

Digitization in the Real World

**Lessons Learned from
Small and Medium-Sized
Digitization Projects**

Edited by

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DIY Digitization: Creating a Small-scale Digital Zine Exhibit

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Abstract

The Barnard Library Zine Collection is an innovative special collection of dynamic popular culture artifacts. The zines in the collection provide a democratic and vibrant glimpse into the movements and trends in recent feminist thought through the personal work of artists, writers, and activists. The author finds that in order to improve access to and generate interest in such niche collections, institutions have a responsibility to overcome barriers to digitization and begin sharing their collections online. This chapter discusses the development of Barnard's first zine digitization project: *the Elections and Protests: Zines from the Barnard Library Collection Online Exhibit*, launched in the summer of 2008. The successful project demonstrates that it is possible to build effective and engaging small-scale digital collections using simple and inexpensive technologies.

Keywords: Barnard College Library, Copyleft, Copyright, Education, Elections, Lesson plans, Online exhibit, Political zines, Primary sources, Protest, Special collections, Zines.

Introduction

The Barnard College Library began collecting zines in 2003 in an effort to document third wave feminism and riot grrrl culture. Zines are self-published, usually inexpensively produced works by writers who subscribe to a Do It Yourself (DIY) philosophy. Generally, zines

are created out of an interest to communicate or express ideas that might not otherwise find acceptance in the mainstream media. Although zines as we know them today were born from the punk movement of the early 1970s (Duncombe, 1997, p. 21), they are part of a long history of small-run and “amateur” publication. Whether calling colonialists to arms in the days of the American Revolution or subverting censorship and challenges to free speech in Soviet Russia (Wright, 1997), alternative publications are a natural and important tool for preserving free speech.

Although zines are low rent ephemera, several public and academic libraries across the country have begun to recognize their value. At the forefront of the field, Barnard’s collection has nearly 2,500 holdings providing unmediated access to the voices of young women on such subjects as race, gender, sexuality, childbirth, motherhood and politics. Zine Librarian Jenna Freedman’s outreach and advocacy work helps to legitimize zines, not as radical historical footnotes but as valid literary and historic works worthy of collection, preservation and study.

As the Zine Intern in summer 2008, my role was to help Freedman to increase access to and interest in the Zine Collection. The result of my work was Barnard Library’s first digital collection, an online exhibit entitled, *Elections and Protests: Zines from the Barnard Library Collection*. This project employed a DIY approach to digitization, making use of materials and resources at hand to solve problems and overcome challenges rather than relying on mainstream or out-of-the-box technologies. This project demonstrates that small-scale digitization projects can be topical, useful and impactful for a variety of stakeholders.

Literature Review and Needs Assessment

The literature surrounding zines reveals that, as unique primary source documents, they can serve as valuable research tools. Alternative press advocates such as librarians Chris Dodge and Jim Danky argue that self-published ephemera like zines, handbills, and military newspapers can provide a glimpse into a part of history that

includes the voices of marginalized individuals and groups which would otherwise be lost were they not collected (Dodge, 2008).

Dempsey (2006) notes that to collect the ephemeral and radical “long tail” is not enough; institutions have a responsibility to provide users with access points and contextual materials in order to maximize use. Liu (2007) notes that in order to better serve users, “academic library Web sites should ... switch the focus from presenting information arranged according to library functions and resources to providing targeted and customizable tools and services to library users ... and give users opportunities to express, share, and learn.” In addition to their value as historical documents, zines also serve as powerful teaching tools for media literacy (Wan 1999; Congdon, 2003; Daly, 2005), but scholars and teachers need both access to zines and support for teaching with these unique documents in order to capitalize on this potential.

Lesk (2007) acknowledges the legal and philosophical issues that are inherent in digitization work, but advocates strongly for institutions and copyright holders to work together to overcome challenges due to the potential value of digital materials for research. In order to support online research, some public and academic institutions have begun digitizing their special collections. Unfortunately at the time of this project, no public or academic institution had moved to digitize their zine collections.

The lack of high-quality materials for studying and teaching zines online makes interacting with the genre impossible for anyone without physical access to a collection. Most public and academic institutions allow access to their zine collections mainly through catalog search. Some institutions occasionally mount online exhibits that include scans of zine covers only.

