Historypin for Library Image Collections: New Modes of Access for Unique Materials at the University of Saskatchewan Library

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Abstract

A combination of user needs and an evolving information landscape make it imperative for libraries to plan for and initiate digital projects with interface in mind. To meet the needs of a wide range of digital library users, supplementary interfaces should be considered from the beginning of a project rather than simply adding an out-of-the-box interface with basic search functionality. This paper discusses the theoretical and practical considerations of selecting or implementing interfaces for the exploration of library content. It uses the University Library, University of Saskatchewan as a case study, drawing on, in particular, the use of Historypin as a way to geolocate and interact with the Library's Postcard Collection.

Keywords

digital libraries; digital humanities; user interface; mapping; augmented reality; special collections; image collections

New tools for new uses

The emergence of the digital humanities is generating new modes of analysis and new questions that influence not only the ways in which digital texts are examined but how they are created. The use of information technology to better understand and discuss the richness of the human record, as well as understanding technology's influence on the human record, has been the goal of the digital humanities since its beginnings (Schreibman, Siemens, Unsworth, 2004). The objectives of digital humanities scholars align very well with those involved in shaping the digital library landscape. This changing landscape is particularly noticeable within academic libraries like that of the University Library, University of Saskatchewan that are beginning to create substantial collections of local digitized materials. These libraries house mixed special and archival...
collections that appeal to the specific needs of academic researchers as well as the interests of the general public. Digitizing these collections not only provides their students and faculty with remote access but also allows researchers from across the world to examine their holdings. In addition, digitized collections provide libraries with the opportunity to assist with a number of scholarly functions such as discovering, annotating, comparing, referring, sampling, illustrating, and representing (Unsworth n. pag.)

With the massive amounts of information now available, the manner in which materials are accessed has become even more important. In order to enable some of these approaches, libraries should more deeply consider the ways in which they develop user interfaces (UIs). Increasingly, many of the activities commonly associated with the information age blur the line between work and play, using the same interface (the browser) for very different purposes (Manovich 96). UI, or the method of interacting with and navigating data, can support or subvert the ideas and content presented. Whether it is for entertainment or work (or both simultaneously), the interaction between the researcher and the interface not only plays a role in the experience, it becomes the experience. UI has become a popular area of discourse among digital humanities scholars in recent years. This has been a natural development given the field’s early emphasis on markup languages and text mining activities. Johanna Drucker, one of the central figures in this shift toward investigating the digital aesthetic and the relative importance of UI, suggests it is critical because of "the basic tension between a rational organization of content and the need to balance this with an intuitive way of using that content" (Drucker 10). As Unsworth, another scholar who has an interest in UI, points out:

[i]nterface is the space between these two – it is neither the transparent and self-evident map of content elements and their relations, nor is it simply a way to organize tasks. The pair are as intimately related as the reading of a text in a book is governed by its graphical organization and the specific individual reading experience produced as a 'performance' of that environment (n. pag.)

A combination of new user needs based on the affordances of the evolving information landscape create the opportunity for libraries to plan for and initiate digital projects with improved interface and user experience in mind. To meet the needs of a wide range of digital library users, supplementary interfaces and visualizations should be considered from the beginning of a project rather than simply adding an out-of-the-box interface with basic search functionality. Libraries with unique content are recognizing an opportunity to reposition themselves in the changing information environment by offering better support to researchers and community members. Considering the current digital projects of the University Library, University of Saskatchewan and the importance of interface, our analysis of the ways in which the Library has used a tool such as Historypin is helpful for the continued discourse of UI design in digital libraries.
**Mapping and Augmented Reality**

Content mapped using digital interactive maps is becoming common in a number of different areas, from obvious applications such as Mapquest or Google Maps to real estate sites such as MLS Online. Users are becoming more and more comfortable navigating information via mapping interfaces. It is natural, then, to focus an investigation of innovative interfaces in digital libraries on geolocation. The University of Saskatchewan Library has a number of digital projects that thematically group content based in whole or in part on geographical origin: most often Saskatchewan, the north, or the prairies.

