Current Efforts, Perspectives and Challenges Related to Digital Humanities in Nordic Countries

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Abstract

This paper reports on a panel discussion at the International Digital Humanities (DH) Symposium, held in Växjö, 7-8 November 2016. The panel was organized to carry out a review of different DH initiatives related to current projects, educational initiatives and research and development activities, principally from the following universities: Linnaeus University, Sweden; Aarhus University, Denmark; University of Helsinki, Finland; and the Norwegian University for Science and Technology, Norway. Furthermore, the report proposes the formation of a Nordic hub of DARIAH-EU (Digital Research Infrastructure for the Arts and Humanities) and the

challenges and opportunities arising from it. Opportunities include, for example: joint research and innovation efforts, education, expertise and experience exchange, and bringing in international perspectives to address transnational and regional challenges. The following challenges have been identified, namely: student recruitment, job opportunities in an emerging new market for graduates, and funding schemes.

Introduction

This paper reports on a panel discussion held at the International Digital Humanities Symposium, Växjö, 7-8 November 2016 (https://lnu.se/en/research/conferences/previous-conferences/international-digital-humanities-symposium/). It includes a review of DH initiatives, principally from the universities represented by the authors of the papers presented at the symposium. Furthermore, it proposes the formation of a Nordic hub of DARIAH-EU (http://www.dariah.eu), thus providing an overview of on-going activities together with concrete actions and directions to coordinate DH initiatives across institutions with common research interests in the Humanities.

The paper is structured as follows: the section Background and Motivation provides the context for how Digital Humanities are viewed and describes the DARIAH-EU; related work from selected universities is discussed in the following section, *Current Efforts* (Projects, R&D and Education). The concluding section *Prospect and Challenges* ends the paper by elaborating on the potential for DH in Nordic countries along with potential areas for collaboration.

Background and motivation

The detailed exploration of new methods of interaction between society and Information Communication Technologies (ICT) with a particular focus on the Humanities has the potential to be a key success factor for the values and competitiveness of the Nordic region, bearing in mind recent EU and regional political discussions in the field of Digital Humanities (European Commission, 2016; Vetenskapsrådet's Rådet för forskningens infrastrukturer, 2014; Digital Humanities in the Nordic Countries, 2017). Digital Humanities (DH) is a diverse and still emerging field that lies at the intersection of ICT and Humanities, and which is being continually articulated by scholars and practitioners across a range of disciplines (see, for example, Svensson & Goldberg, 2015; Gardiner & Musto, 2015; Schreibman, Siemens, & Unsworth, 2016). The following examples of current areas and topics of research may fall within this scope: text-analytic techniques, categorization, data mining; Social Network Analysis (SNA) and

bibliometrics; metadata and tagging; Geographic Information Systems (GIS); multimedia and interactive games; visualisation; media. Using large multidisciplinary collaborative platforms such as DARIAH-EU, these various areas and topics can be addressed from a number of different perspectives.

DARIAH-EU (http://dariah.eu), is Europe's largest initiative on DH, comprising over 300 researchers in 18 countries, thereby opening up opportunities for international collaboration and projects. Of the Nordic countries, Denmark is the only full national member with four universities, Copenhagen, Aarhus, Aalborg and the University of Southern Denmark. Danish DARIAH activities are delivered by the national DH Infrastructure DIGHUMLAB, hosted at the DARIAH-DK coordinating institution for DARIAH-DK, Aarhus University. Sweden's first university, Linnaeus University, joined in May 2016 as a collaborative partner. Finland's University of Helsinki and Norway's Norwegian University of Science and Technology joined by the end of 2016, also as collaborative partners. Tromsø University and the National Library of Norway joined as collaborative partners in May 2017.

The proposal to form a "Nordic Hub" for DARIAH-EU was set out in 2016 by Mike Mertens, the current CEO of DARIAH-EU. The central contribution that forming such a hub could make is to pave the way for other regions of DARIAH-EU to establish further, subsidiary groups based on the geographical proximity of their constituent institutions in order to foster greater collaboration and target the areas of most significant regional interest (see Humanities of Scale report on building regional Hubs by Raciti, Katsiadakis, & Kuzman Slogar, 2017). The DARIAH-EU proposal was met with enthusiasm among the representatives of the participating universities, who made use of this panel discussion to present and discuss possible joint opportunities and challenges in Nordic DH. Given their long-standing tradition of supporting research and development in the Humanities, it is anticipated that the Nordic countries may serve as a bastion for progress in the (Digital) Humanities. The Nordic Hub of DARIAH-EU could pave the way forward towards reaching that goal.

Current efforts: projects, R&D and education

Golub and Milrad presented and analysed the cross-sector and cross-disciplinary Digital Humanities Initiative at Linnaeus University (LNU) with respect to its strengths, weaknesses, opportunities and threats. Their long-term vision is to foster outstanding education in this field

and to establish a leading regional research centre to produce novel outcomes by bringing together existing expertise from different departments and faculties working in close collaboration and partnership with a wide range of people and organizations from wider society, from both the public and private sector.