This has been due, in part, to the same barriers that hinder other digitization projects such as prohibitive cost, lack of time, and technological limitations. Additionally, zine librarians and scholars identify the intrinsically physical nature of the genre as another reason not to prioritize zine digitization. Migrating zine content to a digital form is seen by many in academia to undermine the very heart

of the genre, which is to be rooted in physical interaction between zinester, zine, and reader. Duke University's Zine Librarian argues that, "...zines are created by hand, crafted with paper, scissors, tape, glue, staples. They were meant to be handed from person to person, physically shared. The experience of handling zines in person, turning each page to reveal intimate secrets, funny comics, and poetry, can't be duplicated on-line. You would get the content, but miss out on the physical experience (Wooten, 2009)." Any academic digital Zine Collection would need to be very conscious of its treatment of digital surrogates.

Concerns about copyright, permission and privacy create another barrier to digitization. Copyright is a sticky issue when it comes to zines as a genre, which, by definition are created to be shared. Thus, many zines contain a copyleft statement, or some other notation of whether the owner has given permission for its contents to be reproduced. "Copyleft" is a term coined by open-source software pioneers to describe a "flipping" of traditional copyright laws that allows content owners to grant broader permission for their work to be shared. This "General Public License" can be applied in any situation where copyright might apply, including software, books, images and music (Söderberg, 2002). Generally, copyleft permission or GPL is considered to be conditional; zinesters who select copyleft status for their work, or those who claim no legal protection at all, still expect to be credited, or at least respected, for their work. It is poor zine etiquette to steal, borrow, or sell someone else's zine for personal gain.

Private zine online library and archive groups, run by zinesters and fans, have developed to fill the void of zines on the web. The sites digitize a large number of zines and serve as valuable repositories of content for experts in the field. Because they have grown organically from the zine community, these sites maximize their relationships to avoid and address concerns about copyright.

For Barnard Library, the the benefits of digitization digitization provided an incentive to overcome potential barriers, challenges and costs. An *Access and Use Survey* of known users administered in

2008 revealed that, while the Zine Collection has a strong contingent of feminist and zinester stakeholders, Barnard Library could be doing more to attract users outside the immediate scholarly and cultural community (see Figure ZINE-1.).

