

Heuristic Evaluation of Academic Support Resources Website

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Introduction

A heuristic evaluation is an informal method to **assess a product or service against recognized usability principles**. Nielsen (1994a) uses the term *heuristics* because “they are broad rules of thumb and not specific usability guidelines.” Oxford University Press (2022) offers the following definitions:

Heuristic | hjo'istik | Noun. A heuristic process or method for problem-solving, decision-making, or discovery; a rule or piece of information used in such a process.

Heuristic | hjo'istik | Adjective. Of, relating to, or enabling discovery or problem-solving, esp. through relatively unstructured methods such as experimentation, evaluation, trial and error, etc.

This report describes my heuristic evaluation of the Academic Support Resources Website (<https://asr.umn.edu/>). This website provides support to University of Minnesota students and those who support them. This can be faculty, staff, or parents of students. They also provide a hub of information for their 220 employees.

The content provided is as follows:

- Training
- System resources
- Financial resources
- Course proposal and grading resources
- Applications and forms
- News and due dates
- Coursedog project
- About ASR
- Link to ASR staff site

ASR is used mostly by people internal to UMN, but external to ASR. These users are designated as university leadership, partners on initiatives, and stakeholders to ASR’s work (e.g., student services staff, advisors, faculty).

Our client has communicated that she would like to see more users external to UMN. She would also like some of these users to be potential employees that can easily access and engage in information about ASR. This means that emphasis should be given to accessibility and clarity of information pertaining to the work of ASR.

My report will address my purpose and methods used to conduct the heuristic evaluation. I will also provide results and recommendations for Kate Sophia.

Methods

Nielsen (1994b) suggests that no single individual can be reasonably expected to find all the usability problems in a product or service. However, experience shows a wide range of problems can be identified by collecting independent and unbiased evaluations from multiple evaluators working independently.

My heuristic evaluation of Academic Support Resources was performed February 18th, 2024 by inspecting the product over a 7 hour session. I evaluated the product based on the use cases provided by ASR in the project information sheet. I embodied the user outside of the organization that may be looking for a job. I started on the home page where I immediately saw the philosophy and mission statement. After this I navigated to the “About ASR” tab to try and find more information about ASR. Most of my exploration was done on the web pages that were housed in the “About ASR” tab.

I focused on parts of the interface that a new user would be using and compared them with Nielson’s 10 usability heuristics for user interface design (2024). Because of my situation as a potential employee, I wanted to know what services ASR provides and what their values are. I paid special attention to the sections that describe these things. This includes the home page (<https://asr.umn.edu/>) and the “About ASR” menu tab (<https://asr.umn.edu/about-asr>).