LNU's work is characterized by novel programmes and initiatives in teaching and research within the field of DH. For example, current activity includes the following areas: text-analytic techniques, categorization, data mining; Social Network Analysis (SNA) and bibliometrics; metadata and tagging; Geographic Information Systems (GIS); multimedia and interactive games; visualisation; media; Big Data. LNU's Centre for Learning and Knowledge Technologies (http://www.celekt.info), established in 2003, has been particularly active in multi-disciplinary research and innovation in collaboration with the private and public sector, with many projects related to DH. IEC (http://iec2020.se) is a centre comprising over 200 companies, which serves as a direct link with the private sector that addresses societal challenges in partnership with LNU through various collaborative projects.

One of LNU's major strengths lies in re-combining existing expertise and resources encompassing: 1) various disciplines at LNU, and 2) the wider community through input from related public and private sectors. LNU aims to act as a strong driving force in the region and boasts well-established, close collaborations with the business community and the community at large. The multidisciplinary approach outlined under (1) above serves to unite and consolidate existing expertise in order to create new collaborative clusters leading to new knowledge and products (expertise, education, research, public and commercial services relevant to the region, such as the cultural sector and tourist industry); together with strong cross-sector collaboration under (2) above, these methodologies have the potential to achieve the goals set out in the introduction. Recently, LNU has become the first Swedish university to join DARIAH-EU (http://dariah.eu), making Sweden a collaborative partner and the second Nordic country to join. Currently, the DH initiative at LNU comprises 12 departments from 4 out of 5 faculties and the participants come, other than from LNU, from the public and private sector and from other national and international universities. This broad membership reflects the relevance and wide recognition of the initiative within the field; the network has grown from 32 in February 2016 to 110 in February 2017. There is a clear need to build on the international profile of these staff and their connections, currently from 20 universities and leading DH centres in 16 countries on 5 continents, together with 10 public and private sector partners, in

order to nurture wider collaboration with external academic institutions. This would further add to the available pool of expertise and give rise to even greater opportunities for innovation, research and education with the prospect of delivering very substantial returns on investments.

A combination of cross-disciplinary, cross-sector and international approaches should provide a solid foundation for building a unique international Master-level distance-learning programme. There are promising opportunities based on the firm foundation of widely cross-disciplinary and cross-sector collaborations. In educational terms, graduate programmes could be developed that are unique on the market in their cross-disciplinarity in order to address existing challenges with participating public and private sector partners, for example via students' project work. An attractive mixture of compulsory and facultative courses in international distance learning would attract a larger number of graduate international students, both of which are in keeping with LNU's future development strategy. Furthermore, involving non-academic institutions would provide direct economic links with society at large. This would be achieved through, for example, educating for skills that are missing on the market, such as digital skills for the staff in the humanities (e.g., digital storytelling, digital interfaces for different groups of end users) and knowledge of cultural history for technically oriented staff, as well as relating the topics of students' theses to real-world projects where demand exists in the non-academic sector. Educational modules for working professionals could also be organized to address the needs of the public and private sector in specific niche areas.

Ping Huang presented the Danish DIGHUMLAB (http://dighumlab.org/), a national Digital Humanities infrastructure which has been on the Danish infrastructure road map since 2012. DIGHUMLAB is driven by the needs of research and researchers, which ensures that content is developed in close collaboration with research communities and that infrastructure services will provide a good fit with communities. DIGHUMLAB is built on a consortia model with four universities, Copenhagen, Aarhus, Aalborg, and Southern Denmark and the two national and research library sections at the Royal Library (Copenhagen and Aarhus) already collaborating closely with universities and research projects. Moving towards the end of DIGHUMLAB's first development period, the consortia model also ensures sustainability for project results and services. DIGHUMLAB encompasses a range of services such as language and text technologies, media tools for radio and TV resources, the Danish web archive, and digital methods for the video documentation of learning environments. Driven by research and research communities, DIGHUMLAB is a knowledge infrastructure developing technological

solutions for digital and data-driven humanities research, as well as connecting services and knowledge hubs in a structured and collaborative framework.

DIGHUMLAB supports the national collaboration with European ESFRI, ERICs, CLARIN and DARIAH. DARIAH-DK has been active since 2012, with notable contributions from Danish groups to the DARIAH organisation and communities. These have been focused in teaching in the Digital Humanities and in the development of teaching resources (with the OER Erasmus+ project, #dariahTEACH, http://dariah.eu/teach/) and educational services, e.g., summer schools offered under the auspices of DARIAH. DARIAH-DK also provides points of contact and strategic knowledge about the emerging impact of cross-sector, open innovation with digitally enhanced research in humanities and culture. These factors shape DARIAH's Innovation Forum and are brought together by the DARIAH innovation board, which will be showcased in the Fall of 2017, coinciding both with the Creativity World Forum and with Aarhus being the European Capital of Culture 2017.

