Scholarly practices research and methods ontology
DARIAH VCC2 - NeDIMAH workshop

Trinity College Dublin, Wednesday, 19 June 2013
Conference rooms 202 & 206, Phoenix House, 7 Leinster Street South, Dublin

EXECUTIVE SUMMARY

The following executive summary presents the key outcomes of the Workshop on Scholarly practices research and methods ontology which took place in Dublin on 19 June 2013, as a joint initiative of DARIAH VCC2 and the NeDIMAH methods ontology WG. These outcomes were further discussed and refined in a meeting between Costis Dallas (DARIAH-GR / VCC2 Task 2), Lorna Hughes (NeDIMAH) and Matt Munson (DARIAH-DE / VCC2 Task 5) on 9 July 2013 in Berlin.

Workshop objectives

- To assess the synergies between evidence-based research on scholarly practices in DARIAH VCC2 Task 2, and the collaborative development of a digital research methods ontology by NeDIMAH and DARIAH VCC2,
- to review, agree upon, and finalize plans on forthcoming empirical research on scholarly information practices and digital technology needs across several DARIAH member countries, namely: a questionnaire for an online survey, a template for collecting/writing up case studies, and a codebook for phone interviews with digital humanists and other stakeholders, and to agree on a time schedule for the research plan, and
- to consolidate and take forward the cooperation between NeDIMAH and DARIAH VCC2 that started last autumn on developing a digital scholarly research methods ontology, to define its scope and granularity, and agree on a process and plan of building the ontology.

Outcomes
The workshop achieved significant progress towards its planned objectives. Namely:
1. It achieved consensus that the two processes, of evidence-based monitoring and research on scholarly information practices and digital needs on the one hand, and of developing a digital research methods ontology on the other, can develop in synergy to mutual advantage.
2. It examined, developed and agreed on the methodology and main instruments of the planned research on scholarly information practices and digital needs in the context of DARIAH VCC2, which will be composed of:
    a. An online questionnaire, which has already been established in draft form and which will be translated and launched in several DARIAH-EU countries in fall 2013.
    b. A number of project profiles illustrating best practice in the use of digital methods, tools and services in arts and humanities research, to be sourced from participating DARIAH-EU countries starting fall 2013, on the basis of a common template which already exists in draft form.

    It was agreed that the final protocol and research instruments (instructions manual, questionnaire, project profile template) will be reviewed by an advisory review group, composed of 3-4 experts, before they are launched this fall.

3. The original timeplan for Task 2 work on scholarly practices research was confirmed in the meeting, namely:
    a. Finalization of the research protocol and instruments by early fall 2013.
    b. Launching questionnaire survey and collecting/producing project profiles by the end of 2013.
    c. Analysis and writeup of results in the first quarter of 2014.
4. It agreed on the main issues regarding the commitment, scope and procedures towards collaborative development of a digital research methods ontology by NeDIMAH and DARIAH VCC2, as follows:
    a. NeDIMAH and DARIAH VCC2 representatives agreed to join forces to build a methods ontology, based on previous work by NeDIMAH and others, and combining the results of current work of meeting participants from the DARIAH and NeDIMAH communities, so that the outcome of the NeDIMAH methods WG can be implemented and sustained in the future in the context of DARIAH.
    b. The ontology should be based on a common domain conceptualization regarding the relationship of research methods with other top-level entities (such as researchers, projects, data, tools and services). It should leverage existing schemas for entities where such schemas exist (e.g., for people/researchers), work together with other institutions interested in developing schemas for other entities (such as with DiRT/Bamboo for projects), with other DARIAH VCCs (such as with VCC3 for data/research content), and develop an appropriate schema for research methods, expanding on current knowledge on scholarly activity, methods modelling and process ontologies.
    c. The bulk of the work on the ontology should be on using the above schema to develop and document actual descriptions on specific digital research methods used in the arts and humanities, taking forward earlier work on methods taxonomy, arts-humanities.net, the Oxford taxonomy, DARIAH-DE ontology and other relevant initiatives, and connecting these descriptions with relevant fields, projects, research data, tools and services, as appropriate.
    d. Ownership of the output of the work should be shared by all participating bodies, and its use should be governed by an open content and open source approach.
    e. A methods ontology should be supported by appropriate formal schemas, which could be made available to national DARIAH networks, thematic infrastructures, and other partners, so that they use these schemas to record and keep current relevant information.
    f. The outcome of the methods ontology work may be contributed to emerging projects, such as the plans regarding migration and upgrade of the arts-humanities.net content through DH Commons under Centernet. It may also form the basis to launch a knowledge portal, and in the next stage a digital research methods Observatory for the arts and humanities, which will act as aggregator of relevant information on methods, projects, etc. on the basis of the ontology and related schemas above.
    To take this work forward, it was agreed that the de facto working group which emerged out of the latest two joint DARIAH-NeDIMAH meetings in Utrecht and Dublin will be expanded with further participants, so that work on DARIAH VCC1 and VCC3 is taken into account and consolidated in the ontology building process. For the detailed development of the methods ontology at the instance level (i.e. with specific methods descriptions), it was agreed that NeDIMAH may provide funds for a six month full time (or one year half time) contract to a DARIAH-based expert, who will spearhead and take forward the development of the detailed ontology.
5. It agreed on the following timeplan for the methods ontology work:

