

## **Audience Research Sub-Group**

Report and Recommendations for the Web Advisory Committee

March 4, 2008

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## **Executive Summary**

Web development on campus should be based on research to allow our sites to become more user and task centred. This goal requires that we begin a systematic and ongoing process of user research and share our findings with our colleagues across campus to ensure that we are meeting the needs of current users as well as reaching out to other audiences or potential users.

User research should be grounded in a clear understanding and articulation of what we want our websites to achieve – and what our audiences are looking for from those sites – in order to provide a touchstone for our prioritization and development efforts.

Several best practices for user research already exist on campus and these can be leveraged and better coordinated to ensure that the web face of the university continues to develop in a way that not only best reflects the unique characteristics of the University of Waterloo, but also ensures we meet the evolving needs of our audiences.

### ***Recommendations:***

Develop and articulate a strategy for campus websites to ensure that they focus on site objectives and audience needs.

Ensure that redesign projects are grounded in audience research and take into account both current and potential users.

Coordinate and share various departmental strategies with web developers and content providers as the foundation for developing a UW web strategy.

Identify and prioritize target audiences for each website and share the information across campus.

Coordinate and share approaches to ongoing user research on key audiences with others on campus that share the same audience. Lab testing would be the most valuable and important testing.

Coordinate Google Analytics activities on campus in order to gain information about the UW web site as a whole and how our users are navigating through it.

## Introduction

A website redesign approach is usually embraced by organizations who are reacting to the fact that their websites have fallen into disrepair. Something is not working and the belief is that a nice redesign, some nice new graphics and colors, and perhaps the purchase of some fancy content management software, will solve it.

This approach is papering over the cracks. The cracks are a lack of resources to professionally manage the website on a day-to-day basis. The cracks are a lack of genuine customer focus, and a lack of continuous testing and evolution. The cracks are a lack of a rigorous review process to ensure that only quality content remains on the website.<sup>1</sup>

The University of Waterloo implemented the Common Look and Feel (CLF) in February 2005 and it has served the campus very well. Grounded in web and accessibility standards, the CLF has many strengths that we can leverage when developing the next incarnation of the site. However, given that the design is optimized for a resolution of 800x600 pixels and that it has not been refreshed, the time is ripe to review the information architecture and design to ensure that the UW web site can evolve in the context of new trends and user needs. The goal would be to continue to build on the firm foundation established with the CLF in order to become more user centred, task centred and collaborative across campus.

Understanding current user needs and their tasks has to start with user research. Although the Sub-Group can recommend the need for, and some possible approaches to, user research, that research needs to be ongoing, flexible and collaborative. It must look not only at our current users, such as students and faculty, but also our wider audience: potential users such as high-school students, donors, international students thinking of coming to Canada, and many more. Meeting the needs and desires of our audiences is a difficult challenge because they are diverse and demanding. The challenge is even greater because we have not done the necessary research and therefore need to establish a process that can be leveraged to identify redesign needs and future development directions based on the needs of our audiences and not guesswork and assumptions.

Developing and articulating a strategy is also critical in order to define and understand what we are actually trying to do. Since it is not possible to meet every individual's needs and desires, it is imperative that we understand why we are providing websites to our audiences and to consider what we can realistically offer.

### ***Mandate of the Audience Research Sub-Group***

Advancements in UW's Web should be grounded in research to develop a better understanding of our audience. We need to establish best practice research methods so

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<sup>1</sup> McGovern, Gerry. "Web redesign is bad strategy"  
<http://www.gerrymcgovern.com/nt/2007/nt-2007-07-30-redesign.htm>

that we can collectively investigate and develop a research base to better understand and then target our audience base.

