

# **Project Title: NC LIVE Website Update**

**Project Sponsor:** NC LIVE Website Advisory Committee (WAC)

## **Project Goals or Objectives**

1. Complete required technology upgrade for Drupal.
2. Update and improve discovery experience for patrons.
3. Ensure the site is supported across platforms and devices.

## **Project Background**

The NC LIVE website has not been upgraded in several years and has consequently fallen behind current best practices in design and functionality. It does not adhere to the following current best practices in library website design:

1. Should emphasize search over browse,
2. Should serve library patrons first and library staff second, and
3. Should be mobile-friendly.

Additionally, the site is built with Drupal 6, which will no longer be supported once Drupal 8 is in full release.

## **Project Description**

The site update will be completed first via a planning phase, then a migration phase. After the migration, assessment and refinement will be ongoing.

### **Phase 1: Planning**

During the planning phase, we will complete site content and module inventories to understand the scope of work to be completed. We will also select a base Drupal theme that is responsive and modern, which meets goals outlined above.

### **Phase 2: Migration**

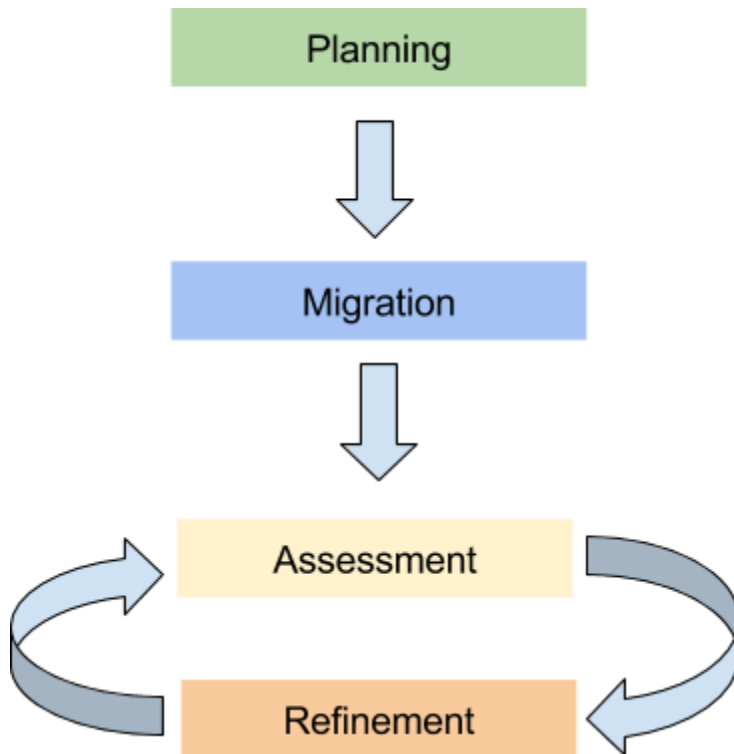
The migration phase entails porting site content and custom and contributed modules into Drupal 7 and re-organizing based on User Stories. Content that is no longer up-to-date or necessary to the NC LIVE community will not be migrated. Contributed modules without Drupal 7 analogues will be evaluated and either discontinued or custom modules will be developed to replace them. In-page PHP code will need to be

pushed into custom modules per Drupal 7 standards. All code must be tested to work in Drupal 7. A new, responsive theme will be used.

### Phase 3: Assessment and Refinement

After we have a site prototype available, we will enter an assessment phase of the project. WAC testing, usability testing, and A/B testing will be planned to gather feedback and usage data.

During the refinement phase, we will implement design and performance lessons learned during assessment. With the newer codebase and theme, work to adjust the look, feel, architecture, and functionality of the site will be sustainable. As interfaces, devices, and user needs evolve, further assessments and refinements will be necessary to evaluate and improve the site.



### Success Definition & Metrics

Some of our goals are technical improvements where success means a completed implementation. We also strive to improve the access & discovery experience of the site. Success means reaching the following benchmarks:

1. A decrease in the percentage of authentication turnaways of 10%.
2. A decrease in the number of patron password request helpdesk questions of 10%.
3. An increase of the use of the NC LIVE site on mobile devices by 10%.
4. Use of newly-developed metasearch refinements (such as filters or in-context help options) by 20% of site visitors.
5. At least 10 new “Best Bet” search results getting at least 50% click-through rates.
6. Usability studies should reveal that 80% of users are able to find known items in most tests.
7. Usability studies should reveal that 80% of users are able to find sources of information on given subjects.
8. Usability studies should reveal that 80% of users can locate contact information for NC LIVE and their home library.
9. 100% of pages should meet accessibility standards defined in Technical Requirements.

