

Web 2.0 and the Digital Future

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Group Charge

CLP should continue to respond to the paradigm of a more social web and online environment. This will be achieved through exploring the opportunities offered by integration with online social spaces and the new tools of the web. We will explore opportunities to create online content that highlights our unique collections, and local resources and services.

Introduction

The ever-changing landscape of the Internet presents a unique challenge to organizations attempting to engage their audience in the digital world. The ways in which people interact with the Web, as well as how they access it, has changed dramatically since Carnegie Library of Pittsburgh launched its Web site in 1995. It's no longer a simple matter of having a Web page that people can visit.

As librarians, we know the value of providing outreach and programs outside the library walls. A similar response is needed if we hope to maintain our relevance in the digital world. Social sites, such as Facebook and Twitter, have very quickly become some of the most visited sites on the Web. Over the last several years, staff has used these and other sites to increase the visibility of the library and highlight our resources and services. To date, these efforts have been largely department or branch specific. The opportunity exists to develop an organizational presence across a selected number of social networks to highlight the system-wide programs, resources, and initiatives.

Paralleling the growth and popularity of the Social Web is the Mobile Web. The use of handheld devices to access Internet content is predicted to outpace traditional desktop access in the next decade. Such a shift requires us to consider the changing expectations of our customer, as well as how we deliver information. It's not a question of whether our resources and services are available online, but are they accessible online across multiple platforms.

During the course of our research we have identified these two areas as offering Carnegie Library of Pittsburgh the best opportunity to engage our customers in the changing digital landscape. The following reports detail the growth and popularity of social media and the Mobile Web, as well as the work being done by Carnegie Library of Pittsburgh staff to meet these changes. Finally, we offer some scenarios as to how the Library can respond in light of economic uncertainty

Social Media

Where We Are

Carnegie Library of Pittsburgh (CLP) has been an early adapter of social media, and our presence can be found throughout websites such as Facebook, MySpace, Twitter, WordPress, YouTube, and others. Carnegie Library has also created a Flickr (photo-sharing website) account which hosts our Iron & Steel photo collection, as part of an IMLS grant. We will begin text reference services, allowing customers to send questions via their cell phone text message services, in July 2010.

Recent social media use might be traced back to a pilot of instant message chat reference using Meebo in 2005. Carnegie Library has offered Virtual Reference (using an instant messaging platform), as part of a Pennsylvania Libraries initiative, since 2006. Most of our locations' use of social media, such as Facebook, Wordpress, and MySpace has occurred within individual locations and departments, rather

than as an over-arching singular use for the whole system. Locations and departments partaking in social media report the primary purposes for social media use are promoting programs and collections.

Research

Social networking use has been exploding exponentially in the past five years. Personal, professional, commercial, and non-profit utilization has skyrocketed, and use is in constant fluctuation, varying amongst different demographic groups. Public libraries have achieved success with social media as a communication tool, and most librarians will agree that it is necessary to be where their patrons are virtually. It is very difficult to create a “snapshot” view of social media, because of how quickly use patterns change. Below is a list of information as current as possible, found on the Pew Internet and American Life website, useful to CLP staff when planning to reach its customers via social media.

- Twitter use grew by over 1,000% in one year (2008-2009). Baby boomers were the main reason for this.
- As of February 2010, 73% of American teens and 72% of young adults (aged 18-30) had already created a social network profile. 73% of adults aged 18 and over own a Facebook account.
- Cloud Computing: remote server networks are the way of future computer use, expected to become the primary method of storage and information sharing by 2020. This means that the majority of information will not be stored locally by individual users.
- 72% of all teens are text-message users. This is a strong indication that subsequent generations will be more apt to communicate via text, and more reason for the library to consider texting in its communication and reference services planning.
- An increasing number (22% as of 2010) of adults are using the Internet to learn more about what is going on in their local communities. This bodes well for more use of social media by the library.
- 19% of Internet users report using Twitter or another service to share updates about themselves, or to see updates about others. This is a significant increase over previous surveys since 2009, when 11% of Internet users said they use a status-update service.
- 7 out of 10 adult users of the Internet have used it to watch or download a video. 1 in 7 have uploaded a video of their own creation onto the Internet.

