Creating Visualizations of Digital Collections with Viewshare

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ABSTRACT

Viewshare is a free, Library-of-Congress-sponsored platform that empowers historians, librarians, archivists and curators to create and customize dynamic interfaces to collections of digital content. This demonstration of Viewshare will start with an example spreadsheet or data harvested via OAI-PMH to generate distinct interactive visual interfaces (including maps, timelines, and sophisticated faceted navigation), which can be copy-pasted in any webpage. The data augmentation services associated with Viewshare will also be demonstrated.

Categories and Subject Descriptors

D.0 [**General**]: Software

General Terms

Design, Experimentation.

Keywords

Access, metadata, visualization.

1. DEMONSTRATION

Digital cultural heritage collections include temporal, locative, and categorical information that can be tapped to build interfaces to build dynamic interfaces to these collections. These kinds of dynamic interfaces are increasingly the way end users expect to interact with online content. However, they are often expensive and time consuming to produce

Simply put, search is not enough. End users want to browse content on a map, interact with it on a timeline, and dynamically pivot through data on the screen. The Viewshare project was created to make it as easy as possible for anyone working with cultural heritage collections to create these interfaces.

Briefly, Viewshare is a free platform built by Zepheira LLC for the Library of Congress which empowers historians, librarians, archivists and curators to create and customize views, (interactive maps, timelines, facets, tag clouds) of digital collections which allow users to interact with them in intuitive ways. The demonstration will cover how users can use the software to ingest

collections from spreadsheets or MODS records, augment and transform their data online, generate distinct interactive visual interfaces, (including maps and timelines, and sophisticated faceted navigation) and ultimately copy-paste to embed the interfaces they design in any webpage.

The use of Viewshare does not require any specific technical skills or software. Any individual associated with a cultural or historical organization is encouraged to sign up for an account at http://viewshare.org.

2. THE VIEWSHARE WORKFLOW

Users import and augment existing collection data, iteratively build interfaces to their collection data and ultimately are able to share the interfaces and views which they have created. Viewshare interfaces are built entirely upon user-uploaded metadata. Recognizing the heterogeneity of collection data, Viewshare allows multiple methods of importing data. Users can build or work from existing simple spreadsheets, MODS records, and import Dublin Core metadata via OAI-PHM. To make this data usable, Viewshare includes a set of data augmentation tools to work from this extent data. For example, Viewshare enables users to derive latitude-longitude coordinates from plain text place names and then use these coordinates to plot their items on a map. Similarly, plain text expressions of date information can be used to derive ISO 8601 formatted dates for plotting items on a timeline. With its ease-of-ingest and data augmentation features, Viewshare understands and facilitates the use of the unique and sometimes idiosyncratic nature of cultural heritage collection metadata. At the same time, it also allows users to enhance this metadata in order to power the creation of dynamic interfaces.

After importing and augmenting collection data users begin creating interfaces. The tool's primary purpose is building dynamic, interactive views of digital collections. Through a drag-and-drop interface, users can create multiple views including maps, timelines, charts, and other dynamic visualizations. Users can then chose which facets they want to include in order to create unique ways of manipulating the data presented in each of the views. For instance, in a collection of postcards, a tag cloud facet set to display subject information will show the relative frequency of the subjects throughout the collection. If a user clicks on one of those subjects, Viewshare will limit the display of whatever view they are using to show only the objects associated with that term. As a user selects the data values they want to use in a given facet, and the particular views they want to display, they can use the "show preview" function to continually toggle back and forth between building their interface and a fully functional preview of what their resulting interface will look like. In this way, the tool supports an iterative and exploratory approach to creating these interfaces.

