World History Commons is an open educational resource (OER) with peer-reviewed content for world and global history teachers, scholars, and students created during a three-year, Level-III Digital Humanities Advancement Grant (2018-2021) from the National Endowment for the Humanities (NEH). The four major goals of the project were:

1. **design and develop a robust platform** for World History Commons (WHC) using open-source languages and platforms, including Drupal, JavaScript, HTML 5, CSS, PHP, and Apache;
2. **update and migrate content** from existing World History Matters websites, The Amboyna Conspiracy Trial, and the Global History Reader to the new WHC website;
3. **develop new content** based on current world history scholarship and pedagogy; and
4. **plan and implement effective outreach** to high school and higher education teachers, scholars, and students.

This white paper documents the design and development process, including lessons learned, successes and challenges, and implications for future digital humanities projects.

**DESIGN AND DEVELOPMENT**

The Roy Rosenzweig Center for History and New Media (RRCHNM) at George Mason University has a successful history of using the open-source Drupal content management system (CMS) for its educational websites and, based on this experience, Drupal 7 was chosen as the platform for developing the World History Commons website. The website was designed in consultation with Big Yellow Taxi, a creative agency that specializes in educational content. After building the website and migrating a significant amount of existing content, the project team released the beta version of WHC in early 2020. In the final months of the NEH grant, the WHC website was subsequently rebuilt in Drupal 9 to ensure sustainability.

From the outset, World History Commons presented a significant design challenge. A core goal of the project was to provide an essential digital resource for teaching and research in world and global history drawing in part from existing world history projects created over twenty years. These included World History Sources, Children and Youth in History, Women in World History, Exploring the French Revolution, Making the History of 1989, and the Global History Reader. Each project had a unique design that highlighted its core content, intended
audience, and pedagogical goals. The challenge was to create a centralized design for WHC that united content across these many topics and visual elements. We started with the key goals of creating a visually rich, appealing, and responsive design that was appropriate for all intended audiences (students, teachers, and scholars from high school through higher education), would feel contemporary in the present and for the foreseeable future, and represented the broad range of topics, themes, time periods, places, and people that are central to understanding world and global history.

Building on the initial prototype, the project team worked closely with Big Yellow Taxi to initiate an iterative design process, including engaging the advisory board and intended audiences in conversations about the logo, color scheme, layout, and design elements. The resulting WHC design is flexible and fluid. The home page incorporates a large, rotating body of images that pulls from the project database and changes with each page refresh. Each frame of the grid has a rollover that reveals the name of the source and links to more information within WHC. Images are randomly selected to introduce users to the broad range of primary sources available on WHC and draw them more deeply into the content.

Prototype
User Feedback

User feedback was sought through a variety of avenues and methods. The team conducted nine formal feedback sessions that combined usability testing and user interviews. Interviewees included George Mason University undergraduate students, middle and high school teachers, and college and community college faculty at various career stages.

For the usability tests, we asked students the following questions and observed how they used the WHC website to answer them:

- You are doing a research project on world history and your teacher tells you to check out WHC. What do you do when you get there?
- How would you use the WHC website to study for a world history exam?
- We are in a global pandemic and you do not have easy library access! Your teacher has asked you to create a digital project or write a paper based only on digital sources. How would you use the WHC website to complete this assignment?

For the usability tests, we asked teachers the following questions and observed how they used the WHC website to answer them:

- You are redesigning your world history syllabus to incorporate more open educational resources (OERs) and someone suggests that you check out the WHC website. What do you do when you get there?
- How would you use the WHC website to write or revise a classroom lecture or activity on a world history topic you are less familiar with?
- How would you use the WHC website to create an assignment for your students?
- We are in a global pandemic and you do not have easy library access! You have asked your students to create a digital project or write a paper based only on digital sources. How would you instruct them to use the WHC website to support their research?

Additional user interview topics included:

- Students
  - Tell us a bit about your educational background and career goals.

- Teachers
  - Tell us a bit about your teaching background.
  - How did you use open educational resources (OERs) before the pandemic?
  - How are you using them now?
  - When and how might you use WHC to support your coursework or research?
  - What do you like about the WHC website? (Prompt to give feedback on navigation or content if answer does not include both.)
  - What do you dislike about the WHC website? (Prompt to give feedback on navigation or content if answer does not include both.)
  - What would you recommend we do to improve the WHC website?

*World History Commons* White Paper, p. 4
What did we not ask that you think is important or relevant?