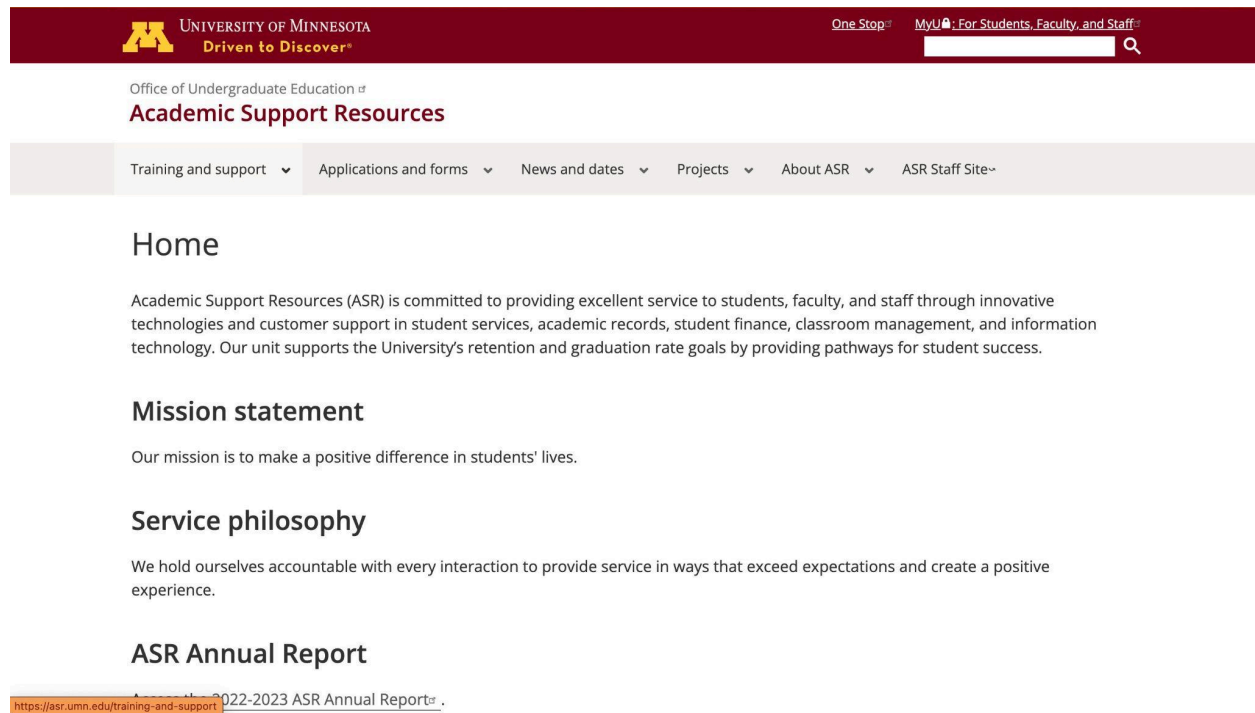
Results

Heuristic 1: Visibility of System Status

According to Harley (2018) the system should “always keep users informed about what is going on, through appropriate feedback within reasonable time.” Users should be continuously informed that their actions are creating appropriate feedback. This is done by using many different indicators to communicate to the user that their actions are resulting in a change. Clarity in communication between the user and the website can create a sense of trust and user control. This compels the user to take more action when utilizing the website. For the Academic Support Resources website, this will ensure that users are comfortable, encouraging them to remain on the website and explore.

Figure 1

Academic Support Resources Homepage



Note. My mouse is hovering over “Training and support,” causing it to change colors. This feedback appropriately communicates to the user that their actions have results.

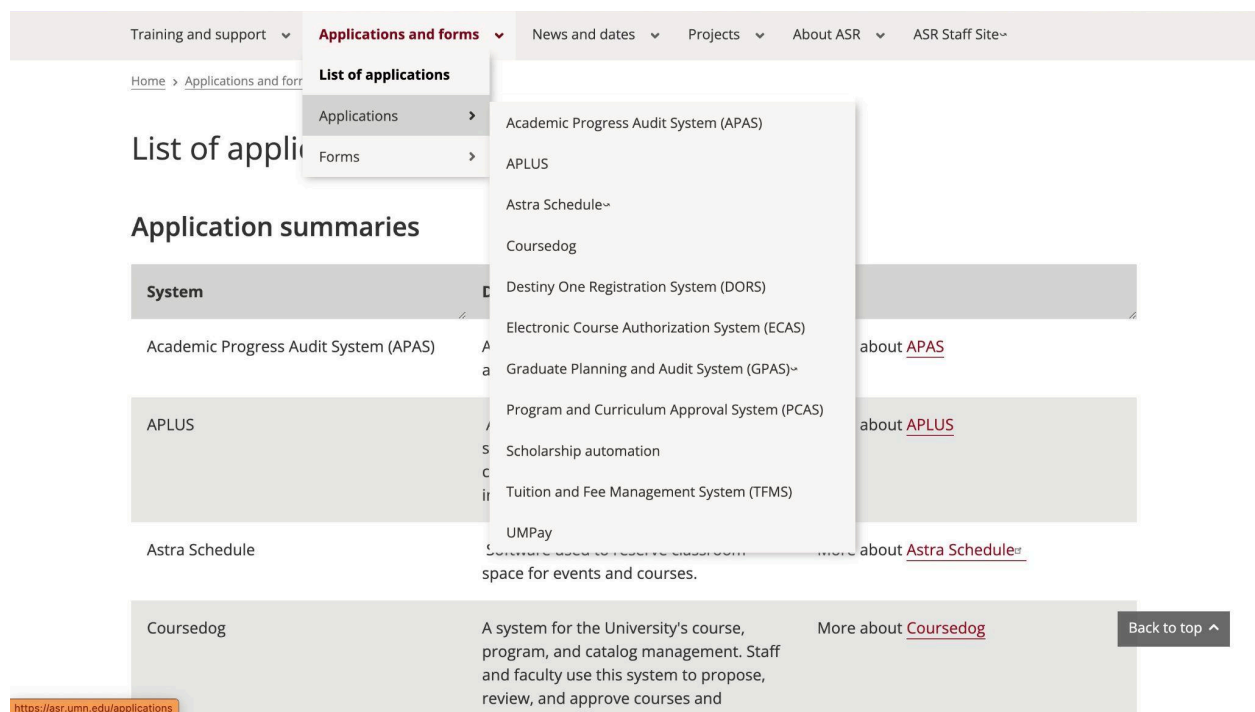
I found that links and tabs on the website will change color when hovered over. In addition, when letters are entered into the search bar, suggested searches will appear. Both of these features are key strengths in system status visibility because they communicate to the user that the website is up and running.