We need to:

- conduct usability studies to develop a better understanding of what our clients are looking for and what difficulties they are encountering;
- ensure that our content providers understand who their audience is;
- make use of tools like web analytics and usage tracking devices (e.g. cookies) to help understand who the users are and how we are reaching them;
- allocate resources to improving sites that are of critical importance;

As a first step to developing a strategy and decision making process we need to define what our users want from our websites. The CLF needs to be flexible enough to allow each unit/department to reach our audiences most effectively given our own goals and site objectives.

The Audience Research Sub-Group will begin by finding examples of usability and user research and the use of web analytics on campus as a foundation for establishing some best practices for audience research methods.

### ***Membership***

Allan Bell, Library. Sarah Forgrave, Faculty of Science. Guillermo Fuentes, Arts Computing Office. Alan Kirker, Information Systems and Technology. Pat Lafranier, Information Systems and Technology. Tammy Marcinko, Human Resources. Kelley Teahen, Communications & Public Affairs.

## Define Your Audience

It can be easy to fall in to the trap of thinking that we are designing our site for one idealized user – someone exactly like us. But we aren't designing for ourselves; we're designing for other people, and if those other people are going to like and use what we create, we need to understand who they are and what they need. By spending time researching those needs, we can break out of our own limited perspective and see the site from the point of view of the users.

Identifying user needs can be complicated because users can be quite diverse. Even if we're creating a site for use inside our organizations, we still may have to address a wide range of needs. If our site is intended for a consumer audience, the possibilities increase exponentially.<sup>2</sup>

In a blog posting by Georgina Hibberd<sup>3</sup> at the University of Sydney she identifies the following elements as necessary for a good university homepage:

1. Clear pathways to further information
2. An uncluttered interface that serves only the users, not the wishes of every group on campus with a website that wants a link
3. Clear and consistent branding
4. Pleasing graphic design that appeals to the largest target audience group of the page without alienating other groups completely

She goes on to identify a process that we used to guide discussions about how to define our audience and then develop a successful website:

1. Identify your audiences and place them in a hierarchy of importance
2. Develop a clear idea as to why these audiences are coming to the site and prioritise their tasks
3. Reflect the strategic goals of the university while illustrating an image of the University
4. Wrap it all in a graphic design which appeals to your largest user base, while not alienating other small user groups

The Audience Research Sub-Group worked to identify the audience for the University of Waterloo Homepage and developed the following list:

Table 1: Audience for the University of Waterloo Homepage
<ol style="list-style-type: none"><li>1. Future/Prospective students<ul style="list-style-type: none"><li>• grades 9-12 students domestic</li><li>• teachers and guidance counsellors</li><li>• parents</li></ul></li></ol>

<sup>2</sup> Garrett, Jesse James. *The Elements of User Experience*. p. 46.

<sup>3</sup> Hibberd, Georgina. "University homepages: a thankless task?"

[http://blogs.usyd.edu.au/templatedata/2006/05/university\\_homepages\\_a\\_thankle.html](http://blogs.usyd.edu.au/templatedata/2006/05/university_homepages_a_thankle.html)

- transfers from other universities
- prospective grad students
- mature students
- continuing education/ distance education
- grade-school students

## 2. Current students

- undergraduate
- graduate
- co-op students on co op
- continuing education/ distance education

## 3. International outreach

- students – recruitment
- activities
- research
- faculty – recruitment

## 4. Alumni and other former students

- parents
- co-op employers
- donors (potential and actual)

## 5. Faculty

- Professors + lecturers
- Instructors
- TAs
- Visiting scholars
- Post docs

## 6. Staff and administration

## 7. Job seekers (both faculty and staff)

## 8. Job providers/employers for students and graduates

## 9. Faculty, staff and administrators from other universities

## 10. Parents of current students

## 11. UW retirees

12. Community members

- Local government
- Local businesses and community groups
- Regional residents interested in campus activities, including families bringing children for camps

