

The Architectural Touch: Gestural Approaches to Library Search.  
Bridging the Gap - Physical Materials in Special Collections and the  
Need for Innovative Engagement and Search Tools  
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Abstract

This paper explores the challenges Special Collections librarians are facing in connecting users with their collections, and in bridging the gap between their rare, valuable, attention-grabbing, and unique materials and the often uninviting, inaccessible-looking, and highly secure spaces of Special Collections departments. Utilizing post-instruction assessment outcomes, research on the search behavior of millennials, and an environmental scan of newly developed engagement tools for museums and libraries, the paper aims at underlining the need for LibViz, a tool developed by library and cinema faculty at the University of Southern California, that aims at turning library search into a powerful and pleasurable experience, stimulating engagement with and discovery of Special Collections materials and the library itself.

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The recent development of a number of new tools and the increase of Digital Humanities initiatives underline the disconnection between the unique and highly engaging holdings of libraries' Special Collections and museums' holdings, and their potential audiences. This paper explores the challenges Special Collections departments are facing in connecting their collections with users, the changed search behavior of users, particularly millennials, and the need for new technologies that allow reaching audiences beyond the physical restrictions of a library or museum. Faculty at the USC Libraries and USC's School of Cinematic Arts came together to develop LibViz, a tool that addresses these challenges and aims at turning library search into a powerful and pleasurable experience, stimulating engagement with and discovery of libraries' treasures housed in Special Collections, and the library itself.

**Challenges in Connecting Users to Special Collections' Materials**

One of the greatest challenges Special Collections librarians face today is bridging the gap between users who are increasingly used to accessing information in a digital environment and the actual artifacts in our collections. We know from experience and assessment conducted during instruction and outreach in Special Collections that once students and patrons see a physical artifact or rare book in front of them, they usually quickly engage with the materials. They are impressed by and get excited about an artifact's age, its value, its historical relevance, its material, or its overall significance. It is not so much our problem to engage our users with the materials once they are in front of them. It is our problem to get our potential users in front of the materials.

In addition, Special Collections departments are struggling to overcome the challenge of fostering discovery and engagement with their rare, valuable, attention-grabbing, and unique materials while their spaces are uninviting, inaccessible-looking, and highly secure. Students, particularly undergraduate students, are often intimidated by Special Collections, assuming they are only accessible for the more mature researcher. Tools to engage users with Special Collections outside of the limitations of the physical space are needed.

Currently, these challenges are met through events and proactively reaching out to our potential user community. Just as other Special Collections librarians, staff at USC Libraries' Special Collections curate exhibits, host events in which materials from the collections are featured and the audience is invited to engage with them, and use Social Media such as Twitter and Facebook to promote our collections and services more broadly. In the instruction arena, the instructional design was switched to adding more hands-on activities and by creating quizzes aimed at increasing the interaction and the engagement with materials. Yet creating events and building new relationships with teaching faculty is staff and time-intensive and requires thorough and constant engagement from librarians and archivists. Even if a department does an outstanding job in creating outreach activities, a considerable part of the potential audience is still not targeted and thus reached.

Throughout 2014, staff at USC's department of Special Collections conducted post-

instruction assessment, asking students in a broad variety of class visits to Special Collections about the top two things they learned about the USC Libraries' Special Collections during the visit. From the 88 responses received, the majority referred to the fact that students were not aware of Special Collections' existence before, and they did not know about its accessibility to students and the wide range of materials represented in the collections. In addition, many students pointed out an artifact or materials that they were particularly impressed with. The outcomes from the assessment are particularly interesting for the LibViz project as they indicate what students are most engaged with during a class visit, and what the greatest take aways are for them. The results gathered provide guidance for outcomes the LibViz project aims to achieve.

A tool is needed that can recreate the engagement and that can transport the information about accessibility and individual, attention-grabbing collections and items, but without the limitations of the physical space and staffing requirements.

### **Addressing the Ways Our Users Search**

While virtual exhibits, Social Media, and Digital Libraries are effective tools in creating engagement with and access to Special Collections materials outside the physical spaces, there is and remains an urgent need to develop more sophisticated tools that are geared to address the way current and future generations of users can discover and explore special collections materials.

Over the past years, we have seen an increased development of tools that aim at bringing together the physical and the virtual, yet most of these tools focus on representation of materials and on engagement but show no or very little re-envisioning of the search process. A new tool however should not only focus on the way we rethink the representation of our materials in the virtual environment. It more importantly has to address the ways students and patrons search for materials today and in the future.