Tolonen introduced the recently inaugurated Helsinki Centre for Digital Humanities (http://heldig.fi) in Finland. HELDIG is an interdisciplinary research network consisting of Arts, Humanities and computational science departments in three Universities (University of Helsinki, Aalto University and the University of the Arts). Today HELDIG supports innovative research initiatives by researchers in the humanities who develop computational methods or explore digitalization as a developing area of research; it also offers a minor study subject to Masters students from disciplines in the humanities and technical subjects.

Matres, who is a graduate student at the University of Helsinki, presented the principal findings of a survey (DIMPO, Matres) designed to map out practice in digital research among researchers in the Arts and Humanities and related fields in Finland. This survey takes the proverbial pulse of current research interest and the level of adoption of digital methods and tools among researchers from students to senior academics. The responses point towards three possible priorities for digital humanities at present in Finland: 1) digital research assets (publications but also other digital data) need to be more accessible; 2) digital research practice and interest is not limited to a few disciplines but is found across many, from linguistics to cultural studies and from sociology to information sciences; 3) there is as much interest in finding suitable training as in opportunities to meet collaborators for collaborating on new research questions that require the use of digital methods and tools.

Bergsland discussed the role of DH at the Norwegian University of Science and Technology (NTNU) with a special focus on ARTEC, an interdisciplinary art and technology task force. ARTEC consists of a heterogeneous group of researchers and artists working across a number of fields and departments at the NTNU, with contributors from disciplines such as Electronics and Telecommunications, Engineering Design and Materials, Computer and Information Science, Music Technology, Theatre, Literature and Fine Arts. Since its inception, it has spearheaded efforts not only to advance areas such as social and computational sciences, the Arts, Humanities, engineering, sound, and architecture but also to move institutional dialogues way from vertical, monodisciplinary and hierarchical ways of learning, creating and researching. ARTEC has been supporting collaborative, reciprocal ways of making meaning, of creativity, and of combining research methods in the Humanities, Arts and technology but has also actively operated at administrative, organizational and structural levels promoting alternatives to technical and market-based ways of knowing and assessing quality and assigning value. A major part of this has been the initiation of projects such as *Digital storytelling*, *Adressaparken*, *Futurescapes* Symposium in New Media, Technology, and the Humanities, and ARTEC *Artist in Residence Fellowship*. Bergsland concluded by reflecting on the opportunities and challenges of promoting critical, sustainable, ethical, and interdisciplinary DH at NTNU in partnership with academic and non-academic actors and local and global networks such as DARIAH.

The Nordic countries have a long and rich tradition as a region for policy-driven and community-driven collaboration with the Arts and Humanities. The participating universities are strongly vested in the digital transformation of the Arts and Humanities, in open science and in collaboration across sector boundaries. Establishment of the Nordic hub of DARIAH-EU would further advance these aims.

Prospects and challenges

There are major opportunities in DH in the Nordic countries arising from the collaborative democratic tradition that re-combines existing expertise and resources from 1) multiple universities, 2) various disciplines, and 3) the wider community through input from related industries in the public and private sectors. These methods provide the means to unite and consolidate existing expertise in order to create new collaborative clusters leading to new knowledge and products (expertise, education, research, public and related commercial

services). Opportunities for collaboration across the Nordic countries may arise on a number of levels, including, for example, joint research and innovation such as the on-going work in linguistics in the CLARIN project (https://www.clarin.eu), educational initiatives such as the recently established working group on education within the Digital Humanities in the Nordic Countries Association (http://dig-hum-nord.eu/about-dhn/), expertise and experience exchange, and bringing in international perspectives to address specific regional challenges. Delivering value to the general public could contribute to a much needed re-affirmation of the value of study in the Humanities in particular, and of academic practices in general.

It is useful to express the challenges to these approaches in terms of the emerging job market, the low number of students pursuing careers in the Humanities at the Masters level (in Sweden as in many other developed countries), and the fact that DH as a field is still in its infancy. As a result, it can be difficult to secure funding and grants in order to carry out substantial research projects that maintain continuity of effort within the field over the long term. In particular, epistemological, conceptual and terminological differences in approach amongst the various disciplines and sectors may present further challenges and therefore may require additional resources to reach an understanding. However, epistemological, conceptual and terminological differences in approaches by the different disciplines and sectors may present further challenges and therefore may require additional resources to advance understanding. The short- and long-term values held by DH participants may often vary widely, and consequently this determines the nature of the activities that they undertake. While they all fall within DH, the principal challenge, and the core of the field, is in finding the intersection between them and how to combine the building blocks for addressing societal and research challenges using a more comprehensive and systematic approach. Consequently, agreements will need to be reached about the nature and extent of the effort that each department and staff member would contribute. Furthermore, although there is a strong collaborative spirit across the Nordic countries, administrative problems will inevitably arise in any multi-institutional collaboration because the working structures that are in place are based on distinct, autonomous units and often work within different national quality assurance systems. This may be a particular challenge within education programmes across multiple universities.

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