

Leveraging Interactive Maps as a Resource Discovery Tool: Envisioning a Repository, Collection or Series with a Map-driven Interface

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Abstract

Those of us with Digital Commons sites may already have their downloads live-map embedded on one or more landing pages of our collections. What if we created a map for end-users to search our series in new ways? In this sandbox members of the LSRD-SIS executive board come together to share a show-and-tell-style tour of 3 map-based interfaces for a variety of legal resources, from in-house developed examples to a larger database provider like HeinOnline. Through these examples, we hope attendees will engage in brainstorming ways we could creatively integrate maps to leverage them as a more user-centered discovery tool for our organization's own legal repository collections. We hope these examples help us collectively contemplate how transferrable and logistically plausible it would be to design similar UX experiences that work with our repositories; pivoting from a map displaying live-downloads of what others have found to a version of this style search tool that lets site visitors use the map to explore our collections in new ways. This short informal paper introduces the three primary examples for discussion:

- I. [Local Nebraska Laws Map](#) - LibGuides backend, public user focused
- II. ["Calling All Papers" Map](#) - Drupal backend, faculty user focused
- III. [State Constitution's Illustrated](#) - HeinOnline resources we are all familiar with

I. Local Nebraska Laws Map

<https://law.unl.edu/library/localgovtmap/>

Background

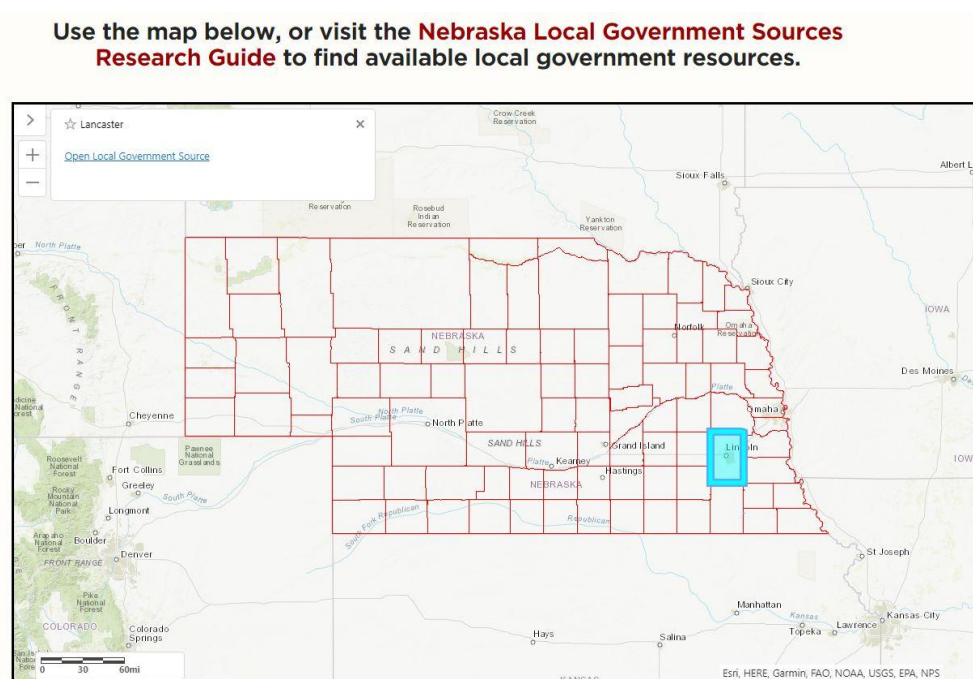
In 2020, Anthony Schutz, Associate Professor of Law at the University of Nebraska College of Law, collected zoning and strategic plan documents from local county governments with the intention of creating a centralized map linking to the documents. The library's website was the perfect place to host these documents and make them easily accessible and searchable by university affiliates and members of the public (for example, associates of county officials, professionals in the livestock industry, the wind energy industry, and more)

Finding the GIS software and expertise

The trickiest part of the project was finding the right software to create and maintain the county maps where we would also link to documentation. I started with a colleague at our main campus library who works with digital humanities. We looked at using Omeka and map plugins for WordPress. Neither of these choices were ideal since they required a subscription and additional time to learn the software.

Thanks to a Google search, I found a GIS specialist within the University who agreed to help me. The GIS software that we use for our map, Geocortex, was already licensed by the University.

