

**Information Systems Management
Course 95-822**

Spring 2006

Final Consulting Report

Carnegie Library of Pittsburgh

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Carnegie Library of Pittsburgh Website

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Student Consultant, Stephanie Lo
Community Partner, Arlene Keller

I. About the Organization

The Carnegie Library of Pittsburgh website provides online library services and resources to the Greater Pittsburgh region. The first and foremost goal of the website is to support and promote the mission of the CLP which is:

A contemporary and vibrant institution, the Carnegie Library of Pittsburgh will be recognized as the region's best information resource. It will serve as an essential community anchor by promoting positive change and helping neighborhoods to flourish. By embracing the future while guarding tradition, the Carnegie Library of Pittsburgh will be a preferred destination for knowledge, entertainment and social interaction.

The web team consists of 3.5 FTE's that develop and maintain the majority of the resources provided by the website. These resources include general library and branch information, account information, resource guides, access to the catalog, and access to the research databases among other things. In total, there are over 4,000 pages that contain these resources. Because the website budget is derived from the overall library budget each year and the fact that there have been budget cuts over the last couple of years, there is a shortage of librarians that have the time and skills necessary to maintain and provide good content for the website.

II. Scope of Work

There were a wide variety of project opportunities that could be chosen for consulting tasks. However, because of the size of the website, the consulting task will be focused on developing methods and strategies to improve the user's experience of using the website rather than actual implementation.

The CLP website offers a lot of information and resources that are currently underutilized – users seem to not know about the resources available or do not know how to use the resources. If users are not using the website as an information, then the website is not achieving its own informal mission “to support the mission of the CLP and to be the number one information resource for those in the Greater Pittsburgh region”. Because there has not been enough research done to demonstrate how users current use the size, there is disconnect between what users want and need of the website versus what the work that that the web team does as a result of what they think the user wants.

Under the current initiative for the website to undergo a full redesign, the consulting task will focus on gathering and analyzing user feedback for both internal (librarians, staff, etc.) and external (general population) users. This includes developing methods by which to gather user feedback as well as consolidating and analyzing this information. By understanding how users use the website, the web team's work becomes guided by what is most beneficial to its users.

III. Outcomes Analysis

The outcomes of the task of gathering and analyzing user feedback are as follows:

1. Baseline benchmarks of how current users are using the site, their general satisfaction of the site, as well as ideas of additions to the site.
2. A survey developed to gather external user feedback on a periodic basis.
3. A plan to gather external user feedback continually and to analyze these results.
4. A decision made regarding web analytics software and the need to purchase and implement new software or upgrade current software based on a list of recommended software.
5. A plan to utilize site traffic results through analyzing and setting goals with regard to site traffic.
6. Better understanding of what the user wants out of the site as the web team is in the process of a site redesign.

These outcomes should be sustainable for the next 6 months to 18 months, but only if the web team makes gathering external user feedback a priority. Even if the web team sticks to their goal of keeping the user's needs first, there are several risks that these outcomes of this task may not be sustainable including issues with politics, shortage of time, lack of resources, lack of budget, difficulty interpreting data, and difficulty with evaluating distant user use.

IV. Recommendations

The first goal involves developing a set of online tutorials to help users familiarize themselves with the CLP website without the aid of a librarian. Examples of tutorials include an overview of website functionality or instructions on how to use research databases. These tutorials will help users to better access the information resources available on the CLP website and the library will be able to improve their user satisfaction and usage of the site. This goal is very feasible but will require resources other than the web team, including other librarians and committees, for input and implementation.

The second goal consists of creating a project task list that the CP along with the web team will create after reviewing current project tasks, new project tasks planned, and potential new tasks in the future especially with regards to how these tasks will impact the end user. As a result, the project task list will help web team members prioritize their tasks in order to have the best return on investment (in this case, a better user experience) of the time and effort they put in each day. This goal will take a minimal amount of time and resources needed. However, it will take an active participation on the part of the web team to maximize the benefits of the project task list.

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Carnegie Library of Pittsburgh Website
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I. About the Organization

Organization

As the only presence of the Carnegie Library of Pittsburgh (CLP), the Carnegie Library of Pittsburgh Website (CLPW) is responsible for providing online library services and resources to the Greater Pittsburgh region. The website is a central location for the Main Library in Oakland, as well as 19 other branches throughout the Pittsburgh region. In addition, it serves as a link to over 60 more libraries in Allegheny County through the eiNetwork, which have their own websites.

CLP's Mission:

A contemporary and vibrant institution, the Carnegie Library of Pittsburgh will be recognized as the region's best information resource. It will serve as an essential community anchor by promoting positive change and helping neighborhoods to flourish. By embracing the future while guarding tradition, the Carnegie Library of Pittsburgh will be a preferred destination for knowledge, entertainment and social interaction.

CLP web team's Informal Mission:

To support the mission of the CLP and to be the #1 information resource for those in the Greater Pittsburgh region

The CLP, founded in 1895 is a public trust and independent organization that receives no financial benefit from the Carnegie museums. Previously, each library branch had its own website and the catalog was run by the Automation Department. About 4 years ago, the websites were consolidated into one main website that the web team of the IT Department is responsible for.

