A WebGIS tool for the dissemination of earthquake data

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In 2004 a new seismic hazard map of Italy has been released by a task force that, in few months produced an amount of new or updated data, like a new version of the earthquake catalogue and a updated seismic zonation. A set of WebGIS tools has been designed for the dissemination of all data and subsequent outputs for the scientific community and the general public.

One of this module is a new user friendly interface for the macroseismic database. The interface allows a quick data consultation both in tabular form and in geographic map. Example features of the module are the navigation in the earthquake catalogue by earthquake and by locality and the automatic generation of seismic histories for each of them.

During the process of development of the macroseismic database and qualification data, the interface resulted useful also in: - finding mistakes in the georeferencing of intensity points; - association of any of 58926 intensity data points to a locality listed in the reference directory of localities; - validation of this association, both considering the damage pattern and regarding the decrease of intensity with respect to the epicentral distance;

Another module allow the visualization of seismic hazard maps assessed for different return period, where localities or knots of a regular grid can be selected. Query outputs associated to these points are (among others) hazard curves, uniform hazard spectra and de-aggregation map. An efficient and powerful DBMS is needed for this task, since all data cannot be produced in real time (long computational time is required).

From the technical point of view, we paid attention to: - clean and friendly interface, not only for scientists or experts; - open source server side software; - limited computer resources both for server and clients; - open standard interactive graphical format; - responsive queries; - the observance of the W3C and Italian guidelines for the accessibility and the usability, that will be guaranteed in the final version.