The team solicited feedback from members of the advisory board at key points in the development of the design and website — when a beta version of the WHC website was available and once the WHC website was public. Links to feedback surveys were also distributed to attendees at outreach opportunities, including conferences and workshops.

User testing feedback indicated that while users were enthusiastic about the wide variety of high quality primary sources and teaching resources, additional guides to using the website would help teachers find specific materials and fully utilize the WHC website. To that end, we created a Guide to Using World History Commons that is linked from both the homepage and the About page. We also developed a series of videos to introduce WHC and provide ideas for incorporating specific resources into teaching. Working with a graduate student and a multimedia specialist, the project team conducted interviews with instructors and scholars on how best to use World History Commons. Given the significant number of community college instructors teaching world history, we highlighted their needs, but the advice is valuable to anyone teaching world history from secondary through post-secondary education. The 16 videos are available on YouTube: World History Commons Playlist.

Near the end of the NEH grant period, the director of a large higher education world history program completed a formal evaluation of the World History Commons website. The evaluator wrote that:

“World History Commons site is an excellent resource for both teachers and students of world history. The quality of the sources, the teaching modules, the methods, and the reviews is just terrific, and there is a wide selection of each of these. I am very pleased to know that the ACLS grant will allow you to continue to add to the resources you have collected. This may well now be the premier site for world historians and students to mine for guidance on teaching and access to primary sources.”

The evaluator also provided helpful minor suggestions for the introductory videos and guides that the project team will implement in the coming months.

Implementation and Upgrades

Drupal is a robust, flexible, and open source CMS that, like any CMS, requires regular updates. In early 2019, Drupal announced the end of life for Drupal 7, the point after which it will no longer be supported with security updates. The team had initially planned to upgrade from Drupal 7 to Drupal 8. Due to the global COVID-19 pandemic, Drupal extended the life of Drupal 7 to November 2022. In the meantime, Drupal released Drupal 9 in 2020. With the goal of long-term sustainability, the project team decided to transition the project directly to Drupal 9.
The upgrade to Drupal 9 was extensive and essentially required rebuilding the website. This process took about three months and was completed in September 2021. The Drupal 9 end of life has already been announced for late 2023 due to the scheduled sunset of one of its major dependencies, but Drupal 9 was built to ensure an easy transition to the forthcoming Drupal 10, anticipated by late 2022. The project does not rely on custom modules and the team has installed the Upgrade Status module which should ensure a smooth migration to Drupal 10 circa early 2023. Once the site has successfully transitioned to Drupal 10, it should be sustainable without major CMS updates for several years. While time consuming, these updates are necessary to ensure that World History Commons remains viable and available as a resource for secondary and post-secondary teachers and students for the foreseeable future.

**Existing Content**

One of our key goals for the project was to migrate all content from our contributing or “legacy” websites to the new World History Commons website. Several of these websites dated back to the late 1990s and early 2000s and even the more recent websites were ten years old and presented serious sustainability challenges. Migrating content to World History Commons not only centralized resources to enhance discoverability, but also ensured that those resources would survive if hand-coded websites or websites reliant on outdated and vulnerable CMSs had to be flattened, archived, or taken offline.

One challenge in updating and migrating content came from changes in technological standards, in particular the scheduled (and now implemented) demise of Flash. The project’s legacy sites relied on Flash to varying degrees, especially video content, which had to be re-created in HTML 5 to ensure its continued functionality after December 2020. While the transition from Flash to HTML was anticipated as part of the project design, we were still challenged to recreate the videos, especially since many of the original videos were created at a lower resolution than is common today. While it was time-consuming to recreate and update these resources, we were aided by the widespread nature of the problem as people and companies across the Internet similarly grappled with this issue.

An additional issue concerning migrating content from legacy websites involved resources whose context depended largely on the framing of the legacy website. When these resources were transferred to World History Commons, some of this context was lost. We took a variety of steps to address this issue. One strategy was to collect related resources and group them together into teaching modules we labeled “Source Collections.” These modules provided brief framing essays to introduce a large collection of primary sources under a given theme, such as one related to Slavery and Haitian Revolution. These were originally part of the Liberty, Equality, Fraternity: Exploring the French Revolution website. Another strategy was to work with the project lead of the legacy website along with graduate student researchers to provide additional framing for these primary sources to place them in a world history context. When this was not possible, the sources were moved to World History Commons and remain unpublished as we work to supplement them with additional context.
One unanticipated issue we discovered in migrating and updating legacy content came from the content category of website reviews. We had anticipated some link rot, a well-known legacy challenge for digital content,¹ but we found the problem to be more extensive as we began checking individual website reviews. In the end, we were able to update and migrate approximately half of the legacy website reviews. In response, we dedicated additional resources to locating and reviewing new websites and to focusing, whenever possible, on websites that had the best chance for sustainability. While we fell short of meeting our original goal for website reviews during the NEH-funded period of the grant, we will meet that goal by the end of the ACLS grant.