The inevitable next step in mapping content is augmented reality (AR), which heavily relies on geolocation for its functionality. It moves beyond the static visual representation of space to real time viewing of physical spaces embedded with digital objects. Augmented reality can be defined as "simplifying the user’s life by bringing virtual information not only to his immediate surroundings but also to any indirect view of the real-world environment" (Carmigniani et al. n. pag.) This may seem outside the strategic objectives of the library, but a closer investigation reveals the practical ways in which AR can benefit the library and its users.

A few notable institutions are investing and developing examples of AR technology implementations in the cultural heritage sector. The Museum of London has developed an iPhone and Android application called Street Museum. Street Museum allows users of mobile devices to view historical photos and receive historical information about locations in London simply by holding up the camera on the phone to a geographical feature. Users can also locate areas of interest via Street Museum’s online map or through their GPS enabled devices. Taking this concept one step further is the Netherlands Architectural Institute (NAR). NAR has developed Urban Augmented Reality (UAR), which they describe as the following:

UAR, the NAI mobile architecture application, provides information about the built environment on the basis of text, image, archival material and film on an iPhone or Google Android (and on Nokia phones at a later stage). By means of advanced 3D models, right in the middle of the city UAR shows you on your phone what isn't there. The city as it once was – for instance by showing buildings that once stood there. The city as it might have been – by showing scale models and design drawings of alternative designs that were never implemented. And the city of the future – by showing artist’s impressions of buildings under construction or in the planning stage. ([http://en.nai.nl/museum/architecture_app](http://en.nai.nl/museum/architecture_app))

Again, the user’s smartphone can be pointed at building or street and the layering of images and information will become visible/enabled. Historical views, as well as the alternative plans and concept drawings are provided. Just as digitization allows

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1 http://www.museumoflondon.org.uk/Resources/app/you-are-here-app/index.html
researchers to interact with information once confined to a physical storage location, AR creates a physical landscape embedded with extra information, taking the archive/library out into the field. The justifications for spending time implementing an AR program for library and archival collections are not found in the standard search and discovery functions commonly associated with libraries. Rather, the strength of AR is facilitating some of the other scholarly functions researchers have come to expect in the digital information landscape.

**Historypin at the University Library**

Historypin, along with providing contributors and users ways to interact with content via a digital map, also provides an application for engaging with that content: creating tours via mobile devices in an augmented reality setting. The case study used in this analysis is a relatively small sample of postcards uploaded to Historypin. Developed by the not-for-profit company We Are What We Do in collaboration with Google, Historypin is an online, user-generated archive of photographs ([About Historypin, n. pag.](#)) We Are What We Do is a "behavior change" company that attempts to create tools that reach large audiences in order to affect social and environmental change ([About We Are What We Do, n. pag.](#)) Their work with Google is not affiliated with any university or government agency. Each photograph is pinned by the user according to location and date to Google Maps. If Google Street View is available, the historical photograph can be placed in a layer over the Street View and compared with varying opacities against the contemporary location. Image metadata can be searched. Browsable tags include subject, date, location, and collection. Becoming a user is open to everyone, so the images on Historypin come from sources as varied as independent photographers, public libraries like the Boston Library, and large institutions like the Powerhouse Museum in Sydney, Australia, and the Smithsonian Institute. From their official launch between July 2011 and May 2012, the site has seen 3 million visitors, has had their app downloaded 500,000 times, has 450 libraries and archives participating, and has pinned 111,000 pieces of content ([Abraham n. pag.](#))

The University Library at the University of Saskatchewan is one of the early adopters of Historypin, joining the beta program just after the application was launched in 2010. The material used in Historypin is primarily from the Postcard Collection: a collection still in the process of being digitized. The initial approach was to experiment with adding content that was deemed to be particularly well suited to the interface. Postcards depicting physical landmarks or buildings exploit the strengths of the software. Almost 2400 postcards have been digitized and uploaded to the CONTENTdm database and are in the process of being migrated to an open source platform called Islandora; roughly 86 of them have been uploaded by Library employees to the Historypin application. Currently the Library is leading a province-wide digital initiative, the Saskatchewan Multitype Digitization Initiative, and is investigating ways to use Historypin to help reveal some of the content particularly well suited to the interface. A number of items from the Western Development Museum Curatorial Centre and other participants in Saskatchewan History Online have recently been added to Historypin to bring the total number of pins to approximately 167 (as of November, 2012).
Figure 1. 3rd Avenue United Church, Saskatoon. Screen capture of Historypin entry.

