

International Symposium on Digital Humanities,
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Extended papers



International Symposium on Digital Humanities

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Extended papers

Linnaeus University

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Preface

Digital Humanities (DH) is an emerging field that lies at the intersection of Information and Communication Technologies (ICT) and the Humanities. The field includes both scholars and practitioners in a wide range of disciplines that comprise diverse but complementary areas such as data mining and information retrieval, interactive visualization, GIS (Geographical Information Systems), multimedia games, digital storytelling, library and information science, history and archaeology, to name just a few. More recently, DH is starting to draw attention from different ICT companies, the public sector and commercial enterprises. These most recent developments are starting to pave the way for new business opportunities for these companies and at the same time providing the potential for new funding sources.

The unique cross-sector and interdisciplinary Digital Humanities Initiative at Linnaeus University was proud to organize the *first International Symposium in Digital Humanities*¹ that took place in Växjö, Sweden, on November 7th-8th 2016. Linnaeus University has become the first Swedish university (thereby making Sweden the second Nordic country) to join DARIAH-EU², Europe's largest initiative in DH.

In the call for papers for the Symposium we have invited researchers and practitioners in related disciplines to Digital Humanities to present, discuss and demonstrate their visions and initiatives, current efforts and upcoming trends in this emerging field. The responses have been very encouraging and we initially received 26 different contributions. The abstracts were already published in the Book of Abstracts of the symposium³. This book of proceedings represents an additional intellectual effort presenting the evolution and further elaboration of the initial abstracts.

Each extended paper has been peer-reviewed by at least two reviewers. The Editorial Board consisted of 17 members coming from Croatia, Finland, Ireland, Norway, Sweden, the United Kingdom and the United States. The final proceedings feature four full papers, seven short and one panel. The authors come from 7 countries: Denmark, Finland, Germany, Italy, Norway, Sweden and the United States. While the majority are from universities and related

¹ <https://lnu.se/en/research/conferences/previous-conferences/international-digital-humanities-symposium/>

² <http://dariah.eu>

³ Available at the Symposium website, direct link:

<https://lnu.se/contentassets/60702fb657fe49539530eaa834fda8ef/abstracts-final.pdf>

academic institutions, there is also one representative from the external public sector (National Library of Norway).

The proceedings are organized into three sections: long papers, short papers, and a panel discussion. Of the **long papers**, Soniya Billore and Christina Rosén in their paper titled “A cross-cultural study of attitudes to digital tools among students and teachers in the European language classroom” report on an interview- and questionnaire-based survey related to the use of digital tools in the teaching and learning of English in Sweden and Germany. The results show differences between the two countries, notably that while the Swedish teachers use a variety of tools, there is a lack of access to either computers or digital learning tools in Germany. Further, technical equipment in Sweden does not seem to be optimally used due to a lack of in-service training. A collaborative approach towards content creation between teachers, students and entrepreneurs is proposed as a way forward towards designing more efficient digital learning tools, which, in turn, would contribute to better learning outcomes.

Lars Borin, Nina Tahmasebi, Elena Volodina, Stefan Ekman, Caspar Jordan, Jon Viklund, Beáta Megyesi, Jesper Näsman, Anne Palmér, Mats Wirén, Kristina N Björkenstam, Gintaré Grigonyté, Sofia Gustafson Capková and Tomasz Kosiński describe the Swedish implementation of the European Research Infrastructure Consortium CLARIN in a paper titled “Swe-Clarín: Language Resources and Technology for Digital Humanities”. The Swedish CLARIN node Swe-Clarín was established in 2015 with the aim of meeting the needs of humanities and social scientist researchers who primarily work with text and speech by providing language technologies in keeping with the general aims of CLARIN. The focus of this paper is on pilot projects the aim of which is to formulate research questions which require working with large language-based resources. The authors recognize the need for further development within Swe-Clarín.

Katarzyna Anna Kapitan contributes with a paper in the field of computer-assisted semantics titled “A choice of relationship-revealing variants for a cladistic analysis of Old Norse texts: Some methodological considerations”. She focuses in particular on the application of tools and methods originating from phylogenetics to answer questions of textual criticism. Her research takes an experimental approach towards different methodological principles, and tests them using PHYLIP (the Phylogeny Inference Package). The experiments are based on the oldest part of the manuscript tradition of an Icelandic saga, *Hrómundar saga Gripssonar*. The results indicate that the cladistic method can be employed in traditional textual research, but the results achieved through this process depend on the type of variation included in the input file.

Ida Storm, Holly Nicol, Georgia Broughton and Timothy R. Tangherlini follow in the footsteps of the 19th century Scandinavian folklorists in their paper titled “Folklore tracks: Historical GIS and folklore collection in 19th century Denmark”. They show how techniques from GIS used in conjunction with archival research methods can reveal how a folklore collection came into being. Their target corpus is the folklore collections of the Danish school teacher, Evald Tang Kristensen (1843-1929) who, over the course of his fifty-year career, travelled almost 70,000 kilometers.