Heuristic 2: Match between System and the Real World

The system “should speak the users' language,” with words, phrases and concepts familiar to the user, instead of more system-oriented terms (Kaley, 2018). For ASR, this means using plain language to describe the more academic concepts that appear throughout the website. Users also have a mental model of how things work in real life and they transfer this to cyberspace. In the ASR website there is not much in regards to this besides the overall design, which is fairly standard. This heuristic matters because users want to engage with something that they can comprehend. If users feel unsure, they may go elsewhere to search for answers.

Figure 2

List of applications page with applications drop down menu open



Note. Although the “Applications” menu is mostly jargon, they are explained in the “List of applications” in plain language.

This website effectively uses system and real world matching by displaying some of the more complicated and academic terms in plain language. Most acronyms are explained before their frequent use. However, there is still a fair amount of jargon and some acronyms are left out, like “UMPay.” This is less accessible for users that are less proficient in the English language.

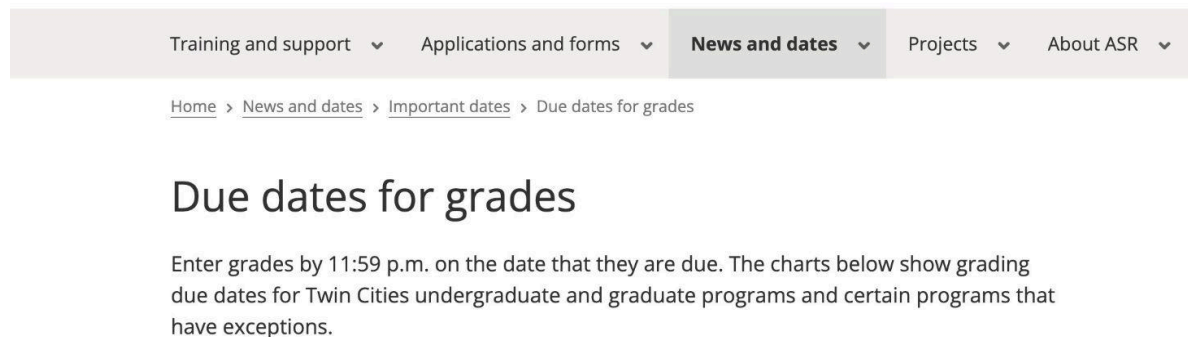
Heuristic 3: User Control And Freedom

According to Rosala (2020) users look for clearly marked “emergency exits” that allow undo and redo. When a system impedes the user from changing their minds or fixing a mistake, any existing stress may be further magnified. Navigation of the ASR website should be easy for the

user and when an error is made, the user should be able to recover promptly. ASR can do this by providing clarity in navigation, undo functions, and error messages. By providing the user with these options, they will be able to use the website with ease and recover from mistakes without becoming frustrated.

Figure 3

Navigation menu and breadcrumbs leading back to the home page



Note. There are breadcrumbs underneath the navigation menu that can take the user back to where they were previously. There are also multiple links in the navigation bar itself that can help the user make a quick exit.

