

Website Usability

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Introduction

Have you ever gone to a website and left because you could not find what you were looking for? Were you frustrated if you tried navigating the site for the information? If you answered yes to either of the questions, then you should know that you are not alone in experiencing poor website usability.

Today, websites have quickly become an important source of information for prospective students who are trying to decide which school to choose. For many prospective students, they begin to explore different universities by gathering information on the university's website. Prospective student's judge universities not only by if they have the degree program they are seeking, but also how the information is presented and their experience using the site. A college website must "attract, assist, and help students" (Christoun et al., 2005, p. 2) in making a decision for which university to attend.

In seeking prospective students, web usability is important as the website may become the first impression for many students. One usability theme that may greatly affect a prospective student's first impression is the organization or navigation of a site. A well-organized site tends to make content easier to locate, while a poorly organized site may only frustrate the user. As Minshull reminds us, "If a site isn't usable, it's very easy for someone to go to the web site of the rival college down the road, and you've lost a student" (2001, ¶ 3). However, a well-organized site can also suffer from poor content where the content is not "good relevant, and to date" (Minshull, 2001, ¶ 10). If a student is looking at an

academic program and encounters either of these issues, he or she may see it as a reflection of the program or college itself. As Minshull believes, a bad impression can make “the college seem amateurish and unprofessional” (2001, ¶ 3) which may become the student’s perception of the university.

Research Questions

1. How does the usability of an academic program website affect a person’s ability to locate information?
2. What factors do users consider when they access an academic program’s website?
3. What are the users perceived pros and cons for the academic program of a website?

Literature Review

Websites have become a great source of information. Search engines such as Google have made it easy to locate information on websites. However a search engine can only get a person so far in a website. The design of a website can in part determine how easy or difficult it is to find specific information a person may be seeking. The colors of a site, graphics, navigation, layout of content are all just a few aspects of the design that can affect the usability of a website for users.

In *Prioritizing Web Usability* (2006), Nielsen and Loranger look into why a user may fail at tasks involving websites. When looking at the big picture, there are many smaller issues that may cause a user to fail. All of these issues

however can be grouped into categories that Nielsen and Loranger call the “five biggest causes of user failure” (2006, p. 133). These categories include search, information architecture, content, product information, and workflow (Nielsen and Loranger, 2006, p. 133). A failure in any one of these categories can cause a user to fail his or her task. For instance, over a year ago the program website that is the focus of the present research study underwent a complex content reorganization. The content for this program is current and well maintained at this point. However should a prospective student be unable to find the program due to poor navigational workflow then they will have failed in their task. In order to determine if the program site fails any of these categories, the site must be tested with actual users rather than the developers of the site.

In the first chapter of *Designing Interfaces*, Tidwell states, “There's a maxim in the field of interface design: ‘Know thy users, for they are not you!’” (2005, ¶ 6). This means as a website designer, one cannot be considered a user of the site. As a designer, one is more familiar with the site than the average user and therefore it is difficult to accurately gauge how an average user navigates the site. The importance of understanding your users is also echoed by Nielsen and Loranger (2006, Ch. 12). Designers can forget that they are not the consumers of the website. In order to understand the user, a designer should conduct research with actual users of the website. However Tidwell warns about thinking of users “as a single faceless entity- ‘The User’ -walking through a set of simple use cases, with one task-oriented goal in mind” (2005, ¶ 19). As a designer one must keep in mind you are designing for an audience of

users who may have more than just one task they wish to accomplish. By studying a websites, one can find out what tasks are important to them, as opposed to what one as the designer feels are important. After studying enough individual users, patterns will begin to appear that will form the basis for how a group of users utilize the site save. By separating the common user patterns from unrelated patterns, a designer can learn about the types of users who come to their site and make improvements on their site (Tidwell, 2005). In my case, by learning how prospective students interact with the website I hope to create a series of recommendations for website improvements.