The map with link to the LibGuide and the county LibGuide page on the library's website:



Getting to LibGuides

We investigated using Sharepoint to connect the files with GeoCortex, however, we could not get shareable URLs. We used the Law College's website to store the documents, and set up a naming convention for the documents that worked with the mapping application's requirements. We quickly found several challenges with this method: the potential for creating typing errors in the naming conventions, the need to accommodate new types of government documents over time, the need to grant special website access to the GIS specialist, who works outside the law college, etc.

How To Use This Resource | Nebraska Counties | Municipalities | Natural Resources Districts

PAGE URL: <https://schmidguides.unl.edu/nelocalgov/adams>

Single URL per county for the map application to link to. Each URL has the same domain, only the path differs.

Ability to add new tabs for different areas of local government should we decide to expand the map in the future

Adams County documents are current as of May, 2020.
Adams County Planning & Zoning webpage: <https://www.adamscounty.org/planning-zoning>

Add / Reorder

Comprehensive Plan

- Adams County Comprehensive Plan

Add / Reorder

Zoning Regulations

- Adams County Solar Regulations
- Adams County Subdivision Regulations
- Adams County Wind Regulations
- Adams County Zoning Regulations

Sort Document / File Group

Add / Reorder

LibGuides turned out to be the perfect solution. Problems with naming conventions, changing document types and access were almost entirely resolved. Where there could have been 10 different links for one county based on the documents they listed, there was now only one link per county. Each county's page contains all relevant documents, and links to the county's website if available. It also allows me to enter free text when needed and I can make any changes, updates, or additions to the contents in house without contacting the GIS specialist to make changes to the metadata.

The future of Local Government Maps

My next goal for the project is to set an annual review period so that documentation remains useful and accurate. Eventually we will add other layers to the map, such as municipalities and natural resource districts.

II. Calling All Papers Map

<http://law.uga.edu/calling-all-papers/>

Background

In 2014 the University of Georgia Law Library's faculty call for papers blog "Calling All Papers!" enhanced usability and encouraged patron discovery of an online resource by incorporating Google Maps into the revamped and more responsive Drupal-based site. The addition of a map was a part of a larger website shift in the summer of 2014 for the entire law school and library's website from Drupal 6 to 7. Based on a suggestion from the faculty librarian at the time who was maintaining the paper calls, they really wanted a slide-style homepage where the slider was an interactive map image. At this time with a few years of website analytics in hand for the existing blog, we knew it was used as a resource for far more than just UGA Law's faculty, and upwards of 2,000 web visits each month came from all over the world largely from mobile devices.

Customizing a Content Type, Including Geolocation Field Module

Since the entire blog was being rebuilt in Drupal 7, the content type (the online form with fields that the faculty member would use to add new paper calls) could be customized and expanded as well to include new fields for all sorts of user-driven discovery improvements. I

reverse-engineered the goal for each user interface tool we wanted to use, including the map:

1. Filter by Date - The previous blog only sorted by "most recently posted", based on the blog post publish date. Yet the calls for papers were really most useful if the posts could be sorted by "abstract deadlines" or "event dates". To do this, two new date fields were added to the content type entry.
2. Filter by Subject/Topic - The previous blog had no method in place for sorting by the legal scholarship area of interest. To do this, a new taxonomy was created that the faculty librarian could add terms to at the point of entry, so the "categories" could function as tags.
3. Filter by Location - Perhaps the appeal to certain paper calls for the end-user faculty member is the location of the event. If their paper is accepted, they generally have to travel to the city where the event is being held. With drupal's Geolocation Field module installed, adding a field to the entry form for "location" was possible. The librarian could enter a full address, or just city, and exact coordinates would be generated (as well as a map for that post's page).

clickable tags below a mini calendar (highlighting the upcoming abstract deadlines for jumping to content that was about to expire), and a classic keyword search box. Initial tests of the new site homepage discovery tools were really fun on mobile and tablet devices, as well as looking improved and being more responsive on desktops.

Continuous Assessment and Upgrades

Today in 2022 the call for papers blog is still alive and well. A new faculty services librarian has taken over the reins of entries in the site, and the site as a whole has upgraded the CMS yet again to the currently supported version of Drupal. As a result, some of the modules have changed but the discovery interface view has remained including the map interactivity and using geolocation as a field for each entry. Our current interactive map relies on Leaflet (a JS library of interactive maps). Blog traffic since the revamp of the site was completed in 2015 had an initial spike in visitors, and has continued to steadily increase, nearly doubling the monthly visitors from 2015 to 2022 (with the only dip in traffic coinciding with the pandemic in 2020 when there were less paper call opportunities due to restricted travel and other COVID-19 precautions).

