# Exhibits @ UNT. An Implementation Proposal

UNT Libraries

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**UNIVERSITY LIBRARIES ｜｜ UNT**

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# Current Landscape

The UNT Libraries needs a way to display online exhibits, but does not currently have an adequate method for doing so. In 2011, the User Interfaces Unit (UI) redesigned the UNT Libraries' website, migrating between the Plone and Drupal content management systems (CMS). The redesign contained numerous changes to content and information architecture (IA), and occurred while several other major discovery interfaces and technical systems were either under development, configuration, deployment, or were in some stage of planning. Similarly, at the time of transition, the UNT Libraries was undergoing re-organization, with changes to divisions/departments, the hiring of a new archivist, special collections managers, and the shuffling of various staff positions. Concurrently, there was a major renovation of physical spaces associated with the special collections. Many of these changes have now been completed or are in a relatively stable state where it becomes tenable to work on a system for managing and displaying online exhibits.

## History

A handful of web accessible exhibits have existed on the library website for a number of years. A brief overview is as follows:

- The Rare Books and Texana Collections maintained a series of stand-alone html "sites" going back to at least 1997. These sites were built in Microsoft FrontPage and each had unique designs and IA. Files for some of these exhibits still exist on a network drive and continue to be available to the public at http://www.library.unt.edu/rarebooks/exhibits/. Rare Books personnel have noted that these materials are cited in a several publications and are linked to from other websites. There is no analytics data to give us precise measurements, however.

- University Archives and Rare Books also maintained a handful of webpages created in the Plone CMS that were discarded during the migration to Drupal. Archived copies of these pages can be found at:

  http://webarchive.library.unt.edu/unt/library/20120726193113/http://www.library.unt.edu/libraries-and-collections/exhibits. Analytics data tells us that there were roughly 28,000 visits to this material between February 2008 and August 2013 (roughly 5-20 visits per day).

- Due to the nature of intellectual materials available on the library website and the fungible definition of an "online exhibit," several other types of content have proven to have overlapping functions with those of more well-defined exhibits. In both the Plone CMS and newer Drupal site, librarians have been able to create representations of collections, news, events, ad-hoc pages, and upload both images, and files. Content Editors have taken these tools and created what might be deemed as smaller exhibits related to their collections and the various events surrounding them. Examples included pages devoted to topical floor displays, highlighting general collection items on topics like Banned Books, Black History Month, etc.

## Discussions

In late spring 2012, UI personnel identified the staff of the Special Libraries Division as the primary user group for creating the majority of new online exhibits and initiated discussions about a new method for creating this material. An initial discussion was held so UI developers could better understand an exhibit's scope and purpose. Subsequent follow-up discussions were held with both Digital Libraries and External Relations personnel to clarify some points. The following ideas emerged from these meetings:

- One of the primary purposes of an online exhibit is to provide outreach to a broad and globally dispersed audience, informing them about special materials which may be difficult or impossible to access.

- Exhibits should be carefully crafted by archival and other informed/interested staff to create a narrative about library owned materials and collections.

- Exhibits often tie in with special events, such as centennial celebrations, gifts, and the like.

- Exhibits may have direct ties to a time-based, physical exhibit on display, a major acquisition, or other notable collection of materials in a library or related location. However, such physical displays need not be permanent, and it is possible that an exhibit can be entirely virtual, with no physical component.

- Online exhibits should exist in a fairly permanent state once created, although the associated materials in them are permanently archived in both the physical and digital collections. For those online exhibits that compliment physical exhibits, they continue to exist (long) after the physical exhibit has been replaced with another.

- Most contributions to an online exhibit are made before the exhibit goes live to the public. While there may be minor changes to the materials after the fact, there are no ongoing contributions, posts, or other updates that happen either contemporaneous with, or posthumously to the exhibit.

- An exhibit can take between several weeks and several months to complete, and is often built in an "hour-here-hour-there" fashion, typically by two or three librarians or staff members. It is not, however, something that can be thrown together in a short period of time.

- Due to a desire for a high-degree of professionalism, some level of workflow/review is warranted. The formality of such a workflow was not discussed, but it was noted that both the principal archivist or departmental/division stakeholder, as well as External Relations, and UI staff would probably have a role in the editorial process.

