SPICE Linked Data Hub - Data infrastructure and tools to support Citizen Curation*

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Abstract

SPICE is an EU H-2020 project dedicated to research on novel methods for citizen curation of cultural heritage through an ecosystem of tools co-designed by an interdisciplinary team of researchers, technologists, and museum curators and engagement experts, and user communities. This demo paper presents the output of Work Package 4 of the SPICE project, focusing on improving the state of the art of content management and delivery strategies of museums. Within this context, we analysed the challenges of integrating citizen experiences in cultural heritage archives [3]. Objective of the work is developing an approach to giving citizen curation partner organisations (e.g. museums or engagement companies) meaningful control over their data, by expressing fine-grained, user-tailored policies and terms of use and by developing an approach to dealing with privacy violations in user-contributed content. The work capitalise on the research on managing data catalogues and integration metadata in the smart cities context [5] Crucially, the SPICE LDH integrates data from museum collections and user-generated content from applications, leveraging a multiplicity of ontological viewpoints, using the novel SPARQL Anything system [4, 1].

Alongside presenting novel functionalities of the Linked Data Hub, we illustrate concrete applications within the SPICE pilot "Deep Viewpoints", which focuses on supporting the Irish Museum of Modern Art (IMMA) in citizen curation activities [2, 6].

The SPICE Linked Data Hub

The SPICE Linked Data Hub capitalises on the findings of [3]. The platform incorporates technologies that allows to configure content adapters to a variety of sources in a flexible way, supporting an open-ended heterogeneity of data

sources, which include: (a) downloadable files, (b) data incorporated in HTML websites, and (c) Web APIs. In addition, the LDH supports a fine-grained access control management, visibility and discoverability of assets, and brokering to negotiate access and use. Data managers can detail information on copyright, licensing, and attribution related to any asset managed by the system. The platform incorporates a content monitoring solution that supports data managers in the identification of personal identifiable information (PII), helping them in complying with the General Data Protection Regulation (GDPR). Linked Data Transformers can be developed using the novel system SPARQL Anything[5] [1], to support extracting information from those sources, specifically, considering data in CSV, JSON, and HTML formats. For example, collection metadata of the Irish Museum of Modern Art (IMMA) was extracted from the museum Website[6].

Citizen Curation with Deep Viewpoints at the Irish Museum of Modern Art (IMMA)

Deep Viewpoints [6] is a web app developed using the Angular framework that supports two forms of citizen participation: interpretation and mediation. Interpretation involves citizens developing their own understanding of, and response to, artworks. The interpretation process is guided by scripts comprising statements, artworks and prompts (e.g. questions) that help the museum visitor to develop and share their own viewpoint. Mediation involves authoring new scripts that guide the process of interpreting one or more artworks. Crucially, in Deep Viewpoints, scripts are not only authored by museum professionals but also by citizens to offer fellow visitors to the museum a new way of looking at and thinking about artworks. In particular, the mediation process has been carried out by a number of community groups traditionally under-served by the cultural sector in order to bring new citizen voices into the curatorial process.

The Deep Viewpoints app can be operated in three user modes: anonymous, logged in and admin. Anonymous users can view and respond to scripts. Their script responses go into a moderation queue that can be handled by either the author of the script to which they responded, or admin. Logged in users can respond to scripts, create scripts, moderate their own scripts, select artworks from the IMMA collection and add and edit new themes that can be associated with the scripts. In addition, admin can view, modify, or delete any contributed content as well as manage user accounts.

All data created in the Deep Viewpoints app is stored in the Linked Data Hub for cross-reference with the IMMA collection. This enables the data to be queried in order to explore relationships between the collection and the citizen-contributed content, for example finding scripts that contain an artwork by a particular artist, or responses to a question within a script about a certain artwork. The Linked Data Hub supports the handling of licences and user policies

[5] http://sparql-anything.cc
[6] https://github.com/SPARQL-Anything/showcase-imma

between apps such as Deep Viewpoints app and datasets such as the IMMA collection on which the app relies. Deep Viewpoints can also make use of server-side content monitoring provided through the Linked Data Hub such as the detection of hate speech and personal information in citizen contributions.

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