In *Don't Make Me Think*, Krug mixes humor with real world advice on usability. Krug breaks down in a simple manner what usability is, various aspects of usability, and provides examples on how to conduct usability testing. One of the methods Krug recommends for working sites is the "Key task testing"(2005, p. 153). This is where a user is asked to perform a task while someone watches how he or she does the task. Tidwell also mentions walking through "task-oriented" (2005,¶ 19) testing which correlates to Krug's idea of "Key task testing" (2005, p. 153). This correlation between the authors provides a consistent insight into one-way usability testing that can be conducted through task-based interviewing. For example, during an interview a user is asked to locate a specific section of a site. Krug (2005) structures the interview questions to determine if the users can figure out how to navigate the website. Navigation of a website needs to be obvious. A consistent and easy to understand navigation is a very important aspect of a website. If a person gets lost in a website due to poor

navigation, he or she will have a negative experience which could affect impression of the site. It is this impression of the site that feeds how a person decides if a site is worth their time or not.

Nielsen and Tahir provide some insight into the mental aspect of a user. The authors hold two basic conclusions that a designer should consider when working on a website. The first conclusion is “the vast majority of other sites have horrible usability and aren’t worth using – users quickly discover this and abandon them” (Nielsen and Tahir, 2002, p. 38). As users become more comfortable with using websites, they begin to form expectations. Generally these expectations are not in favor of the sites they visit. After a few too many bad experiences, a user will expect to have a bad experience and may make snap judgments within seconds of landing on the site. Nielsen and Tahir go on to say “if the site seems too strange or too difficult, or if it’s not apparent how the site applies to their immediate concerns, they’ll be out of there as fast as they can click their mouse” (2002, p. 38). Users do not want to be frustrated trying to learn a site or determine where the content is that they are looking for. If a user can not figure out the site or find what they’re looking for, then they probably will not stay for long (Krug, 2000, p.51). This leads to the second conclusion where Nielsen and Tahir state; “the average first-time visitor to your site won’t be a novice in the true sense of the term” (2002, p. 38). The average user has had some experience using various websites, which may have similar features. Similarity of features may help aid in a user in finding the information that they are seeking on your website.

Some of the usability features that make a site more usable include findability, search, and page design. For findability, Nielsen and Loranger include navigation and linkage as issues that cause problems for users (2006, p. 133). For website navigation, it is important that the primary navigation is a highly visible location it is organized a fashion that makes sense (Nielsen and Tahir, 2002, p.19). The same goes for any form of secondary navigation on a page. Users of a website are not likely to search through a block of nothing but links to find what they're looking for. All site navigation as well as links should be easily distinguished from regular text. The first suggestion that Nielsen and Tahir offer for links is that one should "differentiate links and make them scannable" (2002, p. 18). Linked text should be obvious that it is a link so you do not make your users search for links. However should a user decide they do not wish to navigate your site, a search option should be available on every page. This is especially important for larger sites, which may have more than one person contributing to the site content. Krug observes that a large percentage of users will begin using a new web site by looking for a search box that fits a particular pattern. This pattern is "a box, a button, and the word 'Search'" (2000, p. 67). The easier it is for a user to find the site search and the more reliable the results, the more likely the user will stay on the site.

However a person may not stay on the site if the overall page design makes it difficult for them to find information even with a search. Nielsen and Loranger include "readability, layout, graphics, amateur, scrolling" (2006, p. 133) and as issues that may lead to a usability problem in the site. The readability of

a site can be determined by how the content is formatted. Extensive use of a format such as bold, Italics, or underlines can undermine the readability of a site. Poorly positioned content on a site can lead to the content being overlooked. In addition, how the content is even presented in a layout with extensive use of graphics can make a site seem amateurish and may lead to the user leaving the site. The thing to remember about page design is that the page design does not matter as much as the user's ability to use a site (Nielsen and Loranger, 2006, p. 133). If a user cannot find the information they are looking for, then the site is not serving the users as it should save.

Site Selection and Overview

The site I chose for this study is a large public university with a student population over 30,000. The site is located in Los Angeles County and has a large diversity of students attending and applying to the university. A large university website is too large to research, so I have chosen one programmatic area on which to focus on. This area is an academic degree program with a large amount of information on the web and a complex organizational structure.

Participants of this study were prospective students applying to the program. I have chosen to study this particular group to help understand what prospective students want from this program website as well as their impressions of the program based on the site. I have access to this site through my work.

Data Collection Methods

For this study, I chose to conduct both observation and interview collection methods.

For my observations, I chose a program office within the university where prospective students apply to several different academic programs. From this office I observed prospective students as they interacted with staff. Specifically I looked for the questions they ask about the programs. I kept each observation to a half an hour each on different days and times. I feel it is important to observe student interactions both before and after the application deadline as they may have different questions and be seeking different information. During the observation, I not only observed the interactions of the students and staff but I also reviewed the sign in sheet for interactions that occurred earlier in the day. The analysis of this data took place within two days of the observation. The information gathered from office observations led into the formation of informal questions to ask office staff during the informal interviews.