**Upsides**

**Financial**

The funding, time, and training required to fully implement digital projects are very important considerations. While we have designed user interfaces from the ground up — mostly content driven research projects by faculty librarians — we needed to supplement this work with tests of in-production software. As a third-party application that charges no subscription fees, Historypin costs nothing to its participants beyond an investment of time and labour. In addition to no internal funds being used to pay subscription fees, no internal programming hours are expended in maintaining the Historypin database. Our Library Systems and Information Technology division is not responsible for providing any technical support, and no space on University servers is taken up by the application or its associated data. Furthermore, the process of uploading to the application is relatively easy to integrate into the regular workflow: metadata needed by Historypin to "tag" the image is already part of the metadata provided or researched by the Library. The process of uploading to Historypin has clearly been designed with easy user interaction in mind, making it simple for the uninitiated to use the application within minutes. This ease reduces valuable work hours spent in training. From a cost-conscious perspective Historypin is a legitimate option.

**Mapping**

The benefits of good visualization and interface combine in Historypin to create a truly valuable research resource. In CONTENTdm users needed to be familiar with some aspect of the metadata such as the correct spelling of the name of the town, the call
number, or specific subjects accorded to each object. With Historypin, users can visually explore objects by where they are pinned. The ways in which metadata is used to categorize and organize the objects is intuitive, with items like scale bars, instant results, and shifting levels of perspective allowing for more immediate exploration. This interface allows for a far more organic and spontaneous exploration of a collection. It creates a visualization of spatial relationships that is absent from common semantic searching. For example, distances to land features like First Nations' reserves, towns, lakes, and parks are easier to conceptualize. By shifting the time period viewed the user can see how objects across geographic spaces are connected to certain eras. Historypin's interface allows users and researchers to see at a glance the amounts of, and gaps in, content, and to potentially create new research questions or make connections not easily apparent before. For instance, currently the majority of content is in larger centres like Saskatoon. Few are out on reserves, and some are of main streets in small towns. New questions such as what these trends indicate in regard to the tradition of postcards in certain eras or depictions of small towns and First Nations people may arise simply by 'reading' the map. Such visualizations and interfaces allow for different types of analysis not readily available in traditional digital library interfaces.

Viewing postcards in this way also allows for a clearer and more natural connection between the image and the "story" (label used by Historypin to designate an area for the resource description) of the postcard. The history of the item is not simply hidden among the rest of the metadata in a sometimes overwhelming list, but takes a central role in interpreting the item. This perspective works uniquely well with the Postcard Collection for two reasons. First, postcards were often intended to tell stories. This is an inherent part of their historical function as an epistolary form of communication that emphasizes connections between people. A user's ability to browse collections to understand stories, as opposed to sifting through metadata, reflects this focus on story. Secondly, many postcards show views of a certain perspective of a street, landscape, or location that is similar to that of contemporary perspectives in Google Street View. Historypin helps reintroduce the geographical focus of the postcard. The postcard as a medium carries with it an inherent spatial quality in that it often depicts a place and has been physically transported from one location to another. Pinning postcards on a map provides the user with an opportunity to consider them as stories about, or associated with, a physical location or locations. Historypin is well suited for these sorts of collections precisely because it prioritizes the "story" and geographical location over the other possible metadata elements commonly associated with digitized collections.