13. Partners

- Businesses (beyond local)
- Granting organizations
- Consortium members

14. Media

- local
- national
- international

15. Donors (beyond alumni)

- Prospective donors
- Current donors
- Past donors

16. Prospective community members (people thinking of moving to the area)

17. Vendors selling to the university

- Preferred vendors
- Travel companies
- Affinity partners

18. Web developers from other universities looking for inspiration for their own homepage redesign

19. Miscellaneous visitors

The above list confirms that University of Waterloo's audience is diverse. In addition, those attempting to research these audiences – UW's six faculties, its schools, its affiliated colleges and federated university, and all the support units to our academic endeavours – are a diverse group. These diversities pose a significant challenge for creating an effective homepage, unlike the current one that tries to be all encompassing. A redesign should establish audience-based criteria for choosing homepage elements. These diversities also mean that organizational units on campus need to prioritize and



focus on their key user groups. For example, prospective students are a key audience for the faculties, but are secondary for the Library. The Library's primary audiences are students and faculty, whereas Human Resources focus on staff and faculty. Further, although the Library and Human Resources share faculty as a key audience, faculty require different services from each unit.

In addition to the importance of audience research, through our discussions it became clear that the foundation for development activities must be a clear definition of our objectives for the website.

## **Importance of Strategy**

Website redesign should be a last resort. If your website is an absolute disaster and your customers detest it so much they're leaving in droves, then a redesign and radical overhaul may be in order.

I have seen perfectly okay websites go through a redesign for all the wrong reasons. And do you know who such redesigns hurt most? Your most loyal customers. Because they use your website most.

A redesign is nearly always bad strategy. In fact, website redesigns are often pursued by organizations who don't have a web strategy.<sup>4</sup>

## ***Sampling of Existing Web Strategies at the University of Waterloo***

Not every unit with a web presence has defined strategies for web use or has set web goals. Below are strategic goals, or defining statements, representative of some units within UW.

Some units polled indicated that they had no set web strategy defined; often the web was considered a tool that will assist departmental or unit goals or strategic plans.

### **Faculty of Engineering**

(from the Vision 2010 Plan). Across the faculty, websites require improvement to provide a web presence that enhances the faculty's image and that works as an effective communications tool, providing timely, meaningful, engaging, and accurate information to our key audiences.

Those websites that do not yet conform to the most recent university web standard will be updated, and all sites will be updated and regularly reviewed in order to ensure that meaningful and engaging online content is easily located, current, and accurate.

### **Faculty of Environmental Studies**

Overall goals for the website:

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<sup>4</sup> McGovern, Gerry. "Web redesign is bad strategy"  
<http://www.gerrymcgovern.com/nt/2007/nt-2007-07-30-redesign.htm>

- To provide key audiences with the information/tasks they are looking for
- To have an engaging website which builds the reputation of the faculty

## **Graduate Studies**

The Graduate Studies website is the home for university-wide graduate studies publications, procedures/forms, academic regulations, central student services, and general information to connect with graduate prospective students, applicants, current students, alumni, department and Faculty representatives (recruitment, admissions, records, funding, supervisors, graduate officers, associate deans). The site should include a description of the Dean of Graduate Studies/GSO and our mission/responsibilities from the Organization of Graduate Studies document. Also, include Graduate Studies date calendars for students, vs. administrators with deadlines and events - see the example at UWO: <http://grad.uwo.ca/>

The site should have links to academic units and Faculties, Housing, Finance, Office of Research, Human Resources, Library, OSAP, Senate Graduate Council (agenda and minutes) and links to appropriate external sites such as OUAC, CEC fairs, NSERC, SSHRC, CIC, etc.

## **Alumni Affairs**

Our overall mission is: “The University of Waterloo's Office of Alumni Affairs (OAA) strives to provide opportunities for alumni to stay connected to each other and to UW,” and our website is a strong tool in helping us to achieve this mission.

## **Communications and Public Affairs**

There is no statement for CPA webspace except for the Daily Bulletin. The Daily Bulletin is published online at 9 a.m. each UW working day. It is edited for staff, faculty and students, with an awareness that it is also accessible to outside audiences. Main articles provide a comprehensive look at the news of the university and newly available information of use to the campus audience in their work and study.