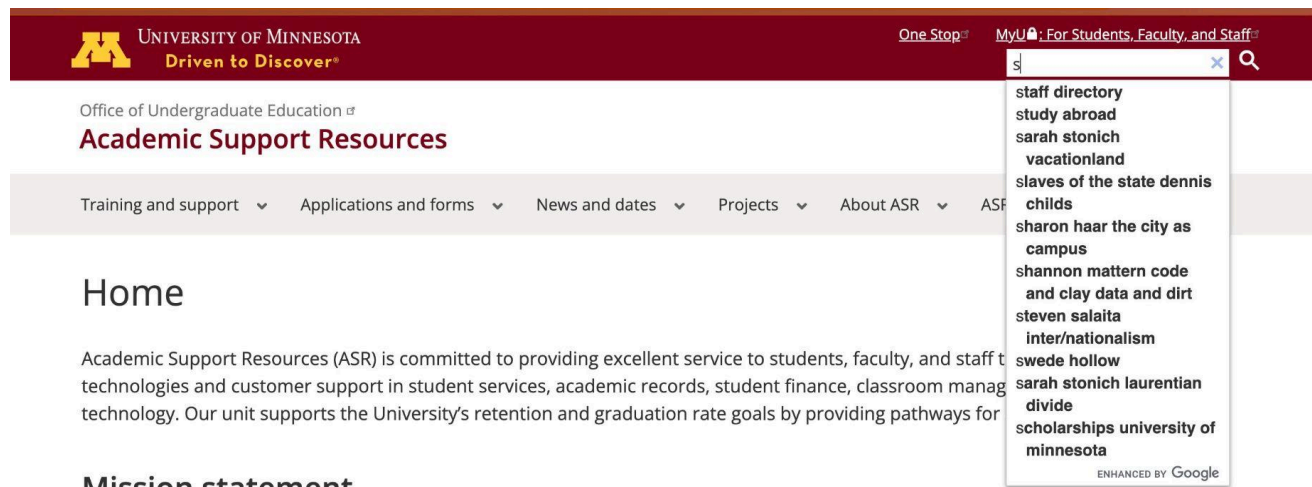
ASR exhibits a semi-effective use of clear navigation options to help the user recover from errors. Something I noticed about the breadcrumbs is they take the user to an unfamiliar page when utilized. "Important dates" and "news and dates" take the user to a page that is unable to be accessed except by use of the breadcrumbs. I don't see the use of this and think it's a key weakness in the design.

Heuristic 4: Consistency and Standards

Krause (2021) argues that "users should not have to wonder whether different words, situations, or actions mean the same thing." A usable website should follow two different types of consistencies which are internal consistency and external consistency. Internal consistency for the ASR website would be a layout and design that is consistent with other UMN websites. External consistency for the ASR site would be a layout and design that is consistent with other popular websites. According to Jakobs law, users spend much more time on other websites than yours. Given that information, it would be wise for ASR to follow design standards of other websites. This matters because it cuts the learning curve for users and ensures they quickly understand how the website works.

Figure 4

Site logo, search bar, and navigation menu



Note. The format of the ASR website is consistent with popular website designs as well as other UMN website designs. The suggested search is an added touch, but the destination of the search is not desirable.

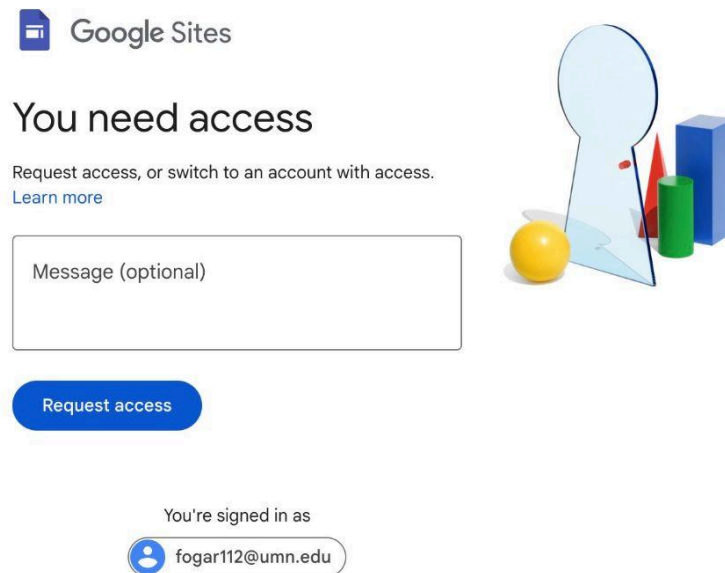
When a search item is clicked on, the user is redirected to another search page that turns up links for other websites in the UMN system. This is a key weakness and frustrating to navigate because users will certainly be searching for something within the website they're currently on. Additionally, the logo in the top left is confusing because most external websites use it to direct the user back to the homepage, whereas ASR uses it to direct the user to the main UMN website. This is a tough issue because it's a choice between internal and external consistency, as most UMN websites also have this problem.

Heuristic 5: Error Prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place (Laubheimer, 2015). Elements of web design should be dedicated to preventing user error. This is done by nudging the user in the right direction and warning them when they may do something harmful. ASR could do this by providing hints to users about where they should navigate. There are not many forms to worry about because it seems like Google Forms is used prominently. This matters because users are prone to making mistakes and the design should make sure that they have every chance not to.

