

INSPIRE CONFERENCE 2017
Workshop/Seminar proposal

TITLE DETAILS

Workshop title: Practicing Practical INSPIRE

Workshop length: 3 hrs

Workshop type: Brainstorming/tutorial

Expected number participants: 60

WORKSHOP FACILITATOR DETAILS

Names: Kathi Schleidt, Stefania Morrone, Lena Hallin-Pihlatie, Sylvain Grellet, Iurie Maxim, Thorsten Reitz

Address: Robert Hamerling Gasse 1/14

Phone: +43 650 89 234 26

Email: Kathi@datacove.eu

WORKSHOP DESCRIPTION INCLUDING LEARNING OBJECTIVES

As the milestones for full functionality of INSPIRE download services grow near, the various difficulties entailed in the implementation and usage of these services are becoming more and more apparent. Issues encountered range from bugs (both known and emerging) within software used for service provision over inconsistencies and/or unclear statements in the INSPIRE Specifications and Technical Guidelines; good examples are still hard to come by, while insights as to how they came to be are often not exposed.

In order to facilitate the INSPIRE implementation process, this workshop will focus on the problems encountered in various INSPIRE implementations utilizing Open Source software, as well as the solutions and workarounds required to enable this. We will begin the workshop with an overview of possible architectures for INSPIRE implementation, illustrating these through real-world examples from various INSPIRE Themes from across Europe. We will then present and discuss various issues encountered in the implementation process, ranging from the provision of INSPIRE Compliant download services over accessing and cross-referencing the data provided via INSPIRE download services to options for the development of client solutions and the potential reuse of existing code to enable this process.

Known bugs in existing Open Source solutions will be documented and added to the rapidly growing list of bugs, workarounds and possible funding options being maintained by the INSPIRE Cluster Facilitators. Where relevant, proposals will be formulated to help mitigate issues triggered by a lack of detail in the guidance documents. We will also explore options for continuous sharing of solutions, the options for creating a repository of helper code snippets (i.e. for codelist resolution, but also for accessing and processing complex data types) will be discussed.

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The outcomes of this workshop will be documented and provided to JRC and the MIG to support them in their work of enabling INSPIRE.

DESCRIPTION OF TARGET WORKSHOP AUDIENCE

INSPIRE implementers, data providers and data users as well as SW companies interested in creating INSPIRE applications based on INSPIRE data and services.

WORKSHOP REQUIREMENTS

If you're chewing on a problem, bring it along!

DETAILED WORKSHOP AGENDA

Introduction

Overview of the workshop agenda, presenters

Architectural Overview with Examples

To set the scene on our workshop on Practicing Practical INSPIRE, we will present possible architectures for INSPIRE, showing various implementation options. These architectures will be further underpinned through examples from various thematic areas, and covering all areas of INSPIRE from data provision, data access and data usage and client development.

Implementation Examples:

- Application to groundwater monitoring system
- Statistical Viewer
- EF via WFS
- Finnish experiences with GeoServer
- WFS 2.0. direct access across multiple feature types
- Management of View- and Download Services in the Cloud

Implementation Issues

Based on the examples provided in the previous section, we will go on to detail various issues encountered in the implementation process. We will start with the provision of INSPIRE compliant download services, covering known issues in the available open source solutions together with remediation options as well as various simplification options that have been identified. From this we will segue to issues pertaining to accessing data from the download services including identifier management and referencing of features, as well as access for applications via

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stored queries; this section builds a bridge from server side provision issues to client usage topics, and will illustrate what server side arrangements are most suitable to enabling client side usage. We will conclude this segment by focusing on issues arising from the implementation of client applications based on INSPIRE data, detailing experiences gained in the usage of open source libraries, and discussing options for making reusable code bits available. The topics will be structured as follows:

Data Provision

- Issues providing download services (GeoServer, DeeGree)
 - Presentation of known bugs together with workarounds
 - Issues with provision of specific themes, i.e. how to provide O&M Observations via WFS
 - Presentation of list of known Geoserver problems:
https://docs.google.com/spreadsheets/d/1JTjwVJggxi3CHM40GL1B_b35IY8zV1_6i-E0HDaxJXc/edit?usp=sharing
 - Overview of recent and upcoming improvements to Open Source Systems
 - Discussion on possible joint funding of fixes
- Simplification Options
 - Problems with the complexity of basic INSPIRE types, i.e. Geographic Names, Related Party, including current discussions in MIG
 - Dangers of workarounds (i.e. putting the entire geographical name into the GN delivery point element, result will be unstandardized standardized data)
 - Options for simplification - software driven flattening versus community driven schema simplifications (GeoSciML Lite, EarthResourceML Lite,...).
 - Potential of APIs exposing simplified features as an alternative solution
 - Simplification through alternative encodings (JSON, RDF), also as a way towards more INSPIRE based linked open data

Data Access

- Identifier Management and Referencing
 - Overview of INSPIRE Identifiers (inspireId, gml id, gml identifier), their use in referencing between features
 - Server Side: how to set up resolvable URIs (wider dissemination of rewriter solutions)
 - Client Side: how to resolve xlink referencing further features (content negotiation, ...)

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- Stored queries
 - Standardized stored queries would be valuable for interoperation of applications with services from multiple data providers, would be a good complement to data specifications. Types of stored queries defined for applications will be collected and discussed, options for standardization clarified.
 - Additional required queries, i.e. is there a way to filter distinct values for a field in WFS? How can one provide such functionality?

Data Usage

- Various libraries are available for the implementation of client software. These will be discussed, together with their strengths and weaknesses
 - GDAL GMLAS driver (http://www.gdal.org/drv_gmlas.html)
 - QGIS GML application schema toolbox
- Bits&Pieces: many basic functionalities are required for the implementation of clients, making bits of reusable code supporting these functionalities available would help to accelerate the client implementation process. In this section we will discuss candidate functionalities as well as options for making these available (i.e. link between INSPIRE Cluster/Practice pages and GitHub repository). Examples of such functionalities are:
 - Codelist resolution will become an issue as more end-users start utilizing INSPIRE Services; all one wants is a human readable label for an xlink, but one may need to parse many different codelist formats to do this
 - The way the PD data spec is defined, a PD feature provides many values for each spatial object; only one can be displayed. For the creation of a viewer for this data, filtering down to the relevant data via middleware can greatly improve viewer performance

Discussion/Wrap-up

As a wide range of implementation relevant topics will be covered in this workshop, we will keep the main discussion per topic together with the topics themselves. In the final block we will prioritize the topics and mitigation approaches, examine interlinkages across topics and approaches, and formulate proposals for input to the MIG as well as options for integrating the approaches into the existing support mechanisms (Thematic Clusters and INSPIRE in Practice).