Research at CLP

28 CLP departments and locations responded to a survey created to gauge use, interest, and attitudes about social media.

- 57% of respondents use social media for their department or location.
- 100% of social media users stated the purpose for use was to promote programs, 69% use social media to promote collections.
- Over 50% of library departments/locations use social media to answer directional questions, while only 25% use it to answer reference questions, or for internal staff communication.
- 94% of respondents use social media to reach adults, 81% use social media to reach teens, and only 44% use social media to reach children. This makes sense, as most social networking sites do not permit use by children, and children do not use the Internet or other digital tools as often as older demographic groups.
- Facebook was the most-used site, with 75% of respondents listed as hosting accounts, followed by MySpace, with 50% use. (Note: Multiple locations use more than one social media tool.)
- 75% of respondents stated that lack of time was the reason that they are not using social media.
- Other obstacles included red-tape, lack of familiarity with social networking, staff buy-in, and a lack of system-wide strategic focus.
- Departments and locations varied widely when asked how much staff time was spent on social media per week. Many stated it was impossible to measure, since it changed from week to

week. Others reported as much as 35 hours per week, and at the lower end of the scale was 1 hour or less per week.

- When asked: "What social networking sites or areas of the digital world would you like the library to start using?" most respondents listed Facebook. This could mean that they would like to see CLP use Facebook more often.
- The vast majority of respondents did not believe that social media could replace other functions or tasks currently performed by library staff. Instead, most people listed social media as a tool to enhance current services. A few suggested that social media could increasingly begin to take the place of print materials such as promotional fliers.
- The most often stated positive aspect of social media was an increase in program attendees.
- Other consistent comments about social media included: it is a valuable tool for reaching the community, and library social media accounts need to stay updated and current in order to be effective.

Where Do We Need to Go

Option I - Flat Funding

Establishing a CLP presence within a selected number of social media and Web 2.0 platforms raises the visibility of the Library and creates multiple access points to the Library's resources and collections. For the customer, information about and access to CLP becomes part of their social feed.

1. Google Books script in OPAC

The library could link catalog records directly to results in Google Books. When a library-owned book is also available in Google Books, this service would allow customers to scroll through full text of titles on the results page. While this may not help boost circulation, it would be a huge benefit in convenience for library users. When the book they are seeking is checked out, the customer will still have access to it in its entirety. Code for such a script is freely accessible on the Internet.

Resources needed:

- The coding script must be written (or co-opted from a free source) and maintained
- CLP must get buy-in from ACLA and EIN
- Could possibly replace lesser used functions of the OPAC
- Staff time to measure use & success, and evaluate outcomes

2. User Generated Content

"User generated content" is a buzz-term used to describe any situation where a user actively participates in creating content, whether it be sound, video, language, or art for a website or organization. User generated content can be applied to print and visual, as well as digital media. For example, the Main Library's First Floor Department recently released a poetry anthology, and Teen Services creates a chapbook of high school poetry, fiction, and non-fiction as part of the Ralph Munn Creative Writing contest every year. Many locations and departments display art created by the community. User generated content exists online in the form of customer-written posts, comments, and book reviews on our blogs.

User generated content will help create feelings of library ownership within customers, and after initial training, may release some of the workload of our staff. The following are suggested

projects to more fully incorporate user generated content in Carnegie Library's communications and services to the community:

- On library blogs
 - "Guest" posts by customers about library events, advocacy, collections, and community happenings
- Within CLP social media accounts
 - Users can create groups, events, and discussions with initial training and continuous oversight from CLP staff
- Print media
 - The library can continue to generate print materials created by users, such as anthologies, posters, and advocacy promotion

Resources needed:

- Public service staff time to train volunteers
- Volunteer time
- Administration and staff buy-in
- Staff time to measure use & success, and evaluate outcomes

3. Outreach into the Digital World

CLP could further reach its customers in the digital world, perhaps by creating a toolkit for locations and departments to use. Success depends on keeping this outreach updated, interactive, and interesting.