Of the **short papers**, Aris Alissandrakis and Nico Reski, in their paper titled “PEAR 4 VXO: A case study using an augmented reality framework to facilitate public engagement”, present their initial efforts towards the development of a framework for facilitating public engagement through the use of mobile Augmented Reality (mAR). This effort is part of a wider project called "Augmented Reality for Public Engagement" (PEAR). They describe the concept and implementation of a mobile phone application (called PEAR 4 VXO) and discuss the results from its deployment, which was designed to explore how to get citizens more engaged in urban planning actions and decisions in conjunction with a campaign carried out by Växjö municipality (Sweden). The outcomes of the project validate the overall concept and indicate the potential usefulness of the app as a tool, but also highlight the need for an active campaign on the part of the stakeholders.

Lars G Bagøien Johnsen, in his paper titled “Graph analysis of word networks”, presents how semantic connections between words can be visualized and represented as graphs created from word networks. In particular, he considers vectors made from coordinative construction in Norwegian, e.g. constructions like ost og kjeks (cheese and biscuits). In his analysis, he relies on two key properties of graphs: (1) their clique structure, which consists of subsets of the graph where all nodes are connected to each other; and (2), communities which consist of a partitioning of the graph. The main findings indicate that both k-clique clusters and community detection may be used to find different meaning levels for words, and that k-cliques are in general more conservative with a high precision of meaning, while community detection, in general, creates partitions that covers the graphs entirely.

As part of the Digital Humanities Initiative at Linnaeus University, Soniya Billore and Koraljka Golub present a pilot study that explores the perspectives of external stakeholders from the regional community towards the project, titled “Digital humanities: An exploration of a new digital humanities programme in higher education and its meaning making by community partners”. A focus group interview of four stakeholders was conducted, each representing a

different cultural institution in the region. The participants largely agreed that the use of DH could be optimized to engage people and end users in their work and social lives. The DH project could, in a near future, contribute and engage with society through schools, museums and other public platforms. However, the sustainability of the DH project needs to be addressed further.

Christine Boshuijzen- van Burken and Darek M. Haftor, in their paper titled "Using Enkapsis theory for unravelling societal complexities: The case of Uber", explore how digital technologies can create novel clusters of societal entities and lead to tensions in relationships between existing societal wholes. They examine the example of Uber, an application based transportation networking company that has challenged existing relationships between traditional businesses, legal authorities and the public. They apply the theory of enkapsis as a philosophical tool to guide a novel understanding of the relationship between artefacts and entities and between social structures that exist in the real world. They explore how the theory of enkapsis can explain complex relationships and explain the different responses to Uber in different countries, cultural settings and legal systems.

Emmanuela Carbé investigates the preservation of cultural heritage in her paper "Walking in my shoes: A case study from a Born-Digital Archive". Specifically, she describes a project at the University of Pavia aimed at the long-term preservation of digital papers by Italian writers and journalists. The acquisition of Francesco Pecoraro's archive was used as a test case for processes and workflow because of the considerable difficulties involved, for example the ingestion of files from different media and of materials published on blogs and social networks.

Amir Abbas Davari, Armin Häberle, Vincent Christlein, Andreas Maier and Christian Riess discuss imaging application in the cultural heritage domain in their paper "Sketch layer separation in multi-spectral historical document images". While high-resolution imaging brought new possibilities for detecting the materiality and structure of cultural treasures, drawings by Old Masters were analysed in a multi-step process looking at various materials. This resulted in the overlapping of different layers which made the subjacent strati difficult to differentiate. They tested a pattern recognition procedure with mock replicas to achieve the separation and developed the capability of displaying concealed red chalk under ink, which achieved good results. By guaranteeing the maximum level of readability, their conclusions suggest that the technique can be applied to a broader range of objects and can assist in diagnostic research on cultural treasures in the future.

Nuno Otero and Julia Schimdt, in their paper “Exploring the potential of using digital displays and social media channels to promote connectedness for the Third Culture Kids community”, explore the potential for using social media channels and digital displays deployed in public places to foster connectedness for Third Culture Kids. Third Culture Kids (TCKs) refers to children who spend a significant number of their formative years outside their parents' native culture(s), and who live in several countries other than the one stated on their passport during that time. In order to start understanding the potential requirements for an enabling system, three exploratory studies were conducted: two of these studies focused on the current usage of social media channels by TCKs, while the third study investigated the possibilities of airports as suitable locations to deploy possible community-building technologies for TCKs. The preliminary findings showed great promise and should enable them to build a sound basis for further work in future.

Finally, Koraljka Golub, Marcelo Milrad, Marianne Ping Huang, Mikko Tolonen, Inés Matres, and Andreas Berglund in “Digital Humanities in the Nordic countries: Current efforts, perspectives and challenges” report on a **panel discussion** held at the Symposium. 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, bringing in international perspectives to address transnational and regional challenges. The following challenges have been identified, namely: student recruitment, jobs opportunities in an emerging new market for graduates, and funding schemes.

Many thanks to all the authors for contributing such a rich and diverse range of papers to the proceedings. Our sincere gratitude goes to the members of the Editorial Board who have not only provided their valuable reviews but have done so on a tight schedule!

Koraljka Golub and Marcelo Milrad, Linnaeus University

Växjö, 5 July 2017