When a student browses the library's catalog today and comes across the record for a Book of Hours from the 1300s, what the student would see is a catalog record that provides a title, publication info, physical description, general notes that add more descriptive information, the language the book is written in, some provenance information, and hopefully descriptive information on the binding. If the student is not specifically conducting research on Books of Hours or related subjects and maybe just came across the record accidentally, the student will not be particularly curious to see the actual book, based on the matter-of-factly way the book is described in the record and the record lacking any kind of visual representation. When students however are given the opportunity to engage with the physical object during a class visit or in the Rare Books reading room, they are able to see that the same book is illuminated in bright colors and gold leaf, that its binding is made from leather, and that its pages are made from vellum. They observe the quality of the hand-painted miniatures in the book, and recognize the details of the ornaments tooled into the leather. They can even pick the book up, turn it around and look at all its sides, and feel its weight. The physical interaction creates a high engagement factor and makes the book more accessible and concrete which contributes to making a future use of Special Collections materials more likely as evidenced in the post-instruction assessment mentioned earlier.

An important task for the LibViz project therefore is to design an interface that reflects the ways current and future generations search. Research shows that millennials are used to

search engines such as Google that provide information at their fingertips. Although they understand that Google may not provide the quality information a library catalog can, they expect a library catalog to be similarly intuitive. A case study by Brandi Porter (2011) shows that millennials often expect search boxes, similar to a Google's interface. Porter's (2011) findings included that millennials use natural language in their search and spend very little time developing search strategies or search terms, and that they often chose the first result from a result list, making clicking the first link a common practice in their searching.

### **Environmental Scan**

With the rise of digital humanities initiatives, the number of tools developed to provide information visualization has increased. Examples are digital libraries as well as tools that support the work of cultural heritage institutions in their efforts to share data, dynamically visualize their collections, as well as the access and discovery of materials in those collections.

In order to further develop LibViz, an environmental scan of platforms recently designed to support the work of cultural heritage institutions in their efforts to share data, dynamically visualize their collections, and access and discover items was conducted.

Among these platforms was the Beta version of Smithsonian X 3D, featuring a set of use cases applying various 3D capture methods to select objects. The Smithsonian aims to use the Smithsonian X3D to showcase a larger number of the artifacts in their collections since currently, only about one percent of their 137 million objects, artworks, and specimen is on display in its museum galleries due to the limitations of physical space ("About Smithsonian X 3D", n.d.). In collaboration with Autodesk, the Smithsonian developed the Smithsonian X 3D Explorer which contains tools that allow the user to examine the objects by rotating them and taking accurate measurements. The Explorer furthermore allows curators and educators to create guides to the collections and to feature their items on social media.

Amar Hanspal, senior vice president at Autodesk stated:

We hope that exploring these priceless artifacts, heirlooms, fossils and scientific specimens in 3-D will generate more public interest and learning around science and technology — especially among students. (Smithsonian unveils online 3-D viewer, 2013)

Another platform the LibViz team looked at in their environmental scan is the Bohemian Bookshelf, developed by the Innovations in Visualization Laboratory at the University of Calgary (InnoVis). Bohemian Bookshelf is a digital book discovery visualization software that provides visualizations of different perspectives on the book collection thus offering multiple access points and serendipitous discoveries. Although an online version is available, Bohemian Bookshelf was also installed on a touch table in a high-traffic area of the library, providing a physical presence for special collections materials and providing a mechanism to attract wider public interest to a collection that otherwise is known only by specialist researchers (Berstler, Erdmann, Brosz, Sadler, Hardy, Wust, & Bernhardt, 2014).

Library Explorer is a beta application developed by Brown University and the Harvard Library, built to facilitate discovery of the Library's digital collections and to allow patrons to interact with these collections in new ways. Library Explorer was installed on three touch tables, allowing for experimenting with gesture-based technologies in library settings. The scarcity of affordable and library-specific commercial software greatly limited the functionality of the tables in the three libraries where they were deployed, but the tables' horizontal surface and ability to support both multiple touches and multiple users made them very popular with students, staff

and faculty (Berstler et al., 2014).

According to Berstler et al.:

A key observation made by the project team was that table users exhibited a strong desire to interact with objects and to annotate and share content between the tables and other devices. The experience at Harvard also demonstrated the potential of these new technologies to enhance the discovery of library collections (2014).

In going forward, the LibViz team will further investigate the lessons learned and challenges faced by the projects in our environmental scan as well as others.

### **Conclusion**

By designing an interface that allows users to discover, sample, and engage with materials in Special Collections without the restraints of the physical space, and by making the search process more visual and tangible, LibViz aims at bringing the libraries' holdings closer to a younger audience and at recreating the high engagement factor students experience in class visits to Special Collections, as well as the serendipity they would usually only experience by walking among the book stacks.

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