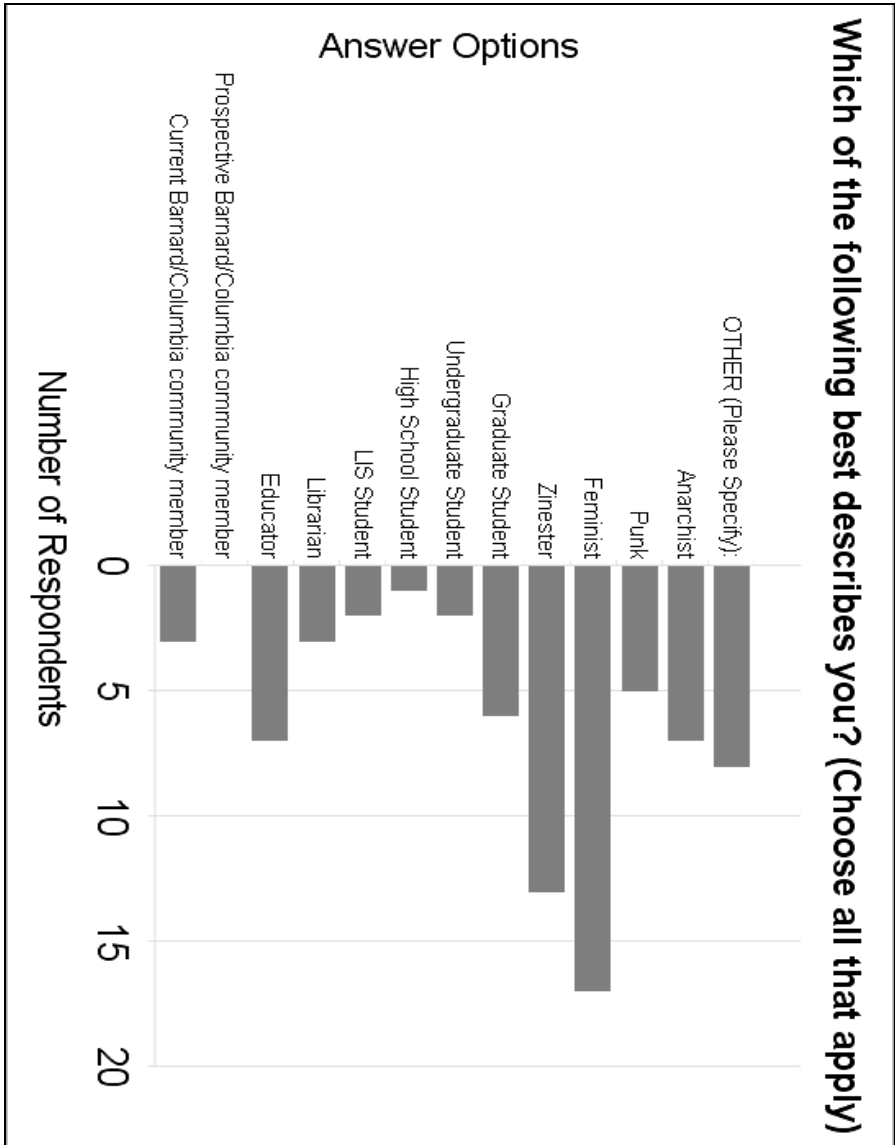


Figure ZINE-1: Results of the Barnard Library Zine Collection Access and Use Survey, administered to 25 known users in July 2008.

The survey confirmed that a small-scale digitization project would be a valuable addition to Barnard Library's existing services. 81% of known users reported that they would use curated, online exhibits about zines and zine history. Additionally, 81% of users said that they would use digital scans of selected zines.

The findings of the survey reflect the expectation by users that a library's website provide more than just access to information. By digitizing the popular and well-respected zine collection, Barnard Library could capitalize on the strength of its special collection to meet the needs of existing users, attract new users, and fill a need in the existing digital zine landscape. Additionally, a digital Zine Collection could help spread the word about the value of zines as historical documents and teaching tools to a new generation of potential stakeholders.

Project Planning

After making the decision to create a small digital zine collection, I created a project plan that included setting clear goals for the project.

Goal Setting

Digitizing even a small portion of Barnard's Zine Collection would have many benefits for the institution, its users, and the historical record. These included:

Improving access: Currently, membership in the Barnard/Columbia learning community is required in order to secure free access to the zine collection. Digitization would allow zines to be downloaded and shared easily, improving the ability of people from across the globe to access and learn from the collection.

Raising awareness about zines as legitimate historical objects: Freedman's work as an advocate for zine and other radical special collections would be complemented by a well-selected digitization project that is supported by descriptive and educational materials.

Highlighting Barnard's women's studies collection and drawing researchers to the institution: Barnard's Zine

Collection sets its women's studies research collection apart from other academic institutions. An online exhibit of materials from the Zine Collection could emphasize its uniqueness and eventually bring more researchers to the collection.

Preservation of the collection: Because most zines are produced cheaply using poor quality paper and inks, long-term conservation can be an issue. Digitizing zines makes their content available to future generations of researchers, students, and other stakeholders while preserving their physical form.

Project Scope

The scale of this project was by necessity very small. No fund was designated for the project. The site would need to be built and function within the existing Library website's structure; no money was available for purchasing a Content Management System or developing a complex metadata or image database. All work would need to be done using hardware and software already in Barnard Library's possession, or available open-source on the Web. As the Zine Intern, I would be the sole staff member available to work on the project. Freedman would supervise and approve my work. The project would need to be completed over the course of my summer internship, lasting only 100 hours over the course of 10 weeks.

Content Selection

Digitizing the collection as a whole proved to be too time consuming and technologically complex given these limitations. Selecting a small group of zines in a given theme or subject area to digitize first seemed a good model to begin with. Prioritizing digitization by demonstrated user need is a model that has been successful for other institutions. The University of Warwick in the UK, for example, developed an innovative research project in which students created digital surrogates of the 18th century French plays they used in their coursework (Astbury, 2006). Following a similar needs-based model would ensure that Barnard's first digital collection would be used by its most immediate stakeholders.

