Lessons Learned from Virtual Organizing for the Ontology Summit 2007

Presented by Ontolog: Steve Ray, Peter Yim, Frank Olken,
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At the Collaborative Expedition Workshop (CEW#63) entitled:

Towards Stable Meaning and Records Preservation in Information-Sharing: Building the Way Forward Together

at National Science Foundation,
Arlington, VA

July 17, 2007

(v 1.29)

Driving Challenge

There is great variance in the use of the term "ontology" to mean:

Thesaurus
Terminology
Taxonomy
"Folksonomy"
Conceptual model
Formal logic model
Logical domain theory
XML schema
…

…making it difficult to combine, compare and contrast work done
by the community

What to do?

Bludgeon the world into using a single definition

or

Provide a means of identifying what kind of "ontology" you are talking about

Ontology Summit 2007

Objective:

"…to define and agree to a systematic means of categorizing the many kinds of things that fall broadly within the "ontology" spectrum."

Under the Title:

"**Ontology Summit 2007** - Ontology, Taxonomy, Folksonomy: Understanding the Distinctions"

Mechanism

1. A vigorous three-month online discourse on the subject matter

2. A survey of the broader community

3. Collaborative development of strawman structures to characterize all of these possibilities

4. A two-day face-to-face workshop and symposium (Apr. 23~24, 2007 at NIST, Gaithersberg, MD, as part of their Interoperability Week program)

Result

- An "ontology framework" was produced
    - Semantic dimensions
    - Pragmatic dimensions

- Serves as a working starting point for future discussions

Proceedings Archived

- The virtual process were conductor on Ontolog Forum's collaborative work environment - which consisted of an archived mailing list, a wiki and a shared file (webdav) workspace

- Entire proceedings were archived, all contents accessible from a web browser (with fine grain accessibility), indexed for full text search, tagged with metadata and openly available

- Refer to the OntologySummit2007 home page at: http://ontolog.cim3.net/cgi-bin/wiki.pl?OntologySummit2007

ONTOLOG (aka. Ontolog Forum) est. Apr.2002
our "*dialog in ontology*"

- **Membership** - 360; from 20 different countries (as at mid Apr-2007)

- **Users** - from 115 cities globally, generating ~3000 visits and ~13,000 hits on our site per day

- **Hosted** on the CIM3 collaborative work environment infrastructure

- **Charter** - Ontolog is an open, international, virtual community of practice, whose membership will:

  - Discuss practical issues and strategies associated with the development and application of both formal and informal ontologies.

  - Identify ontological engineering approaches that might be applied to the UBL effort, as well as to the broader domain of eBusiness standardization efforts.

  - Strive to advance the field of ontological engineering and semantic technologies, and to help move them into main stream applications.

- **Activities:**

  - Weekly conference calls of active members

  - Monthly virtual Invited Speaker events

  - Scheduled Technical Discussions

  - Specific Projects: like [CCT-Rep], [Health-Ont], NHIN-RFI response, Upper Ontology Summit, Event podcast, Ontologizing the Ontolog Content, Ontology-driven Applications Inventory, Database & Ontology, Ontology Measurement & Evaluation, [ONION] ... OntologySummit2007

  - Resides on a virtual collaborative work environment which serves as a dynamic knowledge repository to the community's collective intelligence

