A Survey of Digital Humanities Skillshare Applications

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Overview

A key requirement of a digital humanities project is the ability to collaborate and share data with other digital humanists. In this paper, I review a number of technical platforms for hosting digital humanities projects on the Web with the goal of selecting a platform that is appropriate for a skillshare project of the Pratt SILS LIS 657 Digital Humanities course.

What is a Skillshare?

According to Wiki Answers, "A skillshare is an event where a bunch of people get together and exchange skills with each other for free" (What is a Skill Share? n.d.). Skillshares come in many formats, including communities, festivals, hacker spaces, formal and informal training and online communities. Skillshare communities are groups of people who share common interests and goals who wish to share knowledge within a like-minded group. They may have regular meetings in a permanent or borrowed space for sharing skills.

Examples of a skillshare community include Brooklyn Skillshare and The Lancaster Skillshare Collective. These groups maintain websites and host regular workshops and meetings.

Festivals are public events that are held, often by skillshare communities, to celebrate knowledge sharing. Some, like the Whatcom Festival in Washington state, focus on handicrafts, folk music, farming and survivalist skills, though any skill is worthy of consideration (Whatcom Skillshare Fair, n.d.). These festivals tend to have a county fair, hippie vibe to them. The Maker Faire, which is held annually in San Francisco and New York City is a broad celebration of the maker movement. You will find traditional arts and crafts as well as science and technology demonstrations, such as robotics, 3D-printing and lasers. The Maker Faire is "an all-ages gathering of tech enthusiasts, crafters, educators, tinkerers, hobbyists, engineers, science clubs, authors, artists, students, and commercial exhibitors" (Maker Faire, n.d.).

Some companies have formed out of the movement toward teaching skills and sharing knowledge. General Assembly and Skillshare.com are two companies in New York City that serve as platforms for workshops and trainings. However these organizations differ from other skillshare platforms in that they offer ways for speakers and workshop developers to make money via participation fees.

Hackerspaces are a relatively recent phenomenon in the skillshare movement. According to Wikipedia (hackerspace, 2013), "a hackerspace (also referred to as a hacklab, makerspace, or hackspace) is a community-operated physical space where people with common interests, often in computers, technology, science, digital art or electronic art, can meet, socialise and/or collaborate." NYC Resistor is a hackerspace located in New York

City. Members pay a $75 fee to get access to the tools and materials in the lab. Some tools require that members take a course in order to operate them. This is usually an additional fee, but ensures safe use of equipment, such as lasers and saws. Hackerspaces can also be the site of hackathon activities, where computer programmers and designers meet up to solve a problem collaboratively. Other kinds of hackerspaces, including biohacking spaces, exist for specialized interests. Hackerspaces.org provides a directory of hackerspaces worldwide (List of all Hackerspaces, 2013).

Online communities revolving around skill sharing exist both formally and spontaneously. Brooklyn Librarians is an online forum in Google Sites that was created in response to pending layoffs and library closures Brooklyn Librarians Organize Skill Share Event. (2010). The site features links to job resources and announcements of upcoming meetings and guest speakers.

Core Values

In evaluating skillshare communities, I noticed each is driven by a set of core values. According to Brooklyn Skillshare (n.d.), education is a right, not a commodity. They state that everyone has skills that they can teach to other people and that sharing these skills with other members who reciprocate through sharing their skills is a way to build community. Lancaster Skillshare promotes self-sufficiency and aims to "…reduce waste, save money and adopt more labor conscious lifestyles (Lancaster Skill Share Collective, n.d.). Another feature, particularly of online skillshare communities, is a focus on freedom. These communities often employ open source platforms, like Omeka and Fedora, and encourage posting materials with an open license, such as Creative Commons Zero. Other aspects

include developing friendship and curiosity. Brooklyn skillshare encourages participation by welcoming "…friendly people who like to think about how things work."

Much of the ethic of sharing and community comes from the Maker Movement, which is based on a Do It Yourself (DIY), self-sufficiency ethic, which is adopted by communities of makers and learners. Learn to do it yourself and share with others so they can DIY, too. Often, DIY movements have risen in response to difficult economic realities (Gustin, 2012). It calls to mind an apprenticeship model that may be more economical and desireable than traditional training programs, particularly with the cost of education outpacing inflation. It also arises from the development of innovative technologies like personal computing and 3D-printing that allow people to build and manufacture items without a factory, and online commerce communities that allow people to create and sell their creations online via communities like Ebay, Craigslist and Etsy.