In 2008, the country was gearing up for an historic presidential election. Earlier that year, the previous Zine Intern, Julie Turley had created an exhibit of “Election and protest themed zines” to connect the institution’s holdings with current events. The physical exhibit, which lived in the library's lobby, featured copies of selected zines and photocopied extracts of pages. From the Republican National Convention to the presidential election, from deciding to take your child to a political rally to challenging politicians to be responsible to their electorate, the featured zines addressed participation in -- or protest against -- the American political process.

The exhibit was a natural fit for this digitization project. The presidential election was only months away, we knew conversations about the political process would be a hot topic on campus. The selected zines offered a little-seen counterpoint to mainstream political coverage, rejecting voting as the sole means to make change in this nation. Moreover, educators across the nation would be looking for ways to talk about elections and the political process in their classrooms. It would be an excellent opportunity to demonstrate that zines can be relevant political and educational tools. Since zines are political in nature and often overtly political in topic, our digital collection would be reflective of the genre as a whole, even though we could only digitize a small number of zines. Finally, because the zines in this subset were already on display in the lobby, we knew that none were in need of conservation work or otherwise in danger of being damaged by the process of digitization.

Project Implementation

To maximize the benefits of digitization while addressing the barriers faced by the institution, I undertook a multi-step process for digitizing and presenting Barnard zines online. The process, like the zines themselves, was low-rent, low-tech, and outside the mainstream. The DIY approach was limiting in many ways, but also served as an excellent opportunity for learning and innovation.

DIY Digitization Project Timeline – May 5th through July 24th, 2008	
Task	Timeline
Needs assessment and literature review	Prior to project start
Goal setting and scope definition	Prior to project start
Content selection	May 5 th
Generating metadata	May 12 th
Competitive landscape analysis	May 12 th through May 20 th
Creating site maps and wireframes	May 12 th through May 13 th
Copyright requests to publish sent to zinesters	May 19 th
Scanning and digitization	May 19 th through June 17 th
Designing an intuitive user interface	May 20 th through July 21 st
Writing original content	June 1 st through July 18 th
Usability testing	July 19 th through July 21 st
Site launch and publicizing	July 23 rd through July 24 th
Evaluation and reporting	Ongoing

Figure ZINE-2: Project Timeline – May 5th through July 24th, 2008

Copyright Status and Securing Permissions

After selecting the zines to be digitized, securing permission to present their content on the web was the next step. Educational use, such as the creation of an exhibit, would likely fall within any zinester’s definition of copyleft. Only one zine of the ten selected, “Radical Cheerbook,” contained an explicit copyleft statement. We felt confident that we could use its content in the exhibition.

Because the other nine zines selected for this exhibit contained some kind of copyright statement or did not contain an explicit copyleft statement, an effort was made to contact and secure permissions from the original author. This effort was difficult, however, since many zines were published using pseudonyms or contain contact information that is out of date. To track down the zinesters, I used a combination of Google searches, MySpace, and a pre-catalog Microsoft Access database that Freedman maintains to identify current email addresses. For one zinester, I was only able to identify a mailing address, so I sent a letter and awaited a response.

By the time the site was ready to go live in mid-July, I received written permission to publish from six zinesters, with most expressing excitement about the project. One zinester requested that I send scans of the specific pages I'd hoped to include before giving permission. At the bottom of each zine's page on the site, I made a note that the copyright holder had given permission for Barnard to use scans from the zines.

In three cases, I was not able to secure permission before the launch of the website. In these cases, I added a note to each zine's page that we had made a diligent effort to contact the copyright holder and would remove the images used in the event that there was an objection. I also made the decision to include only minimal excerpts from these zines as compared to the more extensive scans used from the zines for which we had permission.

Site Design & Comparative Landscape Analysis

Once permissions requests were sent, I focused my work on designing the site's architecture and layout. Close analysis of the features of similar sites can be a good way to begin planning. In order to understand how zines and zine-like publications can be presented online, I analyzed five sites with similar collections to Barnard. Because there were at the time no academic institutions with large-scale digital zine projects, I reviewed three sites run by private groups. I also reviewed two academic digital collections that feature radical or obscure publications.