Figure 5

The screen that appears for me when I click ASR staff site



Note. This page denies me access to the staff site for ASR. As a user of the website that is not on the staff, this prevents me from getting lost in another website.

This page is a key strength of the website because it prevents potential employees from navigating to the staff page. The button on the navigation menu could be misconstrued as a place to apply for a job; because of this access denial, it is clear that users seeking a job have clicked the wrong button and must keep searching.

Heuristic 6: Recognition Rather than Recall

Budiu (2014) states that the user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate in order to minimize the user's memory load. It is easier for a user to recognize rather than recall. They may lose information if there is not a way for it to be easily retrieved from the interface. This matters for ASR because the user should be able to have access to important information throughout their use. Should users forget something important, it should also be easily accessible from something other than memory.

Figure 6

The “Find our offices” page in the “About ASR” tab

Training and support ▾ Applications and forms ▾ News and dates ▾ Projects ▾ About ASR ▾ ASR Staff Site ▾		
Home > About ASR > Find our offices		
Find our offices		
Office	Address	Link
One Stop Student Services - East Bank	One Stop Student Services Center University of Minnesota, Twin Cities 333 Robert H. Bruininks Hall 222 Pleasant St. SE Minneapolis, MN 55455-0239	Campus map
One Stop Student Services - Saint Paul	One Stop Student Services Center University of Minnesota, Twin Cities 130 Coffey Hall 1420 Eckles Avenue St. Paul, MN 55108-6054	Campus map
Office of the Registrar	University of Minnesota, Twin Cities	Campus map

Note. The tab reading “About ASR” remains highlighted even after the specific page is chosen by the user. This allows the user to recognize where exactly they are at in the website without having to recall from memory.

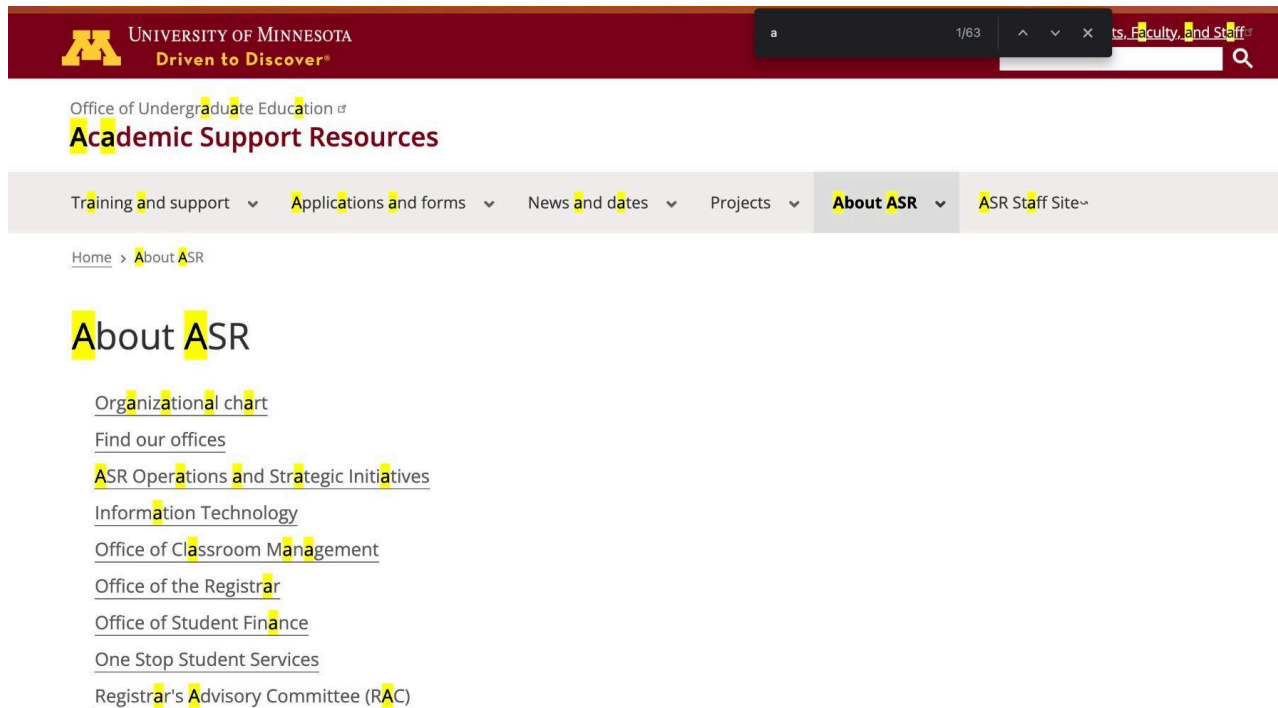
The product is effective at providing recognition for first time users navigating the website. Many of the rabbit holes that can be explored have reiterated information from previous pages on the website. A key strength is the menu tabs remaining highlighted after a specific page has been selected. Similar to the breadcrumbs, this shows the user how they arrived at the page they’re currently on.

