

**Technical Breakout Group, ICAN Workshop 3, Copenhagen, Denmark
Tuesday, July 8, 2008**

Facilitator: Dawn Wright

Recorder: Tanya Haddad

Attending:

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1) Next order of work:

- Prototype
- Vocabularies - SeaDataNet??
- Ontologies
- OGC Services - guides and profiles - next step = cookbook would be very valuable for specific communities
- metadata alignment - FGDC to ISO issues (big contribution potential inside the US
- next development
- user interface work?

Comments

Eoin - User interfaces should be a consideration and opportunity to learn from the example of InterRisk

Declan - InterRisk approach:

- WCS - mapserver - WCS

- WMS - very widely available

- WFS - Geoserver (needs GML application schemas work)

- CSW - GeoNetwork (harmonization task is metadata profiles, perhaps metadata profile based on INSPIRE)

[FGDC to ISO tool?](#)

[WMS to prototype](#)

Services are provided by different orgs different portals – custom portal in every case, so we are talking about an [ICAN portal](#)

[Relate use case to ICAN portal so that would be the first custom web GIS DSS in](#)

[Declan's diagram](#)

Semantic catalogs – ISDE (Irish Spatial Data Exchange) approach can help

ICAN vs. ISDE = ISDE structured level integration, ICAN on semantic – they

complement each other – combine both- use ISDE and tack on ICAN semantic approach

If SeaDataNet – oceanographic works for CZM community

If we see gap can we contribute list of BODC and MMI

Using MMI CV and ontologies is no problem – we can extend as needed for the super ontology – we can even mix MMI and SeaDataNet ontologies to make CWA ontologies

Infrastructure needs to be in place to manage it

Prototype limited by maintenance – is a technically valid platform to be transferred to multiple nodes

APIs will not be static, ontologies and libraries under development – what must each node to contribute and what will the lead global person contribute – not about available technology?

Administrative

Tools, software

Check in a new term

Governance

David - elaborate on the various aspects of the uses case outlined in workshop 2 and reflect it in the prototype

Dawn - sounds like we need a use case web GIS DSS focused on Coastal Erosion

Tanya - Vocabulary Servers - does SeaDataNet cover vocabulary that the CZM community is interested in? Can those lists be added can we be list contributors?

Yassine - the SeaDataNet vocabularies are a good starting point for us, we can extend them, blend them with terms, from MMI etc. Ontologies don't force you to use a single strict controlled vocabulary

Franz - is the prototype extensible to hundreds of nodes?? Is it easily adoptable by new participants, is it maintainable?

Yassine - the technology should be extensible, but the API's may need to be upgraded to be scalable.

Dawn - What are the different roles needed in the chain toward building a wider network of atlas nodes?

SUMMARY of NEEDS:

- 1 person to local ontology maintainers for each ICAN member (OWL keepers), CSW catalog (stick to coastal erosion use case for now), a domain person
- 1 person - Someone to maintain mappings between local and global – keep them as files separate from local ontologies on ICAN site – (an ontology person may not understand how to do mappings),
- 1 person to maintain global, super ontology, provide info and links to different relevant ontologies
- 1 person to disseminate knowledge of different ontologies that are out there – a computer scientist
- list of recommendations for implementing ontologies and setting up services, how to structure data, how to structure metadata – COOKBOOK (handbook)
- Services out there – info in the map file – guidelines for authoring web services, what tags need to be there, how to robustly author web services
- Open software group – Open Source Foundation, presentations online, presentations on best practices for authoring services; we can compile what works (Coastal GeoTools)
- Integrate WMS feeds to a common schema, GeoServe, GML application schemas – our approach is not just to use one app schema, with ICAN we want everyone to use their own GML application schema (this is created by default unless you want more sophisticated schema)

Franz - There is still a difficulty that there is an assumption that Vocabulary can conflict across domains and by their nature CWAs are cross-domain, so an all-CWA encompassing OWL will set up vocabulary conflicts. There is a problematic assumption that existing keywords on existing metadata are not necessarily linked to supported ontologies.

Tanya - The Oregon experience is to construct the local OWL from the existing keywords - so doesn't this address that issue?

Liz - The answer lies in two areas - broadly sharing existing ontologies (ontology registries?), so that local atlas maintainers can pick them up and use them to create local OWLS. Any existing ontology can be adopted, adapted and portions left out if not applicable to a specific atlas

Fiona - Marine instruments use case is fairly narrow by comparison to the ICAN use case

Yassine - Ontologies are not intended to force the use of controlled vocabulary - you can use your own language, but ontologies specify that you should say (document) what you mean by what you are saying.

