Can Digital Technologies increase Engagement with Community History?

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ABSTRACT

The CURIOS project investigates how digital archives can support local interest in local heritage and, in doing so, can contribute to community regeneration and strengthened community cohesion. Software tools that utilise semantic web/ linked data technology are being developed to build a general, flexible and "future proof" software platform to assist remote rural communities to collaboratively maintain and present information about their cultural heritage. Under this broad programme of research we are investigating how online cultural communities are transforming the ways in which local history is 'written' and remembered. Empirically, we focus on digital cultural heritage resources managed by community groups in remote and rural parts of the UK. Researching community-led initiatives enables us to explore how locally managed digital heritage resources can support sustainable rural areas.

Categories and Subject Descriptors

H.4 [**Information Systems**]: Information Systems Applications; H.5.3 [**Information Interfaces and Presentation**]: Group and Organization Interfaces; I.2.4 [**Artificial Intelligence**]: Knowledge Representation Formalisms and Methods

Keywords

Open linked data, cultural heritage

1. COMMUNITY CULTURAL HERITAGE

CURIOS incorporates in depth analysis of the social and cultural factors that influence the development of local cultural heritage resources, the structure and evolution of these communities and their relationships with digital technology. After Pierre Nora [7] we understand these initiatives to have arisen because "the institutions that once transmitted values from generation to generation - churches, schools, families, governments - have ceased to function as they once did". Such community initiatives fall outside national institutional frameworks. As such, they disrupt conventional knowledge-power asymmetries associated with professional endeavors in the heritage sector. One consequence of this is that local people then become the 'gatekeepers' of heritage and select what to commemorate based on their own customs.

On the other hand, place history gives rise to divergent perceptions and significations within any local community. According to Waterton and Smith [8] professional heritage efforts, including those of the academy, are dominated by a nostalgic ideal of communities as homogenous collectives with communal pasts. In contrast, we are alert to the ways in which 'place history' is subject to alternative understandings which, in turn, shape the nature of digital archival resources, their content, management and uses.

Our paper will contribute our emergent theoretical and methodological thinking in relation to a community initiative in the Outer Hebrides of Scotland. Hebridean Connections differs from digital cultural resources created by academic institutions or museums in the respect that, rather than a simple digitisation of artefacts, the history presented is selective and presented through an interpretive lens. The history of the area is told through texts, images and audio resources which have been collated from a dense network of local historical associations. Additionally, the website encourages contributions from its users and, therefore, has the potential to foster reciprocal knowledge exchange across geographical boundaries. However, issues of resourcing and management mean that it is challenging for initiatives like Hebridean Connections to be sustainable over time.

2. METHODOLOGY

Initial data collection for CURIOS has included:

- A technical review of the Hebridean Connections website to assess the functionality and usability of the current system.
- A benchmarking review of cultural history websites from around the world to determine best practice.
- 11 face-to-face interviews with representatives of organisations with a historical remit in the Isle of Lewis.

The organisations included current and future data depositors to Hebridean Connections and Tasglann, the Council's archival service.

- A questionnaire survey of Hebridean Connections users.

3. BARRIERS TO ENGAGEMENT

An initial analysis of the data has been conducted which has led to the identification of barriers to engagement which is believed to be restricting the potential impact of the Hebridean Connections resource. These can be summarized as:

- The proprietary nature of the current system means it is costly to run and to make modifications.
- The software was not specifically developed for local history resources and is therefore restrictive.
- The system is not particularly user friendly for the historical societies to input data and does not support direct data input from ordinary users at all.
- The current system does not make optimal use of social media and its information cannot be referenced or incorporated in other applications.

We believe that sustainability and greater engagement can be facilitated through an appropriate use of technology (semantic web/ open linked data).

4. PROPOSED SOLUTIONS

CURIOS seeks to investigate the hypothesis that the technology of the semantic web, and in particular Berners-Lee's [1] principles of open linked data organisation, can make a key contribution to making cultural heritage resources more sustainable. The use of linked data naturally allows for collaborative authoring of information, distributed responsibility and the direct exploitation of national and international resources which will help overcome the barriers to engagement identified through the fieldwork.

There are a number of existing projects aiming to create open versions of cultural heritage data, including the UK Culture Grid and the Dutch Continuous Access to Cultural Heritage programmes. There are also a number of cultural heritage ontologies in existence, including Categories for the Description of Works of Art (J Paul Getty Trust) and CIDOC CRM [2]. The projects creating open data generally involve large museums and the conversion of significant amounts of existing data, rather than supporting small communities with distributed knowledge. In addition, the ontologies and terminologies used are based on a range of technologies, for instance XML and distributed databases as well as RDF/OWL. Our proposed work is a novel application of linked data in that it will combine an (RDF/OWL) semantic web approach with an emphasis on supporting collaborative small-scale authoring and flexible presentation.

Our proposed system has similarities with CultureSampo, which was developed for publishing heterogeneous linked data as a service [5], though the current application of CultureSampo only uses contributions from established, large information providers. In an evaluation of CultureSampo the authors indicated that by employing semantic linking to heterogenous collections (i.e. containing cultural heritage artefacts in many different formats) there is great potential for presentation generation and exploratory search support. Further, the authors argue that semantic linking can add value by facilitating links between artefacts which can lead to better understanding of themes or allow the user to make connections more easily.

Generic software of the kind we propose will provide an excellent basic infrastructure to support work on natural language generation (NLG) and our case studies will provide rich data from which natural language can be generated. Because of its potential to produce tailored documents of many kinds, exploiting NLG is perhaps the logical next step in the development of truly general-purpose and adaptable digital cultural resources. Although there has been some interest in applying NLG to semantic web data, nevertheless no standard method has yet emerged. Significant issues are how to ensure that data is at an appropriate level to be mapped to natural language and also how relevant linguistic knowledge can be effectively acquired [3].

5. CONCLUSION

This paper will present initial findings from the research study and evaluate the extent to which digital tools that utilise linked data allow for a wider range of people to become engaged in local cultural heritage preservation and enhance the sustainability of these initiatives.

6. ACKNOWLEDGEMENTS

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