## The Library Ecosystem of Discovery, and Hosting Tools

In order to build an effective online exhibit, it is important to consider its place within the array of systems that either store or disseminate information about library owned or subscribed materials. In one way or another, online exhibits will exist as part of, or interact with many of these systems:

- **The Main Library Website:** www.library.unt.edu. Serves as the primary gateway to all other systems. Built in the Drupal CMS, this system could host the online exhibits, or will provide links too them if they exist in a separate system. It will periodically advertise for their intellectual content as well.

- **Library Finding Aids**: findingaids.library.unt.edu/. Built in Archon, this is the primary system curated by Special Collections and used by researchers to determine the relevancy and location of specific physical items in the special collections that are owned by the libraries. Items discussed in exhibits may reference this material directly and link into this system.

- **The Digital Collections**: digital2.library.unt.edu/search/, digital.library.unt.edu/, texashistory.unt.edu/. The series of digital repositories that permanently hosts all *digitally* archived objects, such as photos, books, newspapers, yearbooks, letters, etc. Exhibits will either link to digital objects, and groups of collections, or directly render images from this system. This system may also host digital versions of ephemera created as part of the exhibit, itself, should any exist (exhibit booklets, scholarly presentations, etc.)

- **The library catalog**: http://iii.library.unt.edu/. Hosts records of many items available in special collections that are either circulating (or non-circulating, but available for viewing under special circumstances). Does not contain linkable "collections" as such, but may serve as a link endpoint for individual items, searches/canned-queries, and databases, or reserve materials that may be associated in some way with the exhibit.

- **The Library "Drupal Farm" & Other Secondary Drupal Sites**: A collection of CMS controlled subsystems hosted or managed by the libraries. Library Drupal sites serve varying utilitarian functions, hosting ad-hoc sites as the needs of library stakeholders dictates. Sites are individually configured by UI to have features that meet the uses-cases defined by the individual site.

- **Other Search Interfaces**: Summon & Google Custom Search: untexas.summon.serialssolutions.com/ & www.library.unt.edu/search/. The two primary, non-hosted search systems for library content. Summon primarily searches articles and some other content, while Google is configured to search webpages. Either system may have a place in the searching for exhibit materials, with the latter being more likely.

## Physical Exhibit Spaces

The following list contains known, planned, and recently used physical exhibit/display spaces.

- **Sarah T. Hughes Room.** Primary exhibition space on the fourth floor of Willis library. Physical exhibits rotate on a per-semester schedule and have historically been accessible during operational hours of the managing department: Archives and Rare Books.

- **Edna Mae Sandborn Music Rare Book Room:** Limited access display space for Music Library Special Collections Materials. Items located here are permanently on display, though occasionally smaller exhibits are shown. Some discussions have occurred to open the room for regular public display.

- **Display Cases & Framed Document Displays:** Variously located around the libraries, these small display cases house items of interest and are managed by various departments within the libraries. Example materials include large copies of the Declaration of Independence, Maps, Books of Early Music Notation, etc.

- **Monthly Featured Items Shelves:** Public Services, Media, and other areas maintain thematic shelves or display cases of books, films, and other items. The materials on these displays tend to rotate on a monthly basis.
- **Forum Displays:** Large modular/accordion displays on the first floor of Willis used to highlight various collections and materials on an ad-hoc basis. Managed by External Relations.
- **Wall Art Displays:** Forthcoming art installations hanging in the whitespaces of library walls. Managed by External Relations in cooperation with other departments.