Technology Platforms

In "No Half Measures: Overcoming Common Challenges to Doing Digital Humanities in the Library," Miriam Posner (2013) notes a number of challenges to implementing digital humanities programs, particularly around the fear and uncertainty of learning and using technical tools exhibited by current library staff. She writes that library administrators "…need to give serious thought to the administrative and technical infrastructure that supports this work."

Skillshare technology platforms range from simple email lists and websites to fully customized digital systems. The type of system required depends on a number of factors including community needs, storage needs, feature needs and training. In a post on the

THATCamp Florida blog, user markkamrath, suggested some platforms for digital humanities projects. (February 7, 2012). These include hosted Web systems and group sites such as Google Sites, Yahoo! Groups, email discussion lists and wikis; Web Content Management Systems (CMS) such as WordPress, Drupal, and Joomla; library and archival repository and digital collections systems, like Fedora Commons, Omeka, Dspace, Greenstone, and CONTENTdm; museum collections management and online exhibition systems like PastPerfect, steve.museum, and The Museum System (TMS); as well as code repositories like GitHub, SourceForge, and institutional supercomputing facilities.

Each of these solutions addresses a somewhat varying set of community and technology needs. If the community is a closed group with small storage needs, a mailing list or group site may be sufficient. If the community wishes to display its work publicly, a website is appropriate. Content management systems allow customization, version control and user management, which is particularly useful for highly collaborative sites. Code repositories like GitHub and SourceForge allow users to share and collaborate on open source, code-based projects. If the project contains large datasets that require significant processing power, a supercomputer or supercomputing alliance like XSEDE could be the answer.

Some people note that GitHub and SourceForge are rival services. SourceForge acknowledged this on their blog (GitHub, Collaboration, and Haters, 2011). GitHub has particularly good community features and version control, while SourceForge claims to be a more a user-friendly, distribution hub.

Skillshares in Digital Humanities

I reviewed a number of digital humanities online communities, which I have evaluated against a number of criteria to determine the kinds of systems that are best for specific needs of digital humanities groups. For each type of technology I review, I have shown an example of a DH group that is using the technology and how and whether such a technology would fit with a skillshare project, based on the following questions:

1. Is the group or community focused on the digital humanities?
2. What is the goal of the community?
3. Is the group open or closed?
4. Are skills or knowledge being shared?
5. Does the technology in use meet the community needs of the group?
6. What is the learning environment like?
7. What additional development opportunities exist?
8.

Email Discussion Lists. Email discussion lists, also known as mailing lists, are hosted on list servers and are commonly offered as a feature on web hosting accounts. Users can subscribe to mailing lists of a variety of interests and have the posts sent directly to their email box when a subscriber emails the list. When a subscriber posts an email to the group, it is sent to the email box of every subscriber of the group and archived at a central website on the host machine. Subscriber settings allow members to control when and whether they receive emails by using digest or no mail settings. Most mailing list platforms provide an archive that can be read online, individual subscriber settings and a way to view a subscriber list. List administrators use tools to manage subscriptions, list description and control additional

settings such as confirming new users, monitoring posts and blocking spam. Some mailing lists allow file attachments to be sent via the server, but attachments are not archived separately from the email and may not be archived at all. Mailing lists are great for informal discussion among like-minded people who do not require additional functionality beyond sending and receiving email. A facility with sending and receiving email is all that is required.

The Association of College and Research Libraries (ACRL) manages the ACRL Digital Humanities Discussion Group. The main platform for this group is an email listserv hosted by the American Library Association, using Sympa, an open-source mailing list management software. According to the discussion group's Info page, the goal of the site is to "…provide a venue for ACRL members to meet and share ideas related to Digital Humanities and the role of librarians in this emerging discipline." The group is open to anyone who subscribes by entering a password that is sent to the user after submitting a subscription request. You do not need to be a member of ALA or ACRL to participate.