## **Costs & Resources**

Most costs are derived from staff time, which must be balanced with other organizational needs and priorities. Josh Wilson, Systems Librarian, has 25% of time (.25 FTE) devoted to this project. Outside contractors will be utilized for theme development during the migration phase, and usability testers could be used during the assessment and refinement phase, which may affect timetables for those portions. The planning phase has been complete and will incur no further costs.

The migration phase is estimated to take 420 hours of NC LIVE staff time. At 25% FTE, the work will require 10.5 months.  $420 \text{ hours} \times \$50/\text{hour} = \$21,000$ . UNC Creative has been contracted to design a home page and internal page templates, along with necessary stylesheets, at a cost of \$3,960.

The initial assessment and refinement is more difficult to estimate precisely, costs will vary depending on degree of refinement necessary and depth of assessment. A minimum of 160 hours (\$8,000) should be budgeted for search refinement, usability studies, and implementation, but more may be justified as necessary.

## **Roles and Responsibilities**

Josh Wilson, Systems Librarian and NC LIVE staff liaison to the Website Advisory Committee, will manage the project and complete work in the planning phase and the majority of the migration phase. Design work may be done by outside contractors. Erin

Holmes, Systems Librarian, will migrate portions of custom code that she manages. Assessment and Refinement information gathering will be done by all NC LIVE staff and/or contractors, although actual updates will be completed by systems librarians.

## User Stories

A WAC user group completed a draft of user stories on December 18, 2015. The draft was reviewed by the rest of the WAC and other stakeholders and finalized on February 5, 2016.

### Universal User Group: All NC LIVE patrons

As a patron, I want access to NC LIVE's e-books, journals, videos, language-learning tools, and other resources, for academic, business, and personal use.

*Acceptance criteria:*

- Patron should be able to access NC LIVE resources.
- Patron should be able search across collections on NC LIVE site.
- Patron should be able to refine search to broaden discovery.
- Patron should be able to browse for databases by title or subject.
- Patron should be able to browse ebooks and journals.
- Patron should be able to get assistance as needed.

As a patron who regularly uses the library, I want access to NC LIVE resources from my library, since that's where I do most of my research work.

*Acceptance criteria:*

- The site should support login and authentication through IP validation.
- The site should provide access to NC LIVE resources without requiring authentication steps for patrons.

As a patron who does not regularly use the library space, I want NC LIVE resources available from locations outside the library so that I can get access without being on site.

*Acceptance criteria:*

- The site should prompt users for authentication at point-of-need.
- For NC LIVE-supported login (such as passwords or library card numbers), the site should make it clear what credentials are required, and where and how to obtain them.
- For institutionally-supported login, the site should seamlessly hand users off to the selected member institution before passing them on to NC LIVE resources.
- The site should make it easy to get help in the event of authentication problems.
- After authentication, the site should retain user information to minimize the need for re-authentication.

As a patron, I want NC LIVE resources to work on tablets and smartphones so that I can use whatever device I prefer.

*Acceptance criteria:*

- The site should have a responsive theme that performs well on a range of devices.
- The site should support resource discovery on a range of devices.
- The site should support login and authentication on a variety of devices.
- The site should provide access to all NC LIVE vendor sites, or suggest vendor apps in cases where certain resources perform better on different devices.

As a patron, I want to get help using the site if I'm having trouble finding information.

*Acceptance criteria:*

- The site should provide or link to FAQs, guides, videos, or other help with using NC LIVE resources.
- The site should provide a contact form for further questions.
- The site should facilitate access to the NC Knows chat service.
- The site should facilitate access to the patron's home institution.

As a patron, I want to find NC LIVE resources in my library's catalog, course reserves, or other local site, so that I wouldn't be expected to search in multiple places.

*Acceptance criteria:*

- The site should provide links to NC LIVE resources for library staff that can be used elsewhere and considered permanent.
- The site should provide MARC records for library staff to use for populating their own discovery systems.

As a public library patron, I want to be able to use NC LIVE's site to search for everything that's available to me digitally, not just what's located in my library.

*Acceptance criteria:*

- The site should provide a search across all NC LIVE materials.
- The site should support browsing by subject, database, or publications.

As a UNC system patron, I want access to NC LIVE resources without having to learn a special password.