# Literature, Peer, & System Reviews

## Recent Literature

Library-related journals are full of notices that institutions have created exhibits, but actual case studies are limited in recently published materials. Exhibits are largely treated as a single attribute within the larger set of problems facing archivist. To date, much more publication space has been spent grappling with the role of institutional archives in modern libraries and making use of digital repository software tools to achieve these goals. Some advice from the literature, while generalized, is instructive though:

- Creators should "adopt standards and practices… bigger than the library or digital humanities worlds—standards like HTML5 and HTML+RDF that facilitate semantic markup" (Clement 2013)
- "…adopting open-source projects invested in sustainability and innovation gives libraries and archives access to active user communities" (Clement 2013)
- Speaking of building "boutique exhibit applications" Daniel Chudnov notes the importance of making robust linked data connections: "When we assemble these newer resources, we perform tasks like taking newly digitized copies of older physical materials and putting them online…. But deep down, we know it's not enough. The new resource we post isn't usually connected in any tangible way back to where it came from. If we put a book online, do we still list its call number in the library? And when you visit that call number's location in the stacks, do we have a sign up that says, "you can read this online," and "here, take a notecard with its URL"? ….The goal is easy to state: We don't know how our users will necessarily stumble onto any of our holdings … but when they find any of it - be it the photographs online, the books in

the stacks, or the records in the OPACs -we sure do want them to be able to follow their interests into the other things we have." (Chudnov 2009)

- In a two part study from 2004, Chern Li Liew made a number of observations which likely remain true today. She notes the following:
  - o With Regards to searching: "An exhibition site may comprise several online exhibit collections in the same or different locations. It may not be apparent to users whether a search is for a specific collection, across multiple collections or across all pages of the home web site."
  - o When browsing, "most of the [surveyed] sites allow user to browse through their online exhibit contents via themes, topics or titles… [some also] allow user to browse through the alphabetical lists of titles. These are not very helpful when there is a large collection, or when the exhibition contents grow."
  - o The surveyed exhibit sites "expect user to have knowledge of the vocabularies used in the systems…. Unlike traditional, physical exhibition space, where users walk through the exhibit sites with signposts to guide them, and where they have a contextual view of the available exhibits, the link between user and the online exhibits is the user interface." (Liew 2005)

A takeaway from these readings would be that the designer of an online exhibit needs be able to demonstrate the contextual nature of the exhibit's items, noting both their unique value and their relationships to other items within the wider library collections and beyond. It is also important to be able to create intuitive discovery and search systems, clear navigation patterns, and simple/logical IA that can be readily learned and understood by a broad audience. Finally, regardless of the content that goes into making an exhibit, the software solution should take advantage of best practices in coding, should be adaptable with time, and ideally should have some support from an open-source community of users and developers.

## Peer Institutions & Similar Sites

This section demonstrates a number of exhibits in peer institutions and sites that have some qualities similar to library exhibits. It seeks to find common elements that are shared by a number of exhibits provided by peer institutions and to demonstrate interesting and unique features worth exploring.

- **University of Michigan.** http://www.lib.umich.edu/online-exhibits. This series of exhibits is built in Omeka CMS. Each individual exhibit shares branding elements with the entire site, and features a similar navigation scheme between each site/section (universal at top, unique per exhibit on left). Each page within a finding aid follows a standardized content presentation pattern as well. Individual exhibits include previous/next pagination on each page. As with other Omeka sites, the site acts as a small digital repository that allows for browsing content in various ways. Standardized presentation and metadata presentations make this feel like a digital reproduction or a professional museum exhibit.

- **Labor Arts.** http://www.laborarts.org/. A series of exhibits built in Adobe's ColdFusion. They share a standardized primary navigation, but each exhibit has unique content and organization. The site appears to have existed for a number of years and each exhibit has unique features and design tailored to the materials being highlighted. There is almost no focus on item-level metadata, and much more focus on the general narrative explored by items and their captions/text accompaniments.

- **Music for the Worms:** Indiana University: http://www.indiana.edu/~liblilly/darwin/. An exhibit built in HTML. Like others exhibits from Indiana and the Labor Arts organization (above), this is presented as a uniquely styled exhibit. The IA and overall style is unique from others provided by the organization. This exhibit reflects current web design trends with large, readable fonts, generous white space, etc. It presents its material as a paginated progression through the material (a shared feature with other exhibits), presenting several images per page that function as decorators to the larger narrative. A standardized template is adhered to. Item-level metadata is not prioritized.