a. Producing a concept document to establish scholarly practices and research methods ontology work as a DARIAH umbrella project by September 2013 (Costis Dallas & Matt Brower to prepare and submit).
b. Establishing contacts and exploring synergies with other projects, such as DiRT Bamboo and DH Commons/Centernet as early as fall 2013.
c. Conceptual modelling of the main entities connected with digital research work in the arts and humanities, identification and integration of existing schemas (and authorities, where relevant) for entities such as research fields/disciplines, researchers, projects, research data/resource types,tools and services, and development of a schema for the description of research methods by the first quarter of 2014.
d. Development of a detailed, instance-level ontology of research methods, based on existing knowledge and prior work, on knowledge elicitation using experts in various digital arts and humanities fields from the DARIAH and NeDIMAH community, and on producing formal descriptions of each research method, its relationship with other entities (research fields, research data types, tools and services, projects etc.) and with other research methods, from the first quarter to the end of 2014.

Participants

Activities under the workplan agreed in the Dublin meeting will be based on a combination of:
1. NeDIMAH funding and in-kind resources, as outlined above.
2. DARIAH partner and associated country in-kind contributions, involving work by organizations from the following countries: Denmark, Germany, Greece, Ireland, Lithuania, and Slovenia.

A detailed resource plan will be provided by the September DARIAH VCC plenary meeting.

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WORKSHOP AGENDA

09:00 Arrival and introductions

09:15 - 11:00
Research practices and methods of digital scholarship: the state-of-the-art

Contributions:

- Scholarly practices research and methods ontology work: an introduction (Costis Dallas)
- Humanities research and digital scholarship: issues and directions for further study (Jane Ohlmeyer)
- From methods taxonomy to methods ontology: a historical background (Torsten Reimer)
- Research methods in the Scholarly Research Activity Model (Panos Constantopoulos)
- Current and emerging national and international initiatives (arts-humanities.net, Bamboo DiRT, DARIAH-DE portal, etc.) - synergies and complementarities (Erik Champion)

The objective of this session was to set the stage for the agenda of the workshop, by providing an introduction and a rationale for the synergy between evidence-based research on scholarly practices and the development of a digital research methods ontology, an account of the current and rising impact of digital methods and materials on humanities research, and a summary of earlier initatives and developments in the field of understanding, modelling, and disseminating information about scholarly research methods, tools and practices.

11:00 - 11:30 Coffee break

11:30 - 13:15
Planning for scholarly practices and methods ontology work in DARIAH and NeDIMAH

Contributions:

- Towards a research methods ontology: lessons from The Hague and present tasks (Erik Champion / Torsten Reimer)
- An agenda for understanding scholarly practices through empirical research in DARIAH (Costis Dallas)

- User requirements for a scholarly practices and research methods knowledge base (Panos Constantopoulos)
- The uptake on scholarly practices and research methods work in DARIAH VCC2 and umbrella projects (Erik Champion)
- Understanding and empowering the research community: a global outlook (Susan Schreibman)

The objective of this session was, firstly, to get participants up to speed on the current state and scope of the work of the NeDIMAH methods ontology working group and its cooperation with DARIAH VCC2 to date, as well as on the purpose and workplan of DARIAH VCC2 Task 2 - Understanding scholarly practices. And, secondly, to probe a discussion of the potential usefulness, scope and affordances of the planned knowledge base on scholarly practices and research methods, and set the work discussed earlier in the session in the context of empowering the research community through responsiveness to scholarly needs, knowledge-based learning and decision support, and active communication between scholars. This session provided insights to guide the work of the parallel sessions after the lunch break.