Augmented Reality

Historypin also has a mobile application that adds additional functionality and flexibility to the interface. Viewing, posting, and exploring on a mobile device is quite different from using a desktop or laptop computer. As described, a user can hold up the phone and see any location as well as any older objects laid over the street view, juxtaposing an old photo over part of a contemporary scene. This application of Historypin and other similar applications addresses one of the criticisms often directed at digital libraries and collections; that is, if libraries separate themselves from physical collections, the
potential of serendipitous discovery and contextual understanding is lost. Applications such as Historypin reconstitute some of that element. The concept of exploring the collection or receiving a "tour" provides unique access to the collections of the University of Saskatchewan Library. This is particularly valuable for Special Collections, where access is normally more restricted than in the rest of the library. Even in the broader Library, tours are not a primary method of exploring or familiarizing oneself with the available materials. Historypin, and more specifically the mobile application it provides, combines elements of a tour of the Library's collections with exploration of a removed but inherently related physical space. The benefits of developing mobile technologies for cultural heritage organizations are clear from a cost-benefit analysis perspective, but the more compelling argument in their support will be made in the context of the organization's mobile computing strategy. The number of mobile internet users is expected to reach one billion by 2013, representing the dominant medium people will use to access the internet (Farman 2012). At the very least, adding content to Historypin allows the library to step into the mobile application landscape with very little risk.

Historypin is also valuable when considering that the Postcard collection is inherently tied to the immediate local community. Community engagement is a prominent feature of many university strategic plans. The Postcard Collection is similar to projects like the Saskatchewan War Experience in its focus on local community connections. This diverse, and not primarily academic, audience is important to consider when deciding on what type of digital project to develop. This challenge is common among other institutions as well. For example, Tito Sierra, Associate Head of the Digital Library Development at North Carolina State University Libraries, speaks to this concern:

One challenge is defining the use case for mobile access to library digital collections. Just because you can create a mobile application or mobile optimized version of your digital collections website does not mean that your users will find value in these new access tools. Libraries should consider how mobile access adds value to the user experience with digital collections. This may require some creative reuse of digital collections content. Also, some kinds of collections may work better than others in a mobile context (Mitchell n. pag.)

Historypin, combined with the unique attributes of the Postcard Collection, has the potential to encourage community use and engagement, particularly with regards to making connections between content, history, and location or sense of place. The potential, and encouragement, for collaboration and participation exists as well. If other collections within the Library, or other major participants in the province, demonstrated interest in participating in collaborative projects, such an application would act as a method of bringing the content together in a more comprehensive and contextualized way. One can find a number of examples where Historypin is being used in exciting collaborative ways (Historypin/community n. pag.) Historypin regularly puts out calls for contributions to thematic collections. This allows for organizations to gain additional exposure and partner with others to provide users with consolidated materials on a
particular subject. One of the main strengths of the Postcard Collection and of Historypin, then, is the intersection of research-oriented collections and community focused collections. This fits perfectly with the objectives of the Saskatchewan Multitype Digitization Initiative (SMDI) of which the postcard collection is now a part. This initiative seeks to increase the amount of digital content available from provincial cultural heritage organizations, expose it to the broader public, and increase the capacity for these organizations to do digitization work in the future. It is focused on building community: something Historypin has the potential to facilitate quite well.

Figure 2. The Saskatchewan Multitype Digitization Initiative’s Historypin Channel.

Downsides

Drawbacks associated with the Library’s use of Historypin tend to align with problems with digital project implementation more generally. Because Historypin is a third party program, and is not an open source product that one can manipulate, tweak, or radically alter if necessary, the opportunity for customization is limited. The lack of ability to include extensive University branding and to gain access to the backend is also not optimal when trying to promote a particular academic institution. However, a new option to build a channel (Figure 2.) and add collections within it allows contributors to create an identity and provide both context and cohesion to materials pinned to the site. This may address many of the branding concerns contributors might have, but the channels do carry many of the pre-formatted constraints similar to other content management systems. Historypin has also created an API to allow its users to embed content into their own site or sites. Again, this goes some distance in addressing customization concerns but may not be enough for some users.