- **Duke Library:** http://library.duke.edu/exhibits/ Similar to University of Michigan, using Omeka. Includes a search feature at the main exhibit page. Unlike other Omeka sites, Duke does not use the global navigation features, but each exhibit does have standardized design, IA, etc. Duke also includes listings of older exhibits (built using various methods), lists future/upcoming exhibits, and has a section devoted to describing/locating physical exhibit spaces.

- **Museum of the City of New York:** http://www.mcny.org/exhibitions/. This site presents a very common pattern, where there is no online presence for the content, just an overview/announcement that a physical exhibit has occurred, providing a description and some advertising graphics.

- **Indianapolis Museum of Art Mobile Tours:** http://www.imamuseum.org/mobile-tours/ (may not work in some browsers). Build in Drupal using the TAP Into Museums add-on module (http://tapintomuseums.org/). This site uses jQuery mobile templates and "stop-based" content organizational pattern to generate a "tour" of exhibit content. In many ways this functions similarly to the pagination features of other exhibits shown above, but with the novel addition of a handheld interface that can be used while a patron is physically moving through a space. TAP enabled exhibits also offer map features which allow for expanding an exhibit over a wide geographical space. Similar tour-based kiosks are present in many modern museums and art galleries, effectively bridging the digital and physical worlds.

- **Timelines, Data Visualization Libraries, and Infographics:** An emerging trend in web design in recent years has revolved around publishing visualizations of datasets that tell a story which would be difficult for people to understand otherwise. A host of tools are available for creating information in this fashion. Several JavaScript libraries like D3.js, Timeline.js, and others parse data and render charts, graphs, and other data-rich imagery. Sites like Visul.ly show off banners, images, and other infographics which feature highly artistic, hand-crafted views of information.

Given our overview, we note several trends. Institutions can create exhibits using a variety of methods, but increasingly an approach that centers on structured data and a unified design using some type of CMS is favored. Organizational models vary, but many favor one that includes a step-by-step tour model and a book/chapter/page IA. There is a divided approach to content strategy, with a number of sites focusing on generating a story primarily around a set of images and short descriptions, and an alternative approach that favors longer narratives that use images and media as supporting decorations to the written narrative. Finally, many sites have begun to embrace displays of materials beyond traditional blocks of texts and images, seeking to contextualize the materials through visualizations that are both data-rich, and visually pleasing.

# Review of Implementation Options

In consideration of how to build the new exhibits there are a handful of options that could be considered and several that can be discarded fairly quickly. None are without problems or unique challenges.

- **Option 1:** As demonstrated by both history and several peer sites; construct exhibits as semi-autonomous HTML "sites" on the filesystem, customized and designed as the need dictates for the individual project. This method would require members of User Interfaces to undertake an active and ongoing role in the creation of each exhibit. For a variety of reasons this approach is not ideal. It would prove difficult to maintain, would likely contain many items that looked dated and unprofessional over time, and there wouldn't be strong controls over IA.

- **Option 2:** Use an exhibit-building software. This pattern essentially means adopting Omeka, an open source project for building exhibits and digital collections. Omeka provides a number of pertinent features that are relevant to librarians and supports add-on modules from an archive and museum friendly community of developers. Omeka is adequately documented and used by a number of other archives for the display of online exhibits. While it's content model is somewhat flexible, the system has a rigid IA and also acts as a small digital repository for contained items. The latter would mean a high degree of duplication of content and metadata entry that already exists within the digital libraries.

- **Option 3:** Use a general-purpose content management system, preferably open source, to build the exhibits. Drupal, being the primary CMS of the libraries, is the most obvious choice, given User Interfaces experience with the system and the ready availability of both the main website and the Drupal Farm of sub-sites. Given the large number of add-on modules and flexibility Drupal offers, this system poses the fewest challenges to implement and would benefit from the fastest development time. Additionally, it would prove the most adaptable to change over time. New features and updated branding could be easily incorporated to current and past projects with relative ease.

# Suggested Actions

## Exhibit Technical Architecture

Given the possibilities afforded by the existing Drupal Infrastructure within the libraries, we propose that the new exhibit site be built in Drupal, using either the Drupal Farm or a stand-alone instance. While it would be feasible to add exhibits to the main library website Drupal instance, it is less than ideal for several reasons:

1. The development of the exhibit features will no doubt undergo a number of revisions with time and it would be advantageous for this to occur in a sandboxed environment where effects would not be felt on the larger site.