From the past month's posts on the ACRL Digital Humanities Discussion Group, discussion includes announcements of upcoming conferences and calls for papers, job postings, reposts of content from dh+lib review and assorted event announcements. It appears to be very similar to the Pratt SILS DHtrends reporting, where editors are selected each week to cover activities in the digital humanities field and post findings to the discussion list. Interestingly, the last series of posts for this group discusses the possibility of converting the group from a discussion group to a special interest group. ACRL Interest Groups receive a small amount of annual funding ($150) and are able to sponsor programs and request space at ALA meetings. I was not able to find information on why this group wants to become an

Interest Group other than that it has met the minimum number of members required to become an Interest Group. It is not clear that this group intends to offer more than weekly reporting on activities in the DH field. At this time, an email discussion list appears to be sufficient for this group's activities.

Group Websites. Group websites, such as Google Groups, Google Sites, Yahoo! Groups, Linked In and Facebook are free platforms that allow groups to utilize message forums, file sharing, calendar, chat and similar features. These groups are generally open to anyone who has an account with the provider, though group administrators can set up approval process for new members, either through invitation or directly adding users. Paid platforms such as those provided by Salesforce, 37Signals, and Mango Apps, provide additional functionality and interoperability with other products, but these are typically closed systems, which I will not address here.

Library Workers' Skill Share (n.d.) is a Google site created in 2010 that hosts resources for job seekers facing impending layoffs in the Brooklyn Library system. Google Sites a number of templates, such as classrooms, wikis, project work sites and intranet templates. Users can integrate to do lists, calendars and web pages into their pages. An upgrade to Google Apps Premiere Edition offers up to 10GB of storage, 25GB of email storage, sharable calendars and other features for $5/user/month. The Library Workers' Skill Share only used a portion of the functionality of its site. The site was not being used as a skillshare, per se; but rather hosted handouts and resources from a skillshare event held on July 13, 2010. No further use of the site is apparent and there does not seem to be a way to

register for the site, so its openness is questionable. Still, Google Sites and the premiere version Google Apps do seem to be adequate platforms for creating a skillshare environment.

Wikis. A wiki is a web-based platform where any member of the community can create, edit or delete content. The most famous wiki is Wikipedia, an online encyclopedia that serves information on thousands of topics in several dozen languages. Wikis are useful for collaborative work, since each member of the wiki has the same access to content as the next. Creating a new page is as simple as creating a link from an existing page. Version control ensures that changes can be undone.

A quick Google search revealed a number of digital humanities wikis at various universities in New York State, including New York University, University of Buffalo, Cornell University, SUNY Geneseo and DH pages on specialty wikis like Academicjobs.wikia.com. SUNY Geneseo's wiki includes the Collaborative Writing Project, serving as "…a space to exchange ideas, share experiences, and ask questions about collaborative writing as a pedagogical and scholarly tool." In addition to the social exchange it also hosts a wide number of DH projects, such as annotated texts, collaborative essays and something they describe as "genetically modified literature." But few of these wikis offer technical skillshare entries for digital humanities.

DiRT, the Digital Research Tools wiki is an exception. Although the wiki version was recently superseded by Bamboo DiRT (n.d.), a Drupal installation, it was the best example of a wiki-based skillshare I found in my research. The DiRT wiki (n.d.) provides access to a number of digital humanities technical resources on a PB Works wiki platform. The wiki provides a description of a particular kind of tool, such as text analysis,

visualization and GIS, as well as a list of software products and other resources on the tool. Registration to this wiki requires approval. A number of learning resources on how to use a wiki are provided. The entries themselves do not go into detail on using the tools, but they are a good resource for the kinds of tools available for various DH activities. I will discuss the Drupal installation in the Content Management Systems section below.

Content Management Systems. Content management systems (CMS) include downloadable and hosted programs that allow users to create content for websites and manage workflow. Commonly used CMSs include WordPress, Typepad, Blogger, Drupal and Joomla. These systems vary in user interface, included features and the number and variety of plug-ins available. Most are open source, meaning that third parties are free to create modules that extend the functionality of the core software.

Wordpress. WordPress is a CMS that is commonly used as a blogging platform. It lists 1,751 themes and 24,798 plug-ins to extend its functionality. One theme, Antholize, was created at One Week | One Tool, a Summer Institute sponsored by the National Endowment for the Humanities at George Mason University. (Antholize, 2013). One can host a downloaded version of WordPress on their own server via WordPress.org or a hosted version via WordPress.com. More themes and customization options are available to those who host their own version.