Heuristic 7: Flexibility and Efficiency of Use

Laubheimer (2020) describes the concept of accelerators — shortcuts unseen by the novice user — that may often “speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users.” Features such as advanced search filters and keyboard shortcuts can cater to users with different levels of expertise. ASR can do this by adding their own shortcuts for users familiar with the interface, such as employees. Flexibility in use personalizes the experience for a user.

Figure 7

A spotlight search of the letter “a”

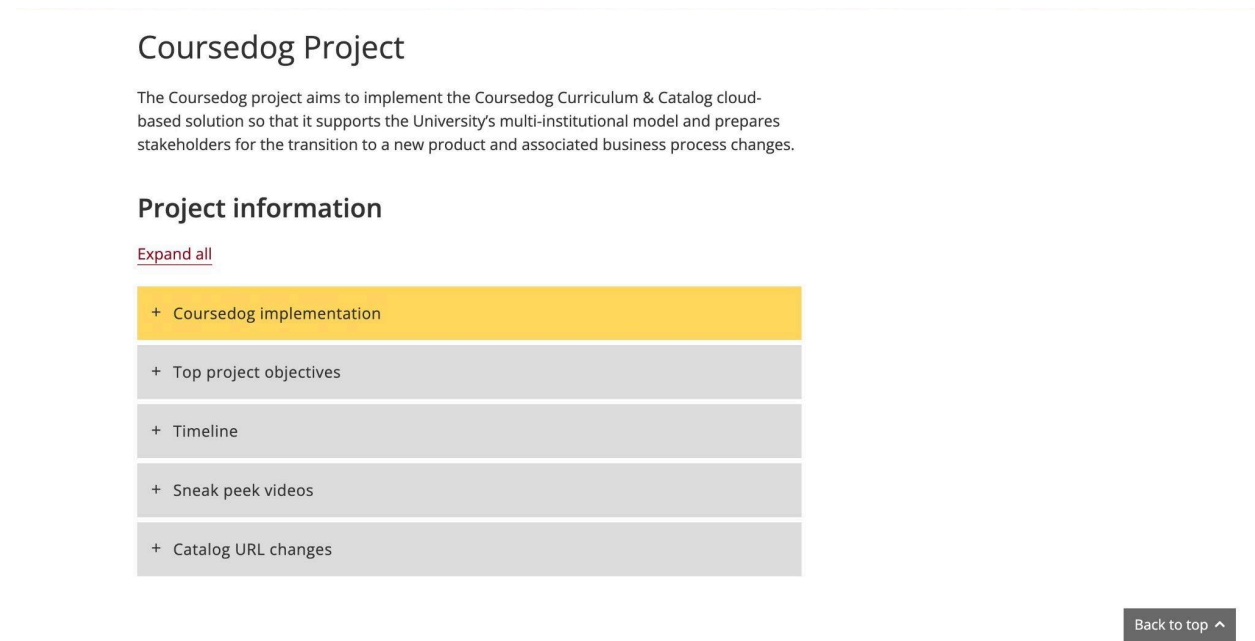


Note. I used the spotlight search to search for the letter “a,” which highlighted every use of the letter on the web page. This is something that an experienced user may do to find relevant information.

There are not many specific accelerators outside of the accelerators provided by my laptop. I did note that there are advanced search filters on the search bar, but that is only when the user is directed to a specific search website. I feel that the site is directed more towards novice users.

Heuristic 8: Aesthetic and Minimalist Design

Fessenden (2021) argues that dialogues should not contain information which is irrelevant or rarely needed, because “every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.” ASR should avoid unnecessary distractions and focus on the most important information. Minimalist design can enhance the readability of the website and focus the users attention on more important content.

Figure 8*Coursedog project page*

Note. This exhibits minimalist design because each block of information is able to be expanded or collapsed depending on the user's interest.