**NEW CONTENT**

The core of *World History Commons* originated in discrete legacy projects, including *World History Sources*, *Women in World History*, *Children and Youth in History*, *Liberty Equality, and Fraternity: Exploring the French Revolution*, and *Making the History of 1989*. A major goal for new content development, therefore, was expanding coverage across all topics, regions, and time periods. The project team, with the help of the advisory board and steering committee, assessed content gaps and solicited high quality teaching resources and annotated primary sources to address them, including adding new content in ancient history as well as African and South American history.

Through a combination of updating, migrating, and adding new content, we published 1,772 primary sources, 297 website reviews, 112 teaching modules, and 40 methods primers by the formal end of the NEH grant period (September 2021). We are currently finalizing 184 new website reviews, as well as additional methods primers, primary sources, and teaching modules, particularly focused on addressing temporal and geographical gaps, and will complete this work by June 2022.

**OUTREACH**

When the COVID-19 pandemic led to the cancellation of in-person events in 2020 and 2021, the *World History Commons* team sought out creative ways to promote the site virtually. Presentations included virtual visits to the Maggie Walker Governor’s School in Richmond, Virginia, and a digital poster and lightning talk for the virtual 2021 American Historical Association (AHA) annual meeting. The team presented two panels at the 2021 World History Association virtual conference and collaborated with the AHA to include *World History Commons* in their Remote Teaching Resources feature. At the upcoming in-person 2022 AHA annual meeting, we will present a panel and a lightning talk, and will distribute promotional materials from an affiliate table in the Exhibit Hall. We will also continue social media outreach through “source a day” tweets (@worldhistorycomm) and have been exploring other venues to publicize the site beyond the funded period.

Outreach for *World History Commons* is ongoing through an ACLS Digital Extension Grant focused on community college faculty and students. We made significant progress in these

---

efforts, reaching community college faculty across the United States. These include virtual and in-person presentations at the World History Association; ORIAS Summer Institute for Community College Instructors; Pacific Coast branch of the AHA; Pacific Northwest, California, and Hawaii regional branches of the WHA; Arizona Council for History Education webinar series; Virginia Community College System; and Minnesota State Colleges and University system.

**PROJECT TEAM**

The *World History Commons* steering committee met monthly throughout the project to strategize, discuss progress to date, and plan next steps, including design, development, content, and outreach. Collectively, the committee had considerable experience working with teachers and historical scholarship as well as institutional knowledge of the legacy projects that formed the core of WHC. These discussions proved invaluable to the overall process of conceptualizing how existing resources could fit together on the new website and how they could best be supplemented by new resources. The committee used its connections across the field of world history and history teaching to solicit new content from expert scholars. The steering committee also worked together to seamlessly adjust outreach in response to the COVID-19 pandemic that limited many of the traditional forms of dissemination for educational websites, such as in-person workshops and conferences. WHC outreach remained robust and effective and ongoing outreach efforts will continue beyond the life of the grant.

The advisory board for *World History Commons* remained a valuable resource throughout the grant period. Advisory board members provided feedback on style, organization, and content at key points throughout the development process and made themselves available to answer questions related to their scholarly expertise. Several members also contributed content to the site, including valuable essays on methodological approaches to world history such as *Transnational History, Tasting and Hearing in the Past*, and *Migration and Diaspora in World History*. The advisory board also provided suggestions and connections to scholars globally who created teaching resources for WHC. Their commitment and expertise extended the breadth and depth of resources available on *World History Commons*. The advisory board also worked to promote the site through reviews that we have included on our *About* page and by disseminating WHC through their extensive global networks.