After observing the office, I conducted informal interviews with two program staff. Program staff deals with both current and prospective students on a daily basis. This daily interaction with prospective students gives them a unique perspective on what are the most common student concerns and questions. It has been my experience that if one makes the most commonly asked for information readily available and easy to find on a website, the requests for that information can be reduced. These interviews were conducted to help confirm information gathered during the observation and also gather additional information to be used in the prospective student interviews. The

interviews lasted 15 minutes for the first staff member and 20 minutes for the second staff member.

The last data collection method I chose to employ is interviewing prospective students while they completed tasks on the program website. All the tasks were scripted so that each participant completed the same task. During the tasks, I asked my participants to speak their thoughts out loud so I can record their progress as well as their thoughts about the site. The reason I chose to have participants speak out loud is to better identify problem areas of a website. I cannot guess what a person is thinking, but if they tell me what they are thinking at that moment, it could provide some valuable insight.

Prospective Student Interview Questions:

1. As a prospective student, you are required to attend an information meeting prior to applying to the academic program, please locate the page about the program information meeting.
2. Now that you know the next meeting times, please locate a map to show where the meeting is being held on campus.
3. Interviewing for the program is a part of the application process. Each applicant is given a card with the URL to the interview signup site, if you did not have that card, how would you find the URL to the interview site?

I chose to interview three prospective students. Two of the students are considering applying to the program, while only one student had actually applied for the coming academic year. Originally I had anticipated that the task-oriented student interviews would take approximately half an hour to 45 minutes. The

reality is these interviews took only approximately 10 to 15 minutes. The prospective students were given the choice of which operating system and which browser they wish to use. This is so they would have a measure of comfort in completing the tasks.

As a researcher conducting backyard research, it is hard to ignore preconceived notions of how websites should work as well as the notions of my users. This academic program is one of the sites on which I have done previous work while allowing the content experts access to modify content areas. In doing this research, I continue to hold true to my belief the websites are fluid and constantly changing. Part of this belief comes from the knowledge that no matter how good a website is there's always room for improvement. Throughout the process of doing research on a website I designed, I plan on staying neutral by keeping in mind that I am not the user of the website and that anything a user says through observation or interview can only improve the function of the site.

Data Analysis

Observation & Informal Staff Interviews

For reference, the observations are coinciding with the application period for fall entrance into the program.

I began data analysis by going over my observation notes and looking for general themes. The office observations did not provide any clues about the website performance, but they did provide insight into common questions and frustrations both the staff and students experienced. The general themes I chose to focus on included frustration from the student or staff, questions by students,

discussion of program deadlines / requirements, and description of physical surroundings.

The first general theme and looked for was frustration from the students or staff. Frustration can be attributed the many factors. These factors can include miscommunication, repetitiveness of the questions or answers, and possibly even stress from a looming deadline. Whatever the reasons that cause the frustrations it all boils down to information. How it is or is not presented, misinterpreted or relayed can cause frustration either party.

The second and third the themes can be related depending on the question. The second theme, questions by students, can generally be boiled down to a group of frequently asked questions depending on the time of year. Before an application period, prospective students are concerned with program requirements and deadlines. This is where the third question program deadlines and requirements come into play. After an application period, the same students who applied to the program are concerned with the program interview and if they got into the program. For prospective students applying to the program, the formula for the questions they ask revolves around program requirements and deadlines.

The last theme revolves around the description of the physical surroundings of the office. The information posted around the office directed at prospective students is of great importance to them. Much of the information posted contains information regarding program requirements, testing, and study

materials. This is program information that prospective students can look at while they are in the office.

After identifying general themes, I began to dig deeper into the specifics of the themes. For prospective students, their primary concern is with the application deadline and the requirements needed to apply. Overall, I documented a total of eight interactions where staff informed prospective students what the application deadline and requirements are. These interactions were reinforced by the presence of physical fliers located on the counter of the office. The flyers included information about application meetings and testing information.

Interviews with staff also provided data on prospective student concerns as well as validated data I collected during the initial observations. The themes from the staff interviews I chose to focus on based on my observations include;

- Locating Program Application Meetings
- Requirements for Admissions

Both staff members mentioned the application meeting as being a requirement. In the interviews, one staff member choose to focus more on the program requirements and the other staff member focused on the issues around locating campus classrooms.