My analysis revealed several qualities that most online exhibits of zine-like material share.

Asset management: (1) All five sites included full-color image scans with legible text and graphics; (2) All but one site included an option to download the asset in PDF form; (3) Four out of five sites included descriptive metadata about subject, author, and publication date to aid in discovery and to give context to the asset

Navigation: (1) Every site evaluated had a descriptive homepage and a consistent look and feel; (2) All five sites utilized global navigation on each page to keep the user oriented.

Search and discovery: (1) Four out of five sites allowed users to browse for a zine by title; (2) Four out of five sites offered a keyword search function; (3) None of the sites offered a search by author or issue number function; (4) Four out of five sites made searching or browsing for a known-item simple and pleasurable.

Tools and customization: Every site evaluated offered a “printer-friendly” version of their assets

Aesthetics and usability: (1) Every site took care to ensure that all links and functions worked as they were expected to; (2) Four out of five sites used some type of backend content-management system to organize assets; (3) For the qualities adopted by all sites evaluated, I attempted to include them.

Site Name and URL	Launch Date	Assets
Zine Library.net http://www.zinelibrary.info/	None given	“hundreds” of zines
The Queer Zine Archive Project http://www.qzap.org	Nov 2003	154 issues
Punk Zine Archive http://www.operationphoenixrecords.com/archivespage.html	2004	120 issues
<i>Ling Long</i> Woman’s Magazine @ Columbia University http://www.columbia.edu/cu/lweb/digital/collections/linglong/index.html	2005	241 issues
Anarchism Pamphlets in the Labadie Collection @ The University of Michigan http://www.lib.umich.edu/spec-coll/labadie/	1999	478 pamphlets

Figure ZINE-3: Sites Evaluated for Competitive Landscape Analysis

There were other qualities present in some sites but not in others. These included RSS feeds, customizable user accounts and high-tech page turners. Because these qualities appeared in only some sites, I considered them to be optional for my site.

Interestingly, none of the sites offered any curriculum or supporting finding aids that would add necessary context to the materials. I planned to include lesson plans and a bibliography to accompany my zine scans.

Creating a sitemap and wireframes.

I first sketched wireframes for my site using paper and pencil, then translated those sketches into digital files. The wireframes turned out to be ambitious, and due to time and skill constraints, I was forced to scale down my original vision, but the creation of the sitemap and wireframes helped me synthesize all my ideas for the site into one visual presentation.

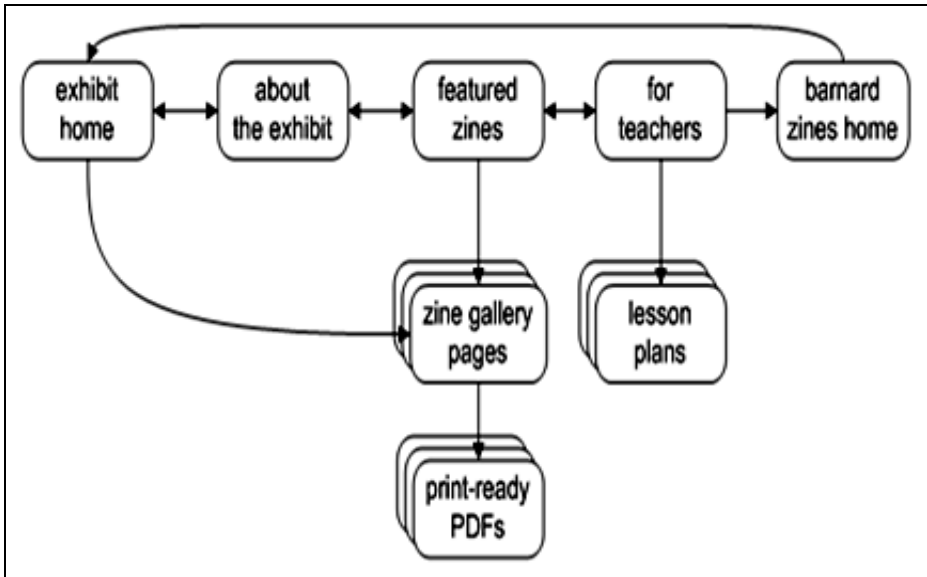


Figure ZINE-4. Final site map for the exhibit.