There are about 500 FTEs working for the CLP, all of whom are managed by a Management Team (20) and Directors (9). A Board of Trustees (33) oversees the management and makes sure the library is achieving its mission. Within the IT Department, the web team manages the website and reports to the general IT Director who in turn reports directly to the Director, Barbara Mistick.

Each year, the budget of the web team is dependent upon the overall budget of the library. Due to the budget cuts over the last couple of years, there have been several cuts in resources, including cuts in library personnel. Because of this, there is a shortage of librarians that have the time and skills necessary to maintain and provide good content for the website.

Facilities

The IT department is located in the basement of the main library and requires a security badge card swipe for entry. The entire IT department is consolidated into one area and each employee has his or her own cubicle. The Director of IT has an office nearby. Recently, there have been some office relocations to increase office space for the IT employees. Because of security concerns, each employee uses a PC connected to the LAN line rather than using wireless connections. There is a separate server room, requiring a keyed access that contains CLP's 6 servers.

Programs

There are several programs offered through the website, in addition to the vast resources that the website provides including databases and pathfinders to various subjects.

The main "programs" offered through the website are the following:

Summer Reading Program

The summer reading program allows kids and teens to participate in a summer reading program online. Instead of having to record in a log the books they read on paper, and bring that piece of paper to the librarian each time, they can now log their reading online. Librarians can then access the child's book log from any location. The children can also print their book logs in case they want to bring the book log to school. Also, the online program allows kids to review the books that they have read for other kids to view. This online program has had success over the last couple of years and both kids and teens participate. The kids and teens sites are separated. The kids program gets around 7000 participants in the summer.

This year will be the first time that the CLP will also have a summer reading program for adults.

Online Resources

The website contains many online resources compiled by various librarians. These resources range from tax preparation, to current topics like the Olympics, or even fun resources such as "All Things Irish". These resources are usually compiled from various online websites that have been examined first by a library staff member or links to articles from the research database. Currently, these resources all live under the section titled "Discover More" and are arranged by category. Usually, the resources that get used the most are those that are redirected from the homepage. The other resources tend to get underutilized primarily because they are difficult to get to or users do not know these resources exist. Librarians tend to be the primary users of this resource. An important task for the web team is to come up with a method to make these resources more prominent and more accessible as they are a valuable source of information.

These resources take up the majority of the pages that the web team has to maintain. Although some departments, such as the business department from the downtown branch, has been very active in creating resources that pertain to their department, the majority of librarians and staff members do not have the time to actively compile and maintain these online resources. Because of this, many of these resources contain information that is potentially outdated. The web team would like to create a database to store all these online resources to facilitate

maintenance as well as increase the participation level from various library staff to maintain these online resources.

Event Manager

The event manager is a system that stores all the events occurring at the various library branches. Branch librarians can input their upcoming events at their own location. These events are then available for users to search and view on the website. At the end of each month, this information is pulled from the database by the CP and sent to the printing department for publication in the monthly calendar. This system is very popular among internal members of the library and is heavily used.

Non-Profit Technical Assistance Directory

The Non-Profit Technical Assistance Directory is list of services that are available to non-profit organizations in Southwestern Pennsylvania. Most of the contacts come through interaction with the Foundation Center in downtown. Consultants from independent organizations (both for profit and non-profit) can add and edit their own information but before it goes live, the information has to be approved by the Foundation Center. Because this directory can only be found on the website after several pages, most people who use this resource know about it through the Foundation Center.

A lot more promotion can be done with the library's resources and programs. Currently, not many people know about the library's programs and if they do, it is usually through the library or one of its affiliates. The website should further promote these programs on the website, as well as in conjunction with the regular library. The website should also investigate what programs would be beneficial to users and that would bring them back to the site and encourage more exploration of the site.

Staff

There are 3 full time employees and 1 part time employee on the web team. Mike, the IT Director isn't really part of the web team, but oversees the team. Their roles and descriptions are listed below. Each employee has a specified email account and phone line. The employees share a central printer that is located within their office area.

Mike Nangia – IT Director

Mike joined the IT Department in November 2005, and is in charge of directing IT department and web team so that technology supports the mission of the CLP.

Arlene Keller – Manager of Web Application Development

Arlene manages the web team and makes sure the website is on track with the goals that the web team has set for each year. In addition, she is in charge of maintaining the servers and developing web applications for the website. For example, she implemented most of the current website design. She is familiar with ColdFusion, databases such as MS Access, as well as website markup languages like (X)HTML. Along with Cathy, she is in charge of updating the site with upcoming news as well as changes that other librarians or management requests.

Web Graphic Designer – Olivia Blonde

Olivia used to work for the graphics department of the CLP but has now changed to the IT department as a specialist in designing web graphics. She works closely in conjunction with the graphics department to ensure that material that goes on print will also be featured on the web. For the dynamic signage, she usually uses Flash. However, she is familiar with other graphic producing programs like Adobe Photoshop and Macromedia Fireworks as well.

E-resources Librarian – Cathy Chapparo

Cathy has been with the CLP for over 10 years now and has seen the creation of the current website from its early days as part of the Three River FreeNet. Cathy is familiar with databases, markup language, and most importantly, creating the online resources for the website. Over the past couple of years, her responsibilities have included updating the resources that are available on the site as well as compiling content for those resources. Currently, her role is to focus on developing resources for the website that meet the needs of the audience of the site. However, she still doesn't have as much time as she'd like for these resources because she has to complete time consuming tasks of updating the website.