For my observations, I chose to qualify data based on the importance of the information to the student. For prospective students, going to an application meeting and fulfilling the application requirements are critical to getting into the

program. The physical flyers, staff interaction, and interviews correlate the importance of program application meetings and requirements for admission.

Task-oriented Student Interviews

The student task-oriented interviews were coded differently from the observation and staff interviews. This is due to the fact that the observations and staff interviews were used to isolate information important to prospective students. The task-oriented student interviews were designed to gather data on the usability of the program website as it pertains to prospective students. All task-oriented interview participants were given the same tasks to complete on the website. This is to ensure any measurable usability trends can be observed.

For each question, I tallied whether or not the perspective student was able to locate the requested information immediately, with difficulty, or did not find. In order to determine how the students scored I've used the following definitions;

1. Found immediately
2. Found with difficulty
3. Did not find

Found immediately (1) I have defined as a student choosing a path very quickly and not having to trace their path back to the college homepage. *Found with difficulty* (2) I have defined as a student choosing more than one possible path but tracing their path back to the college homepage before completing the task objective. Also any comments about not being able to find the information they are looking for aid to the determination if a prospective student has

completed the task with difficulty. *Did not find* (3) I have defined as a student who was not found the task objective and was told by the interviewer the location of the requested information.

Site Usability Findings

For my findings, I focused on the data collected during the prospective student task-oriented interviews that pertain to website usability. It is important to know what students are looking for, but for this study I focused on website usability in order to make site improvement recommendations.

My interview questions consisted of tasks that required prospective students to locate a program application meeting, a map to get to the meeting, and the signup page for the interviews. I gave each student was given a tally for how he or she was able to complete the task as defined in the data analysis section. Below is a table of results for all of the questions:

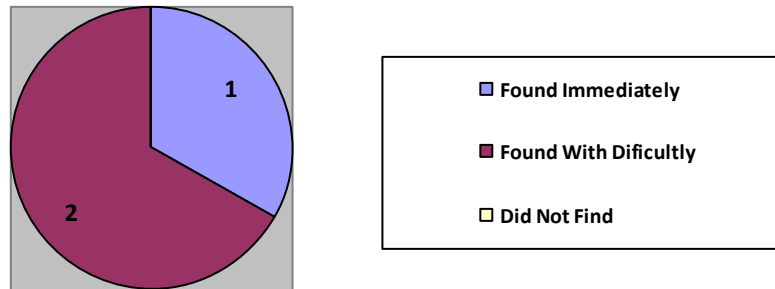
Table 1: Question Results

Question	Found immediately	Found with difficulty	Did not find
1: Locate application meeting page	1	2	0
2: Locate a map for the meeting	3	0	0
3: Locate the interview signups	0	0	2

The first question dealt with locating the program application meeting page beginning at the college homepage. The chart below shows the results for the

first question:

Question 1: Locate Application Meeting Page from Table 1



Only one student was observed to complete the task immediately without commenting about being unable to find what they were looking for or having to go back to the college homepage. One student attempted a search for the information but was unsuccessful. She went back to the college homepage and after several questions eventually located the information. The third student also had difficulty in locating the requested information. The difficulty came from the amount of clicks she had to go through in order to locate the appropriate information. She had found a short description of the program but need to be prompted to continue on to the program page.

The observation of the perspective students returning to the college homepage and asking questions about the task provided me the evidence I need to determine if they were having difficulty when they completed the task.

The second question dealt with locating a campus map in order to find the application meeting. All prospective students immediately located a link to the university maps as defined. The prospective students seem to employ a method of scanning the page for the appropriate information. Due to the fact that this particular page is mostly text it is easy to scan for words. This is the readability

factor in website usability that affects a person's ability to locate information quickly. A site that is more readable will allow a user to locate the information they are seeking quicker.

The third question was somewhat of a trick question in that there was only one permanent link to the interview signup and it was not obvious. The goal of this question was to solicit feedback on where they would expect to find the link prior to the interview signup period. None of the prospective students were able to locate the permanent link as defined, with one student not being given the question. The reason the last question was not given to one of the students was due to a fact the interview signups were in process. Links have been created for students to get to the signup so I could not use it as a trick question to isolate where students would expect to find the signup link. Both of the students who were given the question asked where the link was located. One of the students went so far to ask "if you can't find it on the website, what would you do then?". In the past, students having difficulty with the sign up will generally call the office.