Dawn - the cookbook / handbook approach to coastal atlas

David - Guidelines / best practices to implementing services - look at the FOSS4G presentations, contact authors

Yassine - InterRisk approach is to totally harmonize, while ICAN wants a more mediated approach because atlases already exist. We've already mediated the CSW side, perhaps the next mediation step is WFS? Rather than WMS. The real technical interoperability question to be addressed is the mediation of disparate features (from multiple data sources)

Next step to mediation of WFS instead of WMS – with WFS you have the vectors, the features, everything – everyone has their own WMS server or mediate WFS and have only one WMS at the ICAN level, which will just map those WFS. This is different and better because we don't have to restructure data and tags and content of data on the fly

How many are doing WFS and GeoNetwork already? If you don't harmonize you will be obliged to mediate – this could be a new requirement for joining ICAN

- Need Protégé

Franz - what is a benefit for a local node to buy into ICAN? Questions of aggregation and scale. We need to be clear what the incentives are for different existing portals to join.

ICAN needs to articulate benefits to users, but also to data providers

Why should data providers hook up to ICAN – we have a mandate to work regionally already – we need a better overview – an interest from higher level, why should we do this if we don't have the resources to do it. To create a benefit on this level is crucial for benefit of systems so that it won't die eventually.

Tanya - early days of FGDC they incentivised people to start producing metadata using grants, and then next we had grant to look into services

Can we find a funding source to help existing CWAs pay for the piece that they need – INCENTIVE program for new CWA members

LUNCH BREAK

WMS vs. WFS and WCS

WFS - does using WFS open up IP issues with regards to publishing

Yassine - didn't want to imply that WFS is served to the public directly, but instead used to serve restricted feeds to the ICAN central server for restructuring to the same schema. This is where the research interest / real technical challenges lie.

Declan - WMS should be the entry level, and WFS should be optional, and we could benchmark the differences

Data contributors to MIDA have MOU with providers that actually prevents WFS – we'd have to ask for additional permission

WMS, WFS – menu of publishing options for data providers so that they can choose; start without restriction; sure that we get free access of data; select data sets with no access issues;

WFS used for local to global atlas delivery only, access to ICAN network, get data, restructure it, present it, without revealing it for download – compelling research idea; WMS and WFS depending on where the data are available; a detailed coastline could provide

Number of nodes is not important, the structure of the engine

Need a very good cookbook, can explain that WFS is next step for more advanced users; WMS for all

Portal, prototype with WMS for 5 nodes, WFS for 2 or
Simon's, Wisconsin, OCA, MIDA, Washington Coastal Atlas, African Marine Atlas, ISDE/InterRisk existing web services, Alessandro's group Trente de l
Marine Boundary

Documentation of original prototype of first group to pass on to the next group
Full documentation ongoing

Tools Needed: Protégé, CSW with GeoNetwork, CMAP is good for domain experts; [let GeoNetwork people know what we are doing, perhaps they could help fastrack us – we](#)

need relationships to improve the search (an ontology) – Yassine, Franz, Alessandro, and Tanya can help

Staffing issues:

- students can be difficult because it takes too much time to train and get them to follow through – metadata alignment, grunt work might be more appropriate
- WMS does not take much time, decisions may be political in terms of data licensing, which ones to activate
- Yassine did all programming but time intensive part is on developing ontology, selection of terms, arrangement of terms, atlas part of a really big network and coming up with terms could take a long bit of time; development of list of terms; SeaDataNet puts up a vocab in straw man form, sent by spreadsheet to a listserv, people comment by email; MMI workshop in Boulder for example, but they fail to maintain continuity of input from domain experts; they give an initial list, then the people who are building the ontologies get a new word and have no idea how to fit in the new word; ontology building is not a technical operation, you have to have the domain experts; content governance of
- Ontology person references domain experts on her staff
- Email list has internal experts looking in on it; knowing thoughts are useful
- CF list; climate forecast group

Document all points of difficulty how we got over those

Menu of publishing options

Implications with load on server

Need to benchmark load on server

Need to create a document on Digital rights management (iTunes), Roger Longhorn

Dawn - what should be our action plan going forward for 2008-2009 ? Who will be part of Prototype phase II ??

Oregon
MIDA
Belgium

Wisconsin - close
African - potential
Washington - potential

Irish Marine Institute
Trente Lagoona - Alessandro's Group

Dawn - we are all working full time on our real jobs - how can we fund this

into the future ? what types of support would be helpful? Months of salary ? work release?

Tanya - the most time consuming portion was the OWL development, so resources to work on that aspect would be necessary/ helpful

Dawn - would an OWL workshop intensive be appropriate for this?