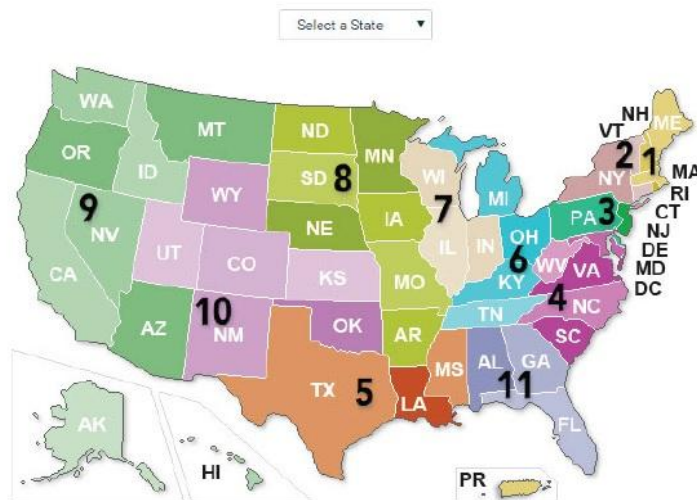


III. State Constitution's Illustrated

https://heinonline.org/HOL/Index?collection=statecon&set_a_s_cursor=clear

Background

In November 2019 HeinOnline [released a new database](#), State Constitutions Illustrated. It contains nearly 9,000 current and historical constitutions for all fifty states making it the most comprehensive state constitution research platform available. It also contains an extensive collection of pre-statehood primary material, as well as original and consolidated texts heavily annotated with references to case law. In 2020 HeinOnline added even more material, updating 16 states with 51 current documents and 430 pre-statehood documents. All states even include currently up to date materials as of the November 5, 2019 elections. Of course this content is really wonderful, but what makes the tool even cooler is the user interface making it possible to visualize and search the collection of resources using an interactive colorful map!



Numbers indicate geographic boundaries of United States Courts of Appeals and United States District Courts.

If you haven't checked out the map for yourself yet, you can find it by visiting the HeinOnline landing page and clicking on the top left gold drop-down list of databases. Find and select *State Constitutions Illustrated*.

User Experience is Key

Although we had no hand at all in designing the HeinOnline tool and cannot speak to its functionality from the back end, we recognized right away that the approach to the user's ability to navigate certain types of content (like state constitutions!) made a ton of sense for end users to be able to search visually by state. To use the database, first go to the main landing page of State Constitutions Illustrated which displays a lovely map view. From there you can either click the desired state on the map, or select the state name from a drop-down menu. The black numbers on the map numbers along with color coding show the boundaries of the United States Courts of Appeals and United States District Courts. Once you have selected a state you can expand sections to view a constitution by date along with amendments and other related documents. It also links to scholarly articles. As if the interactive map of the states wasn't enough, there is an excellent LibGuide HeinOnline provides with tips for searching this database including an equally cool Venn Diagram search tool that visually shows users how search terms interact with each other. Check it out at:

<https://libguides.heinonline.org/state-constitutions-illustrated/search>.

Conclusion

With these three examples to consider, we feel strongly that there is great potential for integrating visual mapping and information linking as a new standard mode of discovery in the institutional repository arena. This gives users the option to navigate in a new way, and most versions observed of interactive maps (no matter what materials or platforms they reside in) made the point of discovery more accessible on a wider range of devices than traditional formatting of our repositories, libguides, or other database resources. In all three examples, it is easy to recognize the commonality among them is that the types of content all have a certain element where location is a key factor in the user's interest in that specific information - (1) counties in Nebraska, (2) locations for a paper event, (3) constitution's by state in the US. It just makes a lot of sense that end users should be able to search using that facet of the metadata visually. Further exploration into more examples, including [the Library of Congress Indigenous People's portal map](#), should be explored. The caveat is that success for this method of discovery for institutional repository items would greatly hinge on location being a key factor to the usefulness of the end-user's interest in the information in the first place.

What collections in our repositories would benefit from user's searching visually by location?