Over the course of this grant, graduate and undergraduate students have contributed substantially to the project. Students updated and researched website reviews and primary sources, engaged in meaningful research to create teaching resources, learned digital skills associated with publishing materials on a Drupal software platform, and supported outreach efforts. These students had the opportunity to contribute digital content to a well-respected OER and could then include specific skills and experiences on their resumes and CVs as they pursued future academic and professional goals. Some of these students later went on to begin PhD programs or law school while others secured positions working in the field of digital humanities.
CHALLENGES AND SUCCESSES

Throughout the course of the project, the team successfully navigated challenges whose solutions may help inform other and future DH projects. Due to personnel changes, two new faculty with experience in digital humanities and education joined the Steering Committee to help coordinate student employees, backend development, and project sustainability. RRCHNM is committed to engaging undergraduate and graduate students in the hands-on work of creating a digital humanities resource and these students make valuable contributions to the project. Students, however, are necessarily a transitory workforce as their commitments are often defined by the structure of the academic year, internship timelines, and graduation. Robust documentation of workflows and content tracking ensured that students could onboard and offboard with a minimum of disruption while making valuable contributions to WHC and gaining marketable skills and experiences.

The project team raised matching funds for the project through donations and a successful application for an American Council of Learned Studies (ACLS) Digital Extension Grant that complemented and supported the mission of the NEH grant. The ACLS grant will extend active project work through June 2022 with a focus on generating new content by early career scholars and creating materials to support the use of WHC in community colleges.

The team also had to navigate the ongoing uncertainty of the COVID-19 pandemic. The steering committee had planned to meet virtually due to their geographic locations, and in March 2020 the student team members successfully transitioned into virtual workflows with the assistance of project technologies such as Google Drive, Slack, and Zoom.

One challenge caused by the pandemic related to soliciting feedback on the project and conducting project outreach. After transitioning usability testing and user interviews to a virtual format, however, we reached a more geographically diverse group of testers than would have been possible in person. This process was effective enough that the team is likely to continue using it in combination with in-person testing in future projects. The pandemic significantly disrupted the classroom and academic conference ecosystems complicating initial outreach plans, but the team was able to refocus efforts on social media and virtual conferences for effective project outreach. The ACLS grant also extended the timeline for project outreach and enabled a planned return to in-person conferences in 2022.

The team experienced two particular challenges regarding the technology and content of the project. The first was transitioning the project from Drupal 7 to Drupal 9, as detailed in the Implementation and Upgrades section. The second was dealing with the large number of website reviews lost to link rot, as detailed in the Updating and Migrating Content section. Generally speaking, these issues relate to a core challenge for all OERs and digital projects: sustainability. This inevitably requires time and resources after the end of grant funding and to date, there are no permanent solutions to this problem. RRCHNM addresses this in part through an organizational commitment to keeping projects technologically updated or to flattening them to ensure their continued survival with a decreased feature
set. RRCHNM is committed to the longevity of *World History Commons*, providing it with a stable future home.

Despite these challenges, *World History Commons* has succeeded in achieving the vast majority of its project goals and is already reaching a growing user base. Since we began tracking site visits in March 2020, the website has received more than 90,000 visits and 200,000 page views from people around the world. These numbers grew significantly in fall 2021 and we anticipate continued growth to accompany concentrated outreach efforts in spring 2022.

While the majority of visitors find WHC through search engines, 10% follow links from websites or social media while another 21% either directly enter the URL or have bookmarked the site. The above graphs show daily site visits from December 14, 2020 to December 14, 2021 for 1) search engine visits and 2) visits from links and direct entry or bookmarks. Search engine visits, in particular, show a pattern of a summer lull followed by a notable increase as teachers at the secondary and post-secondary levels began the new academic year. This suggests our target audiences of teachers and students are finding and using the site as intended.

**FUTURE OF WORLD HISTORY COMMONS**

In 2020, the *World History Commons* project team was awarded an American Council of Learned Societies (ACLS) Digital Extension grant entitled *Expanding the Commons: Supporting Emerging World History Scholars and Community Colleges through the World History Commons OER*. This grant extended the resources of *World History Commons* to support early career scholars as well as instructors and students at community colleges.
around the country. Our goals for the grant were to fund doctoral students and early career researchers working on cutting edge world history scholarship to write scholarly essays for WHC and to work with community college coordinators to connect world history course curricula to website content. This funding extended the reach of the NEH grant, allowing the team to expand content creation and to continue outreach for an additional nine months.

When the ACLS funding ends in June 2022, *World History Commons* will continue its outreach efforts in conjunction with the promotion of other education projects at RRCHNM. RRCHNM recently hired a Community Engagement Coordinator who is working with the WHC team to develop a strategy of continued outreach that will expand social media engagement and increase traffic to the website. As part of this effort, we will explore ways in which the many education projects at RRCHNM can be used to further build the audience for all projects via social media, email outreach, blog posts, and in-person and online conferences and professional development.