## **Marketing and Undergraduate Recruitment**

Mission statement for Findoutmore

Findoutmore is the UW website aimed at prospective undergraduate students and applicants to UW. The goal of this website is threefold; promoting UW to this audience, informing them of important information and relationship building to make an emotional connection.

Promoting UW to prospective students and applicants on the website is a pillar of our recruiting strategy. The web is often the first place this audience will find out about UW and it is important to make a lasting impression and give them a reason to return to the site. We use the findoutmore URL in our promotional materials in order to drive traffic specifically to this site.

Informing students about the university is another key goal of our web strategy. We have carefully developed and tested our right-hand menu that delivers key information about

the university to our audience in a consistent and timely fashion. At a decentralized institution such as UW, it is critical that our web presence be unified to ensure visitors to the web have a good experience and get the information they need in a format that is well written, accurate and intuitively delivered.

Relationship building is a key aspect of our web presence and one that we will increase our commitment to in the future. Currently we have several strategies that attempt to engage students including our e-newsletter, our online forum, submit-a-photo feature and an improved graphic presence that appeals to the demographic and positions the university. We recognize the importance on making an emotional connection with our audience in order to increase interest and commitment to UW.

### **Secretariat**

To communicate with both internal and external constituents who have an interest in the University's governance, Policies and procedures, or University-level committees and councils. We strongly believe in an uncomplicated design which embraces efficiency and intuitiveness so that users find what they need quickly and easily. From the Secretariat Sixth Decade document: Under "Strengths," an evolving, user-friendly, useful, well-managed website.

### **Additional commentary (from units without strategic statements)**

#### **Co-operative Education and Career Services**

We are presently going through a mission/vision/values exercise for the department which may or may not acknowledge web stuff. I'm not sure that there was ever any thought that a strategic statement about our web presence was necessary, because the rationale for any website could easily be the same

#### **Faculty of Mathematics**

We agree with the ES goals but our challenge lies with the first. Like most areas, we have a broad diversity of users. Actually, I'd be willing to bet that UW Math is home to some of the world's earliest adopters of web technology for research and teaching! Unfortunately, this leaves us with a strong preference for using basic text and not much else.

Priority is being given to the pages that will attract and inform our external audiences: prospective students/parents/faculty members, alumni and industry research partners.

Our focus has been more on content than appearance, but we are aware that both are important and need work in order to build "an engaging website which builds the reputation of the faculty". The reputation-building part is really key for Math. More capability to run streaming video is one of our wish-list items.

## Library

We want to engage all Library staff as we move forward. To assist in generating ideas, we will prepare a vision statement, prioritized principles, and strategic goals that we can present to all library staff, using a model from Dartmouth (<http://www.dartmouth.edu/~oversite/proposals/07-strategy/>)

## Audience and User Testing

“On the Web, usability is a necessary condition for survival. If a website is difficult to use, people leave. If the homepage fails to clearly state what a company offers and what users can do on the site, people leave. If users get lost on a website, they leave. If a website's information is hard to read or doesn't answer users' key questions, they leave.”<sup>5</sup>

So, how do we ensure ease-of-use? How do we make UW web space relevant? How do we create a user-focused design? We ask our users...

### ***Most Popular Types of User Testing:***

**Lab Testing:** users are invited to a lab setting and given several tasks to perform. The tasks are evaluated to determine if the user was able to complete the task, the amount of time it took and the level of frustration reported by the user.

**Site Visits:** An evaluator goes to user's offices or homes and immerses himself or herself in the user's environment. The user is given tasks to perform as in lab testing.

**Heuristic Evaluations:** a group of experts evaluate the website against various usability guidelines.

**Surveys:** a series of questions to be filled out to get the user's opinion of the website. Can either be presented as a link on the website where the user can voluntarily open it up and answer questions about the site in general, or as a pop-up after task completion with questions regarding that specific task.

