Web GIS 2.0 for the Umbri@Geo geographical infrastructure

Organizational model and technological choices

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Arch. Ambra Ciarapica, Dott. Paolo Tamagnini
L.R. 26/6/2009, n.13, art. 23:
Establishment of the Regional Environmental and Territorial Information System (SIAT):
a widespread system of territorial and environmental knowledge

**Legislation**

**Functions**

- Coordination with the national bodies responsible for defining the technical requirements
- Participation in the implementation of the National and the European Union Spatial Data Infrastructure (Directive INSPIRE)
- Creation, implementation and updating of the regional geographical data repository with statistical processing
- Online publication of the regional geographical data and metadata through ISO and OGC services
- Development of regional infrastructure “UmbriaGeo” for the diffusion of geographical knowledge and information

**Actions**

- Standard setting
- Geodatabase
- Data sharing & WebGIS

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Geographic information: providers and users

SIAT
A system for sharing geographical information

Providers

Single provider

Group of providers

WEB community providers

Users

Ordinary Users

Professional Users

Research Centers

Environmental Agency

Territorial Agency

Regional department

Local Government

University, Schools

Distributed Web Services
EGIS is a system of integrated components and consists of several functions used to collect, organize, analyze, display and disseminate geographic information through a distributed network architecture (GIS Dictionary).
**IT partnership**

**Strategic choice**
- No outsourcing
- Provide training support to regional human resources through a partnership of expertise team (ESRI Italia)

**Things done**
- Definition of the conceptual data model
- Optimization of map production
- Creation of the catalog metadata
- Deployment of map services (ISO and OGC)
- Project and development WebGIS
EGIS at work

Back-office and front-office: from data input to services output

Geodatabase • MSQL Server • Oracle

Analysis of available geographic datasets

Geodatabase modeling

Building IT Infrastructure

Support to knowledge and territorial government

Interoperability Services

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EGIS components

**TOPIC**
Harnessing the web and the power of gis going far beyond mapping and visualization

Content Management System

Web Application

GIS Viewer

Rest API GeoRSS/KML

Harvesting Service

- Client Web (RIA)
- Client Desktop ESRI
Why Web GIS 2.0?

WebGIS 2.0 was born from among the new features offered by Web 2.0 and the development of an Enterprise GIS platform based on ESRI ArcGIS Server technology.
Web GIS 2.0 of Regione Umbria

What is Web GIS 2.0 of Regione Umbria?

- It’s a Rich Internet Application developed in Adobe Flex with Web API ESRI
- It’s a Web Application for Publishing Web Services
- It’s an interactive interface for the consultation and analysis of Umbria’s geographic information

GIS Web Services for the interoperability

- WMS - OGC
- WFS - OGC
- WCS - OGC
- KML - OGC
- Map Service (REST, SOAP)
Main features of Web Application

- Widgets: configurable tools with specific functions and advanced features
- Toolbars with navigation and printing functions
- Tools for the reference to the location map (overview, bookmarks)
- Tools for spatial and statistical analysis
Web GIS 2.0 at work

Flexible and configurable Widgets
Maps: basic and thematic services

BASIC SERVICES
- Geographical names and grids
- Official administrative units
- Census and statistical districts
- Terrestrial elevation
- Ortophoto-images
- Transport networks

THEMATIC SERVICES
- Buildings and Addresses
- Land Cover
- Regional Technical Map
- Vegetation and landscape diversity
- ...
Web GIS 2.0 at work

Geoportal and Web GIS 2.0

**GEOPORTAL**
- Querying on metadata catalog by data or spatial attributes

**WEBGIS 2.0**
- Viewing of related map services and exporting xml
Web GIS 2.0 at work

- Viewing charts
  - Multiple series
  - Interactive charts
  - Pie charts, line charts, column charts
  - Graphic tools for features selection
WebGIS 2.0 in Umbri@Geo infrastructure

www.umbriageo.regione.umbria.it

Umbri@Geo

- is a web-space builded for the common and specialistic users of regional geographic information
- forming the regional infrastructure for the territorial and environmental data-sharing