Web Specialist – Sue Felton

Along with Arlene, Sue is responsible for developing and maintaining the websites applications and programs. Sue is the only part time employee on the web team.

Several directors, administrators, and main librarians have access to make simple changes to the website such as location hours or special happenings at the library. Librarians are also able to enter events into the event manager. Often, a specific department is willing to compile a list of resources for their own department, i.e. The Business Department in downtown. Some departments, such as the 1st floor of the main library compile their own book lists and have an employee manually update the HTML of these book lists online.

Recently, the IT department purchased 20 licenses of the Macromedia Contribute software which makes it even easier for people who do not have any web design experience to make updates to the website. Contribute allows a user to directly edit text on the webpage – as in, they can make changes in the text without having any knowledge of how HTML works, yet the layout is still in place.

Technical Environment

The CLP currently has 6 servers, 4 servers that are currently online and 2 servers that should be going online soon. The eiNetwork also has several servers that the CLPW uses, including the CLP owned production webserver and the production web DB server owned by the eiNetwork. This is because there is someone always at the eiNetwork, in case something happens to the server. The development server is located at the CLP. The dev-web server at CLP is used for the event manager and sign managers. The dynamo server is used for dynamic signage – since it is on a separate LAN, it is more secure.

A problem for the web team is that there are 3 separate machines that they have to log into for the applications that they use – all of which have a similar front-end look.

The website used to be hosted at the domain <http://clpgh.org>, but recently has moved to the domain <http://carnegielibrary.org>. This new address has affected some of the databases that

used relative links associated with the old address for web authentication. Also, some search engine searches still link to the old site address which no longer works.

Technical Specifications (from Gaurav Sharma's report)

- Web Server: Win 2K SP 4, IIS 5, Cold Fusion
- Development Server: win2k server SP4, IIS 5, Coldfusion 5; Dynamic Signage
- Test Server: 2003 Server IIS 6; Coldfusion MX; SQL Server 2k SP3
- Data Mining and Web Data Server: Win2k Server SP4; SQL Server 2k SP3
- EIN Data Server: Win 2k server SP4; SQL Server 2k SP3
- EI Dynamic Signage: Win2k Server SP4, IIS 5, ColdFusion MX, SQL Server 2k SP3

Technology Management

The eiNetwork manages their own servers and Arlene is responsible for the servers at the CLP. Kevin Lynch, who is part of the IT department, oversees general maintenance problems and makes sure all machines, including printers and desktops are working properly. Cathy makes sure that backups are run each day and keeps the tapes in a locked file cabinet in her cubicle. The CLPW does not need to maintain the catalog and book information as this information is taken care of by the eiNetwork.

However, Cathy is responsible for keeping the links to the databases up to date. Since there are three separate entities – the state, eiNetwork, and the CLP who purchase rights to databases, there are often changes as to who has purchased what database, and what databases have been purchased. The link to the database depends on who purchased it so any time that information is changed, Cathy needs to make the associated changes on the HTML flat file, leading to extra time spent on something that could be done automatically. Currently, there is no database managing the list of database resources available on the website. Another problem is that Cathy is not part of the database committee due to mostly political reasons and has to rely on emails to determine which databases have been purchased for that year.

WebTrends is currently being used to monitor site traffic and keep a track of broken links. As privacy issues are of big concern to the library, it is often difficult to keep track of individual user site traffic data. Also, WebTrends has been in use for the past 3 years. There could potentially be better software for this purpose now, but researching new software is not part of the scope of work planned for this semester.

Technology Planning

Technology planning is an integral part of the strategic plan of the CLP. The direction from the director and senior management is that the library should be as technically savvy as possible. The IT department works along with Karlyn Voss, the Assistant Director of strategy and planning each year to receive direction of what the general plan for the CLP is and how the IT department can support those plans. Every year, new goals are set for the IT department. The web team gets together and writes out goals and objectives for the year. First, these goals are reviewed by the Director of IT and then, these goals and objectives are presented to management/directors and get approved. This list is displayed on the intranet as a constant reminder.

The budget for the IT department each year is allocated based upon these goals and objectives. Arlene manages her own budget, but often discusses with Mike regarding larger budget needs. Sometimes, the budget comes late as planning comes before the budget is

actually needed. Also, in recent years, due to budget cuts for the library, the same cuts have been applied to the IT department – meaning that goals were sometimes not met. Other times, personnel changes, and sometimes a lack of needed personnel, lead to goals not being met. Currently, meeting deadlines, goals, and objectives are at a very high priority.

Internal and External Communication

Communication between employees of the CLP usually occurs through email or by phone calls. This includes changes that need to be made, or transfer of documents that need to be added to the website. Since Cathy usually responds to these requests, she often does not have enough time to look for online resources. Among the web team, either email or just stopping by each others cubicles is used. All employees also have access to the intranet which allows information to be communicated easily to everyone at the CLP.

Currently, there is no online newsletter that goes out consistently to patrons of the library. Potentially, this could be used to drive site traffic. However, the privacy of patrons again needs to be considered. Also, it is important to consider who would maintain the newsletter and develop content. Information regarding the personal information of people who get DTC's ('Direct-to-consumer' – advertising targeted to the consumer such as print ads) from the library is currently being gathered.