- **We welcome your participation** – see: http://ontolog.cim3.net/wiki/

- **Questions? talk to any of our 3 co-conveners** - PeterYim; LeoObrst & KurtConrad
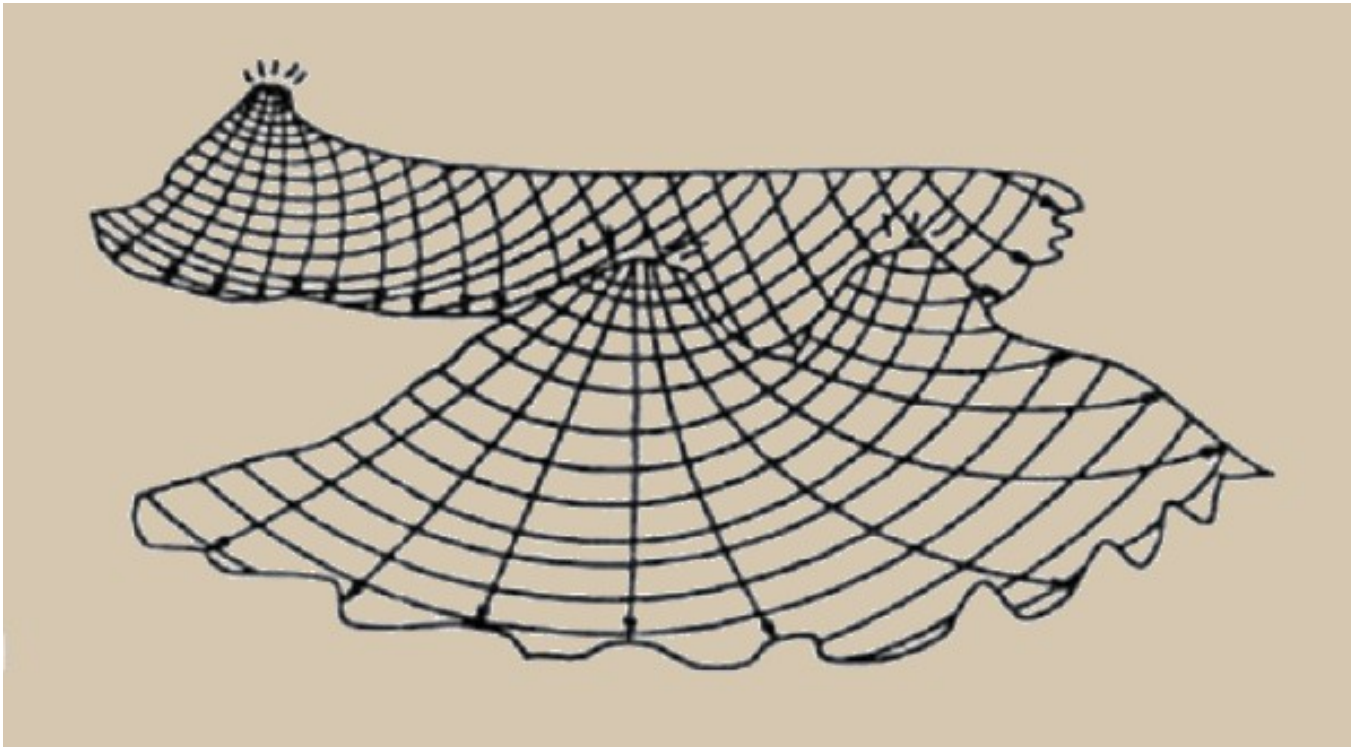
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Ontolog – an open CoP

Caption: *John McCarthy having a dialog with Doug Engelbart at a tavern … with 'the fishnet' on the wall*

introducing: The Fishnet Organization

An Organizational Form that the CWE aims at Supporting – leading us toward
Open Virtual Enterprises

these are temporary (or semi-permanent) hierarchies, that emerge out of the CoP's, which capitalize on distributed capabilities to achieve specific purposes; when those purposes are achieved (or when the opportunities no longer exist), they disband, and the resources (people, knowledge, skill sets) are returned to the CoP's where they come from.

Ontolog (Visitors) Users

ClustrMaps for http://ontolog.cim3.net

visits since 12 Jun 2006, updated daily

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Ontolog's key Differentiation

Activities are community driven; we are neutral, open, and we are not answerable to anyone, except for (explicitly) our charter & IPR policy, and (implicitly) our own professional integrity.

We are adamant about collaboration, sharing and open knowledge
… and are trying to spur organic or emergent behavior
in the community and our project teams

Unprecedented Level of Involvement
(as far as Ontolog is concerned)

- An organizing committee of 12 (from NIST, Ontolog, MITRE, NSF, NLM/NIH, W3C, NCOR, Stanford KSL & SMI, TagCommons, IBM Research and LOA-Italy)

- 50 co-sponsors (from 9 countries, including research institutions, standards groups, university departments-from Philosophy to Computer Science, major corporations to independent consultants, and web 2.0 entities)

- about 25% of the 360 Ontolog members were engaged in this initiative

- 52 individuals from 34 different constituencies responded to the online survey

- 57 people endorsed the Summit Communiqué

Reflections from the Panel

- Steve Ray

What worked well

- Many points of view were aired and recorded, efficiently

- Global participation

- High productivity – more was accomplished than could have been in a simple 2 day workshop

What didn't work well

- The online discussion got derailed at times
  - Dominance of strong voices
- The original objective was sometimes sidelined in favor of arguing about the definition of the word "ontology"
- We lost some subscribers during the high intensity discussions due to the volume of traffic