WordPress administrators have full control on how open or closed to keep the site and management of multiple WordPress sites is possible. Help documentation and support is available through WordPress' extensive "codex" and support forums. I have found that the functionality of the system changes frequently, so that searching for answers to a specific

problem often returns outdated solutions.

One WordPress site for Digital Humanties is THATCamp. According to its website, "THATCamp, The Humanities and Technology Camp, is an open, inexpensive meeting where humanists and technologists of all skill levels learn and build together in sessions proposed on the spot" (THATCamp, n.d.). This is a true, live skillshare environment. Anyone can attend a THATCamp event and the goal is to learn and to teach. The main THATCamp website is a WordPress site that serves primarily as a vehicle for announcing upcoming events. Individual sites may also host their own WordPress blog, including announcements of upcoming events, review of past events, articles and discussion. Only those who have been to a THATCamp are allowed to have an account on the main THATCamp website. Users can get a THATCamp.org account by registering for an event. When the registration is approved, login information is automatically sent to the user.

In terms of skillshare, the THATCamp website offers a number of resources on how to set up and run a THATCamp, from registering your event with the main website to planning the event, running sessions and preparing a post mortem. THATCamp maintains a Zotero group where event coordinators can upload documents, articles and photos taken at events, indicating that WordPress does not appear to be sufficient for the needs of the group on its own. Plugins for user file upload and file repositories exist on WordPress, but are not being used by this group. The main way to upload files is via the Media Library, which does not organize files in a meaningful way.

CUNY Academic Commons is an academic social network that supports faculty initiatives. It is operated on the WordPress platform featuring news, groups, blogs, wikis and user profiles. This site takes full advantage of plug-ins offered for WordPress installations

and contains more interactive and collaboration features than THATCamp's installation. According to the CUNY Academic Commons About page, the "…free exchange of knowledge among colleagues across the university is central to better educating the student body and expanding professional development opportunities for faculty research and teaching." Key is its ability to share replicable materials and best practices in a user friendly, easy access manner. CUNY expects its commons to grow in a way that evolves to address future educational challenges and opportunities.

Interestingly, one of the groups that I found on the CUNY Academic Commons was a forum for discussing Omeka, another platform that I address below in the section on Archival Systems. The Omeka group at CUNY was created to share experiences, best practices and to feature digital collections created in Omeka. The group discussion contains a link to Miriam Posner's blog on running Omeka.net (Up and running with Omeka.net, 2013).

Drupal. Drupal is an open-source CMS that you must download and run at your own web hosting provider. It has 1,713 themes and 21,632 modules for extending functionality. Modules include wikis, blogs, member databases, calendars, e-commerce, mobile and many other utilities and administrative tools. While the Drupal community boasts over 24,000 developers, the learning curve for creating Drupal CMS installations is higher than for WordPress and similar blogging platforms. Drupal content is made up of nodes, content types and fields. An understanding of information architecture and taxonomies may be required.

Drupal offers 621 distributions, which are installations with themes and modules included for specific purposes, such as training, recruiting, clubs and churches. These are fully functioning installations, which are ready to use without as much development if you

can find the right package for your needs. I was not able to find a distribution specific to digital humanities or skill sharing. A few distributions, including Open Atrium and Eduglu offer collaborative learning environments that may be useful for digital humanities skillshare projects, but these may require additional modules and development.

HASTAC, also known as Humanities, Arts, Science and Technology Advanced Collaboratory, is a collaborative academic site hosted on a Drupal installation (HASTAC, n.d.). HASTAC seeks to address the limitations of traditional means of organizing knowledge by introducing "…alternative modes of creating, innovating, and critiquing that better address the interconnected, interactive global nature of knowledge today, both in the classroom and beyond." The goal is to break down barriers between disciplines and provide a collaborative space for knowledge to grow and connect.

The HASTAC website is fully open. Anyone can register to use the site and contribute to the community by sharing work and ideas. The mission and scope is designed to change with the needs of the community. Participation includes over 9,000 members and 120 institutions worldwide. Content includes groups, events, blogs, news, opportunities and information on the HASTAC scholars program. The featured group on the Group page was Digital History, which is interested in "…utilizing digitized databases, visualization tools, mapping techniques, text mining, network analysis, and other emerging tools for studying the past in new ways." Another interesting feature is Topics, which autocurates content based on tags (academia, community and policy, culture, HASTAC, multimedia, and technology) and produces a collection of information on that topic from all of the areas of the website.