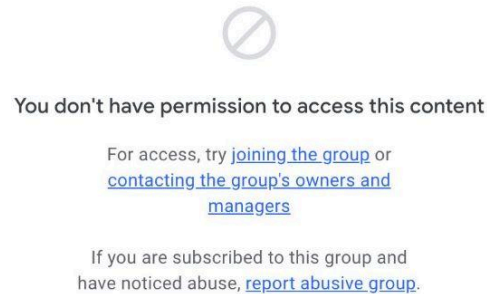
There are excellent examples of minimalist design being utilized in certain pages of the website, however there is an overwhelming amount of information. Each section is loaded up with information that is usually irrelevant to the user and the important information is difficult to locate. The key strengths are the sections like this where the important information is front and center and the secondary information has its own tab. A key weakness is the sheer amount of reading that is expected of the user.

Heuristic 9: Help Users Recognize, Diagnose, and Recover from Errors

When errors occur, Nielsen (2001) suggests that the error messages themselves can magnify or reduce the effort needed to get back to regular usage. Error messages should use plain language to indicate the problem and prompt the user with a solution. By providing the user with an explanation of their errors, they are able to take action on promptly correcting them.

Figure 9

The result of selecting “Join The Record Google Group”



Note. This exhibits the error recovery heuristic because it shows what went wrong and offers a solution to the user.

It's honestly challenging to make an error on this website so there's something to be said about the straightforward design. A key weakness is that error messages are not something that is being focused on by the website at all. This page tells me that to access the group I must join the group, which is what the link I clicked told me I was doing. This is very confusing to the user.

Heuristic 10: Help and Documentation

Even though it is better if the system can be used without documentation, proactive and reactive help may help to build the user's familiarity and ongoing proficiency. Joyce (2020) states that "any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large." The ASR website should be able to assist users in understanding their system. The two types of support are proactive and reactive. Proactive support would be something like a tutorial that shows up for first time users. Reactive support is where a user can find answers to questions and troubleshoot. Guides like these can help the user learn about the website and quell their frustrations.

Figure 10*Training & Support contact info page*

Training & Support contact info

ASR support	Access requests	2nd major/minor contacts	Duo help	System campuses
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Academic Progress Audit System (APAS)
apasle@umn.edu

Continuity & Compliance
 For questions about access to systems and required training.
cctraining@umn.edu

Financial Aid
fahelp@umn.edu

Graduate Planning & Audit System (GPAS)
gssp@umn.edu

Office of the Registrar (OTR) Training & Support
 For questions about student Records and Enrollment, ECAS, and PCAS.
srhel@umn.edu

Scheduling Team
 For questions about Collaborative Class Scheduling (CCS) and Astra Schedule.
ocmsched@umn.edu

Student data and analytics requests

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<https://asr.umn.edu/training-and-support/training-support-contact-info#section1941-1>

Note. This exhibits help and documentation because they offer support to the user if they need help navigating the website.

The website is effective at delivering reactive help to the user who may be looking to troubleshoot problems. A key weakness is that there are multiple people to contact for specific issues that the user may encounter. Additionally, there is also no FAQ page where a user can find answers to questions without having to send out an email.

Discussion

My average score for the website was 2.4/4. It rests somewhere in between ineffective and effective. It has as many strengths as it does weaknesses. Its notable strengths are its visibility of system status and match between the system and the real world. I found that the layout of the website was consistent at times to both external websites and UMN websites. Also, I could always tell when the website was working because of the appropriate feedback resulting from my actions. The weaknesses that I noted were its design and the consistency and standards. The website is loaded up with information that the average user is not going to read. Also, the search bar takes the user to another website that searches through all UMN databases, which is very confusing.

Table 1

Overall Assessment of Academic Support Resources Website

#	Heuristic	Assessment
1	Visibility of System Status	Effective ▾
2	Match between System and the Real World	Effective ▾
3	User Control And Freedom	Effective ▾
4	Consistency and Standards	Ineffective ▾
5	Error Prevention	Effective ▾
6	Recognition Rather than Recall	Ineffective ▾
7	Flexibility and Efficiency of Use	Effective ▾
8	Aesthetic and Minimalist Design	Very Ineffective ▾
9	Help Users Recognize, Diagnose, and Recover from Errors	Ineffective ▾
10	Help and Documentation	Effective ▾

As I evaluated this website, I tried to put myself in the shoes of someone looking for a job at ASR. However, I do not know the circumstances of someone searching for a job in this field. I also have a well-functioning laptop, which prevented me from doing in-depth evaluation of error analysis. These would be things to consider when selecting candidates for a usability test.