Utilizing third party software also carries concerns of sustainability and development. In terms of continued development, the University of Saskatchewan Library has essentially no control. Historypin could go defunct or stop updating their platform, and the many
hours Library employees put into adding various materials could be for naught. Contingency plans for this have not been developed at this point, other than ensuring images and metadata included in Historypin are also captured in CONTENTdm and/or Islandora.

As others have discovered, visual is better than textual information in AR applications (Thian n. pag.) Effective collections need to be visual, and for maximum impact images should contain a perspective that adapts well to Google Street View. Although Historypin works well for materials like the Postcard Collection, some collections are simply not suitable. The majority of the Special Collections materials and those in the Library more generally are textual. Collections consisting mainly of manuscripts, print documents, and similar materials are simply not as effectively presented in an environment such as Google Street View.

Uploading suitable collections to Historypin, although relatively easy to include in the workflow, still takes resources from other projects. The time spent uploading can be variable, depending on one’s experience with the application and amount of extra research that must be done to pin the content accurately on Street View. There is now a bulk uploader tool to assist with batches of content and metadata. However, if the exact coordinates are not captured at the time the metadata is created, it is not possible to pin the item to the appropriate location unless done by hand afterward. While metadata processes and workflows can be set up to capture this data early in the digitization workflow, most of our collection simply does not contain the detailed geographical information required to make pinning the content worthwhile.

The final concern regarding investing resources into Historypin, however, is the actual amount of exposure gained by using the program. Historypin is still a relatively new application, only exiting the beta version this past year. While many major institutions are investing time in the program, with more joining each month, Historypin is far from being a mandatory stop on the research journey for most. Currently the SMDI channel has a mere 841 views (as of 1 November 2012), yet our total pin views are at 9887. Administrative access by our staff account for a small number of these visits, and the statistics are adjusted for web bot traffic using standard Google Analytics spider/bot filtration. Many of these visits likely occur via navigation through the Historypin site and multiple Historypin hits per channel visit. Considering the number of times these items are looked at by researchers in their respective physical locations, the implementation could be deemed a success. However, participants must assess whether the time spent pinning content is worth the exposure and access to these items. It should also be noted we have not yet made any effort to promote our participation in Historypin. Doing so could greatly impact the number of pin and channel views.

Finally, it is unclear how well search engine results will be optimized. A quick Google search of keyword combinations like Saskatchewan, postcard, and maps does not often bring up the desired results within the first couple pages. To access the Postcard Collection, via Historypin or through the CONTENTdm or Islandora systems, a user would most likely be already exploring Historypin or the University collections.
Unfortunately, Historypin as a method of discovering collections quickly loses value in such a scenario. Therefore, investing time and resources into using such a new program needs to be strategic and used as a supplementary tool, not as a replacement to traditional search mechanisms.

**Conclusion**

While we may need to add more content and promote Historypin locally in order to be able to properly assess whether this work is beneficial to the University Library, the application does meet many of the criteria for engaging and assisting our 21st century users. We must begin to theorize, speculate, and create interfaces because, as Manovich suggests, "the computer database and the 3-D computer-based virtual space have become true cultural forms — general ways used by the culture to represent human experience, the world, and human existence in this world" (231). Thankfully there is a vast array of tools available to researchers using digital information. Exploring some of these options in the library setting shows that we are willing and capable of providing more engaging search and discovery options. Historypin is a great example of how libraries can enable new ways of interacting with the collections we digitize. Of course we must be aware of the cost-benefits of doing this work; leveraging a pre-existing tool and built-in community is one way to ensure your energy is well spent. But from our experience, even if we were able to devote resources to developing our own AR or mapping interface, along with a mobile application, we would find it difficult to create a product superior to Historypin. Its community approach and established partnerships, as well as its well-designed interfaces for both desktop and mobile devices make it an application well worth exploring for use in the library setting.

**Works Cited**


*About. We Are What We Do. Web. 1 Nov. 2012.*