Users of the website can also send information to librarians through email. Usually, these emails get sent to Tom Barnes who answers these questions. More information needs to get collected on what types of information users ask.

Information Management

The website does not only include a repository of books and resources, but also information that is helpful to people within the community. This includes lists of resources to local organizations and their service offerings. Due to the large amount of information that is available, it is very difficult for the web team to keep all the content up to date. There are many databases (i.e. event manager, dynamic signage, etc.) already, and still several situations where databases would seem to be very helpful. For example, the book lists that are available to users are all entered by hand as flat HTML files. If the same book was to be used in two separate locations, the information would have to be cut and pasted. There is also no way to tell if a book's information has been entered – so it's likely that the information would be reentered. Another situation is to place the list of resource databases in a database so that information for each database could be managed more simply. The goal is to come up with a system that would save time while displaying resources, but not add to the amount of maintenance time. Because each database will hold very different types of information, there would not be much benefit in consolidating the various databases.

There is a lot of information available to users on the website and some feedback the library gets is that the website is too text heavy and is difficult to navigate. Often, users miss out on the opportunity to use useful resources because they cannot find it on the site. There are over 4,000 pages of the CLP site, which makes the pages difficult to maintain. Many users also do not know about the database resources that are available to them. If they do, it often takes a lot of effort to get the information needed out of the database. A problem is how to get people to know about the databases and teach them how to use the databases.

The lists of online resources on the website are usually compiled by Cathy, although some departments compile their own resources. There was no policy of how to select the resources that are available on the site, nor was there data on which of these resources users use. Because of this, it is hard to determine how to cut down the number of pages that are included on the site. It is also difficult to determine what types of information users want to be able to find. A new Resource Selection committee is scheduled as of 3/2/06 to be created to help solve some of these problems. Members of the web team, a Public Service representative such as a librarian, and a Collection Development representative are planned to be members of the new committee.

Business Systems

Currently, the IT department does not manage the business systems directly. These business systems, such as the accounting system, are shared with the Carnegie Museum. There are plans to update these systems in the near future, but negotiations are still taking place. If the business were to be managed in-house (there is a potential of outsourcing), it would be a shared effort between the finance department and IT department

II. Scope of Work

There are a wide variety of projects that can be done with the Carnegie Library of Pittsburgh website. However, because of the size of the website, the focus of the next 9 weeks will be on developing methods and strategies to improve the user's experience of using the website rather than actual implementation.

Task 1. Gather & Analyze User Feedback

Problem Statement

The CLP would like to increase the site traffic of the current website which gets almost 5 million external visits a year. There is currently a lot of information and resources available on the website, but users do not seem to be using the website information resources, or do not know how to use the website, preventing them from accessing the information available to them. If users cannot and are not using the website as an information resource, the CLP is not achieving its mission. Currently, most users use the website primarily to access the book catalog and the CLP would like to expand the users' use of the website beyond this primary function.

The CLP would like to undergo a redesign of the website – but there has not been enough research done to show how users are currently using the site or opinions that users have of the site. Because of this, much of the work that the web team does on a daily basis (like putting together resources) is not used, or sometimes not even seen because there is still little understanding of how users are using the website. This little understanding of users also leads to a disconnect between what users want to see on the website, versus, what the web team puts on the website.

This project will aim to gather as much user feedback as possible – for both internal (librarians, staff, etc.) and external (general population) users, first to determine a baseline measure, and then to determine what elements should be taken into consideration for the website redesign to make information and resources easily accessible to users.

Approach

- Consolidate and analyze internal feedback gathered by web team through planned branch visits to create a baseline of performance for future comparison – with web team
- Determine other questions to ask internal users as part of branch visits, potentially in survey form so responses can be quantified – with web team
- Come up with possible methods to gather external feedback (i.e. surveys, focus groups, feedback forms, interview, etc.)
- Select and implement user feedback ideas – with web team
- Consolidate and analyze external feedback – with web team
- Offer recommendations of what possible changes could be made to the website based on user feedback
- Prioritize recommendations based on resources needed, costs & benefits, feasibility – with web team
- Determine methods to get continual feedback from users, especially those that can be compared with the baseline measure – with web team

Impact & Expanded Capacity

Understanding the user (both internal and external) is crucial to the success of the CLP website of being the number one information resource in the Greater Pittsburgh region. By understanding how users use the website, the web team's work becomes guided by what is most beneficial to its users. Thus, the web team can be sure that the work they do is not in vain. It allows the web team to make better decisions on what projects to partake in regarding the website – if it does not add value for the user, then it is not a necessary project.

This also means that the web team can better prioritize its projects to make sure that if a certain technology project (such as a database) needs to be constructed to make searching for information easier for a user, then that project should be given a higher priority. In other words, knowing the user expands the capacity of the web team to plan and implement technology plans that have direct added value to the user experience. From this point, the web team can also develop the technology needed to support with regard to the benefit it will have to both those who maintain the technology and the end user.