Site Usability Discussion

During the observations and student interviews, a number of issues were discovered with the college, program, and office websites. Due to the amount of resources and timing for changes, some of the following recommendations will be implemented immediately while others will be implemented at a more appropriate time.

Finding 1: College Homepage

During student interviews, students were asked to go to the program website from the college homepage. On the college homepage was a link that directly sent students to the appropriate site. However the location of the link is less than optimal. It is located in the lower right corner of the website, where it may or may not even be above the fold were a person can see the content.

To solve this, all department and program information will be moved to the upper left corner of the content section above the college information section. This will place it above the fold, immediately below the banner section, and in an area that all the students who interviewed looked through quite thoroughly. This section will be switched from text links to a drop down form to give all departments and programs a quick link to their respective websites.

Since this new section will be pushing down the existing two content areas in this column, I will be adjusting those areas as well. The first adjustment will be to remove unnecessary links from the college information section. The second adjustment will be to shift the university information section to the lower right hand corner where the department information section is currently. The university information section is already in the bottom portion of the website. Over the years, I have observed students who have gone to the college homepage simply re type the university web address they were trying to get to. This tells me that this section is not used as often and can be shifted to the right until better layout is designed.

These changes to the college homepage should improve the students' ability to locate their program or department as it puts greater emphasis on that

section. However, these changes cannot be implemented immediately as they will require approval from senior management of the college. After the changes have been approved, that would want to follow up with prospective students to see if the changes to the homepage allow them to find the information.

Finding 2: Maps

The students participating in the interviews did not have any difficulty locating a campus map, but that does not mean that section of the site does not need to be improved. For this I am proposing two improvements. The first improvement will be to make the application meeting location link to the campus map. This is so students will not go to the bottom of the page to find a link to the campus maps. The locations of the meetings will be the links themselves. This change is relatively easy and will be done immediately.

A second improvement I am proposing is the creation of the database that contains map information. During this process, it dawned on me that application meetings are not the only areas for which the college as a whole uses maps. In general, there are required campus courses as well as other off campus requirements students must fulfill. This will be a much more time consuming improvement to the website and will be done in consultation with another service area of the university.

The first improvement, making the application meeting location a link, would not require follow-up interviewing. The students in the interview did not appear to have any difficulty locating a campus map on the application meeting

page. However the second improvement, creation of a map information database, would probably require its own usability study.

Finding 3: Links to the Interview Site

Even though there were not any links to the interview site did not mean I did not collect any information. The goal of this question was to find out where I should be placing links. The following locations were described as good link locations by the student interviewees.

- Office homepage within resource section
- Program homepage within secondary navigation
- Frequently asked questions (both office and programs sites)
- Calendar of events

Due to the timeliness of this information, links were added to all of these locations. The interview signups were due to begin just after I completed two out of three of my student interviews. These suggestions were implemented immediately with consultation of the office director.

I would consider follow-up interviews in a future semester with different prospective students. However I would change the task from being a trick question where the links are not present, to asking them to locate actual links. The difficulty for this would be that I would have to wait till just before the next interview sign up. This is due to the fact these links are removed after the signup period is over to prevent confusing students. The goal of the follow-up study could be to see if the suggestions as enacted above make it easier to locate the interview signups.

Conclusion

In conclusion, this study has shown that a website is a constant work in progress. The layout and organization of information on a webpage can affect whether a prospective student is able to obtain information they are seeking. By starting prospective students at the college homepage I was able to observe problems with not only the program site but also with the college and affiliated office site. The study gave me the opportunity to locate issues and work with prospective students to improve how they use the site. However as Tidwell discusses, the designer is not a user of the site (2005, ¶ 6). This serves as a reminder that I am not the user of the site and that I must seek out users of the site to improve it.

Active improvements will be made from the study; however they are limited. There are many academic programs throughout the college as well as department offices. Each of these areas can benefit from a usability study even if it is on a small scale such as this one. However as time and money are factors in the ability to do this type of study, it is not probable that a thorough study such as this can be conducted for all the areas of the college site. In the future, I will plan on including an informal usability study as I create new sites. These studies will probably only include task-oriented interviews with the target audience.

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