The Experience of reusing WebGIS application templates applied to the integration of statistical and geospatial information

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Agenda

- Istat and geospatial information
- The opportunity of the GRANT project
- The experience of re-using the WebGIS application templates
- The prototype application
- Conclusions
Istat and geospatial information

- Istat is active in the field of geospatial statistical information since 1995

- In 20 years’ experience GIS expertise was developed and GIS key roles have been designed

- A geographic information system, named Gistat, has been developed and continuously enhanced

- Gistat publishes MapServices of geostatistical data, both for end users through interactive apps both programmers (machine-to-machine access)
- Statistical users still use traditional systems (lack of standards and GIS coded procedures)

- The use of geoprocessing tools and geospatial data is left to GIS experts

- A real integration of geospatial information in the statistical processes has not still been reached

- Istat is creating the register of places and of geographical units (a point-based framework to have new territorial dimensions in statistics)
The opportunity of the GRANT project

- 2016 GRANT program from Eurostat on “Merging statistics and geospatial information”

- Istat proposal “A reusable WebGIS application and a geospatial database schema for the EU countries comparison”

- The project is based on the re-use of previous experiences in building WebGIS applications of georeferenced statistical data

- Four interactive independent Map Panels for comparing statistical indicators in space and time
The opportunity of the GRANT project

The prototype WebGIS application
- Geodata refer to NUTS2 and NUTS3 levels according to the availability of historical series of the chosen statistical indicators

- Data limited to the EU Med and a subset of indicators and time series been used for the prototype

- Statistical indicators concern different themes: tourism, environment, transportation, population, economic growth, education,…
The prototype WebGIS application

- Geospatial procedures to transform and harmonize the data (ETL) to process the geo and statistical information

- The development of ETLs will ensure the possibility of re-use again the application

- The localization to English has been designed but not still fully implemented

- A metadata template site has been used and customized to provide documentation information
The prototype WebGIS application

Example of users Navigation and Interaction

the users can interact with the application choosing the statistical indicators, the year of reference and the territorial level of analysis

GIS tools such as pan, zoom, objects click,...available
The experience of re-use

- The reuse of experiences, data models, web apps templates has been promoted to reduce the preparation and the maintenance steps.

- The reuse of a data model designed to link statistical and geographic data.

- The data model is suitable to design and publish WebMapServices optimized to be consumed by WebGIS applications.

- The reuse of WebGIS applications templates oriented to the dissemination of georeferenced statistical information.
The experience of re-use

- Statistical data chosen are serialised in years and the GDB schema is based on that time units

- In the GDB geographical entities are defined and stored by year

- The relationships to the blocks of indicators are based on the yearly keys of statistical data
Naming rules have been used for the field names and aliases have been set to guarantee the readability of the indicators.

- The preparation of the MapServices is guided by Python procedures.
- A MapService per year has been dynamically generated.
- The authoring schemas are produced and dynamically linked to the GDB tables.
Conclusions

The project was not fully based on geospatial standards, but the re-use of the previous experiences has been a key factor to setup of a re-usable geospatial workflow for Istat.
Thanks for your attention

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