Introduction to the 4th HistoInformatics Workshop

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ABSTRACT

In line with global trends, historical records are increasingly available in digital forms. Often they are too big to be read or viewed manually. Historians have then a keen interest in computational approaches to process and study digitized historical information for research, writing, and dissemination of historical knowledge. The HistoInformatics workshop series is focused on the challenges and opportunities of data-driven humanities and brings together scientists and scholars at the forefront of this emerging field, at the interface between History, Anthropology, Archaeology, Computer Science and associated disciplines. The 4th HistoInformatics Workshop took place on November 6, 2017 and was a half day workshop co-located with the 26th ACM International Conference on Information and Knowledge Management (CIKM 2017) in Singapore.

1 INTRODUCTION

HistoInformatics 2017[1]—the 4th International Workshop on Computational History—was held on 6 November, 2017 in conjunction with the 26th ACM International Conference on Information and Knowledge Management (CIKM 2017) in Singapore. Traditionally, historical research is based on the hermeneutic investigation of preserved records and artifacts to provide a reliable account of the past and to discuss different hypotheses. A new wealth of digitized historical documents have however opened up completely new challenges for the computer-assisted analysis of e.g. large text or image corpora. Historians can greatly benefit from the advances of Computer and Information sciences, which are dedicated to the processing, organization and analysis of such data. New computational techniques can be applied to help verify and validate historical assumptions. We call this approach HistoInformatics, analogously to Bioinformatics and ChemoInformatics, which have respectively proposed new research trends in Biology and Chemistry. The main topics of the proposed workshop are: (1) support for historical research and analysis in general through the application of Computer Science theories or technologies, (2) analysis and re-use of historical texts, (3) analysis of collective memories, (4) visualisations of historical data, (5) access to a large wealth of accumulated historical knowledge.

2 PROGRAM

Histoinformatics 2017 was a half-day workshop. The program chairs accepted five papers; however, one paper was withdrawn. The papers are briefly described below.

The paper entitled "*Creating Time Capsules for Historical Research in the Early Modern Period: Reconstructing Trajectories of Plant Medicines*" presents an overview of the uses and promises of Time Capsule, a scalable framework that allows querying and analyzing botanical, linguistic, archaeological and historical data for historical scholarship. The authors of the paper "*City-Stories: A Multimedia Hybrid Content and Entity Retrieval System for Historical Data*" develop a framework for multimedia and entity retrieval by combining information extracted from images and entities from historical data. The paper "*Detecting Linguistic Change Based on Word Co-occurrence patterns*" describes an exploratory study on linguistic change based on co-occurrence patterns. Finally, the paper "*Visualizing Across Space, Time and Relationships: Unveiling Southeast Asia to Contemporary Eyes Through 16th to mid-17th Century Iberian Sources*" deals with the creation of an interactive visualization tool for teaching purposes using books written on Southeast Asia from the sixteenth to mid-seventeenth centuries.

A keynote talk was given by Andrea Nanetti, Associate Professor at the School of Art of Nanyang Technological University in Singapore, titled "*Computational Interactive Global Histories: Machine Readable Primary Sources and the Historian's Perennial Chase for Truth*". We were also pleased to have a second keynote talk by Associate Professor Siew Ann Cheong from Nanyang Technological University on the topics of *Agent Based Modelling and Simulations*.

3 ACKNOWLEDGEMENTS

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[1]http://histoinformatics2017.adaptcentre.ie/