2. The content type schema of the main site supports a handful of common uses-cases shared by numerous divisions, departments, and units throughout the library. Since exhibits are within the domain of only a small number of users, sequestration allows us to build custom workflows, specialized notifications, and would allow for customized author roles and permissions that would not make sense on the main website and could detract or confuse content creation for other users.

3. Building exhibits in an isolated environment will allow us more flexibility to experiment with external APIs, and other web services so that we can communicate with, display, or otherwise interact with content from other systems like the digital collections.

4. An independent site allows us to build a robust mobile site for tours/exhibit walkthroughs that will not interfere with the main site's mobile interface.

Modules, tools, and other items related to the configuration of the Drupal site will be determined as the development of the site is undertaken. The same criteria used to evaluate site features employed on other Library Drupal sites will be followed. Post site launch, statistical use data will be collected via standard analytics tracking code. Other measurements may be studied via web forms, comments, or other user response mechanisms and studies.

## Exhibit Design Elements

We propose the following aspects related to the design of the exhibit site:

- Support an overall unified design for the exhibit site that persists across all exhibits and that conforms to UNT and Library branding standards. Important site design elements such as headers, footers, and typographic elements would be globally controlled and adhere to patterns present on other library websites.
- Provide for a modest amount of localized customization to the design of individual exhibits through form-enabled configuration variables available to exhibit managers or through contextual overrides available to site administrators. Ex: An upload-able "Banner Image".
- Provide content editors with methods to control content layouts under various circumstances.
- Support a mobile-friendly design philosophy so that the site has a complimentary presentation on handheld devices for users of any related physical exhibit.

## Exhibit Information Architecture & Navigation

The following organizational and discovery features are suggested.  Virtually every peer exhibit reviewed conformed to a pattern where the pages of an exhibit were ordered, and the best examples made it easy to move around the site as a whole. This pattern should be replicated.

- **Global Navigation:** A universal navigation schema of 4-5 links accessible from every page. Ex. "Current Exhibits | Past Exhibits  | Forthcoming| Physical Spaces | About"
- **Localized navigation:** For each exhibit that contains more than one page, a left or right-hand column menu with links to all page (or sections of pages) will exist. The text of most links will be arbitrarily set by exhibit creators; however a series of standardized links may also be included for consistency purposes.
- **Previous/Next:** Pagination Links for each page within an exhibit that takes the user to the previous or next ordered element.
- **Browsable Lists:** The site will contain various lists of content.  These may be lists of past exhibits, upcoming exhibits, physical exhibit spaces, lists of items/materials within an exhibit, etc.
- **About Pages:** The site will contain a handful of pages devoted to basic information about the site itself.

The following search-related features are proposed:

- A search feature to find materials across all exhibits
- A search feature to find materials associated with a single exhibit.

- A configurable search feature that allow users to search for materials in related systems such as the catalog, finding aids, or digital collections.

Other Features Related to Individual Exhibits:

- Exhibits will provide users with various administrative and descriptive metadata to aid in discovery and research efforts.  These include data about contributors, hosting departments, physical location(s), display dates, etc.
- Exhibits will contain features that allow users to explore beyond the confines of the individual item or exhibit into related systems at both UNT and beyond.
- Exhibits will include a variety of contact methods for feedback, corrections, and for fundraising or suggestions.

The following features may also be investigated and implemented if deemed feasible and/or necessary:

- Browsable views of content via timelines.
- Geographic/Mapped Views of content.
- Data visualizations: Charts and Graphs.
- Galleries of related images
- Embeddable media

Finally, we propose the following URL structure:

- **Site:**  exhibits.library.unt.edu
- **Individual Exhibits:** exhibits.library.unt.edu/short-name
- **Authored Pages within Exhibits:** exhibits.library.unt.edu/short-name/page-title
- **Automated Features within Exhibits:** exhibits.library.unt.edu/short-name/feature-name
- **Other Site Features, lists, etc:** exhibits.library.unt.edu/other-feature-name/refinements

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