Lessons learned

- Starting a meeting online is an effective and time-efficient means of getting a lot of position statements recorded prior to a face-to-face meeting

- A good moderator is still very useful, even during online discussion, to maintain focus on the objective(s)

More lessons learned

- The wiki is excellent for synthesizing results as they emerge (both online and face-to-face)
- A good "gardener" is essential for a good wiki

Reflections from the Panel

- Peter Yim

Reflections on OntologySummit2007 [1]

- The 'Planned' Goals and Processes were often misunderstood or ignored – the myths:

    - that this was an event for ontologists

    - that it was a 2-day conference

    - that the debate was on "what *is* or *isn't* an ontology"

- Probably a good 70% of all work was done within the last week (despite the fact that we started the program more than 3 months before the final face-to-face event)

- Deadlines were (more often than not) ignored

Reflections on OntologySummit2007 (2)

- In the end ... everything worked out beautifully, in a quality that exceeded all expectations

- It only goes to show that this is a truly human process at work ... the spontaneity, the innovative, organic and emergent activities and behavior *is* what we are hoping to see happen

- (to some of us, at least) I believe we have landed on a ***strange attractor*** here (seeing the passion with the subject: Ontology and ontological engineering) in this ***complex adaptive system*** called the world wide web

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Reflections on OntologySummit2007 (3)

- While this is not total chaos, this is not *just* telework either

- I believe this is Communities of Practice (CoP's) at its best … whose behaviors and powers are still something we want to learn about and make attempts to harness

- (at least in our case) the effectiveness of collective effort boils down to:

  ▪ The participants' passion for the cause

  ▪ The individual talent and collective knowledge

  ▪ People's **attitude and willingness to contribute and share**

Reflections from the Panel

- Frank Olken

Creating the Ontology Summit Communique

Frank Olken
National Science Foundation

Olivier Bodenreider
National Library of Medicine

Presentation to Panel on
Virtual Organizing for the Ontology Summit, April 23-24, 2007
at
CEW/GSA/NSF Workshop on
Towards Stable Meaning and Records Preservation in Information-
Sharing: Building the Way Forward Together
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Overview

- Framework Document Development

- Communique Writing

- Lessons Learned

Framework Document Development

- Development of the framework involved:
  - Use of email
  - Use of a wiki
  - Use of teleconferences

Communique Writing

- Based on Framework Documents

- Framework was available on Wiki

- Presentations and discussion of Framework at the Ontology Summit

Communique Built on Framework Document!

- It would not have been possible to produce the communique during the meeting without the debates and writing of the Framework document prior to the meeting.

Communique Writing (cont.)

- Face-to-face meeting between Olken and Bodenreider
  - Partitioned writing by topic
- Email exchanges of text fragments
  - and comments / revisions
- Integration of text fragments and posting to wiki
- Presentation to the ontology summit
- Discussion
- Post-summit email discussions

Lessons Learned:
Text and Email

- Text is essential

  - This is the problem with teleconferences ....

  - Teleconference agendas, and minutes help

- Email is a useful medium for text exchanges, arguments

  - Threaded / indexed / searchable email archives are very helpful for coping with heavy email traffic.

- Email often does not converge.

Lessons Learned: Wikis

- Wikis are good for:
  - Posting large documents
  - Posting links to supplementary documents
  - Posting agendas
  - Posting minutes of teleconferences
  - Posting summaries of teleconferences, email debates
- Well organized wikis are easy search.

Debate and Convergence

- Teleconferences and face-to-face meetings are good for:
    - Debates
    - Reaching consensus
        - Face-to-face meetings are better for consensus building than teleconferences or email
- Teleconferences (especially) require strong chairs, disciplined participants
        - Otherwise chaos ensues
- Take minutes !!

Size Matters!

- It helps to keep the writing committee small.

Additional Information

- Ontology Summit

    - http://ontolog.cim3.net/cgi-bin/wiki.pl?OntologySummit2007

- Ontology Summit Communique

    - http://ontolog.cim3.net/cgi-bin/wiki.pl?OntologySummit2007_Communique

- Frank Olken: folken@nsf.gov

- Oliver Bodenreider: olivier@nlm.nih.gov

Reflections from the Panel

- Ken Baclawski

Ontology Summit 2007
Population Framework and Survey Analysis

Ken Baclawski

Objectives

- Outreach to the communities that have an interest in ontologies

- Collection of terminology related to ontologies from as many communities as possible

- Understand the different types of artifacts that fall broadly within the range of ontologies

- Ultimately help develop better methods for comparing, combining and mapping ontologies to one another.