Roy - SeaDataNet vets new vocab using an email list

Dawn - we should set up a Coastal Atlas Ontology listserv - initial focus on coastal erosion

- we need to investigate how this ties to InterRisk portals & ISDE
- MIDA and OCA need to document how we got to this stage, and how we move forward into WMS and WFS
- folks who have done phase I of the prototype should document it and then move into developing phase II

David - is Protege the right tool for showing the relationships of terms to a domain expert?

Fiona - CMAP is better

Dawn - should we connect / talk with the GeoNetwork folks to make them aware of our efforts

ACTION: Yassine - will discuss with Joeren Tichnor (Geonetwork) Paula Carrerra (Geonetwork cookbooks)

Email from Franz that evening

Dawn,

I just summarize my thoughts through our discussion this afternoon in the technical group which were not discussed but may be relevant for designing the actions for next year.

Maintenance / technical support for using ontologies:

- What kind of tools are needed in a global portal to support use and maintenance of ontologies?
- Is a role domain expert connected to access rights for specific part of the portal required?
- Are 'support components' part of the prototype – the portal or collected in a different application?

Regarding planning and resources:

- A cookbook is for me a kind of first level support for developers and newcomers; is ICAN able to provide as a network support beyond that level?
- How to deal with requests for physical presence resp. time spent in direct support (costs, availability...)?
- Is an 'all inclusive package' an option (installation and setup done by experienced ICAN members for a new node; who and what conditions)?
- Should ICAN look for optional available resources on demand outside the network, partners from industry?

Communication:

- Clear distinction between prototype with fixed targets for the next step and the vision of a broader network

Regards,

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**Follow-up Tech Breakout Group Meeting, EEA Conference, Copenhagen, Denmark
Thursday, July 10, 2008**

Attending in whole or in part:

Selorm Ababio

Simon Claus

Declan Dunne

Tanya Haddad

David Hart

Liz O'Dea

Eoin O'Grady

Yassine Lassoued

Roy Lowry

Tim Nyerges

Alessandro Sarretta

Dawn Wright

Portlet = web service tool that fits into a portal

What are we defining as a portal? – Can the prototype, contain education materials, expertise directory, lessons, anything all be included? Yes, but the problem is that if everybody accesses it, it may be hard to maintain order. This is why we must have a super administrator to maintain that order.

A content mgmt system (CMS) is controlled and a wiki is more free-wheeling.

Yassine - CMS is infrastructure for building the portal.

Can Drupal integrate the prototype? Joomla can do it right now. Prototype at ican.ucc.ie is implemented in java and java jsp. Yassine hates php, loves java

Tanya - CMSs can connect to resources living on other servers

Tim - Joomla (<http://www.joomla.org/>) will be tested in NOAA SARP and we can leverage that experience.

Suggestions/comments from Tim:

(1) Wants to know what the interface does – explain what the prototype does (needs more detailed info beyond ICSOFT paper. Dawn suggests reviewing the PPT that Yassine, Tanya, and Ned presented at EEA, as well as our Tech breakout notes from Tuesday.)

(2) What do people need when they do projects to enable their work? We use Skype, but what about collaborative writing tools (wiki, content oriented wiki). Dawn: there is a collaborative book-writing module in Drupal.

(3) Push our super ontology up to up to the ISO or IHO, letting them know what we are doing as per a coastal erosion ontology, and see if they will vet it so that we have an international standard of some sort for a super ontology? USGS ontology folks might have good contact people at ISO or IHO

DESIRED FUNCTIONS THAT WE WANT TO SEE in our ICAN PORTAL:

1 – Definition/mission statement for ICAN is and an explanation what the current ICAN prototype does. [Mission statement and current members already on present site, so we can start with those.]

2 - **Support for working tasks:** collaborative writing, task scheduling with milestones and units, as in a standard GANTT chart (a popular type of bar chart that illustrates a project schedule or timeline, e.g., <http://www.ganttchart.com> - Base Camp is good software or the app John Helly used last year)

3 - **Expertise directory** of CWA experts in a relational database; allow user to send a message to the expert, not necessarily by simple email, but by an internal messaging system. Simon has experience with such a system set-up as VLIZ can maintain modular projects, publications, conferences, other sub-selections of an expertise directory within the same the database (their IMS or integrated marine information system). Group agreed to initially adopt Simon's approach at VLIZ and to inquire if we can integrate it into Drupal. Give names and information to Simon. Dawn mentioned IODE's Ocean Expert which allows self-registration with ease. VLIZ is harder. But for now we would just want to include name, institute, expertise.

4 - **Resource directory**, also in a relational database. Links to pieces of code, APIs, etc.? Where to obtain map server software, GeoNetwork files, OGC specifications and instructions, etc.?

