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EUMIS - an open portal framework for interoperable marine environmental services

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NETMAR (Open service network for marine environmental data) is an FP7 project that aims to develop a pilot European Marine Information System (EUMIS) for searching, downloading and integrating satellite, in situ and model data from ocean and coastal areas. EUMIS will use a semantic framework coupled with ontologies for identifying and accessing distributed data, such as near-real time, forecast and historical data.

Four pilots have been defined to clarify the needs for satellite, in situ and model based products and services in selected user communities. The pilots are:
· Pilot 1: Arctic Sea Ice Monitoring and Forecasting
· Pilot 2: Oil spill drift forecast and shoreline cleanup assessment services in France
· Pilot 3: Ocean colour - Marine Ecosystem, Research and Monitoring
· Pilot 4: International Coastal Atlas Network (ICAN) for coastal zone management

NETMAR is developing a set of data delivery services for the targeted user communities by means of standard web-GIS and OPeNDAP protocols. Processing services and adaptive service chaining services will also be developed, to enable users to generate new products suited to their needs. Both data retrieved from online repositories as well as the products generated dynamically can be accessed and visualised in the EUMIS portal. For this purpose, a GIS Viewer, a Service Chaining Editor and a Ontology Browser/Discovery Client have been developed and integrated in EUMIS.

The EUMIS portal is developed using a portal framework that is compliant with the JSR-168 (Java Portlet Specification 1.0) and JSR-286 (Java Portlet Specification, 2.0) standards. These standards defines the interface (contract) and lifecycle management for a portal system component, a portlet, which can be implemented in a number of programming languages, not only Java. The GIS Viewer is developed using a combination of Java, JavaScript and JSF (e.g. MapFaces). The Service chaining editor is implemented in JavaScript (using different libraries like jQuery and WireIt), and the Ontology Browser/Discovery Client by means of Adobe Flex. In addition to the portlets developed in the project, we have also used several of the pre-built portlets that come with the Liferay Community Edition portal framework, notably the wiki, forum and RSS feed portlets.

The presentation will focus on the developed system components and show some examples of products and services from the defined pilots.