Mechanisms

1. Survey solicted via broadcast to Ontolog and other collegial mailing lists.

2. Respondants' input collected via a web form, with results openly available on wiki and in csv and xls format

3. Survey analysis/synthesis presented on the wiki

4. Presentation at face-to-face workshop

5. Group breakout session at workshop

6. Followup with detailed assessment criteria on the wiki

Results

- Reached more than twice as many communities as originally anticipated

- Much larger diversity of terminology than previously realized

- The framework dimensions were revised based partly on the population analysis
  - Dimensions were added/dropped
  - Assessment criteria were tested and refined

Unexpected Benefits

- The original focus was on assessment criteria for ontology artifacts.
- The survey also helped to understand who was participating in the summit:
  - Large number of communities
  - Large variety of domains
  - Diverse collection of ontology artifacts
- Concerns and issues of the communities were articulated prior to the summit
  - Avoided neglecting any communities
  - Helped foster an atmosphere of inclusiveness at the summit

What worked well

- The survey was very effective at meeting its objectives

- The survey had many unexpected benefits

- The wiki enabled effective communication of complex survey analyses that would be difficult to convey over a mailing list.

- Improved productivity at the workshop

What didn't work well

- Survey design could have improved, if given more time for community input
  - Respondents did not always understand what was being asked
  - Responses were often misplaced
- A skilled analyst is necessary to extract and organize survey data
  - Questions were necessarily open-ended
  - One must expect the unexpected

Lessons learned

- Surveys can be complementary to online discussions and other collaborative tools
- Use of break out sessions was very helpful for improving productivity at the meeting

Ontology Summit 2007
Preparatory List Discussion

Doug Holmes

List Discussion

- Dedicated [ontology-summit] list (distinct from [ontolog-forum])
- Combined Event Planning, Administration and "Content" discussions between Jan 18 - April 30
  - ~ 40 "threads"; about half related to Planning/Admin and half to Content
  - about 400 messages were exchanged on the [ontology-summit] forum
  - Another ~1200 messages were exchanged on [ontolog-forum]
- Produced the survey and "influenced" the Draft Communique

Casual Observations

- Content Discussions in the [ontology-summit] list merged, more or less seamlessly with the [ontolog-forum]
    - Discussion on the summit list sparked subsequent discussions on the forum
    - Some then re-surfaced on the summit list in a different thread
- The summit list attracted some "new" participants, but most discussion was among the "veterans"

Personal Observations

- A surprisingly broad range interests - related to the announced topic - were revealed in the survey

- A much larger number of people were interested in [and attended] the Summit than was evidenced on the list

- Probably due to the "social dynamics" of a list, a small number of respected "voices" dominate the conversation which

    - tends to focus the conversation [good thing for event]
    - tends to restrict introduction of a broader perspective [possible bad thing if that is a goal of the event]

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Reflections from the Panel

- Denise Bedford

Ontology Summit 2007 and Beyond

- Gruber's definition of an ontology – "specification of a conceptualization"

- State of affairs of ontology development is similar to the standards development process – critical point between the "too early" and "too late" stages

- Current Success Factors

    - Active, open, committed online community

    - Focused on issues of ontologies

    - Focuses on the interests of the active community participants – specifications

- Future Success Factors

    - Continue to grow the community through the involvement of domain experts

    - Focus on conceptualization of particular domains

    - Evolve the types of specifications that are needed to support ontologies in range of domains

    - Evolve the framework to reflect these expanded specifications

    - Begin conceptualizing the tools that domain experts will need to manage and govern domain ontologies (this isn't going to be an engineering application in the future)

Reflections from the Panel

- Susan Turnbull

Some Lessons Learned: Connecting the Cultural DOTs (Dialogue, Openness, Transparency)

- Create environment to appreciate the "whole picture" – transcend insularity

- Practice plausible scenarios "on purpose"
  - Characterized by: inexpensive, frequent, public record on web, support remote participants, assume strategic leadership roles while "thinking out loud together"

- Minimal rules to set the stage
  - Purpose is larger than any organization – including government, purpose influences structure and participation more than lines of control, "sense of purpose is source of power"
  - Alignment around shared purposes, while maintaining autonomy, in order to advance agility that respects complexity.

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Discussion / Q & A