Feasibility

This project is aligned with the goals of the Director of IT, as well as the community partner as both have began this process with the planned branch visits. The community partner as well as the rest of the web team is highly motivated for this project as well as this will allow them to do their work more effectively. The web team is already comfortable with the aspects of requirements gathering and has started the process. The Consultant will be adding my skills in developing further methods and working closely with the community partner to come up with the best solution to gather needed data effectively.

As the branch visits are scheduled to be finished by April, this project is very feasible to be finished by the end of the semester. However, for the project to be completely successful, it will have to continue past this consulting partnership.

There are several risks for this project:

1. *Politics* – mitigation through working closely with CP
2. *Shortage of time*, user feedback takes time to gather – mitigation through working closely with web team so process becomes sustainable after the semester
3. *Shortage of resources*, gathered feedback takes time to analyze and go through – mitigation through working with CP to start analysis process and making sure that the process is sustainable after the semester.

III. Outcome Analysis

Task 1. Gather & Analyze User Feedback

The task of gathering and analyzing feedback consisted of several parts:

1. Compiled and analyzed internal user feedback gathered through interviews from branch visits
2. Developed methods by which web team can gather external user feedback
3. Developed benchmarks of website traffic and usage through survey data
4. Researched and recommended possible new web analytics software
5. Executed method(s) to gather external user feedback – developed survey
6. Developed plans to ensure external user feedback and web analytics are gathered and analyzed consistently.

Results/Outcomes

Outcome 1

Baseline benchmarks of how current users are using the site, their general satisfaction of the site, as well as ideas of additions to the site.

- *Previous State*
Previously, the web team had no numbers or methods by which they could measure the usage, usability, or general user satisfaction of the site.
- *Evidence of Outcome*
A list of interview results consolidated from the internal branch visits that provide insight into how CLP employees utilize the website as well as how their observation of how patrons are using the site. (Appendix A)

Outcome 2

A survey developed to gather external user feedback on a periodic basis.

- *Previous State*
Previously, there was very little communication with the external users of the site. Site designs were based upon internal feedback (from librarians, directors, etc.) and based on recommendations from outside design firms.
- *Evidence of Outcome*
After a preliminary set of questions for the external user feedback survey, the CP and the Consultant reviewed them and together came up with a set of questions. The CP then went on to discuss these questions and their possible answer choices with the web team. After deciding that an online survey would be the best method to gather external user feedback efficiently, the CP used internal resources to implement the survey in house.

Outcome 3

A plan to gather external user feedback continually and to analyze these results.

- *Previous State*
Previously, there has been no inclusion of external user feedback with regard to site design. Site design elements have been based primarily on web team decisions which result from direction for management as well as recommendation from design firms.
- *Evidence of Outcome*
The CP, web team, and the Consultant have come up with a plan to ensure that external user feedback is gathered and analyzed through the year. This includes making sure that analysis of data is conducted at least quarterly to ensure that the site's current state is align with what users want and that redesign ideas meet the user's needs. The Director of IT is aligned with the web team's goals of collecting external user feedback.

Outcome 4

A decision made regarding web analytics software and the need to purchase and implement new software or upgrade current software based on a list of recommended software.

- *Previous State*
Previously, site traffic results were gathered using an outdated version of WebTrends (used for the past 3-4 years). Because WebTrends reports were generated by accessing log files, it was a time consuming process. WebTrends also did not offer real time data, which meant the web team would have to wait for a customized report if they needed specific data. Last, WebTrends did not offer data on 'click paths' of the user – only entry and exit pages, meaning that the web team did not have a good idea of how a user used the site.
- *Evidence of Outcome*
The Consultant researched a list of web analytics software and presented the list of recommended software to the CP based on which software was most beneficial to the web team that relate to their plans to incorporate the data gathered to how they develop site resources. The CP has included making a decision of what software to use in the plans and tasks in the upcoming year. This decision will be based upon the CP and Cathy (who manages the analytics software)'s list of requirements and priorities, as well as a cost-benefit analysis of the different software. Because installation requirements, requirements of what data needs to be measured, or even available software may change, it is likely that this recommendation list may become out of date within the year. However, it currently serves as a starting point in case new research is needed.

Outcome 5

A plan to utilize site traffic results through analyzing and setting goals with regard to site traffic. This includes setting aside time to meet as a team specifically for the purpose of going through the gathered data and determining how this data impacts their current and future work. The web team understands the importance of these results and is willing to make an effort to analyze them in the future.

- *Previous State*
Previously, customized reports were also infrequently as they were time consuming to produce. Usually, data was only looked at for certain areas of the site, or if specific numbers, such as the number of website visits are needed as a part of a core measure result. As a result, web traffic data was not efficiently and effectively used and did not play a part in long range site redesign goals.
- *Evidence of Outcome*
The CP, web team, and the Consultant have come up with a plan to ensure that the site traffic data gathered using a web analytics software will be utilized and analyzed. This includes working with Cathy and the CP to determine the frequency analysis needs to take place as well as meetings with other departments to see how marketing or other goals can be measured directly against the gathered data.

Outcome 6

Better understanding of what the user wants out of the site as the web team is in the process of a site redesign.