Generating Content

Scanning and digitization.

Ideally, for this project, preservation-quality scans should be made of each zine, along with its entire contents at the highest

possible resolution in addition to any presentation and/or thumbnail versions. However, I was limited in my ability to create high-resolution scans due to several factors. The first issue was the constraints of the hardware and software at my disposal. I worked on scanners and computers that Barnard undergraduates have access to in the library's computer lab. More sophisticated equipment might have resulted in better scans.

The condition of the zines themselves also contributed to poor resolution. Because most zines are produced using cheap materials, many of the oldest were beginning to deteriorate as the paper yellowed and the ink faded. Additionally, poor photocopying resolution in the original zine made some of the digitized page images appear grainy and pixilated.

After much experimentation, I balanced preservation and presentation needs with time and resource scarcity by scanning each zine once at 600 DPI or higher. Next, I saved two JPG versions of each zine: a presentation copy at a maximum height of 600px and a thumbnail copy at a maximum height of 90px. I preserved the aspect ratio of each scan each time I resized the image. When necessary, I used image editing software -- either the open-source GIMP (<http://www.gimp.org>) or Adobe Photoshop, depending on what was installed on the computer I was working on that day -- to tweak the contrast levels of the scan and improve legibility. For each zine's cover, I created a slightly larger thumbnail which is presented on the Home page and the "Featured Zines" page. The last step was to convert all of the JPGs to PDF and create a print version of each zine for users to download.

These digitization decisions allowed me to produce legible copies of each zine while maximizing disk space. Because I didn't have access to an image database or a content management system, I simply organized all of the files in a series of folders on my desktop, giving each file a descriptive name following a clear convention. When the exhibit was complete, these folders were uploaded, along with the HTML and CSS files to the Barnard server.

Generating metadata.

I was able to take the metadata for the exhibit from the existing OPAC records. Each zine is currently assigned cataloged in a MARC record as part of the Barnard/Columbia joint OPAC, CLIO. Current metadata includes: title, an author or creator (when applicable), physical description, a publisher and date, Library of Congress subject headings and a summary or abstract. For each zine's gallery page, I used only the author, title, summary and call number fields. Additionally, I included a link to CLIO so users could locate the zine, check on its availability, and order it through interlibrary loan. I was able to add additional metadata about individual zinesters who responded to my copyright requests, including links to each zinester's current projects or personal websites.

Writing Original Content

A major component of the site was the contextual material that would add value and meaning to the zine scans for users. To meet this need, I wrote an "About" page describing the exhibit, as well as a "For Teachers" page that included:

- a brief explanation of why zines make good teaching tools
- three essential questions related to zines which could be used to frame curriculum planning
- A list of suggested resources for educators

The most time consuming content pieces to develop were the three lesson plans designed to help educators teach with the zines in the exhibit. Drawing on my background as a teacher, I designed these lesson plans around essential questions related to media literacy and social science content areas, then aligned them to three different learning levels: intermediate, secondary, and post-secondary. The lesson plans are student-centered and challenge students to interact with the zines in the exhibit through discussion and evaluation.

Building and Testing the Site

Ideally, the user interface for any site should be intuitive and promote discovery. For this project, I was limited to very basic web

design software and programming languages that have a low-barrier to mastery, but I was determined to make the site as usable as possible given the constraints.

To build the site, I again used hardware and software in the Barnard Library computer lab. I first attempted to build the site using Microsoft FrontPage, and then switched to an open-source HTML editor called Mozilla Kompozer (<http://www.kompozer.net>). Both FrontPage and Kompozer have “WYSIWYG” interfaces – an acronym for “what you see is what you get” – in that they allow users to create web pages using an interface that mirrors how the final product will appear (Myers, 1998). I needed to have a firm grasp on what was happening in the actual code behind my pages as I made changes. Additionally, I wanted to be able to customize my site, and the templates available in FrontPage and Kompozer felt limiting.