**Card Sort:** users are given a set of index cards with topics from the website written on them. Users are then asked to group the topics into categories that make sense to them. They may also be asked to create labels for the topics.

**Interviews:** users are asked about their opinion of the website and what information or functionality they want to see or would find useful

User testing should have a primary focus throughout the development life cycle of the CLF. Testing should begin during the planning phase and continue through design, development, implementation and beyond.

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<sup>5</sup> Nielsen, Jakob “Usability 101” <http://www.useit.com/alertbox/20030825.html>

Initially, focus groups and interviews can be used to get a feel for what our audiences and users want changed, what difficulties they have using the current sites and any suggestions for improvements. Throughout the design and development phases, we should focus on lab testing and heuristic evaluations, as this testing should become an integral part of user acceptance testing and our Quality Assurance process.

Lab testing would be the most valuable and important testing. A small group of five users for each testing cycle is recommended with modifications between each cycle. Several cycles should be completed, the more the better. For the lab testing studies, scenarios should be developed to test the website's effectiveness and efficiency as well as the user's feelings of satisfaction with the experience. The most important part of this research is to have the users talk aloud so that we can get the answers to why users do the things that they do and so we can have a better understanding of their usability challenges.

Testing scenarios should be developed so that the following usability elements can be evaluated:

1. Successful completion rates
2. Time on task
3. Number of pages viewed
4. Pathway analysis
5. User comments
6. Preference ratings

<http://www.usability.gov/basics/measured.html>

Departmental websites are separate entities and require a customized strategy of user testing. Not every department is large enough to have either the time or experience required for lab testing. However, smaller departments will be able to use surveys or data collected from other departments who serve the same audiences. An effort should be made to have as much design coordination as possible between departmental websites so that we can achieve a consistent appearance across campus.

## ***Audience Research Done at UW***

### **Qualitative Studies of Web Audiences**

While collecting qualitative data about web audiences has not been a regular practice at the University of Waterloo, here are examples of work that has been done:

- 1. User experience testing:** page usability from a **functional** standpoint. Are main links labeled in a meaningful manner to facilitate navigation? Is the sought-after information located in a timely manner? Do the sites meet accessibility requirements of audiences with sensory impairments? Is the increasing variety of presentation mediums including screen, browser anomalies and varying devices, being addressed?

**2. User experience testing:** to determine if the page/site embodies an **overall image** that is consistent with the University's brand message. This testing is focused on content, visual and written, as opposed to mechanical functionality, and is often an effort to echo what is being done on the University's marketing front.

**3. Anecdotal research and input:** this often takes the form of seeing what a similar office or department at another institution is doing.

**4. Surveys, online forms, email and voice feedback:** informal qualitative web data gathering is conducted by departments, offices and the six university faculties. It commonly takes the form of requests for clarification of information, or to call attention to broken links and stale content. In most cases this data is collected on an ongoing basis.

Two rounds of testing were undertaken on the University of Waterloo homepage several years ago in a redesign process that brought about the current CLF, which has since seen widespread uptake across campus. Stakeholders from various departments worked together and conducted usability studies to ensure that the new design could address key issues while forming a template that would serve the basic needs of many top-level web pages. This testing, however, was performed just with members of the UW community including current students, staff and faculty, and failed to include key audiences such as prospective UW students. There were no plans to undertake ongoing systematic research.

The Undergraduate Recruitment unit of the Registrar's Office has conducted usability studies but did not include their target audience. Efforts to test with a local school board were stymied. The Registrar's Office has, however, conducted focus groups with its audience and conducts yearly surveys with questions relating to their web presence comprising approximately 25% of the questionnaire. Information gleaned from this research is given to faculty undergraduate representatives and makes its way into the marketing messages of the relevant faculty and departmental pages.