*Acceptance criteria:*

- The site should encourage users to make use of their home institution's library website.
- When authentication is needed, the site should redirect users to home institution login pages where they can use known personal credentials.
- The site should support academic research-focused search and discovery.

As a community college library patron, I want a Google-like search structure and results

*Acceptance criteria:*

- The site should provide a fully-featured search tool that supports usability features like autocomplete, suggested results, and rich snippets.

As a patron, I want the site to be fully accessible so that I can use NC LIVE resources despite any visual or physical disability.

*Acceptance criteria:*

- All pages should be Section 508 compliant and conform with the W3C's Web Content Accessibility Guidelines at level AA.

## **Universal User Group: All NC LIVE library staff**

As a library staff member, I want to be able to get help using the site if I'm having trouble assisting patrons finding information.

*Acceptance criteria:*

- The site should provide or link to FAQs, guides, videos, or other help with using NC LIVE resources.
- The site should provide a contact form for further questions, as well as direct contact information for NC LIVE staff.
- The site should provide information on NC LIVE training sessions for library staff.

As a library staff member, I want to get information about NC LIVE's resources so that I can make collection decisions for my library.

*Acceptance criteria:*

- The site should report information on the content of NC LIVE collections, including numbers of items and title lists.
- The site should have information on NC LIVE mailing lists and sign up for them.
- Library staff should be able to retrieve usage statistics from the NC LIVE site in downloadable CSV format.
- The site should provide information such as technical requirements, proxy support information, and accessibility information.
- Library staff should be able to quickly find contact information for follow-up questions.
- Library staff should be able to find cost-avoidance information to understand the benefits of NC LIVE membership.

As a library staff member, I want tools to improve my users' awareness of NC LIVE resources so that they will know to use them for their research.

*Acceptance criteria:*

- The site should provide permanent links for resources.
- The site should provide MARC records for NC LIVE collections for use in local discovery systems.

- Library staff should be provided outreach and promotional materials such as graphics, templates, and style guides.
- Library staff should be able to locate access tools such as search widgets and LibGuides templates that can be embedded on local sites.

As a library staff member, I want to get proactive NC LIVE resource alerts, so that I can update my site and catalog accordingly.

*Acceptance criteria:*

- The site should provide several options for learning about NC LIVE resource changes, including listservs, RSS feeds, and social media alerts.

As a library staff member, I want to know about upcoming library events around the state so that I can participate.

*Acceptance criteria:*

- The site should provide an centralized event calendar.
- The site should make it easy for member libraries to add events to the calendar.

As a community college library staff member, I want to be able to show my students how to search effectively.

*Acceptance criteria:*

- The site should provide a consistent search such that results can be replicated and predicted.
- Search results should have a persistent link so they can be shared.
- Training materials such as handouts and videos should be provided on the site for use in instruction.

As a community college library staff member, I want to help students understand why scholarly materials are important/more credible.

*Acceptance criteria:*

- The site should provide information about scholarly materials so that students can understand what separates them from other information.
- The site should highlight these materials in searches.

As a community college library staff member, I want to help the student/faculty/staff member find high quality resources for their topic of study.

*Acceptance criteria:*

- The site should provide a search that highlights e-books and scholarly articles for research.
- The site should provide education and training materials for instructors so they can learn how to help their constituents.

- The site should provide access to NC LIVE resources which best match research tasks.

## **User Group: Researchers (seeking “traditional” peer-reviewed literature)**

As a researcher, I want to be able to find a “scholarly journal” or “scholarly article” (even if I don’t know what that is).

*Acceptance criteria:*

- The site should support searching for scholarly research.
- The site should highlight search results for scholarly journals and scholarly articles (using terms users are familiar with).
- The site should help users understand what these terms mean, by linking to definitions or more information.

## **Professionals & Entrepreneurs (seeking information for their career or to improve their trade, skill knowledge for a career)**

As an entrepreneur, I want to learn about successful businesses in the area and how to make my business more successful.

*Acceptance criteria:*

- The site should provide a list of resources targeted towards entrepreneurs and professionals.
- The site should provide use cases for resources.
- The site should provide a list of resources categorized by related career.

## **High school students**

As a high school student, I want to learn how I can access NC LIVE resources.

*Acceptance criteria:*

- The site should provide promotional materials for school libraries
- The site should provide guides/help in how to attain/keep NC LIVE access.
- The site should provide a list of local libraries in my area that have NC LIVE access.
- The site should provide links to resources about citing, writing, information literacy, and live help (NC Knows).



