Open Environmental Services Infrastructure

FOSS4G 2010, Barcelona
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OUTLINE

• Project overview
• Architecture
• Work packages
• Open Source integration
PROJECT OVERVIEW (1/4)

• ENVISION context
• European FP7 project
Main goal
Provide an ENVironmental Services Infrastructure with ONtologies for semantically enhanced multilingual discovery and adaptive composition of environmental models as services for non ICT-skilled users.
Use cases

• Landslide hazard and risk assessment

• Pollution management – Oil spills at sea
ENVISION OVERVIEW (4/4)

Approach

• Develop a Portal Designer to create specific Decision Support Environmental Portals
• Support for migrating environmental models as Web services: MaaS Composition Portal
• Provide an Ontology Infrastructure to enable the semantic annotation of environmental data resources
• Implement an Execution Infrastructure with a Semantic Catalogue and support for service mediation and adaptive service chaining
ARCHITECTURE (high level)
WORK PACKAGES

• WP1 – Environmental Services and Models; Scenarios and Pilots
• WP2 – Environmental Decision Support Portal
• WP3 – Model as a Service (MaaS) Composition Portal
• WP4 – Multilanguage Ontology-based Semantic Annotation
• WP5 – Semantic Catalogue
• WP6 – Adaptive Execution Infrastructure
OPEN SOURCE INTEGRATION (1/6)

WP1 – Environmental Services and Models; Scenarios and Pilots

• 52north encoding implementations
  – Sensor Observation Service
  – Web Processing Service
  – Sensor Event Service

• GeoServer: Web Coverage Service
WP2 - Environmental Decision Support Portal

- Java Portlet Specification: Liferay Portal CE
- Javascript for Rich Web Mapping Apps: GeoExt (GeoServer + OpenLayers)
OPEN SOURCE INTEGRATION (3/6)

WP3 – Model as a Service (MaaS) Composition Portal
• Service Composition Editor: Oryx
OPEN SOURCE INTEGRATION (4/6)

WP4 – Multilanguage Ontology-based Semantic Annotation
• Semantic Annotations: WSML
• User Resource Management: JCR with Apache Jackrabbit
OPEN SOURCE INTEGRATION (5/6)

WP5 – Semantic Catalogue

• Catalogue for semantic discovery: Geonetwork + IRIS Reasoner
OPEN SOURCE INTEGRATION (6/6)

WP6 – Adaptive Execution Infrastructure

• Service Orchestration: Apache ODE
• Semantic Context Space Engine: Jini framework (JavaSpaces)
• Ontology Repository: Sesame
http://www.envision-project.eu

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