



Assisted editing of SensorML with EDI. A bottom-up scenario towards the definition of sensor profiles.

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Sensor observation systems for environmental data have become increasingly important in the last years. The EGU's Informatics in Oceanography and Ocean Science track stressed the importance of management tools and solutions for marine infrastructures. We think that full interoperability among sensor systems is still an open issue and that the solution to this involves providing appropriate metadata.

Several open source applications implement the SWE specification and, particularly, the Sensor Observation Services (SOS) standard. These applications allow for the exchange of data and metadata in XML format between computer systems. However, there is a lack of metadata editing tools supporting end users in this activity.

Generally speaking, it is hard for users to provide sensor metadata in the SensorML format without dedicated tools. In particular, such a tool should ease metadata editing by providing, for standard sensors, all the invariant information to be included in sensor metadata, thus allowing the user to concentrate on the metadata items that are related to the specific deployment.

RITMARE, the Italian flagship project on marine research, envisages a subproject, SP7, for the set-up of the project's spatial data infrastructure. SP7 developed EDI, a general purpose, template-driven metadata editor that is composed of a backend web service and an HTML5/javascript client. EDI can be customized for managing the creation of generic metadata encoded as XML.

Once tailored to a specific metadata format, EDI presents the users a web form with advanced auto completion and validation capabilities. In the case of sensor metadata (SensorML versions 1.0.1 and 2.0), the EDI client is instructed to send an "insert sensor" request to an SOS endpoint in order to save the metadata in an SOS server.

In the first phase of project RITMARE, EDI has been used to simplify the creation from scratch of SensorML metadata by the involved researchers and data managers. An interesting by-product of this ongoing work is currently constituting an archive of predefined sensor descriptions. This information is being collected in order to further ease metadata creation in the next phase of the project. Users will be able to choose among a number of sensor and sensor platform prototypes: These will be specific instances on which it will be possible to define, in a bottom-up approach, "sensor profiles".

We report on the outcome of this activity.