HASTAC takes full advantage of content modules available for Drupal, including forums, calendars, news, wikis, user management and workflow management.

Archival Repository and Digital Collection Systems. Archival systems are content management systems created specifically for archival purposes. Omeka and Fedora Commons were two archival systems that I found to host digital humanities projects. These systems are specifically designed with the functional needs of an archival repository.

Omeka. According to its website, Omeka "…is a free, flexible, and open source web-publishing platform for the display of library, museum, archives, and scholarly collections and exhibitions" (Omeka, n.d.). Omeka contains features of Content Management Systems, library and archival repository systems, and museum collection management and online exhibition systems. A simple template system allows users to work in Omeka with minimal training and no programming skills are required. Web 2.0, social community features encourage participation and collaboration. Full documentation and user support communities. Design themes are based on Dublin Core metadata standards, and are compliant with W3C and 508 accessibility standards. Available plugins include an exhibit builder, social tools, CSV import, OAI-PMH Harvest and Repository tools, extended Dublin Core, RSS and bar code and reporting tools. Omeka has 14 themes and over 50 plugins. There is one "package," comparable to Drupal distributions, called Okapi, which contains plugins and themes for creating multimedia websites and exhibitions. A number of "Recipes" show how to use various features of Omeka and qualify as a skillshare in their own right. Recipes can be submitted by anyone in the community.

All of the featured websites on the Omeka page were exhibition sites, rather than skillshares. I was not able to find a better example of a skillshare produced in Omeka other than the Omeka documentation page, which featured recipes for various tools and

implementations.

Fedora Commons. Fedora Commons is open-source repository software that supports digital collections and long term preservation of digital assets (Fedora Commons, n.d.). Like other systems researched here, it is extensible and modular. In addition to storing all types of content and metadata, it also has the ability to access data via APIs, provide RDF search via SPARQL and contains a disaster recovery tool to rebuild lost or damaged datasets. According to its website, "Fedora (Flexible Extensible Digital Object Repository Architecture) was originally developed by researchers at Cornell University as an architecture for storing, managing, and accessing digital content in the form of *digital objects* inspired by the Kahn and Wilensky Framework. This appears to be a very robust platform for hosting digital humanities projects, particularly those with heavy data storage requirements. Implementing Fedora Commons requires technical knowledge about repositories and metadata schemas that are not required by the previously reviewed software. Documentation is extensive and a robust developer network is available for a motivated learner.

DHO:Discovery (n.d.) is a digital humanities project built on the Fedora Commons platform. It is part of Digital Humanities Observatory, a project of the Royal Irish Academy. As a gateway to Irish heritage, DHO:Discovery "…supports the interdisciplinary and inter-institutional sharing of knowledge throughout the HSIS (Humanities Serving Irish Society) consortium and digital research collections of Irish interest." Not only does the site highlight specific digital collections, it also hosts a number of tools for creating visualizations and information on how to use them. Some of the various visualization tools include gallery, Google, bubble, and sunburst visualizations, among many other kinds. The website indicates that contributions and collaboration is welcome.

Museum Systems. Museum collections management and online exhibition systems like include software like PastPerfect, steve.museum, and The Museum System (TMS). Museums purchase software that allows them to catalog, publish and manage their collection
I did not review these systems extensively for this project because they are more specific to display of gallery objects than to skillshare tools.

Code Repositories. GitHub and SourceForge are websites that encourage the open sharing of code and software programs. GitHub is an open source, version control system (VCS) for code repositories. It allows development teams to work on projects and track changes that are committed to a shared repository. Collaboration tools include discussion, issues reporting and the ability to review changes and comment on lines of code. With the GitHub API, all data is sent and received via JSON. While completed software can be hosted and shared on GitHub, it is not meant as a presentation environment for live, online collections. Similarly, SourceForge can be used to store code and software programs to be shared with the public. It lacks the project management tools of GitHub, but its user interface is somewhat simpler for users who are attempting to access your products once your code has been released. Developing projects can be intimidating for non-coders because both GitHub and SourceForge rely on command line instructions to create and commit directories and files to the repository.