- Hold Skype (or other video chat) sessions with patrons. These sessions could go beyond reference work to include book discussions, virtual school visits, and other programming.
- Use existing social media accounts to generate more interest, by creating more interaction in the form of contests and "ping back" marketing.
- Expand the current collection of CLP instructional videos to include topics such as using the OPAC, renewing books online, etc., while allowing for comments and questions from customers

Resources needed:

- Staff time (Information Technology Department, Communications & Creative Services, public service staff)
- Administration and staff buy-in
- Staff time to measure use & success, and evaluate outcomes

Option II: Optimal Funding

1. Dedicated Social Media Staff

With optimal funding conditions, CLP could dedicate staff specifically to expanding our social media presence. We could create a position or positions to create online spaces and accounts for information sharing, reference questions, programming, advocacy, and collaboration. The position or positions could also act as a coordinator, training, and advising staff in their own departments and locations on how best to use social media to meet the needs of their specific customer base.

Resources needed:

- Administrative and staff buy-in
- Dedicated funding to pay the social media staff

- Funding for tools and technology necessary for such staff: laptops, handheld devices, etc.
- Maintenance on tools and technology

2. Social Media Training Sessions for the Public

Three or more types of training could be developed:

- Social media safety for parents and kids
- How to use social media for novices
- How to market via social media for non-profits/small businesses

Resources needed:

- Dedicated funding to pay the trainer staff
- Staff time to measure use & success, and evaluate outcomes

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The Mobile Web

Where Are We Now?

In the mid 1990's Carnegie Library of Pittsburgh began providing our customers with access to the Internet and the use of basic productivity software like Microsoft Office. Very quickly the computer, more specifically access to the Internet, became as important as the collections on our shelves. The first ever national study of the public's use of library computers and wireless networks showed that "nearly one-third of Americans age 14 or older – roughly 77 million people – used a public library computer or wireless network to access the Internet in the past year" ("Opportunities For All"). As the demand for public computers remains high within the library, more people are accessing the Internet and the library's online resources via wireless networks. In 2009 Carnegie Library of Pittsburgh provided the public with 411,507 hours of computer access (eiNetwork). In the same year we had 47,516 customers login to our public WiFi network, an increase of 38% from 2008 (eiNetwork). The use of wireless networks by laptop computers and hand held devices require Carnegie Library of Pittsburgh to rethink how we deliver information.

Research

In the last several years there has been a significant shift in how people access the Web. Once uniquely tied to a fixed, desktop computer in the home or office, the Web is now available on multiple devices and in many public spaces thanks to wireless networks. According to a 2009 study by Pew Internet & American Life Project, "56% of adult Americans have accessed the Internet by wireless means, such as using a laptop, mobile device, game console, or MP3 player" (Horriگان). According to CTIA, in 2009 there were 285.6 wireless subscriber connections in the United States (CTIA). Wireless networks allow library customers and staff to access online collections and resources where it is convenient rather than a fixed desktop computer.

Mobile devices such as smart phones, PDAs, and more recently tablets continue to gain popularity. In a recent press release, Apple announced that it had sold 2 million iPads since its April 3rd launch (Apple). The popularity of the iPhone and Google's Android Operating System for mobile devices signifies the future of the Web is mobile. In a presentation dated April 12, 2010, Mary Meeker, a technology analyst for Morgan Stanley predicts that the number of mobile Internet users will surpass the number of desktop users by 2015 (Meeker). According to the aforementioned Pew study, "32% of all Americans have gotten online with a mobile device – meaning they have used a cell phone or other handheld device to check email, access the Internet for information, or send instant messages" (Horriگان). That is up 24% from 2007.

During the last decade the growth of the Internet raised the question of an increasing digital divide between those with access to digital information and those without. In no small part, Carnegie Library of Pittsburgh and other public libraries across the United States helped bridge that divide with free access computer hardware, software, and the Internet. With the support of the Gates Foundation many libraries, including CLP, were able to establish computer labs to provide the public free computer classes. In the last few years the growth on the mobile Web has gone a long way to decrease that divide. According to Pew research, "African Americans are the most active users of the mobile Internet – and their use of it is also growing the fastest. This means the digital divide between African Americans and white Americans diminishes when mobile use is taken into account" (Horriگان).