In addition to usability studies, the Library continues to perform an ongoing series of studies with an emphasis on overall site functionality and usability. The Library's ongoing interest in identifying usability issues could serve as a basis of a best practice at UW.

The above picture is somewhat limited as the information was gathered from speaking with roughly 75% of participants in a survey of UW web maintainers. (There were 88 participants out of a possible 130). Several key offices and departments either did not participate in the survey or subsequent discussions. Most offices and departments that were contacted in the preparation of this report acknowledge the shortcomings in the qualitative research they have conducted on their many and varied audiences.

## Quantitative Research

Although some offices were aware of data available through server logs, they did not make systematic use of it. In terms of newer tools such as Google Analytics, some expressed interest but acknowledged that they only had had the scripts running for relatively short periods (several months) and felt that they needed more time to see some patterns. In many instances, those using the data made use of it by improving the quality of their existing content.

The following table is a summary of the quantitative research activity at the University of Waterloo.

<b>Table 2: Summary of the quantitative research activity at the University of Waterloo</b>		
<b>Faculty or Organizational Unit</b>	<b>Contact</b>	<b>Web Analytics Activity</b>
Communications & Public Affairs	Megan McDermott	Google Analytics and mapsurface
Dean of Engineering Office	Martha Foulds-Carey	statcounter.com
Distance Education	Janet Moser	Raw server logs
Faculty of Applied Health Sciences	Terry Stewart	Google Analytics
Faculty of Arts	Guillermo Fuentes	Google Analytics and AWStats
Faculty of Arts Psychology	Carlos Mendes	Raw server logs
Faculty of Engineering	Ray White	Keep the logs for a year for analyzing web usage
Faculty of Engineering, Centre for Business, Entrepreneurship and Technology (CBET)	Jennifer Zehr	Google Analytics
Faculty of Environment	Andrew Smith	Google Analytics for parts of our website and AWStats for the entire website.
Faculty of Math (Math Faculty Computing Facility)	Gary Ridley	Google Analytics and Webalizer
Faculty of Science	Sarah Forgrave	Google Analytics
Faculty of Science Optometry	Andy Larkin	Webalizer
Housing and Residences	Adam Hewgill	Google Analytics and AWstats
Human Resources	Tammy Marcinko	Google Analytics
Institutional Analysis and Planning	Mary Jane Jennings	Log analysis with internally written scripts
IST	Heather Wey	Google Analytics
Library	Allan Bell	Google Analytics and

		FastStats Log Analyzer
Office of Research	Brenda MacDonald	Google Analytics and raw server logs
Registrar's Office	Jaymis Goertz	AWStats
Student Life Office	Cu Trong	Raw server logs
WatCard	Mike Jack	Google Analytics

## ***Research of Note from other Universities***

Many universities have begun to develop comprehensive web strategies for their institutions and make these available online. These strategies run the gamut covering everything from branding, marketing, style guides to user analytics, templates and standards. One theme does emerge -- everyone seems to acknowledge that user testing is an important component in any University-related web strategy. While it is interesting to see this trend, no one seems to address *how* they have achieved this or integrated this important item into their web strategy<sup>6</sup>.

It appears that some universities have hired outside firms to conduct their user testing -- however, this information can only be gleaned by the brief project synopses or case studies made available on the companies' websites that undertook the testing<sup>7</sup>. While it makes sense to hire experts to conduct such an important and critical component of a university's web strategy, no detailed data from these tests seems to have been made publicly available nor do any reports appear to have been written for public consumption. Ironically, of the few university-based testing centres that do offer usability testing services, their focus appears to only be on users with disabilities and little or no information about user testing within a university environment is addressed<sup>8</sup>.