After a few days of struggle, I settled on developing the code for my site by hand using the simple text editing software available on most computer operating systems. The flexibility of being able to work on my files from any location made this project much easier to complete in only 10 weeks. I created and edited my files in Microsoft Notepad at Barnard Library, and could easily open them at home on my Apple laptop using either TextEdit or a free trial version of the excellent application, Coda (<http://www.panic.com/coda/>) which combines a WYSIWYG interface with an easy-to-use text editor. During the initial coding phase, I began by building a framework for each site using a common layout, menu bar, and footer using simple HTML tags such as those for images, links and tables. I also selected a patriotic red-white-and-blue color scheme and created an image banner to run along the top of the page that included the site’s title in a typewriter-style font and some randomly-placed stars to mimic a zine-like feel. Later, the color scheme was changed to a more punk-inspired pink and black, to better reflect the lack of overt patriotism expressed in the zines themselves.

Once a basic page template was complete, I created a Cascading Style Sheet (CSS) file which governed the look and feel of each page and made coding the rest of the site easier. Using a CSS file is a simple

way to add style (such as fonts, colors and spacing) to every page in a website without having to edit each page individually (Bos, 2010). In order for the CSS file to work, I added a line of code in each page's HTML file that directed a user's web browser to "link" to my style sheet file, called "text.css". This file dictated the background and font colors of each part of each page, the margins for the different dividers and tables, and even the spacing of thumbnail images in my photo gallery. Before beginning this project, I had never worked in CSS. However, I found the language simple to learn and easy to use once I understood the fundamentals. As I worked, I referenced countless tutorials and open-source code available on the web to hack my way through the rest of the coding process.

The biggest coding challenge was creating a workable photo display gallery to present my zine scans. During the site mapping and wire-framing (see Figure 8), I had determined that I wanted users to interact with thumbnail versions of a zine's pages and select which pages they'd like to see in a larger, presentation-quality view. At first, I tried copying an open-source photo gallery HTML file that I found online. This allowed me to build the bare bones of my page layout, and indeed included thumbnail images and presentation-quality views. However, the photo gallery had one weakness: every time I moved my mouse off of the thumbnail I wanted to view, the presentation-quality view disappeared! This would have made my site very difficult to use, as it was impossible to scroll, zoom, or even save the presentation-quality view while still keeping your mouse over the thumbnail view. Finally, a programmer friend-of-the-collection helped out by producing a small piece of JavaScript code that allowed me to keep the presentation-quality view open without having to keep my mouse perfectly still. This code allowed me to create a version of the site that I was excited to test with users.

Usability Testing

Before going live, I tested the site's usability with three different test subjects, each representing a different group of Barnard Library stakeholders. Each test subject was given the same set of tasks to

complete. Figure ZINE-5 lists the tasks administered and whether or not the subject was able to complete the task without guidance.

Task	A	B	C
Choose and read through all the pages of a zine you're interested in.	✓	✓	✓
Find the author of the zine, "Don't blame me..."	✓	✓	✓
Find out if Barnard has permission to publish, "Subliminal Criminal"	✓	✓	✗
Find out who first put together the zines in this exhibition and when.	✓	✓	✓
Locate information about how to use these zines in your classroom.	✓	✓	✓
Send an email to the zines collection	✓	✓	✓
Download a copy of page 3 of "Mama Sez no war"	✓	✓	✓
Find out why zines are used for protest	✓	✓	✓
Go to the homepage of Barnard Library	✓	✓	✓
Go to the homepage of the zine collection	✓	✓	✓
Download a lesson plan for use in your classroom	✓	✓	✓
Use CLIO to check the availability of the zine, "Dear Mr. Bush"	✓	✓	✗

Summary of Test Subjects:
 Subject A: Female, Age 20, Barnard Undergraduate Student
 Subject B: Female, Age 28, Librarian
 Subject C: Male, Age 31, Columbia Alumnus

Key:
 ✓ Task completed
 ✗ Task not completed

Figure ZINE-5: "Exhibits and Protest" Site Usability Tasks and Results.

