

A Spatial Data Infrastructure in line with INSPIRE in support of local Municipalities in the “Vallo di Diano”.

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This paper describes the activities carried out as part of the Territorial Agency for Innovation and Research (AIRT), financed by FESR funds of the Campania Region (Programming 2007-2013), for the design, development and the implementation of a platform inherent in the district of the “Vallo di Diano”. Mountain Community “Vallo di Diano” has been promoting actions aimed at establishing a common set of spatial data such as to constitute an infrastructure that enables the sharing of information pertaining to the area with all stakeholders. In this sense, the project activities are aimed at AIRT implementation and use of a Geographic Information System "modern" in order to have a basis for spatial data more accessible and quality. The overall objective is to provide a platform for promotion and development of digital spatial information (Information and Communication Technology, ICT), also for the purpose of carrying out the functions associated with each of the Municipalities involved. For the implementation of the institutional platform, the path followed by the Mountain Community has been based on openness, sharing and consultation between all stakeholders involved from project activities.

Functionality of the AIRT Portal.

The activities carried out for the design, development and implementation of the platform have been aimed at creating an open-source based SDI to support the Municipalities in the performance of the processing for the Municipal Urban Plans (PUC) required by the Law 16/2004. In order to support the 15 Municipalities in the district in the activity of drawing up their planning instruments, the Mountain Community has developed the SDI on four key issues:

- dictating criteria and procedures for defining layers of information as a basis for the implementation of cognitive frameworks of the PUC (structural part);
- developing an on-line procedure for the acquisition, use and processing / update map data in GIS environment;
- structuring the WebGIS platform for consultation of databases, including the availability of a WMS service that will allow users to access geographical information using a GIS desktop client;
- integrating the platform with an engine and metadata display.

The databases.

In reference to the indications emerged in institutional meetings for the preparation of PUC was carried out on the basis of a preliminary investigation stage time to investigate the existing databases, the provision of an overview of the information needs for the preparation of the cognitive apparatus. The commissioning on the AIRT platform of structured and verified information layers will allow Municipalities the realization of cognitive devices organized according to standardized procedures for the entire area that will facilitate the conduct of operations. The physical model of the database consists of a spatial RDBMS using PostgreSQL/PostGIS.

Procedure for processing online map data.

To standardize procedures for the processing of databases and provide an innovative service to the Municipalities lacking GIS infrastructures, we developed a procedure for on-line editing of data. The database transferred online via WebGIS is developed according to client-server architecture in Web environment. The system architecture is based on the server side using a Spatial Database PostgreSQL/PostGIS for storing the data geographic and on the client side using of QuantumGIS integrated with custom modules using the SEXTANTE plugin for the execution of specific algorithms needed for the update and maintenance of data. The architecture has been designed according to the specifications of the Open Geospatial Consortium (OGC), which ensures the standard interchange/interoperability for WebGIS.

The WebGIS platform.

In order to grant access to the databases implemented on the AIRT platform, we have developed a web-based GIS system, access modes via Internet (or Intranet), dedicated and integrated on the project portal in order to:

- create a platform for the promotion and development of digital spatial information (ICT);
- grant access to the database to all interested stakeholders through a custom interface.
- use Open Source technologies to reduce costs.

Interactive mapping was carried out with the aid of a cartographic engine and web interface based on Open Source solutions (MapServer/p.mapper – LizMap Web Client).

Management module and metadata display.

The changing technological needs and the complexity of the "information" related to a particular area, they found explicit in some legislative acts promulgated in recent years that have had the task of coordinating information between the users and providers of spatial data of the same data in order to solve problems related to the availability, quality, organization, accessibility to sharing and interoperability of spatial information. We refer to the regulations issued following the European Directive INSPIRE instituting "Infrastructure for Spatial Information in the European Community", in particular the national legal acts that have implemented the directive and the technical rules for the definition of content of the National Catalogue of Spatial Data (RNDD). At the end of the implementation, updating and access to the metadata catalogue of spatial datasets that affect the area, was created a form of metadata management using as framework the open-source GeoNetwork. The module allows to display and enter the metadata associated with each level of information in the database. There is also a user profiling for the insert, update, and display the metadata of the catalogue, the functionality of the module will be accessed from the following types of users:

- *Author*: the user who has access to functionality for inserting, modifying and deleting metadata. These transactions will be subject to administrator validation;
- *Administrator*: the user who has the burden to validate transactions by the Author;
- *Visitor*: the generic internet user who will have access to the public section and the metadata information.