## **College Students (comprising 2yr, 4yr, post graduate, and recent graduates)**

As a recent college graduate, I want to continue using NC LIVE after I leave my institution for job-related or continuing education purposes.

*Acceptance criteria:*

- The site should provide guides/help in how to attain/keep NC LIVE access.
- The site should provide a list of local libraries in my area that have NC LIVE access.

As an NC college student, I want to browse NC LIVE's resources by subject areas, so I that can find resources for classes that I'm in.

*Acceptance criteria:*

- The site should provide navigation by subject area, grouped in categories useful for a variety of user groups.

As an NC college student, I want to see if NC LIVE has any of my required textbooks as ebooks, so I that don't have to buy them.

*Acceptance criteria:*

- The site should provide e-book searching, with an option to filter to textbooks if possible.
- The site should provide access to e-books.

As a community college library patron, I want to do research in my PJs at 1:00AM.

*Acceptance criteria:*

- The site should provide remote access to NC LIVE resources.
- The site should be available 24/7/365.
- The site should provide substantial "self-help" guidance--how-tos, demos, or links to more help--to support off-hours research when library staff generally aren't available

## **Leisure readers**

As a leisure reader, I want help using and downloading NC LIVE ebooks to my tablet so that I am not required to be connected to the internet to read the books.

*Acceptance criteria:*

- The site should provide instructions on downloading ebooks.
- The site should make clear which ebook platforms support offline reading.

## NC historians (including people interested in ancestry resources)

As a patron interested in local and family history, I want to be able to find information on North Carolina history so that I can conduct my research.

*Acceptance criteria:*

- The site should highlight local history resources.
- The site should highlight genealogy resources.
- The site should help researchers local these items by providing online access or information on how to use the libraries which they are held.

## Technical Requirements

The following technical requirements translate the User Stories into actionable site development steps.

Requirement	Details	Solution
Permanent links to NC LIVE resources	All links to NC LIVE resources should be considered permanent by member libraries. Site should manage changes to resources on back end so that end users can maintain a single link.	Maintain custom NC LIVE codebase to resolve resource links.
Authentication and access control	Users select institution and authenticate based on institutional authorization preferences (e.g. library card number, NC LIVE password, handoff to local authentication). Authentication stays active via cookie (patron can opt out). Supports IP-based automatic authentication. Provides assistance finding nearby libraries. Provide assistance for patrons unaware of credentials, or wondering about keeping access in the future.	Custom Drupal module based on existing loginpage module to support IP, password, library card, or proxied authentication.

Specialized resource portals	Genealogy, e-books, jobs, health, and business all require customized pages: staff should be able to add resources, links, and other components.	Develop easily-maintained customizable template for specialty information.
Subject and format browse	Users have a way to identify NC LIVE resources for specific subjects or type of tool (e.g., language resources or videos). Staff have a way to administer.	Contributed or custom module or Drupal View for browsing interface, with administrative tools.
Federated search across NC LIVE collections on NC LIVE site	MARC records or other metadata should be harvested and indexed nightly. Search should provide autocomplete and suggestions, and results should have good scent to provide context. Search refinement facets for format, date, and subject should be available. Search results should be consistent and replicable.	Leverage Summon and existing metasearch module. Nightly cron tasks create index. Incorporate search libraries to provide modern search tools.
Link users to their home libraries	Serve as a partner to member libraries preferring their patrons use their site. For staff, provide MARC records, promotional materials, search widgets, and templates. For patrons, provide links and contact information.	A “My Library” portion of site. Develop custom module to integrate user’s identity into experience.
Experience tailored to patron’s research needs	Customize interface for different individuals identified in User Stories. For example, users doing academic research should be able to get academic results. Users looking for popular materials can filter out academic material. Professionals can find job or entrepreneurial resources. Update and improve Best Bets.	Either functionally (module-based) or stylistically (theme-based), make search and discovery experiences customizable by providing filters and views for users.
Information literacy help	The interface should provide useful literacy information in context, including information on academic journals and citing sources.	Create help links (e.g. pop-out “What is this?”-style). Leverage existing help information on member library sites.

