Cultural Analytics - Evaluating Cultural Heritage Information Systems

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Abstract
With vast amounts of digitized cultural heritage organized and made accessible in large information systems, methods, workflows and techniques need to be developed to evaluate the quality of cultural heritage (CH) information systems.
As these systems are very different from traditional information systems due to their heterogeneous content, the lack of best practices and reliable use cases, evaluation methods need to be adapted and targeted to deliver reliable results.
The half-day workshop will bring together experts, researchers and teachers from various disciplines to discuss and develop evaluation approaches adapted to cultural heritage information systems. This workshop comprises approaches assessing the data quality, user and task analysis and system performance of these systems aiming for a holistic overview of complementary research questions, methods and workflows. The results should prove to be useful for standardizing evaluation efforts and campaigns in this domain, offering a reusable repertoire of evaluation methods that makes them comparable.
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1 Purpose and Intended Audience

With vast amounts of digitized cultural heritage organized and made accessible in large information systems, methods, workflows and techniques need to be developed to evaluate the quality of cultural heritage (CH) information systems. As these systems are very different from traditional information systems due to their heterogeneous content, the lack of best practices and reliable use cases, evaluation often just focused on traditional system performance measure such as retrieval performance. But as these systems also want to engage the user and convey cultural heritage in different ways, evaluation methods need to be adapted and targeted.
Therefore, we want to establish a repertoire of approaches to assess the components of CH information systems and to identify those aspects that make them effective, useful and satisfactory for their respective users. Evaluating the quality of CH information systems comprises at least three dimensions, which will be highlighted in this workshop:

Data Quality. Data quality is essential to ensure that CH content can be found and displayed correctly. The content forms the basis for scholarly analyses or leisurely exploration - both frequent use cases for CH information systems. Data quality affects user satisfaction for either case. Measuring and improving data quality also involves enrichment strategies, which could be automatic or crowd-sourced. How do we assess the quality of heterogeneous content? What are the characteristics of CH data and how can we enrich those objects to improve their usefulness?

Users and Tasks Analysis. CH information systems address broad audiences. Appealing to the different user groups equally pose a challenge for system designers. The analysis of user needs and expectations informs the development and design of useful and usable CH information systems. Who are our users? What are their expectations? How can the task support in CH information systems be evaluated? How can different user needs be accommodated successfully?

System Performance. One of the most important functionalities that CH information systems need to provide is the digital access to their content. Information retrieval research has well-developed domain-agnostic approaches for evaluating the effectiveness of search systems, but CH information systems pose domain-specific challenges - starting with the question whether a relevance-ranked list is the optimal form for a system response. Other aspects, e.g. usability or novel user interactions, also play a role when determining the overall quality of the system performance. Which factors influence the

perceived performance of a cultural heritage system? How do the agnostic information retrieval evaluation approaches need to be adjusted to suit this domain?

The workshop brings together researchers from various disciplines such as information organization, information retrieval, information behavior, data science, museum studies and representatives from large-scale digital libraries in the CH domain to present and contrast the different research questions and approaches in cultural analytics. We aim at connecting a varied group of researchers covering both sides of the user - system as well as qualitative - quantitative spectra of approaches to create a holistic overview and methodology for evaluating CH information systems.

2 Format

The half-day workshop will cover the three main themes and break-out sessions for all participants. After the lightning talks, each theme will be discussed in a 30 minute break-out session so the attendees and their respective expertise will be involved in the discussion. The goal is to define evaluation methods for the respective theme and report them back to the whole group.

Afternoon Workshop 2.00 – 5.30 pm

- 2:00 – 2:30 Welcome and Introduction of Workshop Attendees
- 2:30 – 2:50 Data Quality
- 2:50 – 3:10 User and Tasks
- 3:10 – 3.30 System Performance
- 3:30 – 4:00 Break
- 4:00 – 4:30 Break-out sessions: Data quality, Users and Tasks and System Performance
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- 4.30 – 4.45 Reporting back
- 4:45 – 5:30 White Paper Report

3 Goals and Outcomes

The overall goal of this workshop is to foster an interdisciplinary forum where researchers and teachers can exchange and contribute to the evaluation of CH information systems. The outcome will be a repertoire of evaluation approaches with associated research questions, methods and workflows reported on in a White Paper. The results should prove to be useful for standardizing evaluation efforts and campaigns making them comparable. An identified canon of complementary approaches can be incorporated into the curriculum of iSchools on a long-term basis.