- *Previous State*
Previously, the web team has designed the site with primarily assumptions of what the user wants, as well as what the internal staff of the library wanted.
- *Evidence of Outcome*
The CP and web team are thinking of new ways and methods that they can incorporate into their site redesign so that the user's needs are met. This includes incorporating feedback from the branch visits such as making a branch's events more prominent on the CLP homepage if you are at that branch, as well as reprioritizing the links that are listed on the homepage so that users are not overwhelmed. Because users often do not know what is available on the website, tutorials are being implemented to educate users on what resources they can find on the site, as well as how to use services such as the research databases.

Unobservable Outcomes

1. The results of the survey execution
2. The participation of the web team to come up with a concrete plan for incorporating user feedback into their tasks and goals.
3. New ways that the web team comes up with regarding how web site traffic should be monitored, as in the frequency (every week, every month, etc.) as well as how this data should be used (annual reports, direct marketing goals for the library, site redesign, etc.)

Risks/Sustainability

These outcomes should be sustainable for the next 6 months to 18 months, but only if the web team makes gathering external user feedback a priority. Also, updates may have to be made to the survey to keep it relevant to the current site or new methods to gather feedback depending upon what is allowed at the current time. The web team was very involved in making the survey questions and clearly knows the questions to ask when it comes to getting useful information that they need to further improve the website. The web team also has to stick with

their goal of analyzing the data that they gather (through the survey and through the web analytics survey) every so often and gain value from this data in terms of how they use it to further better the site.

There are several risks that these outcomes may not be sustainable:

1. *Politics* – mitigation through working closely with CP
2. *Shortage of time*, user feedback takes time to gather – mitigation through working closely with web team so process becomes sustainable after the semester
3. *Lack of resources*, the web team may have other tasks of more pressing priority – mitigation through including gathering and analyzing user feedback part of goals.
4. *Budget for web analytics software* – mitigation through planning ahead and making sure that the software is included as part of the technology budget
5. *Interpretation of data* – mitigation through taking into consideration the context of the data (i.e. Has the system recently changed? Who is giving the feedback – director's office, internal customers, external users, etc.?)
6. *Evaluation of distant users* – mitigation through developing methods to get feedback from these distant users or way to separate these users out from the general external user feedback methods.

Expanded Capacity

As a result of this consulting task, the web team of the CLP now has baseline measures of how their users are using the site. From this point, the web team can continuously reevaluate the changes that they make to the site and the effect it has on the users. By understanding how users use the website, the web team's work is now guided by what is most beneficial to its users. This also means that the web team is keeping the user in mind as it selects projects to undertake. In other words, knowing the user expands the capacity of the web team to plan and implement technology plans that have direct added value to the user experience.

New Vision of How Technology Can Support the Mission

As a part of the IT Department, the web team has always used technology to support the mission of the CLP. New ideas constantly come up of what else can be done to further improve the website and other technology that the library uses. Thus, instead of having a new vision of how technology can support the mission, this consulting task has helped the web team to solidify the reasons behind their current technology focused tasks. It is obvious that the CLP needs a website, but by gathering user data and feedback, the web team will have more precise reasons behind what tasks they need to do to better satisfy the end user – the patron. This data will also help the web team to set exact goals and see whether or not their work on the website can achieve those goals.

IV. Recommendations

The CLP website is an online location that any user can access through the internet for a plethora of information. Using technology to create the website, the web team supports the CLP's mission to be the region's best information resource. Currently, however, many users are not able to experience the full benefits and offerings of the website. Based on the outcomes of the consulting task, the web team has a new understanding of how their users are currently using the site and how the measures they can take to incorporate user feedback into their goals and tasks.

The goal of the web team is first and foremost to support the mission of the CLP and their yearly strategic plans. These recommendations describe how the web team can further ensure that their daily work can help users of the website to recognize and utilize the information available on the site fully, especially as they consider how their work can correspond directly to the strategic planning process that is currently being discussed within the organization. As a result, these recommendations should help improve the end user (whether internal employees or external users) experience in order to maximize the impact of the information provided by the CLP both as a physical and virtual library.

The recommended goals are the following:

1. Research, design, and implement online tutorials to introduce users to the information available on the website and more specifically, to educate users on how to use the available research database
2. Create a comprehensive project task list that includes existing tasks and new tasks with explicit details such as timeframe, impact on users, reason for implementation, skill sets needed, etc.

Because of the library's year to year funding, these goals apply on a year to year basis – specifically the second goal. The first goal can be a one time implementation; however, changes and updates would have to be made should anything on the website change. The second goal should become a yearly task as well as be revisited throughout the year as new projects come up and new user data is gathered.

As both these recommendations involve incorporating user feedback and improving the user experience, the web team should call for a "review" meeting where they can encourage each other on the progress of their work. This meeting is especially important if a recent change has been launched on the website that will help improve the user experience. By having these meetings (preferably quarterly), the web team can increase their team morale and be encouraged by how their work is actively impacting their end user.

Recommendation 1. Online Tutorials

Details of the Recommendation

This goal involves developing a set of online tutorials to help users familiarize themselves with the CLP website without the aid of a librarian. Although librarian instruction will still be in high demand and the individual branches, online tutorials will be highly beneficial to at home users who want to access library resources at the comfort of their own computer. Currently, features such as the resource guides and the research databases, both of which

provide the majority of information available on the CLP website are underutilized. This is primarily due to the fact that users 1. Do not know about these resources and 2. Know about the resources but do not know how to use these resources easily and effectively.

