inconsistent attributes
 - Topology and geometry errors
 - Errors in semantics

DATA INTEGRATION SERVICES



Data Upload Service



QualityGuard

LESSONS IN IMPLEMENTING THE SERVICES

- It has been difficult to motivate municipalities to try the services
 - Feedback would be vital to developing products that create value to the users
 - The main problem is that the first production release is scheduled to april 2020.....
- Communicating a *clear* and *reachable* vision is imperative
 - Twaddling nonsense about blockchains and 5G is **very easy**
 - Claiming the promises, however, is **not easy**
- Developing solutions that truly meet user needs requires expertise in many fields

LESSONS, PART 2

- Recipe to flawless victory
 - Create co-operation by working intensively with key stakeholders
 - Deliver high-quality digital services that meet the user needs as well as possible
- Reality of being not so successful
 - Data providers may not have the means to do anything, motivated or not
 - Developing the data requires
 - Work
 - GIS-professionals
 - A truckload of money
 - Building commitment among municipal decision makers can be, ehm, difficult

SUPPORTING AND GUIDING THE USER

- Implementation support team grants access and tinkers transformations for the data provider's data.
- Promoting sessions with municipalities
 - Skype and face to face
 - Discussion with NLS experts about integrating their data
- Communicating actively is a key element in developing support services and applications
 - Brings user needs to attention
 - Problems are solved quickly
- An extensive repository of online support material must be available because getting into contact always requires taking a step

ATTEMPTING TO UNDERSTAND USER NEEDS

- User centered thinking is very much something that needs to be established at NLS
 - Requirements are not managed properly → Improved process which is meant to highly improve this aspect
 - Chews strategic level business requirements into solutions
 - Micro
 - Roles, forms, methods
 - Should also make the project organization leaner and more focused
- Stakeholder groups → Personas
 - “Typical representatives” of a group with similar interests
 - Interviews, feedback, gaining knowledge
- User journeys
 - Finding and analyzing touchpoints of the user

CASE 1



“I don’t understand the findings in my quality report”

“I don’t know how to fix my data”

QUALITY RULE CATALOG

- Literally a searchable catalog of quality rules
- The Catalog would consist of
 - Quality rule definitions
 - Images to support understanding
 - Instructions on how to fix the issue
 - A board to discuss about the rules
- It would be possible to find the rule by ID or by scrolling down a list for each data theme
- The key point is to support the data producers in fixing their data!

**Users find something difficult to grasp?
Serve the solution on a platter!**

CASE 2

“Our data is so good that we don’t have to fix it!”

QUALITY MAP

- Visualizes regional data quality across the country
 - ... And how it progresses
- The aim is to make data quality transparent for everyone
- This can be a motivator for data providers to
 - Participate: “*Why are **we** not there?*”
 - Fix their data: “*Oh! Our data is much worse than the neighbor’s!*”
- Visual information can be valuable also for the end user
 - Helps in determining whether or not cross-border data is good enough for their use case

CONCLUSION: WHAT HAVE WE LEARNED?

- NLS has developed digital services that aim to advance harmonization of spatial data in Finland
 - Common definitions, solutions and services along with data quality plays a big part
- Getting potential users to adopt the services has turned out to be a challenge
- Communicating a clear and reachable vision is imperative but the promises must also be claimed to avoid loss of reputation
- User needs must be considered carefully and they must be met to a good degree
- Technical solutions can be a great asset if they are designed to solve central issues
- The problem field is gigantic but we are hopeful that co-operation will be established without resorting to legislation entirely

THANK YOU!