Information about NC LIVE and community	Provide the NC LIVE community: contents of NC LIVE collections, usage statistics, cost avoidance information, technical requirements and support, staff contact information. Provide the NC LIVE community: listserv and other communication information and a centralized events calendar.	Port “about” pages and library staff help pages. Update usage statistics module. Port communication tool information. Research Drupal community calendar modules.
Help resources	For users, sufficient self-help guidance: FAQs and demos, NC Knows chat support, and provide a contact form and home library contact information. For staff, links to training information and materials.	Port and update existing help pages and contact modules.
Site works across a variety of devices	Responsive theme. Ensure all other technical requirements are satisfied to the extent possible across a variety of devices. Tailor experience to user’s device when appropriate (e.g., link mobile users to mobile versions of vendor sites)	Adopt new responsive theme.
Site is fully accessible	All pages should be Section 508 compliant and conform with the W3C’s Web Content Accessibility Guidelines at level AA	Use an accessible theme. Run site accessibility checks regularly and fix issues.

**Schedule**

- Planning: May 2015 - October 2015. Completed.
- Migration: February 2016 - December 2016.
- Initial assessment and Refinement: January 2017 - August 2017.

Milestones:

Milestone	Deliverables	Deadline	Notes
<b>PLANNING</b>			
Module inventory	List of all custom and	June 2015	Done

	contributed modules to understand with Drupal 7 availability information		
Blocks/Views/ Content types/problem children inventory	List of Drupal structures and content areas that will require special migration	July 2015	Done
Content-to-new theme mapping	List of current site content types mapped to available templates in a new base theme	August 2015	Done
Site inventory	Complete list of NC LIVE site content with decisions on usefulness	October 2015	Done. Follow-ups will be necessary for specific areas.

#### MIGRATION

Authentication and access control to Drupal 7	Updated loginpage module	1 March 2016	Est. hours: 40
New home page v.0.1	Initial version of NC LIVE home page	15 March 2016	Est. hours: 20
Federated search v.0.1 to D7	Initial version of NC LIVE metasearch results page	1 May 2016	Est. hours: 60
Subject/format browse to D7	New versions of browsing pages and admin interface	1 June 2016	Est. hours: 40
Specialized portals to D7	New versions of portal pages to D7	1 July 2016	Est. hours: 40
Complete user-facing portions of site	Complete user-facing help & UX technical requirements	1 September 2016	Est. hours: 80
Complete library staff-facing portions of site	Complete staff-facing technical requirements: "About" and Help areas of the site ported to D7	1 October 2016	Est. hours: 40

Responsiveness audit	Review entire site for responsiveness issues	1 November 2016	Est. hours: 40
Accessibility audit	Review entire site for accessibility issues	15 December 2016	Est. hours: 60
Beta Drupal 7 complete	Completed beta site	1 January 2017	
<b>ASSESSMENT AND REFINEMENT</b>			
Develop and finalize assessment plan		Winter 2017	
Usability testing		Spring 2017	
Public beta launch		Early summer 2017	
New site replaces old		Late summer 2017	

## Communication Plan

Open communication is vital to this project, and will help shape the site's development. During the Planning Phase and the Migration Phase, regular progress updates will be provided by the WAC liaison at quarterly Website Advisory Committee meetings. Significant milestones will also be communicated via the WAC e-mail list and NC LIVE Connect site for additional feedback. WAC members can contact the liaison at any time for questions or comments. Executive summaries will be provided to the Librarians Council quarterly. Wider community feedback will be incorporated during the Assessment and Refinement Phase, but any suggestions received during earlier phases may be considered for incorporation by the WAC or Librarians Council.

## Project Risks

**Risk: Community dissatisfaction with new site.**

Likelihood: Low.

Mitigation: Our best defense against negative feedback will be adherence to the project plan. Users will always initially have mixed reaction to interface changes. Following the plan ensures this reaction will be minimized since the new site will respond to users' needs and feedback. Decisions will be made and communicated based on site usage data, library site trends, user stories, usability tests, and A/B tests. We will also continue to assess the website and make improvements will be made on an ongoing basis.

**Risk: Unanticipated development time may hinder timely migration.**

Likelihood: Low.

Mitigation: Prudent timetables for code updates have been included in the Migration Phase of the project plan, based on research from the Planning Phase, and the Systems Librarians' experiences with Drupal development and migrations. However, it is not possible to fully predict how a site's community-contributed and custom code will work when ported to a new major Drupal version. Some contributed modules may no longer function as they do in Drupal 6, and some custom code will need significant updates. Therefore, some degree of development time is anticipated. However, migrations always raise the possibility of scenarios where unexpectedly large portions of code need replacement.