13:15 - 14:00 Lunch break

14:00 - 15:30
Parallel session A: Establishing a framework for empirical research on scholarly practices in the humanities

Contributions:

- Developing a template for case studies of digital scholarly practice (Susan Schreibman)
- Conducting interviews on humanities scholarly practice (Agiatis Benardou)
- Surveying scholarly information practices and digital needs (Costis Dallas)
- Working group contributions, discussion and conclusions

This parallel session advanced the work within DARIAH VCC2 Task 2 - Understanding scholarly practice. In particular, its objective was to review, agree upon, and finalize plans on forthcoming empirical research on scholarly information practices and digital technology needs across several DARIAH member countries, namely: a questionnaire for an online survey, a template for collecting/writing up case studies, and a codebook for phone interviews with digital humanists and other stakeholders. A time schedule for the research plan was agreed. Work performed in the session was reported later in a "user manual", intended to provide guidance for implementing this research plan in different DARIAH member countries.

14:00 - 15:30
Parallel session B: Foundations and methodology for a scholarly methods ontology

Contributions:
- Earlier work on research methods taxonomy in the UK (Torsten Reimer)
- Modelling research methods: developing a methodological approach and process (Panos Constantopoulos / Christian-Emil Ore)
- Scope, key entities and properties of a research methods ontology (all)
- Discussion and conclusions

This parallel session had the objective of consolidating and taking forward the cooperation between NeDIMAH and DARIAH VCC2 that started last autumn on the goal of developing a digital scholarly research methods ontology, by building on previous work on research methods taxonomy and ontology work on scholarly practice by meeting participants from several key groups working in this area. In particular, it aims to define the scope and granularity of the ontology, to agree on a method, formalisms and tools to be used for building the ontology, to identify reliable sources for knowledge elicitation, and, if possible, to sketch out the key entities and relationships of the ontology. A plan, with roles and responsibilities, a working group structure, and a business model for future work, was agreed.

This session outlined the following aims and objectives for what was a, relative to the task, short session:
- define the scope and granularity of the ontology;
- agree on a method, formalisms and tools to be used for building the ontology;
- identify reliable sources for knowledge elicitation;
- sketch out the key entities and relationships of the ontology;
- and ideally agree: a plan, with roles and responsibilities, a working group structure, and a business model for future work.

It addressed the following key questions:

Why do we need a 'Scholarly Methods Ontology'?
Establishing a widely used ontology would:
- help to establish the field (and communicate that to funders)
- save effort by preventing every project having to develop their own classification
- encourage networking and collaboration
- make resources easier to discover, to
  o facilitate re-use
  o encourage knowledge exchange
  o prevent "reinventing the wheel"

The Methods Ontology:
- Currently the Methods Taxonomy has three levels: 7 high level categories (very general), a middle level (as implemented by Oxford), and a detailed level of over hundred specific methods.
- Trying to be too detailed is not useful (scare away users, too difficult to apply consistently); the current list of methods is too long and it was questioned whether everything listed is actually a method or still relevant.
- The granularity level to aim for was described as "middle ground": specific enough to be useful, general enough to work – perhaps somewhere between the current middle level and the detailed list of terms.
- The top level could link to a scholarly workflow model; the current Methods Taxonomy does that to a certain extent but this could be improved.
- Are methods hierarchical? Or can they simply be grouped? An ontology would make it easier to define complex relationships (as opposed to the current taxonomy).
- There has to be a definition of what is seen as a method in this context. A method should be related to a research activity
- A tool is applied for using a method (or several); examples:
  - Artificial Intelligence (AI): Domain-independent ontology: heuristic classification – abstraction, definement

- ARIADNE: also working on taxonomy/ontology that needs to be ready to fit in
- Archaeology uses classification -> abstract from their specific ontology

Framework for future work:
- The future development of the ontology should be taken forward by a working group, including and building on the group present at the workshop.
- This should include at least one representative from each project and also DHCommons and CenterNet.

15:30 - 16:00 Coffee break

16:00 - 16:45
Scholarly practices and methods ontology work in DARIAH and NeDIMAH: conclusions, further ideas and next steps

Contributions:
- Report from parallel session A: Protocol for trans-European research on scholarly practices and digital needs (Costis Dallas)
- Report from parallel session B: Current state and future plans towards a methods ontology (Torsten Reimer)
- Open discussion (Chair: Panos Constantopoulos)

This session concluded the proceedings of the workshop. Its purpose was to summarize the findings and decisions made in the workshop, as they were further developed in the two parallel sessions on scholarly practices research and methods ontology respectively, and to get feedback from all participants before finalization, adjusting scope and planning decisions to best leverage synergies between the two tasks. Also, to allow airing and brief discussion of related items not formally included in earlier sessions, and to identify next steps. It was based on a presentation of reports from the parallel sessions, followed by open discussion.

16:45
Workshop ends

WORKSHOP ORGANIZERS

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Lorna Hughes, National Library of Wales (UK)
Matt Munson, University of Göttingen (DE)

WORKSHOP PARTICIPANTS

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WORKSHOP LOCATION

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Map: http://bit.ly/phoenixhouse

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