This is not to say that I was unable to find Digital Humanities projects on GitHub or SourceForge. In face, I found one DH project on each system. GitHub has a series of files called “A Guide to DH” from Northwestern University, which consists of a series of files in

"GitHub Flavored Markdown" (*.md) file format containing information on digital humanities projects and funding at the university. While not a skillshare, it certainly has a knowledge sharing goal.

In SourceForge, Infouma OS for DH is a Linux-Mint-based operating system that was created at the University of Pisa for Digital Humanities projects. It contains a suite of software products useful for the DH field, including a selection of web browsers, an office production suite, programming tools (Python, Java, C, C++, javascript, HTML, CSS, mySQL/PHP, XML, and other common languages), design and drawing tools, as well as a tool for opening Windows programs, if needed. The main purpose of this suite of programs appears to be to allow an entirely open source development environment. Most of the documentation is in Italian.

Supercomputers. While well out of scope of the skillshare project, I am including a review of supercomputing as an option for storing and processing large datasets. Projects such as the Extreme Science and Engineering Discovery Environment in the U.S. or the National Grid Service in the U.K. allow approved institutions to share data processing resources virtually. XSEDE (n.d.) is funded by the National Science Foundation is led by the University of Illinois's National Center for Supercomputing Applications (NCSA) and supports 16 supercomputers and high-end visualization and data analysis resources. XSEDE offers extensive training, both onsite and online, as well as help documentation, and a collaborative support environment.

Platform Selection

I had a number of basic requirements for the tool our slass would use to create an online, collaborative skillshare site. First, because not all MLIS students have a technical background and because our class only had weeks to begin posting our skillshares, the tool must be easy to install have a relatively user-friendly, familiar interface. We did not require extensive storage capability because most of the media would be hosted on external websites. Since most of the student projects feature screen capture, video and audio files from external sources such as YouTube and Vimeo, the system would need to allow embedding of media from external sources. Also, since students would be graded individually on their contributions, a separate user profile was required for each student.

I selected WordPress to be hosted locally on the prattsils.org server. It allows unique user registrations for each student and was relatively quick to set up. Most of the students are familiar with WordPress and blogging software, tagging and categorizing content, either through other classroom or personal blogs, so the interface required minimal training. Last, WordPress has the capability to run multiple sites on a single installation, which will allow Pratt Institute to set up a Digital Humanities community. The installation was not without a few snags. We experienced registration issues where some students did not receive the email with their login information, which required some administrative assistance. I also noted that WordPress did not behave the same for each student when embedding external media, which also required administrative assistance. These are issues that should be resolved before expanding the system to a wider audience.

Challenges: Is DH Ready?

The relative youth of the Digital Humanities presents a number of challenges in implementing DH projects at an institution. A general lack of knowledge in using digital humanities tools looms largest, as does competition for funding and silos of communication within and across institutions. The average tenured librarian may not have been in library school after digital humanities courses were introduced. Even WordPress requires some knowledge and training, which we learned in implementing this project.

Commenter Jacque (August 13, 2012) indicates that listening to a skillshare lecture in a library doesn't compare to hands on learning:

> "Our library uses a "skill share" model, which is conceptually fine, but describing the tools and their uses during a brown bag just isn't the same as having the time to work with them. We all know that DH practices are so diverse that they demand a wide range of skills and/or the time to develop new skills. It's really hard to imagine how you set up library staff to be ready to respond to a faculty member when they arrive given the breadth in the field. Given that, one would need a system with built in time sufficient to learn new tools on demand.

> "I wonder if this is where a collaborative or cooperative of DHers in a region might not be really helpful. Your librarian doesn't know Voyant? That's fine, the one down the road does and we have the structures in place to allow you to work together. Why try to get the limited and overtaxed staff at one institution to try to master everything, when you can leverage existing skills in the area?"

Skillshares can offer solutions to some of the problems cited by Miriam Posner (2012), including providing a platform for non-competitive communication across large academic settings, and providing context to training. Online skillshares can provide a virtual sandbox for digital humanist to play around with tools, learn new skills and share knowledge with others who may be in a different part of campus or at a different institution. Most importantly, they create an open learning environment that encourages collaboration and community.

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