3. A VIEWSHARE EXAMPLE

After uploading a spreadsheet of the collection data, which includes links to the web-accessible image files, a user can begin building new interactive views. The original collection data includes plain-text place names which Viewshare can convert to points of latitude and longitude. With that data, a user can add a map showing the exact location of each card's creator. A clickable pin on the map allows users to see a thumbnail image of the item and select metadata elements. By adding a facet to the view, a user can click on any facet element, such as subject heading "flowers," and the map will update to show only the location of the flower trade cards. Adding other facets such as date or business type will allow a user to further manipulate the geographic display. Additional interfaces, such as timelines, charts, galleries, tables, and other visualizations can be create – all with the same faceting, sliders, and discovery elements.
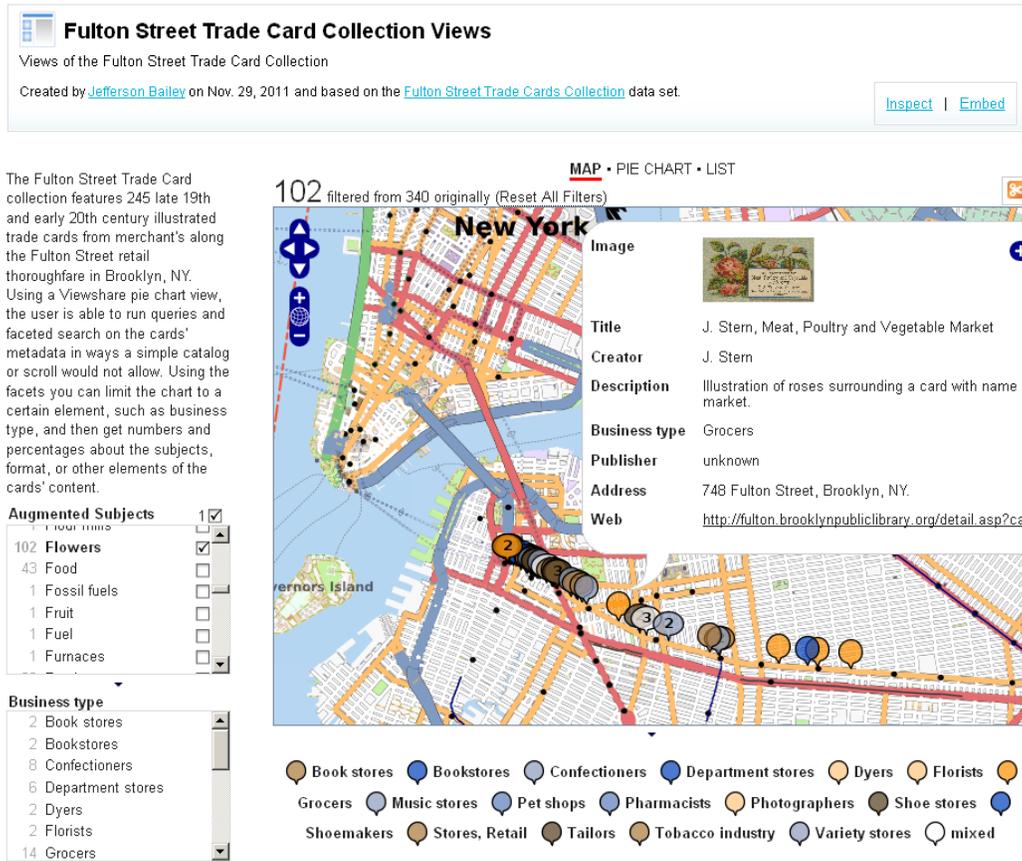

Figure 1. Screenshot of Fulton Street Trade Card Collection View: The user has selected to facet their display to only show cards with the subject "flowers" and has clicked on one of the orange pins associated with a grocer business type. As a result, Viewshare is now displaying a particular grocer's card associated with that address.

At the heart of building views is the ability to toggle between the "build" screen and the "preview" screen. Creating visualizations using different data elements from the collection offers an interative, exploratory way to discover new relations between items, to excavate new meanings and promote new ways of understanding digital material. This back-and-forth modality characterizes many of Viewshare's features as well as its conceptual goals. Iterative interface construction encourages both close and distant readings; it empowers both the deep knowledge of collection stewards and the unguided explorations of regular users; it provides tools for both curatorial intent and algorithmic serendipity; and it encourages access, sharing, and linked open data.

2. INTENDED IMPACT

Curators of digital collections will benefit from this demonstration. They will see how easy it is to use Viewshare to produce interactive interfaces and enhance access to digital collections. Curators without access to web designers will especially benefit because they will be able to create tools like maps, faceted browsing and timelines—tools that are increasingly becoming the standard way of exploring content on the web—by themselves. .

3. ACKNOWLEDGEMENTS

Viewshare is an open source project developed by Zepheira LLC. Source code is available for download at: http://www.sourceforge.net/projects/loc-recollec