

Applying Lessons Learned from Usability Tests  
of Academic Libraries to the Alameda County Public Library

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**Abstract (250 words)**

Many case studies of usability testing of academic library websites have been done in the last decade. The results suggest that students prefer a consistent navigation scheme that uses naturalistic language instead of library jargon. Among this jargon, researches have found academic library users are confused by three commonly used words on library websites: catalog, database and index (Fitchett, 2006; Denton & Coysh, 2011; McMullen, 2011). This research, though, has not been applied to public library websites, even though public libraries outnumber academic libraries three to one (ALA, 2010; Bar-Ilan, 2007). The goal of this study is to see if the lessons learned from the academic library websites can be effectively applied to a public library website. The study will be done on two groups: frequent library users and non-library users. The frequent library users will be chosen to reflect the ethnic make up of the local population: 10 Asian, 4 Caucasian, 3 Hispanic and 3 African American with an even split of men and women.

## Introduction

As McMullen notes, "The library Web interface represents a critical meeting ground between the information professional and the individual who is seeking information" (2001, p. 7). While public library websites outnumber academic libraries by a factor of three to one (ALA, 2010; Bar-Ilan, 2007), most research about usability testing of library websites has been done on academic library websites. The purpose of this study is to see if the lessons learned from those studies can be applied to the needs of the public library website.

Public libraries in the United States are facing renewed budgetary pressures as states cut funding to balance budgets and close gaps. These funding shortfalls are not a new phenomenon in public library funding. The 1993 *Library Journal* annual budget report documents the effect of struggling state economies in the last recession (St. Life & Rogers). Per capita circulation is increasing as well as more demand for internet access, electronic media and library websites (Oder, 2009).

The Alameda County library system has ten branches and serves the unincorporated areas as well as the cities of Fremont, Albany, Newark and Union City. (Hofacket, 2006, 2001). The ethnic makeup of Alameda County is primarily a mixture of Caucasian, Hispanic, and Asian. Nearly half of all households speak a language other than English. (U.S. Census Bureau, 2011). Testing of a redesign for such a diverse community of users should include users from a cross-section of these groups.

## Literature Review:

There is a lack of research into public library adoption of Web 2.0 technology by public libraries and almost no discussion of patron usage of library web sites (in any library setting) (Sammis, 2010). Usability testing of computer software and websites is an evolving practice, one that has been developing over time since the early 1990s. Two recent resources for best practices in usability testing are Barnum's book *Usability testing essentials: Ready, set... test!* (2010), and Becker's article "Test-driving your website" (2011).

Usability testing is the testing of a product or service by a representative sample of actual users (Barnum, 2010). While it was designed for product testing, it has been applied to web site design since the mid-1990s. In the same decade, Jakob Neilson (2000) and Robert Virzi (as cited in Barnum, 2010) suggested that user testing could be done with as few as fifteen test subjects, in three sets of five. That minimum number goes up though "when a website has **several highly distinct groups of users**" (Neilson, 2000). Those distinct groups, though, can be subdivided and five to fifteen chosen from each group to provide a better assessment of the web site's usability.

The literature about usability testing in a library setting falls into two types of research: those about how to run a test and those about tests that have been run. Barnum (2010) gives a brief history of usability testing of web sites and other web applications and then outlines how to design and implement a test. Barnum's book unfortunately becomes more of an ad for a specific testing lab as the book progresses. Becker (2011) gives good advice for running an in-house, cost-effective usability test. While Becker's test is specifically designed for academic libraries in mind, can be modified to a public library setting.

The usability testing for library websites has been overwhelmingly done in an academic library setting. Typically these reports are the results of redesigns of specific web sites. Allen

(2002) reported her findings from the redesign of the University of South Florida's library web site. Cockrell and Jayne's 2002 report of the Western Michigan Library's web site redesign includes an extensive literature review of previous academic library usability tests.

The most comprehensive usability testing report is Fitchett's 2006 master's thesis. Her work includes testing of all pieces of the library website: informational pages, catalogs and databases on a selection of academic library websites in New Zealand. Her findings corroborate the smaller studies results; namely jargon and inconsistent navigational tools are the largest hinderance to students trying to find information via a library website. Other problems found include confusion when "catalog" is replaced by a jargon word such as "OPAC" (Denton & Coysh, 2011) or named for the software running the catalog (McMullen, 2011).