In addition to identifying tasks that would be difficult for users to complete, I also made anecdotal records of the test subjects' comments and feedback. Based on the results of the testing, I made the following improvements to the site:

- Increased the size of all fonts used by 1px
- Added a mouse-over function to each zine cover image on the homepage that listed its title to aid in identification
- Added a “download all” link to a PDF containing all image files associated with each zine
- Made the copyright documentation on each zine more prominent

Launching and Publicizing

Upon completion of testing, the final version of the online exhibit (<http://www.barnard.edu/library/zines/exhibits/online/elections/index.html>) was launched on July 23rd, 2008. A link to the exhibit was posted on the Barnard College Library homepage, and a blog post about it was added to the institution's Livejournal (<http://barnardzines.livejournal.com/>). Emails were sent to a zine librarians' listserv and to other contacts and friends of the Zine Collection. I also sent a link to the exhibit to colleagues and friends in K-12 schools across the country. Since the initial launch, Freedman has continued to publicize the online exhibit in her talks and outreach activities for the collection.

Results and Next Steps

Informal evaluation of the project demonstrates that it has begun to meet its goals. User feedback on the site has been overwhelmingly positive. By making Barnard's zines accessible on the web to millions of people across the globe, the exhibit has indeed improved access to the collection. In an age when discovery on the web is primarily done through Google or other search (Belden, 2008), it is encouraging that search terms such as “zine lesson plans,” “zines and elections,” and “teaching with zines” consistently return the site in the first page of

search results. This is an indication of how many sites continue to link to the exhibit since its launch.

It is obvious from the *Access and Use Survey* that such an effort is both desired and respected by stakeholders. The exhibit only scanned selections of the zines featured, not entire issues, it may not be seen to contribute to the long-term preservation of the individual artifacts. However, creating a home on the web for zines around a contemporary issue can be seen to be contributing to the long-term preservation of the genre by making zines relevant in the digital age.

It remains to be seen whether this site will indeed drive users to the Zine Collection's other resources. Further evaluation should be done in order to determine whether or not this exhibit is directly contributing to increased access or use of the collection by Barnard/Columbia community members, outside researchers, K-12 educators, and other stakeholders. Repeating the Access and Use Survey annually may be a step in that direction.

Long-term sustainability and continued effectiveness of the exhibit are an issue. Freedman or future interns will need to take on the responsibility for maintaining and updating the exhibit as necessary over time. As Barnard Library further develops its web presence, the exhibit's look, feel, and even its content could become outdated. At this time, however, there is no reason why the exhibit cannot stay live for the foreseeable future without financial cost or significant staff time commitment. In order to maximize the exhibit's effectiveness, Barnard could consider:

- Continuing to promote and publicize the current exhibit, focusing on alternative outlets such as Wikipedia, educator websites, and media literacy blogs
- Developing an evaluation plan to determine the impact of the online exhibit on the stated project goals.
- Securing site analytics data on page usage and download stats to measure usage of the exhibit, as well as effectiveness of marketing techniques

Due to the support for this project from users, Barnard could consider digitizing more of the collection. Next steps could include:

- Creating more online exhibits around themes or subjects of interest to stakeholders if this first exhibit proves valuable
- Creating more subject guides, lesson plans and bibliographies about zines and zine history, and making them available online
- Collaborating with Columbia's New Media Teaching and Learning group in order to ensure that the user interface promotes teaching and learning with zines as primary sources, art objects and media literacy teach tools.

An open question is whether or not Barnard should move forward with digitizing the entire collection. Although this project was able to overcome many barriers to digitization of the genre (Wooten, 2009), a larger-scale project might open the door to more difficulty with copyright, permissions, privacy, and preserving the user experience of interacting with a zine's physical form.

Conclusion

This project showed that it is possible to create innovative web resources for a variety of stakeholders with a minimum level of technological and know-how. It provided a great opportunity for Barnard to continue to lead in the field of zine librarianship. This online exhibit supports teaching, learning, and research with quality and findable digital assets that highlight Barnard Library's strengths. With the current low barrier to web authorship, it is not enough for academic special collections to simply have a web page. Instead, more libraries and institutions can take advantages of the resources available to them – whether it is an eager intern, an exciting collection, or a timely theme –to create a resource that will meet the needs of users and make their holdings accessible to and available for generations to come.

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