These tutorials would be created as streaming video files that the user can download on their computer. The content of the tutorial would be a narrated script of a user running through steps and recorded using SnagIt (a screenshot capture software), a flash program with advice and tips, or a mixture of the two. A current quick fix would be to convert existing Word document instructions used for instruction in classrooms into a PDF format and post these on the website.

The tutorials would include information as follows:

- *Tutorial: Site introduction*
 - o Introduce users to the different features of the website
 - o Introduce users to the kinds of information they can find on the website
 - o Teach users methods by which they can access the different information resources
- *Tutorial: Research databases*
 - o Introduce users to the purpose and function of research databases
 - o Introduce users to the kinds of information they can find using research databases
 - o Teach users principles of search terms so that information in the research databases can be extracted most effectively
 - o Teach users how to remotely access the research databases
 - o Provide information about which research database is best to use for various types of information

Reasoning Behind the Goal

By developing these online tutorials, the library will be able to improve their user satisfaction and usage of the site. Based on the preliminary user feedback data that was obtained through this consulting task, the results from the interviews done with the branch librarians also show that they would like to push the idea of research databases to their users and to be more prominent and easy to use for their users. This means that these information resources would become easily accessible to the at home user, and not just the users who come into the library and get the research databases and resource guides introduced to them by the librarian. As these tutorials would also cut down on the amount of time librarians currently spend explaining how to use these resources to the patron, librarians would have more time to spend with other patrons and answering questions that aren't readily accessible by the user on his own.

Once the survey is deployed, the web team can have actual numbers that demonstrate the improvement of user knowledge of these resources – survey results obtained before the tutorials have been implemented versus results obtained after the tutorials have been implemented.

Strategies

Tutorial: Site introduction

1. Use user feedback to determine which areas of the site are being under utilized or have difficulty using

2. Conduct interviews with management to determine which areas of site have to be pushed and mentioned
3. User test some users to see how current users are navigating the site
4. Develop a list of areas on the site that should be focused on
5. Develop a script for both narration and screenshots of the various areas and functions of the site
6. Implement online tutorial
7. User test tutorial
8. Make changes based on user feedback
9. Launch tutorial

Tutorial: Research databases

1. Interview librarians who frequent research databases on how best to use databases and search terminology
2. Interview database committee to get feedback on best databases for various subjects
3. Develop instruction guide, narration, and screenshots
4. Implement online tutorial
5. User test tutorial
6. Make changes based on user feedback
7. Launch tutorial

Outcomes

Over a timeframe of 1 year after implementation...

- Increased overall site traffic by 25%
- Increased site traffic to research databases by 25%
- Increased site traffic to resource guide page by 25%
- Increased user satisfaction with the information resources on the site (measured by new survey data)

Research Resources

Internal Resources

- Management – provides direction of what can be done in terms of how this project fits into the grand scheme of the library's goals and objectives for that year
- Librarians – specified by department (i.e. Main Library, Children's, etc.) – provides specific knowledge of the needs of various patrons
- Resource Librarians – provides skills and knowledge of the kind of information regarding the resources available on the website and at the library
- Database Committee – provides direction in the database offerings (i.e. what database is best for what kind of information a user may be looking for)
- Director of IT – provides general management of the web team's projects
- Web Team – provides research and implementation of the tutorials

External Resources

- Patrons – provides direction and feedback during the implementation of the tutorials as well as the success and usefulness of the tutorials after completion
- SnagIt Screen Capture – provides a method by which tutorials can be made using screen captures (screenshots)

- Consultants for creating online tutorials/instruction guides – provides additional time, resources, and skills necessary for the tutorials to be a success

Budget

- No cost for SnagIt (existing software the CLP has purchased)
- FTE equivalent cost of web team members working on this project over another (approximately .02 FTE per web team member over 1 year)

Recommendation 2. Project Task List

This goal involves the CP, along with web team members, to review current project tasks, new project tasks planned, and potential new tasks in the future especially with regards to how these tasks will take into consideration the user feedback data and how the tasks will impact user satisfaction or usage. In addition to the impact, each task will also include information such as timeframe, skill requirements, necessity, team members and cost. After these tasks are listed, the web team will have a better idea of what exactly all members of the web team are working on in order to know what other new tasks can be accomplished. With this project task list, the web team along with management, can be assured that the web team's work is in direct correlation with the user's needs and thus, is fully in support of the CLP's mission.

Reasoning Behind the Goal

The web team is currently responsible for many tasks, including all that relate to support and maintenance of the website. Although the web team does practice project management methods such as using Gant charts and specifying specific timeframes and resources needed to complete each project, there is not a prioritized task list that includes all the work that the web team currently does as well as potential new projects. Because of a lack of resources (only 3.5 FTE's on the web team), some tasks that the web team would like to do (specifically some tasks like creating new databases that will facilitate web site maintenance so that the web team can do other work) get pushed aside. As a result, the end user of the system, especially CLP website users from home, may not benefit from the web teams work.

Along with the user feedback obtained from this consulting task, the project task list will help web team members prioritize their tasks against a list of things that need to done to improve the user experience. Tasks that do not directly benefit the user could then potentially be filtered out and postponed, unless of course it is a required task. With this goal, web team members can better prioritize their time in order to have the best return on investment (in this case, a better user experience) of the time and effort they put in each day.

