ABSTRACT
Current Information Retrieval systems for digital cultural heritage support only the actual search aspect of the information seeking process. This demonstration presents the second PATHS system which provides the exploration, analysis, and sense-making features to support the full information seeking process.

Categories and Subject Descriptors
H.3.3 [Information Storage and Retrieval]: Information Search and Retrieval; H.5.3 [Information Interfaces and Presentation]: Group and Organization Interfaces

Keywords
exploration; information seeking; interactive information retrieval; demonstration

1. INTRODUCTION
Current Information Retrieval (IR) systems in the domain of digital cultural heritage provide good access for experts through the standard search-box paradigm [8], as these users are familiar with the collections, have specific information needs, and know which keywords to use to satisfy these information needs. However, for users who are new to the collections or do not have a specific information need the search box presents an almost insurmountable obstacle [9]. Additionally, these IR systems only support a small fraction of the information seeking process [3, 5], forcing users to augment the IR systems with other tools.

To support the whole information seeking process for both experts and novices, IR systems are required that provide an initial overview over the collection [2], functions for exploring collections [4] such as thesauri [7] and faceted browsing [1], somewhere to collect potentially relevant items [5], and finally the ability to organise the items into a sense-making structure.

The PATHS (Personalised Access To cultural Heritage Spaces) project aims to address this issue through a combination of content pre-processing and front-end application functionality. The demo presented in this paper showcases the second PATHS prototype that has been developed based on the experience of building, using, and evaluating the first prototype. While the prototype uses cultural heritage data, it can be applied to data-sets from other domains as well.

2. THE PATHS SYSTEM
When a new user comes to the PATHS system, they are offered two main avenues for overviewing and exploring the collection. One is a set of guided tours, called paths, that have been curated both by experts and other users, and represent a more focused version of the paths concept introduced by [6]. These paths take the user on a trip through an aspect of the collection, providing a first introduction to the kind of information available. The second avenue is through the use of an automatically generated thesaurus that provides topic-based exploration support. Figure 1 shows the textual visualisation that enables the user to explore and drill down into the thesaurus. Tag-cloud and map-based visualisations are also provided to support users with different cognitive styles. The inset in figure 1 shows the map-based visualisation, which creates a novel, two-dimensional semantic map of the thesaurus that supports a visual exploration of the collection.

As the user explores the collection they can collect individual items into their workspace. This allows them to keep track of what they have explored and of items that might help them to fulfill their information needs. The items in the workspace can be annotated and arranged to support the analysis of what the user has found.

When the user has found a sufficient number of items to fulfill their information need they can arrange the items into a path structure to support the final sense-making step in the information seeking journey (fig. 2). The path is an ordered structure of items that supports branching and
Figure 1: Screenshot showing some of the exploration features provided by the PATHS system. The main area shows the thesaurus for exploring the collection. The inset in the bottom-right corner shows a semantic map that has been developed to enable a more visual exploration of the collection.

Figure 2: Overview over an example path on the topic of “Railways”, showing the ability to structure the information by creating multiple branches.

user-annotation of each step in the path, creating the user’s narrative through parts of the collection. Potential uses for the paths are as a personal overview over a topic that can evolve as the user further explores the collection, as a virtual exhibition or story created by a collection curator, or as a learning object to support teaching activities.

3. DEMO DESCRIPTION

The PATHS demo will provide a guided tour to the PATHS system and demonstrate how a user can explore the collection, collect items and then form these into the sense-making path structure. Participants can then explore the prototype system on their own, which will be provided at http://www.paths-project.eu. The demo will provide access to a sub-set of the data available in Europeana, covering approximately 1.8 million items from the English and Spanish collections.

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5. REFERENCES


http://www.europæana.eu