While there seems to be no data on university-wide user-testing for websites, one trend has become evident -- the proliferation of university and college libraries that have conducted usability and user testing on their websites<sup>9</sup>. The following is a list of reports or articles from academic libraries that have conducted user testing on their sites:

1. Usability Testing at Florida International University Libraries: What We Learned. Hammill, S. (2003). *Electronic Journal of Academic and Special Librarianship*, v.4 no.1. ([http://southernlibrarianship.icaap.org/content/v04n01/Hammill\\_s01.htm](http://southernlibrarianship.icaap.org/content/v04n01/Hammill_s01.htm))

<sup>6</sup> Michigan State University (<http://www.msu.edu/webstyle/about.html#3>); University of Bath (<http://www.bath.ac.uk/web/strategy/>)

<sup>7</sup> University of Canterbury - Optimal Usability (<http://www.optimalusability.com/services.usertesting.php>); University of Portsmouth – Headscape ([http://www.headscape.co.uk/view\\_article/4/157/university\\_of\\_portsmouth.html](http://www.headscape.co.uk/view_article/4/157/university_of_portsmouth.html))

<sup>8</sup> California State University - Northridge (CSUN): Center on Disabilities (<http://www.csun.edu/cod/>); Michigan State University: Usability and Accessibility Center (<http://usability.msu.edu/>), University of Toronto: The Adaptive Technology Resources Centre (<http://atrc.utoronto.ca/>) and DO-IT: Disabilities, Opportunities, Internetworking, and Technology (<http://www.washington.edu/doi/>) and The Center for Universal Design (<http://www.washington.edu/doi/CUDE/>) at the University of Washington.

<sup>9</sup> Florida International University, College of Charleston and the University of Rochester.



2. The Functional Web: User Testing Your Site. Dean, J. (1999). In Proceedings of 1999 WebNet Conference (p. 1684). Chesapeake, VA: AACE.
3. Library Web Site User Testing. Callicott, Burton. (2002). College & Undergraduate Libraries, Volume: 9 Issue: 1, pp. 1 – 17.
4. Studying Students: The Undergraduate Research Project at the University of Rochester. 2007. Foster, N. and Gibbons, S. (eds.) ([http://docushare.lib.rochester.edu/docushare/dsweb/Get/Document-27275/Foster-Gibbons\\_cmpd.pdf](http://docushare.lib.rochester.edu/docushare/dsweb/Get/Document-27275/Foster-Gibbons_cmpd.pdf))
5. Usability testing of an academic library Web site: a case study. 2001. Battleson, B. Booth, A. and Weintrop J. The Journal of Academic Librarianship, Volume 27, Issue 3, May 2001, Pages 188-198
6. Web usability testing in a polytechnic library. 2003. Wegener, D., May Goh-Ong Ai Moi, and Mae Lim Mei Li. The Australian Library Journal.
7. Usability Testing for Library Web Sites: A Hands-On Guide. 2002. Norlin, E. and CM Winters.

As well, North Carolina State University Library's website provides a comprehensive Library Usability Bibliography. Available via: <http://www.lib.ncsu.edu/usability/library-usability.html>.

It is evident that much of the data from the research in this area is dated (in the case of library websites) or non-existent (as is the case of most university websites). More up to date research in these areas is necessary in order to be useful. User testing is not simply a one-time event. It is an iterative, cyclical process. The web itself is not static -- it is a fluid, dynamic place with new technologies and innovations are being implemented daily. As such, it only follows that the attentiveness to *ongoing* user testing (and subsequent enhancement) is imperative in order to achieve a comprehensive web strategy.

## **Recommendations**

Develop and articulate a strategy for campus websites to ensure that they focus on site objectives and audience needs.

Ensure that redesign projects are grounded in audience research and take into account both current and potential users.

Coordinate and share various departmental strategies with web developers and content providers as the foundation for developing a UW web strategy.

Identify and prioritize target audiences for each website and share the information across campus.

Coordinate and share approaches to ongoing user research on key audiences with others on campus that share the same audience. Lab testing would be the most valuable and important testing.

Coordinate Google Analytics activities on campus in order to gain information about the UW web site as a whole and how our users are navigating through it.