How Do We Get There?

Access to the Internet from a mobile device presents a number of opportunities and challenges to libraries. The increased use of the mobile devices to access the Web will require us to make changes to our online presence and impact how we interact with our customers. The mobile Web puts the library in

the customer's pocket; it's up to us to create that experience. Below is a list of recommendations to get us there.

- **Mobile Web Site**

In addition to a traditional Web page, Carnegie Library of Pittsburgh needs to account for the growing number of customers accessing the Internet from mobile devices. The development of a mobile Web should be a priority in the next year. Such a site should allow customer to quickly find information about the library, such as hours and directions, events, contact information, and the ability to search and order materials through The Catalog. A couple of years ago, Carnegie Library of Pittsburgh developed a rudimentary mobile site. It is now inactive, but we own the domain. The eiNetwork currently offers a mobile version of The Catalog called GoCAT. These two services should be integrated.

- **Integrate Print and Web**

Quick Response Codes, or QR Codes, are two dimensional barcodes that can be read by a smart phone equipped with a reader application. The user scans the code using the phone's camera which in turn launches a specific URL in the phone's browser. A sample QR Code for the Carnegie Library of Pittsburgh's home page is below.



Using QR Codes, the Carnegie Library of Pittsburgh can create links from physical world objects, such as flyers, signs, and library cards to Web based content. For example, a QR code placed on a library card can link the user to a mobile version of The Catalog. A number of libraries are using QR Codes in their online catalog. The University of Bath provides information about Title, Author and Call Number of the book. Once scanned, users can store that information on their phones to help locate them on the shelves. Other libraries use QR Codes to provide quick access to research guides, booklists, and library floor plans. Creating QR Codes is simple. There are a number of Web sites that generate free codes. For CLP, it would be a matter of adding them to the appropriate resources and explaining their use.

- **SMS Reference Service**

SMS Reference, or text messaging, is a form of virtual reference that allows customers to send their questions to a librarian from their mobile phone. The question comes to the librarian in the form of an email. The librarian's response is returned as a text message to the customer's phone. A text reference service is designed for quick, simple questions that can be answered with a quick response. A recent study of texting among American teens found that the frequency and number of text messages continues to increase.

Daily text messaging among American teens has shot up in the past 18 months, from 38% of teens texting friends daily in February of 2008 to [54% of teens texting daily in September 2009](#). And it's not just frequency – teens are sending enormous quantities of text messages a day. Half of teens send 50 or more text messages a day, or 1,500 texts a month, and one in three send more than 100 texts a day, or more than 3,000 texts a month (Lenhart).

It's not just teens that are texting. According to CTIA, Americans sent 152.7 billion text messages in 2009 or 1458% more than in 2005 (CTIA). Carnegie Library of Pittsburgh currently offers virtual reference as part of the statewide live chat reference service, Ask Here PA. It does not include a text messaging service. Given the popularity of text messaging, an SMS Reference service is critical for Carnegie Library of Pittsburgh to meet the changing reference needs of our customers.

Option I: Flat Funding

- Continue to maintain existing Web site and make updates and changes as needed.
- Develop a mobile Web site that provides basic information, including but not limited to hours, directions, events, and links to mobile-enable resources. Integrate it with eiNetwork's mobile library catalog, GoCat.
- Provide SMS Reference service
- Promote new services on Web site and social sites where Carnegie Library of Pittsburgh has a presence.

Option II: Optimal Funding:

- Develop a mobile Web site that provides basic information about our locations and services as listed above, but also has the functionality of our existing Web site.
 - Searchable
 - Event registration
 - Ability to connect the user to library via chat, SMS, phone, and email
 - Mobile-enabled subscription services and locally produced resources
 - Enrich print resources with corresponding mobile content through the use of QR Codes.
 - Mobile booklists
 - Advocacy messages
 - Event registration
 - Contact information
- Provide SMS Reference Service

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