Strategies

1. Conduct a web team meeting to devise a list of current projects and tasks
2. Analyze this list and determine which of these tasks are required, and then determine how these tasks affect the end user.
3. Make additions to this list based on results from user feedback
4. Prioritize tasks and determine scope of work and timeframe for each task
5. Review this task list with the Director of IT to make sure he is align with the web team's planned tasks
6. Work the project task list into a part of yearly plans and goals
7. Utilize this project task list and revise as new tasks come up

Outcomes

- More efficient time management with regards to tasks that directly affect end users or that meet a specific requirement
- Increased end user experience – over a timeframe of 1 year after implementation
 - o Increased site traffic by 25%
 - Return visitors
 - Length of site visit
 - o Increased areas of site used by users (increase in percentages of various categories from the external user survey)

Research Resources

- Internal Resources
 - o Management – provides direction of what web team projects are necessary in the scheme of the library's overall goals and objectives for the year
 - o Director of IT – provides general management of the web team's projects
 - o Excel spreadsheet/Gant charts – provides methods by which the web team can organize their information
 - o Web Team – provides the resources needed to develop the project task list
- External Resources
 - o Patrons – provides the feedback by which the web team needs to take into consideration
 - o Parties involved with library funding – provides specific data requirements that the web team needs to provide in order to get more funding
 - o eiNetwork – provides some technical specifications and regulations
- Cost
 - o No additional cost other than FTE's spent on this goal (approximately .1 FTE for the consultant and .05 for the other team members in the first couple of weeks while project task list is developed, but only .05 FTE each for the remaining of the year when the project task list is revisited)

V. Appendix

Appendix A

Do you think they use the site at the branch? At home? How do you think customers use the site?

- Most branches say “not really” at home
- Users use mainly catalog at the branch, or databases if they need specific information
- If yes at home, users use...
 - o Databases
 - o Catalog
 - o Reserve books/materials
 - o Employment opportunity
 - o Access account

What do your customers use the web mostly for? (Arts, Entertainment, etc.)

- Job/employment search and information
- Games
- Email
- Entertainment
- Taxes (forms/info)
- Homework/research

How does the CLP website play a role in promoting your events, services, and collections?

- Event manager is popular
 - o Too many clicks away
 - o Would like to search by region (some branches don't have many events)
- Want Branch events displayed on homepage of library PCs
- Want to promote collections
 - o No way to display collections or access collections from web
- Want to display/promote agencies relevant to that branch

Other than the Catalog, what do customers use most?

- Research databases
- Job/employment
- ILLs
- Directions/locations
- Events
- Access Accounts

- mentioned only once or twice
 - o kids/teens
 - o subject guides
 - o search internet
 - o magazine articles

Other than the Catalog, what do staff use most?

- Research databases
- Discover More
- Events
- Annotated book lists/book lists (adults, kids, teens)
- Locations
- Search

- mentioned only once or twice
 - o policies
 - o employment @CLP
 - o EiN
 - o Wireless instructions
 - o ILL
 - o Collections
 - o Periodicals

What information resources would add value to the site?

- New releases/Coming soon
- Amazon like thing to find titles/reviews
- Tax prep/Tax forms/IRS
- Kids events in Pittsburgh
- Booklists in the same place
- AV material list
- Children's popular series
- Reader's advisory (if you liked this, then you'd like...)
- List of agencies (for relevant branches)
 - o Housing
 - o Grants
 - o Community resources
- Book log
- Quick picks
- Testimonials about CLP
- Updating disabilities page more often
- Applications (pdf format)

What internet resources (research/information) do you use that are not on the CLP website?

- Amazon
- IPL
- Wikipedia
- Dictionary.com
- MapQuest
- B&N
- Google
- Gov docs
- Health info – medline, etc.
- Pittsburgh Public schools
- Ebsco
- News – post gazette, cnn, etc.
- IMDB

What additions to the web site would be helpful to you and your customers?

- Figure out where you're at → what's going on at that library, nearby libraries
- Virtual book display
- More visual links to kids/teens pages
- Change terminology → more user friendly (ie: discover more, don't miss this..)
- Community resources (especially for relevant branches)
- Community calendar by location
- Photograph displays
- Multiple ways to get somewhere
- Book log
- Online subject descriptions of subject departments
- Resources for Spanish speaking residents/customers
- Push research databases
- Training for databases
- Coming soon
- All account features on 1 page

Imagine yourself in your customer's shoes. What would encourage you to be a repeat user of the site?

- less text heavy
- more whitespace
- prominent search
- federated search
- job links
- if finding information is quick
- reduced key strokes

- more visually streamlined
- community links/resources
- book discussion groups
- graphics – “do with pictures what we’re doing with words”
- county info
- immigrant resources

In a perfect world, what would our web site be like?

- easy to use
- categories on front page (like yahoo)
- more prominent ways to get to places → reduced keystrokes, less steps
- Amazon remembers & recommends
 - o Based on search, recommend resources
- Database training
- Feature pieces of the website
- More colorful
- Dropdowns (faster to get to certain resources)
- Catalog more visible
- Covers of books
- More dynamic
- Customer friendly terminology
- Rollover to enlarge text