5 – **Threaded forums** with blog capability plus comments with email out to users when a new posting is added. Email gives you the teaser with a link to take you back to the forum without necessarily having to log back in. Ability for users to post directly to blog by email? All emails and transactions would be archived and searchable. Forums would facilitate communications of the main of strategic planning/funding, governance, and technical groups, but would also cover various themes started in the ICAN 1 workshop report, such as use cases, atlas design, atlas technologies, institutional capacity, etc. Moderators for the forums would send out discussion questions and ask for feedback. Again people would get an email when something new is posted (check on that capability in Drupal). People would need to volunteer to be a moderator. This is for our existing community of ICAN. Forum topics could link back to documentation and to the OWLs.

Liz's rough list of potential forum topics. They may be too many and can be consolidated, and people may want to add others.

1. Technology and Standards
2. Atlas Design and Usability
3. Atlas users / Audience / Outreach
4. Atlas Support (Financial / Institutional)
5. Data Issues (themes/topics; access; management; quality; licensing; limitations)
[should this be broken down further?]
6. Collaborative opportunities
7. Relevant policy & initiatives
8. Coastal ontologies / semantic interoperability
9. Measuring atlas impact / value [combine with 3?]
10. Lessons learned / identifying best practice
11. Meeting community needs (tools; supplemental information; tutorials; educational resources; etc)

[Dawn adds that these can be GROUPS in Drupal as well, groups that users could sign up for upon enrolling as members in the ICAN portal. See the example below from MMI and what they implement in their Drupal site.]

The screenshot shows the Marine Metadata Interoperability website. The header features the site title and navigation links (Help, FAQ, Contact us). A search bar is located in the top right. On the left, a vertical navigation menu includes links for Home, MMI Guides, Community, Vocabularies & Standards, Metadata Tools, Projects & Organizations, Search MMI References, Events, Add Content to Site, and About MMI. The main content area is titled "User account" and contains a form for creating a new account. The form includes fields for Username and E-mail address, with explanatory text for each. Below the form is a "Groups" section with checkboxes for joining various teams like DIVE Team, Expedition Metadata, Image Metadata for CenSeam, etc. On the right, there are two sidebars: "UPCOMING EVENTS" listing events like "Open Forum for Metadata Registries" and "2008 Western Pacific Geophysics Meeting", and "METADATA COMMUNITY NEWS" with a list of news items.

6 - **Cookbook with tutorials**, especially for people who are starting a new atlas. Our handbook published by IGI-Global will have this but will want to have material online. Handbook will be more theoretical and web content would refer more to step-by-step (e.g., a chapter written for the handbook, might have an appendix with step-by-step that would be available only on the web). Dawn will clarify this with publisher

7 - Map of ICAN participants and ability to add yourself to map. Should we make the map in KML? May be folded into to

8 – **Inventory or directory** of atlases, regardless of whether they are in ICAN or not. NOAA CSC is working on inventory of U.S. efforts and EuroOcean could help with inventory of European atlases. These inventories get to our firm definition of what we consider a CWA to be, with our ICAN list of standard features and services. This is along the lines of an **assessment**, NOT an **evaluation**, which is at another level.

9 - **Bibliography** of ICAN conference papers, journal articles, workshop reports, book

ACTION: Dawn to send a draft email to Tech Group first on desired capabilities in Drupal that would accomplish the above, before sending it on to her OSU Drupal guys

Try things initially on OSU's installation of Drupal and see how it works for us. If it doesn't work, articulate why as part of informal research on the true needs of effective participatory systems.

ACTION: Dawn to set up passwords for people, give them instruction as to how to use it – Dawn is super administrator. For now let me know what you create and I will link it in.

Yassine's list of menus/categories for the portal:

Home
About ICAN
Objectives?
Working Groups (roles and people who occupy them)
Members (list of organizations)
Expertise Directory
Atlas Network – Prototype with list of nodes
Resource Directory (links, bibliographies)
Tutorials/Cookbooks
Publications (references to the articles)
Members Area (private area with documents, white papers)
Forum
Events
Site Map
Include Bugzilla (<http://www.bugzilla.org/>) or "Track", as well as site visit statistics

Yassine – Change look and feel of web site (change from default OSU Drupal theme so that we have a horizontally wider content area, as well as other graphic design changes need)

- Work up to 3 site administrators for moderating of Drupal content

Easier Domain Name? ICatlas.net? ICA.net?
coastalatlas.com still held by Oregon Coastal Management Program but it's a ".com"

Group decided on icoastalatlas.net, purchased by Dawn on godaddy.com

Your Customer Number is: 21949550

Order Number: 118846633

Your Login Name is: 21949550

Your Password Hint is: Hawaiian

See Liz's spreadsheet on lingering prototype 1 and future prototype 2 issues:
[prototypeObjectives.xls](#)