

Project Plan

Reverse Engineering of GeoNetwork

Version: 1.0 draft

Prepared by: Ji Zhang

Supervisor: Clive Boughton

Background

GeoNetwork opensource is a standardized and decentralized spatial information management environment, designed to enable access to geo-referenced databases, cartographic products and related metadata from a variety of sources, enhancing the spatial information exchange and sharing between organizations and their audience, using the capacities of the internet. This approach of geographic information management aims at facilitating a wide community of spatial information users to have easy and timely access to available spatial data and to existing thematic maps that might support informed decision making. (GeoNetwork)

GeoNetwork has been developed by The Food and Agricultural Organisation (FAO) of the UN. Geoscience Australia use GeoNetwork as a platform to producing first-class geoscientific information and knowledge of resources, energy and tourism. This can enable the government and the community to make informed decisions about the exploration for resources, management of the environment, and the safety of critical infrastructure and the resultant wellbeing of all Australians. (Geoscience Australia)

Present version of GeoNetwork is GeoNetwork Opensource 2.2.0. The platform independent installer allows installing and running the software on a PC or a server on Windows, Linux and Mac OS X. It support for a number of metadata formats (ISO19115/19119 following ISO19139, FGDC and Dublin Core), a number of catalog interfaces (CSW2.0 ISO profile client and server, OAI-PMH client and server, GeoRSS server, GEO OpenSearch server, Web-DAV harvesting, GeoNetwork to GeoNetwork harvesting support). (Geonet-work)

Problem and Task description

Problem

GeoNetwork has not provided entire technical documentation. Only documents we can find that are Manual, User Guide, FAQs, and JavaDocs. However, there are no documentation about XML, XSL, JavaScript functions, and relationships between these JavaScript functions.

Task description

- All of the java_script, HTML, XSL and XML code to do with the client side of GeoNetwork needs to be reverse engineered. This will require determining all the java_script functions, classes etc. and their description (in an easy to understand way) and their relationship with any other java_script function.
- Describe (in an easy to understand way) where in the XSL/XML/HTML code the java_script functions are called.
- Identify in which files the java_script functions are to be found. Do a similar thing with the XML/XSL/HTML code.
- Identify all unused functions.
- Establish how InterMap might be able to be decoupled from GeoNetwork and an alternative is able to be "plugged in".
- Investigate the potential use of the OpenLayers software for providing the "plugin" mentioned above.

Plan and Schedule

Weeks	Tasks	Milestone
Week 1-4	<ul style="list-style-type: none"> Initial preparation and plan Learning Project Required Programming Languages (XML,XSL,HTML, JavaScript, and Ajax) 	12/08: Initial presentation 15/08: Project Plan
Week 5-6	<ul style="list-style-type: none"> Form all the JavaScript functions into XML document Attend Australian Geo-Science Presentation 	29/08: XML files of JavaScript functions
Week 7-8	<ul style="list-style-type: none"> Linking Matrix Establishment with XML document Map relationships between functions 	05/09: JavaScript functional Matrix 12/09: function relationship maps
Week 9-10	<ul style="list-style-type: none"> Do statistics and indexing among functions and files Identify unused functions and similar functions 	26/09: report unused functions and similar functions
Week 11	<ul style="list-style-type: none"> Investigate the potential use of the OpenLayers software Give an evaluation report of the decoupling the InterMap 	17/10: evaluation report of the decoupling the InterMap
Week 12	Final report	24/10: final report
Week 13	Final presentation	31/10: Final presentation

Potential risk:

- There are too many files need to be analysed in such short time frame
- The relationships between JavaScript functions could be very complex. It is hard to map and model these functions
- OpenLayers is another open source. Although it has well documentation, it is still hard to use OpenLayers to decouple the InterMap in such short time frame

Reference:

GeoNetwork OpenSource, 2008 "GeoNetwork opensource Community",
<http://geonetwork-opensource.org/> [Accessed 13 August 2008]

GeoScience Australia, 2008 "About us" *GeoScience Australia* ,
<http://www.ga.gov.au/about/> [Accessed 13 August 2008]