Overall, the ASR website has much room for improvement for an unfamiliar user. It is strong in its familiar layout and indication of activity. It can be improved by cutting the amount of information, having a website specific search, and adding more support options.

Key Strengths

One key strength is the familiarity of the website's layout. When I first loaded into the website, I spotted the drop down menus and knew that they would lead me to new pages on the site. There were links frequently placed around the site that were underlined and colored differently than other text. This consistency communicated to me that the links were able to be pressed. After being pressed, they changed color so I knew I'd clicked it. The layout also contained a logo in the top left corner and a search bar in the top right. All of these factors ensured that I had a sense of familiarity and comfort when navigating ASRs website.

Another key strength is the visibility of system status. When navigating through the website, many items that were hovered over would change color. This communicated to me that the website was online and active.

Key Weaknesses

One key weakness was the aesthetic and minimalist design of the website. The overall look of the website was minimalist, but almost overly so. I didn't see many images if there even were any. In addition, the homepage is blount and does not entice me to look further into the website for information. While the look of the website presented itself as minimalist, the sheer amount of words convinced me of the opposite. There is so much information and so many people to contact for support, it is very easy to get lost and frustrated.

Another key weakness of the website was the consistency and standards. The search bar in the top right takes the user to another website that searches all UMN databases. This was very confusing to me, especially because when I searched for something in ASR, the result that I wanted was way at the bottom. In addition, the logo in the top left takes the user to a different website. There are many links like this around the page that take users somewhere new. This does not follow standard industry conventions and was frustrating to me.

Recommendations

My first and most important recommendation is having a tab on the website that describes exactly what ASR employees do and how to apply for a job. At one point in my evaluation I used the search bar to look for the word “job” and nothing came up about jobs at ASR. As the client stated, it is important that users outside the organization be able to navigate the website and know what ASR does. This should interest them in looking for jobs at ASR. Right now, there is nothing on the website that communicates to me that jobs are even available. In addition, there is a lack of brevity and clarity in describing what exactly ASR does. The “About ASR” tab is chalk full of projects that each have lots of reading material. My solution is adding a tab that reads either “apply” or “jobs,” and lists exactly what ASR is working on and how the user can join their team. This would eliminate much of the confusion that a user would feel trying to navigate through the large amount of information on the website. This may also reduce the risk of budget cuts because UMN leadership will have a better understanding of what ASR does.

My second recommendation is cutting down on the amount of information that is presented on the website. As shown on the client’s slideshow, there are six other websites that all operate under the umbrella of ASR. Some information on the website is definitely niche enough to be passed on to one of those sites. The information could also be placed somewhere that does not take up space on the main page. An example of this is the Student Success Analytics project. I started to read through this, then went back and saw that the project closed in September of 2021 and was moved to the Student Data Analytics Team. This page has its own section on the “Projects” tab when there is another page on the “Projects” tab titled “Past projects and initiatives.” I believe a project that ended in 2021 fits the description of a past project. I recommend that the website be reorganized to have better clarity and conciseness. I would do this by combining unnecessarily intricate pages with other pages that could just as well present their contents, like the “Past projects and initiatives” example. The website can also be made more engaging if content is cut in favor of clarity. Summaries are able to be made of the excess amount of words in the “About ASR” tab. This would ensure that potential employees know exactly what is interesting to them.

My third recommendation is adding an ASR website specific search bar and logo. When doing my evaluation, I realized that the search bar is not specific to the ASR website. This confused me because suddenly I was seeing results that I had not seen previously when exploring the websites menu. It frustrated me trying to troubleshoot and eventually finding out that the search bar is for the entirety of UMN. In addition, the logo in the top left corner should take a user to the home page according to external consistency. When I clicked the logo in the top left, it took me to a new UMN website. I know it’s probably unlikely that the header of the website could be removed because it’s internally consistent with the UMN websites. However, I suggest adding another header layer entirely. This new header layer should include a logo that’s specific to ASR. This doesn’t have to be anything fancy, but it should be more than just plain text. A potential logo could be the letters “ASR” because that would also help users recognize the acronym instead of having to recall it. There should also be a second search bar that specifies its results will only pertain to the website that the user is on. This will create a lot more efficiency. Users will also be less frustrated by aspects of the website that go against industry standards.

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