After inconsistent navigation, jargon appears to be the next most confusing aspect to library web site design. All of the papers agree that library web site users were confused by the words "catalog", "database" and "index" and didn't know how to find electronic materials via the databses or indeces. Chaudhry and Choo's 2001 study found that confusion over terminology is less prevelant amongst frequent users of the library web site. Most usability tests, though, don't report separate results for frequent and casual library users.

### **Purpose and Rational of the Study:**

The American Library Association website states there are 16,671 public libraries (a mixture of central and branch locations) in the United States (ALA, 2010). Libcat (2010), an online index of library websites has links to 2784 public library websites in the United States (and territories). As the Libcat index is an opt-in service, it is not a perfect guage of what

percentage of U.S. public libraries might have an online presence. It is, still, a very large number of potentially untested websites.

Usability testing has been done on academic library sites but there seems to be a lack of reported testing of public library sites even though they outnumber academic web sites. To improve access to a diverse demographic, usability tests of current library websites must be done. This study will investigate user testing driven redesigns in a public library setting. Careful attention will be made to budget and skills needed to run the test and implement the redesign.

### **Participants:**

The participants will be drawn from two Alameda County groups: adults who use the library and adults who don't. The group of library users will have 20 participants: 10 Asian, 4 Caucasian, 3 Hispanic and 3 African American with an even split of men and women. The non-library user participants will be opt-in and will not be screened for a specific ethnicity ratio.

### **Data Collection Instrument:**

The library users will be recruited from a participating branch of the Alameda County Library, while the non-library users will be recruited via the active Facebook community pages, such as the Castro Valley Community page.

The library branch data collection will be done with an observer who will sit with the participant. The participant will be asked to find certain pieces of information (a specific book, journal article, local government information, library phone number) on a redesigned prototype of the current library website. The redesign will only cover the entry points to the databases, indexes and catalog, concentrating on consistent navigation and natural language choices for

labels. As the participant works with the redesigned site, he or she will be asked to "think aloud" and those thoughts will be included in the observer's notes.

The opt-in non-library user piece will consist of screenshots of the prototype integrated into an online survey (Survey Monkey). Participants will be asked on a scale of one to five to rate certain features of the redesign. There will be a free comment section at the end of survey for anyone who wishes to leave thoughts about the redesign that might not be covered in the other questions.

### **Procedure:**

The process will begin redesigning the Alameda County library web site. Only the pages that don't require a log-in will be redesigned as they will be hosted on a non-county domain. Services that require log-in will be linked to the actual log-in entry points. The purpose of this study is to investigate user testing driven redesigns in a public library setting with an understanding that catalog, index and database redesign might not be feasible for public libraries with limited time, skills and development budgets.

Currently the Alameda County library website has an inconsistent navigation system that changes depending on where in the website a user is. The home page taxonomy offers the following navigational options: a header with three buttons: "My Account, Classic Catalog, Site Index" which later change to "My Account, Catalog and Home." Below the header is a series of drop down menus: "How Do I", "Branches", "Events", "Research", "Services", "Kids", "Teens" and "About ACL." In the body of the home page there are further options, "Ask Us", "Homework Help Now!", "Free2Research" (the database log-in landing pad), links to Twitter

and Facebook as well as a list of links under a "Using Your Library." The overall appearance is one of clutter and disorganization.

Secondary pages from the library home page have completely different user interfaces, navigational options and language, with each page design using a completely different user interface, giving the impression that one has left the library website. Some pages are full of library jargon, while others use natural language. The redesign will incorporate suggestions brought forth in the literature review (consistent look and feel, consistent navigation, action items like "find books" instead of "catalog" and less visual clutter wherever possible).

After a working prototype is built the next step will be submitting a proposal to the Library Administration, located in Fremont. If the library agrees to participate, a room at one or more library branches will be reserved and participants will be recruited through the posting of flyers in the participating branches.

If the Library Administration decides to not participate, the redesign will be rebranded as a more generic library website experience. The links to the specific log-in pages will be removed and placeholder pages built that will stand in for these log in pages. Library participants will then be recruited through fliers placed at local businesses near library branches.

As the face to face participants are being recruited, the form will be designed and published on Survey Monkey. To make sure that the survey is being taken by infrequent users of the public library, the first questions will ask about public library usage, number of visits to the library and to the library website. Data will only be analyzed from those who are infrequent or non-users. Infrequency will be defined as once or twice a year or less. The purpose here is to gauge the usability of a consistently designed public library website by having it reviewed by users who are unfamiliar with public library websites or library jargon.



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